# Trend Micro Apex Central™ as a Service

## Administrator's Guide

Centralized Security Management for Endpoints

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# Preface

## Preface

This document introduces Trend Micro Apex Central™ as a Service and discusses getting started information, managed product integration, and security monitoring details.

Topics in this section:


- *Documentation on page 2*
- *Audience on page 2*
- *Document Conventions on page 3*
- *Terminology on page 4*

# Documentation

Apex Central documentation includes the following:

| Document | Description |
|---|---|
| Readme file | Contains a list of known issues and may also contain late-breaking product information not found in the Online Help or printed documentation |
| Administrator's Guide | A PDF document that provides detailed instructions of how to configure and manage Apex Central and managed products, and explanations on Apex Central concepts and features |
| Online Help | HTML files compiled in WebHelp format that provide "how to's", usage advice, and field-specific information. The Help is also accessible from the Apex Central console |
| Widget and Policy Management Guide | Contains information that explains how to configure dashboard widgets and policy management settings in Apex Central<br><br>To access this guide, go to https://docs.trendmicro.com/en-us/enterprise/apex-central-as-a-service-widget-and-policy-management-guide/preface-wpg-.aspx. |
| Automation Center | Online user guides and references that explain how to use the Apex Central Automation APIs: https://automation.trendmicro.com/apex-central/home |
| Data Protection Lists (Chapter 1 only) | A PDF document that lists predefined data identifiers and templates for Data Loss Prevention |
| Knowledge Base | An online database of problem-solving and troubleshooting information. It provides the latest information about known product issues. To access the Knowledge Base, go to the following website: http://success.trendmicro.com |

Download the latest version of the PDF documents and readme at:

http://docs.trendmicro.com/en-us/enterprise/apex-one-as-a-service.aspx

# Audience

Apex Central documentation is intended for the following users:

- Apex Central Administrators: Responsible for Apex Central installation, configuration, and management. These users are expected to have advanced networking and server management knowledge.
- Managed Product Administrators: Users who manage Trend Micro products that integrate with Apex Central. These users are expected to have advanced networking and server management knowledge.

## Document Conventions

The documentation uses the following conventions.

**TABLE 1. Document Conventions**

| CONVENTION | DESCRIPTION |
|---|---|
| UPPER CASE | Acronyms, abbreviations, and names of certain commands and keys on the keyboard |
| **Bold** | Menus and menu commands, command buttons, tabs, and options |
| *Italics* | References to other documents |
| `Monospace` | Sample command lines, program code, web URLs, file names, and program output |
| **Navigation** > **Path** | The navigation path to reach a particular screen<br>For example, **File** > **Save** means, click **File** and then click **Save** on the interface |
| **Note** | Configuration notes |
| **Tip** | Recommendations or suggestions |
| **Important** | Information regarding required or default configuration settings and product limitations |

| Convention | Description |
|---|---|
| **WARNING!** | Critical actions and configuration options |

# Terminology

The following table provides the official terminology used throughout the Apex Central documentation:

| Terminology | Description |
|---|---|
| Administrator (or Apex Central administrator) | The person managing the Apex Central server |
| Security Agent | The managed product program installed on an endpoint |
| Components | Responsible for scanning, detecting, and taking actions against security risks |
| Apex Central console, web console, or management console | The web-based user interface for accessing, configuring, and managing a Apex Central<br>**Note**<br>Consoles for integrated managed products are indicated by the managed product name. For example, the Apex One web console. |
| Managed endpoint | The endpoint where the managed product Security Agent is installed |
| Managed product | A Trend Micro product that integrates with Apex Central |
| Managed server | The endpoint where the managed product is installed |
| Server | The endpoint where the Apex Central server is installed |
| Security risk | The collective term for virus/malware, spyware/grayware, and web threats |

| Terminology | Description |
| --- | --- |
| Dual-stack | Entities that have both IPv4 and IPv6 addresses |
| Pure IPv4 | An entity that only has an IPv4 address |
| Pure IPv6 | An entity that only has an IPv6 address |

# Part I

## Introduction

# Chapter 1

## Introducing Apex Central

This section introduces Trend Micro Apex Central™ and provides an overview of its features and capabilities.

Topics include:


- *About Apex Central on page 1-2*
- *What's New on page 1-2*
- *Key Features and Benefits on page 1-7*

# About Apex Central

Trend Micro Apex Central™ is the web-based centralized management console for Trend Micro Apex One™ as a Service, which protects endpoints, on or off the corporate network, against malware, Trojans, worms, spyware, and ransomware with protection that adapts against new unknown variants as they emerge.

Apex One as a Service provides the following full-featured product benefits:

- **More efficient use of endpoint resources**

  Delivered via an architecture that uses endpoint resources more effectively and optimizes CPU and network utilization

- **High-fidelity machine learning (pre-execution and runtime)**

  A blend of threat protection techniques that help eliminate security gaps across any user activity and any endpoint

- **Behavioral analysis**

  Safeguards against scripts, injection, ransomware, memory and browser attacks

- **Available as a service**

  Rapid deployment and simplified administration and maintenance with the same comprehensive enterprise threat protection as the on-premises Trend Micro Apex One™

For more information about features specific to the Apex Central web console, see the following topics:


- *What's New on page 1-2*
- *Key Features and Benefits on page 1-7*


# What's New

Apex Central includes the following new features and enhancements.

**Table 1-1. September 2023**

| Feature | Description |
|---|---|
| Trend Vision One integration enhancement | Trend Vision One integration has been enhanced to include an option that enables Apex Central to synchronize suspicious object lists from Trend Vision One. |
| Advanced malware detection | For Apex One Security Agent anti-malware policies, you can configure settings for the advanced malware detection feature that uses machine learning to detect malware and spyware threats in portable executable files. |
| Enhanced Security Agent notifications | On the Apex One (Mac) console, administrators can customize the notification message to display on Security Agent endpoints after detecting a device control policy violation. |

**Table 1-2. July 2023**

| Feature | Description |
|---|---|
| Trend Vision One integration | Integration with Trend Vision One allows Apex Central to forward detection events and managed Security Agent information to Trend Vision One for correlated detection and other advanced analytics. |
| Enhancement Security Agent management | This release of Apex Central supports multi-layer domain tree (up to five layers) for managed servers to enhance Security Agent management. |

**Table 1-3. March 2023**

| Feature | Description |
|---|---|
| Client Authentication Checksum (CAC) support | This release of Apex One adds support for Client Authentication Checksum (CAC) security for server-agent communication. |
| Smart Feedback Enhancement | Smart Feedback has been enhanced to offer state-of-the-art scanning for targeted attack indicators and automated notifications of potential threats to your environment. |

**Table 1-4. January 2023**

| Feature | Description |
|---|---|
| Enhanced Security Agent console | The Apex One (Mac) Security Agent console has been enhanced to display the policy name and version on the **Component Versions** screen. |

**Table 1-5. December 2022**

| Feature | Description |
|---|---|
| Platform support | Apex One Security Agent installation support for Windows 10 22H2 |

**Table 1-6. November 2022**

| Feature | Description |
|---|---|
| Platform support | • Apex One Security Agent installation support for Windows 11 22H2<br>• Apex One (Mac) Security Agent installation support for macOS 13 (Ventura) |
| OpenSSL library update | This release of Apex One Security Agent updates the OpenSSL library to version 3.0 for enhanced product security<br>. |
| End of support for older macOS versions | The Apex One (Mac) Security Agent no longer supports endpoints running macOS 10.13 (High Sierra). |

**Table 1-7. August 2022**

| Feature | Description |
|---|---|
| Apple® M2 support | The Apex One (Mac) Security Agent can be installed on endpoints using Apple M2 processors. |

**Table 1-8. April 2022**

| Feature | Description |
|---|---|
| Apex One server policy deployment | Global Agent Settings are included in Apex One server policy deployment for Apex One Security Agents. |

**Table 1-9. January 2022**

| Feature | Description |
|---|---|
| End of support for older macOS versions | The Apex One (Mac) Security Agent no longer supports endpoints running macOS 10.11 (El Capitan) and macOS 10.12 (Sierra). |

**Table 1-10. December 2021**

| Feature | Description |
|---|---|
| Platform support | • Apex One Security Agent installation support for Windows 10 21H2.<br>• Apex One (Mac) Security Agent installation support for macOS 12 (Monterey). |
| Trend Micro Vision One migration | Disabling the Endpoint Sensor policy settings for Apex One Security Agents for customers who have never enabled the Endpoint Sensor feature. Customers can access Trend Micro Vision One to enable XDR Endpoint Sensor on endpoints. |

**Table 1-11. October 2021**

| Feature | Description |
|---|---|
| Trend Micro Vision One migration | Upgrading of the Endpoint Sensor module with Trend Micro Vision One XDR Sensor for better user experience and feature enhancement. |
| Platform support | Apex One Security Agent installation support for Windows 11 and Windows Server 2022. |

**Table 1-12. March 2021**

| Feature | Description |
|---|---|
| Trend Micro Vision One migration | Migration of the Endpoint Detection and Response (EDR) features to Trend Micro Vision One related apps continues, providing a better user experience. EDR customers can single sign-on to the appropriate Trend Micro Vision One app for EDR features. |
| Vulnerability Protection | Add IP addresses to the Intrusion Prevention Rules Exceptions list to prevent trusted endpoints from being filtered by the Vulnerability Protection network driver. |

Previous releases included the following features:

**TABLE 1-13. December 2020**

| FEATURE | DESCRIPTION |
|---|---|
| Apex One Welcome Center | Watch step-by-step video tutorials by visiting the Apex One Welcome Center link on the Apex Central **Quick Start Guide** or **Help** menu. |
| API update | Added a new external API to get all existing Apex One DLP Policy policy names and deployed agent lists. |
| Enhanced navigation for SSO | The **Server Registration** screen is now called **Server Registration** and allows users to SSO from an easier to find location (**Directories** > **Product Servers**). |
| Label system for policy deployment and asset management | Users can create "Labels" for specified endpoints or auto-label rules, and select the "Labels" as policy deployment targets or data sources for log queries and custom reports. |
| Policy layout | Apex One as a Service has permanently switched to the new policy UI layout. |
| Predictive Machine Learning - Process enhancement | The Contextual Intelligence Engine has implemented a filter pattern to reduce network traffic usage. |
| Single sign-on (SSO) support | Single sign-on (SSO) to Apex One as a Service from the Trend Micro XDR console. |

**TABLE 1-14. September 2020**

| FEATURE | DESCRIPTION |
|---|---|
| Enhanced Web Reputation queries | The Apex One (Mac) Security Agent can send Web Reputation queries for URLs using the HTTPS protocol. |
| Root Cause Analysis results | Users can view related objects based on specific ratings on the Root Cause Analysis details panel. |
| Single sign-on (SSO) enhancement | Download the Apex Central service provider metadata XML file to integrate your identity provider (IdP) for authenticating Active Directory users using SAML 2.0 single sign-on (SSO). |

| Feature | Description |
| --- | --- |
| Web installer | Use the web installer to check the compatibility of the target endpoints (including system requirements and conflicting applications) before automatically downloading and installing the Security Agent package from Trend Micro servers. |

## Key Features and Benefits

Apex Central provides the following features and benefits.

| Feature | Benefits |
| --- | --- |
| Active Directory integration | Apex Central supports integration with multiple Active Directory forests and allows you to import Active Directory groups in addition to users. You can also enable Active Directory authentication to allow users or groups from federated business partners across an extranet to securely log on to the Apex Central console. |
| Dashboard | Use the **Dashboard** tabs and widgets for extensive visibility of managed product and Apex Central information about threat detections, component statuses, policy violations, and more. |
| Security Posture | Use the **Security Posture** tab to gain instant insights into the antivirus pattern and Data Loss Prevention compliance status, critical threat detections, as well as resolved and unresolved events on your network. |
| User/Endpoint Directory | View detailed information about all the users and endpoints within the Apex Central network and any security threat detections. |
| Product Directory | System administrators can immediately deploy configuration modifications to managed products or even run a manual scan from the Apex Central web console during a virus/malware outbreak. |
| Global Policy Management | System administrators can use policies to configure and deploy product settings to managed products and endpoints from a single management console to ensure consistent enforcement of your organization's virus/malware and content security policies. |
| Logs | Use a single management console to view consolidated logs from all registered managed products without having to log on to each individual product console. |

| Feature | Benefits |
|---|---|
| Event Notifications | Keep administrators informed of network events at all times by configuring Apex Central to send email notifications. |
| Reports | Create comprehensive reports from custom or static templates to obtain the actionable information you need to ensure network protection and security compliance. |
| Component Updates | Securely download and deploy antivirus patterns, antispam rules, scan engines, and other antivirus or content security components to help ensure that all managed products are up to date. |
| Connected Threat Defense | Apex Central brings together a host of Trend Micro products and solutions to help you detect, analyze, and respond to targeted attacks and advanced threats before they unleash lasting damage. |
| Secure communication infrastructure | Apex Central uses a communications infrastructure built on the Secure Socket Layer (SSL) protocol and can even encrypt messages with authentication. |
| Role-based Administration | Grant and control access to the Apex Central web console by assigning specific web console privileges to administrators and providing only the tools and permissions necessary to perform specific tasks. |
| Command Tracking | Command Tracking allows you to continuously monitor whether commands executed using the Apex Central web console, such as antivirus pattern updates and component deployment, have successfully completed. |
| License management | Deploy new Activation Codes or reactivate existing Activation Codes on managed products. |
| Security Agent installation | Download Security Agent installation packages for Apex One or Apex One (Mac) directly from the Apex Central console. |
| Two-Factor Authentication | Two-Factor Authentication provides extra security on user accounts by requiring users to type the verification code generated by the Google Authenticator app in order to sign in to Apex Central. |

| Feature | Benefits |
| --- | --- |
| Browser support | This version of Apex Central includes support for the following:<br>• Microsoft™ Internet Explorer™<br>• Microsoft™ Edge™<br>• Microsoft™ Edge™ (Chromium)<br>• Google™ Chrome™ |

# Part II

## Getting Started

# Chapter 2

## The Web Console

This section discusses how to access and configure the Apex Central web-based management console.

Topics include:


- *About the Web Console on page 2-2*
- *Accessing the Web Console on page 2-2*
- *Logging On with Active Directory Authentication on page 2-4*
- *Configuring Web Console Settings on page 2-5*

# About the Web Console

The Apex Central web console provides centralized management, monitoring, and security visibility for all endpoints and users protected by Trend Micro products registered to the Apex Central server. The console comes with a set of default settings and values that you can configure based on your security requirements and specifications. The web console lets you administer the Apex Central network from any machine using a compatible web browser.

**Note**

View the web console at a screen resolution of 1366 x 768 pixels.

Apex Central supports the following web browsers:

- Microsoft Internet Explorer™ 11
- Microsoft Edge™
- Microsoft Edge™ (Chromium)
- Google Chrome™

# Accessing the Web Console

Apex Central allows administrators to log on to the management console from any endpoint with Internet access and a supported web browser.

For information about logging on with Active Directory authentication, see *Logging On with Active Directory Authentication on page 2-4*.

**Note**

- You cannot use the same user account to log onto the Apex Central management console from multiple browsers on the same endpoint.
- You can use the same user account to log onto the Apex Central management console from different endpoints.

### Procedure

1. Open a web browser and go to the following address:

   `http(s)://<host name>/WebApp/login.html`

   Where `<host name>` is the fully qualified domain name (FQDN), IP address, or server name of the Apex Central server.

   The **Log On** screen appears.

2. Provide logon credentials.

   - To log on using Apex Central account credentials, type the user name and password.
   - To log on with domain credentials, type the domain and user name in the following format, and then type the password.

     `domain\user_name`

     **Note**

     Logging on with domain credentials requires an integrated Active Directory structure.

     For more information, contact your Active Directory administrator.

3. Click **Log On**.

   **Note**

   - If your administrator enabled Two-Factor Authentication, follow the on-screen prompts.

     For more information on setting up Two-Factor Authentication, contact your administrator.

4. To log off from the web console, go to the top right corner of the web console and click **<account_name>** > **Log Off**.

# Logging On with Active Directory Authentication

Apex Central allows you to use a SAML 2.0 single sign-on (SSO) identity provider (IdP) to authenticate and allow users or groups from federated business partners across an extranet to log on to the Apex Central console.

**Important**

Authenticating users or groups using a SAML 2.0 single sign-on (SSO) identity provider requires the following configuration tasks:

- *Configuring Active Directory Synchronization on page 6-2*
- *Configuring Active Directory Authentication on page 6-5*

**Procedure**

1. Open a web browser and go to the following address:

   `http(s)://<host name>/WebApp/login.html`

   Where `<host name>` is the fully qualified domain name (FQDN), IP address, or server name of the Apex Central server.

   The **Log On** screen appears.

2. Type the user name for the federated domain account.

   The **Password** field disables.

3. Click **Log On**.

   Apex Central redirects you to the IdP login screen.

4. Type the password for the federated domain account.

5. Click **Sign in**.

6. To log off from the web console, go to the top right corner of the web console and click **<account_name>** > **Log Off**.

# Configuring Web Console Settings

Configure the Apex Central web console settings to determine how users access the web console and how often a screen refresh occurs.

**Procedure**

1. Go to **Administration** > **Settings** > **Web Console Settings**.

   The **Web Console Settings** screen appears.

2. Configure the required settings.

| Section | Settings |
|---|---|
| Web Console Auto Refresh | Select **Enable Auto Refresh** to enable the Apex Central server to refresh screen data at the specified interval<br>• **Refresh the web console every _ seconds**: Select the frequency (in seconds) in which the web console refreshes the screen data |
| Web Console Timeout | Select **Enable automatic log out from the web console** to enable the Apex Central server to log off users at the specified interval<br>• **Automatically log out of the web console after _ minutes**: Select the period of inactivity (in minutes) in which the web console automatically logs off users |
| Security Settings | Select **Automatically lock user accounts after unsuccessful logon attempts** to enable the Apex Central server to lock user accounts after the specified number of unsuccessful logon attempts<br>• **Consecutive unsuccessful attempts**: Specify the number of unsuccessful logon attempts<br>• **Account lock duration**: Specify the amount of time (in minutes) to lock the user account |
| Concurrent Session Limitation | Select **Enforce one session per account** to prevent multiple web console logon sessions for the same user account |

3. Click **Save**.

# Chapter 3

## The Dashboard

This section discusses how to use the Apex Central as a Service dashboard tabs and widgets.

Topics include:


- *About the Dashboard on page 3-2*
- *Tabs and Widgets on page 3-2*
- *Summary Tab on page 3-6*
- *Threat Investigation Tab on page 3-15*
- *Security Posture Tab on page 3-18*
- *Data Loss Prevention Tab on page 3-30*
- *Compliance Tab on page 3-36*
- *Threat Statistics Tab on page 3-42*

# About the Dashboard

The **Dashboard** appears when you open the Apex Central as a Service web console or click **Dashboard** on the main menu. Each Apex Central as a Service user account has a completely independent dashboard. Any changes to the dashboard belonging to a specific user account will not affect the dashboards of the other user accounts.

The **Dashboard** contains the following:

- Tabs
- Widgets

# Tabs and Widgets

Widgets are the core components of the **Dashboard**. Widgets provide specific information about various security-related events.

The information that widgets display comes from:

- Apex Central database
- Registered managed products
- Trend Micro Smart Protection Network

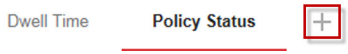
Tabs provide a container for widgets. The **Dashboard** supports up to 30 tabs.

## Working with Tabs

Manage tabs by adding, renaming, changing the layout, deleting, and automatically switching between tab views.

**Procedure**

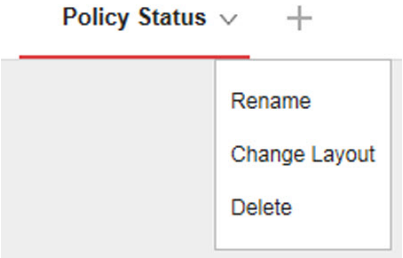
1. Go to the **Dashboard**.
2. To add a tab:
   a. Click the add icon (+).



   **b.** Type a name for the new tab.

3. To rename a tab:

   **a.** Hover over the tab name and click the down arrow.




   **b.** Click **Rename** and type the new tab name.

4. To change the layout of the widgets for a tab:

   **a.** Hover over the tab name and click the down arrow.

   **b.** Click **Change Layout**.

   **c.** Select the new layout from the screen that appears.

   **d.** Click **Save**.

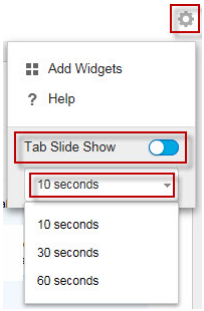
5. To delete a tab:

   **a.** Hover over the tab name and click the down arrow.

   **b.** Click **Delete** and confirm.

6. To play a tab slide show:

   **a.** Click the **Settings** button to the right of the tab display.




**b.** Enable the **Tab Slide Show** control.

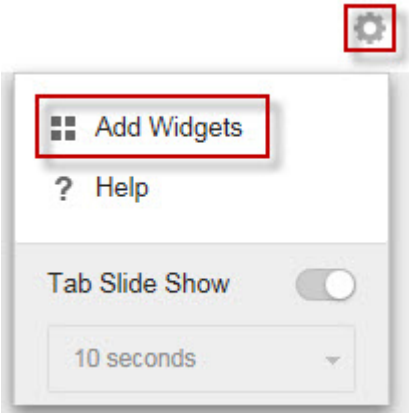
**c.** Select the length of time each tab displays before switching to the next tab.

## Working with Widgets

Manage widgets by adding, moving, resizing, renaming, and deleting items. You can also modify the products that contribute data for the widget.

**Procedure**

1. Go to the **Dashboard**.
2. Click a tab.
3. To add a widget:
   **a.** Click the **Settings** button to the right of the tab display.




**b.** Click **Add Widgets**.

**c.** Select widgets to add.

- In the drop-down on top of the widgets, select a category to narrow down the selections.
- Use the search text box on top of the screen to search for a specific widget.

**d.** Click **Add**.

**4.** To move a widget to a new location on the same tab, drag-and-drop a widget to a new location.

**5.** Resize widgets on a multi-column tab by pointing the cursor to the right edge of the widget and then moving the cursor to the left or right.

**6.** To rename a widget:

**a.** Click the settings icon ( > ).

**b.** Type the new title.

**c.** Click **Save**.

**7.** To modify the product scope of the widget:

**a.** Click the settings icon ( > ).

b. Click the double arrow button (>>) in the **Scope** field.

c. (Optional) Click the funnel icon ( ) to filter and search for products.

d. Select the products that contribute data for the widget and click **OK**.

e. Click **Save**.

8. To delete a widget, click the delete icon ( > ).

# Summary Tab

The **Summary** tab contains a predefined set of widgets that provides an overview of the security status of your network.

**Note**

You can add, delete, or modify the widgets that display on the **Summary** tab.

Available widgets:

- Critical Threats
- Users with Threats
- Endpoints with Threats
- Product Connection Status
- Product Component Status
- Ransomware Prevention

## Critical Threats Widget

This widget displays the total number of unique critical threat types detected on your network and the number of affected users and threat detections for each threat type.

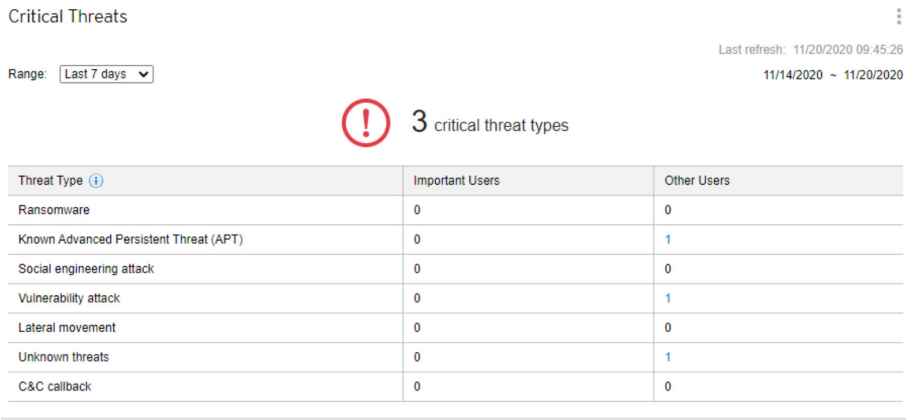
Click the settings icon ( > ) to change the default **View**.

- On the **Summary** tab or a custom tab, the **Affected users** view is selected by default.
- On the **Threat Investigation** tab, the **Threat detections** view is selected by default.

**Note**

- The widget lists critical threat types in order of severity.
- Individual users may be affected by more than one critical threat type.

Use the **Range** drop-down to select the time period for the data that displays.




| Threat Type | Important Users | Other Users |
|---|---|---|
| Ransomware | 0 | 0 |
| Known Advanced Persistent Threat (APT) | 0 | 1 |
| Social engineering attack | 0 | 0 |
| Vulnerability attack | 0 | 1 |
| Lateral movement | 0 | 0 |
| Unknown threats | 0 | 1 |
| C&C callback | 0 | 0 |

**FIGURE 3-1. Affected Users View**

The **Affected users** view displays the number of **Important Users** and **Other Users** affected by each threat type.

- Click the count in the **Important Users** or **Other Users** column, and then click the affected user you want to view.

  For more information, see *Security Threats for Users on page 7-6*.

- You can define important users or endpoints on the **User/Endpoint Directory** screen.

For more information, see *User or Endpoint Importance on page 7-37*.

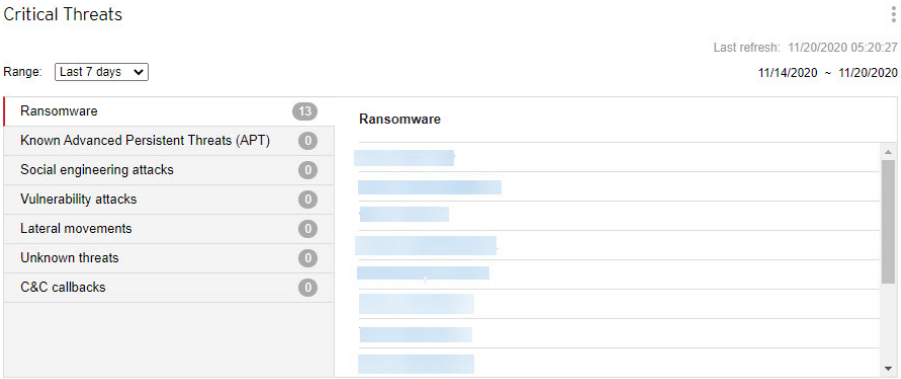



**FIGURE 3-2. Threat Detections View**

The **Threat detections** view displays the number of detections for each critical threat type.

- Click a critical threat type to view the specific threat detections.
- Click the hyperlink for a specific threat detection to view details about the affected users and automatically start a Root Cause Analysis to determine whether the threat has affected other endpoints on your network.

  For more information, see *Affected Users on page 7-22*.

Critical threat detections include the following threat types.

| THREAT TYPE | DESCRIPTION |
|---|---|
| Ransomware | Malware that prevents or limits users from accessing their system unless a ransom is paid |
| Known Advanced Persistent Threats (APT) | Intrusions by attackers that aggressively pursue and compromise chosen targets, often conducted in campaigns—a series of failed and successful attempts over time to get deeper and deeper into a target network—and not isolated incidents |

| Threat Type | Description |
|---|---|
| Social engineering attacks | Malware or hacker attacks that exploits a security vulnerability found in documents, such as a PDF file |
| Vulnerability attacks | Malware or hacker attacks that exploits a security weakness typically found in programs and operating systems |
| Lateral movements | Searches for directories, email, and administration servers, and other assets to map the internal structure of a network, obtain credentials to access these systems, and allow the attacker to move from system to system |
| Unknown threats | Suspicious objects (IP addresses, domains, file SHA-1 hash values, email messages) with the "high" risk level, as detected by Deep Discovery Inspector, endpoint security products, or other products with Virtual Analyzer |
| C&C callbacks | Attempts to communicate with a command-and-control (C&C) server to deliver information, receive instructions, and download other malware |

## Users with Threats Widget

This widget displays information about users with security threat detections.

**Note**

This widget displays only the top 10 users with the highest risk scores and security threat detections. To view more affected users, go to the User/Endpoint Directory screen.

Use the **Range** drop-down to select the time period for the data that displays.

Click the **Important Users** or **Other Users** tabs to switch between the different views.

- For more information about defining important users or endpoints, see *User or Endpoint Importance on page 7-37*.

The table lists affected users in order by critical threat type severity first, and then by the number of threat detections for the user.

- Click the number in the **Threats** column for the user you want to view.

  Fore more information, see *Security Threats for Users on page 7-6*.

The **Most Critical Threat** column displays the following threat types.

| Threat Type | Description |
|---|---|
| C&C callback | Attempts to communicate with a command-and-control (C&C) server to deliver information, receive instructions, and download other malware |
| Known Advanced Persistent Threat (APT) | Intrusions by attackers that aggressively pursue and compromise chosen targets, often conducted in campaigns—a series of failed and successful attempts over time to get deeper and deeper into a target network—and not isolated incidents |
| Lateral movement | Searches for directories, email, and administration servers, and other assets to map the internal structure of a network, obtain credentials to access these systems, and allow the attacker to move from system to system |
| Ransomware | Malware that prevents or limits users from accessing their system unless a ransom is paid |
| Social engineering attack | Malware or hacker attacks that exploits a security vulnerability found in documents, such as a PDF file |
| Unknown threats | Suspicious objects (IP addresses, domains, file SHA-1 hash values, email messages) with the "high" risk level, as detected by Deep Discovery Inspector, endpoint security products, or other products with Virtual Analyzer |
| Vulnerability attack | Malware or hacker attacks that exploits a security weakness typically found in programs and operating systems |

## Endpoints with Threats Widget

This widget displays information about endpoints with security threat detections.

**Note**

This widget displays only the top 10 endpoints with the highest risk scores and security threat detections. To view more affected endpoints, go to the User/Endpoint Directory screen.

Use the **Range** drop-down to select the time period for the data that displays.

Click the **Important Endpoints** or **Other Endpoints** tabs to switch between the different views.

- For more information about defining important users or endpoints, see *User or Endpoint Importance on page 7-37*.

The table lists affected endpoints in order by critical threat type severity first, and then by the number of threat detections for the endpoint.

- Click the number in the **Threats** column for the endpoint you want to view.

  Fore more information, see *Security Threats on Endpoints on page 7-16*.

The **Most Critical Threat** column displays the following threat types.

| Threat Type | Description |
|---|---|
| C&C callback | Attempts to communicate with a command-and-control (C&C) server to deliver information, receive instructions, and download other malware |
| Known Advanced Persistent Threat (APT) | Intrusions by attackers that aggressively pursue and compromise chosen targets, often conducted in campaigns—a series of failed and successful attempts over time to get deeper and deeper into a target network—and not isolated incidents |
| Lateral movement | Searches for directories, email, and administration servers, and other assets to map the internal structure of a network, obtain credentials to access these systems, and allow the attacker to move from system to system |
| Ransomware | Malware that prevents or limits users from accessing their system unless a ransom is paid |

| Threat Type | Description |
|---|---|
| Social engineering attack | Malware or hacker attacks that exploits a security vulnerability found in documents, such as a PDF file |
| Unknown threats | Suspicious objects (IP addresses, domains, file SHA-1 hash values, email messages) with the "high" risk level, as detected by Deep Discovery Inspector, endpoint security products, or other products with Virtual Analyzer |
| Vulnerability attack | Malware or hacker attacks that exploits a security weakness typically found in programs and operating systems |

## Product Component Status Widget

This widget displays the component versions and compliance status of managed products or endpoints on your network. Use this widget to track managed products or endpoints with outdated components.

The default view displays the latest versions of components managed by Apex Central and the compliance status of managed products. The **Pattern** and **Engine** sections list components in order of the highest rate of non-compliance first. You can click the **Rate** column to change the sort order.

Click any of the components in the **Pattern** or **Engine** columns to view a pie chart that displays the number of managed products or endpoints using each component version.

Click the counts in the **Outdated/All** columns to view information about the component versions on outdated managed products, all managed products, outdated endpoints, or all endpoints.

Click the settings icon ( > ) to configure the following options:

**Note**

The settings icon ( ) does not display for widgets on the **Summary** tab.

- To modify the product scope of the widget, click the double arrow button ( ) in the **Scope** field and select the products that contribute data.

- To edit the components that display in the widget, select or clear components from the **Pattern** or **Engine** fields.
- To display compliance information for managed products, endpoints, or both, specify the **Source**.
- To specify whether to view data from all components reported by managed products or to view data from only components managed by Apex Central, select the **View**.

| Data | Description |
|---|---|
| Pattern | Displays the name of the pattern file, template, or antispam rule |
| Engine | Displays the name of the scan engine |
| Latest Version | Displays the following information:<br>• The latest version of the component downloaded by Apex Central<br>• The latest version of the component that is available for download (reported by managed products) |
| Outdated/All | Displays the following information:<br>• **Outdated**: The number of managed products or endpoints with outdated components<br>Click the first count in the **Outdated/All** column to view information about the component versions on the outdated managed products or endpoints.<br>• **All**: The total number of managed products or endpoints that use the component<br>Click the second count in the **Outdated/All** column to view information about the component versions on all managed products or endpoints.<br>**Note**<br>This column displays when **Both** is selected for the **Source**. |

| Data | Description |
|---|---|
| Rate | Displays the percentage of managed products or endpoints with outdated components<br><br>**Note**<br>This column displays when **Both** is selected for the **Source**. |

## Product Connection Status Widget

This widget displays the connection status of all managed products that register to the Apex Central as a Service server.

The default view lists the connection status and managed server name of each managed product for which the logged on user account has access rights.

- To change the product scope, click the settings icon ( > ) and select a new **Scope**.
- To view a summary of the total number of managed products for each connection status, click the settings icon ( > ) and switch the **View** to **Summary**.

Click **View details** to view detailed information on the **Log Query** screen.

- For more information, see *Querying Logs on page 17-2*.

| Status | Description |
|---|---|
| Active | Indicates that the product service is running and communication with the Apex Central as a Service server is established successfully |
| Inactive | Indicates that the product service is not running or is unable to establish communication with the Apex Central as a Service server |
| Abnormal | Indicates that the product service has not communicated with the Apex Central as a Service server within the user-defined agent communication time-out interval |

## Ransomware Prevention Widget

This widget provides an overview of all the attempted ransomware attacks for a specified time range.

The default view displays a summary of all the ransomware detections and categorizes all the attempts based on the infection channel.

- Click the ransomware detection count to view additional details.

| Channel | Description |
|---|---|
| Messages | Ransomware detected in email messages or email attachments |
| Websites | Ransomware detected by Web Reputation Services |
| Network traffic | Ransomware detected by Apex One Suspicious Connections |
| Cloud sync | Ransomware detected by Apex One in local folders on Apex One agents that sync with cloud storage |
| Files | Ransomware detected by File Reputation Services |
| Behaviors | Ransomware detected by Apex One Behavior Monitoring |

# Threat Investigation Tab

The **Threat Investigation** tab contains widgets tailor-made for security analysts to perform endpoint detection and response (EDR).

The predefined widgets include:

- Critical Threats

## Critical Threats Widget

This widget displays the total number of unique critical threat types detected on your network and the number of affected users and threat detections for each threat type.

Click the settings icon ( > ) to change the default **View**.

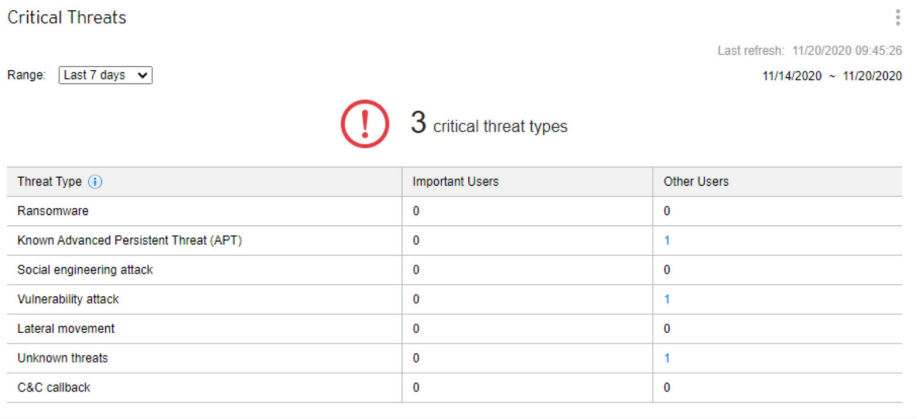
- On the **Summary** tab or a custom tab, the **Affected users** view is selected by default.

- On the **Threat Investigation** tab, the **Threat detections** view is selected by default.

**Note**

- The widget lists critical threat types in order of severity.
- Individual users may be affected by more than one critical threat type.

Use the **Range** drop-down to select the time period for the data that displays.




| Threat Type | Important Users | Other Users |
|---|---|---|
| Ransomware | 0 | 0 |
| Known Advanced Persistent Threat (APT) | 0 | 1 |
| Social engineering attack | 0 | 0 |
| Vulnerability attack | 0 | 1 |
| Lateral movement | 0 | 0 |
| Unknown threats | 0 | 1 |
| C&C callback | 0 | 0 |

**FIGURE 3-3. Affected Users View**

The **Affected users** view displays the number of **Important Users** and **Other Users** affected by each threat type.

- Click the count in the **Important Users** or **Other Users** column, and then click the affected user you want to view.

  For more information, see *Security Threats for Users on page 7-6*.

- You can define important users or endpoints on the **User/Endpoint Directory** screen.

  For more information, see *User or Endpoint Importance on page 7-37*.

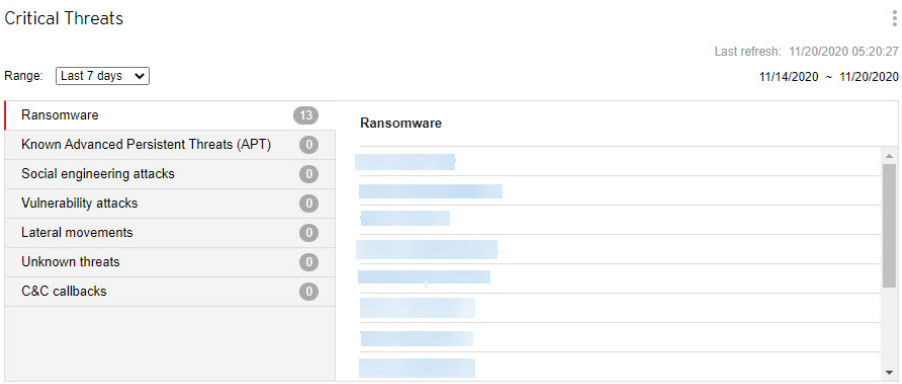



**FIGURE 3-4. Threat Detections View**

The **Threat detections** view displays the number of detections for each critical threat type.

- Click a critical threat type to view the specific threat detections.
- Click the hyperlink for a specific threat detection to view details about the affected users and automatically start a Root Cause Analysis to determine whether the threat has affected other endpoints on your network.

  For more information, see *Affected Users on page 7-22*.

Critical threat detections include the following threat types.

| THREAT TYPE | DESCRIPTION |
|---|---|
| Ransomware | Malware that prevents or limits users from accessing their system unless a ransom is paid |
| Known Advanced Persistent Threats (APT) | Intrusions by attackers that aggressively pursue and compromise chosen targets, often conducted in campaigns—a series of failed and successful attempts over time to get deeper and deeper into a target network—and not isolated incidents |
| Social engineering attacks | Malware or hacker attacks that exploits a security vulnerability found in documents, such as a PDF file |

| Threat Type | Description |
|---|---|
| Vulnerability attacks | Malware or hacker attacks that exploits a security weakness typically found in programs and operating systems |
| Lateral movements | Searches for directories, email, and administration servers, and other assets to map the internal structure of a network, obtain credentials to access these systems, and allow the attacker to move from system to system |
| Unknown threats | Suspicious objects (IP addresses, domains, file SHA-1 hash values, email messages) with the "high" risk level, as detected by Deep Discovery Inspector, endpoint security products, or other products with Virtual Analyzer |
| C&C callbacks | Attempts to communicate with a command-and-control (C&C) server to deliver information, receive instructions, and download other malware |

## Security Posture Tab

The **Security Posture** tab provides a holistic summary of your network protection status by consolidating data about the compliance levels, critical threat detections, and detections stopped on your network. You can use the **Security Posture** chart to quickly identify high risk users and groups from an integrated Active Directory structure.

**Note**

To change the sample chart data and display sites or reporting lines based on your company network, enable Active Directory integration or create custom sites based on IP addresses.

For more information, see *Active Directory Integration on page 6-2*.

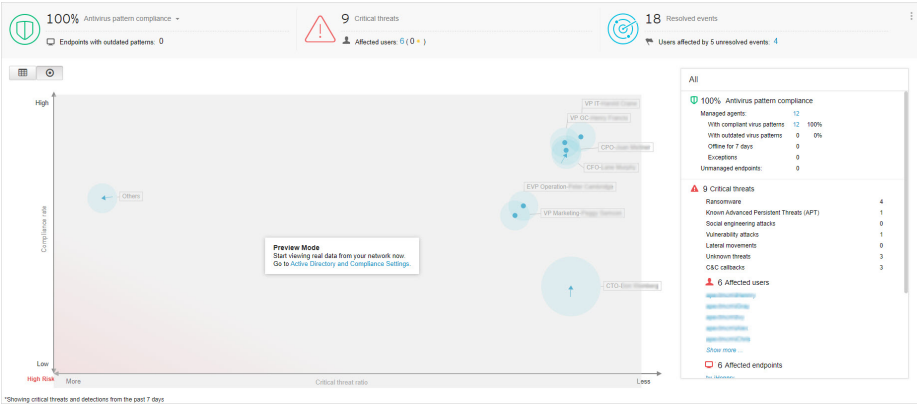



**FIGURE 3-5. Security Posture in Chart View**

By default, the **Security Posture** tab is toggled to **Chart** view ( ). To display the chart nodes, critical threats, and antivirus pattern compliance information in a table, toggle the **Table** view ( ).

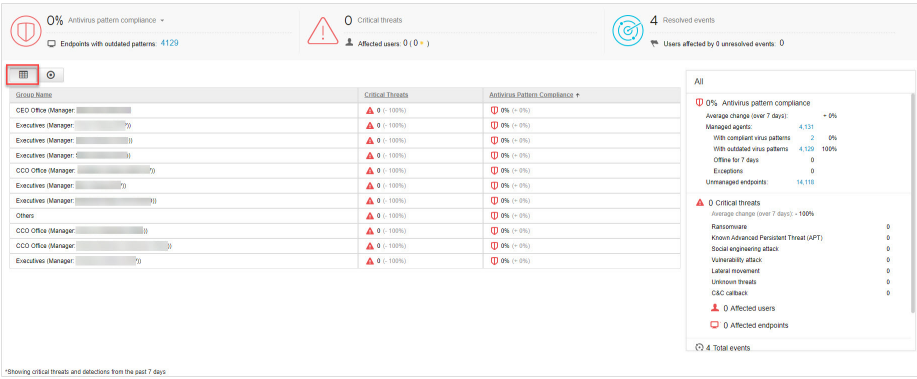



**FIGURE 3-6. Security Posture in Table View**

Click the settings icon ( > ) to change the following information that displays on the tab.

- **Organization**: Specify the display name of the organization.

- **Active Directory grouping**: Specify whether the nodes on the chart represent **Sites** or **Reporting Lines** from your Active Directory.
- **Period**: Specify the time range for the data that displays on the chart.

## Compliance Indicators

This section of the **Security Posture** tab provides information about the antivirus pattern compliance level or the Data Loss Prevention compliance level of your network.

As your network compliance level changes, the color of the compliance indicator icon changes to reflect the thresholds configured on the **Active Directory and Compliance Settings** screen.

The default view displays information for the **Antivirus pattern compliance** indicator.

---

**Note**

Changing the compliance indicator also changes the compliance level information that displays in the **Security Posture** chart.

For more information, see *Security Posture Chart on page 3-23*.

---

To change the compliance information that displays, click the name of the selected compliance indicator next to the down arrow icon ( ) and select one of the following indicators from the drop-down.

| Indicator | Description |
|---|---|
| Antivirus pattern compliance | Displays the following information:<br>• The percentage of Security Agents using acceptable Virus Pattern and Smart Scan Agent Pattern versions<br>For more information about configuring compliance indicator settings, see *Configuring the Antivirus Pattern Compliance Indicators on page 6-9*.<br>• The total number of endpoints with outdated antivirus patterns on your network<br>Click the count for **Endpoints with outdated patterns** to view detailed information about the affected endpoints in the User/Endpoint Directory.<br>For more information, see *User/Endpoint Directory on page 7-2*. |
| Data Loss Prevention compliance | Displays the following information:<br>• The percentage of Data Loss Prevention enabled Security Agents with an acceptable number of threat detections<br>For more information about configuring compliance indicator settings, see *Configuring the Data Loss Prevention Compliance Indicator on page 6-11*.<br>• The total number of endpoints with Data Discovery threat detections<br>Click the count for **Endpoints with unacceptable threat detections** to view detailed information about the affected endpoints in the User/Endpoint Directory.<br>For more information, see *User/Endpoint Directory on page 7-2*. |

## Critical Threats

The **Critical Threats** section of the **Security Posture** tab displays the total number of unique critical threats (by threat type) detected on your network, the total number of affected users, and the number of affected important users (marked by the star).

For more information about defining important users or endpoints, see *User or Endpoint Importance on page 7-37*.

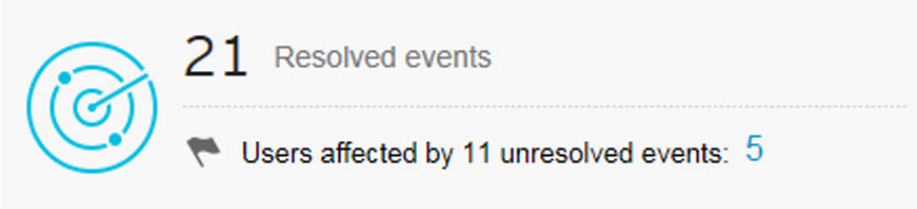
Click the number of affected users to view additional details on the **User/ Endpoint Directory** screen.

For more information, see *User/Endpoint Directory on page 7-2*.

Critical threat detections include the following threat types.

| Threat Type | Description |
|---|---|
| Ransomware | Malware that prevents or limits users from accessing their system unless a ransom is paid |
| Known Advanced Persistent Threats (APT) | Intrusions by attackers that aggressively pursue and compromise chosen targets, often conducted in campaigns—a series of failed and successful attempts over time to get deeper and deeper into a target network—and not isolated incidents |
| Social engineering attacks | Malware or hacker attacks that exploits a security vulnerability found in documents, such as a PDF file |
| Vulnerability attacks | Malware or hacker attacks that exploits a security weakness typically found in programs and operating systems |
| Lateral movements | Searches for directories, email, and administration servers, and other assets to map the internal structure of a network, obtain credentials to access these systems, and allow the attacker to move from system to system |
| Unknown threats | Suspicious objects (IP addresses, domains, file SHA-1 hash values, email messages) with the "high" risk level, as detected by Deep Discovery Inspector, endpoint security products, or other products with Virtual Analyzer |
| C&C callbacks | Attempts to communicate with a command-and-control (C&C) server to deliver information, receive instructions, and download other malware |

## Resolved Events




This section of the **Security Posture** tab displays the total number of resolved and unresolved events on your network.

Click the count for the **Users affected by __ unresolved events** field to view detailed information about the users affected by unresolved events on your network.

For more information, see *User/Endpoint Directory on page 7-1*.

## Security Posture Chart

The chart on the **Security Posture** tab displays the relationship between the critical threat ratio and compliance level of your network. The x-axis indicates the ratio of critical threats to total endpoints within a site or reporting line. The y-axis indicates the compliance levels of the sites or reporting lines for the selected compliance indicator. You can use this data to quickly identify high risk users and groups from an integrated Active Directory structure.

**Note**

To change the sample chart data and display sites or reporting lines based on your company network, enable Active Directory integration or create custom sites based on IP addresses.

For more information, see *Active Directory Integration on page 6-2*.

Hover over a node to view compliance and critical threat information for particular sites or reporting lines. The tail on a node indicates the direction from which the security status has changed over the specified time period.

- Click the settings icon ( > ) to change the **Active Directory grouping** (**Sites**, **Reporting Lines**) represented by the node.
- You can also customize sites and reporting lines by using the **Active Directory and Compliance Settings** screen.

  For more information, see *Endpoint and User Grouping on page 6-13*.

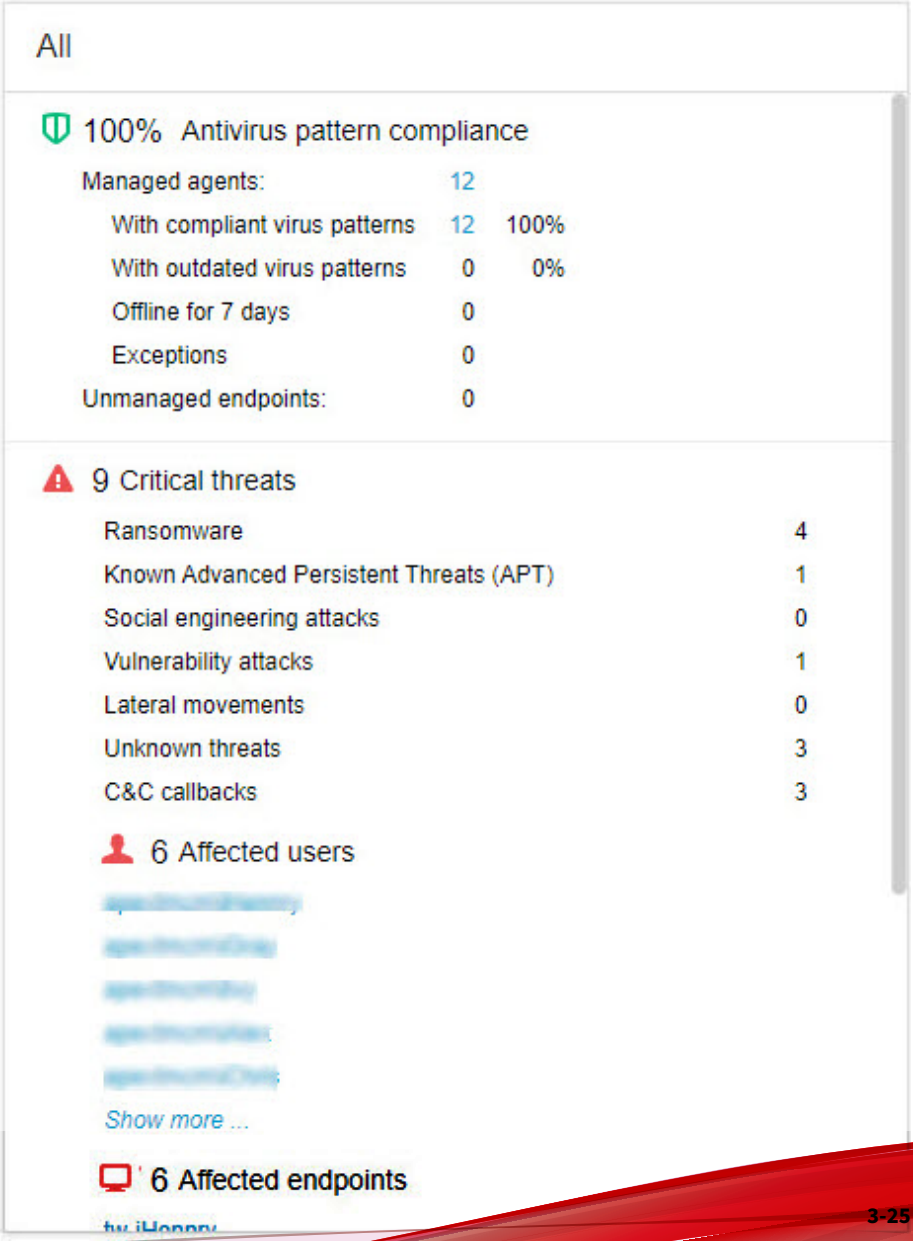
The default view displays the selected compliance indicator information for all nodes on your network for the last 7 days.

- Select a different compliance indicator to change the compliance information that displays.

  For more information, see *Compliance Indicators on page 3-20*.
- Click the settings icon ( > ) to change the **Period** for the data that displays.
- Click a node to view detailed information about the selected node in the summary panel on the right.

  For more information, see *Security Posture Details Pane on page 3-25*.

## Security Posture Details Pane



The details pane on the **Security Posture** tab displays more detailed information about the compliance levels, critical threat detections, and total resolved/unresolved events on your network.

The default view displays the selected compliance indicator information for all nodes on your network for the last 7 days.

- Select a different compliance indicator to change the compliance information that displays.

  For more information, see *Compliance Indicators on page 3-20*.

- Click a node on the chart to display only the information for the selected node.

  For more information, see *Security Posture Chart on page 3-23*.

- Click the settings icon ( > ) to change the **Period** for the data that displays.

**TABLE 3-1. Compliance Information**

| INDICATOR | DESCRIPTION |
|---|---|
| Antivirus pattern compliance | Displays the percentage of Security Agents using acceptable Virus Pattern and Smart Scan Agent Pattern versions<br><br>You can also view the following details:<br><br>• **Managed agents**: The number of endpoints that have Apex One or Worry-Free Business Security Services Security Agents installed<br>  • **With compliant virus patterns**: The number of managed agents using acceptable Virus Pattern and Smart Scan Agent Pattern versions<br>  • **With outdated virus patterns**: The number of managed agents not using acceptable Virus Pattern and Smart Scan Agent Pattern versions<br>  • **Offline for 7 days**: The number of managed agents that have not communicated with the managed product server in 7 or more days<br>  • **Exceptions**: The number of users or endpoints excluded from the compliance calculations<br>• **Unmanaged endpoints**: The number of endpoints that do not have Apex One or Worry-Free Business Security Services Security Agents installed<br><br>Expand the categories and click a count to view additional details about the affected endpoints.<br><br>For more information, see the following topics:<br><br>• *Configuring the Antivirus Pattern Compliance Indicators on page 6-9*<br>• *User/Endpoint Directory on page 7-1* |

| Indicator | Description |
|---|---|
| Data Loss Prevention compliance | Displays the percentage of Data Loss Prevention enabled Apex One agents with an acceptable number of threat detections<br><br>You can also view the following details:<br><br>• **Managed agents**: The number of endpoints that have Apex One or Worry-Free Business Security Services Security Agents installed<br>  • **With acceptable threat detections**: The number of managed agents with an acceptable number of threat detections<br>  • **With unacceptable threat detections**: The number of managed agents that exceeded the acceptable number of threat detections<br>  • **Offline for 7 days**: The number of managed agents that have not communicated with the managed product server in 7 or more days<br>  • **Exceptions**: The number of users or endpoints excluded from the compliance calculations<br>• **Unmanaged endpoints**: The number of endpoints that do not have Apex One or Worry-Free Business Security Services Security Agents installed<br><br>Expand the categories and click a count to view additional details about the affected endpoints.<br><br>For more information, see the following topics:<br><br>• *Configuring the Data Loss Prevention Compliance Indicator on page 6-11*<br>• *User/Endpoint Directory on page 7-1* |

**TABLE 3-2. Critical Threats**

| SECTION | DESCRIPTION |
|---|---|
| Critical threats | Displays the total number of unique critical threats (by threat type) detected on your network<br><br>Lists all the critical threat types affecting your network<br><br>For threat types with detections:<br>• Expand the threat type to view a list of detections.<br>• Click a detection to view additional details on the **Threat Information** screen.<br><br>For more information, see *Affected Users on page 7-22*. |
| Affected users | Displays the total number of users affected by critical threats<br>• Expand the section to view affected users.<br>• Click an affected user to view additional details on the **User** information screen.<br><br>Fore more information, see *Security Threats for Users on page 7-6*. |
| Affected endpoints | Displays the total number of endpoints affected by critical threats<br>• Expand the section to view affected endpoints.<br>• Click an affected endpoint to view additional details on the **Endpoint** information screen.<br><br>Fore more information, see *Security Threats on Endpoints on page 7-16*. |

**TABLE 3-3. Total Events**

| DATA | DESCRIPTION |
|---|---|
| Total events | Displays the total number of events detected |
| Resolved events | Displays the number of resolved events on your network |
| Unresolved events | Displays the number of unresolved events on your network that require action |

| Data | Description |
| --- | --- |
| Affected users | Displays the number of users affected by unresolved events on your network<br>Click the count to view details about the affected users.<br>For more information, see *User/Endpoint Directory on page 7-1*. |

# Data Loss Prevention Tab

The **Data Loss Prevention** tab contains widgets that display information about DLP incidents, template matches, and incident sources.

The predefined widgets include:

- DLP Incidents by Severity and Status
- DLP Incident Trends by User
- DLP Incidents by User
- DLP Incidents by Channel
- DLP Template Matches
- Top DLP Incident Sources
- DLP Violated Policy

## DLP Incidents by Severity and Status Widget

This widget checks the number of DLP incidents based on severity levels and incident status. Data can be filtered by severity level, as well as display the total number of new and high severity incidents. By default the widget displays data from all the managed products that a user's account privileges allow.

**Important**

This widget only displays data for Apex Central user accounts that have been assigned Data Loss Prevention (DLP) user roles.

For more information about reviewing DLP incidents and configuring DLP user roles, see https://docs.trendmicro.com/en-us/enterprise/apex-central-saas/dlp_incidents.

Use the **Range** drop-down to select the time period for the data that displays.

Click the numbers in any column to open the **Incident Information** screen and review the summary of incidents.

To look up a specific incident, type an ID in the **Incident ID** field and click **Search**.

**Tip**

Each incident is assigned an ID number. ID numbers can be found by clicking a table link, in **Incident details updated** event notifications, or in **Data Loss Prevention** log query results.

Click the widget settings icon on the widget to access additional settings.

| Setting | Description |
|---|---|
| Title | Specify a new and meaningful title for the widget in the field. |
| Range | Specify the time range when the DLP incidents were triggered. |
| Scope | Specify the data scope displayed by the widget.<br>• Directly managed users<br>• All managed users: Data is collected from both directly managed users and people under the directly managed users |
| Severity | Specify the severity levels to filter the data. |

Click **Save** to apply changes and update the widget data.

## DLP Incident Trends by User Widget

This widget checks the number of DLP incident trends based on managed users. Data can be filtered by severity level, or filtered to show only the total number of incidents triggered by a specific user for a specified period of time. By default the widget displays data from all the managed products that a user's account privileges allow.

**Important**

This widget only displays data for Apex Central user accounts that have been assigned Data Loss Prevention (DLP) user roles.

For more information about reviewing DLP incidents and configuring DLP user roles, see https://docs.trendmicro.com/en-us/enterprise/apex-central-saas/dlp_incidents.

Use the **Range** drop-down to select the time period for the data that displays.

Click the sections from the graph to open the **Incident Information** screen and review the summary of incidents.

Click the widget settings icon on the widget to access additional settings.

| Setting | Description |
|---|---|
| Title | Specify a new and meaningful title for the widget in the field. |
| Range | Specify the time range when the DLP incidents were triggered. |
| Scope | Specify the data scope displayed by the widget.<br>• Directly managed users<br>• All managed users: Data is collected from both directly managed users and people under the directly managed users. |
| Severity | Specify the severity levels to filter the data. |
| Users to display | Specify the number of managed users to display. |

Click **Save** to apply changes and update the widget data.

## DLP Incidents by User Widget

This widget checks the number of DLP incidents based on severity levels and managed users. Data can be filtered by severity level, as well as display the total number of new and high severity incidents triggered by specific users. By default the widget displays data from all the managed products that a user's account privileges allow. The widget shows a maximum of 50 users.

**Important**

This widget only displays data for Apex Central user accounts that have been assigned Data Loss Prevention (DLP) user roles.

For more information about reviewing DLP incidents and configuring DLP user roles, see https://docs.trendmicro.com/en-us/enterprise/apex-central-saas/dlp_incidents.

Use the **Range** drop-down to select the time period for the data that displays.

Click the numbers in any column to open the **Incident Information** screen and review the summary of incidents.

To look up a specific user, type a few characters in the **User** field and click **Search**. For example typing `ke` shows all user names with `ke`, such as “Ken” and “Brooke”. You can also type a domain and user name, such as `domain1\chris`.

**Note**

User names must not contain the following characters: " [ ] : ; | = + * ? / \ < &> ,

Domain names must not contain the following characters: \ * + = | : ; " ? < &> ,

Click the widget settings icon on the widget to access additional settings.

| Setting | Description |
|---|---|
| Title | Specify a new and meaningful title for the widget in the field. |

| Setting | Description |
|---|---|
| Range | Specify the time range when the DLP incidents were triggered. |
| Scope | Specify the data scope displayed by the widget.<br>• Directly managed users<br>• All managed users: Data is collected from both directly managed users and people under the directly managed users. |
| Severity | Specify the severity levels to filter the data. |
| Users to display | Specify the number of managed users to display. |

Click **Save** to apply changes and update the widget data.

## DLP Incidents by Channel Widget

This widget displays the total number of DLP incidents. Data can be filtered by the type of channels where the incident is triggered.

Use the **Range** drop-down to select the time period for the data that displays.

Use the **Channel** drop-down to filter out the type of channels where the incident is triggered.

This widget displays the number of DLP incidents and the ratio of channels compared to the total number of incidents. This widget displays this data by:

| Data | Description |
|---|---|
| P2P | Displays all peer-to-peer DLP incidents by any managed product that the Data Scope specifies |
| IM | Displays all instant messaging DLP incidents by any managed product that the Data Scope specifies |
| Webmail | Displays all webmail DLP incidents by any managed product that the Data Scope specifies |
| Email | Displays all email DLP incidents by any managed product that the Data Scope specifies |

| Data | Description |
|---|---|
| Web App | Displays all web application DLP incidents by any managed product that the Data Scope specifies |
| Others | Displays the remaining DLP incidents by any managed product that the Data Scope specifies |

Clicking links in the **Channel** column or sections from the graphs opens a screen that displays detailed information.

| Data | Description |
|---|---|
| Channel | Type of channels where the DLP incidents is triggered |
| Incidents | Number of DLP incidents triggered |
| Percentage (%) | DLP incidents percentage of total number of incidents |

To change the information that the widget displays, click > . On the dialog box that appears, specify the **Scope** by clicking >> and selecting the parent servers that the widget uses as its source.

## DLP Template Matches Widget

This widget displays the type of DLP incidents on your network. Data can be filtered by template.

Use the **Range** drop-down to select the time period for the data that displays.

Clicking links in the **Template** column or sections from the graphs opens a screen that displays detailed information.

| Data | Description |
|---|---|
| Template | Template triggered by DLP incidents |
| Incidents | Number of DLP incidents |
| Percentage (%) | DLP incidents percentage of total number of incidents |

To change the information that the widget displays, click ⋮ > ⚙. On the dialog box that appears, specify the **Scope** by clicking » and selecting the parent servers that the widget uses as its source.

### Top DLP Incident Sources Widget

This widget displays the total number of top DLP incident sources on your network. This data includes users, email addresses, host names, and IP addresses, which can be filtered by incident source.

Use the **Range** drop-down to select the time period for the data that displays.

Use the **Show** drop-down to select the data to be displayed.

### DLP Violated Policy Widget

This widget displays the DLP violated policy. Use this widget to check the total number of DLP incidents. By default data is sorted by the number of incidents. To sort data by policy name, click the **Policy** column title.

Use the **Range** drop-down to select the time period for the data that displays.

Clicking links in the **Incidents** column opens a screen that displays detailed information.

| Data | Description |
|---|---|
| Policy | Name of the policy where the DLP incidents is triggered |
| Incidents | Number of DLP incidents triggered |

## Compliance Tab

The **Compliance** tab contains widgets that display information relating to component or connection compliance for managed products or endpoints.

The predefined widgets are as follows:

- Product Application Compliance
- Product Component Status

- Product Connection Status
- Agent Connection Status

## Product Application Compliance Widget

This widget displays the product version, language, build, and update status for managed products. This provides administrators a quick way to discern which managed product's applications are up-to-date and which require updating.

You can choose to display the data in a bar chart or table by clicking the display icons ( ).

Click the counts in the **Up-to-date** and **Out-of-date** columns to open a screen that displays detailed information. Apex Central performs a log query to provide the detailed information.

| Data | Description |
|---|---|
| Product | The managed product registered to Apex Central |
| Version | Version of the managed product |
| Language | Language version of the managed product |
| Build | Build number of the managed product |
| Up-to-date | Number of products that are considered updated<br>Edit the widget to specify the minimum product version that should still be considered "up-to-date".<br>Click the count to view more details about the product. |
| Out-of-date | Number of products that are "out-of-date"<br>Click the count to view more details about the product. |
| Up-to-date Rate (%) | Percentage of products that are "up-to-date" |

By default the widget displays data from all the managed products that a user's account privileges allow.

Specify a bar graph or a table to display the data. By default, data is displayed as a bar graph.

Click **Edit** to access the following options:

- Click **Scope** > **Browse** to specify the products that contribute data for the widget.

  The data scope specifies the products which the widget uses to display data. This can have a drastic affect on the usefulness of the information that the widget displays.

- On the **Up-to-date range** drop-down, specify the number of product versions away from the latest build that should still be considered "up-to-date".

Click **Save** to apply changes and exit.

## Product Component Status Widget

This widget displays the component versions and compliance status of managed products or endpoints on your network. Use this widget to track managed products or endpoints with outdated components.

The default view displays the latest versions of components managed by Apex Central and the compliance status of managed products. The **Pattern** and **Engine** sections list components in order of the highest rate of non-compliance first. You can click the **Rate** column to change the sort order.

Click any of the components in the **Pattern** or **Engine** columns to view a pie chart that displays the number of managed products or endpoints using each component version.

Click the counts in the **Outdated/All** columns to view information about the component versions on outdated managed products, all managed products, outdated endpoints, or all endpoints.

Click the settings icon ( > ) to configure the following options:

**Note**

The settings icon ( ) does not display for widgets on the **Summary** tab.

- To modify the product scope of the widget, click the double arrow button ( >> ) in the **Scope** field and select the products that contribute data.
- To edit the components that display in the widget, select or clear components from the **Pattern** or **Engine** fields.
- To display compliance information for managed products, endpoints, or both, specify the **Source**.
- To specify whether to view data from all components reported by managed products or to view data from only components managed by Apex Central, select the **View**.

| Data | Description |
|---|---|
| Pattern | Displays the name of the pattern file, template, or antispam rule |
| Engine | Displays the name of the scan engine |
| Latest Version | Displays the following information:<br>• The latest version of the component downloaded by Apex Central<br>• The latest version of the component that is available for download (reported by managed products) |

| Data | Description |
|---|---|
| Outdated/All | Displays the following information:<br>• **Outdated**: The number of managed products or endpoints with outdated components<br>Click the first count in the **Outdated/All** column to view information about the component versions on the outdated managed products or endpoints.<br>• **All**: The total number of managed products or endpoints that use the component<br>Click the second count in the **Outdated/All** column to view information about the component versions on all managed products or endpoints.<br>**Note**<br>This column displays when **Both** is selected for the **Source**. |
| Rate | Displays the percentage of managed products or endpoints with outdated components<br>**Note**<br>This column displays when **Both** is selected for the **Source**. |

## Product Connection Status Widget

This widget displays the connection status of all managed products that register to the Apex Central as a Service server.

The default view lists the connection status and managed server name of each managed product for which the logged on user account has access rights.

- To change the product scope, click the settings icon ( > ) and select a new **Scope**.

- To view a summary of the total number of managed products for each connection status, click the settings icon ( > ) and switch the **View** to **Summary**.

Click **View details** to view detailed information on the **Log Query** screen.

- For more information, see *Querying Logs on page 17-2*.

| Status | Description |
|---|---|
| Active | Indicates that the product service is running and communication with the Apex Central as a Service server is established successfully |
| Inactive | Indicates that the product service is not running or is unable to establish communication with the Apex Central as a Service server |
| Abnormal | Indicates that the product service has not communicated with the Apex Central as a Service server within the user-defined agent communication time-out interval |

## Agent Connection Status Widget

This widget displays the connection status of agents with their parent servers. Agents for the following managed products are displayed:

- Apex One
- Apex One (Mac)

By default the widget displays data from all the managed products that a user's account privileges allow.

Click the values in the **Online**, **Offline**, or **Total** columns to view more information. Apex Central performs a log query to provide the information.

| Data | Description |
|---|---|
| Server | Parent servers |
| Online | Agents connected to their parent servers |
| Offline | Agents disconnected from their parent servers |

| Data | Description |
|---|---|
| Total | Total number of endpoints |

To change the information that the widget displays, click > . On the dialog box that appears, specify the **Scope** by clicking >> and selecting the parent servers that the widget uses as its source.

# Threat Statistics Tab

The **Threat Statistics** tab contains widgets that display aggregated detections of security threats.

The predefined widgets include:

- Apex Central Top Threats
- Apex Central Threat Statistics
- Threat Detection Results
- Policy Violation Detections
- C&C Callback Events

## Apex Central Top Threats Widget

This widget displays information about the malicious files and malicious URLs detected for a specified time range.

You can choose to display the data in a bar chart or table by clicking the display icons ( ).

Use the drop-down list above the chart/table to select the type of threat data to display.

- **Malicious Files**: Ranks the malicious files detected on your network by the number of detections
- **Malicious URLs**: Ranks the malicious URLs detected on your network by the number of detections

Click a bar, threat name, or detection number to open the **Log Query** screen that displays information about the affected endpoints, threat details, and detection count.

The default view displays the top 10 threats from all the managed products for which the logged on user account has access rights.

- Click the settings icon ( > ) to edit the widget title, product scope, or number of threats that displays.

## Apex Central Threat Statistics Widget

This widget displays the total number of security threat detections on your network. Data can be filtered by security threat type or by the location on your network where the threat is detected.

- Violation Type

| Data | Description |
|---|---|
| Behavior Monitoring | Behavior Monitoring violation detected by any managed product that the Data Scope specifies |
| Content Violation | Content security violations (spam, blocked keywords and expressions) detected by any managed product that the Data Scope specifies |
| Device Control | Device Control violation detected by any managed product that the Data Scope specifies |
| Firewall Violation | Firewall violation by any managed product that the Data Scope specifies |
| Network Content Inspection | Network Content Inspection violation detected by any managed product that the Data Scope specifies |
| Predictive Machine Learning | Predictive Machine Learning detection by any managed product that the Data Scope specifies |
| Spyware/Grayware | Spyware/grayware detected by any managed product that the Data Scope specifies |
| Suspicious Files | Suspicious file detection by any managed product that the Data Scope specifies |

| Data | Description |
|---|---|
| Virus/Malware | Viruses/malware detected by any managed product that the Data Scope specifies |
| Web Security | Web security violations (malicious URLs, blocked URLs) detected by any managed product that the Data Scope specifies |

- Product Category

| Data | Description |
|---|---|
| File server | Security threats on file servers detected by any managed product that the Data Scope specifies |
| Network | Security threats on your network detected by any managed product that the Data Scope specifies |
| Mail | Security threats on email servers detected by any managed product that the Data Scope specifies |
| Desktop | Security threats on desktops detected by any managed product that the Data Scope specifies |
| Gateway | Security threats at the gateway detected by any managed product that the Data Scope specifies |

**Note**

The widget can display data for only one information type at a time.

Click the links in the **Detections** column to open a screen that displays detailed information. Apex Central performs a log query to provide the detailed information.

| Data | Description |
|---|---|
| Type | Type of security threat or managed product where the threat is detected |
| Detections | Number of security threats detected |

| Data | Description |
|---|---|
| Percentage (%) | Security threat percentage of total number of detected threats |

Specify the date range for the data that the widget displays:

- Today
- Last 7 days
- Last 14 days
- Last 30 days

Specify how the widget displays the data:

- Pie chart
- Bar chart
- Tabular
- Line chart

By default the widget displays data from all the managed products that a user's account privileges allow.

To change the information that the widget displays, click > . On the dialog box that appears, specify the **Scope** by clicking >> and selecting the parent servers that the widget uses as its source.

## Threat Detection Results Widget

This widget displays the number of threat detections and the ratio of threats compared to the total number of detections. The widget can display data for only one information type at a time. Clicking links in the **Detections** column opens a screen that displays detailed information. Apex Central performs a log query to provide the detailed information.

| Data | Description |
|---|---|
| Results | The action or result of the action performed by the managed product<br><br>**Note**<br>This column does not display for the **Web Security** threat type |
| Policy/Rule | The type of policy/rule applied under the **Web Security** threat type.<br><br>**Note**<br>This column does not display for other listed threat types. |
| Detections | The number of security threats detected |
| Percentage (%) | The percentage of total detections that are security threats |

This widget displays threat detections for the following threat types:

**Table 3-4. Threat Types**

| Threat Type | Description |
|---|---|
| Virus/Malware | Displays the action taken on all files by any managed product that the Data Scope specifies. For example: Cleaned, Access denied, and so on. |
| Spyware/Grayware | Displays the action taken on all files by any managed product that the Data Scope specifies. For example: Successful, Further action required, and so on. |
| Content Security | Displays the action taken on all email messages by any managed product that the Data Scope specifies. For example: Deleted, Attachments stripped, and so on. |
| Web Security | Displays all web security violations blocked using the policies by any managed product that the Data Scope specifies. For example: File blocking, File name, and so on. |
| Network Virus | Displays the action taken on all network viruses by any managed product that the Data Scope specifies |

Click the settings icon ( > ) to edit the widget title, product scope, or type of threats that displays.

## Policy Violation Detections Widget

This widget displays the policy violation detections for Network VirusWall Enforcer devices. Clicking links in the **Detections** column opens a screen that displays detailed information. Apex Central performs a log query to provide the detailed information.

| Data | Description |
|---|---|
| Type | Lists **Service Violations** as a type of security threat |
| Updated | Last updated date |
| Detections | Number of service violations Network VirusWall Enforcer devices detect |

Click the settings icon ( > ) to edit the widget title or product scope.

**Note**

This widget only displays policy violation detections for Network VirusWall Enforcer.

Click **Save** to apply changes and exit.

## C&C Callback Events Widget

This widget displays the number of C&C callback attempts based on compromised hosts or callback addresses. The widget can display data for only one information type at a time. Clicking the numbers in any table cells opens the **C&C Callback Events** screen, which contains the following callback summary data:

| Data | Description |
|---|---|
| Compromised Host | Affected host or email address |

| Data | Description |
|---|---|
| Callback Address | URL, IP address, or email address to which a compromised host attempts a callback |
| C&C Server Location | Region and country where the C&C server locates |
| Callback Attempts | Number of contacts made between callback addresses and compromised hosts |
| Latest Callback Address/ Compromised Host | URL, IP address, or email address to which the last callback attempt was logged |
| Callback Addresses/ Compromised Hosts (with numbers displayed in the columns) | Number of compromised hosts or callback addresses associated with the callback attempts |
| Logged By | Name of the managed product that logged the event |

Click the settings icon ( > ) to edit the following:

- **Title**: Modify the title of the **C&C Callback Events** widget.
- **Scope**: Click >> and select the parent servers that the widget uses as the source.
- **C&C list source**: Select **Global Intelligence**, **Virtual Analyzer**, or **User-defined** as the C&C list sources.
- **Items to display**: Select the number of items to display on the widget.

Click **Save** to apply changes and exit.

# Chapter 4

## Account Management

This section discusses how to create and administer Apex Central user accounts and roles.

Topics include:


- *User Accounts on page 4-2*
- *User Roles on page 4-15*

# User Accounts

The **User Accounts** screen provides a list of all previously configured user accounts for the Apex Central as a Service console. You can use this screen to set up user account and a particular role to each user.

For more information about user roles, see *User Roles on page 4-15*.

The following table outlines the tasks available on the **User Accounts** screen.

| Task | Description |
|---|---|
| Add user accounts | Click **Add** to set up a new user account or import users or groups from an integrated Active Directory structure.<br><br>For more information, see *Adding a User Account on page 4-4*.<br><br>**Note**<br>Apex Central as a Service allows you to create user accounts for users and groups from an integrated Active Directory structure.<br><br>For more information, see *Active Directory Integration on page 6-2*. |
| Delete user accounts | Select the check box next the **User/Group Name** of an existing account and click **Delete** to permanently remove an account.<br><br>**WARNING!**<br>Deleting an account permanently removes all previously configured account information from the Apex Central as a Service server. |
| Enable two-factor authentication | Click the **Enable Two-Factor Authentication** link to require users to type the verification code generated by the Google Authenticator app in order to sign in to Apex Central as a Service.<br><br>For more information, see *Enabling or Disabling Two-Factor Authentication on page 4-11*. |

| Task | Description |
|---|---|
| Disable two-factor authentication | Click the **Disable Two-Factor Authentication** link to only require the use of a valid user account and password to sign in to Apex Central as a Service.<br><br>For more information, see *Enabling or Disabling Two-Factor Authentication on page 4-11*. |
| Edit user accounts | Click the **User/Group Name** of a user account to edit the user information.<br><br>For more information, see *Editing a User Account on page 4-10*. |
| Unlock user accounts | Click the **Unlock** button in the **Locked** column to unlock an account that exceeded the specified number of consecutive unsuccessful logon attempts.<br><br>For more information, see *Configuring Web Console Settings on page 2-5*. |
| Enable user accounts | Click the<br> <br>icon in the **Enable** column to enable a disabled account to sign in to the Apex Central as a Service console.<br><br>**Note**<br>You can also enable a disabled account by editing the account.<br><br>For more information, see *Editing a User Account on page 4-10*. |

| Task | Description |
|---|---|
| Disable user accounts | Click the icon in the **Enable** column to temporarily prevent a user from signing in to the Apex Central as a Service console.<br><br>**Note**<br>• You can also disable a user account by editing the account.<br>For more information, see *Editing a User Account on page 4-10*.<br>• Apex Central as a Service cannot disable accounts for Active Directory users or groups. To disable an Active Directory account, you must disable the account from the Active Directory server.<br>For more information, contact your Active Directory administrator. |

## Adding a User Account

Use the **User Accounts** screen to create new user accounts for Apex Central as a Service administrators or to import users or groups from an integrated Active Directory structure.

**Important**

- Only user accounts assigned the “Administrator” or “Administrator and DLP Compliance Officer” user role can create new user accounts on Apex Central as a Service.
- Importing users or groups from an Active Directory structure requires an integrated Active Directory structure.

  For more information, see *Active Directory Integration on page 6-2*.
- Integrating an Active Directory structure allows Active Directory users or groups to log on to Apex Central as a Service by using the **Log On with Domain Credentials** button without having to provide their user names and passwords.

  For more information, see *Accessing the Web Console on page 2-2*.

**Procedure**

1. Go to **Administration** > **Account Management** > **User Accounts**.

   The **User Accounts** screen appears.
2. Click **Add**.

   The **User Accounts > Step 1: User Information** screen appears.
3. Select **Enable this account** to enable the account upon creation.

   **Note**

   Apex Central as a Service cannot disable accounts for Active Directory users or groups. To disable an Active Directory account, you must disable the account from the Active Directory server.

   For more information, contact your Active Directory administrator.
4. Select the account type.
   - To create a new Apex Central as a Service user account:

a. Select **Custom account**.

b. Configure the following required account information:

| INFORMATION | DESCRIPTION |
|---|---|
| User name | Type the account name that the user provides to log on to the Apex Central web console. |
| Full name | Type the full name of the user. |
| Password | Type the password that the user provides to log on to the Apex Central web console.<br><br>**Note**<br>Users can change their passwords on the **My Account** screen.<br><br>For more information, see *Viewing or Editing User Account Information on page 4-13*. |
| Confirm password | Type the same password provided in the **Password** field. |
| Email address | Type the email address to which the user has notifications delivered.<br><br>**Note**<br>This field is required for Apex Central to send reports and event notifications by email or when Two-Factor Authentication is enabled. |

- To import users or groups from an integrated Active Directory structure:

  a. Select **Active Directory user or group**.

  b. Search for Active Directory users or groups using the following:

- **User/Group name**

  **Note**

  - This field is required.
  - You can use an asterisk wildcard (*) to search using partial string matching.

    For example, typing “tom*” searches for all users or groups with names that start with “tom”.

- **Base distinguished name**

c. Click **Search**.

   Active Directory accounts that match the specified criteria appear in the **Search result** list.

d. Select Active Directory users or groups from the **Search result** list and click **>**.

   The selected Active Directory users or groups appear in the **Selected users/groups** list.

**Important**

- Apex Central as a Service requires you to manually synchronize Active Directory data before imported users or groups can log on to Apex Central as a Service using their Active Directory domain credentials.

  For more information, see *Configuring Active Directory Synchronization on page 6-2*.

- You do not need to manually synchronize Active Directory data from an Active Directory structure migrated from a previous version of Control Manager. Users and groups from the migrated Active Directory structure can log on to Apex Central as a Service as soon as the migration completes.

5. Click **Next**.

   The **User Accounts > Step 2: Access Control** screen appears.

6. Select a user role from the **Select role** drop-down.

**Note**

- The access rights defined for a user role take precedence over the managed product/folder access rights that you configure for individual user accounts.
- The DLP Compliance Officer and DLP Incident Reviewer roles are only available to Active Directory users or groups.

  For more information, see *User Roles on page 4-15*.

7. In the **Select accessible products/folders** tree, select the products or folders that the user can access in the Product Directory structure.

**Note**

You can restrict a user to a single managed product or allow access to the entire Product Directory. Assigning access to a folder allows users to access all of the sub-folders and managed products.

For more information, see *Managed Product Access Control on page 4-9*.

8. Specify the managed product/folder access rights for the user account.

**Note**

Access rights determine the actions that the user account can perform on managed products. Privileges granted to an account cannot exceed those of the grantor.

For more information, see *Managed Product Access Control on page 4-9*.

9. Click **Finish**.

The new user account appears on the **User Accounts** screen.

## Managed Product Access Control

The access rights you specify for selected managed products/folders determine the controls available to the user on the **Product Directory** screen. For example, if you only specify the **Execute** access right for the selected managed products/folders, then the user can only use the **Tasks** button on the **Product Directory** screen.

**Note**

The actions available on the **Product Directory** screen buttons dynamically change based on user role, managed product/folder access rights, and the managed product/folder you select in the Product Directory structure.

For more information, see *Product Directory Overview on page 11-2*.

You can specify one or more of the following access rights for the accessible managed products/folders.

| Access Right | Description |
|---|---|
| Execute | Allows the user account to use the **Tasks** button on the **Product Directory** screen to execute tasks on managed products located in accessible folders<br><br>For more information, see *Executing Managed Product Tasks on page 11-9*. |
| Configure | Allows the user account to use the **Configure** button on the **Product Directory** screen to configure managed product settings or log on to the managed product web console from Apex Central<br><br>For more information, see *Configuring Managed Product Settings on page 11-10*. |

| Access Right | Description |
|---|---|
| Edit Directory | Allows the user account to use the **Directory Management** button to organize accessible managed products or folders in the Product Directory structure<br><br>For more information, see *Directory Management on page 11-12*. |

**Note**

When administrators specify which products a user can access, the administrator is also specifying what information a user can access from Apex Central. The following information is affected: component information, logs, product summary information, security information, and information available for reports and log queries.

Example:

Bob and Jane are Apex One administrators. Both have identical user role permissions (they have access to the same menu items in the web console). However, Jane oversees operations for all Apex One servers. Bob only oversees operations for Apex One servers protecting desktops for the Marketing department. The information that they can view in the web console will be very different. Bob logs on and only sees information that is applicable to the Apex One servers that his Apex Central user account allows (the Apex One servers for the Marketing department). When Jane logs on, she sees information for all Apex One servers, because her Apex Central user account grants her access to all Apex One servers registered to Apex Central.

## Editing a User Account

Use the **User Accounts** screen to edit the user information, user role, or managed product/folder access rights of any user account that you have permission to edit.

**Important**

- Any user account assigned the “Administrator” or “DLP_Compliance_Officer” user role can edit any other user account on Apex Central as a Service.
- Modifying the access rights of a user account terminates all Apex Central as a Service sessions for the modified account and all accounts created by the modified account.
- You cannot change the user name of an existing account.

**Procedure**

1. Go to **Administration** > **Account Management** > **User Accounts**.

   The **User Accounts** screen appears.

2. Click the **User/Group Name** of the account to modify.

   The **User Accounts > Step 1: User Information** screen appears.

3. To enable or disable the account, select or deselect the **Enable this account** check box.
4. Modify the user information.
5. Click **Next**.

   The **User Accounts > Step 2: Access control** screen appears.

6. Modify the user role, accessible products/folders, or access rights.
7. Click **Finish** to apply changes.

## Enabling or Disabling Two-Factor Authentication

Two-Factor Authentication provides extra security on user accounts by requiring users to type the verification code generated by the Google Authenticator app in order to sign in to Apex Central as a Service.

**Important**

Two-Factor Authentication for Apex Central as a Service requires the following:

- Configuring an email address for each user account

  For more information, see *Viewing or Editing User Account Information on page 4-13*.

- Downloading and installing the Google Authenticator app on each user's mobile device

**Note**

- You cannot enable Two-Factor Authentication for Trend Micro Customer Licensing Portal (CLP) accounts from the Apex Central as a Service console.

  For more information, see the Trend Micro Customer Licensing Portal documentation.

- Although the verification code generated by the Google Authenticator app changes every 30 seconds, users can still use previously generated codes up to 5 minutes old to sign in to Apex Central as a Service.

### Procedure

1. Go to **Administration** > **Account Management** > **User Accounts**.

   The **User Accounts** screen appears.

2. To enable two-factor authentication:

   a. Click **Enable Two-Factor Authentication**.

      A confirmation dialog box appears.

   b. Click **Enable**.

- A warning message appears at the top of the **User Accounts** screen, prompting you to configure email addresses for all user accounts.
- The email address field on the **Add User Account** screen becomes a required field.
- Apex Central as a Service requires users to type the verification code generated by the Google Authenticator app, in addition to a valid user name and password, in order to sign in.

**3.** To disable two-factor authentication:

**a.** Click **Disable Two-Factor Authentication**.

A confirmation dialog box appears.

**b.** Click **Disable**.

Signing into the Apex Central as a Service web console will only require the use of a valid user account and password.

## Viewing or Editing User Account Information

Use the **My Account** screen to view or change account information for your own user account or for a user account that you created.

For information about editing the user role assigned to a particular user account, see *Editing a User Account on page 4-10*.

**Procedure**

**1.** Go to **Administration** > **Account Management** > **My Account**.

The **My Account** screen appears.

**2.** Configure the following account information:

| Information | Description |
|---|---|
| Full name | Type the full name of the user.<br><br>**Note**<br>This field is required. |
| Password | Type the password that the user provides to log on to the Apex Central web console.<br><br>**Note**<br>This field is required. |
| Confirm password | Type the same password provided in the **Password** field.<br><br>**Note**<br>This field is required. |
| Email address | Type the email address to which the user has notifications delivered.<br><br>**Note**<br>This field is required for Apex Central to send reports and event notifications by email and for Two-Factor Authentication.<br><br>For more information about Two-Factor Authentication, see *Enabling or Disabling Two-Factor Authentication on page 4-11*. |
| Telephone number | Type the landline phone number to associate with the user account. |
| Mobile phone number | Type the cellular phone number to associate with the user account. |

3. Click **Save** to apply changes.

# User Roles

The **User Roles** screen provides a list of all default user roles and all custom user roles that you can assign to user accounts. User roles define which areas of the Apex Central web console a user can access and control. You can use this screen to create and edit custom Apex Central user roles.

**Important**

If a custom user role in a previous Apex Central version has permissions to Policy Management menu items, the role will have full control permissions after upgrading to the current release. You can change the permissions to "Maintain" or "Read-only". When upgrading from a Apex Central version that does not include Policy Management, custom user roles have no permissions to manage or view Policy Management features until you choose to modify the role settings.

**Note**

- Only user accounts that have the "Administrator" or "Administrator and DLP Compliance Officer" user role assigned can create new user accounts and assign user roles.
- The access rights defined for a user role take precedence over the managed product/folder access rights that you configure for individual user accounts.

  For more information, see *Managed Product Access Control on page 4-9*.

The following table outlines the tasks available on the **User Roles** screen.

| Task | Description |
|---|---|
| Add user roles | Click **Add** to create a new custom user role.<br>For more information, see *Adding a User Role on page 4-19*. |

| Task | Description |
|---|---|
| Delete user roles | Select the check box next the **Name** of an custom user role and click **Delete** to permanently remove the role.<br><br>**Note**<br>You cannot delete any of the default user roles provided by Trend Micro Apex Central as a Service. |
| Edit user roles | Click the **Name** of a user role to edit or view assigned access rights.<br><br>For more information, see *Editing a User Role on page 4-21*.<br><br>**Note**<br>You cannot edit any of the default user roles provided by Trend Micro Apex Central as a Service.<br><br>For more information about the default user roles, see *Default User Roles on page 4-16*. |

## Default User Roles

Apex Central provides default user roles that you can assign to user accounts. User roles define which areas of the Apex Central web console a user can access and control. Although you can add access rights to a default user role, you cannot remove any of the predefined access rights from a default user role.

**Note**

Only user accounts that have the “Administrator” or “Administrator and DLP Compliance Officer” user role assigned can create new user accounts and assign user roles.

For more information about adding or editing custom user roles, see the following topics:

- *Adding a User Role on page 4-19*
- *Editing a User Role on page 4-21*

The following table describes the default roles available on the **User Roles** screen.

| Role | Description |
|---|---|
| Administrator_and_DLP Compliance_Officer | • Can perform all actions on all menu items<br>• Can monitor, review, and investigate DLP incidents triggered by any Active Directory user |
| Administrator | • Can perform all actions on all menu items<br>• Cannot monitor, review, or investigate DLP incidents triggered by any Active Directory user |
| DLP_Compliance_Officer | • Can perform all actions on the **Dashboard**<br>• Can monitor, review, and investigate DLP incidents triggered by any Active Directory user<br>**Note**<br>This user role is only available to Active Directory users or groups. |

| Role | Description |
|---|---|
| DLP_Incident_Reviewer | • Can perform all actions on the **Dashboard**<br>• Can only monitor, review, and investigate DLP incidents triggered by Active Directory users that report to the DLP Incident Reviewer<br><br>**Note**<br>This user role is only available to Active Directory users or groups.<br><br>For more information, see the following topics:<br>• *Reporting Lines on page 6-15*<br>• *Adding a User Account on page 4-4* |
| Operator | • Can perform all actions on all the **Dashboard** and **Directories** menu items<br>• Can perform log queries, view reports generated and sent by other users, and update user account information<br>• Can only view information on the **Policy Management** screen<br>• Cannot monitor, review, or investigate DLP incidents triggered by any Active Directory user |
| Power_User | • Can perform all actions on all the **Dashboard** and **Directories** menu items<br>• Can perform log queries, maintain logs, and generate and maintain reports<br>• Can only view information on the **Policy Management** screen<br>• Cannot monitor, review, or investigate DLP incidents triggered by any Active Directory user |

| Role | Description |
|---|---|
| Read-only_User | • Can view information on all menu items and update user account information<br>• Can perform all actions on the **Dashboard**<br>• Can perform log queries, generate reports, create custom report templates, search directories, and create and use custom tags/filters to manage the User/Endpoint Directory tree<br>• Cannot view reports generated by other users |
| SSO_User | • Can perform all actions on all menu items<br>• Cannot monitor, review, or investigate DLP incidents triggered by any Active Directory user<br>**Note**<br>This user role is hidden by default. |
| Threat_Investigator | • Can investigate security threat incidents on managed endpoints/servers |

**Note**

The **Operator** and **Power User** roles in previous versions do not have permissions to perform actions on **Policy Management** menu items. After upgrading to this version, these two roles will have read-only permissions, which cannot be changed.

## Adding a User Role

You can use the **User Roles** screen to create custom user roles.

### Procedure

1. Go to **Administration** > **Account Management** > **User Roles**.

   The **User Roles** screen appears.

2. Click **Add**.

   The **Add Role** screen appears.

3. In the **Role Information** section:

   a. Type a unique user role name in the **Name** field.

   b. Provide a meaningful description for the user role in the **Description** field.

   **Note**

   The description appears in the User Roles list. Providing a meaningful description can help administrators quickly identify a user role if the user role name cannot fully convey the use for the user role.

4. In the **Menu Access Control** section, select the accessible menu items for the user role.

5. Specify access rights for the selected menu items.

   - **Full control, except**: Select to allow users to perform all actions available on the accessible menu items
     - **Create, copy and import policies**: Select to prevent users from creating, copying, or importing policies on the **Policy Management** screen

       For more information, see *Policy Management on page 15-2*.
     - **Monitor, review, and investigate DLP incidents triggered by all users**: Select to prevent users from investigating DLP incidents triggered by all Active Directory users
   - **Read only**: Select to only allow users to view information on menu items selected in the **Menu Access Control** section

6. Click **Save**.

   The new user role appears on the **User Roles** screen.

## Editing a User Role

Apex Central allows you to modify the access rights for a custom user role.

For information about editing the user role assigned to a particular user account, see *Editing a User Account on page 4-10*.

**Note**

Managed product information displayed on accessible menu items depends on the managed product/directory permissions that Apex Central administrators specify in an individual's user account.

Example:

Bob and Jane are Apex One administrators. Both have identical user role permissions (they have access to the same menu items in the web console). However, Jane oversees operations for all Apex One servers. Bob only oversees operations for Apex One servers protecting desktops for the Marketing department. The information that they can view in the web console will be very different. Bob logs on and only sees information that is applicable to the Apex One servers that his Apex Central user account allows (the Apex One servers for the Marketing department). When Jane logs on, she sees information for all Apex One servers, because her Apex Central user account grants her access to all Apex One servers registered to Apex Central.

**Procedure**

1. Go to **Administration** > **Account Management** > **User Roles**.

   The **User Roles** screen appears.

2. Click the **Name** of a user role to edit.

   The **Edit Role** screen appears.

3. Edit the user role information.

4. Click **Save** to apply changes.

# Chapter 5

## License Management

This section discusses how to activate or renew product licenses for Apex Central and managed products.

Topics include:


- *Activation and License Information on page 5-2*
- *Managed Product License Details on page 5-4*

# Activation and License Information

Activating Apex Central allows you to use all of the product features, including downloading updated program components.

## Activating Apex Central and Apex One: Sandbox as a Service

The **License Management** screen allows you to activate Apex Central after obtaining an Activation Code from your Trend Micro sales representative or reseller.

If you purchased a license for Apex One Sandbox as a Service, you can also activate the license from the **License Management** screen.

---

**Procedure**

1. Go to **Administration** > **License Management** > **Apex Central**.

   The **License Information** screen appears and displays the current license information.

2. Click **View online**.

   The Trend Micro Customer Licensing Portal **Sign In** screens appears.

3. Sign in to the Customer Licensing Portal using your Trend Micro account and password.

4. Click the **My Products/Services** menu tab.

5. Click **Provide Key**.

   The **License Key** screen appears.

6. Type your Activation Code.

7. Click **Continue**.

   The **My Products/Services** screen appears and displays the updated license information.

---

## Viewing or Renewing License Information for Apex Central and Apex One: Sandbox as a Service

The **License Management** screen displays your current Apex Central license information and activation status. You can access the Trend Micro Customer Licensing Portal from this screen to update or renew your license.

If you purchased a license for Apex One: Sandbox as a Service, the **License Management** screen also displays the license information and activation status.

---

**Procedure**

1. Go to **Administration** > **License Management** > **Apex Central**.

   The **License Information** screen appears and displays the current license information.

2. Click **View online**.

   The Trend Micro Customer Licensing Portal **Sign In** screens appears.

3. Sign in to the Customer Licensing Portal using your Trend Micro account and password.

4. Click the **My Products/Services** menu tab.

5. Expand the **Products/Services** categories to view license information for registered Trend Micro products.

6. To renew your license:

   a. Click **Provide Key**.

      The **License Key** screen appears.

   b. Type your Activation Code.

   c. Click **Continue**.

      The **My Products/Services** screen appears and displays the updated license information.

---

# Managed Product License Details

The following table describes the managed product license information that displays on the **License Management** screen (**Administration** > **License Management** > **Managed Products**).

**Tip**

You can clear the **Hide expired Activation Codes** check box to view license details for all managed products.

| Column Name | Description |
|---|---|
| Activation Code | Displays the Activation Code for the managed product |
| Note | Displays additional information about the Activation Code |
| Activated Products | Displays the number of managed products to which the Activation Code deploys |
| License Status | Displays the status of the Activation Code:<br>• Valid<br>• Expired |
| Type | Displays the type of the Activation Code:<br>• **Full**: Allows full use of the product for the maintenance period (typically 1 year)<br>• **Trial**: Allows full use of the product for the evaluation period (typically 3 months) |
| Expiration Date | Displays the date the Activation Code expires |
| Seat Count | Displays the number of seats the Activation Code allows |
| View license information online | Click the link to open your default web browser to the Trend Micro Customer Licensing Portal.<br>This portal allows you to manage your Trend Micro business account, which includes Activation Codes for on-premise products and subscriptions to Trend Micro Software as a Service solutions. |

# Chapter 6

## Active Directory and Compliance Settings

This section discusses how to configure Active Directory integration and compliance indicator settings in Apex Central.

Topics include:


- *Active Directory Integration on page 6-2*
- *Compliance Indicators on page 6-8*
- *Endpoint and User Grouping on page 6-13*

# Active Directory Integration

Integrate Apex Central with a Microsoft Active Directory server to:

- Allow administrators to create user accounts for web console access based on Active Directory users or groups.

  For more information, see *Adding a User Account on page 4-4*.

- Map the User/Endpoint Directory according to your existing organizational structure and integrate endpoint information (such as threat detections and policy statuses) with Active Directory user information (such as login history and contact details).

  For more information, see *User/Endpoint Directory on page 7-1*.

- Use the site location and reporting line information in Active Directory to gain greater insight into your network protection status on the **Operation Center** tab.

  For more information, see *Compliance Indicators on page 6-8*.

## Configuring Active Directory Synchronization

Synchronize endpoint and user information from your Active Directory by running the Active Directory synchronization tool on any Windows endpoint that can connect to the Active Directory server.

**Note**

Apex Central supports synchronization with multiple Active Directory forests. Adding an Active Directory domain automatically synchronizes all domains from the same forest.

For more information about forest trusts, contact your Active Directory administrator.

**Procedure**

1. Go to **Administration** > **Settings** > **Active Directory and Compliance Settings**.

2. Click the **Active Directory Settings** tab.
3. Select **Enable Active Directory synchronization**.
4. Click **Save**.
5. Download the Active Directory synchronization tool.

**WARNING!**

Clicking **Download the Active Directory synchronization tool** will deactivate any previously downloaded Active Directory synchronization tools and stop synchronizing Active Directory servers configured using the deactivated tool.

   a. Click the **Download the Active Directory synchronization tool** link.

      The file MD5 hash value for the synchronization agent appears.

   b. Save the `Apex_Central_ADSyncAgent_*.zip` file.

   c. Extract the `Apex_Central_ADSyncAgent_*.zip` file.

6. Execute the synchronization tool on any Windows endpoint that can connect to the Active Directory server.

**Important**

Ensure that .NET Framework 4.6.1 is installed on the Windows endpoint before executing the tool.

   a. Open a command prompt.

   b. Use the following command to locate the directory which contains the `ADSyncAgentTool.exe` file:

```
cd <Apex_Central_ADSyncAgent_directory>
```

**Important**

Make sure the file path for the synchronization tool contains only printable ASCII characters.

c. Configure Active Directory server settings by executing the following command:

```
ADSyncAgentTool.exe -i
```

d. (Optional) Configure proxy server settings by executing the following command:

```
ADSyncAgentTool.exe -p
```

e. Synchronize configured servers manually by executing the following command:

```
ADSyncAgentTool.exe -s
```

**Note**

You may also use Windows Task Scheduler to synchronize configured servers using a scheduled task that has a time interval of at least 2 hours between each task repetition.

For more information, refer to the Microsoft documentation.

7. Verify the Active Directory synchronization.

a. Go to **Administration** > **Settings** > **Active Directory and Compliance Settings**.

b. Click the **Active Directory Settings** tab.

The synchronized server information appears.

**Note**

- The Active Directory server connection status icon ( or ) appears in front of the server address.
- You may also use the **Command Tracking** screen to monitor the synchronization status.

8. To remove a synchronized Active Directory server:
   a. Clear the **Enable Active Directory synchronization** check box.
   b. Click **Clear Data** to purge the Apex Central server of data from the removed Active Directory server.

      Apex Central removes the synchronized Active Directory server.

      **Note**

      Clicking **Clear Data** triggers a scheduled task, which runs every 2 minutes, to purge all data of the removed Active Directory servers from the Apex Central database.

## Configuring Active Directory Authentication

Apex One as a Service supports SAML 2.0 single sign-on (SSO) using your corporate account credentials. After configuring SAML SSO settings, users can use their Active Directory account credentials to sign on to the Apex Central console.

For more information on configuring your specific identity provider (IdP), see https://success.trendmicro.com/solution/000241147.

**Important**

The following procedure assumes you have already synchronized Apex One as a Service with your Active Directory structure.

For more information, see *Configuring Active Directory Synchronization on page 6-2*.

**Note**

- To perform AD FS authentication using Microsoft Edge, you must first import a valid certificate for the AD FS website from the Active Directory server to the `Trusted Root Certification Authorities` folder on your endpoint.
- By default, Apex Central validates the SAML assertion signature. Ensure that SAML response signatures are enabled on the identity provider (IdP).

**Procedure**

1. On the Apex Central console:
   a. Go to **Administration** > **Settings** > **Active Directory and Compliance Settings**.

      The **Active Directory Settings** tab on the **Active Directory and Compliance Settings** screen appears.

   b. Ensure that the **Enable Active Directory synchronization** check box is selected.

   c. Select **Enable Active Directory authentication**.

   d. In the **Service provider settings** section, click **Download the Apex Central service provider metadata XML file**.

      The Apex Central service provider metadata XML file (`Apex_Central_{FQDN}_ServiceProviderMetadata.xml`) downloads to your computer.

2. Integrate your identity provider (IdP) with Apex Central using the downloaded service provider metadata XML file.

   For more information on configuring your specific identity provider (IdP), see https://success.trendmicro.com/solution/000241147.

3. On the Apex Central console:
   a. Go to **Administration** > **Settings** > **Active Directory and Compliance Settings**.

The **Active Directory Settings** tab on the **Active Directory and Compliance Settings** screen appears.

**b.** In the **Identity provider settings** section, provide the following information from your IdP:

- **SSO service URL**: Provide the SSO service URL for the IdP logon console.
- **Service identifier**: Provide the Issuer URL from the IdP
- **Signing certificate**: Click **Choose File** to upload the token-signing certificate you copied and saved from the IdP.

**c.** Click **Save**.

SAML single sign-on is configured and you can now add Active Directory accounts on the Apex Central console.

For more information, see *Adding a User Account on page 4-4*.

## Troubleshooting Active Directory Synchronization

Active Directory synchronization allows Apex Central to obtain user information (such as site and reporting line information) from Active Directory servers.

If an Active Directory related error appears on the **Dashboard** screen, refer to the following table for troubleshooting solutions.

| Issue | Solution |
|---|---|
| Incorrect user name or password | • Ensure that you specified the correct account information.<br>• Verify that the user account has privileges to access the Active Directory server.<br>For assistance, contact the Active Directory administrator. |

| Issue | Solution |
|---|---|
| Unable to connect to the Active Directory server | • Ensure that you have configured the correct Active Server connection settings.<br>For more information, see *Configuring Active Directory Synchronization on page 6-2*.<br>• Check that the Active Directory server is available.<br>• Check your network connection and firewall settings.<br>• Ensure that both the Apex Central and Active Directory servers can establish communication with one another.<br>To test your Apex Central connection to Active Directory servers, click **Test Connection** on the **Active Directory and Compliance Settings** screen. |

If the connection issue persists, contact Support.

For more information, see *Technical Support on page 26-1*.

## Compliance Indicators

Apex Central includes the following compliance indicators and performs compliance calculations based on the indicator settings and the user and endpoint information synchronized from Active Directory servers. You can view the information for the compliance indicators on the **Security Posture** dashboard tab.

- **Antivirus Pattern Compliance**: The percentage of managed Apex One Security Agents using acceptable antivirus pattern (Virus Pattern and Smart Scan Agent Pattern) versions
- **Data Loss Prevention Compliance**: The percentage of managed Data Discovery-enabled Apex One and Cloud App Security agents with an acceptable number of sensitive data detection incidents

The following provides an overview of the procedures to get Apex Central to perform compliance calculations and display compliance information on the **Security Posture** dashboard tab.

**Procedure**

1. Connect to an Active Directory server to synchronize the user and endpoint information.

   For more information, see *Configuring Active Directory Synchronization on page 6-2*.

2. Configure the compliance indicator settings.

   For more information, see the following topics:

   - *Configuring the Antivirus Pattern Compliance Indicators on page 6-9*
   - *Configuring the Data Loss Prevention Compliance Indicator on page 6-11*

3. (Optional) Customize endpoint and user grouping based on Active Directory sites and reporting lines.

   For more information, see *Endpoint and User Grouping on page 6-13*.

4. Go to the **Dashboard** to view the compliance information.

**Note**

To change the Active Directory grouping or view the Data Discovery compliance of your managed agents, configure the **Security Posture** tab settings.

For more information, see the following topics:

- *Security Posture Tab on page 3-18*
- *Working with Widgets on page 3-4*

## Configuring the Antivirus Pattern Compliance Indicators

You can configure settings and exceptions for the Antivirus Pattern Compliance indicators to display the percentage of managed Security Agents using acceptable antivirus pattern (Virus Pattern and Smart Scan Agent Pattern) versions on the **Security Posture** tab.

**Note**

Apex Central supports Security Agents for the following managed products:

- Apex One
- Worry-Free Business Security Services

**Procedure**

1. Go to **Administration** > **Settings** > **Active Directory and Compliance Settings**.
2. Click the **Compliance Indicator** tab.
3. Click **Antivirus pattern compliance**.
4. The following table describes the available configuration options.

| Column | Description |
|---|---|
| Acceptable pattern versions | Specify the pattern versions for endpoints to be considered compliant. |
| Alert indicator | Adjust the slider control to set the thresholds (% of compliant agents) for different alert levels. |

5. In the **Exception List**, select custom tags or filters to exclude users or endpoints from compliance calculations.

**Note**

- The Exceptions list applies to all Apex Central users. You may only add or delete exceptions based on your permissions to modify the corresponding tags and filters.
- For more information about creating tags or filters, see *Custom Tags and Filters on page 7-28*.

a. Click **Add**.

The **Add Exception** screen appears.

**b.** From the **Type** drop-down list, select **User** or **Endpoint** to display the available custom filters and tags by type; otherwise, select **All** to view all entries.

> **Note**
>
> To search for a custom filter or tag, type a name in the text field and press ENTER.
>
> For more information on custom tags and filters, see *Custom Tags and Filters on page 7-28*.

**c.** Select one or more custom tags or filters and click **Add**.

The selected items appear in the Exception List.

**d.** Click **Close**.

**e.** Click **Save**.

**f.** Specify the scope of the added custom tags or filters from the **Apply exceptions added by** drop-down list.

- **All user accounts**: Excludes all users and endpoints specified in custom filters and tags added by any user account
- **Only the logged on account**: Excludes only the users and endpoints specified in custom filters and tags added by the currently logged on user account

**6.** Click **Save**.

## Configuring the Data Loss Prevention Compliance Indicator

You can configure settings and exceptions for the Data Loss Prevention Compliance indicator to display the percentage of managed Data Discovery-enabled Security Agents with an acceptable number of sensitive data detection incidents on the **Security Posture** tab.

### Procedure

1. Go to **Administration** > **Settings** > **Active Directory and Compliance Settings**.
2. Click the **Compliance Indicator** tab.
3. Click **Data Loss Prevention compliance**.
4. The following table describes the available configuration options.

| Column | Description |
|---|---|
| Period | Specify the time range for the displayed data. |
| Acceptable number of threat detections | Type the acceptable number of sensitive data detection incidents. |
| Alert indicator | Adjust the slider control to set the thresholds (% of compliant agents) for different alert levels. |

5. In the **Exception List**, select custom tags or filters to exclude users or endpoints from compliance calculations.

**Note**

- The Exceptions list applies to all Apex Central users. You may only add or delete exceptions based on your permissions to modify the corresponding tags and filters.
- For more information about creating tags or filters, see *Custom Tags and Filters on page 7-28*.

a. Click **Add**.

   The **Add Exception** screen appears.

b. From the **Type** drop-down list, select **User** or **Endpoint** to display the available custom filters and tags by type; otherwise, select **All** to view all entries.

**Tip**

To search for a custom filter or tag, type a name in the text field and press ENTER.

For more information on custom tags and filters, see *Custom Tags and Filters on page 7-28*.

**c.** Select one or more custom tags or filters and click **Add**.

The selected items appear in the Exception List.

**d.** Click **Close**.

**e.** Click **Save**.

**f.** Specify the scope of the added custom tags or filters from the **Apply exceptions added by** drop-down list.

- **All user accounts**: Excludes all users and endpoints specified in custom filters and tags added by any user account
- **Only the logged on account**: Excludes only the users and endpoints specified in custom filters and tags added by the currently logged on user account

**6.** Click **Save**.

## Endpoint and User Grouping

Apex Central can group endpoints or users on the **Security Posture** tab based on the following information:

- Site locations
- Reporting line managers

By default, Apex Central synchronizes the user or endpoint site and reporting line information from Active Directory. You can configure custom site and reporting line groups to display compliance information.

## Sites

The following table describes the site information displayed on the **Sites** tab.

**TABLE 6-1. Sites**

| COLUMN | DESCRIPTION |
|---|---|
| Display Name | Type the name that displays on the **Security Posture** widget/tab.<br><br>**Note**<br>By default, the **Others** group includes endpoints that do not belong to any site. |
| Site | The site name synchronized from Active Directory |

### Creating a Custom Site

You can create a custom site group to include endpoints or users in a specified IP address range.

**Procedure**

1. Go to **Administration** > **Settings** > **Active Directory and Compliance Settings**.
2. Click the **Sites** tab.
3. Click **Add Custom**.

   The **Add Custom Site** screen appears.
4. Specify the **Display name** that identifies the group on the **Security Posture** widget/tab.
5. Select the **Node color** that identifies the group on the **Security Posture** widget/tab.
6. 6. Specify the IPv4 or IPv6 address range of the endpoints included in the custom site
7. Click **Save**.

After creating a custom site:

- Click **Delete Custom** to delete a selected custom site.
- Click the custom site name to change the settings.

### Merging Sites

You can create a custom site by merging two or more sites. After merging preexisting sites, Apex Central removes the original sites from the list.

**Tip**

Apex Central indicates a merged group using a solid dot icon ( ).

**Procedure**

1. Go to **Administration** > **Settings** > **Active Directory and Compliance Settings**.
2. Click the **Sites** tab.
3. Select two or more sites.
4. Click **Merge**.

   The **Merge Sites** screen appears.
5. Specify the **Display name** that identifies the group on the **Security Posture** widget/tab.
6. Select the **Node color** that identifies the group on the **Security Posture** widget/tab.
7. Click **Save**.

   After merging sites, you can click **Split** to split a merged site.

## Reporting Lines

The following table describes the information displayed on the **Reporting Lines** tab.

**TABLE 6-2. Reporting Lines**

| DATA | DESCRIPTION |
|---|---|
| Reporting line level | The reporting line level indicates the level of management hierarchy for a user in Active Directory.<br><br>Select a level number from the **Reporting line level** drop-down list and click **Apply** to update the list. |
| Display Name | The name that displays on the **Security Posture** tab<br><br>**Tip**<br>By default, the **Others** group includes all managers that are at reporting line levels higher than the selected level. |
| Manager | The reporting line manager<br><br>This information is synchronized from an Active Directory server. |

## Creating a Custom Reporting Line

You can create a custom reporting line to group users that report directly or indirectly to the selected managers.

### Procedure

1. Go to **Administration** > **Settings** > **Active Directory and Compliance Settings**.
2. Click the **Reporting Lines** tab.
3. (Optional) Change the **Reporting line level** setting and click **Apply** to update the list.

   The reporting line level indicates the level of management hierarchy for a user in Active Directory.
4. Click **Add Custom**.

   The **Add Custom Reporting Line** screen appears.

5. Specify the **Display name** that identifies the group on the **Security Posture** widget/tab.
6. Select a user from the **Users** list and click the icon to add to the **Selected Users** list.

**Note**

To select more than one user, press CTRL and click the user names.

7. Click **Save**.

   After creating a custom reporting line:

   - Click **Delete Custom** to delete a selected custom reporting line.
   - Click the custom group name to change the settings.

## Merging Reporting Lines

You can create a custom reporting line by merging two or more reporting lines. After merging preexisting reporting lines, Apex Central removes the original reporting lines from the list.

**Tip**

Apex Central indicates a merged group using a solid dot icon ( ).

### Procedure

1. Go to **Administration** > **Settings** > **Active Directory and Compliance Settings**.
2. Click the **Reporting Lines** tab.
3. Select two or more reporting lines.
4. Click **Merge**.

   The **Merge Reporting Line** screen appears.

5. Specify the **Display name** that identifies the group on the **Security Posture** widget/tab.
6. Click **Save**.

   After merging reporting lines, you can click **Split** to split a merged reporting line.

# Chapter 7

## User/Endpoint Directory

This section discusses how to view information about all the users and endpoints within the Apex Central network.

Topics include:


- *User/Endpoint Directory on page 7-2*
- *User Details on page 7-3*
- *Endpoint Details on page 7-10*
- *Active Directory Details on page 7-22*
- *Affected Users on page 7-22*
- *Using the Advanced Search on page 7-24*
- *Custom Tags and Filters on page 7-28*

# User/Endpoint Directory

The **User/Endpoint Directory** screen displays information about all the users and endpoints within the Apex Central network for a specified time range.

- Use the drop-down controls below the **Endpoints** or **Users** tab to specify the time period for the data that displays or to switch between **Tabular view** and **Timeline view**.
- Click **Export** to export the data as a `*.csv` file or `*.png` image.

**Note**

**Tabular view** only supports exporting data as a `*.csv` file. **Timeline view** can export data as a `*.csv` file or a `*.png` image. The exported `*.png` timeline image only displays information for a maximum of 30 users or endpoints.

The User/Endpoint tree organizes data into the following categories:

- **Users**: Contains information about any user that logs on an endpoint or that is part of the integrated Active Directory structure

  For more information, see *User Details on page 7-3*.

- **Endpoints**: Contains information about any endpoint with a Trend Micro Security Agent installed and is reporting to Apex Central

  For more information, see *Endpoint Details on page 7-10*.

- **Active Directory**: Displays the organizational units of the integrated Active Directory server

**Note**

Apex Central supports synchronization with multiple Active Directory forests. Adding an Active Directory domain automatically synchronizes all domains from the same forest.

For more information about forest trusts, contact your Active Directory administrator.

- **Tracked Endpoints**: Displays endpoints that did not successfully install a Security Agent using the web installer and the related installation errors.

  For more information, see *Using the Apex One Security Agent Web Installer on page 10-25*.

  Click **Retry Security Agent Installation** to try installing Security Agents again on all displayed endpoints. Endpoints that successfully install the Security Agent will disappear from the list, and endpoints that do not successfully install the Security agent will update with the latest information, including the installation error description.

You can change the default data that displays in the **Users** and **Endpoints** nodes through use of advanced searches, tags, and filters.

For more information, see *Using the Advanced Search on page 7-24* and *Custom Tags and Filters on page 7-28*.

## User Details

The **User/Endpoint Directory** screen displays User information for a specified time range.

- Use the drop-down controls below the **Endpoints** or **Users** tab to specify the time period for the data that displays or to switch between **Tabular view** and **Timeline view**.
- Click **Export** to export the data as a `*.csv` file or `*.png` image.

---

**Note**

**Tabular view** only supports exporting data as a `*.csv` file. **Timeline view** can export data as a `*.csv` file or a `*.png` image. The exported `*.png` timeline image only displays information for a maximum of 30 users or endpoints.

---

The following table describes the User information that displays on the **User/Endpoint Directory** screen in **Tabular view**.

**TABLE 7-1. User Details in Tabular View**

| COLUMN | DESCRIPTION |
|---|---|
| | If the endpoint or user is assigned an importance tag, Apex Central displays a yellow star icon ( ) to indicate importance.<br><br>For more information, see *User or Endpoint Importance on page 7-37*. |
| User | Apex Central identifies and associates users with endpoints based on the type of endpoint or through integration with Active Directory.<br><br>• Server and desktop platforms: Apex Central associates the last logged on user with the endpoint<br><br>Click a user name to view contact details.<br><br>For more information, see *Contact Information on page 7-9*.<br><br>**Note**<br>The **Users** > **All** node lists all local users from various endpoints regardless of their duplicate status. Duplicate users having the same names can occur. Apex Central consolidates all endpoints from managed products that have multiple local users. |
| Domain | • If Active Directory synchronization is available, this Apex Central displays the domain name that the user is a member of.<br><br>• If Active Directory synchronization is not available, this Apex Central displays the endpoint/host name that the user was the last person to log on to. |
| Manager | If Active Directory synchronization is available, Apex Central displays the manager of the user<br><br>Click a name in the manager column to view the manager's contact details.<br><br>For more information, see *Contact Information on page 7-9*. |

| Column | Description |
|---|---|
| Endpoints | The number of endpoints currently associated with the user, based on the last log on information from the endpoints<br><br>Click the count to view the related endpoint information in the table.<br><br>For more information, see *Endpoint Details on page 7-10*. |
| Policies | The number of policies currently associated with the user, based on the last log on information from the endpoints<br><br>Click the **Policies** count to view the related policy information for the user.<br><br>For more information, see *Policy Status on page 7-9*. |
| Threats | The total number of security threats that occurred on endpoints associated with the user<br><br>Click the **Threats** count to view the related threat information for the user.<br><br>For more information, see *Security Threats for Users on page 7-6*.<br><br>For example, if Henry was the last user logged on to endpoint “us-mkt-dev1”, and that endpoint reported 10 virus/malware detections and 2 web violations, Henry's **Threats** count displays as **12**. |

The following table describes the User information that displays on the **User/Endpoint Directory** screen in **Timeline view**.

**TABLE 7-2. User Details in Timeline View**

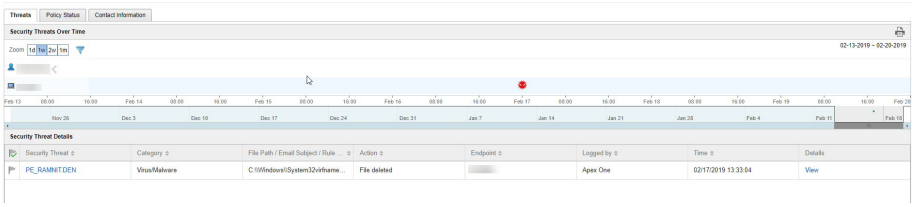
| COLUMN | DESCRIPTION |
|---|---|
| User | Apex Central identifies and associates users with endpoints based on the type of endpoint or through integration with Active Directory.<br><br>**Note**<br>If the user is assigned an important tag, Apex Central displays a yellow star icon ( ) in front of the user name.<br><br>For more information, see *User or Endpoint Importance on page 7-37*. |
| Domain | The Active Directory domain that the user belongs to |
| Threats | The total number of security threats that occurred on endpoints associated with the user<br><br>Click the **Threats** count to view the related threat information for the user.<br><br>For more information, see *Security Threats for Users on page 7-6*. |
| <Timeline> | The timeline indicates when the security threats occurred for each user.<br><br>• Hover over a red warning dot ( ) to view the number of critical threats and the total number of all security threat detections for a user on a specific date.<br>• Hover over a solid red dot ( ) to view the number of non-critical threat detections for a user on a specific date.<br>• Click a red dot to view the related threat information for a specific date.<br><br>For more information, see *Security Threats for Users on page 7-6*. |

## Security Threats for Users

The **Threats** tab on the **User** information screen allows you to view all security threats detected on endpoints assigned to the selected user.

You can access this screen from the following widgets on the **Dashboard** > **Summary** tab on the Apex Central console.

- **Critical Threats**: Click a number in the **Important Users** or **Other Users** columns and then click the user you want to view.
- **Users with Threats**: Click the number in the **Threats** column for the user you want to view.
- **Endpoints with Threats**: Click the number in the **Threats** column for the endpoint you want to view.




- **Security Threats Over Time**: Provides a graphical representation of threat information based on the time of the detection and whether the detection occurred on an assigned endpoint or the user's account
  - Hover over a threat icon (for example, ) to view details about the detection.
  - Change the displayed time interval by changing the **Zoom** value.
  - Change the end date by scrolling through the dates displayed under the graph.
  - Apply filters by clicking the funnel icon ( ) and selecting the following criteria and using the **OR** or **AND** operators to build advanced filters.
    - **Threat type**: Select a threat category from the second drop-down list
    - **Security threat**: Type a malware name or suspicious URL, IP address, or sender email address

- **Threat status**: Select **Resolved by product**, **Action required**, or **Resolved manually**

- **Security Threat Details**: Provides more detailed information about the threats displayed on the **Security Threats Over Time** graph
  - Click a value in the **Security Threat** column to view the **Affected Users** screen.

    For more information, see *Affected Users on page 7-22*.
  - Click **View** link in the **Details** column to view detailed information.
  - Click a flag icon in the **Threat Status** column ( ) to change the threat status for threats that require remediation.

**Note**

Changing the threat status for a threat does not actually resolve the threat. The threat status is a case handling tool to help administrators track identified threats and indicate to other administrators that a threat has been resolved.

| Threat Status | Description |
|---|---|
| Resolved by product ( ) | Indicates that the threat has been resolved by a managed product<br><br>**Note**<br>You cannot change this threat status. |
| Action required ( ) | Indicates that remediation is required<br><br>Click the **Action required** icon ( ) to change the threat status to **Resolved manually** ( ). |

| Threat Status | Description |
|---|---|
| Resolved manually ( ) | Indicates that remediation has been performed by an administrator<br>Click the **Resolved by product** icon ( ) to change the threat status to **Action required** ( ). |

## Policy Status

The **Policy Status** tab displays all the products installed on the target endpoint, any Apex Central policies assigned, and the current policy status for each installed product.

**Note**

Apex Central identifies and associates users with endpoints based on the type of endpoint or through integration with Active Directory.

Click the **Assigned Policy** name to view or edit a policy.

## Contact Information

The **Contact Information** screen displays user details, similar to the entries in Active Directory.

### Synchronizing Contact Information with Active Directory

Apex Central synchronizes data from the Active Directory Global Category (GC).

**Procedure**

1. Open the Microsoft Management Console (mmc).
2. Add a snap-in (Active Directory Schema).
3. In left panel, go to **Attribute**.
4. Enable **Replicate this attribute to Global Catalog** for each of the following:

- **proxyAddresses**
- **department**
- **homephone**
- **PhysicalDeliveryOfficeName**
- **telephoneNumber**
- **title**

5. Wait until Active Directory replication occurs.

## Endpoint Details

The **User/Endpoint Directory** screen displays Endpoint information for a specified time range.

- Use the drop-down controls below the **Endpoints** or **Users** tab to specify the time period for the data that displays or to switch between **Tabular view** and **Timeline view**.
- Click **Export** to export the data as a `*.csv` file or `*.png` image.

**Note**

**Tabular view** only supports exporting data as a `*.csv` file. **Timeline view** can export data as a `*.csv` file or a `*.png` image. The exported `*.png` timeline image only displays information for a maximum of 30 users or endpoints.

The following table describes the User information that displays on the **User/Endpoint Directory** screen in **Tabular view**.

| Column | Description |
|---|---|
| | If the endpoint or user is assigned an importance tag, Apex Central displays a yellow star icon ( ) to indicate importance.<br><br>For more information, see *User or Endpoint Importance on page 7-37*. |

| Column | Description |
|---|---|
| Endpoint | The host name or device name<br><br>Click an endpoint name to view the **Endpoint** screen that opens to the **Policy Status** tab.<br><br>For more information, see *Policy Status on page 7-19*. |
| IP Address | The static or dynamic IP address of the endpoint |
| Type | Machine or device type: server, desktop, laptop, mobile device, and others |
| Operating System | The operating system running on the machine or device |
| Endpoint Server | The server name and product installed on the server that manages the endpoint |
| User | The name or email address of the most recent user who logged on and/or used the endpoint<br><br>For more information, see *Contact Information on page 7-9*. |
| Threats | The total number of security threats that occurred on the endpoint<br><br>Click the **Threats** count to view the related threat information for the endpoint.<br><br>For more information, see *Security Threats on Endpoints on page 7-16*. |

The following table describes the Endpoint information that displays on the **User/Endpoint Directory** screen in **Timeline view**.

**TABLE 7-3. Endpoint Details in Timeline View**

| COLUMN | DESCRIPTION |
|---|---|
| Endpoint | The host name or device name<br><br>Click an endpoint name to view the **Endpoint** screen that opens to the **Policy Status** tab.<br><br>For more information, see *Policy Status on page 7-19*.<br><br>**Note**<br>If the endpoint is assigned an important tag, Apex Central displays a yellow star icon ( ) in front of the endpoint name.<br><br>For more information, see *User or Endpoint Importance on page 7-37*. |
| Threats | The total number of security threats that occurred on the endpoint<br><br>Click the **Threats** count to view the related threat information for the endpoint.<br><br>For more information, see *Security Threats on Endpoints on page 7-16*. |
| <Timeline> | The timeline indicates when the security threats occurred for each endpoint.<br><br>• Hover over a red warning dot ( ) to view the number of critical threats and the total number of all security threat detections for an endpoint on a specific date.<br><br>• Hover over a solid red dot ( ) to view the number of non-critical threat detections for an endpoint on a specific date.<br><br>For more information, see *Security Threats on Endpoints on page 7-16*. |

## Labels

Labels are a variation of the existing tagging system that also provide filtering capability. You can create labels and manually assign labels to

endpoints just as if you were using tags/filters. You can also create auto-label rules to automatically assign labels to endpoints that match specified criteria. After you have created a label or auto-label rule, you can use labels for policies, log queries, or reports.

## Creating a Custom Label or Auto-label Rule

**Procedure**

1. Go to **Directories** > **Users/Endpoints**.
2. Expand the **Labels** node under **Endpoints** in the tree.
3. Click **Add new label**.

   The **Label Settings** screen appears.
4. Type a descriptive name for the label.
5. To create an auto-label rule:
   a. Click **Create auto-label rules**.
   b. Specify the criteria for the rule.
6. Click Save.

   The custom label appears under the **Labels** node.

   After creating a custom label:

   - Click the icon next to any custom label to rename the label.
   - Click the icon next to any custom label to delete the label.

     **Note**

     You cannot delete labels that have been specified as policy targets.
   - Click the icon next to any custom label to edit the auto-label rule criteria.

## Assigning/Removing Labels

### Procedure

1. Go to **Directories** > **Users/Endpoints**.
2. Select the **Endpoints** to view, or search for specific endpoints.
3. To associate a custom label with an endpoint:
   - Click the endpoint row and click **Tasks** > **Assign/Remove Labels**.
   - Right-click the endpoint row and click **Assign/Remove Labels**.
4. In the **Assign/Remove Labels** dialog, select or clear the necessary label(s) from the list, and click **Save**.

   You can verify the proper association of labels with the selected endpoints by selecting a label from the **Labels** list, and checking that the selected endpoint displays properly.

## Using Labels to Query Logs

Use labels when querying logs to return only data from endpoints that have been assigned specified labels.

### Procedure

1. Go to **Detections** > **Logs** > **Log Query**.

   The **Log Query** screen appears.
2. Select a log type.
3. Click the second drop-down control.
4. Select **Labels / Tags / Filters**.
5. Click **OK** to apply the selected labels.
6. Select a time period from the **Time** drop-down control.

7. Click **Search**.

### Specifying Labels as Policy Targets

**Procedure**

1. Go to **Policies** > **Policy Management**.
2. Create or edit a policy.
3. In the **Targets** section, select the **Labels** icon and click **Select Labels**.

   The **Select Labels** screen appears.
4. Select the label(s) you want to specify as the policy target(s) and then click **OK**.

### Specifying Labels as Report Targets

You generate custom reports for endpoints that have been assigned custom labels or auto-label rules by specifying the labels as targets for one-time reports or scheduled reports.

For more information, see *Reports Overview on page 19-2*.

## Endpoint Information

The **Endpoint** information screen provides more detailed information about the selected endpoint. The **Endpoint** information screen title displays the endpoint icon ( ) followed by the endpoint name.

Click one the following tabs to view related information.

- **Threats**: Displays all security threats detected on the selected endpoint

  For more information, see *Security Threats on Endpoints on page 7-16*.
- **Policy Status**: Displays the list of policies associated with the selected endpoint

  For more information, see *Policy Status on page 7-19*.

- **Notes**: Displays any manually added notes about the selected endpoint

  For more information, see *Notes for Endpoints on page 7-19*.

- **General Information**: Displays basic information regarding the selected endpoint

  For more information, see *General Information for Endpoints on page 7-19*.

The **Endpoint** information screen also allows you to take specific actions on the selected endpoint by using the **Task** menu.

- **Assign tags**: Associates tags with the selected endpoint for search purposes

  For more information, see *Custom Tags on page 7-31*.

- **Isolate**: Limits the access the endpoint has to the network and Internet

  For more information, see *Isolating Endpoints on page 7-20*.

- **Restore**: Restores network access to the isolated endpoint

  For more information, see *Isolating Endpoints on page 7-20*.

## Security Threats on Endpoints

The **Threats** tab on the **Endpoint** information screen allows you to view all security threats detected on a specific endpoint.

You can access the **Threats** tab on the **Endpoint** information screen from the following locations:

- **Endpoints with Threats** widget: Click a count in the **Threats** column

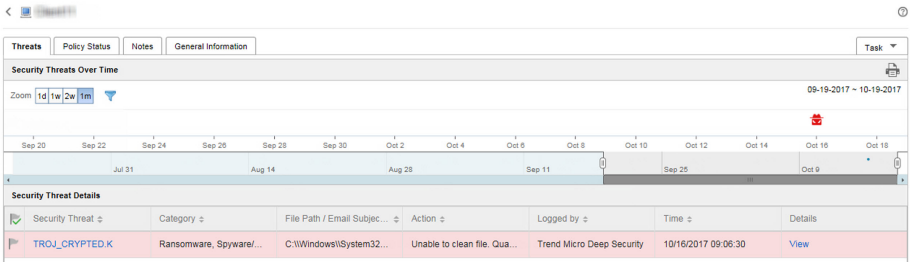
  For more information, see *Endpoints with Threats Widget on page 3-10*.

- **Endpoint Details** screen: Click a count in the **Threats** column

  For more information, see *Endpoint Details on page 7-10*.

- **Affected Users** tab on the **Security Threat** screen: Click an endpoint name in the **Host Name** column

  For more information, see *Affected Users on page 7-22*.




- **Task**: Allows you to **Assign tags**, or **Isolate** or **Restore** connections to the endpoint.

  For more information, see *Isolating Endpoints on page 7-20*.

- **Security Threats Over Time**: Provides a graphical representation of threat information based on the time of the detection and whether the detection occurred on an assigned endpoint or the user's account

  - Hover over a threat icon (for example, ) to view details about the detection.
  - Change the displayed time interval by changing the **Zoom** value.
  - Change the end date by scrolling through the dates displayed under the graph.
  - Apply filters by clicking the funnel icon ( ) and selecting the following criteria and using the **OR** or **AND** operators to build advanced filters.
    - **Threat type**: Select a threat category from the second drop-down list
    - **Security threat**: Type a malware name or suspicious URL, IP address, or sender email address
    - **Threat status**: Select **Resolved by product**, **Action required**, or **Resolved manually**

- **Security Threat Details**: Provides more detailed information about the threats displayed on the **Security Threats Over Time** graph

- Click a value in the **Security Threat** column to view the **Affected Users** screen.

  For more information, see *Affected Users on page 7-22*.

- Click **View** link in the **Details** column to view detailed information.
- Click a flag icon in the **Threat Status** column ( ) to change the threat status for threats that require remediation.

**Note**

Changing the threat status for a threat does not actually resolve the threat. The threat status is a case handling tool to help administrators track identified threats and indicate to other administrators that a threat has been resolved.

| Threat Status | Description |
|---|---|
| Resolved by product ( ) | Indicates that the threat has been resolved by a managed product<br><br>**Note**<br>You cannot change this threat status. |
| Action required ( ) | Indicates that remediation is required<br><br>Click the **Action required** icon ( ) to change the threat status to **Resolved manually** ( ). |
| Resolved manually ( ) | Indicates that remediation has been performed by an administrator<br><br>Click the **Resolved by product** icon ( ) to change the threat status to **Action required** ( ). |

## Policy Status

The **Policy Status** tab displays all the products installed on the target endpoint, any Apex Central policies assigned, and the current policy status for each installed product.

Click the **Assigned Policy** name to view or edit a policy.

## Notes for Endpoints

You can manually add notes to endpoints to help track issues and solutions on particular endpoints. For example, add additional notes on isolated endpoints while you are investigating and resolving threats or when you are about to restore the network connection after all threats have been resolved.

Apex Central automatically adds the following notes corresponding to specific actions:

- "Isolate"
- "Restore"
- "Assign Tag {tag name}"
- "Remove Tag {tag name}"

For more information, see *Assigning Custom Tags to Users/Endpoints on page 7-33* and *Isolating Endpoints on page 7-20*.

## General Information for Endpoints

You can view the following information about the endpoint:

| Information | Description |
|---|---|
| IP Address | The IP address of the endpoint |
| Type | The type of endpoint (for example, "Laptop") |
| Operating System | The operating system on the endpoint |

| Information | Description |
|---|---|
| User | The user account associated with the endpoint<br><br>**Note**<br>Apex Central identifies and associates users with endpoints based on the type of endpoint or through integration with Active Directory. |
| Domain | The Active Directory domain associated with the endpoint |

## Isolating Endpoints

Isolate at-risk endpoints to run an investigation and resolve security issues. Restore the connection promptly when all issues have been resolved.

**Procedure**

1. Go to **Directories** > **Users/Endpoints**.
2. Select to view endpoints.
3. Click the name of an endpoint in the list.
4. On the **Endpoint** information screen that appears, click **Task** > **Isolate**.

   Apex Central disables the **Isolate** option on endpoints for the following reasons:

   - The agent on the endpoint runs an unsupported version.
   - The user account used to log on to Apex Central does not have the necessary permissions.
5. A message appears at the top of the **Endpoint** information screen that allows you to monitor the isolation status. After isolation completes, the message closes and a notification appears on the target endpoint to inform the user.

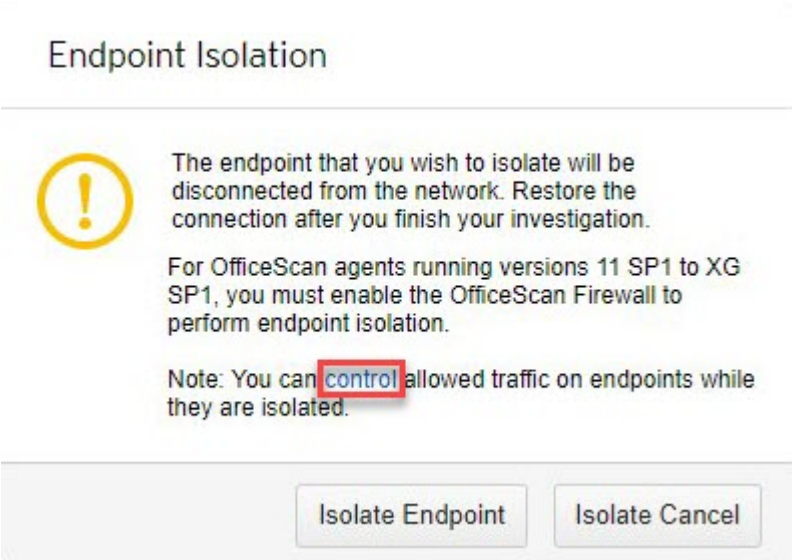
   If a problem occurs during the isolation process, the message at the top of the **Endpoint - {name}** screen informs you of the problem.

6. To view all isolated endpoints on your Apex Central network, click the **Endpoints** > **Filters** > **Network Connection** > **Isolated** node in the User/Endpoint Directory tree.

7. (Optional) To configure allowed inbound and outbound traffic to all isolated endpoints:

   For a list of default Trend Micro communication ports, see *Downloading Security Agent Installation Packages on page 10-27*.

   a. Click the **Control** hyperlink in the note on the screen that appears.




   b. Select **Control traffic on isolated endpoints**.

   c. Expand the **Inbound Traffic** or **Outbound Traffic** sections.

   d. Specify the allowed traffic by specifying the **Protocol**, **IP Address**, and **Destination Port**.

      Separate multiple destination ports using commas.

   e. Add multiple inbound and outbound entries by clicking the - control to the right of the **Destination Port** information.

**Note**

After modifying the allowed traffic settings, all previously isolated endpoints and any endpoints isolated later apply the inbound and outbound traffic settings.

8. After you have resolved the security threats on an isolated endpoint, restore network connectivity from the following locations:
   - **Endpoint** information screen: Click **Task** > **Restore**.
   - **Endpoints** > **Filters** > **Network Connection** > **Isolated**: Select the endpoint row in the table and click **Task** > **Restore Network Connection**.
9. A message appears at the top of the screen that allows you to monitor the restoration status. After restoration completes, the message closes and a notification appears on the target endpoint to inform the user.

   If a problem occurs during the restoration process, the message at the top of the screen informs you of the problem.

## Active Directory Details

The Active Directory node displays the integrated Active Directory structure. When viewing an organizational unit in the Active Directory node, the list provides two tabs:

- **Users**: For more information, see *User Details on page 7-3*.
- **Endpoints**: For more information, see *Endpoint Details on page 7-10*.

## Affected Users

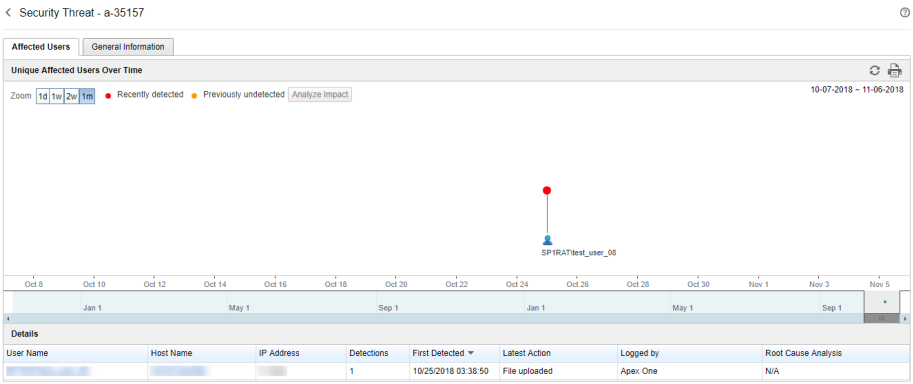
The **Affected Users** tab on the **Security Threat** screen allows you to view the users that a specific threat targeted across your network.

- You can access the **Affected Users** tab from the **User** or **Endpoint** information screens by clicking a **Security Threat** name in the table.

For more information, see *Security Threats for Users on page 7-6* or *Security Threats on Endpoints on page 7-16*.

- You can also access the **Affected Users** tab from the **Critical Threats** dashboard widget in **Threat detection** view. Click the hyperlink for a specific threat detection to access the **Affected Users** tab and automatically start a Root Cause Analysis.

  For more information, see *Critical Threats Widget on page 3-6*.




- **Unique Affected Users Over Time**: Provides a graphical representation of which users the threat affected and the time of the detection
  - Hover over a user icon to view all users affected by this specific threat and its detection history in your environment
    - **Recently detected**: The threat detection occurred during scanning
    - **Previously undetected**: The threat detection occurred during an impact analysis of log data
  - Change the displayed time interval by changing the **Zoom** value.
  - Change the end date by scrolling through the dates displayed under the graph.

- **Details**: Provides more detailed information about the threats displayed on the **Unique Affected Users Over Time** graph
  - Click a value in the **User Name** or **Host Name** column to view more details.

    For more information, see *Security Threats for Users on page 7-6* or *Security Threats on Endpoints on page 7-16*.

### General Information for Security Threats

The information shown varies by threat type and threat-related information received from managed products.

## Using the Advanced Search

Apex Central as a Service allows you to search for Users or Endpoints using partial string matching. You can also filter the Users or Endpoints that display in the list using Boolean operators.

---

**Procedure**

1. Go to **Directories** > **Users/Endpoints**.

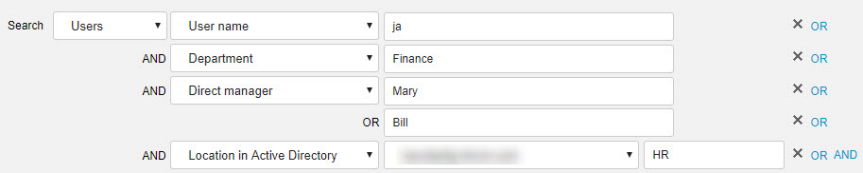
   The **User/Endpoint Directory** screen appears.
2. Click the **Advanced** link above the table.
3. In the **Search** drop-down, select **Users** or **Endpoints**.

   The search criteria in the second drop-down control dynamically changes based on your selection.

   For more information, see *Advanced Search Categories on page 7-26*.
4. Filter users or endpoints based on the available criteria.
5. Add multiple search criteria using the Boolean operators to the right of the filters.
   - **OR**: Allows you to search for multiple values for the specified criteria. All records that match either value display.

- **AND**: Allows you to select a new search criteria. Only records that match the values specified for this criteria and all other selected criteria values display.

To filter all users with "ja" in their name in the Finance department that report to "Mary" or "Bill" in the Active Directory domain "HR", specify the following criteria:




6. Display results by clicking one of the following:

   - **Search**: Displays the search results in the list but does not save the search criteria.
   - **Save as New Custom Filter**: Displays the search results in the list and prompts you to save the search criteria to a custom filter. The custom filter displays under the **Users** or **Endpoints** node in the User/Endpoint Directory tree.

     For more information, see *Filters on page 7-34*.

7. (Optional) Use the drop-down controls below the **Endpoints** or **Users** tab to specify the time period for the data that displays or to switch between **Tabular view** and **Timeline view**.

8. (Optional) Click **Export** to export the data as a `*.csv` file or `*.png` image.

**Note**

- **Tabular view** only supports exporting data as a `*.csv` file.
- **Timeline view** can export data as a `*.csv` file or a `*.png` image.

## Advanced Search Categories

During an Advanced Search, use the following search criteria options for **Users** and **Endpoints**.

**TABLE 7-4. User Categories**

| CATEGORY | DESCRIPTION |
|---|---|
| User name | The account name of local users or people belonging to an Active Directory structure |
| Direct manager | The account name of the person who users are assigned to report to |
| Location in Active Directory | The organization unit from which to begin your search |
| Department | The name of the department in your company that groups users based on their function (for example, Accounting) or other criteria |
| Active Directory group | A collection of Active Directory user and computer accounts, contacts and other groups that can be managed as a single unit |
| Threat type | Select a security threat type from the third drop-down list |
| Security threat | Search for a specific security threat by typing a malware name, URL, IP address, or sender email address |
| Threat status | The remediation status indicated by the flag icon in the first column on the **Security Threats** screen: Resolved by product, Action required, Resolved manually<br><br>For more information, see *Security Threats for Users on page 7-6*. |
| Importance | The assigned importance level<br><br>**Note**<br>You cannot save advanced search filters that contain important users/endpoints.<br><br>For more information, see *User or Endpoint Importance on page 7-37*. |

| Category | Description |
|---|---|
| Active Directory site | The site name synchronized from the Active Directory<br><br>For more information, see *Endpoint and User Grouping on page 6-13*. |
| Reporting line | The display name for the reporting line synchronized from the Active Directory<br><br>For more information, see *Endpoint and User Grouping on page 6-13*. |

**Table 7-5. Endpoint Categories**

| Category | Description |
|---|---|
| Endpoint name | The host or device name of the endpoint |
| IP address | The IPv4 address range<br><br>**Note**<br>Searching by IPv4 segment requires a specific range starting with the first octet. The search returns all endpoints with IP addresses containing the entry. |
| Endpoint type | The type of computer or device: server, desktop, laptop, mobile device, or other |
| Operating system | The type of operating system on the endpoint |
| Location in Active Directory | The organization unit from which to begin your search |
| Threat type | Select a security threat type from the third drop-down list |
| Security threat | Search for a specific security threat by typing a malware name, URL, IP address, or sender email address |
| Threat status | The remediation status indicated by the flag icon in the first column on the **Security Threats** screen: Resolved by product, Action required, Resolved manually<br><br>For more information, see *Security Threats on Endpoints on page 7-16*. |

| CATEGORY | DESCRIPTION |
|---|---|
| Compliance | The antivirus pattern compliance or Data Loss Prevention compliance status<br><br>For more information, see *Compliance Indicators on page 6-8*. |
| Importance | The assigned importance level<br><br>**Note**<br>You cannot save advanced search filters that contain important users/endpoints.<br><br>For more information, see *User or Endpoint Importance on page 7-37*. |
| Active Directory site | The site name synchronized from the Active Directory<br><br>For more information, see *Endpoint and User Grouping on page 6-13*. |
| Reporting line | The display name for the reporting line synchronized from the Active Directory<br><br>For more information, see *Endpoint and User Grouping on page 6-13*. |
| Installation mode | The Security Agent installation mode<br><br>For more information, see *Downloading Security Agent Installation Packages on page 10-27*. |
| Apex One domain hierarchy | The location of the endpoint within the Apex One domain hierarchy |
| Services | The Security Agent service<br><br>For more information, see the *Apex Central as a Service Widget and Policy Management Guide*. |

## Custom Tags and Filters

Use tags and filters based on your network and management requirements. Trend Micro suggests that you consider the following when using tags and filters:

- Group users based on your Active Directory organization
- Group endpoints based on their location
- Group users or endpoints with similar properties or characteristics

  For example:

  - Group users based on direct supervisor associations
  - Group endpoints using the same operating system

**Note**

- Any Apex Central user account that has permission to create or modify custom tags, filters, or important labels in the **User/Endpoint Directory** can view or modify custom tags, filters, or important labels created by all other user accounts.
- Editing a tag, filter, or importance label on the **User/Endpoint Directory** screen also modifies the corresponding tag, filter, or importance label used by log queries and reports. For example, if the an endpoint is removed from a custom filter on the **User/Endpoint Directory** screen, then log queries and generated reports that use the filter will exclude data from the removed endpoint.
- Apex Central automatically assigns importance to “Domain Admins” (users) and “Domain Controllers” (endpoints) after Active Directory synchronization.
  - The current version of Apex Central only supports one important “Domain Admin” and one important “Domain Controller” for each integrated Active Directory domain. Individual user accounts can no longer assign separate “important” tags for the same “Domain Admins” and “Domain Controllers”.
  - If you have preexisting “important” tags for “Domain Admins” and “Domain Controllers” created by separate user accounts on a previous version of Apex Central, the preexisting “Domain Admins” and “Domain Controllers” will be deleted and replaced with one important “Domain Admin” and one important “Domain Controller” for each integrated Active Directory domain.

**Tip**

- The **User Access** log query data view provides details about any user modifications related to any available custom tags or filters.

  For more information, see the following topics:

  - *Querying Logs on page 17-2*
  - *User Access Information on page A-96*

- Generate custom reports for tagged users and endpoints by specifying the associated tags, filters, or importance labels as the report targets.

  For more information, see the following topics:

  - *Creating One-time Reports on page 19-21*
  - *Adding Scheduled Reports on page 19-26*
  - *Editing Scheduled Reports on page 19-31*

## Custom Tags

Custom tags are labels that you can manually associate with one or more users/endpoints for grouping purposes.

- By default, Apex Central does not assign tags to any users or endpoints.
- You can apply multiple custom tags to multiple users/endpoints.
- Any Apex Central user account that has permission to create or modify custom tags, filters, or important labels in the **User/Endpoint Directory** can view or modify custom tags, filters, or important labels created by all other user accounts.

## Creating a Custom Tag

**Note**

- Any Apex Central user account that has permission to create or modify custom tags, filters, or important labels in the **User/Endpoint Directory** can view or modify custom tags, filters, or important labels created by all other user accounts.
- Editing a tag, filter, or importance label on the **User/Endpoint Directory** screen also modifies the corresponding tag, filter, or importance label used by log queries and reports. For example, if the an endpoint is removed from a custom filter on the **User/Endpoint Directory** screen, then log queries and generated reports that use the filter will exclude data from the removed endpoint.

**Procedure**

1. Go to **Directories** > **Users/Endpoints**.
2. Expand the **Custom Tags** node under **Users** or **Endpoints** in the tree.
3. Click **Add new custom tag**.
4. Type a descriptive name for the tag, and press ENTER or click ✓ to save the new tag.

   The tag appears in the list of **Users** or **Endpoints** tags.

   After creating a custom tag:

   - Click the AI icon next to any custom tag to edit the tag name.
   - Click the icon next to any custom tag to delete the tag.

## Assigning Custom Tags to Users/Endpoints

**Note**

- Any Apex Central user account that has permission to create or modify custom tags, filters, or important labels in the **User/Endpoint Directory** can view or modify custom tags, filters, or important labels created by all other user accounts.
- Editing a tag, filter, or importance label on the **User/Endpoint Directory** screen also modifies the corresponding tag, filter, or importance label used by log queries and reports. For example, if the an endpoint is removed from a custom filter on the **User/Endpoint Directory** screen, then log queries and generated reports that use the filter will exclude data from the removed endpoint.

### Procedure

1. Go to **Directories** > **Users/Endpoints**.
2. Select the **Users** or **Endpoints** to view, or search for specific users/endpoints.
3. To associate a custom tag with a user/endpoint:
   - Click the user/endpoint row and click **Tasks** > **Assign/Remove Custom Tags**.
   - Right-click the user/endpoint row and click **Assign/Remove Custom Tags**.
4. In the **Assign/Remove Custom Tags** dialog, select or clear the necessary tag(s) from the list, and click **Save**.

   You can verify the proper association of tags with the selected users or endpoints by selecting a tag from the **Customs Tags** list, and checking that the selected user or endpoint displays properly.

## Filters

Filters automatically group users or endpoints having the same criteria.

- You can group **Users** and **Endpoints** based on custom filters and importance.

  For more information, see *Creating a Custom Filter on page 7-36* and *User or Endpoint Importance*.

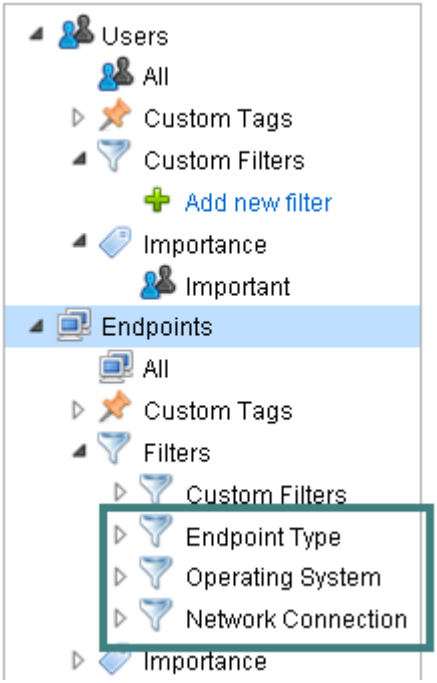
- In addition, the **Endpoints** tree can group endpoints based on default filters.

  For more information, see *Default Endpoint Filters*.

- Any Apex Central user account that has permission to create or modify custom tags, filters, or important labels in the **User/Endpoint Directory** can view or modify custom tags, filters, or important labels created by all other user accounts.

## Default Endpoint Filters

By default, the **Endpoints** tree provides default filters based on the typical grouping of endpoints in an organization.




Expand one of the default filters and select the type of endpoint to display.

For details about the table columns and the data they contain, see *User Details on page 7-3*.

The following are the default filters:

- **Endpoint Type**: Servers, desktops, laptops, mobile devices, and other types

- **Operating System**: Common operating systems installed on endpoints, including Windows, Mac OS, Linux, iOS, Android, and other operating systems
- **Network Connection**: Manually isolated endpoints

**Note**

After viewing the **Isolated** endpoints, you can click **Tasks** > **Restore Network Connection** to stop the isolation.

## Creating a Custom Filter

**Note**

- Any Apex Central user account that has permission to create or modify custom tags, filters, or important labels in the **User/Endpoint Directory** can view or modify custom tags, filters, or important labels created by all other user accounts.
- Editing a tag, filter, or importance label on the **User/Endpoint Directory** screen also modifies the corresponding tag, filter, or importance label used by log queries and reports. For example, if the an endpoint is removed from a custom filter on the **User/Endpoint Directory** screen, then log queries and generated reports that use the filter will exclude data from the removed endpoint.

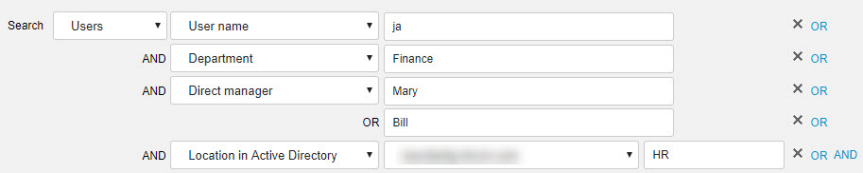
### Procedure

1. Go to **Directories** > **Users/Endpoints**.
2. Expand the **Custom Filters** node in the tree.
   - For **Users**, expand **Custom Filters**.
   - For **Endpoints**, expand **Filters**, and then expand **Custom Filters**.
3. Click **Add new filter**.

The **Search** area above the table changes to allow you to select the filter criteria.

4. Filter users or endpoints based on the available criteria.

   The following example filters all users with "ja" in their name in the Finance department that report to "Mary" or "Bill" in the Active Directory domain "HR":




   For more information, see *Advanced Search Categories on page 7-26*.

   After creating a custom filter:

   - Click the icon next to any custom filter to edit the filter name.
   - Click the icon next to any custom filter to update the Boolean expressions.
   - Click the icon next to any custom filter to delete the filter.

## User or Endpoint Importance

Assigning importance to groups of users and endpoints allows you to quickly monitor and respond to threats against these targets from the **Dashboard** screen. Apex Central provides several widgets that highlight threat events for “important” users and endpoints. You may want to apply stricter policies to important users or endpoints and constantly monitor their protection status.

You must first assign custom tags, or create custom filters, to identify the important users or endpoints. After identifying the important users or endpoints on your network, you can assign the “important” tag to provide greater visibility on the **Dashboard**.

For more information see *Custom Tags and Filters on page 7-28*.

**Note**

- Manually assign importance to users/endpoints grouped using custom tags and filters.
- Any Apex Central user account that has permission to create or modify custom tags, filters, or important labels in the **User/Endpoint Directory** can view or modify custom tags, filters, or important labels created by all other user accounts.
- Editing a tag, filter, or importance label on the **User/Endpoint Directory** screen also modifies the corresponding tag, filter, or importance label used by log queries and reports. For example, if the an endpoint is removed from a custom filter on the **User/Endpoint Directory** screen, then log queries and generated reports that use the filter will exclude data from the removed endpoint.
- Apex Central automatically assigns importance to “Domain Admins” (users) and “Domain Controllers” (endpoints) after Active Directory synchronization.
    - The current version of Apex Central only supports one important “Domain Admin” and one important “Domain Controller” for each integrated Active Directory domain. Individual user accounts can no longer assign separate “important” tags for the same “Domain Admins” and “Domain Controllers”.
    - If you have preexisting “important” tags for “Domain Admins” and “Domain Controllers” created by separate user accounts on a previous version of Apex Central, the preexisting “Domain Admins” and “Domain Controllers” will be deleted and replaced with one important “Domain Admin” and one important “Domain Controller” for each integrated Active Directory domain.

## Procedure

1. Go to **Directories** > **Users/Endpoints**.

2. Expand the **Importance** node under **Users** or **Endpoints** in the tree.
3. Click **Important** and click the edit icon ( ).
4. On the screen that displays:
   - Assign importance by selecting one or several custom tags or custom filters, and then click **Save**.
   - Remove importance by clearing one or several custom tags or custom filters, and then click **Save**.

   The table in the main screen is updated with the list of endpoints or users that match the custom tags or custom filters.

   For details about the table columns and the data they contain, see *User Details on page 7-3*.

# Chapter 8

## Trend Vision One

**Note**

This feature is not available in all regions.

Trend Vision One extends detection and response beyond the endpoint to offer broader visibility and expert security analytics, leading to more detections and an earlier, faster response. With Trend Vision One, you can respond more effectively to threats, minimizing the severity and scope of a breach.

Integration with Trend Vision One allows Apex Central to perform the following for correlated detection and other advanced analytics:

- Forward detection events and managed Security Agent information to Trend Vision One
- Synchronize suspicious object lists from Trend Vision One

# Integrating Apex Central with Trend Vision One

**Note**

This feature is not available in all regions.

You can integrate Apex Central with Trend Vision One to forward detection logs and Security Agent information to Trend Vision One.

**Note**

To get started with the integration, you need an active Trend Vision One account.

For more information on how to activate Trend Vision One with Essential Access using an exsiting product license, see Activating Trend Vision One with Essential Access.

**Procedure**

1. Generate an enrollment token in Trend Vision One. Do the following:
   a. Go to **Trend Vision One** > **Access Trend Vision One**.
   b. Log onto the Trend Vision One console.
   c. Go to **Point Product Connection** > **Product Instance** or **Point Product Connection** > **Product Connector**.
   d. Click **Add Existing Product** or **Connect**.
   e. In the **Instance type** or **Product name** field, select **Trend Micro Apex One as a Service**.
   f. Click the link to generate an enrollment token.
   g. Copy the enrollment token for use on the Apex Central web console.
   h. Click **Save**.
2. On the Apex Central console, go to **Trend Vision One** > **Integration Settings**.

3. Paste the enrollment token you obtained from the Product Instance or Product Connector in Trend Vision One.
4. Click **Register**.

**WARNING!**

- After registering, the update process begins. You cannot undo or stop this action.
- If you register Apex Central to Trend Vision One through the Product Instance, after the update completes, you will no longer have access to your Apex Central console. You will still have access to the Apex One consoles that were managed by the retired Apex Central console.

# Part III

## Managed Product Integration

# Chapter 9

## Managed Product Registration

This section discusses how to register managed product servers and cloud services to the Apex Central as a Service console.

Topics include:


- *Managed Product Registration Methods on page 9-2*
- *Managed Product Servers on page 9-2*
- *Cloud Service Integration on page 9-8*

# Managed Product Registration Methods

Apex Central requires managed products to register to the Apex Central server by using one of the following methods:

- The **Product Servers** screen on the Apex Central management console
- The managed product's management console (through the Apex Central MCP agent)

# Managed Product Servers

The **Product Servers** screen (**Directories** > **Product Servers**) allows you to register, configure, or unregister cloud services and managed products that register to Apex Central using the Apex Central management console.

Use the **Product Servers** screen to perform the following tasks.

| TASK | DESCRIPTION |
|---|---|
| Add managed servers | Click **Add** to register managed products to the Apex Central server.<br><br>For more information, see *Adding a Managed Server on page 9-5*.<br><br>**Note**<br>If the **Add** icon is disabled, the managed product registers to Apex Central using the managed product console. |
| Delete managed servers | Click **Delete** icon in the **Actions** column to unregister a managed server from the Apex Central server.<br><br>For more information, see *Deleting a Managed Server on page 9-6*. |
| Configure proxy settings | Click **Proxy Settings** to configure proxy settings for managed products<br><br>For more information, see *Configuring Proxy Settings for Managed Products on page 9-7*. |

| Task | Description |
| --- | --- |
| Configure cloud services | Click **Cloud Service Settings** to register, view, or unregister cloud services<br><br>For more information, see *Configuring Cloud Service Settings on page 9-10*.<br><br>**Important**<br>• Apex Central only supports email correlation in Cloud App Security for Threat Investigations.<br>For more information, see *Cloud Service Integration on page 9-8*.<br>• Registered cloud services do not display in the **Server** list on the **Product Servers** screen. To register cloud services or view/unregister currently registered cloud services, click **Cloud Service Settings**. |
| Organize managed servers in the Product Directory structure | Click **Directory Management** to group or move managed products to new locations in the Product Directory structure<br><br>For more information, see *Managing the Product Directory on page 11-14*. |
| Single sign-on to managed product consoles | Click the link in the **Server** column to single sign-on to the managed product console.<br><br>**Tip**<br>You can also single sign-on to managed product consoles from the **Product Directory** screen.<br>For more information, see *Product Directory Overview on page 11-2*. |

**Note**

For more information about the details that display on the **Product Servers** screen, see *Managed Server Details on page 9-4*.

## Managed Server Details

The following table describes the information that displays on the **Product Servers** screen.

**Note**

Registered cloud services do not display in the **Server** list on the **Product Servers** screen. To register cloud services or view/unregister currently registered cloud services, click **Cloud Service Settings**.

For more information, see *Configuring Cloud Service Settings on page 9-10*.

| Column Name | Description |
|---|---|
| Server | Displays the server name of the managed product<br><br>**Note**<br>Clicking the server name of a managed product that registers to Apex Central using an MCP agent redirects you to the managed product console. |
| Display Name | Displays the server display name of the managed product |
| Product | Displays the name of the managed product |
| Connection Type | Displays how the managed product registers to Apex Central<br>• **Automatic**: The managed product registers to Apex Central through an MCP agent.<br>• **Manual**: Administrators used the **Product Servers** screen to register the managed product.<br>For details, see *Adding a Managed Server on page 9-5*. |

| Column Name | Description |
|---|---|
| Last Report | Shows the most recent date and time when Apex Central received a response from the managed product |
| Actions | • **Delete**: Click this icon to unregister a managed server<br>For details, see *Deleting a Managed Server on page 9-6*. |

## Adding a Managed Server

Use the **Product Servers** screen to register managed servers to the Apex Central server.

**Note**

- If the **Add** button is disabled, then the product registers to Apex Central using the managed product management console.
- Before performing policy management on a newly added managed server, click **Directory Management** and move the managed product from the **New Entity** folder to another location.

  For more information, see *Managing the Product Directory on page 11-14*.
- Registered cloud services do not display in the **Server** list on the **Product Servers** screen. To register cloud services or view/unregister currently registered cloud services, click **Cloud Service Settings**.

  For more information, see *Configuring Cloud Service Settings on page 9-10*.

### Procedure

1. Go to **Directories** > **Product Servers**.

   The **Product Servers** screen appears.
2. Select a product from the **Server Type** drop-down list.

   A list of registered managed servers appears.

3. Click the **Add** button or the **Add a product** link in the table.

   The **Add Server** screen appears.

4. Specify the following server information:

   - **Server**: Type the <managed product> server name, FQDN, or IPv4/IPv6 address, and port number (if any).
   - **Display name**: Specify the name of the <managed product> server that displays in Apex Central.

5. If logging onto the managed server requires authentication, specify the following credentials:

   - **User name**: Provide the name of a <managed product> account with administrator privileges.
   - **Password**: Type the password for the provided account.

   **Important**

   Apex Central requires an account with administrator privileges to deploy policy settings.

6. To use a proxy server, select the **Use a proxy server for the connection** check box.

   For more information, see *Configuring Proxy Settings for Managed Products on page 9-7*.

7. Click **Save**.

   The newly added server appears in the list of registered managed servers.

## Deleting a Managed Server

Use the **Product Servers** screen to unregister a managed server from Apex Central.

**Procedure**

1. Go to **Directories** > **Product Servers**.

   The **Product Servers** screen appears.

2. Select a product from the **Server Type** drop-down list.

   A list of registered managed servers appears.

3. Click the **Delete** icon the **Actions** column for the managed server to remove.

4. Click **OK**.

   Apex Central unregisters the deleted server.

**Note**

Deleting a managed server on the **Product Servers** screen does not uninstall the server program or related agents.

## Configuring Proxy Settings for Managed Products

Apex Central allows you to use a proxy server to connect to managed products on an internal network. After configuring proxy server settings for a managed product, enable the proxy server connection for specific managed servers.

**Important**

You can only use one proxy server for all managed servers of the same managed product type.

**Procedure**

1. Go to **Directories** > **Product Servers**.

   The **Product Servers** screen appears.

2. Select a product from the **Server Type** drop-down list.

A list of registered managed servers appears.

3. Click **Proxy Settings**.

   The **Proxy Settings** screen appears.

4. Select one of the following protocols:

   - **HTTP**
   - **SOCKS 5**

5. Specify the following fields:

   - **Server**: Type the server name, FQDN, or IPv4 address of the proxy server
   - **Port**: Type the port number that the proxy server uses for client connections

6. If the proxy server requires authentication, specify the following credentials:

   - **User name**
   - **Password**

7. Click **Save**.

8. To enable the proxy server connection:

   a. Click the **Edit** icon in the **Actions** column for the managed server you want to edit.

      The **Edit Server** screen appears.

   b. Select the **Use a proxy server for the connection** check box in the **Connection** section.

   c. Click **Save**.

## Cloud Service Integration

Apex Central supports the following cloud services and features.

**Important**

If your Customer Licensing Portal account services are already registered to another Apex Central server and you choose to change to the current Apex Central console, you will no longer receive log data or be able to sign into any existing cloud services from the other Apex Central console.

| Service | Supported Features |
|---|---|
| Cloud App Security | • Apex Central only supports email correlation in Cloud App Security for Threat Investigations.<br><br>Threat Investigations on Apex Central can correlate information from Endpoint Sensor, Cloud App Security, and Active Directory to display attack information about an endpoint, user account, and possible email attack vectors throughout your network.<br><br>For more information, see *Threat Investigation Overview on page 22-2*.<br><br>• You must properly configure Cloud App Security and Apex Central before being able to correlate email message information.<br><br>For more information, see *Enabling Correlation Events for Threat Investigations on page 9-11*.<br><br>• Email correlation in Cloud App Security requires the following:<br>  • Additional licensing for Trend Micro Cloud App Security on your Customer Licensing Portal account.<br>  • Additional licensing for Apex One™ as a Service: Endpoint Sensor on your Customer Licensing Portal account.<br><br>**Note**<br>To use all Cloud App Security features besides email correlation, register Cloud App Security to the on-premises version of Apex Central.<br><br>For more information about the on-premises version of Apex Central, see http://docs.trendmicro.com/en-us/enterprise/apex-central.aspx. |

## Configuring Cloud Service Settings

Use your Trend Micro Customer Licensing Portal credentials to register your existing supported cloud services to Apex Central. You can also use the **Cloud Service Settings** screen to view or unregister your Customer Licensing Portal account and related cloud services.

**Important**

- Apex Central only supports email correlation in Cloud App Security for Threat Investigations.

  For more information, see *Cloud Service Integration on page 9-8*.

- You must properly configure Cloud App Security and Apex Central before being able to correlate email message information.

  For more information, see *Enabling Correlation Events for Threat Investigations on page 9-11*.

- Ensure your Customer Licensing Portal account includes Cloud App Security before registering cloud services to Apex Central.

  For more information, see https://clp.trendmicro.com/.

- If your Customer Licensing Portal account services are already registered to another Apex Central server and you choose to change to the current Apex Central console, you will no longer receive log data or be able to sign into any existing cloud services from the other Apex Central console.

**Procedure**

1. Go to **Directories** > **Product Servers**.

   The **Product Servers** screen appears.

2. Register cloud services:

   a. Click **Cloud Service Settings**.

      The **Cloud Service Settings** screen appears.

b. Provide the following credentials:

- **Account**: The user name used to activate the cloud service subscription on the Trend Micro Customer Licensing Portal (https://clp.trendmicro.com/)
- **Password**: The password for the Customer Licensing Portal account

c. Click **OK**.

Apex Central registers your Customer Licensing Portal account and supported cloud services.

**3.** To view registered Customer Licensing Portal account information and cloud services, click **Cloud Service Settings**.

The **Cloud Service Settings** screen appears and displays registered Customer Licensing Portal account information and cloud services.

**4.** To unregister cloud services:

a. Click **Cloud Service Settings**.

The **Cloud Service Settings** screen appears.

b. Click **Unregister cloud services from Apex Central** and agree to all succeeding prompts.

Apex Central unregisters your Customer Licensing Portal account and all related cloud services.

## Enabling Correlation Events for Threat Investigations

Threat Investigations can correlate information from Endpoint Sensor, Cloud App Security, and Active Directory to display attack information about an endpoint, user account, and possible email attack vectors throughout your network.

**Important**

- You must properly configure Cloud App Security and Apex Central before being able to correlate email message information.
- Apex Central only supports email correlation in Cloud App Security for Threat Investigations.

  For more information, see *Cloud Service Integration on page 9-8*.
- Email correlation in Cloud App Security requires the following:
  - Additional licensing for Trend Micro Cloud App Security on your Customer Licensing Portal account.
  - Additional licensing for Apex One™ as a Service: Endpoint Sensor on your Customer Licensing Portal account.

### Procedure

1. Ensure your Customer Licensing Portal account (https://clp.trendmicro.com/) includes Trend Micro Cloud App Security.
   - If your Customer Licensing Portal account already includes Cloud App Security, proceed to the following step.
   - If you do not have a valid Activation Code for Cloud App Security, contact your sales representative.
2. Add Microsoft™ Exchange Online with Office 365 to Cloud App Security:

   a. On the Cloud App Security console, go to **Administration** > **Service Account**.

   **Tip**

   You can open the Cloud App Security console from the **Products/Services** screen on the Customer Licensing Portal website (https://clp.trendmicro.com/).

**b.** Click **Add** and select **Exchange Online**.

**c.** Enable one of the following policies:

- **Default Exchange Policy ATP**: Go to **Advanced Threat Protection** > **Exchange Online Policies** and set the policy status to **ON**.
- **Default Exchange Policy DLP**: Go to **Data Loss Prevention** > **Exchange Online Policies** and set the policy status to **ON**.

For more information about Cloud App Security, see the *Cloud App Security Online Help* at http://docs.trendmicro.com/en-us/enterprise/cloud-app-security.aspx.

**3.** Generate an authentication token for the Cloud App Security Threat Investigation API:

**a.** On the Cloud App Security console, go to **Administration** > **Automation and Integration APIs**.

**b.** Click **Add**.

The **Add Authentication Token** screen appears.

**c.** Select the **Email message** check box for the **Threat Investigation** API type.

**d.** Click **Create Token**.

The generated authentication token appears on the **Automation and Integration APIs** screen.

**4.** Configure cloud service settings on Apex Central:

a. On the Apex Central console, go to **Directories** > **Product Servers**.

The **Product Servers** screen appears.

b. Click **Cloud Service Settings**.

The **Cloud Service Settings** screen appears.

c. Provide the following credentials:

- **Account**: The user name used to activate the cloud service subscription on the Trend Micro Customer Licensing Portal (https://clp.trendmicro.com/)
- **Password**: The password for the Customer Licensing Portal account

d. Click **OK**.

Apex Central registers your Customer Licensing Portal account and supported cloud services.

**5.** Synchronize your Active Directory structure with Apex Central:

**a.** On the Apex Central console, go to **Administration** > **Settings** > **Active Directory and Compliance Settings**.

**b.** Click the **Active Directory Settings** tab.

**c.** Select **Enable Active Directory synchronization**.

**d.** Click **Save**.

**e.** Download and run the Active Directory synchronization tool on the Active Directory server.

**WARNING!**

Clicking **Download the Active Directory synchronization tool** will deactivate any previously downloaded Active Directory synchronization tools and stop synchronizing Active Directory servers configured using the deactivated tool.

**Important**

Ensure that .NET Framework 4.6.1 is installed on the Windows endpoint before executing the tool.

For more information, see *Configuring Active Directory Synchronization on page 6-2*.

6. Enable Endpoint Sensor on Apex One Security Agents:
   a. On the Apex Central console, go to **Policies** > **Policy Management**.
   b. Select **Apex One Security Agent** from the **Product** drop-down list.
   c. Click **Create**.
   d. Type a policy name.
   e. Specify targets.
   f. Expand **Additional Service Settings**.
   g. Select the following check boxes:
      - **Windows desktop**
      - **Windows Server platforms**
   h. Expand **Endpoint Sensor Settings**.
   i. Select **Enable Endpoint Sensor**.
   j. Click **Deploy**.
7. Configure Microsoft™ Outlook (outlook.exe) as the email client on each Security Agent endpoint.

# Chapter 10

## Security Agent Installation

This section describes Security Agent installation requirements and methods.

Topics include:


- *Security Agent System Requirements on page 10-2*
- *Using the Apex One Security Agent Web Installer on page 10-25*
- *Downloading Security Agent Installation Packages on page 10-27*
- *Apex One (Mac) Security Agent Installation on page 10-29*

# Security Agent System Requirements

## Windows Endpoint Platforms

### Windows 8.1 (32-bit / 64-bit) Requirements

| Item | Requirement |
|---|---|
| Editions (no Service Pack required) | • Standard<br>• Pro<br>• Enterprise |
| Processor | • Minimum 1GHz (32-bit) / 2GHz (64-bit) Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |

| Item | Requirement |
| --- | --- |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br><br>**Note**<br>Windows UI is not supported. |

## Windows 10 (32-bit / 64-bit) Requirements

| Item | Requirement |
| --- | --- |
| Editions (no Service Pack required) | • Home<br>• Pro<br>• Pro for Workstations<br>• Education<br>• Enterprise |
| Update support | • Windows 10 November 2021 Update (Windows 10 21H2) and earlier |
| Processor | • Minimum 1GHz (32-bit) / 2GHz (64-bit) Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |

| Item | Requirement |
|---|---|
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br><br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br><br>**Note**<br>Windows UI is not supported. |

## Windows 11 (64-bit) Requirements

| Item | Requirement |
|---|---|
| Editions (no Service Pack required) | • Home<br>• Pro<br>• Education<br>• Enterprise |
| Processor | • Minimum 2GHz (64-bit) Intel Pentium or equivalent<br>• AMD™ 64 processor<br>• Intel 64 processor |

| Item | Requirement |
|---|---|
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br>**Note**<br>Windows UI is not supported. |

## Windows Server Platforms

### Windows Server 2008 R2 (64-bit) Platforms


- *Windows Server 2008 R2 on page 10-6*
- *Windows Storage Server 2008 R2 on page 10-7*
- *Windows HPC Server 2008 R2 on page 10-8*

**Note**

For processor and RAM requirements for a specific platform, refer to the Microsoft system requirements for that platform.

**TABLE 10-1. Windows Server 2008 R2**

| ITEM | REQUIREMENT |
|---|---|
| Editions (Service Pack 1) | • Standard<br>• Enterprise<br>• Datacenter<br>• Web<br>• Server Core |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |

| Item | Requirement |
|---|---|
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin |

**Table 10-2. Windows Storage Server 2008 R2**

| Item | Requirement |
|---|---|
| Editions (Service Pack 1) | • Basic<br>• Standard<br>• Enterprise<br>• Workgroup |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |

| Item | Requirement |
|---|---|
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin |

**Table 10-3. Windows HPC Server 2008 R2**

| Item | Requirement |
|---|---|
| Editions (no Service Pack required) | • N/A |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin |

## Windows MultiPoint Server 2010 (64-bit) Platform

**Note**

For processor and RAM requirements for a specific platform, refer to the Microsoft system requirements for that platform.

| Item | Requirement |
|---|---|
| Editions (no Service Pack required) | • N/A |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin |

## Windows MultiPoint Server 2011 (64-bit) Platform

**Note**

For processor and RAM requirements for a specific platform, refer to the Microsoft system requirements for that platform.

| Item | Requirement |
|---|---|
| Editions (no Service Pack required) | • Standard<br>• Premium |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin |

## Windows Server 2012 (64-bit) Platforms


- *Windows Server 2012 on page 10-11*
- *Windows Server 2012 R2 on page 10-12*
- *Windows Storage Server 2012 on page 10-13*
- *Windows Storage Server 2012 R2 on page 10-14*
- *Windows MultiPoint Server 2012 on page 10-15*
- *Windows Server 2012 Failover Clusters on page 10-16*
- *Windows Server 2012 R2 Failover Clusters on page 10-17*


**Note**

For processor and RAM requirements for a specific platform, refer to the Microsoft system requirements for that platform.

**TABLE 10-4. Windows Server 2012**

| ITEM | REQUIREMENT |
|---|---|
| Editions (no Service Pack required) | • Standard<br>• Datacenter<br>• Server Core |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |

| Item | Requirement |
|---|---|
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br><br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br><br>**Note**<br>Windows UI is not supported. |

**Table 10-5. Windows Server 2012 R2**

| Item | Requirement |
|---|---|
| Editions (no Service Pack required) | • Standard<br>• Datacenter<br>• Server Core |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |

| Item | Requirement |
|---|---|
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br><br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br><br>**Note**<br>Windows UI is not supported. |

**Table 10-6. Windows Storage Server 2012**

| Item | Requirement |
|---|---|
| Editions (no Service Pack required) | • Standard<br>• Workgroup |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |

| Item | Requirement |
|---|---|
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br><br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br><br>**Note**<br>Windows UI is not supported. |

**Table 10-7. Windows Storage Server 2012 R2**

| Item | Requirement |
|---|---|
| Editions (no Service Pack required) | • Standard<br>• Workgroup |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |

| Item | Requirement |
|---|---|
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br><br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br><br>**Note**<br>Windows UI is not supported. |

**Table 10-8. Windows MultiPoint Server 2012**

| Item | Requirement |
|---|---|
| Editions (no Service Pack required) | • Standard<br>• Premium |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |

| Item | Requirement |
|---|---|
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br><br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br><br>**Note**<br>Windows UI is not supported. |

**Table 10-9. Windows Server 2012 Failover Clusters**

| Item | Requirement |
|---|---|
| Editions (no Service Pack required) | • N/A |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |

| Item | Requirement |
|---|---|
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br><br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br><br>**Note**<br>Windows UI is not supported. |

**Table 10-10. Windows Server 2012 R2 Failover Clusters**

| Item | Requirement |
|---|---|
| Editions (no Service Pack required) | • N/A |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |

| Item | Requirement |
| --- | --- |
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br><br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br><br>**Note**<br>Windows UI is not supported. |

## Windows Server 2016 (64-bit) Platforms


- *Windows Server 2016 on page 10-19*
- *Windows Server 2016 Failover Clusters on page 10-20*
- *Windows Storage Server 2016 on page 10-21*


**Note**

For processor and RAM requirements for a specific platform, refer to the Microsoft system requirements for that platform.

**TABLE 10-11. Windows Server 2016**

| ITEM | REQUIREMENT |
|---|---|
| Editions (no Service Pack required) | • Standard<br>• Datacenter<br>• Server Core |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br>**Note**<br>Windows UI is not supported. |

**TABLE 10-12. Windows Server 2016 Failover Clusters**

| ITEM | REQUIREMENT |
|---|---|
| Editions (no Service Pack required) | • N/A |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br>**Note**<br>Windows UI is not supported. |

**TABLE 10-13. Windows Storage Server 2016**

| ITEM | REQUIREMENT |
|---|---|
| Editions (no Service Pack required) | • Standard<br>• Workgroup |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br>**Note**<br>Windows UI is not supported. |

## Windows Server 2019 (64-bit) Platforms

**Note**

For processor and RAM requirements for a specific platform, refer to the Microsoft system requirements for that platform.

**TABLE 10-14. Windows Server 2019**

| ITEM | REQUIREMENT |
|---|---|
| Editions (no Service Pack required) | • Standard<br>• Datacenter<br>• Server Core |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |

| Item | Requirement |
|---|---|
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br><br>**Note**<br>Windows UI is not supported. |

## Windows Server 2022 (64-bit) Platforms

**Note**

For processor and RAM requirements for a specific platform, refer to the Microsoft system requirements for that platform.

**Table 10-15. Windows Server 2022**

| Item | Requirement |
|---|---|
| Editions (no Service Pack required) | • Standard<br>• Datacenter<br>• Server Core |
| Processor | • Minimum 1.4GHz Intel Pentium or equivalent (2GHz recommended)<br>• AMD™ 64 processor<br>• Intel 64 processor |
| RAM | • 2GB minimum (exclusively for Apex One)<br>Apex One with Endpoint Sensor:<br>• 2GB minimum (exclusively for Apex One) |

| Item | Requirement |
|---|---|
| Available Disk Space | • 1.5GB minimum<br>• 2.0GB recommended<br><br>**Note**<br>If you activate Application Control, Endpoint Sensor, Vulnerability Protection, and Data Protection on the Security Agent, Trend Micro recommends increasing the minimum disk space to 3.0GB. |
| Others | • Monitor that supports 1024 x 768 resolution at 256 colors or higher<br>• Allow printer/file sharing in the Windows firewall (if enabled)<br>• Enable default local admin<br><br>**Note**<br>Windows UI is not supported. |

## Mac Platforms

The following are the requirements for installing the Security Agent on a Mac endpoint.

**Table 10-16. Security Agent installation requirements**

| Resource | Requirement |
|---|---|
| Operating system | • macOS™ Ventura 13<br>• macOS™ Monterey 12<br>• macOS™ Big Sur 11<br>• macOS™ Catalina 10.15<br>• macOS™ Mojave 10.14 |

| Resource | Requirement |
|---|---|
| Hardware | • **Processor**: Apple® M1, Apple® M2, or Intel® Core™ processor<br>• **RAM**: 2GB minimum<br>• **Available disk space**: 512MB minimum |
| Server-agent communication | Listening port: 443 |
| Others | • Access to *.trendmicro.com<br>• If required, proxy server settings for Internet connection |

## Using the Apex One Security Agent Web Installer

Use the web installer to check the compatibility of the target endpoints (including system requirements and conflicting applications) before automatically downloading and installing the Security Agent package from Trend Micro servers.

**Note**

The web installer only supports Windows endpoints.

### Procedure

1. Go to **Administration** > **Security Agent Download**.
2. Select a Windows operating system.
3. Select **Full feature set** for the installation mode.
4. Select **Web installer** for the package type.
5. Click one of the following deployment options:
   - **Download Installer**: Click to download the installer and copy to the target endpoint.
   - **Get Download Link**: Click to obtain a URL that you can send to users to download the installer directly on the target endpoint.

6. On the target endpoint, execute the `EndpointBasecamp.exe` installer.

   The tool takes the following actions:

   a. Checks the system resources on the endpoint and attempts to locate conflicting applications and sends the data to Trend Micro support for analysis

   **Important**

   If the endpoint does not pass the environment check, Apex Central logs the unsuccessful attempt in the Tracked Endpoints view on the **User/Endpoint Directory** screen.

   For more information, see *User/Endpoint Directory on page 7-2*.

   b. After passing the environment check, the tool automatically downloads the Security Agent package.

   c. After the download completes, the Security Agent installation automatically begins and the tool sends the installation results to Trend Micro support.

   **Important**

   If the endpoint is unable to successfully install the Security Agent, Apex Central logs the unsuccessful attempt in the Tracked Endpoints view on the **User/Endpoint Directory** screen.

   For more information, see *User/Endpoint Directory on page 7-2*.

   Trend Micro collects the endpoint and installation data to constantly update the Security Agent installation process and quickly respond to installation issues without you needing to open a support case. You can attempt to retry the Security Agent installation periodically to see if a solution to an installation error exists.

# Downloading Security Agent Installation Packages

Use the **Security Agent Download** screen to create and download standalone Apex One Security Agent installation packages for Windows or Mac endpoints. You can download and install the Security Agent installation package directly, or get a URL that you can send to users to download the Security Agent installation package directly onto a target endpoint.

**Note**

- The standalone installation package contains all the required components for a local installation and does not require an internet connection.
- The web installer checks for conflicting applications and verifies system requirements before downloading and installing the Security Agent package from the internet.

  For more information, see *Using the Apex One Security Agent Web Installer on page 10-25*.

**TABLE 10-17. Pre-installation Configuration**

| SECURITY AGENT | CONFIGURATION |
|---|---|
| Apex One | Before installing Apex One Security Agents:<br>• Change the default Apex One Security Agent unloading and uninstallation passwords<br>• Ensure that endpoints can communicate through ports 80 and 443<br>• Ensure that endpoints can access *.trendmicro.com<br>• If required, configure Apex One Security Agent proxy server settings<br>For more information, see *Security Agent System Requirements on page 10-2*. |

| SECURITY AGENT | CONFIGURATION |
|---|---|
| Apex One (Mac) | Before installing Apex One (Mac) Security Agents:<br>• Ensure that endpoints can communicate through port 443<br>• Ensure that endpoints can access *.trendmicro.com<br>• If required, configure Apex One Security Agent proxy server settings<br>For more information, see *Apex One (Mac) Security Agent Installation on page 10-29*. |

## Procedure

1. Go to **Administration** > **Security Agent Download**.
2. Select the operating system.
   - **Windows 64-bit**: Select to create a 64-bit MSI installation package for Apex One Security Agents
   - **Windows 32-bit**: Select to create a 32-bit MSI installation package for Apex One Security Agents
   - **Mac**: Select to create a ZIP installation package for Apex One (Mac) Security Agents
3. For **Windows 64-bit** or **Windows 32-bit** Apex One Security Agents, select the **Installation mode**:
   - **Full feature set**: Installs the standard Apex One Security Agent with full feature capabilities
   - **Coexist**: The coexist mode Apex One Security Agent provides a limited subset of Apex One capabilities but is compatible with any supported Windows endpoint, running any endpoint security software.

**Tip**

Select **Coexist** mode to allow target endpoints to use third-party security software.

4. Select **Standalone** for the package type (if prompted).

> **Note**
> If you selected the coexist mode Apex One Security Agent, you do not need to select the package type.

5. If you have more than one corresponding managed product server for the type of installation package selected, use the **Server** drop-down to select the server to which the Security Agent reports.

> **Note**
> If you only have one managed product server, only the managed product server name displays.

6. Click one of the following deployment options:
   - **Download Installer**: Downloads a copy of the Security Agent installation package that you can install locally or later deploy to target endpoints
   - **Get Download Link**: Displays a URL that you can send to users to install the Security Agent directly onto a target endpoint

> **Note**
> For Apex One servers, the Apex One Security Agent package applies the settings generated the last time the Security Agent Packaging Tool ran.

## Apex One (Mac) Security Agent Installation

This section describes Apex One (Mac) Security Agent installation requirements and methods.

For more information, refer to the Apex One (Mac) documentation.

## Agent Installation Methods

**Note**

Before installing Security Agents:

- Ensure that agent endpoints can communicate with the server through port 443 (for Security Agent version 3.5.3.x or later) or 8443 (for Security Agent version 3.5.2.x).
- Ensure that endpoints can access *.trendmicro.com
- If required, configure agent proxy server settings

Obtain the necessary agent installation package from Apex Central.

You can install the Security Agent using one of the following ways:

- Install on a single endpoint by launching the installation package (`tmsminstall.zip`) on the endpoint
- Install on several endpoints by deploying an operating system image that includes the Security Agent. After installation, the Security Agent automatically registers to the Apex One (Mac) server.

## Agent Post-installation

**Procedure**

1. If the system does not automatically prompt you to allow applications from Trend Micro to run after the agent installation process is complete and this is the first time you install the Security Agent on an endpoint running macOS™ 10.13 or later, complete the following steps:
   a. From the Apple menu, go to **System Preferences** > **Security & Privacy** > **General**.
   b. Click the lock icon in the bottom left corner and provide your macOS administrator password to make changes.
   c. Click **Allow** to allow applications from Trend Micro to run.

**d.** Restart the computer.

**2.** Allow the Security Agent full disk access to protect application data (for example, Mail, Messages, Safari, etc.).

**a.** From the Apple menu, go to **System Preferences** > **Security & Privacy** > **Privacy**.

**b.** Select **Full Disk Access** from the list of services

**c.** Click the lock icon in the bottom left corner and provide your macOS administrator password to make changes.

**d.** Locate the "iCoreService" file and drag and drop the file into the Full Disk Access table.

**Note**

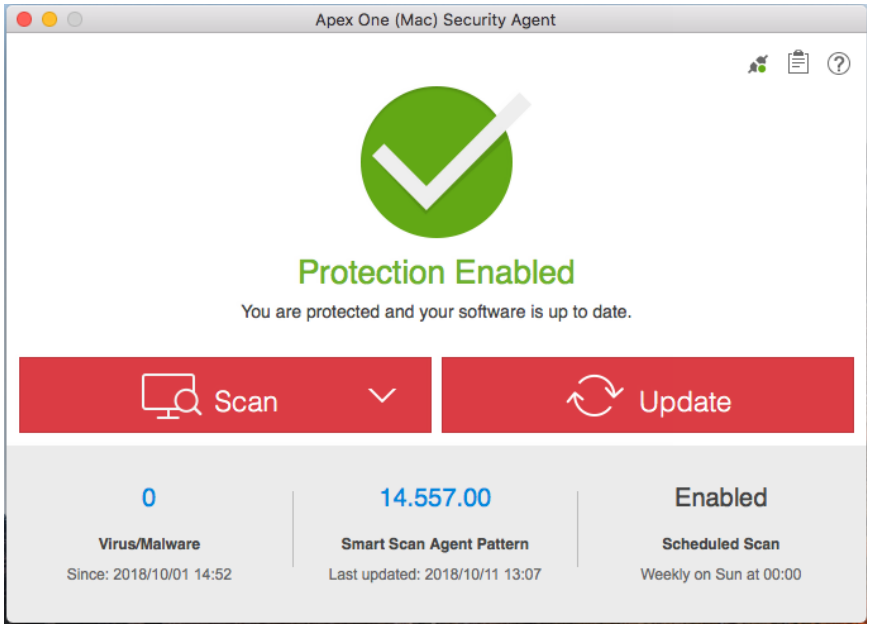
If the **iCoreService** entry is already in the table, make sure the checkbox is selected.

**e.** Restart the Security Agent.

**3.** Verify the following:

- The Security Agent icon ( ) displays on the menu bar of the endpoint.
- The Security Agent files are found under the <agent installation folder>.
- The Security Agent appears on the web console's agent tree. To access the agent tree, click **Agent Management** on the main menu.

**4.** Update components by clicking **Update** on the Security Agent console. The agent downloads components from the Apex One (Mac) server.




If the Security Agent cannot connect to the server, it downloads directly from the Trend Micro ActiveUpdate server. Internet connection is required to connect to the ActiveUpdate server.

5. Click **Scan** and select an option to start a manual scan on the endpoint.

### What to do next

If there are problems with the Security Agent after installation, try uninstalling and then reinstalling the Security Agent.

# Chapter 11

## Product Directory

This section discusses how to view information about all the managed products registered to the Apex Central server and the tasks available on the **Product Directory** screen.

Topics include:


- *Product Directory Overview on page 11-2*
- *Viewing Managed Product Status Summaries on page 11-6*
- *Performing an Advanced Search of the Product Directory on page 11-7*
- *Executing Managed Product Tasks on page 11-9*
- *Configuring Managed Product Settings on page 11-10*
- *Querying Logs from the Product Directory on page 11-11*
- *Directory Management on page 11-12*

# Product Directory Overview

The **Product Directory** screen displays information about all the managed product servers registered to the Apex Central server. You can use this screen to search for specific managed product entities, view managed server status summaries, execute managed product tasks, configure managed product settings, or query managed product logs.

**Tip**

You can also use the **Log Query** screen to query managed product logs.

For more information, see *Querying Logs on page 17-2*.

The Product Directory tree organizes managed products into the following default folders:

- **Apex Central as a Service**: Displays the name of the Apex Central server and contains all the following subfolders
- **Local Folder**: Contains the **New Entity** folder and any custom folders you create
- **Apex One (Mac) as a Service**: Contains the Apex One (Mac) as a Service servers and domains registered to Apex Central

  **Note**

  The system displays Apex One (Mac) as a Service domains on the **Policy** screen only.

- **Apex One as a Service**: Contains the Apex One as a Service servers and domains registered to Apex Central
- **New Entity**: Contains all managed products newly registered to the Apex Central server
- **Search Result**: Contains all managed products that match the criteria for a basic or advanced search

**Note**

Except for the **New Entity** folder, Apex Central lists all folders in ascending order, starting from special characters (!, #, $, %, (, ), *, +, -, comma, period, +, ?, @, [, ], ^, _, {, |, }, and ~), numbers (0 to 9), or alphabetic characters (a/A to z/Z).

The **Product Directory** screen uses icons to represent managed products and the connection status of managed products.

For more information about the Product Directory icons, see the following topics:

- *Managed Product Icons on page 11-4*
- *Connection Status Icons on page 11-5*

The following table outlines the tasks available on the **Product Directory** screen.

| Task | Description |
|---|---|
| View status summaries | Select a managed product entity in the Product Directory to view the status summary.<br><br>For more information, see *Viewing Managed Product Status Summaries on page 11-6*. |
| Find managed product entities | In the **Find entity** search box, search for managed product entities using partial string matching and click **Search**. Managed product entities that match the search criteria appear in the **Search Result** folder.<br><br>For more information about performing an advanced search, see *Executing Managed Product Tasks on page 11-9*. |
| Configure managed product settings | Select a managed product entity in the Product Directory tree and select an option from the **Configure** drop-down.<br><br>For more information, see *Configuring Managed Product Settings on page 11-10*. |

| Task | Description |
|---|---|
| Execute managed product tasks | Select a managed product entity in the Product Directory tree and select an option from the **Tasks** drop-down.<br><br>For more information, see *Executing Managed Product Tasks on page 11-9*. |
| Query managed product logs | Select a managed product entity in the Product Directory and click **Logs**.<br><br>For more information, see *Querying Logs from the Product Directory on page 11-11*. |
| Organize the Product Directory structure | Click **Directory Management** to create new folders or move or group managed product entities in the Product Directory tree.<br><br>For more information, see *Directory Management on page 11-12*. |
| Single sign-on to manged product consoles | Select the managed product server icon in the corresponding folder in the Product Directory tree and click **Configure** > **<Managed_Product> Single Sign On**.<br><br>**Tip**<br>You can also single sign-on to managed product consoles from the **Product Servers** screen.<br><br>For more information, see *Managed Product Servers on page 9-2*. |

## Managed Product Icons

The Product Directory uses the following icons to represent managed products that are registered to the Apex Central server.

| Icon | Description |
|---|---|
| | Apex One |
| | Apex One Domain |

| Icon | Description |
|---|---|
| | Apex One (Mac)<br><br>**Note**<br>The Apex One (Mac) product icon only displays on the **Directory Management** screen. |

## Connection Status Icons

The Product Directory uses the following icons to indicate the status of communication between the Apex Central server and registered managed products.

| Icon | MCP Agent Status | Product Service Status |
|---|---|---|
| | Running | Running |
| | Running | Not running |
| | Communication timed out<br><br>**Note**<br>The Apex Central server was unable to establish communication with the MCP agent on the managed product server within the heartbeat interval configured on the **Communication Time-out Settings** screen. | Unknown |

| Icon | MCP Agent Status | Product Service Status |
|---|---|---|
| | Not running<br><br>**Note**<br>The Apex Central server was unable to establish communication with the MCP agent on the managed product server after multiple unsuccessful attempts according to the criteria configured on the **Communication Time-out Settings** screen. | Not running |

## Viewing Managed Product Status Summaries

Apex Central allows you to use the **Product Directory** screen to view status summaries for managed products and folders.

**Tip**

You can also view managed product status summaries by using the **Threat Detection Results** widgets on the **Dashboard**.

### Procedure

1. Go to **Directories** > **Products**.

   The **Product Directory** screen appears.

2. Select the following items in the Product Directory tree to display status summaries in the working area.

| Item | Description |
|---|---|
| Managed product | Select to view System Information and Product License Information |
| Managed product folder | Select to view Antivirus, Spyware/Grayware, Content Security, Web Security, Network Virus, Violation Status, and Component Status summaries |
| Managed product server | Select a managed product server in the Product Directory tree and click **Folder** > **Product View** to display all domains on the managed product server |
| Domain in the Product Directory tree | Select to display all clients that belong to this domain on the managed product server |

**Note**

By default, Apex Central displays a seven days of information ending with the day of your query.

You can change the summary period by selecting **Today**, **Last 7 days**, **Last 14 days**, or **Last 30 days** from the **Period** drop-down list.

## Performing an Advanced Search of the Product Directory

Apex Central allows you to search the Product Directory for managed product entity names, domains, and endpoints using partial string matching. You can also perform advanced searches on folder objects to locate specific objects using Boolean operators.

**Note**

After performing a search, any matches appear in a new folder under the **Search Result** node of the Product Directory tree.

**Procedure**

1. Go to **Directories** > **Products**.

   The **Product Directory** screen appears.

2. Select a folder in the Product Directory tree to search.

   **Important**

   The advanced search feature only searches within the selected folder and all subfolders. You cannot perform a search within the **Search Result** folder.

3. Click **Advanced Search**.

   The **Advanced Search** screen appears.

4. In the **Match** drop-down, select from the following:

   - **All of the criteria**
   - **Any of the criteria**

5. Specify your filtering criteria.

   **Note**

   - The available criteria, operators, and values change depending on the products registered to Apex Central and the previous filtering selections.
   - Apex Central supports up to 20 filtering criteria for searches.

6. To add or remove search conditions, click the buttons to the right of the search criteria.

7. Click **Search**.

   Managed products that match the search criteria appear in the **Search Result** folder in the Product Directory tree.

# Executing Managed Product Tasks

Use the **Tasks** drop-down menu to issue tasks to a specific managed product or a group of managed products.

The types of commands that display change depending on the managed products selected. Some common tasks include:

- Deploying components
- Sending scan commands
- Synchronizing agents

---

**Procedure**

1. Go to **Directories** > **Products**.

   The **Product Directory** screen appears.

2. Select a managed product or folder from the Product Directory tree.

   **Note**

   If you select a folder, Apex Central attempts to send the selected command to all applicable managed products contained within the selected folder.

3. From the **Tasks** drop-down menu, select a task to perform.
4. To send the command to managed products, do the following:
   - For deployment commands: Click **Deploy now**.
   - For scan commands:
     a. Select a scan command.
     b. Select the managed products.
     c. Click **Send Request**.

5. Click **Command Details** to monitor the task progress or click **OK** to proceed with other tasks.

## Configuring Managed Product Settings

Apex Central allows you to configure a managed product by signing in to the managed product's web console or by replicating configuration settings to target machines through the Apex Central web console.

**Note**

For additional information about configuring managed products, refer to the managed product's documentation.

### Procedure

1. Go to **Directories** > **Products**.

   The **Product Directory** screen appears.

2. Select a managed product from the Product Directory tree.

3. From the **Configure** drop-down, select one of the following:

   **Note**

   Options on the **Configure** drop-down menu change depending on the managed product selected.

   - **Configuration Replication**: Replicates configuration settings from the selected managed product to target machines
   - **Replicate configuration to entire folder**: Replicates configuration settings to all other managed products in the same folder as the selected managed product
   - **<Managed Product> Single Sign On**: Logs you on to the managed product web console using your Apex Central credentials

- **Configure <Managed Product>**: Logs you on to the managed product's web console
  - If prompted, type your user name and password to sign in to the managed product's web console.
  - If prompted, click **Yes** to proceed to the managed product's web console.

## Querying Logs from the Product Directory

Apex Central allows you to perform a log query from the **Product Directory** screen by selecting a managed product or folder from the Product Directory tree as the source of information.

**Note**

When querying logs from the Product Directory, Apex Central preselects the product scope based on the managed product server or folder you select on the **Product Directory** screen.

For more information about performing log queries from the **Log Query** screen, see *Querying Logs on page 17-2*.

**Procedure**

1. Go to **Directories** > **Products**.

   The **Product Directory** screen appears.

2. Select a managed product or folder from the Product Directory tree.

   **Note**

   The selected managed product or folder determines the product scope of the log query.

3. Click the **Logs** button.

   The **Log Query** screen appears.

4. Select a log type and click **OK**.

5. Select a time period or specify a custom range of dates.

6. To specify custom filtering criteria:

   a. Click **Show advanced filters**.

   b. Select **All of the criteria** or **Any of the criteria** as the criteria matching rule.

   c. Select a filtering option from the **Select criteria...** drop-down.

   d. Select an operator and specify the criteria.

   **Note**

   Apex Central supports up to 20 custom filtering criteria for each log query.

7. Click **Search**.

## Directory Management

The **Directory Management** screen allows you to customize the Product Directory structure to suit your administrative needs. To access the **Directory Management** screen, click the **Directory Management** button on the **Product Directories** screen (**Directories** > **Products**).

Group managed products according to geographical, administrative, or product-specific purposes. In combination with different access rights used to access managed products or folders in the directory, the following table presents the recommended grouping types as well as their advantages and disadvantages.

**TABLE 11-1. Product Grouping Comparison**

| GROUPING TYPE | ADVANTAGES | DISADVANTAGES |
|---|---|---|
| Geographical or Administrative | Clear structure | No group configuration for identical products |

| Grouping Type | Advantages | Disadvantages |
|---|---|---|
| Product type | Group configuration and status is available | Access rights may not match |
| Combination of both | Group configuration and access right management | Complex structure, may not be easy to manage |

Plan this structure carefully, because the structure also affects the following:

**Table 11-2. Considerations for the Structure**

| Consideration | Effect |
|---|---|
| User access | When creating user accounts, Apex Central prompts for the segment of the Product Directory that the user can access. For example, granting access to the root segment grants access to the entire directory. Granting access to a specific managed product only grants access to that specific product. |
| Deployment planning | Apex Central deploys update components (for example, virus pattern files, scan engines, anti-spam rules, program updates) to products based on Deployment Plans. These plans deploy to Product Directory folders, rather than individual products. A well-structured directory therefore simplifies the designation of recipients. |

For more information, see *Managing the Product Directory on page 11-14*.

**Important**

User accounts have specific access permissions assigned based on Product Directory folders.

- Changing the Product Directory structure may affect how Apex Central users can access the managed products.
- You can select the **Keep the current user access permissions when moving managed products/folders** check box to prevent changing the user access scope when changing the Product Directory structure.

For more information, see *User Accounts on page 4-2*.

## Managing the Product Directory

Use the **Directory Management** screen to organize your Product Directory structure.

For more information, see *Directory Management on page 11-12*.

**Important**

- Apex Central prevents multiple users from unknowingly making changes at the same time through use of a function-locking mechanism. Apex Central informs you if another user is already using the **Directory Management** screen. If you still want to make changes to the Product Directory and possibly affect the other user's changes, click **Break** to immediately access the screen.
- Changing the Product Directory structure may affect how Apex Central users can access the managed products. User accounts have specific access permissions assigned based on Product Directory folders.

  For more information, see *User Accounts on page 4-2*.

**Procedure**

1. Go to **Directories** > **Products**.

   The **Product Directory** screen appears.

2. Click the **Directory Management** button.

   The **Directory Management** screen appears.

3. Enable the **Keep the current user access permissions when moving managed products/folders** check box if you want to maintain the current user access permissions for all managed products.

   **Note**

   If you disable this option and move a managed product to a new location, the managed product inherits the permissions of the new folder location.

4. To organize the Product Directory, you can perform the following tasks:
   - **Add Folder**: Creates a new custom folder in the **Local Folder** node
   - **Rename**: Renames an existing custom folder
   - **Delete**: Deletes an existing custom folder

     **WARNING!**

     Deleting a custom folder that contains a managed product deletes the managed product server data from the Apex Central database but does not unregister the managed product server from Apex Central.

     For more information about unregistering a managed server, see *Deleting a Managed Server on page 9-6*.

   - Move managed products or folders: Drag and drop a managed product or folder to a new location

   **Important**

   You cannot rename, delete, or add new products or folders to the **Apex Central as a Service** or **New Entity** folders.

5. Click **Back** to apply changes and return to the **Product Directory** screen.

# Chapter 12

## Component Updates

This section discusses how to configure component updates in Apex Central as a Service.

Topics include:


- *Component Updates on page 12-2*
- *Configuring Scheduled Update Settings on page 12-4*
- *Configuring Manual Update Settings on page 12-7*

# Component Updates

The Apex Central server hosts component files that the managed products use to keep your network protected from the latest security threats.

Keep the components up-to-date by running manual or scheduled updates. Apex Central allows you to perform the following tasks:

- Download the latest component versions from an update source
- Deploy updated components to managed products

## Component List

You can view the list of available components on the Apex Central server on the **Scheduled Update** and **Manual Update** screens.

The following table describes the component information that displays on the **Scheduled Update** and **Manual Update** screens.

| Field | Description |
|---|---|
| Category | Displays the name of a component category<br>Click ▸ to display the list of components in a category. |
| Type | Displays the component type |
| Current Version | Displays the last version of the component successfully downloaded by Apex Central |
| Last Download | Displays the time Apex Central downloaded the **Current Version** of the component |
| Associated Products | Displays the name of the managed product or the number of managed products using the component<br>If more than one managed products use the component, move the mouse cursor over the text to display the list of associated managed products. |

## Update Source

Configure the Apex Central server to download components from the Trend Micro ActiveUpdate server or other update sources. You can specify other update sources if the Apex Central server is unable to connect to the Trend Micro ActiveUpdate server directly or if you host an update server in your network.

By default, Apex Central uses a more secure HTTPS connection method to download components from the Trend Micro ActiveUpdate server.

To access other update sources, Apex Central supports Remote UNC authentication, which uses a user account from the update source server to share a folder for Apex Central to download updates.

## Deployment Plan

A deployment plan allows you to specify the scope and schedule in which the Apex Central server deploys updated components to managed products.

After the Apex Central server downloads a new component version from an update source, you can configure Apex Central to deploy updated components to managed products immediately, at a specified time, or after a delay period.

You can configure Apex Central to deploy updated components to selected managed products based on different deployment schedules.

When creating a deployment schedule, consider the following:

- You can only select one folder or managed product for each deployment schedule. However, you can specify more than one schedule for the deployment plan.
- Apex Central bases the deployment plan delays on the completion time of the download, and these delays are independent of each other.

  For example, if you have three folders to update at 5-minute intervals, you can assign the first folder a delay of 5 minutes, and then set delays of 10 and 15 minutes for the two remaining folders, respectively.

**Note**

If you do not specify a deployment schedule in the deployment plan, Apex Central downloads the updates but does not deploy updated components to managed products.

### Adding a Deployment Schedule

You can configure a deployment schedule to deploy updated components to selected managed products based on the schedule you specify.

**Procedure**

1. Access the **Scheduled Update** or **Manual Update** screen.
2. In the **Deployment Plan** section, select **Define different deployment plans for managed products**.
3. Click **+ Add**.

   The **Add Schedule** screen appears.
4. Configure the deployment schedule.
5. From the **Managed Products/Folder** tree, select a managed product or product folder.
6. Click **OK** to save the settings.

   After creating a deployment plan, you can perform the following tasks:

   - Click a schedule to edit the deployment schedule settings.
   - Click **Delete** to remove a selected deployment schedule.

## Configuring Scheduled Update Settings

Configure scheduled component update settings to allow the Apex Central server to download selected components from an update source based on the specified schedule.

You can also configure Apex Central to deploy updated components to managed products based on the deployment plan.

**Procedure**

1. Go to **Administration** > **Updates** > **Scheduled Update**.
2. Use the drop-down lists to filter the component list. You can filter the component list based on the following:
   - **Products**: Select one or more managed products from the drop-down and click **Apply**
   - **Categories**: Select one or more component categories from the drop-down and click **Apply**
   - **Types**: Select one or more component types from the drop-down and click **Apply**
3. In the **Components** section, select the component categories or expand the categories to select components to update.

   For more information, see *Component List on page 12-2*.

   **Important**

   If you select the **Enable intelligent component downloading** check box, Apex Central automatically selects all components based on the selected component categories. You cannot select individual components to update. To select individual components, clear the check box.

4. (Optional) Select **Enable intelligent component downloading** to allow Apex Central to automatically detect and download new components based on the selected component categories from an update source.

   When you select this option, Apex Central also downloads updates for all existing components in the selected categories.

**Note**

If the intelligent component downloading feature is not enabled, Apex Central only downloads updates for existing components selected in the component list during a scheduled or manual update.

5. In the **Update Source** section, select one of the following options and configure the required settings:

   - **Trend Micro ActiveUpdate server**: Select this option to download component updates from the official Trend Micro ActiveUpdate server.
   - **Other update source**: Type the URL of the update source in the text field. You can specify up to five update sources by clicking the + icon.

     If server authentication is required, click **Specify authentication credentials** and type the user name and password information.

     For more information, see *Update Source on page 12-3*.

6. In the **Download Schedule** section, select **Enable scheduled downloads** and specify the component download schedule.

7. In the **Deployment Plan** section, select a deployment option and configure the required settings.

| Option | Description |
|---|---|
| Deploy to all selected managed products | Select this option to deploy updated components to the selected managed products based on one of the following schedules:<br>• **Immediately**: Apex Central deploys the updated components to the managed products as soon as Apex Central finishes downloading new component versions.<br>• **Start at**: Apex Central deploys updated components to managed products at the specified time.<br>• **Delay**: Apex Central deploys updated components to managed products after waiting for the specified time. |

| Option | Description |
|---|---|
| Define different deployment plans for managed products | Select this option to configure deployment schedules for specified managed products.<br><br>Do one of the following:<br><br>• Click **+ Add** to add a new deployment schedule.<br><br>For more information, see *Adding a Deployment Schedule on page 12-4*.<br><br>• Click a schedule to edit the deployment schedule settings.<br><br>• Click **Delete** to remove a selected deployment schedule.<br><br>**Note**<br><br>If you do not specify a deployment schedule, Apex Central downloads the component updates but does not deploy updated components to managed products. |
| Do not deploy | Select this option if you do not want Apex Central to automatically deploy updated components to managed products.<br><br>You can manually deploy updated component to managed products on the **Products** screen.<br><br>For more information, see *Executing Managed Product Tasks on page 11-9*. |

8. Click **Save**.

## Configuring Manual Update Settings

You can start a Manual Update on the Apex Central server to download selected components from an update source.

You can also configure Apex Central to deploy updated components to managed products based on the deployment plan.

### Procedure

1. Go to **Administration** > **Updates** > **Manual Update**.
2. Use the drop-down lists to filter the component list. You can filter the component list based on the following:
   - **Products**: Select one or more managed products from the drop-down and click **Apply**
   - **Categories**: Select one or more component categories from the drop-down and click **Apply**
   - **Types**: Select one or more component types from the drop-down and click **Apply**
3. In the **Components** section, select the component categories or expand the categories to select components to update.

   For more information, see *Component List on page 12-2*.

   **Important**

   If you select the **Enable intelligent component downloading** check box, Apex Central automatically selects all components based on the selected component categories. You cannot select individual components to update. To select individual components, clear the check box.

4. (Optional) Select **Enable intelligent component downloading** to allow Apex Central to automatically detect and download new components based on the selected component categories from an update source.

   When you select this option, Apex Central also downloads updates for all existing components in the selected categories.

   **Note**

   If the intelligent component downloading feature is not enabled, Apex Central only downloads updates for existing components selected in the component list during a scheduled or manual update.

5. In the **Update Source** section, select one of the following options and configure the required settings:

   - **Trend Micro ActiveUpdate server**: Select this option to download component updates from the official Trend Micro ActiveUpdate server.
   - **Other update source**: Type the URL of the update source in the text field. You can specify up to five update sources by clicking the + icon.

     If server authentication is required, click **Specify authentication credentials** and type the user name and password information.

     For more information, see *Update Source on page 12-3*.

6. In the **Deployment Plan** section, select a deployment option and configure the required settings.

| Option | Description |
|---|---|
| Deploy to all selected managed products | Select this option to deploy updated components to the selected managed products based on one of the following schedules:<br>• **Immediately**: Apex Central deploys the updated components to the managed products as soon as Apex Central finishes downloading new component versions.<br>• **Start at**: Apex Central deploys updated components to managed products at the specified time.<br>• **Delay**: Apex Central deploys updated components to managed products after waiting for the specified time. |

| Option | Description |
|---|---|
| Define different deployment plans for managed products | Select this option to configure deployment schedules for specified managed products.<br><br>Do one of the following:<br><br>• Click **+ Add** to add a new deployment schedule.<br><br>For more information, see *Adding a Deployment Schedule on page 12-4*.<br><br>• Click a schedule to edit the deployment schedule settings.<br><br>• Click **Delete** to remove a selected deployment schedule.<br><br>**Note**<br><br>If you do not specify a deployment schedule, Apex Central downloads the component updates but does not deploy updated components to managed products. |
| Do not deploy | Select this option if you do not want Apex Central to automatically deploy updated components to managed products.<br><br>You can manually deploy updated component to managed products on the **Products** screen.<br><br>For more information, see *Executing Managed Product Tasks on page 11-9*. |

7. Click **Download Now**.

   The download progress displays at the top of the **Manual Update** screen.

8. To cancel a download in progress:

   - Click the **Stop Current Update** button in the progress bar.
   - Click the **Download Now** button to cancel the download in progress and start a new download.

# Chapter 13

## Command Tracking and Product Communication

This section discusses how to track commands issued from the Apex Central server.

Topics include:


- *Command Tracking on page 13-2*
- *Querying and Viewing Commands on page 13-3*
- *Configuring Communication Time-out Settings on page 13-4*

# Command Tracking

The **Command Tracking** screen provides a list of all previously issued commands sent from the Apex Central server. You can use this screen to monitor the status of the commands you issued to managed products from the Apex Central console. For example, after issuing a Start Scan Now task, which can take several minutes to complete, you can proceed with other tasks and then refer to the **Command Tracking** screen to query and view the status of the issued command.

For more information about querying and viewing commands, see *Querying and Viewing Commands on page 13-3*.

The following table describes the command information that displays on the **Command Tracking** screen.

| Column Name | Description |
|---|---|
| Issued | The date and time when the Apex Central server issued the command to the managed product |
| Command | The type of command issued by the Apex Central server |
| User | The name of the user who triggered the command |
| Successful | The number of managed products that completed the command<br><br>Click the count in the **Successful** column to view more detailed information about the command.<br><br>For more information, see *Command Details on page 13-4*. |
| Unsuccessful | The number of managed products unable to perform the command<br><br>Click the count in the **Unsuccessful** column to view more detailed information about the command.<br><br>For more information, see *Command Details on page 13-4*. |

| Column Name | Description |
|---|---|
| In Progress | The number of managed products that are currently performing the command<br><br>Click the count in the **In Progress** column to view more detailed information about the command.<br><br>For more information, see *Command Details on page 13-4*. |
| All | The total number of managed products to which Apex Central issued the command<br><br>Click the count in the **All** column to view more detailed information about the command.<br><br>For more information, see *Command Details on page 13-4*. |

## Querying and Viewing Commands

Use the **Command Tracking** screen to track and view previously issued commands.

### Procedure

1. Go to **Administration** > **Command Tracking**.

   The **Command Tracking** screen appears.

2. To filter the command list, specify the following:

   - **Issued**: Specify when the managed product sent the command
   - **Command**: Select the command to monitor
   - **User**: Provide the account name used to send the command.

     **Tip**
     Leave this field blank to query commands issued by all users.

   - **Status**: Select one or more command statuses and click **Apply**.

3. Click the count in the **Successful**, **Unsuccessful**, **In Progress**, or **All** column to view detailed command information.

The **Command Details** screen appears.

For more information, see *Command Details on page 13-4*.

## Command Details

The **Command Details** screen displays the following information about an issued command.

| Column Name | Description |
|---|---|
| Last Reported | The date and time when the managed product last sent a response to the Apex Central server |
| Server/Entity | The host name of the managed product server |
| Status | The status of the issued command |
| Description | Additional details about the command status |

**Note**

The **Command Details** screen refreshes every 30 seconds.

# Configuring Communication Time-out Settings

The **Managed Product Heartbeat Interval** settings determine how frequently the agent sends a heartbeat to the Apex Central server.

- The **Managed Product Heartbeat Interval** settings only apply to managed products that register to the Apex Central server using the Apex Central management console.
- Long heartbeat intervals consume less bandwidth but allow more network events to occur before Apex Central updates the communication status.
- Short intervals between heartbeats consume more bandwidth but present a more up-to-date picture of your network status.

The **Command Time-out Settings** determines how long Apex Central attempts to send a command to a managed server.

**Procedure**

1. Go to **Administration** > **Managed Servers** > **Communication Time-out Settings**.

   The **Communication Time-out Settings** screen appears.

2. In the **Managed Product Heartbeat Interval** section, configure the following settings:

   - **Report managed product status every**: Defines the agent communication heartbeat interval

     Valid values are between 5 and 480 minutes.

   - **If no communication, set status as abnormal after**: Defines the agent communication time-out interval

     Valid values are between 15 and 1440 minutes.

   **Important**

   The **If no communication, set status as abnormal after** value must be at least triple the **Report managed product status every** value.

3. In the **Command Time-out Settings** section, select one of the following:

   - **24** hours
   - **48** hours
   - **72** hours

4. Click **Save**.

# Chapter 14

## Automated Troubleshooting

This section discusses how to enable automated troubleshooting responses from Trend Micro engineers to secure and enhance the efficiency of your Apex Central as a Service web consoles and Security Agents.

Topics include:


- *Automated Troubleshooting of Apex One as a Service on page 14-2*
- *Configuring Troubleshooting Settings on page 14-3*

# Automated Troubleshooting of Apex One as a Service

Trend Micro constantly monitors your Apex Central as a Service servers and Security Agents for irregularities. Trend Micro engineers can take proactive actions to compensate for issues related to server resources, such as hard disk space and memory allocation. However, incorrect server settings or an unsuccessful hotfix deployment may cause service disruptions or unnecessarily high network consumption.

If you grant the necessary permissions, Trend Micro engineers can take proactive, preventative measures to ensure the continuity of your business operations without interrupting you with numerous email messages and notifications. With your permission, Trend Micro engineers can take the following actions to remotely troubleshoot and, in some cases, fix issues in your Apex Central as a Service environment.

| Target | Possible Remediation Actions |
|---|---|
| Servers | • Assess server settings and perform debug log collection |

| Target | Possible Remediation Actions |
|---|---|
| Security Agents | **Allow Trend Micro Support to enable debug logging and collect the following data for troubleshooting purposes**<br>For Windows endpoints:<br>• Enable and collect debug logs from the Security Agent program<br>• Collect Windows Event Logs and Performance Counter data<br>For Mac endpoints:<br>• Enable and collect debug logs from the Security Agent program<br>• System information, kernel dump, crash information, System Profiler data, and Security Agent configuration files (.plist)<br>**Allow Trend Micro Support to take proactive, remote troubleshooting actions on the Security Agent program**<br>• Deploy hotfixes to replace Security Agent files<br>• Modify Security Agent settings including:<br>  • Configuration file settings (INI or PLIST files)<br>  • Registry keys<br>  • `HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\TrendMicro`<br>  • `HKEY_LOCAL_MACHINE\SOFTWARE\TrendMicro`<br>• Reload the Security Agent program:<br>  • Stop and restart Security Agent services<br>  • Force stop Security Agent processes |

# Configuring Troubleshooting Settings

**Procedure**

1. Go to **Administration** > **Settings** > **Troubleshooting Settings**.

   The **Troubleshooting Settings** screen appears.

2. In the **Security Agents** section, enable the required settings.

| Setting | Possible Remediation Actions |
|---|---|
| **Allow Trend Micro Support to enable debug logging and collect the following data for troubleshooting purposes** | For Windows endpoints:<br>• Enable and collect debug logs from the Security Agent program<br>• Collect Windows Event Logs and Performance Counter data<br>For Mac endpoints:<br>• Enable and collect debug logs from the Security Agent program<br>• System information, kernel dump, crash information, System Profiler data, and Security Agent configuration files (.plist) |
| **Allow Trend Micro Support to take proactive, remote troubleshooting actions on the Security Agent program** | **Note**<br>You must enable **Allow Trend Micro Support to enable debug logging and collect the following data for troubleshooting purposes** if you want to allow Trend Micro Support to take remote actions.<br>• Deploy hotfixes to replace Security Agent files<br>• Modify Security Agent settings including:<br>  • Configuration file settings (INI or PLIST files)<br>  • Registry keys<br>  • `HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\TrendMicro`<br>  • `HKEY_LOCAL_MACHINE\SOFTWARE\TrendMicro`<br>• Reload the Security Agent program:<br>  • Stop and restart Security Agent services<br>  • Force stop Security Agent processes |

3. In the **Server** section, enable **Allow Trend Micro Support to access the Apex One as a Service server console for assessment and troubleshooting** to permit engineers to assess server settings that may adversely affect system performance and to perform debug log collection.

4. Click **Save**.

# Part IV

## Policies

# Chapter 15

## Policy Management

This section contains information about how to perform policy management on managed products and endpoints.

---

**Important**

Each managed product provides different policy settings that you can configure and deploy to policy targets. You can find a complete list of supported managed products and the policy settings for each in the *Apex Central as a Service Widget and Policy Management Guide*.

You can download a PDF version of the guide, or view the guide online, using the following link:

https://docs.trendmicro.com/en-us/enterprise/apex-one-as-a-service.aspx

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Topics include:


- *Policy Management on page 15-2*
- *Policy Status on page 15-24*

# Policy Management

Policy management allows administrators to enforce product settings on managed products and endpoints from a single management console. Administrators create a policy by selecting the targets and configuring a list of product settings.

To perform policy management on a new managed product or endpoint, move the managed product from the **New Entity** folder to another folder in the Product Directory structure.

## Creating a New Policy

**Important**

Each managed product provides different policy settings that you can configure and deploy to policy targets. You can find a complete list of supported managed products and the policy settings for each in the *Apex Central as a Service Widget and Policy Management Guide*.

You can download a PDF version of the guide, or view the guide online, using the following link:

https://docs.trendmicro.com/en-us/enterprise/apex-one-as-a-service.aspx

**Procedure**

1. Go to **Policies** > **Policy Management**.

   The **Policy Management** screen appears.

2. Select the type of product settings from the **Product** list.

   The screen refreshes to display policies created for the selected managed product.

   For more information about configuring policy settings for specific managed products, see the *Apex Central Widget and Policy Management Guide*.

3. Click **Create**.

   The **Create Policy** screen appears.

4. Type a policy name.
5. Specify targets.

   Apex Central provides several target selection methods that affect how a policy works.

   **Note**

   To include a managed product or endpoint as a target, make sure the product version of the managed product or endpoint supports policy management in Apex Central. The **Policy Template Settings** screen (**Policies** > **Policy Resources** > **Policy Template Settings**) contains information about supported product versions.

   The policy list arranges the policy targets in the following order:

   - **Specify Targets**: Use this option to select specific endpoints or managed products.
   - **Filter by Criteria**: Use this option to allocate endpoints automatically based on the filtering criteria.
   - **None (Draft only)**: Use this option to save the policy as a draft without choosing any targets.

6. Click a managed product feature to expand it and configure its settings. Repeat this step to configure all features.

   - Each feature has a link to a Help topic that discusses the feature and how to use it.
   - For certain product settings, Apex Central needs to obtain specific setting options from the managed products. If administrators select multiple targets for a policy, Apex Central can only obtain the setting options from the first selected target. To ensure a successful

policy deployment, make sure the product settings are synchronized across the targets.

- If you are creating a policy for **Apex One Security Agent** that you want to act as a parent to a future child policy, configure settings that can be inherited, customized, or extended on the child policy.
  - For a list of Apex One agent settings that can be inherited, customized, or extended, see *Working with Parent Policy Settings on page 15-10*.
  - For details on creating a child policy, see *Inheriting Policy Settings on page 15-14*.

7. Click **Deploy** or **Save**.

   If you clicked **Deploy**, Apex Central starts the deployment. The deployed policy appears in the list on the **Policy Management** screen. It usually takes a few minutes for Apex Central to deploy the policy to the targets.

   Click **Refresh** on the **Policy Management** screen to update the status information in the policy list. If the status of the deployment remains pending after an extended period of time, there might be issues with the targets. Check if there is a connection between Apex Central and the targets. Also check if the targets are working properly.

   Once Apex Central deploys a policy to the targets, the settings defined in the policy overwrite the existing settings in the targets. Apex Central enforces the policy settings in the targets every 24 hours. Although local administrators can make changes to the settings from the managed product console, the changes are overwritten every time Apex Central enforces the policy settings.

   - Apex Central enforces the policy settings on the targets every 24 hours. Since policy enforcement only occurs every 24 hours, the product settings in the targets may not align with the policy settings if local administrators make changes through the managed product console between the enforcement period.
   - Policy settings deployed to IMSVA servers take priority over the existing settings on the target servers instead of overwriting them. IMSVA servers save these policy settings on the top of the list.

- If an Apex One Security Agent assigned with a Apex Central policy has been moved to another Apex One domain, the agent settings will temporarily change to the ones defined by that Apex One domain. Once Apex Central enforces the policy again, the agent settings will comply with the policy settings.

## Filtering by Criteria

Use this option to allocate endpoints automatically based on the filtering criteria.

This option:

- Is only available on the following managed products:
  - Apex One Security Agent
  - Apex One Data Loss Prevention
  - Apex One (Mac)
- Uses a filter to automatically assign current and future targets to the policy
- Is useful for deploying standard settings to a group of targets

Administrators can change the priority of filtered policies in the policy list. When an administrator reorders the policy list, Apex Central re-assigns the targets to different filtered policies based on the target criteria and the user roles of each policy creator.

Apex Central can only assign endpoints without policies to a new filtered policy. To re-allocate an endpoint already assigned to a filtered policy, move another filtered policy with the matching criteria up the priority list.

See *Assigning Endpoints to Filtered Policies on page 15-7* for more information on how Apex Central assign targets to filtered policies.

**Procedure**

1. On the **Create Policy** screen, go to the **Targets** section, select **Filter by Criteria**, and then click **Set Filter**.

The **Filter by Criteria** screen appears.

2. Select the following options and define the criteria.

| Criteria | Description |
|---|---|
| Match keywords in | Define keywords based on the host name or Apex Central display name.<br><br>**Note**<br>Apex Central performs partial matching for single keyword searches. You can search multiple, comma-separated keywords, however,Apex Central only provides full string matches for each keyword provided. |
| IP addresses | Define a range of IP addresses and click **Add**.<br><br>**Note**<br>• Policy management only supports IPv4 addresses.<br>• When a new managed product or endpoint registers to Apex Central, it takes about an hour for the managed product or endpoint to become available for searching by IP address. |
| Operating systems | Select one or more operation systems from the drop-down list. |
| Directories | Select one of the following directories and define the criteria.<br>• **Product Directory**: Select folders from the Product Directory structure<br>• **Active Directory**: Select organizational units from an integrated Active Directory structure<br>• **Apex One domain hierarchy**: Type at least one Apex One domain hierarchy keyword |

3. Click **Save**.

The **Create Policy** screen reloads.

### Assigning Endpoints to Filtered Policies

When a new endpoint registers to Apex Central, it goes through the filtered policies in the list in descending order. Apex Central assigns the new endpoint to a filtered policy when the following conditions are both satisfied:

- The new endpoint matches the target criteria in the policy
- The policy creator has the permission to manage the new endpoint

The same action applies to an endpoint already assigned to a policy, but the policy creator later deletes the policy.

**Note**

For endpoints just registered to Apex Central and for those just released from deleted policies, there is a three-minute grace period during which no endpoint allocation occurs. These endpoints are temporarily without policies during this period.

If an endpoint does not meet the target criteria in any filtered policies, the endpoint does not associate with any policies. Apex Central allocates these endpoints again when the following actions occur:

- Create a new filtered policy
- Edit a filtered policy
- Reorder the filtered policies
- Daily endpoint allocation schedule

  Apex Central uses a daily endpoint allocation schedule to ensure that endpoints are assigned to the correct policies. This action occurs once at 3:15 pm every day. When endpoint properties change, such as the operating system or IP address, these endpoints require the daily schedule to re-assign them to the correct policies.

**Note**

- If the endpoints are offline during the daily endpoint allocation schedule, the policy status for these endpoints will remain pending until they go online.
- If the Apex One domain of the endpoint is changed, Apex Central deploys the updated the policy after 10 minutes.

When the above actions occur, Apex Central allocate endpoints based on the following conditions:

**TABLE 15-1. Endpoint Allocation for Filtered Policies**

| | New endpoints or endpoints from deleted policies | Endpoints without policies | Endpoints with policies |
|---|---|---|---|
| Create a new policy | | ● | |
| Edit a policy | ● | ● | ● |
| Reorder the filtered policies | ● | ● | ● |
| Daily endpoint allocation schedule | ● | ● | ● |

## Specifying Policy Targets

Use this option to select specific endpoints or managed products.

This option:

- Uses the search or browse function to locate specific targets and manually assigns them to the policy
- Is useful when administrators plan to deploy specific settings only to a certain targets
- Remains static on the top of the policy list and takes priority over any filtered policies

**Procedure**

1. On the **Create Policy** screen, go to the **Targets** section, select **Specify Target(s)**, and then click **Select**.

   The **Specify Targets** screen appears.

2. Use **Search** or **Browse** to locate the targets.

   - **Search**: Use the following search criteria to find endpoints or managed products. The search results display the endpoints or managed products matching all of the selected criteria.

     - **Match keywords in**: Define keywords based on the host name or Apex Central display name.

     - **IP addresses**: Define a range of IP addresses and click **Add**.

       **Note**

       - Policy management only supports IPv4 addresses.

       - When a new managed product or endpoint registers to Apex Central, it takes about an hour for the managed product or endpoint to become available for search by IP address.

     - **Operating systems**: Select one or more operating systems from the drop-down.

   - **Browse**: Browse the Product Directory or Active Directory to locate endpoints or managed products to assign to the policy.

     **Note**

     To set up the Active Directory, see *Active Directory Integration on page 6-2*.

3. Select the endpoints or managed products and then click **Add Selected Targets**.

4. Wait for the numbers in **View Action List** and **View Results** to change.
5. Click **OK**.

   The **Create Policy** screen reloads.

## Working with Parent Policy Settings

Apex Central administrators who create a parent policy for an **Apex One Agent** can configure certain policy settings to be inherited, customized, or extended.

**Note**

These options are not available on other managed products.

- **Inherit from parent**
  - A child policy administrator cannot change the setting at all. An Apex One administrator can manually change the setting from the Apex One server console. However, the setting will be overwritten when Apex Central deploys policies to the Apex One server.

    For example, a Apex Central administrator can create a parent policy that enforces the exclusion of PDF files from a Manual Scan.
  - Changes to the setting on the parent policy are always enforced on the child policy.
  - If the permission on the parent policy changes from "Inherit from parent" to "Are customizable" or "Extend from parent", the child policy administrator can customize or extend the current setting. Changes to the setting on the parent policy are no longer enforced.
- **Are customizable**
  - A child policy can deviate from the setting configured in the parent policy.

    For example, if Scheduled Scan on the parent policy runs weekly but is customizable, the child policy administrator can change the schedule to daily.

- Changes to the setting on the parent policy are never enforced on the child policy.
- If the permission on the parent policy changes from "Are customizable" to "Inherit from parent", the current setting on the parent policy overwrites the setting on the child policy. Changes to the setting on the parent policy are always enforced.

- **Extend from parent**
  - A child policy administrator can add to the items configured in the parent policy.

    For example, if the parent policy excludes 20 file names from being scanned during a Manual Scan, the administrator can add 10 more safe and trustworthy files to the child policy.
  - Items added or removed from the parent policy are also added or removed from the child policy. A removed item can be added back to the child.
  - If the permission on the parent policy changes from "Extend from parent" to "Inherit from parent", items in the child policy that have no match in the parent are removed. Changes to the items on the parent policy are always enforced.

The following table lists the parent policy settings that can be inherited, customized, or extended.

| Setting and Path | Available Options | | |
|---|---|---|---|
| | Inherit From Parent | Are Customizable | Extend From Parent |
| Scan schedule<br>**Scheduled Scan Settings** > **Target** tab > **Schedule** section | ● | ● | |

| Setting and Path | Available Options | | |
|---|---|---|---|
| | Inherit From Parent | Are Customizable | Extend From Parent |
| File extensions to scan<br><br>**Manual Scan / Real-time Scan / Scan Now / Scheduled Scan Settings** > **Target** tab > **Files to Scan** section > **Files with the following extensions** option | ● | | ● |
| Scan exclusion lists (directories, files, and file extensions to exclude from scans)<br><br>**Manual Scan / Real-time Scan / Scan Now / Scheduled Scan Settings** > **Scan Exclusion** tab | ● | | ●<br><br>**Note**<br>When selecting **Extend from parent** from a scan exclusion list, the list expands to show a **Child Policy Restrictions** section where the parent policy creators can specify items that child policies cannot exclude from scans. |

## Copying Policy Settings

Administrators can copy the settings from an existing policy, create a new policy with the same settings, and deploy the settings to different endpoints or managed products.

**Note**

It is not possible to copy the settings of a child **Apex One Agent** policy. To determine whether the **Apex One Agent** policy is a child or a parent, check the **Parent Policy** column. A clickable value displays if the policy is a child, and N/A if otherwise.

### Procedure

1. Go to **Policies** > **Policy Management**.

   The **Policy Management** screen appears.

2. Select the type of product settings from the Product list.

   The screen refreshes to display policies created for the selected managed product.

3. Select a policy from the list.

4. Click **Copy Settings**.

   The **Copy and Create Policy** screen appears.

5. In the **Policy Name** field, type a name for the policy.

6. Assign **Targets** to the policy.

7. (Optional) Change settings as necessary.

8. Click **Deploy**.

   **Note**

   - After clicking **Deploy**, please wait two minutes for Apex Central to deploy the policy to the targets. Click **Refresh** on the **Policy Management** screen to update the status information in the policy list.
   - Apex Central enforces the policy settings on the targets every 24 hours.

## Inheriting Policy Settings

Create a new child policy by inheriting the settings of an existing parent policy. A child policy cannot be copied and its settings cannot be inherited.

This task requires a parent policy for the Apex One agent. A parent policy for the Apex One agent has the value **N/A** displayed under the **Parent Policy** column.

**Procedure**

1. Go to **Policies** > **Policy Management**.

   The **Policy Management** screen appears.

2. Select **Apex One Agent** from the Product list.

   The screen refreshes to display policies created for the selected managed product.

3. Select a parent policy that does not have locally managed settings.

4. Click **Inherit Settings**.

   The **Inherit and Create Policy** screen appears.

5. In the **Policy Name** field, type a name for the policy.

6. Assign **Targets** to the policy.

7. (Optional) Review the settings that can be customized or extended and then make changes as necessary. For a list of settings to review, see *Working with Parent Policy Settings on page 15-10*.

   **Note**

   A setting cannot be customized or extended if the option selected on the parent policy is **Inherit from parent**.

   For example:

   - If the Scheduled Scan setting is customizable, you can change the schedule from weekly to daily.

- If the scan exclusion list for Real-time Scan can be extended, you can type additional file names that you deem safe and trustworthy. After the child policy is created, it will add those file names to the scan exclusion list.

8. Click **Deploy**.

**Note**

- After clicking **Deploy**, please wait two minutes for Apex Central to deploy the policy to the targets. Click **Refresh** on the **Policy Management** screen to update the status information in the policy list.
- Apex Central enforces the policy settings on the targets every 24 hours.

## Modifying a Policy

Administrators can modify policy targets and settings as necessary. The root account owner can modify every policy in the list, while other account owners can only modify the policies they created. After a policy is modified, Apex Central deploys the policy to the targets.

**Important**

Each managed product provides different policy settings that you can configure and deploy to policy targets. You can find a complete list of supported managed products and the policy settings for each in the *Apex Central as a Service Widget and Policy Management Guide*.

You can download a PDF version of the guide, or view the guide online, using the following link:

https://docs.trendmicro.com/en-us/enterprise/apex-one-as-a-service.aspx

For a parent policy for the Apex One agent, if you modified the targets and settings for specific features, the modifications will apply to all child policies

and deployed to the respective targets. Some settings on a parent policy support **permissions**, which control the changes allowed on child policies. Modifications to these parent policy permissions are also applied to child policies and deployed to targets. For a list of settings that support permissions, see *Working with Parent Policy Settings on page 15-10*.

For example:

- If you changed the scan schedule permission from "Inherit from parent" to "Are customizable", administrators can start to customize the existing schedule on their child policies.
- If you changed the Manual Scan file extensions permission from "Extend from parent" to "Inherit from parent", any file extensions that administrators added to child policies will be removed. In addition, administrators will no longer be able to add file extensions.

---

**Procedure**

1. Navigate to **Policies** > **Policy Management**.

   The **Policy Management** screen appears.

2. Select the type of product settings from the **Product** list.

   The screen refreshes to display policies created for the selected managed product.

3. Click a policy name in the **Policy** column.

   The **Edit Policy** screen appears.

4. Modify the policy.

   **Note**

   Modifying the filtering criteria in a filtered policy can affect target allocation. Apex Central may re-assign some targets to other filtered policies, or add additional targets to the current policy.

5. Click **Deploy**.

It may take some time for Apex Central to deploy the policy to the targets. Click **Refresh** on the **Policy Management** screen to update the status information in the policy list. If the status of the deployment remains pending after an extended period of time, there might be issues with the targets. Check if there is a connection between Apex Central and the targets. Also check if the targets are working properly.

Apex Central enforces the policy settings on the targets every 24 hours.

## Importing and Exporting Policies

Export policies for backup or to import to another Apex Central server of the same version.

**Note**

- Apex Central exports policy settings but not policy targets.
- A parent policy stays as a parent after the export or import.
- A child policy becomes a parent after the export. Consequently, it is a parent after the import.
- Apex Central cannot import a policy if its name is the same as an existing child policy. If the existing policy is not a child, Apex Central overwrites it after the import.
- For more information, see the following topics:
  - *Creating a New Policy on page 15-2*
  - *Inheriting Policy Settings on page 15-14*

**Procedure**

1. Go to **Policies** > **Policy Management**.

   The **Policy Management** screen appears.

2. Select the type of product settings from the **Product** list.

The screen refreshes to display policies created for the selected managed product.

3. To export, select one or several policies, click **Export Settings**, and then save the resulting policy file.
   - If you exported a single policy, the resulting file has the extension `*.cmpolicy`.
   - If you exported several policies, the resulting file is a compressed (`*.zip`) file containing the individual `.cmpolicy` files.
4. To import, click **Import Settings** and then locate and load the policy file.
   - You can import an entire `*.zip` file or import individual `*.cmpolicy` files one by one.
   - If the policy already exists in the policy list, a confirmation prompt appears, asking if you want to overwrite the existing policy.

     Click **OK** to proceed.

   The screen refreshes and displays the imported policy at the top of the list.

   For more information about reordering the policy list, see *Reordering the Policy List on page 15-23*.

## Deleting a Policy

Administrators can remove a policy from the list. Apex Central then re-allocates the targets associated with the deleted policy if the targets match the filtering criteria of another policy. Those without a match become endpoints without policies, and they keep the settings defined by the deleted policy unless a managed product administrator modifies the settings.

Apex Central only allows policy creators to delete their own policies. However, the root account can delete every policy in the list.

It is not possible to delete an Apex One Agent parent policy with settings *inherited* by an existing child policy.

**Procedure**

1. Go to **Policies** > **Policy Management**.

   The **Policy Management** screen appears.

2. Select the type of product settings from the **Product** list.

   The screen refreshes to display policies created for the selected managed product.

3. Select the policy to delete.

4. Click **Delete**.

   A confirmation screen appears.

5. Click **OK**.

## Changing the Policy Owner

The default owner of a policy is the user account that created the policy. You can use the **Policy Management** screen to change the owner of a policy to any Apex Central as a Service user account. You can also change the policy owner to an Active Directory group, which designates all Active Directory users within the group as owners of the policy.

**Important**

If you change the owner of a policy to a user account that does not have access rights to the specified targets, the new owner can modify the policy settings but cannot view the policy data.

**Procedure**

1. Go to **Policies** > **Policy Management**.

   The **Policy Management** screen appears.

2. Select one or more policies to change the owner.

3. Click **Change Owner**.

The **Change Policy Owner** screen appears.

4. Select a user account from the drop-down list.
5. Click **Save** to change the owner.

   Apex Central as a Service sends an email notification to all user accounts assigned the “Administrator” role.

## Understanding the Policy List

The policy list displays the information and status of policies created by all users. When a new endpoint registers to Apex Central, it goes through the filtered policies in the list in descending order. Apex Central assigns the new endpoint to a filtered policy when the following conditions are both satisfied:

- The new endpoint matches the target criteria of the policy
- The policy creator has the permission to manage the new endpoint

The following table describes the policy list columns that display on the **Policy Management** screen. Click a column to sort the data.

**TABLE 15-2. Policy List**

| COLUMN | DESCRIPTION |
|---|---|
| Priority | Displays the priority of the policies<br>• Apex Central lists policies from the highest to the lowest priority.<br>• When administrators create a filtered policy, Apex Central saves the new policy as the lowest priority policy.<br>• A specified policy takes priority over any filtered policies and remains on the top of the list. Administrators cannot reorder specified policies.<br>• Apex Central places draft policies at the bottom of the list. |
| Policy | Displays the name of the policy |

| Column | Description |
| --- | --- |
| Policy Version | This column only appears if the selected product is **Apex One Security Agent**.<br><br>Displays the latest policy version deployed<br><br>**Note**<br>Some targets might not have the latest policy version deployed. To view the current policy deployed on specific targets, click the number in the **Deployed** column. |
| Parent Policy | This column only appears if the selected product is **Apex One Security Agent**.<br><br>If a policy is a child policy (that is, it inherited its settings from a parent policy), this column shows the name of the parent policy. Otherwise, N/A displays. |
| Deviations | This column only appears if the selected product is **Apex One Security Agent**.<br><br>If a policy is a child policy, this column shows the number of settings that have been changed on the policy and are therefore inconsistent with settings on the parent policy. If settings are consistent between the policy and its parent, 0 (zero) displays.<br><br>If a policy is not a child policy, N/A displays. |

| Column | Description |
|---|---|
| Owner | Displays the user who is currently assigned the policy<br><br>**Note**<br>The default owner is the user who created the policy.<br>• If you change the owner of a policy to a user account that does not have access rights to the specified targets, the new owner can modify the policy settings but cannot view the policy data.<br>• You can also assign multiple owners by assigning the policy to an Active Directory group.<br><br>For more information, see *Changing the Policy Owner on page 15-19*. |
| Last Editor | Displays the user who last edited the policy |
| Last Edited | This column only appears if the selected product is **Apex One Security Agent**.<br><br>Displays when the policy was last edited |
| Targets | Displays how administrators select targets for the policy.<br>• **Specified**: Uses the browse or search function to select specific targets for the policy. Specified policies remain static on the top of the policy list and take priority over filtered policies.<br>• **Filtered**: Uses a filter to automatically assign current and future endpoints to the policy. Administrators can rearrange the priority of filtered policies. Hover over an item to conveniently view the filter criteria and make adjustments as necessary.<br>• **None**: The policy creator saved the policy as a draft without selecting any targets. |
| Deployed | Displays the number of targets that have applied the policy settings or have unactivated product services<br><br>Click the number to view the policy status. |

| Column | Description |
|---|---|
| Pending | Displays the number of targets that have not applied the policy settings<br><br>Click the number to view the policy status. |
| Offline | Displays the number of targets that have offline agents<br><br>Click the number to view the policy status. |
| With Issues | Displays the number of targets that have not applied the policy settings due to unsupported policy deployment, no policy configuration, system errors, endpoint communication errors with the product server, unsupported endpoints, locally changed settings, disabled product services, or partial deployment<br><br>Click the number to view the policy status. |

**Note**

The numbers in **Deployed** and **Pending** columns only reflect the endpoints or managed products that an administrator has permission to manage.

## Reordering the Policy List

Administrators can use the **Reorder** button to change the order of the filtered policies. Rearranging the policy list can affect target allocation. Apex Central may re-assign some targets to different filtered policies.

**Note**

- Specified policies remain static and always take priority over filtered policies.
- This function is only available for managing Apex One settings.

**Procedure**

1. Go to **Policies** > **Policy Management**.

   The **Policy Management** screen appears.

2. Select the type of product settings from the **Product** list.

   The screen refreshes to display policies created for the selected managed product.

3. Click **Reorder**.

   The **Reorder Policies** screen appears.

4. Rearrange the order of the **Priority** column.
5. Click **Save**.

**Note**

After clicking **Save**, please wait two minutes for Apex Central to re-assign the targets. Click **Refresh** on the **Policy Management** screen to update the status information in the policy list.

## Policy Status

Policy status allows administrators to check if Apex Central has successfully deployed a policy to its targets.

To check the policy deployment status, use one of the following methods:

- On the **Policy Management** screen, click a number in the policy list. The **Log Query** screen appears.
- On the dashboard, click a number in the **Policy Status** widget. The **Log Query** screen appears.
- Perform a log query

The following table provides the descriptions and suggestions about each policy status:

**TABLE 15-3. Policy Status**

| POLICY STATUS | DESCRIPTION | SUGGESTIONS |
|---|---|---|
| Pending | Apex Central is processing the policy. | Wait a few minutes and then check the status again. |
| Without policy | Apex Central has not assigned a policy to this endpoint or managed product. | Assign a policy to the endpoint or managed product. |
| Deployed | Apex Central has successfully deployed the policy. | N/A |
| Endpoint unable to connect to server | • The endpoint did not receive the policy settings.<br>• The server is currently busy. | • Check the connection status of the endpoint<br>• Connect the endpoint to the company network<br>• Wait for the updated policy status |
| Inapplicable product settings | The managed product cannot process some of the policy settings. | • Verify the policy settings<br>• Update to the latest policy template version<br>• Check the settings on the managed product<br>• Verify the IP address of the managed product on the **Managed Servers** screen<br>If the IP address is incorrect, unregister and then register the managed product again to Apex Central.<br>• Refer to the *Administrator's Guide* for the managed product |
| Unsupported endpoint | The endpoint does not support some features specified in the policy settings. | Upgrade the agent to a supported version. |

| Policy Status | Description | Suggestions |
|---|---|---|
| Settings changed locally | Some settings on the endpoint or managed product do not comply with the settings specified in the policy because the managed product administrator has made some changes through the managed product console. | Verify the settings on the managed product console. |
| Unactivated licenses | The managed product has not activated the licenses for some of the services specified in the policy settings. | Activate the licenses for the related services from the **License Management** screen on the Apex Central console |
| Disabled product services | The managed product has disabled some of the services specified in the policy settings. | Enable the related services on the managed product. |
| Partially deployed | Apex Central has enforced a portion of the policy settings. | Wait a few minutes and then check the status again. |
| Managed by [Apex Central server name] | Another Apex Central is currently managing the managed product. | Remove the managed product from the Managed Server list and add the managed product to the list again. |
| Invalid user name or password | The user name or password for authentication is incorrect. | Verify the user name or password. |
| Invalid product server or authentication information | The server name or the authentication information is incorrect. | Verify the server name and the authentication information. |

| Policy Status | Description | Suggestions |
|---|---|---|
| Unable to automatically log on to product | Apex Central cannot use the single sign-on function to access the managed product. | • Check the single sign-on function in the Product Directory<br>• Check the connection status of the MCP agent<br>• Change the server connection type from **Automatic** to **Manual** in the **Managed Servers** list. |
| Web server configuration error | A web service error has occurred. | Check the IIS configuration. |
| Product communication error | Unable to access the product console. | • Check if you can connect to the managed product's web console.<br>• Check the settings of the managed product. |
| Unable to connect to product | Apex Central cannot establish a connection with the managed product. | • Check the connection status of the managed product.<br>• Check the network connection |
| Unsupported product version | The managed product version is not supported. | Upgrade the managed product to a supported version. |
| Network configuration error | A network connection error has occurred. | Check the network connection. |
| System error. Error ID: [error ID number]. | A system error has occurred. | Contact your Trend Micro support representative. |

# Chapter 16

## Policy Resources

This section contains information about policy resources for integrated products/services.

**Important**

Each managed product provides different policy settings that you can configure and deploy to policy targets. You can find a complete list of supported managed products and the policy settings for each in the *Apex Central as a Service Widget and Policy Management Guide*.

You can download a PDF version of the guide, or view the guide online, using the following link:

https://docs.trendmicro.com/en-us/enterprise/apex-one-as-a-service.aspx

Topics include:


- *Application Control Criteria on page 16-2*
- *Data Loss Prevention on page 16-15*
- *Intrusion Prevention Rules on page 16-33*
- *Device Control Allowed Devices on page 16-37*

# Application Control Criteria

Configure Application Control criteria that you can then assign to Security Agent policy rules. You can create “Allow” and “Block” criteria to limit the applications that users can execute or install on protected endpoints. You can also create assessment criteria to monitor the applications executing on endpoints and then refine the criteria based on the usage results.

**Important**

You must configure Application Control criteria before deploying an Application Control policy to Security Agents.

Each managed product provides different policy settings that you can configure and deploy to policy targets. You can find a complete list of supported managed products and the policy settings for each in the *Apex Central as a Service Widget and Policy Management Guide*.

You can download a PDF version of the guide, or view the guide online, using the following link:

https://docs.trendmicro.com/en-us/enterprise/apex-one-as-a-service.aspx

The following table outlines the tasks available on the **Application Control Criteria** screen.

| Task | Description |
|---|---|
| Add criteria | Click the **Add Criteria** drop-down button and select from the following options:<br>• **Allow**: Click to define “Allow” or “Lockdown” criteria<br>For more information, see *Defining Allowed Application Criteria on page 16-4*.<br>• **Block**: Click to define “Block” or “Assessment” criteria<br>For more information, see *Defining Blocked Application Criteria on page 16-6*.<br>• **Copy**: Select an existing criteria and click **Copy** to define new criteria based on the existing settings<br>• **Import**: Click to select a ZIP package exported from a compatible Application Control source<br>**Note**<br>If the imported package contains criteria names that match preexisting criteria, you have the option to **Overwrite** existing criteria or **Skip** the import of the criteria with duplicated names. |
| Export criteria | Select the check box to the left of existing criteria and click **Export** to save the selected criteria to a ZIP package (`<timestamp>_iACRuleExport.zip`) |
| Delete criteria | Select the check box to the left of existing criteria and click **Delete** to remove the selected criteria from the list<br>**WARNING!**<br>If you selected criteria used by existing Apex One Security Agent policies, you must confirm that you want to delete and remove the criteria from all affected Security Agent policies. You cannot undo this action. |

| Task | Description |
|---|---|
| Modify criteria | Click a **Criteria Name** to modify the criteria settings<br><br>**Note**<br>Affected endpoints receive modified criteria settings the next time the Security Agents connect to the server. |
| View policy associations | Click the value in the **Target Policies** column to display a list of all Apex One Security Agent policies that implement the criteria.<br><br>**Tip**<br>Click a policy name to open a new browser tab on which you can view or modify the policy settings. |

## Defining Allowed Application Criteria

Application Control provides the ability to define criteria that specifically allow certain applications to execute. You can define allow criteria to ensure that Application Control never blocks a certain application, or you can create a complete list of applications allowed to execute on endpoints and then deploy a **Lockdown** policy to the endpoints. While in **Lockdown** mode, users cannot execute, access, or install any application that you did not include in the allow criteria.

For more information about Lockdown policies, see *Application Control Policy Settings*.

---

**Procedure**

1. Go to **Policies** > **Policy Resources** > **Application Control Criteria**.

   The **Application Control Criteria** screen appears.

2. Click **Add Criteria** and select **Allow**.

   The **Allow Criteria Settings** screen appears.

3. Type a unique **Name** for the criteria.
4. Select the level of **Trust permission** for the applications.

| Permission | Description | Example Use |
|---|---|---|
| **Application cannot execute external processes** | Applications cannot access any external processes or start any other applications | Use when you want to allow standalone applications to run on endpoints but prevent access to other processes<br><br>For example, this setting allows Microsoft Word to run but prevents embedded OLE objects from executing. |
| **Application can execute other processes** | Applications can start external processes and applications that users are unable to access directly | Use when you want to allow applications to run on endpoints and still allow access to required child processes or add-ons.<br><br>For example, this setting allows Internet Explorer to run and also allows Internet Explorer to execute any installed plug-ins. |
| **Inheritable execution rights (not recommended )** | Applications can install and start external processes and applications, and the child applications can also install and start external processes and applications | Use when you want to allow installation packages to execute on the endpoint<br><br>**Inheritable execution rights (not recommended)** allows the installation package to perform all installation tasks and then also allows the installed application to run all required processes. |

5. Select the **Match method** used to identify applications and configure required settings.

| METHOD | DESCRIPTION |
|---|---|
| **Application Reputation List** | Allows you to apply the criteria to applications that Trend Micro has tested and assigned a security score for<br><br>For more information, see *Application Reputation List on page 16-8*. |
| **File paths** | Allows you to apply the criteria to any application installed in the specified location<br><br>For more information, see *File Paths on page 16-9*. |
| **Certificates** | Allows you to apply the criteria to applications based on certificate validity and certificate attributes<br><br>For more information, see *Certificates on page 16-13*. |
| **Hash values** | Allows you to apply the criteria to applications based on SHA-1 or SHA-256 hash values<br><br>For more information, see *Hash Values on page 16-14*. |
| **Gray Software List** | Allows you to include applications to the criteria that Trend Micro has tested and found to be potentially harmful<br><br>The Gray Software List is a subset of the Application Reputation List and contains applications that may be malicious if not used properly. Trend Micro recommends blocking or monitoring applications in the Gray Software List to ensure that your network remains secure. |

6. Click **Save**.

## Defining Blocked Application Criteria

Application Control provides the ability to define criteria that specifically block certain applications from executing. You can define block criteria to ensure that Application Control always blocks certain applications or you can create “Assessment” criteria to monitor the applications that users access.

### Procedure

1. Go to **Policies** > **Policy Resources** > **Application Control Criteria**.

   The **Application Control Criteria** screen appears.

2. Click **Add Criteria** and select **Block**.

   The **Block Criteria Settings** screen appears.

3. Type a unique **Name** for the criteria.

4. To create a monitoring rule, select **Enable assessment mode**.

**Note**

Application Control logs all applications that match the assessment criteria but takes no further action. Application Control allows the applications to execute normally.

5. Select the **Match method** used to identify applications and configure required settings.

| Method | Description |
|---|---|
| **Application Reputation List** | Allows you to apply the criteria to applications that Trend Micro has tested and assigned a security score for<br>For more information, see *Application Reputation List on page 16-8*. |
| **File paths** | Allows you to apply the criteria to any application installed in the specified location<br>For more information, see *File Paths on page 16-9*. |
| **Certificates** | Allows you to apply the criteria to applications based on certificate validity and certificate attributes<br>For more information, see *Certificates on page 16-13*. |
| **Hash values** | Allows you to apply the criteria to applications based on SHA-1 or SHA-256 hash values<br>For more information, see *Hash Values on page 16-14*. |

| METHOD | DESCRIPTION |
|---|---|
| **Gray Software List** | Allows you to include applications to the criteria that Trend Micro has tested and found to be potentially harmful<br><br>The Gray Software List is a subset of the Application Reputation List and contains applications that may be malicious if not used properly. Trend Micro recommends blocking or monitoring applications in the Gray Software List to ensure that your network remains secure. |

6. Click **Save**.

## Application Match Methods

Application Control provides multiple methods for identifying applications to include in the allow and block criteria.

**Note**

Application Control also provides the Gray Software List which you cannot modify.

The Gray Software List is a subset of the Application Reputation List and contains applications that may be malicious if not used properly. Trend Micro recommends blocking or monitoring applications in the Gray Software List to ensure that your network remains secure.

### Application Reputation List

The Application Reputation List is a comprehensive list of applications tested by Trend Micro. The list includes most popular operating system files and binaries as well as applications for desktops, servers, and mobile devices. Trend Micro periodically provides updates to the list.

**Important**

Ensure that you have turned on regular updates to the Certified Safe Software Pattern to stay up-to-date with the latest application information.

You can search for applications by typing the name of **Vendors** or **Applications**. Select applications using the data provided.

| Data | Description |
|---|---|
| Application | The name of the application<br><br>**Tip**<br>To view detailed information for each application version, expand the Application Reputation List. |
| AIR Score | A comprehensive security score based on an application's popularity and reputation |
| Global Usage | The global prevalence of the application<br><br>**Tip**<br>Click the prevalence to view a regional breakdown of the application usage. |

## File Paths

You can configure Application Control to specifically target certain directory locations based on absolute path, storage type, and Perl Compatible Regular Expressions (PCRE).

Select whether to match by a specific path or a storage type, and specify the match string type (**String** or **Regular Expression (PCRE)**). Type the file paths that apply to the criteria.

**Note**

- Application Control supports the use of the asterisk (*) wildcard when specifying a **String** type match. The asterisk character can represent one or more characters in a subdirectory of the specified string location.
- Application Control does not support the use of environment variables when specifying file paths for **String** or **Regular Expression (PCRE)** type matches.
- You cannot use wildcard characters to indicate the entire contents of the selected storage location.
- You can specify up to 100 file paths.

**TABLE 16-1. Supported Storage Locations**

| STORAGE LOCATION | ENVIRONMENT VARIABLE | DESCRIPTION |
|---|---|---|
| Specific path | Not applicable | Only applies to applications in the exact path specified<br>**Note**<br>Application Control does not check device type when using this location type. |
| Any built-in storage | $FixedDrives | Only applies to applications in the path specified and stored on an internal storage device (internal hard disk drive) |
| Any local storage | $LocalDrives | Only applies to applications in the path specified and stored on a non-removable local storage device (internal or external hard disk drive) |
| Any removable storage | $Removable Drives | Only applies to applications in the path specified and stored on a removable storage device (USB drive, CD/DVD) |
| Network path | $RemoteDrives | Only applies to applications in the path specified and stored on a shared network resource |

| Storage Location | Environment Variable | Description |
|---|---|---|
| Program Files folder | $ProgramFiles | Only applies to applications in the path specified and stored in the Program Files folders (default folders `C:\Program Files` and `C:\Program Files (x86)`) |
| System volume | $SystemDrive | Only applies to applications in the path specified and stored in the default Windows system drive |

## File Path Example Usage

| Goal | Allow Rule | Block Rule | Results |
|---|---|---|---|
| Monitor all users' `Downloads` folder | - | 1. **Enable assessment mode**<br>2. **Any local storage**<br>3. **String**<br>4. `C:\Users\*\Downloads\*` | Logs all attempts to access applications in all users' `Downloads` folder.<br>Monitors:<br>• `C:\Users\john_doe\Downloads\start.exe`<br>• `C:\Users\Administrator\Downloads\start.exe` |

| Goal | Allow Rule | Block Rule | Results |
|---|---|---|---|
| Block all applications located in any folder under the`MyApps` subfolder of either `Program Files` directory | - | 1. **Program Files folders**<br>2. **String**<br>3. `\MyApps*` | Blocks:<br>• `C:\Program Files(x86)\MyApps\start.exe`<br>• `C:\Program Files\MyApps\start.exe`<br>• `C:\Program Files(x86)\MyApps\bin\start.exe`<br>Allows:<br>• `C:\Program Files(x86)\start.exe` |
| Allow all applications located in any folder under the`MyApps` subfolder of either `Program Files` directory but Block all other applications/ folders | 1. **Program Files folders**<br>2. **String**<br>3. `\MyApps*` | 1. **Any local storage**<br>2. **String**<br>3. `C:\Program Files\*`<br>AND<br>1. **Any local storage**<br>2. **String**<br>3. `C:\Program Files (x86)\*` | Blocks:<br>• `C:\Program Files(x86)\start.exe`<br>Allows:<br>• `C:\Program Files(x86)\MyApps\start.exe`<br>• `C:\Program Files\MyApps\start.exe`<br>• `C:\Program Files(x86)\MyApps\bin\start.exe` |

| Goal | Allow Rule | Block Rule | Results |
|---|---|---|---|
| Block only applications located in the`MyApps` subfolder of either `Program Files` directory but Allow all other applications/ folders | 1. Allow the subfolders of the `MyApps` directory<br>a. **Program Files folders**<br>b. **String**<br>c. `\MyApps\*\*` | 1. **Program Files folders**<br>2. **String**<br>3. `\MyApps\*` | Blocks:<br>• `C:\Program Files(x86)\MyApps\start.exe`<br>• `C:\Program Files\MyApps\start.exe`<br>Allows:<br>• `C:\Program Files(x86)\start.exe`<br>• `C:\Program Files(x86)\MyApps\bin\start.exe` |
| Block a specific application file name in any folder | - | 1. **Specific path**<br>2. **Regular expression (PCRE)**<br>3. `.*\\(?i)test(?-i)\..*` | Blocks:<br>• `C:\MyApps\test.exe`<br>• `C:\Users\guet\AppData\Local\Temp\test.exe`<br>• `C:\Program Files(x86)\MyApps\test.exe` |

## Certificates

You can configure Application Control to specifically target applications based on the “trust” level of a certificate and that contain specific certificate attributes.

Select the type of certificate “trust” level and then specify the required certificate “Issuer” or “Subject” information.

**Note**

Application Control supports the use of the asterisk (*) wildcard when specifying Certificate attributes, although you must use the wildcard in conjunction with other characters to limit the scope. For example, you cannot use only the wildcard character in any field.

The following table describes the different "trust" types.

| Type | Description |
|---|---|
| **Trusted (valid)** | You must have included the certificate in the trusted certificates list and the certificate must not have expired |
| **Trusted (expired)** | You must have added the certificate in the trusted certificates list but the certificate has already expired |
| **Untrusted** | The certificate is unknown or you did not add the certificate to the trusted certificates list |

**Note**

The "trust" level combinations for Allow and Block criteria differ.

## Hash Values

You can configure Application Control to match applications using SHA-1 or SHA-256 hash value formats. You can choose to manually specify hash values or import a list of generated values.

Select your **Input method** and follow the on-screen instructions.

| Input Method | Description |
|---|---|
| **Manual** | Allows you to manually specify up to 100 hash values (and descriptions) |

| Input Method | Description |
| --- | --- |
| **Import** | Allows you to import a ZIP package containing a properly formatted hash value list in CSV format<br><br>You can choose to use the **Hash Generator tool** or manually create the CSV file using the **CSV sample format**.<br><br>**WARNING!**<br>You can only import one file into each set of criteria. If you attempt to import a new hash value list into the criteria, Application Control completely overwrites the existing values.<br><br>• **Hash Generator tool**: Download and execute the tool on a target endpoint that you have installed with all necessary applications. The tool automatically creates a valid ZIP package containing the hash values of all applications found on the endpoint.<br>• **CSV sample format**: Download the sample file and follow the instructions to properly populate the hash value list. Once you have completed the list, compress the file in ZIP format before importing into the set of criteria.<br><br>**Important**<br>The hash value list cannot contain a mixture of SHA-1 and SHA-256 formats. You must create separate hash value files and separate Application Control criteria for each type of hash value format. |

# Data Loss Prevention

Data Loss Prevention (DLP) safeguards an organization's confidential and sensitive data-referred to as digital assets-against accidental disclosure and intentional theft. DLP allows you to:

- Identify the digital assets to protect
- Create policies that limit or prevent the transmission of digital assets through common channels, such as email and external devices

- Enforce compliance to established privacy standards

DLP evaluates data against a set of rules defined in policies. Policies determine the data that must be protected from unauthorized transmission and the action that DLP performs when it detects transmission.

**Important**

Each managed product provides different policy settings that you can configure and deploy to policy targets. You can find a complete list of supported managed products and the policy settings for each in the *Apex Central as a Service Widget and Policy Management Guide*.

You can download a PDF version of the guide, or view the guide online, using the following link:

https://docs.trendmicro.com/en-us/enterprise/apex-one-as-a-service.aspx

## Data Identifier Types

Digital assets are files and data that an organization must protect against unauthorized transmission. Administrators can define digital assets using the following data identifiers:

- **Expressions**: Data that has a certain structure.

  For details, see *Expressions on page 16-17*.

- **File attributes**: File properties such as file type and file size.

  For details, see *File Attributes on page 16-21*.

- **Keyword lists**: A list of special words or phrases.

  For details, see *Keywords on page 16-23*.

**Note**

Administrators cannot delete a data identifier that a DLP template is using. Delete the template before deleting the data identifier.

## Expressions

An expression is data that has a certain structure. For example, credit card numbers typically have 16 digits and appear in the format "nnnn-nnnn-nnnn-nnnn", making them suitable for expression-based detections.

Administrators can use predefined and customized expressions.

For details, see *Predefined Expressions on page 16-17* and *Customized Expressions on page 16-18*.

### Predefined Expressions

Data Loss Prevention comes with a set of predefined expressions. These expressions cannot be modified or deleted.

Data Loss Prevention verifies these expressions using pattern matching and mathematical equations. After Data Loss Prevention matches potentially sensitive data with an expression, the data may also undergo additional verification checks.

For a complete list of predefined expressions, see the *Data Protection Lists* document at:

http://docs.trendmicro.com/en-us/enterprise/data-protection-reference-documents.aspx.

#### Viewing Settings for Predefined Expressions

**Note**

Predefined expressions cannot be modified or deleted.

**Procedure**

1. Go to **Policies** > **Policy Resources** > **DLP Data Identifiers**.
2. Click the **Expression** tab.
3. Click the expression name.

4. View settings in the screen that opens.

## Customized Expressions

Create customized expressions if none of the predefined expressions meet the company's requirements.

Expressions are a powerful string-matching tool. Become comfortable with expression syntax before creating expressions. Poorly written expressions can dramatically impact performance.

When creating expressions:

- Refer to the predefined expressions for guidance on how to define valid expressions. For example, when creating an expression that includes a date, refer to the expressions prefixed with "Date".
- Note that Data Loss Prevention follows the expression formats defined in Perl Compatible Regular Expressions (PCRE). For more information on PCRE, visit the following website:

  http://www.pcre.org/
- Start with simple expressions. Modify the expressions if they are causing false alarms or fine tune them to improve detections.

Administrators can choose from several criteria when creating expressions. An expression must satisfy the chosen criteria before Data Loss Prevention subjects it to a DLP policy. For details about the different criteria options, see *Criteria for Customized Expressions on page 16-18*.

### Criteria for Customized Expressions

**TABLE 16-2. Criteria Options for Customized Expressions**

| CRITERIA | RULE | EXAMPLE |
|---|---|---|
| None | None | All - Names from US Census Bureau<br>• Expression: [^\w]([A-Z][a-z]{1,12}(\s?,\s?\|[\s]\|\s([A-Z])\.\s)[A-Z][a-z]{1,12})[^\w] |

| Criteria | Rule | Example |
|---|---|---|
| Specific characters | An expression must include the characters you have specified.<br><br>In addition, the number of characters in the expression must be within the minimum and maximum limits. | US - ABA Routing Number<br>• Expression: [^\d]([0123678]\d{8})[^\d]<br>• Characters: 0123456789<br>• Minimum characters: 9<br>• Maximum characters: 9 |
| Suffix | Suffix refers to the last segment of an expression. A suffix must include the characters you have specified and contain a certain number of characters.<br><br>In addition, the number of characters in the expression must be within the minimum and maximum limits. | All - Home Address<br>• Expression: \D(\d+\s[a-z.]+\s([a-z]+\s){0,2} (lane\|ln\|street\|st\|avenue\|ave\|road\|rd\|place\|pl\|drive\|dr\|circle\| cr\|court\|ct\|boulevard\|blvd)\.? [0-9a-z,#\s\.]{0,30}[\s\|,][a-z]{2}\ s\d{5}(-\d{4})?)[^\d-]<br>• Suffix characters: 0123456789-<br>• Number of characters: 5<br>• Minimum characters in the expression: 25<br>• Maximum characters in the expression: 80 |
| Single- character separator | An expression must have two segments separated by a character. The character must be 1 byte in length.<br><br>In addition, the number of characters left of the separator must be within the minimum and maximum limits. The number of characters right of the separator must not exceed the maximum limit. | All - Email Address<br>• Expression: [^\w.]([\w\.]{1,20}@[a-z0-9]{2,20}[\.][a-z]{2,5}[a-z\.]{0,10})[^\w.]<br>• Separator: @<br>• Minimum characters to the left: 3<br>• Maximum characters to the left: 15<br>• Maximum characters to the right: 30 |

## Creating a Customized Expression

### Procedure

1. Go to **Policies** > **Policy Resources** > **DLP Data Identifiers**.
2. Click the **Expression** tab.
3. Click **Add**.

   A new screen displays.
4. Type a name for the expression. The name must not exceed 100 bytes in length and cannot contain the following characters:

   - > < * ^ | & ? \ /
5. Type a description that does not exceed 256 bytes in length.
6. Type the displayed data.

   For example, if you are creating an expression for ID numbers, type a sample ID number. This data is used for reference purposes only and will not appear elsewhere in the product.
7. Choose one of the following criteria and configure additional settings for the chosen criteria (see *Criteria for Customized Expressions on page 16-18*):

   - None
   - Specific characters
   - Suffix
   - Single-character separator
8. Test the expression against an actual data.

   For example, if the expression is for a national ID, type a valid ID number in the **Test data** text box, click **Test**, and then check the result.
9. Click **Save** if you are satisfied with the result.

**Note**

Save the settings only if the testing was successful. An expression that cannot detect any data wastes system resources and may impact performance.

### Importing Customized Expressions

Use this option if you have a properly-formatted `.dat` file containing the expressions. You can generate the file by exporting the expressions from either the server you are currently accessing or from another server.

**Procedure**

1. Go to **Policies** > **Policy Resources** > **DLP Data Identifiers**.
2. Click the **Expression** tab.
3. Click **Import** and then locate the `.dat` file containing the expressions.
4. Click **Open**.

   A message appears, informing you if the import was successful. If an expression to be imported already exists, it will be skipped.

## File Attributes

File attributes are specific properties of a file. You can use two file attributes when defining data identifiers, namely, file type and file size. For example, a software development company may want to limit the sharing of the company's software installer to the R&D department, whose members are responsible for the development and testing of the software. In this case, the Apex Central administrator can create a policy that blocks the transmission of executable files that are 10 to 40 MB in size to all departments except R&D.

By themselves, file attributes are poor identifiers of sensitive files. Continuing the example in this topic, third-party software installers shared by other departments will most likely be blocked. Trend Micro therefore recommends combining file attributes with other DLP data identifiers for a more targeted detection of sensitive files.

For a complete list of supported file types, see the *Data Protection Lists* document at:

http://docs.trendmicro.com/en-us/enterprise/data-protection-reference-documents.aspx.

## Creating a File Attribute List

---

**Procedure**

1. Go to **Policies** > **Policy Resources** > **DLP Data Identifiers**.
2. Click the **File Attribute** tab.
3. Click **Add**.

   A new screen displays.
4. Type a name for the file attribute list. The name must not exceed 100 bytes in length and cannot contain the following characters:

   - > < * ^ | & ? \ /
5. Type a description that does not exceed 256 bytes in length.
6. Select your preferred true file types.
7. If a file type you want to include is not listed, select **File extensions** and then type the file type's extension. Data Loss Prevention checks files with the specified extension but does not check their true file types. Guidelines when specifying file extensions:

   - Each extension must start with an asterisk (*), followed by a period (.), and then the extension. The asterisk is a wildcard, which represents a file's actual name. For example, `*.pol` matches `12345.pol` and `test.pol`.
   - You can include wildcards in extensions. Use a question mark (?) to represent a single character and an asterisk (*) to represent two or more characters. See the following examples:

     - `*.*m` matches the following files: `ABC.dem`, `ABC.prm`, `ABC.sdcm`

- `*.m*r` matches the following files: `ABC.mgdr`, `ABC.mtp2r`, `ABC.mdmr`

- `*.fm?` matches the following files: `ABC.fme`, `ABC.fml`, `ABC.fmp`

- Be careful when adding an asterisk at the end of an extension as this might match parts of a file name and an unrelated extension. For example: `*.do*` matches `abc.doctor_john.jpg` and `abc.donor12.pdf`.
- Use semicolons (;) to separate file extensions. There is no need to add a space after a semicolon.

8. Type the minimum and maximum file sizes in bytes. Both file sizes must be whole numbers larger than zero.
9. Click **Save**.

### Importing a File Attribute List

Use this option if you have a properly-formatted `.dat` file containing the file attribute lists. You can generate the file by exporting the file attribute lists from either the server you are currently accessing or from another server.

**Procedure**

1. Go to **Policies** > **Policy Resources** > **DLP Data Identifiers**.
2. Click the **File Attribute** tab.
3. Click **Import** and then locate the `.dat` file containing the file attribute lists.
4. Click **Open**.

   A message appears, informing you if the import was successful. If a file attribute list to be imported already exists, it will be skipped.

## Keywords

Keywords are special words or phrases. You can add related keywords to a keyword list to identify specific types of data. For example, "prognosis",

"blood type", "vaccination", and "physician" are keywords that may appear in a medical certificate. If you want to prevent the transmission of medical certificate files, you can use these keywords in a DLP policy and then configure Data Loss Prevention to block files containing these keywords.

Commonly used words can be combined to form meaningful keywords. For example, "end", "read", "if", and "at" can be combined to form keywords found in source codes, such as "END-IF", "END-READ", and "AT END".

You can use predefined and customized keyword lists. For details, see *Predefined Keyword Lists on page 16-24* and *Customized Keyword Lists on page 16-25*.

## Predefined Keyword Lists

Data Loss Prevention comes with a set of predefined keyword lists. These keyword lists cannot be modified or deleted. Each list has its own built-in conditions that determine if the template should trigger a policy violation.

For details about the predefined keyword lists in Data Loss Prevention, see the *Data Protection Lists* document at:

http://docs.trendmicro.com/en-us/enterprise/data-protection-reference-documents.aspx

## How Keyword Lists Work

### Number of Keywords Condition

Each keyword list contains a condition that requires a certain number of keywords be present in a document before the list triggers a violation.

The number of keywords condition contains the following values:

- **All**: All of the keywords in the list must be present in the document.
- **Any**: Any one of the keywords in the list must be present in the document.
- **Specific number**: There must be at least the specified number of keywords in the document. If there are more keywords in the document than the number specified, Data Loss Prevention triggers a violation.

### Distance Condition

Some of the lists contain a “distance” condition to determine if a violation is present. “Distance” refers to the amount of characters between the first character of one keyword and the first character of another keyword. Consider the following entry:

F**irst Name:_John_ L**ast Name:_Smith_

The **Forms - First Name, Last Name** list has a “distance” condition of fifty (50) and the commonly used form fields of “First Name” and “Last Name”. In the example above, Data Loss Prevention triggers a violation as the number of characters between the “F” in First Name and the “L” in Last Name is equal to eighteen (18).

For an example of an entry that does not trigger a violation, consider the following:

The f**irst name of our new employee from Switzerland is John. His l**ast name is Smith.

In this example, the number of characters between the “f” in “first name” and the “l” in “last name” is sixty-one (61). This exceeds the distance threshold and does not trigger a violation.

## Customized Keyword Lists

Create customized keyword lists if none of the predefined keyword lists meets your requirements.

There are several criteria that you can choose from when configuring a keyword list. A keyword list must satisfy your chosen criteria before Data Loss Prevention subjects it to a policy. Choose one of the following criteria for each keyword list:

- **Any keyword**
- **All keywords**
- **All keywords within <x> characters**
- **Combined score for keywords exceeds threshold**

For details regarding the criteria rules, see *Customized Keyword List Criteria on page 16-26*.

### Customized Keyword List Criteria

**TABLE 16-3. Criteria for a Keyword List**

| CRITERIA | RULE |
|---|---|
| Any keyword | A file must contain at least one keyword in the keyword list. |
| All keywords | A file must contain all the keywords in the keyword list. |
| All keywords within <x> characters | A file must contain all the keywords in the keyword list. In addition, each keyword pair must be within <x> characters of each other.<br><br>For example, your 3 keywords are WEB, DISK, and USB and the number of characters you specified is 20.<br><br>If Data Loss Prevention detects all keywords in the order DISK, WEB, and USB, the number of characters from the "D" (in DISK) to the "W" (in WEB) and from the "W" to the "U" (in USB) must be 20 characters or less.<br><br>The following data matches the criteria: DISK####WEB############USB<br><br>The following data does not match the criteria: DISK******************WEB****USB(23 characters between "D" and "W")<br><br>When deciding on the number of characters, remember that a small number, such as 10, usually results in a faster scanning time but only covers a relatively small area. This may reduce the likelihood of detecting sensitive data, especially in large files. As the number increases, the area covered also increases but scanning time might be slower. |

| Criteria | Rule |
|---|---|
| Combined score for keywords exceeds threshold | A file must contain one or more keywords in the keyword list. If only one keyword was detected, its score must be higher than the threshold. If there are several keywords, their combined score must be higher than the threshold.<br><br>Assign each keyword a score of 1 to 10. A highly confidential word or phrase, such as "salary increase" for the Human Resources department, should have a relatively high score. Words or phrases that, by themselves, do not carry much weight can have lower scores.<br><br>Consider the scores that you assigned to the keywords when configuring the threshold. For example, if you have five keywords and three of those keywords are high priority, the threshold can be equal to or lower than the combined score of the three high priority keywords. This means that the detection of these three keywords is enough to treat the file as sensitive. |

### Creating a Keyword List

#### Procedure

1. Go to **Policies** > **Policy Resources** > **DLP Data Identifiers**.
2. Click the **Keyword** tab.
3. Click **Add**.

   A new screen displays.
4. Type a name for the keyword list. The name must not exceed 100 bytes in length and cannot contain the following characters:
   - > < * ^ | & ? \ /
5. Type a description that does not exceed 256 bytes in length.
6. Choose one of the following criteria and configure additional settings for the chosen criteria:
   - **Any keyword**
   - **All keywords**
   - **All keywords within <x> characters**

- **Combined score for keywords exceeds threshold**

7. To manually add keywords to the list:
   a. Type a keyword that is 3 to 40 bytes in length and specify whether it is case-sensitive.
   b. Click **Add**.
8. To add keywords by using the "import" option:

> **Note**
> Use this option if you have a properly-formatted `.csv` file containing the keywords. You can generate the file by exporting the keywords from either the server you are currently accessing or from another server.

   a. Click **Import** and then locate the `.csv` file containing the keywords.
   b. Click **Open**.

      A message appears, informing you if the import was successful. If a keyword to be imported already exists in the list, it will be skipped.
9. To delete keywords, select the keywords and click **Delete**.
10. To export keywords:

> **Note**
> Use the "export" feature to back up the keywords or to import them to another server. All keywords in the keyword list will be exported. It is not possible to export individual keywords.

   a. Click **Export**.
   b. Save the resulting `.csv` file to your preferred location.
11. Click **Save**.

### Importing a Keyword List

Use this option if you have a properly-formatted `.dat` file containing the keyword lists. You can generate the file by exporting the keyword lists from either the server you are currently accessing or from another server.

**Procedure**

1. Go to **Policies** > **Policy Resources** > **DLP Data Identifiers**.
2. Click the **Keyword** tab.
3. Click **Import** and then locate the `.dat` file containing the keyword lists.
4. Click **Open**.

   A message appears, informing you if the import was successful. If a keyword list to be imported already exists, it will be skipped.

## Data Loss Prevention Templates

A DLP template combines DLP data identifiers and logical operators (And, Or, Except) to form condition statements. Only files or data that satisfy a certain condition statement will be subject to a DLP policy.

For example, a file must be a Microsoft Word file (file attribute) AND must contain certain legal terms (keywords) AND must contain ID numbers (expressions) for it to be subject to the "Employment Contracts" policy. This policy allows Human Resources personnel to transmit the file through printing so that the printed copy can be signed by an employee. Transmission through all other possible channels, such as email, is blocked.

You can create your own templates if you have configured DLP data identifiers. You can also use predefined templates. For details, see *Customized DLP Templates on page 16-30* and *Predefined DLP Templates on page 16-30*.

**Note**

It is not possible to delete a template that is being used in a DLP policy. Remove the template from the policy before deleting it.

## Predefined DLP Templates

Data Loss Prevention comes with the following set of predefined templates that you can use to comply with various regulatory standards. These templates cannot be modified or deleted.

- **GLBA**: Gramm-Leach-Billey Act
- **HIPAA**: Health Insurance Portability and Accountability Act
- **PCI-DSS**: Payment Card Industry Data Security Standard
- **SB-1386**: US Senate Bill 1386
- **US PII**: United States Personally Identifiable Information

For a detailed list on the purposes of all predefined templates, and examples of data being protected, see the *Data Protection Lists* document at:

http://docs.trendmicro.com/en-us/enterprise/data-protection-reference-documents.aspx

## Customized DLP Templates

Create your own templates if you have configured data identifiers. A template combines data identifiers and logical operators (And, Or, Except) to form condition statements.

For more information and examples on how condition statements and logical operators work, see *Condition Statements and Logical Operators on page 16-30*.

### Condition Statements and Logical Operators

Data Loss Prevention evaluates condition statements from left to right. Use logical operators carefully when configuring condition statements. Incorrect usage leads to an erroneous condition statement that will likely produce unexpected results.

See the examples in the following table.

**TABLE 16-4. Sample Condition Statements**

| CONDITION STATEMENT | INTERPRETATION AND EXAMPLE |
|---|---|
| [Data Identifier1] **And** [Data Identifier 2] **Except** [Data Identifier 3] | A file must satisfy [Data Identifier 1] and [Data Identifier 2] but not [Data Identifier 3].<br>For example:<br>A file must be [an Adobe PDF document] and must contain [an email address] but should not contain [all of the keywords in the keyword list]. |
| [Data Identifier 1] **Or** [Data Identifier 2] | A file must satisfy [Data Identifier 1] or [Data Identifier 2].<br>For example:<br>A file must be [an Adobe PDF document] or [a Microsoft Word document]. |
| **Except** [Data Identifier 1] | A file must not satisfy [Data Identifier 1].<br>For example:<br>A file must not be [a multimedia file]. |

As the last example in the table illustrates, the first data identifier in the condition statement can have the "Except" operator if a file must not satisfy all of the data identifiers in the statement. In most cases, however, the first data identifier does not have an operator.

## Creating a Template

### Procedure

1. Go to **Policies** > **Policy Resources** > **DLP Templates**.
2. Click **Add**.

   A new screen displays.
3. Type a name for the template. The name must not exceed 100 bytes in length and cannot contain the following characters:

   - > < * ^ | & ? \ /

4. Type a description that does not exceed 256 bytes in length.
5. Select data identifiers and then click the "add" icon.

   When selecting definitions:

   - Select multiple entries by pressing and holding the CTRL key and then selecting the data identifiers.
   - Use the search feature if you have a specific definition in mind. You can type the full or partial name of the data identifier.
   - Each template can contain a maximum of 30 data identifiers.
6. To create a new expression, click **Expressions** and then click **Add new expression**. In the screen that appears, configure settings for the expression.
7. To create a new file attribute list, click **File attributes** and then click **Add new file attribute**. In the screen that appears, configure settings for the file attribute list.
8. To create a new keyword list, click **Keywords** and then click **Add new keyword**. In the screen that appears, configure settings for the keyword list.
9. If you selected an expression, type the number of occurrences, which is the number of times an expression must occur before Data Loss Prevention subjects it to a policy.
10. Choose a logical operator for each definition.

**Note**

Use logical operators carefully when configuring condition statements. Incorrect usage leads to an erroneous condition statement that will likely produce unexpected results. For examples of correct usage, see *Condition Statements and Logical Operators on page 16-30*.

11. To remove a data identifier from the list of selected identifiers, click the trash bin icon.

12. Below **Preview**, check the condition statement and make changes if this is not your intended statement.
13. Click **Save**.

### Importing Templates

Use this option if you have a properly-formatted `.dat` file containing the templates. You can generate the file by exporting the templates from either the server you are currently accessing or from another server.

**Procedure**

1. Go to **Policies** > **Policy Resources** > **DLP Templates**.
2. Click **Import** and then locate the `.dat` file containing the templates.
3. Click **Open**.

   A message appears, informing you if the import was successful. If a template to be imported already exists, it will be skipped.

## Intrusion Prevention Rules

The **Intrusion Prevention Rules** screen displays the Intrusion Prevention Rules supported by Apex Central Vulnerability Protection. Intrusion Prevention Rules examine the actual content of network packets (and sequences of packets). Based on the conditions set within the Intrusion Prevention Rule, various actions are then carried out on these packets. These actions include replacing specifically defined or suspicious byte sequences, or completely dropping packets and resetting the connection.

- To filter the list of rules, use the **Search** box to specify full or partial strings that appear in any of the columns.
- To sort the list of Intrusion Prevention Rules by column data, click a column heading.
- To view detailed Intrusion Prevention Rule Properties, click the link in the **Rule Name** column of a rule.

- To exclude traffic from one or more source endpoints from Vulnerability Protection scanning, click **Configure Exceptions** and specify the source IP addresses.

**Note**

You can add up to 100 entries to the exception list.

**Note**

Apex Central automatically imports/updates Intrusion Prevention Rules from the Apex One server during manual or scheduled component updates.

**Important**

Each managed product provides different policy settings that you can configure and deploy to policy targets. You can find a complete list of supported managed products and the policy settings for each in the *Apex Central as a Service Widget and Policy Management Guide*.

You can download a PDF version of the guide, or view the guide online, using the following link:

https://docs.trendmicro.com/en-us/enterprise/apex-one-as-a-service.aspx

The following table outlines the rule information that displays on the **Intrusion Prevention Rules** screen.

| Column | Description |
|---|---|
| Identifier | The unique identifier tag for the Intrusion Prevention Rule |
| Rule Name | The name of the Intrusion Prevention Rule |
| Application Type | The Application Type this Intrusion Prevention Rule is grouped under |

| Column | Description |
|---|---|
| Severity | The severity level that Trend Micro assigns to the rule<br><br>**Note**<br>The severity of a rule has no effect on how the rule is implemented or applied. Severity levels can be useful as sorting criteria when viewing a list of Intrusion Prevention Rules. |
| Mode | The network engine detection mode used by the Intrusion Prevention module. Click a mode to configure the setting for the rule. |
| Type | The type of vulnerability detected:<br>• **Smart**: Known or unknown (for example, zero-day) vulnerability<br>• **Exploit**: Known exploit (usually signature based) for a known vulnerability<br>• **Vulnerability**: Known vulnerability for which one or more exploits may exist |
| CVE | The Common Vulnerabilities and Exposures (CVE®) identifier that MITRE assigns to the vulnerability<br><br>For more information, see http://cve.mitre.org/. |
| Microsoft | The Common Vulnerabilities and Exposures (CVE®) identifier that Microsoft assigns to the vulnerability |
| CVSS Score | The Common Vulnerability Scoring System (CVSS) severity score of the vulnerability according the National Vulnerability Database<br><br>For more information, see http://nvd.nist.gov/cvss.cfm. |
| Last Updated | The date and time the rule was last modified |

## Intrusion Prevention Rule Properties

The **Intrusion Prevention Rule Properties** screen displays detailed information about a specific Intrusion Prevention Rule and vulnerability. Click the **General** tab or the **Vulnerability** to view details about the rule.

The following tables describe the information provided on the **General** tab and **Vulnerability** tab.

**TABLE 16-5. General Information**

| DATA | DESCRIPTION |
|---|---|
| Identifier | The unique identifier tag for the Intrusion Prevention Rule |
| Name | The name of the Intrusion Prevention Rule |
| Description | The description of the Intrusion Prevention Rule<br><br>**Note**<br>Apex One Vulnerability Protection does not support the configuration options available on the standalone version of Trend Micro Vulnerability Protection. |
| Application Type | The Application Type this Intrusion Prevention Rule is grouped under |
| Priority | The priority level of the Intrusion Prevention Rule. Higher priority rules are applied before lower priority rules. |
| Severity | The severity level that Trend Micro assigns to the rule<br><br>**Note**<br>The severity of a rule has no effect on how the rule is implemented or applied. Severity levels can be useful as sorting criteria when viewing a list of Intrusion Prevention Rules. |
| Mode | The network engine detection mode used by the Intrusion Prevention module. Click a mode to configure the setting for the rule. |

| Data | Description |
|---|---|
| Type | The type of vulnerability detected:<br>• **Smart**: Known or unknown (for example, zero-day) vulnerability<br>• **Exploit**: Known exploit (usually signature based) for a known vulnerability<br>• **Vulnerability**: Known vulnerability for which one or more exploits may exist |
| Issued | The date the rule was released (not downloaded) |
| Last Updated | The date and time the rule was last modified |

**Table 16-6. Vulnerability Information**

| Data | Description |
|---|---|
| Severity | The severity level of the vulnerability |
| CVSS Score | The Common Vulnerability Scoring System (CVSS) severity score of the vulnerability according the National Vulnerability Database<br>For more information, see http://nvd.nist.gov/cvss.cfm. |
| Description | The description of the vulnerability |
| External References | Provides links to external references for more information about the vulnerability |

## Device Control Allowed Devices

Import or export lists of **Device Control Allow Devices** that apply to all Apex One Security Agent policy targets.

**Note**

- Only Security Agents with Data Protection enabled override the “Block” or “Read” action on devices added to the Device Control Allowed Devices list.
- The Device Control Allowed Devices list does not apply to Security Agents without Data Protection and Security Agents with Device Control permission not set to “Block” or “Read”.

| Item | Description |
|---|---|
| Import | Select a properly formatted CSV file containing a list of all the devices you want to allow on all Apex One Security Agent endpoints.<br><br>**Important**<br>Importing a new list overwrites the previous list completely. To retain the existing list, export the list before importing a new CSV file. |
| Last imported | The date/time the server imported the current list |
| Total allowed devices | The total number of allowed devices in the currently applied list |
| Export | Exports the current allowed list in CSV format |

# Part V

## Detections

# Chapter 17

## Logs

This chapter describes how to access Apex Central generated logs and logs from managed products registered to Apex Central.

Topics include:


- *Querying Logs on page 17-2*
- *Configuring Log Aggregation on page 17-13*
- *Configuring Syslog Forwarding on page 17-13*
- *Deleting Logs on page 17-18*

# Querying Logs

Use the **Log Query** screen to query Apex Central generated logs and log data from registered managed products. You can also narrow the search results by using advanced custom filters, export the search results in XML or CSV format, or save and share the log query search criteria with other Apex Central administrators.

**Note**

Apex Central also allows you to perform a log query from the **Product Directory** screen.

For details, see *Querying Logs from the Product Directory on page 11-11*.

**Procedure**

1. Go to **Detections** > **Logs** > **Log Query**.

   The **Log Query** screen appears.

2. Specify the log type.

   **Note**

   Log types correspond to specific data views used in Apex Central reports.

   For more information about log types and data views, see *Log Names and Data Views on page 17-6*.

   a. Select a log type from the first drop-down control.

   b. Click **OK** to apply the selected log type.

3. To filter your search results to data from specific managed products:

   a. Click the second drop-down control.

   b. Select targets for the query by using one of the following options:

      - **Directory**: Allows you to locate and select managed products from the Product Directory structure

- **Type**: Allows you to choose a product type and select from a list of all registered managed products of the same type
- **Tags and filters**: Allows you to select custom tags, filters, or important labels from the User/Endpoint Directory to query specific endpoints

**Note**

- You can select up to 10 custom tags, filters, or important labels to perform a log query.
- Custom filters that contain Compliance, Important, Threat Type, Security Threat, or Threat Status Criteria information cannot be used to perform a log query.

c. Click **OK** to apply the selected targets.

4. Select a time period from the **Time** drop-down control.
5. To filter search results using custom criteria:

   a. Click **Show advanced filters**.

   b. Specify the **Match** rule for the custom filter:

      - **All of the criteria**: Data must match all the specified criteria
      - **Any of the criteria**: Data can match any of the specified criteria

   c. In the **Select criteria...** drop-down list, select a data column to filter.

**Note**

The data columns in the **Select criteria...** drop-down list dynamically change based on the log type you select in the first drop-down control.

For more information about the data columns, see *Log Names and Data Views on page 17-6* and refer to the corresponding data view details.

The filtering criteria that appear in the second and third drop-down lists dynamically change based on the data column you select.

**d.** In the second drop-down list, select an operator.

**e.** In the third drop-down list, define the criteria.

**Note**

Apex Central supports up to 20 custom filtering criteria for each log query.

**6.** Click **Search**.

The search results appear in the table on the **Log Query** screen.

**Note**

- The **Generated** column displays the local date and time on the endpoint for when the managed product first detected the threat.
- The **Received** column displays the local date and time on the Apex Central server for when the Apex Central server received the data from the managed product server.

**7.** (Optional) Click a link in a data column to drill down for more information.

**8.** (Optional) Customize the data columns in the search results.

- Click **Customize Columns** to add or remove columns that display in the table.
- Rearrange the order in which the columns display by dragging the column headings.

**9.** (Optional) Export the log query results.

**a.** Click **Export to CSV** or **Export to XML**.

The **Log Query Exporting page** screen appears.

**b.** After the export completes, open or save the file.

**10.** (Optional) Save log query search criteria.

**Note**

- Saving a log query only saves the search criteria for the query. To save log query search results, export the results or create a report using a grid table.

  For more information about creating reports, see *Reports on page 19-1*.

- Saved queries are automatically visible to all users from the same Active Directory group.

- A gray user icon ( ) next to a saved query indicates a log query shared by a user from outside your Active Directory group. Hover over the icon to view the name of the user who shared the query.

**a.** Click the save button ( ).

**b.** Specify a name for the saved query.

**c.** Click **Save**.

After saving a log query, you can click the saved queries button ( ) to view a list of saved queries and perform the following actions.

- Click the name of a saved query to run the log query.
- Click the share icon ( ) next to a saved query name to share the log query with all Apex Central users.
- Click the stop sharing icon ( ) next to a saved query name to stop sharing the log query with all Apex Central users.
- Click the delete icon ( ) to remove the saved query.

## Log Names and Data Views

Apex Central log types correspond to specific data views for custom report templates. You can use the following data views to create custom report templates for your log query results.

For more information, see the following topics:

- *Custom Templates on page 19-2*
- *Data Views on page A-1*

**TABLE 17-1. Security Logs**

| LOG NAME | DATA VIEW | DESCRIPTION |
|---|---|---|
| **System Events:** | | |
| Virus/Malware | Detailed Virus/ Malware Information | Provides specific information about the virus/ malware detections on your network, such as the managed product that detected the viruses/malware, the name of the virus/ malware, and the infected endpoint<br><br>For more information, see *Detailed Virus/ Malware Information on page A-72*. |
| Spyware/Grayware | Detailed Spyware/ Grayware Information | Provides specific information about the spyware/grayware detections on your network, such as the managed product that detected the spyware/grayware, the name of the spyware/grayware, and the name of the infected endpoint<br><br>For more information, see *Detailed Spyware/ Grayware Information on page A-59*. |
| Suspicious Files | Detailed Suspicious File Information | Provides specific information about suspicious files detected on your network<br><br>For more information, see *Detailed Suspicious File Information on page A-5*. |

| Log Name | Data View | Description |
|---|---|---|
| Behavior Monitoring | Detailed Behavior Monitoring Information | Provides specific information about Behavior Monitoring events on your network<br><br>For more information, see *Detailed Behavior Monitoring Information on page A-48*. |
| Integrity Monitoring | Integrity Monitoring Information | Use to monitor specific changes to an endpoint, such as installed software, running services, processes, files, directories, listening ports, registry keys, and registry values<br><br>For more information, see *Integrity Monitoring Information on page A-54*. |
| Application Control | Detailed Application Control Violation Information | Provides specific information about application control violations on your network, such as the violated Security Agent policy and criteria<br><br>For more information, see *Detailed Application Control Violation Information on page A-46*. |
| Device Control | Device Access Control Information | Provides specific information about Device Access Control events on your network<br><br>For more information, see *Device Access Control Information on page A-43*. |
| Endpoint Security Compliance | Detailed Endpoint Security Compliance Information | Provides specific information about endpoint security compliance on your network<br><br>For more information, see *Detailed Endpoint Security Compliance Information on page A-49*. |
| Endpoint Security Violations | Detailed Endpoint Security Violation Information | Provides specific information about endpoint security violations on your network<br><br>For more information, see *Detailed Endpoint Security Violation Information on page A-50*. |

| Log Name | Data View | Description |
|---|---|---|
| Predictive Machine Learning | Detailed Predictive Machine Learning Information | Provides specific information about advanced unknown threats detected by Predictive Machine Learning<br><br>For more information, see *Detailed Predictive Machine Learning Information on page A-3*. |
| Virtual Analyzer | Detailed Virtual Analyzer Detection Information | Provides specific information about advanced unknown threats detected by Virtual Analyzer<br><br>For more information, see *Virtual Analyzer Detection Information on page A-6*. |
| Virtual Analyzer Suspicious Objects | Detailed Virtual Analyzer Suspicious Object Impact Information | Provides detailed information about the impact of Virtual Analyzer suspicious objects<br><br>For more information, see *Detailed Virtual Analyzer Suspicious Object Impact Information on page A-7*. |
| Attack Discovery | Attack Discovery Detection Information | Provides general information about threats detected by Attack Discovery<br><br>For more information, see *Attack Discovery Detection Information on page A-10*. |
| Gray Detections | Gray Detection Information | Provides detailed information about possible indicators of attack detected on your network<br><br>For more information, see *Gray Detection Information on page A-38*. |
| **Network Events:** | | |
| Spam Connections | Spam Connection Information | Provides specific information about the source of spam on your network, such as the managed product that detected the spam, the specific action taken by the managed product, and the total number of spam detected<br><br>For more information, see *Spam Connection Information on page A-57*. |

| Log Name | Data View | Description |
|---|---|---|
| Content Violations | Detailed Content Violation Information | Provides specific information about the email messages with content violations, such as the managed product that detected the content violation, the sender(s) and recipients(s) of the email message, the name of the content violation policy, and the total number of violations detected<br><br>For more information, see *Detailed Content Violation Information on page A-17*. |
| Email Messages with Advanced Threats | Email Messages with Advanced Threats | Provides specific information about email messages with advanced threats, such as anomalous behavior, false or misleading data, suspicious and malicious behavior patterns, and strings that indicate system compromise but require further investigation to confirm<br><br>For more information, see *Email Messages with Advanced Threats on page A-18*. |
| Web Reputation | Detailed Web Reputation Information | Provides compliance information about application activity detected by Web Reputation Services<br><br>For more information, see *Detailed Web Reputation Information on page A-84*. |
| Web Violations | Detailed Web Violation Information | Provides specific information about web violations on your network<br><br>For more information, see *Detailed Web Violation Information on page A-86*. |
| Firewall Violations | Detailed Firewall Violation Information | Provides specific information about firewall violations on your network, such as the managed product that detected the violation, the source and destination of the transmission, and the total number of firewall violations<br><br>For more information, see *Detailed Firewall Violation Information on page A-51*. |

| Log Name | Data View | Description |
|---|---|---|
| Network Content Inspection | Network Content Inspection Information | Provides specific information about network content violations on your network<br><br>For more information, see *Network Content Inspection Information on page A-54*. |
| Intrusion Prevention | Detailed Intrusion Prevention Information | Provides specific information to help you achieve timely protection against known and zero-day attacks, defend against web application vulnerabilities, and identify malicious software accessing the network<br><br>For more information, see *Detailed Intrusion Prevention Information on page A-52*. |
| C&C Callbacks | Detailed C&C Callback Information | Provides specific information about C&C callback events detected on your network<br><br>For more information, see *Detailed C&C Callback Information on page A-2*. |
| Suspicious Threats | Detailed Suspicious Threat Information | Provides specific information about suspicious threats on your network, such as the managed product that detected the suspicious threat, specific information about the source and destination, and the total number of suspicious threats on the network<br><br>For more information, see *Detailed Suspicious Threat Information on page A-26*. |
| Application Activity | Detailed Application Activity | Displays specific information about application activities that violate network security policies<br><br>For more information, see *Detailed Application Activity on page A-44*. |
| Mitigation | Detailed Mitigation Information | Provides specific information about tasks carried out by mitigation servers to resolve threats on your network<br><br>For more information, see *Detailed Mitigation Information on page A-25*. |

| Log Name | Data View | Description |
|---|---|---|
| Correlation | Detailed Correlation Information | Provides specific information about detailed threat analyses and remediation recommendations<br><br>For more information, see *Detailed Correlation Information on page A-24*. |
| **Data Protection Events:** | | |
| Data Loss Prevention | DLP Incident Information | Provides specific information about incidents detected by Data Loss Prevention<br><br>For more information, see *DLP Incident Information on page A-21*. |
| Data Discovery | Data Discovery Data Loss Prevention Detection Information | Displays specific information about incidents detected by Data Discovery<br><br>For more information, see *Data Discovery Data Loss Prevention Detection Information on page A-20*. |

**Table 17-2. Product Information**

| Log Name | Data View | Description |
|---|---|---|
| **Managed Product:** | | |
| Product Status | Product Status Information | Provides detailed information about managed products registered to the Apex Central server, such as the managed product version and build number, and the managed product server operating system<br><br>For more information, see *Product Status Information on page A-109*. |
| Product Events | Product Event Information | Provides information about managed product events, such as managed products registering to Apex Central, component updates, and Activation Code deployments<br><br>For more information, see *Product Event Information on page A-108*. |

| Log Name | Data View | Description |
|---|---|---|
| Product Auditing Events | Product Auditing Event Log | Provides information about managed product auditing events, such as managed product console access<br><br>For more information, see *Product Auditing Event Log on page A-106*. |
| **Apex Central:** | | |
| Command Tracking | Command Tracking Information | Provides information about commands Apex Central issued to managed products, such as the date and time Apex Central issued commands for component updates or Activation Code deployments, and the status of the commands<br><br>For more information, see *Command Tracking Information on page A-94*. |
| Apex Central Events | Apex Central Event Information | Provides information about Apex Central server events, such as managed products registering to Apex Central, component updates, and Activation Code deployments<br><br>For more information, see *Apex Central Event Information on page A-94*. |
| Unmanaged Endpoints | Unmanaged Endpoints | Provides information about detected endpoints that do not have a Trend Micro Security Agent installed<br><br>For more information, see *Unmanaged Endpoint Information on page A-95*. |
| User Access | User Access Information | Provides information about Apex Central user access and the activities users perform while logged on to Apex Central<br><br>For more information, see *User Access Information on page A-96*. |

| Log Name | Data View | Description |
|---|---|---|
| Product Licenses | Detailed Product License Information | Provides information about the Activation Codes and licensing status of managed products or services, such as the managed product version and license expiration date<br><br>For more information, see *Detailed Product License Information on page A-104*. |

## Configuring Log Aggregation

Log aggregation allows you to conserve network bandwidth by sending only selected data from managed products to the Apex Central server.

**WARNING!**

Apex Central cannot recover data that managed products do not send to the Apex Central server.

**Procedure**

1. Go to **Detections** > **Logs** > **Log Aggregation Settings**.

   The **Edit Log Aggregation Rule** screen appears.

2. Select **Enable log aggregation**.
3. Expand log categories.
4. Clear check boxes to stop sending data from managed products to Apex Central.
5. Click **Save**.

## Configuring Syslog Forwarding

Use the **Syslog Settings** screen to configure Apex Central to forward supported logs to a syslog server.

For more information, see the following topics:

- *Disabling Syslog Forwarding on page 17-16*
- *Supported Log Types and Formats on page 17-17*

**Procedure**

1. Go to **Administration** > **Settings** > **Syslog Settings**.

   The **Syslog Settings** screen appears.

2. Select the **Enable syslog forwarding** check box.

3. Configure the following settings for the server that receives the forwarded syslogs:

   - **Server address**: Syslog server IP address or FQDN
   - **Port**: Syslog server port number
   - **Protocol**: Select the transmission protocol

   **Note**

   If **SSL/TLS** is selected, Apex Central accepts valid self-signed certificates by default.

   - If the server certificate contains a Subject Alternative Name, the Subject Alternative Name must contain the server FQDN or IP address.
   - For additional security, use a valid server certificate or upload the server certificate to Apex Central.

4. (Optional) To upload a server certificate:

**Important**

- Apex Central only supports server certificates in X.509 format with .DER or .PEM encoding.

  For more information, see https://support.ssl.com/Knowledgebase/Article/View/19/0/der-vs-crt-vs-cer-vs-pem-certificates-and-how-to-convert-them.

- Apex Central only supports uploading server certificates for SSL/TLS transmissions.

**a.** Select the **Use server certificate** check box.

**b.** Click **Select** to select the server certificate from your computer.

**c.** Click **Open**.

Apex Central uploads the selected server certificate.

**5.** Select the log format:

- **CEF**: Uses the standard Common Event Format (CEF) for log messages
- **Apex Central format**: Sets the syslog **Facility** code to "Local0" and the **Severity** code to "Notice"

For more information, see *Supported Log Types and Formats on page 17-17*.

**6.** Configure the frequency for when Apex Central forwards the logs.

**7.** Select the log type(s) to forward:

**a.** Select a log category from the **Log type** drop-down list:

**Note**

You can select log types from multiple log categories.

- **Security logs**

- **Product information**

**b.** Select the check box(es) for the log(s) you want to forward.

Apex Central displays the total number of selected log types next to the **Log type** drop-down list.

**c.** (Optional) Select another log category from **Log type** drop-down list to select additional logs types to forward.

**8.** (Optional) Click **Test Connection** to test the server connection.

**Note**

Testing the connection does not save the syslog server settings.

The syslog server connection status appears at the top of the screen.

**9.** Click **Save**.

- Apex Central starts forwarding logs to the configured syslog server.
- To monitor the log forwarding status, go to **Administration** > **Command Tracking** and select **Forward Syslog** from the **Command** drop-down list.

  For more information, see *Querying and Viewing Commands on page 13-3*.

## Disabling Syslog Forwarding

Use the **Syslog Settings** screen to stop forwarding logs from Apex Central to a syslog server.

**Procedure**

**1.** Go to **Administration** > **Settings** > **Syslog Settings**.

The **Syslog Settings** screen appears.

**2.** Clear the **Enable syslog forwarding** check box.

3. Click **Save**.

   Apex Central stops forwarding logs to the configured syslog server.

## Supported Log Types and Formats

Apex Central can forward logs to a syslog server in the following log formats:

- **CEF**: Uses the standard Common Event Format (CEF) for log messages
- **Apex Central format**: Sets the syslog **Facility** code to "Local0" and the **Severity** code to "Notice"

The following tables outline the formats supported by each log type.

**TABLE 17-3. Security Logs**

| LOG TYPE | CEF | APEX CENTRAL FORMAT |
|---|---|---|
| Application Control | Yes | No |
| Attack Discovery | Yes | No |
| Behavior Monitoring | Yes | Yes |
| C&C Callbacks | Yes | No |
| Content Violations | Yes | No |
| Data Loss Prevention | Yes | Yes |
| Device Control | Yes | Yes |
| Intrusion Prevention | Yes | No |
| Network Content Inspection | Yes | No |
| Predictive Machine Learning | Yes | No |
| Spyware/Grayware | Yes | No |
| Suspicious Files | Yes | No |
| Virtual Analyzer | Yes | No |

| Log Type | CEF | Apex Central Format |
|---|---|---|
| Virus/Malware | Yes | No |
| Web Violations | Yes | No |

**Table 17-4. Product Information**

| Log Type | CEF | Apex Central Format |
|---|---|---|
| Engine Update Status | Yes | Yes |
| Product Auditing Events | Yes | No |
| Pattern Update Status | Yes | Yes |

For information about mapping syslog content between CEF and Apex Central formats, see *Syslog Content Mapping - CEF on page E-1*.

## Deleting Logs

The **Log Maintenance** displays the number of log entries and how long Apex Central stores the logs for each log type. You can use the **Log Maintenance** screen to manually delete log entries by type.

**WARNING!**

- Manually deleting log data may affect report generation.
- Apex Central automatically deletes logs from Trend Micro servers after 90 days for new customers.

**Note**

If you are an existing customer and previously changed the default **Maximum Log Age**, Apex Central retains logs on Trend Micro servers according to the previously configured setting.

**Tip**

Trend Micro recommends backing up Data Loss Prevention logs to your Security Information and Event Management (SIEM) server and keeping the logs for at least 2 years.

**Procedure**

1. Go to **Detections** > **Logs** > **Log Maintenance**.

   The **Log Maintenance** screen appears.

2. Click **Delete All** in the corresponding row for the type of log entries you want to delete.

   A confirmation message appears.

3. Click **OK** to delete all logs for the selected type.

# Chapter 18

## Notifications

This section discusses how to send notifications about events that occur on the Apex Central as a Service network.

Topics include:


- *Event Notifications on page 18-2*
- *Contact Groups on page 18-3*
- *Advanced Threat Activity Events on page 18-6*
- *Content Policy Violation Events on page 18-26*
- *Data Loss Prevention Events on page 18-28*
- *Known Threat Activity Events on page 18-37*
- *Network Access Control Events on page 18-48*
- *Unusual Product Behavior Events on page 18-50*
- *Updates on page 18-66*

# Event Notifications

Apex Central can notify individuals or groups of recipients about events detected by managed products.

Use the **Event Notifications** screen to enable or disable notifications about events from the following categories.

| Event Category | Description |
|---|---|
| Advanced Threat Activity | Provides warnings about advanced and unknown threats<br><br>For more information, see *Advanced Threat Activity Events on page 18-6*. |
| Content Policy Violation | Provides warnings about email content and URL security policy violations<br><br>For more information, see *Content Policy Violation Events on page 18-26*. |
| Data Loss Prevention | Provides information about Data Loss Prevention incidents and template matches<br><br>For more information, see *Data Loss Prevention Events on page 18-28*. |
| Known Threat Activity | Provides warnings about viruses/spyware/grayware detected by antivirus managed products<br><br>For more information, see *Known Threat Activity Events on page 18-37*. |
| Network Access Control | Provides warnings from managed Network VirusWall products<br><br>For more information, see *Network Access Control Events on page 18-48*. |
| Unusual Product Behavior | Provides information about product options or service activation and deactivation<br><br>For more information, see *Unusual Product Behavior Events on page 18-50*. |

| Event Category | Description |
|---|---|
| Updates | Provides antivirus and content security component update results (successful or unsuccessful)<br><br>For more information, see *Updates on page 18-66*. |

# Contact Groups

The **Contact Groups** screen provides a list of all previously defined contact groups that are available when specifying report and event notification recipients. Apex Central contact groups allow you to send notifications or reports to all the recipients in the same group without having to select user accounts individually.

The following table outlines the tasks available on the **Contact Groups** screen.

| Task | Description |
|---|---|
| Add new contact groups | Click **Add** to create a new contact group.<br><br>For more information, see *Adding Contact Groups on page 18-3*. |
| Remove existing contact groups | Select an existing contact group and click **Remove**.<br><br>**WARNING!**<br>Deleting a contact group affects all reports or notifications using the group. |
| Edit existing contact groups | Click the **Name** of an existing contact group to edit the recipients.<br><br>For more information, see *Editing Contact Groups on page 18-4*. |

## Adding Contact Groups

Use the **Add Group** screen to create new contact groups for reports and event notifications.

**Procedure**

1. Go to **Detections** > **Notifications** > **Contact Groups**

   The **Contact Groups** screen appears.

2. Click **Add**.

   The **Add Group** screen appears.

3. Type a name for the contact group.

4. Specify recipients for the contact group.

   - From the **Available User Accounts** list, select user accounts and click **>**.

     The selected user accounts appear in the **Selected User Accounts** list.

     **Note**

     You can also add users and groups from an integrated Active Directory structure.

     For more information, see *Active Directory Integration on page 6-2*.

   - In the **Additional recipients** field, type an email address and press ENTER.

     The newly added email address appears below the **Additional recipients** field.

     **Note**

     You can only add one email address at a time.

5. Click **Save**.

## Editing Contact Groups

Use the **Edit Group** screen to create new contact groups for reports and event notifications.

**Note**

You cannot edit the **Name** of an existing contact group.

### Procedure

1. Go to **Detections** > **Notifications** > **Contact Groups**

   The **Contact Groups** screen appears.

2. Click the **Name** of the contact group you want to edit.

   The **Edit Group** screen appears.

3. Specify recipients for the contact group.

   - From the **Available User Accounts** list, select user accounts and click **>**.

     The selected user accounts appear in the **Selected User Accounts** list.

     **Note**

     You can also add users and groups from an integrated Active Directory structure.

     For more information, see *Active Directory Integration on page 6-2*.

   - In the **Additional recipients** field, type an email address and press ENTER.

     The newly added email address appears below the **Additional recipients** field.

     **Note**

     You can only add one email address at a time.

4. Click **Save**.

# Advanced Threat Activity Events

Use the **Event Notifications** screen to enable and configure notifications for advanced threat activity detected on your network.

## Attack Discovery Detections

Configure the following event notification to notify administrators when advanced threats have been detected by the Attack Discovery Engine.

---

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Advanced Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Attack Discovery Detections**.

   The **Attack Discovery Detections** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Detection type | Select the risk level of the detections that trigger the event notification. |
| Period | Specify the period of time. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Attack Discovery Token Variables on page 18-54*. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

## Behavior Monitoring Violations

Configure the following event notification to notify administrators when Behavior Monitoring violations have been detected.

### Procedure

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.
2. Click **Advanced Threat Activity**.

   A list of events appears.
3. In the **Event** column, click **Behavior Monitoring violations**.

   The **Behavior Monitoring violations** screen appears.
4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Trigger an alert for each detection | Select to send an event notification for each detection. |
| Specify the alert threshold that applies to a single endpoint | Select to send event notifications only for detections that match the specified criteria.<br><br>• Detections: Specify the number of detections<br><br>• Period: Specify the time period in hours |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Advanced Threat Activity Token Variables on page 18-55*. |

7. To test if recipients can receive the event notification, click **Test**.

8. Click **Save**.

## C&C Callback Alert

Configure the following event notification to notify administrators when communication between an endpoint and a known C&C callback address has been detected.

### Procedure

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Advanced Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **C&C callback alert**.

   The **C&C Callback Alert** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| C&C list source | Select one or more C&C list sources. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

   The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *C&C Callback Token Variables on page 18-58*. |

7. To test if recipients can receive the event notification, click **Test**.

8. Click **Save**.

## C&C Callback Outbreak Alert

Configure the following event notification to notify administrators when communications between multiple endpoints and known C&C callback addresses have been detected.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Advanced Threat Activity**.

A list of events appears.

3. In the **Event** column, click **C&C callback outbreak alert**.

   The **C&C Callback Outbreak Alert** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| C&C list source | Select one or more C&C list sources. |
| Callback attempts | Specify the number of callback attempts. |
| Compromised hosts | Specify the number of compromised hosts. |
| Period | Specify the period of time. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *C&C Callback Token Variables on page 18-58*. |

7. To test if recipients can receive the event notification, click **Test**.

8. Click **Save**.

## Correlated Incident Detections

Configure the following event notification to notify administrators when correlated incidents have been detected.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Advanced Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Correlated incident detections**.

   The **Correlated Incident Detections** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Attach logs in CSV format | Select to send event notification recipients a *.csv file containing log data about the detections. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| METHOD | DESCRIPTION |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Advanced Threat Activity Token Variables on page 18-55*.<br><br>**Note**<br>The `%hostIP%` and `%group%` token variables are not applicable in email notifications because data is aggregated from multiple hosts. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

## Email Messages with Advanced Threats

Configure the following event notification to notify administrators when email messages with advanced threats have been detected.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.
2. Click **Advanced Threat Activity**.

   A list of events appears.
3. In the **Event** column, click **Email messages with advanced threats**.

   The **Email Messages with Advanced Threats** screen appears.
4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Detections | Type the number of threats detected by the managed product. |
| Period | Specify the period of time. |
| Detection type | Select the risk level of the detections that trigger the event notification. |

5. Select recipients for the notification.
   a. From the **Available Users and Groups** list, select contact groups or user accounts.
   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.
6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53*. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

## High Risk Virtual Analyzer Detections

Configure the following event notification to notify administrators when Virtual Analyzer detects highly suspicious objects.

### Procedure

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Advanced Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **High risk Virtual Analyzer detections**.

   The **High Risk Virtual Analyzer Detections** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Trigger an alert for each detection | Select to send an event notification for each detection. |
| Specify the alert threshold that applies to a single endpoint | Select to send event notifications only for detections that match the specified criteria.<br>• Detections: Specify the number of detections<br>• Period: Specify the time period in hours |
| Attach logs in CSV format | Select to send event notification recipients a *.csv file containing log data about the detections. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br>For more information, see *Standard Token Variables on page 18-53* and *Advanced Threat Activity Token Variables on page 18-55*. |

7. To test if recipients can receive the event notification, click **Test**.

8. Click **Save**.

## High Risk Host Detections

Configure the following event notification to notify administrators when a high risk host has been detected on your network.

### Procedure

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Advanced Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **High risk host detections**.

   The **High Risk Host Detections** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Trigger an alert for each detection | Select to send an event notification for each detection. |
| Specify the alert threshold that applies to a single endpoint | Select to send event notifications only for detections that match the specified criteria.<br>• Detections: Specify the number of detections<br>• Period: Specify the time period in hours |
| Attach logs in CSV format | Select to send event notification recipients a *.csv file containing log data about the detections. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Advanced Threat Activity Token Variables on page 18-55*. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

## Known Targeted Attack Behavior

Configure the following event notification to notify administrators when known targeted attack behavior has been detected on your network.

### Procedure

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Advanced Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Known targeted attack behavior**.

   The **Known Targeted Attack Behavior** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Trigger an alert for each detection | Select to send an event notification for each detection. |

| Settings | Description |
|---|---|
| Specify the alert threshold that applies to a single endpoint | Select to send event notifications only for detections that match the specified criteria.<br>• Detections: Specify the number of detections<br>• Period: Specify the time period in hours |
| Attach logs in CSV format | Select to send event notification recipients a *.csv file containing log data about the detections. |

5. Select recipients for the notification.
   a. From the **Available Users and Groups** list, select contact groups or user accounts.
   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.
6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br>For more information, see *Standard Token Variables on page 18-53* and *Advanced Threat Activity Token Variables on page 18-55*. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

## Potential Document Exploit Detections

Configure the following event notification to notify administrators when documents that contain potential exploit code have been detected on your network.

### Procedure

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Advanced Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Potential document exploit detections**.

   The **Potential Document Exploit Detections** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Trigger an alert for each detection | Select to send an event notification for each detection. |
| Specify the alert threshold that applies to a single endpoint | Select to send event notifications only for detections that match the specified criteria.<br>• Detections: Specify the number of detections<br>• Period: Specify the time period in hours |
| Attach logs in CSV format | Select to send event notification recipients a *.csv file containing log data about the detections. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Advanced Threat Activity Token Variables on page 18-55*. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

## Predictive Machine Learning Detections

Configure the following event notification to notify administrators when emerging unknown security threats have been detected by Trend Micro Predictive Machine Learning.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Advanced Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Predictive Machine Learning detections**.

   The **Predictive Machine Learning detections** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Trigger an alert for each detection | Select to send an event notification for each detection. |

| Settings | Description |
|---|---|
| Specify the alert threshold that applies to a single endpoint | Select to send event notifications only for detections that match the specified criteria.<br>• Detections: Specify the number of detections<br>• Period: Specify the time period in hours |

5. Select recipients for the notification.
   a. From the **Available Users and Groups** list, select contact groups or user accounts.
   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.
6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br>For more information, see *Advanced Threat Activity Token Variables on page 18-55*. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

## Rootkit or Hacking Tool Detections

Configure the following event notification to notify administrators when a rootkit or hacking tool has been detected on your network.

### Procedure

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Advanced Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Rootkit or hacking tool detections**.

   The **Rootkit or Hacking Tool Detections** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Trigger an alert for each detection | Select to send an event notification for each detection. |
| Specify the alert threshold that applies to a single endpoint | Select to send event notifications only for detections that match the specified criteria.<br>• Detections: Specify the number of detections<br>• Period: Specify the time period in hours |
| Attach logs in CSV format | Select to send event notification recipients a *.csv file containing log data about the detections. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br>For more information, see *Standard Token Variables on page 18-53* and *Advanced Threat Activity Token Variables on page 18-55*. |

7. To test if recipients can receive the event notification, click **Test**.

8. Click **Save**.

## SHA-1 Deny List Detections

Configure the following event notification to notify administrators when files with SHA-1 values that match objects in the Deny List have been detected on your network.

### Procedure

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Advanced Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **SHA-1 Deny List detections**.

   The **SHA-1 Deny List Detections** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Trigger an alert for each detection | Select to send an event notification for each detection. |
| Specify the alert threshold that applies to a single endpoint | Select to send event notifications only for detections that match the specified criteria.<br>• Detections: Specify the number of detections<br>• Period: Specify the time period in hours |
| Attach logs in CSV format | Select to send event notification recipients a *.csv file containing log data about the detections. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

**b.** Click **>**.

The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Advanced Threat Activity Token Variables on page 18-55*. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

## Watchlisted Recipients at Risk

Configure the following event notification to notify administrators when Deep Discovery Email Inspector detects malicious or suspicious email messages or attachments sent to watchlisted recipients.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Advanced Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Watchlisted recipients at risk**.

   The **Watchlisted Recipients at Risk** screen appears.

4. Specify the following notification settings.

| Criteria | Description |
|---|---|
| Email address watchlist | Type the email addresses to be monitored. Use a semicolon (;) to separate multiple entries. |
| Type | Select the risk level of the detections that trigger the event notification. |
| Detections | Type the number of threats detected by the managed product. |
| Period | Specify the time period for the detections. |

5. Select recipients for the notification.
   a. From the **Available Users and Groups** list, select contact groups or user accounts.
   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.
6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Advanced Threat Activity Token Variables on page 18-55*. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

## Worm or File Infector Propagation Detections

Configure the following event notification to notify administrators when worm or file infector characteristics have been detected on your network.

## Procedure

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Advanced Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Worm or file infector propagation detections**.

   The **Worm or File Infector Propagation Detections** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Trigger an alert for each detection | Select to send an event notification for each detection. |
| Specify the alert threshold | Select to send event notifications only for detections that match the specified criteria.<br>• Detections: Specify the number of detections<br>• Period: Specify the time period in hours |
| Attach logs in CSV format | Select to send event notification recipients a *.csv file containing log data about the detections. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Advanced Threat Activity Token Variables on page 18-55*. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

# Content Policy Violation Events

Use the **Event Notifications** screen to enable and configure notifications for content policy violations detected on your network.

## Email Policy Violation

Configure the following event notification to notify administrators when an email has been detected violating content security policy.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.
2. Click **Content Violation Policy**.

   A list of events appears.
3. In the **Event** column, click **Email policy violation**.

   The **Email Policy Violation** screen appears.
4. Select recipients for the notification.
   a. From the **Available Users and Groups** list, select contact groups or user accounts.
   b. Click **>**.

The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Content Policy Violation Token Variables on page 18-60*. |

6. To test if recipients can receive the event notification, click **Test**.
7. Click **Save**.

## Web Access Policy Violation

Configure the following event notification to notify administrators when access to a URL has been blocked for violating a web access policy.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Content Violation Policy**.

   A list of events appears.

3. In the **Event** column, click **Web access policy violation**.

   The **Web Access Policy Violation** screen appears.

4. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

   The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Web Access Policy Violation Token Variables on page 18-66*. |

6. To test if recipients can receive the event notification, click **Test**.
7. Click **Save**.

# Data Loss Prevention Events

Use the **Event Notifications** screen to enable and configure notifications for Data Loss Prevention events detected on your network.

## Incident Details Updated

Configure the following event notification to notify administrators when incident details have been updated.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Data Loss Prevention**.

   A list of events appears.

3. In the **Event** column, click **Incident details updated**.

   The **Incident Details Updated** screen appears.

4. Specify the criteria for the incident detail updates to be notified about:

| Criteria | Description |
|---|---|
| Incident detail updates | Select the type of incident detail updates.<br>• **Closed**<br>• **Any change** |
| Filter by severity level | Select one of more of the following risk levels.<br>• **High**<br>• **Medium**<br>• **Low**<br>• **Informational**<br>• **Undefined** |

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br>For more information, see *Standard Token Variables on page 18-53* and *Data Loss Prevention Token Variables on page 18-61*. |

6. To test if recipients can receive the event notification, click **Test**.
7. Click **Save**.

## Scheduled Incident Summary

Configure the following event notification to send administrators a summary of the DLP incidents that occurred on your network.

### Procedure

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Data Loss Prevention**.

A list of events appears.

3. In the **Event** column, click **Scheduled incident summary**.

   The **Scheduled Incident Summary** screen appears.

4. Specify the following notification settings.

| Criteria | Description |
|---|---|
| Frequency | Select to receive notifications on a daily or weekly basis. |
| Attach incident details | Select to attach incident logs to the notification.<br>• Select the content that DLP Compliance Officers receive:<br>  • **Incidents from all managed users**<br>  • **Incidents from direct reports only**<br>**Note**<br>DLP Incident Reviewers can only receive incidents from direct reports<br>• Select the format of the log details |

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br>For more information, see *Standard Token Variables on page 18-53* and *Data Loss Prevention Token Variables on page 18-61*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

## Significant Incident Increase

Configure the following event to notify administrators when a significant increase in DLP incidents occurred over a predefined period.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Data Loss Prevention**.

   A list of events appears.

3. In the **Event** column, click **Significant incident increase**.

   The **Significant Incident Increase** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Hourly | Specify the number of hourly incidents. |
| Daily | Specify the number of daily incidents. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Data Loss Prevention Token Variables on page 18-61*. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

## Significant Incident Increase by Channel

Configure the following event notification to notify administrators when a significant increase in DLP incidents by channel occurred over a predefined period.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.
2. Click **Data Loss Prevention**.

   A list of events appears.
3. In the **Event** column, click **Significant incident increase by channel**.

   The **Significant Incident Increase By Channel** screen appears.
4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Hourly | Specify the number of hourly incidents. |
| Daily | Specify the number of daily incidents. |

5. Select recipients for the notification.
   a. From the **Available Users and Groups** list, select contact groups or user accounts.

**b.** Click **>**.

The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| METHOD | DESCRIPTION |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Data Loss Prevention Token Variables on page 18-61*. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

## Significant Incident Increase by Sender

Configure the following event notification to notify administrators when a significant increase in DLP incidents by sender occurred over a predefined period.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Data Loss Prevention**.

   A list of events appears.

3. In the **Event** column, click **Significant incident increase by sender**.

   The **Significant Incident Increase by Sender** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Hourly | Specify the number of hourly incidents. |
| Daily | Specify the number of daily incidents. |

5. Select recipients for the notification.
   a. From the **Available Users and Groups** list, select contact groups or user accounts.
   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.
6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Data Loss Prevention Token Variables on page 18-61*. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

## Significant Incident Increase by User

Configure the following event notification to notify administrators when a significant increase in DLP incidents by user occurred over a predefined period.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.
2. Click **Data Loss Prevention**.

A list of events appears.

3. In the **Event** column, click **Significant incident increase by user**.

   The **Significant Incident Increase by User** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Hourly | Specify the number of hourly incidents. |
| Daily | Specify the number of daily incidents. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Data Loss Prevention Token Variables on page 18-61*. |

7. To test if recipients can receive the event notification, click **Test**.

8. Click **Save**.

## Significant Template Match Increase

Configure the following event notification to notify administrators when a significant increase in DLP template matches occurred over a predefined period.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Data Loss Prevention**.

   A list of events appears.

3. In the **Event** column, click **Significant template match increase**.

   The **Significant Template Match Increase** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Hourly | Specify the number of hourly incidents. |
| Daily | Specify the number of daily incidents. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Data Loss Prevention Token Variables on page 18-61*. |

7. To test if recipients can receive the event notification, click **Test**.

8. Click **Save**.

# Known Threat Activity Events

Use the **Event Notifications** screen to enable and configure notifications for known threat activity detected on your network.

## Network Virus Alert

Configure the following event notification to notify administrators when a network virus has been detected.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Known Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Network virus alert**.

   The **Network Virus Alert** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Detections | Type the number of threats detected by the managed product. |
| Affected users/endpoints | Specify the number of affected users/endpoints. |
| Period | Specify the period of time. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53*, *Known Threat Activity Token Variables on page 18-63* and *Network Access Control Token Variables on page 18-65*. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

## Special Spyware/Grayware Alert

Configure the following event notification to notify administrators when a spyware/grayware included in the list of monitored spyware/grayware threats has been detected.

### Procedure

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.
2. Click **Known Threat Activity**.

   A list of events appears.
3. In the **Event** column, click **Special spyware/grayware alert**.

   The **Special Spyware/Grayware Alert** screen appears.
4. Type the names of the spyware/grayware to monitor.
5. Specify the following notification settings.

| Settings | Description |
|---|---|
| Period | Specify the period of time. |

6. Select recipients for the notification.
   a. From the **Available Users and Groups** list, select contact groups or user accounts.
   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.
7. Enable one or more of the following notification methods.

| METHOD | DESCRIPTION |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Known Threat Activity Token Variables on page 18-63*. |

8. To test if recipients can receive the event notification, click **Test**.
9. Click **Save**.

## Special Virus Alert

Configure the following event notification to notify administrators when a virus included in the list of monitored viruses has been detected.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.
2. Click **Known Threat Activity**.

   A list of events appears.
3. In the **Event** column, click **Special virus alert**.

   The **Special Virus Alert** screen appears.
4. Type the name of the viruses to monitor.

5. Specify the following notification settings.

| Settings | Description |
|---|---|
| Period | Specify the period of time. |

6. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

7. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53*, *Known Threat Activity Token Variables on page 18-63* and *Network Access Control Token Variables on page 18-65*. |

8. To test if recipients can receive the event notification, click **Test**.

9. Click **Save**.

## Spyware/Grayware Found - Action Successful

Configure the following event notification to notify administrators when the configured spyware/grayware scan actions are successful for the spyware/grayware detection.

### Procedure

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Known Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Spyware/Grayware found - action successful**.

   The **Spyware/Grayware Found - Action Successful** screen appears.

4. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Known Threat Activity Token Variables on page 18-63*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

## Spyware/Grayware Found - Further Action Required

Configure the following event notification to notify administrators when spyware/grayware detections require further action.

Configure the following event notification to notify administrators when the configured spyware/grayware scan actions were unsuccessful/unavailable for the spyware/grayware detection.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Known Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Spyware/Grayware found - further action required**.

   The **Spyware/Grayware Found - Further Action Required** screen appears.

4. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Known Threat Activity Token Variables on page 18-63*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

## Virus Found - First Action Successful

Configure the following event notification to notify administrators when the first scan action for a virus detection is successful.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Known Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Virus Found - first action successful**.

   The **Virus Found - First Action Successful** screen appears.

4. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Known Threat Activity Token Variables on page 18-63*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

## Virus Found - First Action Unsuccessful and Second Action Unavailable

Configure the following event notification to notify administrators when the first scan action for a virus detection is unsuccessful and the second action is unavailable.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Known Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Virus found - first action unsuccessful and second action unavailable**.

   The **Virus Found - First Action Unsuccessful and Second Action Unavailable** screen appears.

4. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Known Threat Activity Token Variables on page 18-63*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

## Virus Found - First and Second Actions Unsuccessful

Configure the following event notification to notify administrators when the first and second scan actions for a virus detection are unsuccessful.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Known Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Virus found - first and second actions unsuccessful**.

   The **Virus Found - First and Second Actions Unsuccessful** screen appears.

4. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Known Threat Activity Token Variables on page 18-63*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

## Virus Found - Second Action Successful

Configure the following event notification to notify administrators when the second scan action for a virus detection is successful.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Known Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Virus found - second action successful**.

   The **Virus Found - Second Action Successful** screen appears.

4. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br>For more information, see *Standard Token Variables on page 18-53* and *Known Threat Activity Token Variables on page 18-63*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

## Virus Outbreak Alert

Configure the following event notification to notify administrators when a virus outbreak is detected.

### Procedure

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Known Threat Activity**.

   A list of events appears.

3. In the **Event** column, click **Virus outbreak alert**.

   The **Virus Outbreak Alert** screen appears.

4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Detections | Type the number of threats detected by the managed product. |
| Affected users/endpoints | Specify the number of affected users/endpoints. |
| Period | Specify the period of time. |

5. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Known Threat Activity Token Variables on page 18-63*. |

7. To test if recipients can receive the event notification, click **Test**.
8. Click **Save**.

# Network Access Control Events

Use the **Event Notifications** screen to enable and configure notifications for Network VirusWall policy violations or potential vulnerability attacks detected on your network.

## Network VirusWall Policy Violations

Configure the following event notification to notify administrators when a Network VirusWall policy violation has been detected.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.
2. Click **Network Access Control**.

   A list of events appears.
3. In the **Event** column, click **Network VirusWall policy violations**.

   The **Network VirusWall Policy Violations** screen appears.
4. Select recipients for the notification.
   a. From the **Available Users and Groups** list, select contact groups or user accounts.
   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.
5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53*. |

6. To test if recipients can receive the event notification, click **Test**.
7. Click **Save**.

## Potential Vulnerability Attacks

Configure the following event notification to notify administrators when Network VirusWall has detected potential vulnerability attacks.

### Procedure

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.
2. Click **Network Access Control**.

   A list of events appears.
3. In the **Event** column, click **Potential vulnerability attacks**.

   The **Potential Vulnerability Attacks** screen appears.
4. Specify the following notification settings.

| Settings | Description |
|---|---|
| Detections | Specify the amount of potential vulnerability attacks detected by Network VirusWall. |
| Period | Specify the period of time. |
| Reported by | Specify the number of Network VirusWall devices that reported the potential vulnerability attack. |

5. Select recipients for the notification.

a. From the **Available Users and Groups** list, select contact groups or user accounts.

b. Click **>**.

The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

6. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53* and *Network Access Control Token Variables on page 18-65*. |

7. To test if recipients can receive the event notification, click **Test**.

8. Click **Save**.

# Unusual Product Behavior Events

Use the **Event Notifications** screen to enable and configure notifications for unusual product behaviors detected on your network.

## Managed Product Unreachable

Configure the following event notification to notify administrators when a connection error occurs between Apex Central and a managed product server.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

The **Event Notifications** screen appears.

2. Click **Unusual Product Behavior**.

A list of events appears.

3. In the **Event** column, click **Managed product unreachable**.

   The **Managed Product Unreachable** screen appears.

4. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

## Real-time Scan Disabled

Configure the following event notification to notify administrators when Real-time Scan is disabled.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Unusual Product Behavior**.

   A list of events appears.

3. In the **Event** column, click **Real-time Scan disabled**.

   The **Real-time Scan Disabled** screen appears.

4. Select recipients for the notification.
   a. From the **Available Users and Groups** list, select contact groups or user accounts.
   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.
5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53*. |

6. To test if recipients can receive the event notification, click **Test**.
7. Click **Save**.

## Real-time Scan Enabled

Configure the following event notification to notify administrators when Real-time Scan is enabled.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.
2. Click **Unusual Product Behavior**.

   A list of events appears.
3. In the **Event** column, click **Real-time Scan enabled**.

   The **Real-time Scan Enabled** screen appears.
4. Select recipients for the notification.

a. From the **Available Users and Groups** list, select contact groups or user accounts.

b. Click **>**.

The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| METHOD | DESCRIPTION |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

## Standard Token Variables

The following table describes token variables for customizing all event notification messages.

**Note**

Some event notifications support additional token variables. For the complete list of supported token variables for a specific event notification, refer to the notification method information for the specific event notification.

| VARIABLE | DESCRIPTION |
|---|---|
| `%cmserver%` | The Apex Central server name |
| `%computer%` | The name of the endpoint |
| `%entity%` | The display name of the managed product server in Apex Central |
| `%event%` | The event detected |

| Variable | Description |
|---|---|
| %pname% | The name of the managed product |
| %pver% | The version of the managed product |
| %time% | The time (hh:mm) when the event occurred |
| %vloginuser% | The logged on user name at the time of the event |
| %act% | The action taken by the managed product. Example: file cleaned, file deleted, file quarantined |

## Attack Discovery Token Variables

The following table describes token variables for customizing Attack Discovery event notification messages.

| Variable | Description |
|---|---|
| %cmserver% | The Apex Central server name |
| %computer% | The name of the endpoint |
| %entity% | The display name of the managed product server in Apex Central |
| %event% | The event detected |
| %pname% | The name of the managed product |
| %pver% | The version of the managed product |
| %time% | The time (hh:mm) when the event occurred |
| %vloginuser% | The logged on user name at the time of the event |
| %act% | The action taken by the managed product. Example: file cleaned, file deleted, file quarantined |
| %actresult% | The result of the action taken by the managed product. Example: successful, further action required |
| %highrisk_detection% | The number of high-risk detections for the specified period |

| Variable | Description |
|---|---|
| %highrisk_detection_endpoint% | The number of endpoints with high-risk detections for the specified period |
| %mediumrisk_detection% | The number of medium-risk detections for the specified period |
| %mediumrisk_detection_endpoint% | The number of endpoints with medium-risk detections for the specified period |
| %start_time% | The start date and time of the detection period |
| %end_time% | The end date and time of the detection period |

## Advanced Threat Activity Token Variables

**Note**

For the list of standard token variables supported by all event notifications, see *Standard Token Variables on page 18-53*.

The following table describes token variables for customizing Advanced Threat Activity event notification messages.

| Variable | Description |
|---|---|
| %hostIP% | Depending on the traffic direction, %hostIP% is IP address determined by Deep Discovery Inspector:<br>• Outbound traffic (internal traffic going to an external network): %hostIP% is the IP address of the endpoint in the network (source)<br>• Traffic within the network: %hostIP% is the IP address of the endpoint in the network<br>• External traffic to an endpoint in a network: %hostIP% is the IP address of the endpoint in the network<br>• Traffic outside the network: %hostIP% is the IP address of the endpoint outside the network |

| VARIABLE | DESCRIPTION |
|---|---|
| `%group%` | The name of the subnetwork |
| `%START_TIME%` | The start date and time of the detection period<br><br>**Note**<br>The specified time period for the notification criteria determines the start and end times. |
| `%END_TIME%` | The end date and time of the detection period<br><br>The start and end times define the time range interval. When logs are received during a certain interval, Apex Central calculates those logs. If the alert criteria is met, Apex Central counts the logs. `%START_TIME%` is the start time of the interval and `%END_TIME%` is the end time of the interval. The length of the interval is determined by the period threshold in the alert settings.<br><br>**Note**<br>The specified time period for the notification criteria determines the start and end times. |
| `%detections%` | The number of detections<br><br>For example:<br><br>`Event: High risk Virtual Analyzer detections`<br><br>`IP address: %hostIP%`<br><br>`Host name: %computer%`<br><br>`Group: %group%`<br><br>`Time range: %START_TIME% - %END_TIME%`<br><br>`Detections: %detections%` |

The following table describes token variables for customizing event notification messages for Behavior Monitoring violations and Predictive Machine Learning detections.

| Variable | Description |
| --- | --- |
| %hostIP% | Depending on the traffic direction, %hostIP% is IP address determined by Deep Discovery Inspector:<br>• Outbound traffic (internal traffic going to an external network): %hostIP% is the IP address of the endpoint in the network (source)<br>• Traffic within the network: %hostIP% is the IP address of the endpoint in the network<br>• External traffic to an endpoint in a network: %hostIP% is the IP address of the endpoint in the network<br>• Traffic outside the network: %hostIP% is the IP address of the endpoint outside the network |
| %START_TIME% | The start date and time of the detection period<br>**Note**<br>The specified time period for the notification criteria determines the start and end times. |
| %END_TIME% | The end date and time of the detection period<br>The start and end times define the time range interval. When logs are received during a certain interval, Apex Central calculates those logs. If the alert criteria is met, Apex Central counts the logs. %START_TIME% is the start time of the interval and %END_TIME% is the end time of the interval. The length of the interval is determined by the period threshold in the alert settings.<br>**Note**<br>The specified time period for the notification criteria determines the start and end times. |

| Variable | Description |
|---|---|
| %detections% | The number of detections<br>For example:<br>Event: High risk Virtual Analyzer detections<br>IP address: %hostIP%<br>Host name: %computer%<br>Group: %group%<br>Time range: %START_TIME% - %END_TIME%<br>Detections: %detections% |
| %domain% | The root domain of the target in the Apex One domain hierarchy |
| %hierarchy% | The full path of the target in the Apex One domain hierarchy |
| %BM_policy% | The Behavior Monitoring policy ID |
| %risklevel% | The risk level of the event |
| %target% | The target of the event |

## C&C Callback Token Variables

The following table describes token variables for customizing C&C Callback event notification messages.

**Note**

For the list of standard token variables supported by all event notifications, see *Standard Token Variables on page 18-53*.

| Variable | Description |
|---|---|
| %CnC_LIST_SRC% | Name of the list that contains the callback address |
| %CNC_PD_NAME% | Product ID of the managed product server that sent the log |

| Variable | Description |
|---|---|
| %CNC_PD_VERSION% | Version of the managed product server that sent the log |
| %CNC_PD_NODE% | Endpoint name of the managed product server that sent the log |
| %CNC_PD_IP% | IP address of the managed product server that sent the log |
| %CNC_EVTTIME% | Time the log was generated |
| %CNC_AGENTNAME% | Name of the Security Agent endpoint that detected the callback |
| %CNC_AGENTIP% | IP address of the Security Agent endpoint that detected the callback |
| %CNC_AGENTDOMAIN% | Apex One domain of the Security Agent endpoint that detected the callback |
| %CNC_POLICY_RULE% | Name or rule ID of the policy that detected the callback |
| %CNC_ACTION% | Action result from the security log, personal firewall, NCIE log, or web security log |
| %CNC_EMAIL_SENDER% | Email sender associated with the callback |
| %CNC_EMAIL_SUBJECT% | Email subject associated with the callback |
| %CNC_RISKLEVEL% | Risk level of the malware groups associated with the C&C server |
| %CNC_DETECT_SOURCE% | The C&C list that defined the detection rule |
| %CNC_CHANNEL% | The type ID that indicates the destination format |
| %CNC_URL% | The remote URL that the endpoint attempted to contact |
| %CNC_URL_CATEGORY% | The URL category of the site that the endpoint attempted to contact |
| %CNC_IP_PORT% | The C&C server IP address and port |
| %CNC_EMAIL_REPT% | Email recipient associated with the callback |
| %CNC_FIRST_SEEN% | The first known detection of the C&C server |

| Variable | Description |
|---|---|
| %CNC_LAST_SEEN% | The last known detection of the C&C server |
| %CNC_LOCATION% | The country code of the C&C server |
| %CNC_MALEWARE_FAMILY% | The malware family associated with the C&C detection |
| %CNC_ATTACK_GROUP% | The C&C group lists |
| %CNC_PROCESS_NAME% | The process name associated with the C&C detection |
| %CALLBACK_ADDR% | URL, IP address, or email address to which a compromised host attempts a callback |
| %COMPR_HOST% | Affected host or email address |
| %CALLBACK_NUM% | Number of contacts made between callback addresses and compromised hosts |
| %COMPR_HOST_NUM% | Number of compromised hosts involved in the outbreak |
| %CALLBACK_ADDR_NUM% | Number of callback addresses involved in the outbreak |

## Content Policy Violation Token Variables

The following table describes token variables for customizing Content Policy Violation event notification messages.

**Note**

For the list of standard token variables supported by all event notifications, see *Standard Token Variables on page 18-53*.

| Variable | Description |
|---|---|
| %subject% | Subject header of the email notification |

| Variable | Description |
|---|---|
| %sender% | Sender's email address |
| %recipient% | Recipient's email address |
| %filtername% | Name of the content filter rule/policy that has been violated |
| %filteract%% | Action applied by the filter |
| %msgact% | Action applied to the message |

## Data Loss Prevention Token Variables

The following table describes token variables for customizing Data Loss Prevention event notification messages.

**Note**

For the list of standard token variables supported by all event notifications, see *Standard Token Variables on page 18-53*.

| Variable | Description |
|---|---|
| %DLP_INCIDENT_TOTAL_NUM% | The total number of incidents triggered by directly managed users |
| %DLP_INCIDENT_HIGH_NUM% | The total number of high severity incidents triggered by directly managed users |
| %DLP_INCIDENT_MED_NUM% | The total number of medium severity incidents triggered by directly managed users |
| %DLP_INCIDENT_LOW_NUM% | The total number of low severity incidents triggered by directly managed users |
| %DLP_INCIDENT_INFO_NUM% | The total number of informational incidents triggered by directly managed users |
| %DLP_INCIDENT_UNDEFINED_NUM% | The total number of undefined severity incidents triggered by directly managed users |

| Variable | Description |
|---|---|
| %DLP_INCIDENT_ALLTOTAL_NUM% | The total number of incidents triggered by all managed users |
| %DLP_INCIDENT_ALLHIGH_NUM% | The total number of high severity incidents triggered by all managed users |
| %DLP_INCIDENT_ALLMED_NUM% | The total number of medium severity incidents triggered by all managed users |
| %DLP_INCIDENT_ALLLOW_NUM% | The total number of low severity incidents triggered by all managed users |
| %DLP_INCIDENT_ALLINFO_NUM% | The total number of informational incidents triggered by all managed users |
| %DLP_INCIDENT_ALLUNDEFINED_NUM% | The total number of undefined severity incidents triggered by all managed users |
| %DLP_START_TIME% | The start date and time for the reporting period |
| %DLP_END_TIME% | The end date and time for the reporting period |
| %weblink% | The link to view details of the incident information listed in the notification message |
| %INCIDENTID% | Incident ID number |
| %SEVERITY% | Incident severity level |
| %POLICY% | Apex Central policy name<br>**Note**<br>For incidents triggering DLP policies created on the managed product console, the Apex Central policy name appears as **N/A**. |
| %ACCOUNT% | User name |
| %OLD_STATUS% | Incident status before modification |
| %NEW_STATUS% | Incident status after modification |

| Variable | Description |
|---|---|
| %LATEST_COMMENT% | The latest comments about the incident |
| %DLP_VIOLATION_NUM% | The number of violations matching DLP policies |
| %DLP_THRESHOLD% | The number of violations that must be triggered to indicate a significant increase on policy violations |
| %DLP_TEMPLATE% | Template matching the significant incident increase |
| %DLP_USER_NAME% | The user name associated with the endpoint that triggered the DLP policy violation |
| %DLP_SENDER% | The sender of the message that triggered the DLP policy violation |
| %DLP_CHANNEL% | The channel of the incident that triggered the DLP policy violation |
| %STATUS_CHANGE_TIME% | Incident details updated |

## Known Threat Activity Token Variables

The following table describes token variables for customizing Known Threat Activity or Outbreak Prevention Service event notification messages.

**Note**

For the list of standard token variables supported by all event notifications, see *Standard Token Variables on page 18-53*.

| Variable | Description |
|---|---|
| %device_ip% | IP address of an infected endpoint |

| Variable | Description |
|---|---|
| `%egnver%` | • Scan engine version<br>• Used by the alert event category as well as the "Active Outbreak Prevention Policy received" and "Outbreak Prevention Mode started" notifications. For the notification types of the alert event category, this variable refers to the scan engine version currently installed on the managed product server.<br>• For the "Active Outbreak Prevention Policy received" and "Outbreak Prevention Mode started" notifications, this variable refers to the Outbreak Prevention Policy required. |
| `%hierarchy%` | • The location of the endpoint within the Apex One domain hierarchy<br>• Used by the alert event category |
| `%ptnver%` | • Virus pattern version<br>• Used by the alert event category and the "Active Outbreak Prevention Policy received" and "Outbreak Prevention Services started" notifications. For the notification types of the alert event category, this variable refers to the virus pattern version currently installed on the managed product server.<br>• For the "Active Outbreak Prevention Policy received" and "Outbreak Prevention Services started" notifications, this variable refers to the Outbreak Prevention Policy required. |
| `%scanmethod%` | The scan method for specific virus actions. This token is only available for the following alerts:<br>• Virus found-first action unsuccessful and second action unavailable<br>• Virus found-first and second actions unsuccessful<br>• Virus found-first action successful<br>• Virus found-second action successful |
| `%threat_info%` | • Virus/malware threat information provided by outbreak prevention policies<br>• Used by "Active Outbreak Prevention Policy received" and "Outbreak Prevention Services started" |

| VARIABLE | DESCRIPTION |
|---|---|
| %vcnt% | • Virus count.<br>• Used by virus outbreak alert. |
| %vdest% | • Virus/malware destination.<br>• Examples:<br>Email detection: %vdest% is the intended recipient<br>Host-based/Endpoint detection: %vdest% is the endpoint IP address or host name<br>• Used by the alert event category |
| %vfile% | Infected file name. Used by the alert event category. |
| %vfilepath% | Infected file directory. Used by the alert event category. |
| %vname% | Virus or malware name. Used by the alert event category. |
| %vsrc% | • Virus/malware origin or infection source.<br>• For example, the message sender takes the value of %vsrc% if an antivirus managed product detected a virus/malware in an email message.<br>• Used by the alert event category as well as the network virus alert notification type. |

## Network Access Control Token Variables

The following table describes token variables for customizing Network Access Control event notification messages.

**Note**

For the list of standard token variables supported by all event notifications, see *Standard Token Variables on page 18-53*.

| Variable | Description |
|---|---|
| `%action%` | Network VirusWall Enforcer action (pass, drop, or quarantine) taken on the network virus |
| `%description%` | Error description used by the potential vulnerability attack detected events |

### Web Access Policy Violation Token Variables

The following table describes token variables for customizing Web Access Policy Violation event notification messages.

**Note**

For the list of standard token variables supported by all event notifications, see *Standard Token Variables on page 18-53*.

| Variable | Description |
|---|---|
| `%url%` | URL in question |
| `%vdestip%` | IP address of the target URL |
| `%blockrule%` | Name of the rule that has been violated |
| `%blocktype%` | Action applied to the URL |

## Updates

Use the **Event Notifications** screen to enable and configure notifications for component update statuses.

### Antispam Rule Update Successful

Configure the following event notification to notify administrators when an antispam rule update is successful.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Update**.

   A list of events appears.

3. In the **Event** column, click **Antispam rule update successful**.

   The **Antispam Rule Update Successful** screen appears.

4. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

## Antispam Rule Update Unsuccessful

Configure the following event notification to notify administrators when an antispam rule update is unsuccessful.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Update**.

   A list of events appears.

3. In the **Event** column, click **Antispam rule update unsuccessful**.

   The **Antispam Rule Update Unsuccessful** screen appears.

4. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

## Pattern File/Cleanup Template Update Successful

Configure the following event notification to notify administrators when a pattern file or cleanup template update is successful.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Update**.

   A list of events appears.

3. In the **Event** column, click **Pattern file/Cleanup template update successful**.

   The **Pattern File/Cleanup Template Update Successful** screen appears.

4. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

## Pattern File/Cleanup Template Update Unsuccessful

Configure the following event notification to notify administrators when a pattern file or cleanup template update is unsuccessful.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Update**.

   A list of events appears.

3. In the **Event** column, click **Pattern file/Cleanup template update unsuccessful**.

   The **Pattern File/Cleanup Template Update Unsuccessful** screen appears.

4. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

## Scan Engine Update Successful

Configure the following event notification to notify administrators when a scan engine update is successful.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Update**.

   A list of events appears.

3. In the **Event** column, click **Scan engine update successful**.

   The **Scan Engine Update Successful** screen appears.

4. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

## Scan Engine Update Unsuccessful

Configure the following event notification to notify administrators when a scan engine update is unsuccessful.

**Procedure**

1. Go to **Detections** > **Notifications** > **Event Notifications**.

   The **Event Notifications** screen appears.

2. Click **Update**.

   A list of events appears.

3. In the **Event** column, click **Scan engine update unsuccessful**.

   The **Scan Engine Update Unsuccessful** screen appears.

4. Select recipients for the notification.

   a. From the **Available Users and Groups** list, select contact groups or user accounts.

   b. Click **>**.

      The selected contact groups or user accounts appear in the **Selected Users and Groups** list.

5. Enable one or more of the following notification methods.

| Method | Description |
|---|---|
| Email message | To customize the email notification template, use supported token variables or modify the text in the **Subject** and **Message** fields.<br><br>For more information, see *Standard Token Variables on page 18-53*. |

6. To test if recipients can receive the event notification, click **Test**.

7. Click **Save**.

# Chapter 19

## Reports

This section discusses how to create reports using the data collected from all managed products registered to Apex Central.

Topics include:


- *Reports Overview on page 19-2*
- *Custom Templates on page 19-2*
- *One-time Reports on page 19-20*
- *Scheduled Reports on page 19-25*
- *Configuring Report Maintenance on page 19-36*
- *Viewing My Reports on page 19-36*

# Reports Overview

Apex Central allows you to generate, download, and send reports that consolidate data from all registered managed products without having to log on to multiple product consoles.

You can use Apex Central to:

- Generate one-time reports on demand.
- Add scheduled reports to automatically generate and send reports to specified recipients on a user-defined schedule.
- Create custom report templates from data views or use pre-defined custom templates and static templates.
- Generate custom reports for endpoints that have been assigned custom tags, filters, or important labels.

# Custom Templates

The **Custom Templates** screen provides a list of all available custom report templates. Apex Central provides pre-defined custom templates for you to use. You can copy a pre-defined template to edit or create a new template by selecting and configuring specific report elements.

**Note**

Custom templates use data views that correspond to specific Apex Central logs to define the scope of the report data.

For more information, see the following topics:

- *Log Names and Data Views on page 17-6*
- *Data Views on page A-1*

The following table outlines the available tasks on the **Custom Templates** screen.

| Task | Description |
|---|---|
| Add new custom templates | Click **Add** to create a new custom template.<br>For more information, see *Adding or Editing Custom Templates on page 19-3*. |
| Delete custom templates | Select an existing template and click **Delete**. |
| Edit custom templates | Click the **Name** of an existing template to edit.<br>For more information, see *Adding or Editing Custom Templates on page 19-3*. |
| Copy custom templates | Select an existing template and click **Copy**. Apex Central adds a new template to the list using the following naming:<br>Copy of <original_template_name><br>For more information, see *Adding or Editing Custom Templates on page 19-3*. |
| Import custom templates | Click **Import** to import a properly formatted XML report template into Apex Central. |
| Export custom templates | Select an existing template and click **Export**. Apex Central exports the template in XML format. |

## Adding or Editing Custom Templates

You can create custom templates to generate company-specific reports in multiple formats.

---

**Procedure**

1. Go to **Detections** > **Reports** > **Custom Templates**.

   The **Custom Templates** screen appears.

2. Add, edit, or copy a template.

   - To add a new template, click **Add**.

     The **Add Report Template** screen appears.

- To edit an existing template, click the **Name** of the template.

  The **Edit Report Template** screen appears.

- To make a copy of an existing template to use as the basis for a new template:

  a. Select the check box to the left of the **Name** of the template you want to use.

  b. Click **Copy**.

     Apex Central adds a new template to the list using the following naming:

     Copy of <original_template_name>

  c. Click the newly added template **Name**.

     The **Edit Report Template** screen appears.

3. Specify a unique **Name** for the template.
4. (Optional) Provide a **Description** for the new template.
5. Using the **Working Panel**, drag and drop report elements into the available "row" to design the section layout of your report.

**Important**

Each row only supports 3 report elements.

**Tip**

If the **Working Panel** does not appear, click the **Show working panel** button beside **Template Content**.

**TABLE 19-1. Report Elements**

| TEMPLATE ELEMENT | DESCRIPTION |
|---|---|
| Static text | Provides a container for user-defined content<br><br>**Note**<br>Static text content can contain up to 4096 characters.<br><br>For more information, see *Configuring the Static Text Report Element on page 19-7*. |
| Bar chart | Inserts a customizable bar chart object<br><br>For more information, see *Configuring the Bar Chart Report Element on page 19-8*. |
| Line chart | Inserts a customizable line graph object<br><br>For more information, see *Configuring the Line Chart Report Element on page 19-11*. |
| Pie chart | Inserts a customizable pie chart object<br><br>For more information, see *Configuring the Pie Chart Report Element on page 19-13*. |
| Dynamic table | Inserts a customizable dynamic table / pivot table object<br><br>The information in a dynamic table compares exactly two data fields either horizontally or vertically.<br><br>For more information, see *Configuring the Dynamic Table Report Element on page 19-16*. |
| Grid table | Inserts a customizable table object<br><br>The information in a grid table will be the same as the information that displays in a log query.<br><br>For more information, see *Configuring the Grid Table Report Element on page 19-19*. |

6. Organize the layout of rows and pages in your report using the **Insert page break above**, **Insert row above**, **Insert row below**, and **Delete this row** buttons.

**Note**

Report elements added to the same row appear side-by-side in the order you added the elements to the template. This allows you to display multiple charts on the same line. If you want to display multiple charts on different lines within the same page, insert new rows but do not insert a page break.

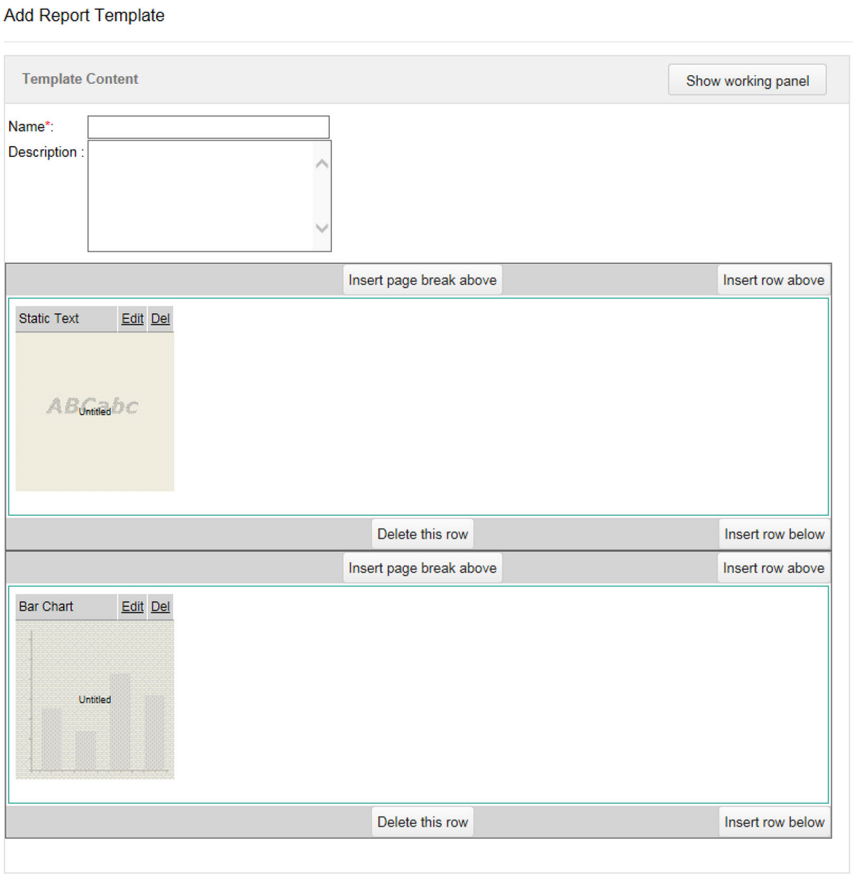



**FIGURE 19-1. Custom report template setup to display static text above a bar chart**

7. Click **Save**.

## Configuring the Static Text Report Element

This task assumes that you have already added the **Static Text** report element to a custom report template row.

For more information, see *Adding or Editing Custom Templates on page 19-3*.

**Procedure**

1. In the **Static Text** report element, click **Edit**.

   The **Edit Static Text** screen appears.

2. In the **Name** field, specify the title of the text box element.

3. In the **Message** field, specify any descriptive text to display in the message body.

   **Note**

   Static text content can contain up to 4096 characters.

   | Static Text 'Name' field |
   | --- |
   | Static Text 'Message' field that provides further information about the report. |

   **FIGURE 19-2. Static text report output example**

4. Click **Save** to return to the **Add/Edit Report Template** screen.

## Configuring the Bar Chart Report Element

This task assumes that you have already added the **Bar Chart** report element to a custom report template row.

For more information, see *Adding or Editing Custom Templates on page 19-3*.

**Procedure**

1. In the **Bar Chart** report element, click **Edit**.

   The **Edit Bar Chart > Step 1: Data View** screen appears.

2. Select the type of report data you want to display from the **Data Views** directory.

   For more information, see *Data Views on page A-1*.

3. Click **Next >**.

   The **Step 2: Set Query Criteria** screen appears.

4. To filter the data that displays, select **Custom criteria**.

5. Specify the **Match** rule for the custom filter.

   - **All of the criteria**: Data must match all the specified criteria.
   - **Any of the criteria**: Data can match any of the specified criteria.

6. Specify the filtering criteria, each of which consists of three parts:

   - Data type: Corresponds to a column returned by the data view
   - Operator: Used to match or exclude data type values
   - Value: Select criteria from the drop-down controls or specify values in the text boxes

   **Note**

   The options that display depend on the selected data view, and the selected data type and operator.

   Apex Central supports a maximum of 20 filters.

7. Add or remove criteria using the plus (+) and minus (−) controls.

8. Click **Next >**.

   The **Step 3: Specify Design** screen appears.

9. Specify the **Name** used as the title for the chart.

10. From the **Drag Available Fields** list, drag-and-drop the data that displays in the following locations:

    - **Data Field**: Specifies the total count for data appearing in the chart
    - **Category Field**: Specifies how the data is separated in the chart
    - **Series Field**: Defines the type of data to plot against the vertical and horizontal axes used as a comparison

11. In the **Data Properties** section, configure the following:
    - **Aggregated by**: The method in which to display data
        - **Total number of instances**: Includes duplicate results in the data
        - **Number of unique instances**: Displays only one instance of duplicated result types

    For example, if an endpoint detects 5 instances of "VirusA" and 3 instances of "VirusB" in the data, the detection count on the graph would display the following values:

        - Total number of instances = 8 (virus detections, regardless of virus name)
        - Number of unique instances = 2 (unique virus types, regardless of number of occurrences)
12. In the **Category Properties** section, configure the following:
    - Specify the **Label** name that appears on the horizontal axis of the chart.
    - Select the **Sorting** order and direction.
        - **Aggregation value**: Sorts based on the count value of the data
        - **Category name**: Sorts alphabetically based on the category name
    - Select the **Filter summarized result** check box to filter the data that displays in the report.
        - Specify the maximum number of items to display.
        - Enable **Aggregate remaining items** to group all remaining data in the "Others" category.
13. In the **Series Properties** section, specify the **Label name** that appears to describe the data series.
14. Click **Save**.

The **Add/Edit Report Template** screen appears with the updated chart settings applied.

## Configuring the Line Chart Report Element

This task assumes that you have already added the **Line Chart** report element to a custom report template row.

For more information, see *Adding or Editing Custom Templates on page 19-3*.

### Procedure

1. In the **Line Chart** report element, click **Edit**.

   The **Edit Line Chart > Step 1: Data View** screen appears.

2. Select the type of report data you want to display from the **Data Views** directory.

   For more information, see *Data Views on page A-1*.

3. Click **Next >**.

   The **Step 2: Set Query Criteria** screen appears.

4. To filter the data that displays, select **Custom criteria**.

5. Specify the **Match** rule for the custom filter.

   - **All of the criteria**: Data must match all the specified criteria.
   - **Any of the criteria**: Data can match any of the specified criteria.

6. Specify the filtering criteria, each of which consists of three parts:

   - Data type: Corresponds to a column returned by the data view
   - Operator: Used to match or exclude data type values
   - Value: Select criteria from the drop-down controls or specify values in the text boxes

**Note**

The options that display depend on the selected data view, and the selected data type and operator.

Apex Central supports a maximum of 20 filters.

7. Add or remove criteria using the plus (+) and minus (−) controls.
8. Click **Next >**.

   The **Step 3: Specify Design** screen appears.
9. Specify the **Name** used as the title for the chart.
10. From the **Drag Available Fields** list, drag-and-drop the data that displays in the following locations:
    - **Data Field**: Defines the data value on the vertical axis of the chart
    - **Category Field**: Defines the data value on the horizontal axis of the chart
    - **Series Field**: Defines the type of data to plot against the vertical and horizontal axes used as a comparison
11. In the **Data Properties** section, configure the following:
    - **Value label**: The label that appears on the vertical axis of the chart
    - **Aggregated by**: The method in which to display data
      - **Total number of instances**: Includes duplicate results in the data
      - **Number of unique instances**: Displays only one instance of duplicated result types

    For example, if an endpoint detects 5 instances of “VirusA” and 3 instances of “VirusB” in the data, the detection count on the graph would display the following values:

    - Total number of instances = 8 (virus detections, regardless of virus name)

- Number of unique instances = 2 (unique virus types, regardless of number of occurrences)

12. In the **Category Properties** section, configure the following:
    - Specify the **Label** name that appears on the horizontal axis of the chart.
    - Select the **Sorting** order and direction.
        - **Aggregation value**: Sorts based on the count value of the data
        - **Category name**: Sorts alphabetically based on the category name
    - Select the **Filter summarized result** check box to filter the data that displays in the report.
        - Specify the maximum number of items to display.
        - Enable **Aggregate remaining items** to group all remaining data in the "Others" category.
13. In the **Series Properties** section, specify the **Label name** that appears to describe the data series.
14. Click **Save**.

    The **Add/Edit Report Template** screen appears with the updated chart settings applied.

## Configuring the Pie Chart Report Element

This task assumes that you have already added the **Pie Chart** report element to a custom report template row.

For more information, see *Adding or Editing Custom Templates on page 19-3*.

**Procedure**

1. In the **Pie Chart** report element, click **Edit**.

   The **Edit Pie Chart > Step 1: Data View** screen appears.

2. Select the type of report data you want to display from the **Data Views** directory.

   For more information, see *Data Views on page A-1*.

3. Click **Next >**.

   The **Step 2: Set Query Criteria** screen appears.

4. To filter the data that displays, select **Custom criteria**.

5. Specify the **Match** rule for the custom filter.

   - **All of the criteria**: Data must match all the specified criteria.
   - **Any of the criteria**: Data can match any of the specified criteria.

6. Specify the filtering criteria, each of which consists of three parts:

   - Data type: Corresponds to a column returned by the data view
   - Operator: Used to match or exclude data type values
   - Value: Select criteria from the drop-down controls or specify values in the text boxes

   **Note**

   The options that display depend on the selected data view, and the selected data type and operator.

   Apex Central supports a maximum of 20 filters.

7. Add or remove criteria using the plus (+) and minus (−) controls.

8. Click **Next >**.

   The **Step 3: Specify Design** screen appears.

9. Specify the **Name** used as the title for the chart.

10. From the **Drag Available Fields** list, drag-and-drop the data that displays in the following locations:

    - **Data Field**: Specifies the total count for data appearing in the chart

- **Category Field**: Specifies how the data is separated in the chart

11. In the **Data Properties** section, configure the following:
    - **Aggregated by**: The method in which to display data
        - **Total number of instances**: Includes duplicate results in the data
        - **Number of unique instances**: Displays only one instance of duplicated result types

    For example, if an endpoint detects 5 instances of "VirusA" and 3 instances of "VirusB" in the data, the detection count on the graph would display the following values:

        - Total number of instances = 8 (virus detections, regardless of virus name)
        - Number of unique instances = 2 (unique virus types, regardless of number of occurrences)

12. In the **Category Properties** section, configure the following:
    - Specify the **Label** name that appears on the horizontal axis of the chart.
    - Select the **Sorting** order and direction.
        - **Aggregation value**: Sorts based on the count value of the data
        - **Category name**: Sorts alphabetically based on the category name
    - Select the **Filter summarized result** check box to filter the data that displays in the report.
        - Specify the maximum number of items to display.
        - Enable **Aggregate remaining items** to group all remaining data in the "Others" category.
13. Click **Save**.

The **Add/Edit Report Template** screen appears with the updated chart settings applied.

## Configuring the Dynamic Table Report Element

This task assumes that you have already added the **Dynamic Table** report element to a custom report template row.

For more information, see *Adding or Editing Custom Templates on page 19-3*.

### Procedure

1. In the **Dynamic Table** report element, click **Edit**.

   The **Edit Dynamic Table > Step 1: Data View** screen appears.

2. Select the type of report data you want to display from the **Data Views** directory.

   For more information, see *Data Views on page A-1*.

3. Click **Next >**.

   The **Step 2: Set Query Criteria** screen appears.

4. To filter the data that displays, select **Custom criteria**.

5. Specify the **Match** rule for the custom filter.

   - **All of the criteria**: Data must match all the specified criteria.
   - **Any of the criteria**: Data can match any of the specified criteria.

6. Specify the filtering criteria, each of which consists of three parts:

   - Data type: Corresponds to a column returned by the data view
   - Operator: Used to match or exclude data type values
   - Value: Select criteria from the drop-down controls or specify values in the text boxes

**Note**

The options that display depend on the selected data view, and the selected data type and operator.

Apex Central supports a maximum of 20 filters.

7. Add or remove criteria using the plus (+) and minus (−) controls.
8. Click **Next >**.

   The **Step 3: Specify Design** screen appears.
9. Specify the **Name** used as the title for the chart.
10. From the **Drag Available Fields** list, drag-and-drop the data that displays in the following locations:
    - **Row Field**: Defines how the data is separated horizontally in the table
    - **Column Field**: Defines how the data is separated vertically in the table
    - **Data Field**: Defines the data value that displays for the specified **Row Field** or **Column Field** in the table

**Important**

The **Dynamic Table** report element requires exactly one **Data Field** and either one **Row Field** or one **Column Field**.

11. In the **Data Properties** section, configure the following:
    - **Data field title**: The label for the data field
    - **Aggregated by**: The method in which to display data
      - **Total number of instances**: Includes duplicate results in the data
      - **Number of unique instances**: Displays only one instance of duplicated result types

For example, if an endpoint detects 5 instances of “VirusA” and 3 instances of “VirusB” in the data, the detection count on the graph would display the following values:

- Total number of instances = 8 (virus detections, regardless of virus name)
- Number of unique instances = 2 (unique virus types, regardless of number of occurrences)

12. In the **Row Properties** section, configure the following:
    - Specify the **Row header title**.
    - Select the **Sorting** order and direction.
        - **Aggregation value**: Sorts based on the count value of the data
        - **Header title**: Sorts alphabetically based on the category name
    - Select the **Filter summarized result** check box to filter the data that displays in the report.
        - Specify the maximum number of items to display.
        - Enable **Aggregate remaining items** to group all remaining data in the “Others” category.
13. In the **Column Properties** section, configure the following:
    - Specify the **Column header title**.
    - Select the **Sorting** order and direction.
        - **Aggregation value**: Sorts based on the count value of the data
        - **Header title**: Sorts alphabetically based on the category name
    - Select the **Filter summarized result** check box to filter the data that displays in the report.
        - Specify the maximum number of items to display.
        - Enable **Aggregate remaining items** to group all remaining data in the “Others” category.

14. Click **Save**.

    The **Add/Edit Report Template** screen appears with the updated chart settings applied.

## Configuring the Grid Table Report Element

This task assumes that you have already added the **Grid Table** report element to a custom report template row.

For more information, see *Adding or Editing Custom Templates on page 19-3*.

### Procedure

1. In the **Grid Table** report element, click **Edit**.

   The **Edit Grid Table > Step 1: Data View** screen appears.

2. Select the type of report data you want to display from the **Data Views** directory.

   For more information, see *Data Views on page A-1*.

3. Click **Next >**.

   The **Step 2: Set Query Criteria** screen appears.

4. To filter the data that displays, select **Custom criteria**.

5. Specify the **Match** rule for the custom filter.

   - **All of the criteria**: Data must match all the specified criteria.
   - **Any of the criteria**: Data can match any of the specified criteria.

6. Specify the filtering criteria, each of which consists of three parts:

   - Data type: Corresponds to a column returned by the data view
   - Operator: Used to match or exclude data type values
   - Value: Select criteria from the drop-down controls or specify values in the text boxes

**Note**

The options that display depend on the selected data view, and the selected data type and operator.

Apex Central supports a maximum of 20 filters.

7. Add or remove criteria using the plus (+) and minus (−) controls.
8. Click **Next >**.

   The **Step 3: Specify Design** screen appears.
9. Specify the **Name** used as the title for the chart.
10. Select the data fields to display in the report.

**Note**

By default, Apex Central selects all fields for the specified data view.

11. Select the **Sorting** order of the **Selected Fields**.
12. Select the **Display quantity** to define the maximum number of items included in the report.
13. Click **Save**.

    The **Add/Edit Report Template** screen appears with the updated chart settings applied.

## One-time Reports

The **One-time Reports** screen provides a list of all previously generated one-time reports for your network. You can use this screen to create new one-time reports and view previously generated one-time reports.

The following table outlines the available tasks on the **One-time Reports** screen.

| Task | Description |
|---|---|
| Add new one-time reports | Click **Add** to create a new one-time report.<br>For more information, see *Creating One-time Reports on page 19-21*. |
| Delete one-time reports | Select an existing one-time report and click **Delete**. |
| Forward one-time reports to email recipients | Select an existing one-time report and click **Forward** to email the report as an attachment to specified recipients. |
| View generated one-time reports | Click the **View** link in the **View** column of the report you want to view. |
| View one-time report profiles | Click the **Name** of a previously generated one-time report to view the report profile.<br>**Note**<br>You cannot edit the profiles of previously generated one-time reports. |

## Creating One-time Reports

Use the **One-time Reports** screen to generate reports on demand. When creating reports, specify whether to use custom or static templates.

### Procedure

1. Go to **Detections** > **Reports** > **One-time Reports**.

   The **One-time Reports** screen appears.

2. Click **Add**.

   The **Add One-Time Report > Step 1: Contents** screen appears.

3. Type a name for the report in the **Name** field.

4. (Optional) Type a description for the report in the **Description** field.

5. In the **Report Content** section, select one of the following template types:
   - **Custom Templates**: Select one or more custom report templates.

     **Note**

     Selecting multiple custom templates generates a single report that displays formatted data from all selected templates.

     For more information about creating custom report templates, see *Adding or Editing Custom Templates on page 19-3*.

   - **Static Templates**: Select one or more of the static templates provided by Trend Micro.
     a. Select a static template from the **Report category** drop-down.
     b. Select the data to display in the report and specify any corresponding parameters.
6. Select the report generation format.
   - Custom template report formats:
     - Adobe PDF format (*.pdf)
     - HTML format (*.html)
     - XML format (*.xml)
     - CSV format (*.csv)
   - Static template report formats:
     - Adobe PDF format (*.pdf)
     - Microsoft Word format (*.docx)
     - Microsoft Excel format (*.xlsx)
7. Click **Next**.

   The **Add One-Time Report > Step 2: Targets** screen appears.

8. Specify targets using one of the following views.
   - **Product Directory**: Select the managed products or folders containing the managed products that provide the report information.
   - **Tags and filters**: Select up to 10 custom tags, filters, or important labels containing the users or endpoints that provide the report information.

   **Note**

   - The **Tags and filters** view is only available for custom report templates.
   - Reports generated by a user account only include data from endpoints that the user account is authorized to view. If a user account selects a tag, filter, or importance label containing endpoints that the user account does not have permission to view, then the generated report excludes data from the unauthorized endpoints.
   - Editing a tag, filter, or importance label on the **User/Endpoint Directory** screen also modifies the corresponding tag, filter, or importance label used by log queries and reports. For example, if the an endpoint is removed from a custom filter on the **User/Endpoint Directory** screen, then log queries and generated reports that use the filter will exclude data from the removed endpoint.

9. If the report contains data from a Network VirusWall Enforcer device, specify the clients from which the reports generate:
   - **All clients**: Generates reports from all Network VirusWall Enforcer devices
   - **IP range**: Generates reports from a specific IP address range
   - **Segment**: Generates reports from a specific network segment

10. Click **Next**.

    The **Add One-Time Report > Step 3: Time Period** screen appears.

11. Specify the time period for the report.

12. Click **Next**.

    The **Add One-Time Report > Step 4: Message Content and Recipients** screen appears.

13. (Optional) Email the report as an attachment to selected recipients.

    a. In the **Subject** field, type a title for the email message that contains the report.

    b. In the **Message** field, type a description about the report.

    c. Select **Email the report as an attachment** to send the report to selected recipients.

    d. Select contact groups or user accounts.

    e. Click **>>**.

       The selected contact groups or user accounts appear in the Recipient list.

14. Click **Finish**.

    The **One-time Reports** screen appears and displays the newly added report generation task.

15. To view a generated report:

    a. Click the **View** link in the **View** column for the generated report you want to view.

    b. Open or save the generated report file.

## Viewing One-Time Reports

Use the **One-time Reports** screen to view previously generated one-time reports.

**Procedure**

1. Go to **Detections** > **Reports** > **One-time Reports**.

   The **One-time Reports** screen appears.

2. Click the **View** link in the **View** column for the generated report you want to view.

3. Open or save the generated report file.

## Scheduled Reports

The **Scheduled Reports** screen provides a list of all reports that automatically generate on a user-defined schedule. You can use this screen to view basic information about previously configured scheduled reports, add new scheduled reports, and enable/disable scheduled reports.

The following table outlines the available tasks on the **Scheduled Reports** screen.

| Task | Description |
|---|---|
| Add new scheduled report profiles | Click **Add** to create a new scheduled report profile.<br>For more information, see *Adding Scheduled Reports on page 19-26*. |
| Edit scheduled report profiles | Click the **Name** of an existing scheduled report profile to edit.<br>For more information, see *Editing Scheduled Reports on page 19-31*. |
| Copy scheduled report profiles | Select one or more existing scheduled report profiles and click **Copy** to replicate the selected profiles.<br>Click the **Name** of a copied scheduled report profile to edit.<br>For more information, see *Editing Scheduled Reports on page 19-31*. |
| Delete scheduled report profiles | Select existing scheduled report profiles and click **Delete**. |

| Task | Description |
|---|---|
| View previously generated scheduled reports | Click the **View** link in the **History** column for the report you want to view.<br>For more information, see *Viewing Scheduled Reports on page 19-35*. |
| Enable or disable scheduled reports | • To disable a scheduled report, click the enabled ( ) icon in the **Enable** column.<br>• To enable a scheduled report, click the disabled ( ) icon in the **Enable** column.<br>**Note**<br>Newly added scheduled report profiles are enabled by default. |

## Adding Scheduled Reports

Use the **Scheduled Reports** screen to automatically generate reports on a user-defined schedule. When adding scheduled reports, specify whether to use custom or static templates.

---

**Procedure**

1. Go to **Detections** > **Reports** > **Scheduled Reports**.

   The **Scheduled Reports** screen appears.

2. Click **Add**.

   The **Add Scheduled Report > Step 1: Contents** screen appears.

3. Type a name for the report in the **Name** field.

4. (Optional) Type a description for the report in the **Description** field.

5. In the **Report Content** section, select one of the following template types:

   - **Custom Templates**: Select one or more custom report templates.

**Note**

Selecting multiple custom templates generates a single report that displays formatted data from all selected templates.

For more information about creating custom report templates, see *Adding or Editing Custom Templates on page 19-3*.

- **Static Templates**: Select one or more of the static templates provided by Trend Micro.
  a. Select a static template from the **Report category** drop-down.
  b. Select the data to display in the report and specify any corresponding parameters.

6. Select the report generation format.
   - Custom template report formats:
     - Adobe PDF format (*.pdf)
     - HTML format (*.html)
     - XML format (*.xml)
     - CSV format (*.csv)
   - Static template report formats:
     - Adobe PDF format (*.pdf)
     - Microsoft Word format (*.docx)
     - Microsoft Excel format (*.xlsx)
7. Click **Next**.

   The **Add Scheduled Report > Step 2: Targets** screen appears.
8. Specify targets using one of the following views.
   - **Product Directory**: Select the managed products or folders containing the managed products that provide the report information.

- **Tags and filters**: Select up to 10 custom tags, filters, or important labels containing the users or endpoints that provide the report information.

**Note**

- The **Tags and filters** view is only available for custom report templates.
- Reports generated by a user account only include data from endpoints that the user account is authorized to view. If a user account selects a tag, filter, or importance label containing endpoints that the user account does not have permission to view, then the generated report excludes data from the unauthorized endpoints.
- Editing a tag, filter, or importance label on the **User/Endpoint Directory** screen also modifies the corresponding tag, filter, or importance label used by log queries and reports. For example, if the an endpoint is removed from a custom filter on the **User/Endpoint Directory** screen, then log queries and generated reports that use the filter will exclude data from the removed endpoint.

9. If the report contains data from a Network VirusWall Enforcer device, specify the clients from which the reports generate:
   - **All clients**: Generates reports from all Network VirusWall Enforcer devices
   - **IP range**: Generates reports from a specific IP address range
   - **Segment**: Generates reports from a specific network segment
10. Click **Next**.

    The **Add Scheduled Report > Step 3: Frequency** screen appears.
11. Specify how often the reports generate:

- **Every 'n' days**: Reports generate every 1 to 6 days, depending on your selection.
- **Weekly**: Reports generate weekly on the specified day.
- **Bi-weekly**: Reports generate every two weeks on the specified day.
- **Monthly**: Reports generate monthly on the first, 5th, 10th, 15th, 20th, 25th, or the last day of the month.

12. Specify the data range:
    - **Reports include data up to the Start the schedule time specified below**: This means that a report could have up to 23 hours more data contained in the report. While this has a small affect on weekly or monthly reports, this can make a "daily" report with almost two days worth of data depending on the Start schedule time.
    - **Reports include data up to 23:59:59 of the previous day**: This means that data collection for the report stops just before midnight. Reports will be an exact time period (example: Daily reports will be 24 hours) but will not contain the absolute latest data.
13. Specify when the report schedule starts:
    - **Immediately**: The report schedule starts immediately after enabling the report.
    - **Start on**: The report schedule starts on the date and time specified in the accompanying fields.

**Tip**

Click the calendar icon next to the **mm/dd/yyyy** field to use a dynamic calendar to specify the date range.

14. Click **Next**.

    The **Add Scheduled Report > Step 4: Message Content and Recipients** screen appears.
15. (Optional) Email the report as an attachment to selected recipients.

a. In the **Subject** field, type a title for the email message that contains the report.

b. In the **Message** field, type a description about the report.

c. Select **Email the report as an attachment** to send the report to selected recipients.

d. Select contact groups or user accounts.

e. Click **>>**.

The selected contact groups or user accounts appear in the Recipient list.

16. Click **Finish**.

The **Scheduled Reports** screen appears and displays the newly added report generation task.

**Note**

By default, Apex Central enables newly added scheduled reports.

17. To view a generated report:

a. Click the **View** link in the **History** column for the scheduled report you want to view.

The **Scheduled Report History** screen appears.

b. Click the **View** link in the **View** column for the generated report you want to view.

**Tip**

If the scheduled report has not been generated, click the **Generate** button to create a quick report based on the scheduled report settings.

c. Open or save the generated report file.

## Editing Scheduled Reports

Use the **Scheduled Reports** screen to automatically generate reports on a user-defined schedule. When adding scheduled reports, specify whether to use custom or static templates.

---

**Procedure**

1. Go to **Detections** > **Reports** > **Scheduled Reports**.

   The **Scheduled Reports** screen appears.

2. Click the **Name** of a scheduled report profile.

   The **Edit Scheduled Report > Step 1: Contents** screen appears.

3. Type a name for the report in the **Name** field.

4. (Optional) Type a description for the report in the **Description** field.

5. In the **Report Content** section, select one of the following template types:

   - **Custom Templates**: Select one or more custom report templates.

     **Note**

     Selecting multiple custom templates generates a single report that displays formatted data from all selected templates.

     For more information about creating custom report templates, see *Adding or Editing Custom Templates on page 19-3*.

   - **Static Templates**: Select one or more of the static templates provided by Trend Micro.

     a. Select a static template from the **Report category** drop-down.

     b. Select the data to display in the report and specify any corresponding parameters.

6. Select the report generation format.

- Custom template report formats:
  - Adobe PDF format (*.pdf)
  - HTML format (*.html)
  - XML format (*.xml)
  - CSV format (*.csv)
- Static template report formats:
  - Adobe PDF format (*.pdf)
  - Microsoft Word format (*.docx)
  - Microsoft Excel format (*.xlsx)

7. Click **Next**.

   The **Edit Scheduled Report > Step 2: Targets** screen appears.

8. Specify targets using one of the following views.
   - **Product Directory**: Select the managed products or folders containing the managed products that provide the report information.
   - **Tags and filters**: Select up to 10 custom tags, filters, or important labels containing the users or endpoints that provide the report information.

**Note**

- The **Tags and filters** view is only available for custom report templates.
- Reports generated by a user account only include data from endpoints that the user account is authorized to view. If a user account selects a tag, filter, or importance label containing endpoints that the user account does not have permission to view, then the generated report excludes data from the unauthorized endpoints.
- Editing a tag, filter, or importance label on the **User/Endpoint Directory** screen also modifies the corresponding tag, filter, or importance label used by log queries and reports. For example, if the an endpoint is removed from a custom filter on the **User/Endpoint Directory** screen, then log queries and generated reports that use the filter will exclude data from the removed endpoint.

9. If the report contains data from a Network VirusWall Enforcer device, specify the clients from which the reports generate:
   - **All clients**: Generates reports from all Network VirusWall Enforcer devices
   - **IP range**: Generates reports from a specific IP address range
   - **Segment**: Generates reports from a specific network segment
10. Click **Next**.

    The **Edit Scheduled Report > Step 3: Frequency** screen appears.
11. Specify how often the reports generate:
    - **Every 'n' days**: Reports generate every 1 to 6 days, depending on your selection.
    - **Weekly**: Reports generate weekly on the specified day.

- **Bi-weekly**: Reports generate every two weeks on the specified day.
- **Monthly**: Reports generate monthly on the first, 5th, 10th, 15th, 20th, 25th, or the last day of the month.

**12.** Specify the data range:

- **Reports include data up to the Start the schedule time specified below**: This means that a report could have up to 23 hours more data contained in the report. While this has a small affect on weekly or monthly reports, this can make a "daily" report with almost two days worth of data depending on the Start schedule time.
- **Reports include data up to 23:59:59 of the previous day**: This means that data collection for the report stops just before midnight. Reports will be an exact time period (example: Daily reports will be 24 hours) but will not contain the absolute latest data.

**13.** Specify when the report schedule starts:

- **Immediately**: The report schedule starts immediately after enabling the report.
- **Start on**: The report schedule starts on the date and time specified in the accompanying fields.

**Tip**

Click the calendar icon next to the **mm/dd/yyyy** field to use a dynamic calendar to specify the date range.

**14.** Click **Next**.

The **Edit Scheduled Report > Step 4: Message Content and Recipients** screen appears.

**15.** (Optional) Email the report as an attachment to selected recipients.

**a.** In the **Subject** field, type a title for the email message that contains the report.

**b.** In the **Message** field, type a description about the report.

c. Select **Email the report as an attachment** to send the report to selected recipients.

d. Select contact groups or user accounts.

e. Click **>>**.

The selected contact groups or user accounts appear in the Recipient list.

16. Click **Finish**.

The **Scheduled Reports** screen appears and displays the newly added report generation task.

## Viewing Scheduled Reports

Use the **Scheduled Reports** screen to view previously generated scheduled reports.

### Procedure

1. Go to **Detections** > **Reports** > **Scheduled Reports**.

   The **Scheduled Reports** screen appears.

2. Click the **View** link in the **History** column for the scheduled report you want to view.

   The **Scheduled Report History** screen appears.

3. Click the **View** link in the **View** column for the generated report you want to view.

   **Tip**

   If the scheduled report has not been generated, click the **Generate** button to create a quick report based on the scheduled report settings.

4. Open or save the generated report file.

## Configuring Report Maintenance

Configure **Report Maintenance** settings to delete reports when a maximum number of reports is reached.

**Procedure**

1. Go to **Detections** > **Reports** > **Report Maintenance**.

   The **Report Maintenance** screen appears.

2. Specify the maximum number of one-time and scheduled reports to keep.

3. Click **Save**.

## Viewing My Reports

The **My Reports** screen provides a list of all the reports generated by the current user. You can also view reports generated by other users belonging to the same groups as the current user.

**Procedure**

1. Go to **Detections** > **Reports** > **My Reports**.

   The **My Reports** screen appears.

2. Click the **View** link in the **View** column for the generated report you want to view.

3. Open or save the generated report file.

# Chapter 20

## Data Loss Prevention Incidents

Apex Central provides the capability for DLP compliance officers and incident reviewers to review and update incident information.

Topics include:


- *Administrator Tasks on page 20-2*
- *DLP Incident Review Process on page 20-6*

# Administrator Tasks

To enable the incident review process, Apex Central administrators need to complete some prerequisite tasks. The following table lists the required tasks and references:

**TABLE 20-1. Administrator Tasks**

| TASK | REFERENCES |
|---|---|
| Set up manager information in Active Directory. | *Setting Up Manager Information in Active Directory Users on page 20-3* |
| Set up Active Directory integration to obtain user information. | *Active Directory Integration on page 6-2* |
| Create user accounts specific for DLP incident investigation.<br><br>You can assign the following user roles to grant permission to review DLP incidents:<br>• Administrator and DLP Compliance Officer<br>• DLP Compliance Officer<br>• DLP Incident Reviewer<br><br>**Note**<br>The DLP Compliance Officer and DLP Incident Reviewer roles are available to Active Directory users only. | • *Understanding DLP User Roles on page 20-3*<br>• *Default User Roles on page 4-16*<br>• *Adding a User Account on page 4-4* |
| Set up the **Scheduled incident summary** and **Incident details updated** notifications. | • *Scheduled Incident Summary on page 18-29*<br>• *Incident Details Updated on page 18-28* |
| Export DLP logs for auditing purposes. | *Querying Logs on page 17-2* |

## Setting Up Manager Information in Active Directory Users

For managers to investigate DLP incidents, set up the manager information in each Active Directory user.

**Procedure**

1. Open the Active Directory Users and Computers console. Click **Start** > **Administrative Tools** > **Active Directory Users and Computers**.

   The **Active Directory Users and Computers** console appears.

2. Double-click a user.

   The **<user> Properties** screen appears.

3. Click the **Organization** tab and then click **Change...**.

   The **Select User or Contact** screen appears.

4. Specify the manager information and click **OK**.

5. To verify the manager-user relationship, open the manager's **<user> Properties** screen, click the **Organization** tab, and check the user information under **Direct reports**.

## Understanding DLP User Roles

Apex Central provides the following Data Loss Prevention (DLP) user roles:

- Administrator and DLP Compliance Officer
- DLP Compliance Officer
- DLP Incident Reviewer

**Note**

You can only assign the “DLP Compliance Officer” and “DLP Incident Reviewer” roles to Active Directory user accounts.

The following table describes the features and characteristics related to the DLP user roles:

| Feature | Role | Description |
|---|---|---|
| DLP logs | Administrator and DLP Compliance Officer | • View DLP log data for all Active Directory users<br>• Access specific widgets that display DLP incident information |
| | DLP Compliance Officer | • Access limited to DLP logs related to directly managed users<br>• Access specific widgets that display DLP incident information |
| | DLP Incident Reviewer | |
| Incident scope | Administrator and DLP Compliance Officer | • View DLP incident data for all Active Directory users by clicking the settings icon ( > ) on any of the following **Data Loss Prevention** widgets and selecting **All managed users** for the **Scope**.<br>  • DLP Incidents by Severity and Status<br>  • DLP Incident Trends by User<br>  • DLP Incidents by User<br>  **Note**<br>  • By default, the scope for each **Data Loss Prevention** widget only allows this role to view incident data for **Directly managed users**.<br>  • Changing the **Scope** for one **Data Loss Prevention** widget does not affect the scope of any other widget.<br>• On all other screens:<br>  • User accounts assigned with the “Administrator and DLP Compliance Officer” role can view data from all Active Directory users reported by managed products according to the user account's product scope<br>  • The “DLP Compliance Officer” role cannot view any data |
| | DLP Compliance Officer | |

| Feature | Role | Description |
|---|---|---|
| | DLP Incident Reviewer | View DLP incident data for directly managed users |
| Menu access | Administrator and DLP Compliance Officer | Access the **Data Loss Prevention** tab and the following widgets:<br>• DLP Incidents by Severity and Status<br>• DLP Incident Trends by User<br>• DLP Incidents by User<br>For more information, see *Data Loss Prevention Tab on page 3-30*. |
| | DLP Compliance Officer | |
| | DLP Incident Reviewer | |
| Scheduled incident summary notification | Administrator and DLP Compliance Officer | Receive the following:<br>• Daily or weekly email notification<br>• Summary list of incident count by severity level<br>• Link to the Apex Central web console |
| | DLP Compliance Officer | |
| | DLP Incident Reviewer | |
| Incident details updated notification | Administrator and DLP Compliance Officer | Receive notification of changes to incident status or comments<br>**Note**<br>The "DLP Incident Reviewer" role does not receive this notification. |
| | DLP Compliance Officer | |

## Creating DLP Auditing Logs

Administrators can use log queries to generate and export DLP auditing logs. Perform a log query as described in *Querying Logs on page 17-2* and configure the following:

- Log type: Select **User Access**

- Advanced filters: Add the following activities (**Activity**) to custom criteria:
  - Download DLP incident file
  - Update DLP incident

# DLP Incident Review Process

Once Apex Central administrators have completed the prerequisite tasks, the reviewers can start the incident review process. The following table lists the tasks and references:

**TABLE 20-2. DLP Incident Review Process**

| TASK | DESCRIPTION |
|---|---|
| Receive the scheduled incident summary notification message | Apex Central summarizes and sends email notifications to the incident reviewers daily or weekly. |
| Review details about the incident using one of the following methods:<br>• Click the link provided in the message to log on to the Apex Central web console<br>• Open the attachment (if available) | *Understanding the Incident Information List on page 20-6* |
| Update the incident status and provide comments | *Reviewing Incident Details on page 20-8* |

## Understanding the Incident Information List

The **Incident Information** screen displays a list of incidents manageable for the reviewer. Incident reviewers can use this screen to do the following:

- View incident summary
- Take actions on incidents
- Export incident details

**Table 20-3. Incident Information List**

| Item | Description |
|---|---|
| ID | Unique incident ID |
| Received | Date and time when Apex Central received incident data<br><br>**Note**<br>After receiving DLP logs from managed products, Apex Central needs 30 minutes to process the logs before incident reviewers can view the data. |
| Severity | Severity level of the incident<br><br>**Note**<br>Once Apex Central receives and processes a DLP incident, Apex Central does not update the severity level if changes occur in the managed product. |
| Policy | Name of the Apex Central policy that triggered the incident<br><br>**Note**<br>For incidents triggering DLP policies created in managed products, this appears as **N/A**. |
| User | Name of the user who triggered the incident |
| Manager | Name of the user's manager |
| Status | Current status of the incident<br>• New<br>• Under Investigation<br>• Escalated<br>• Closed |
| Action | Action available for managing the incident |

## Reviewing Incident Details

By clicking the **Edit** icon in the **Action** column of the **Incident Information** screen, the **Incident Details** screen appears displaying detailed information about the incident. DLP incident reviewers can use this screen to update the incident status and provide comments on the incident.

**TABLE 20-4. Incident Details**

| ITEM | DESCRIPTION |
|---|---|
| ID | Unique incident ID |
| Status | Use this to update the review status of the incident.<br>Available options:<br>• **New**<br>• **Under Investigation**<br>• **Escalated**<br>• **Closed** |
| Severity | Severity level of the incident<br>**Note**<br>Once Apex Central receives and processes a DLP incident, Apex Central does not update the severity level if changes occur in the managed product. |
| Policy | Name of the Apex Central policy that triggered the incident<br>**Note**<br>For incidents triggering DLP policies created in managed products, this appears as **N/A**. |
| Rule | Names of the rules from that triggered the incident |

| Item | Description |
|---|---|
| Received | Date and time when Apex Central received incident data<br><br>**Note**<br>After receiving DLP logs from managed products, Apex Central needs 30 minutes to process the logs before incident reviewers can view the data. |
| Generated | Date and time the incident occurred in the managed product |
| User | Name of the user who triggered the incident |
| Manager | Name of the user's manager |
| Endpoint | Source host name |
| IP address | Source IP address |
| Sender | Source email address |
| Subject | Subject of the email message |
| Recipient | Destination email address |
| Destination | Intended destination of the file containing the digital asset or channel (if no source is available) |
| Last modified date | Date and time of the last modification to the asset |
| Last modified by | Name of the user who last modified the asset |
| Template | Names of the templates that triggered the incident |
| File | Name or link to the file that triggered the incident<br><br>**Note**<br>The file is quarantined in the managed product. |
| SHA-1 | Hash information of the file |
| Channel | Channel through which the transmission occurred |

| Item | Description |
| --- | --- |
| Action | Actions taken on the incident |
| User justification reason | User-defined reasons for allowing users to transfer sensitive data |
| Matching content | Digital assets that triggered the incident |
| Comments | User-defined notes about the incident |

# Part VI

## Threat Intelligence and Response

# Chapter 21

## Connected Threat Defense

This section discusses how to detect, analyze, and respond to targeted attacks and advanced threats before they unleash lasting damage.

Topics include:


- *About Connected Threat Defense on page 21-2*
- *Feature Requirements on page 21-2*
- *Connected Threat Defense Integration on page 21-3*
- *Suspicious Object List Management on page 21-4*
- *Preemptive Protection Against Suspicious Objects on page 21-12*

# About Connected Threat Defense

Apex Central brings together a host of Trend Micro products and solutions to help you detect, analyze, and respond to targeted attacks and advanced threats before they unleash lasting damage.

For more information, see the following topics:

- *Feature Requirements on page 21-2*
- *Connected Threat Defense Integration on page 21-3*.

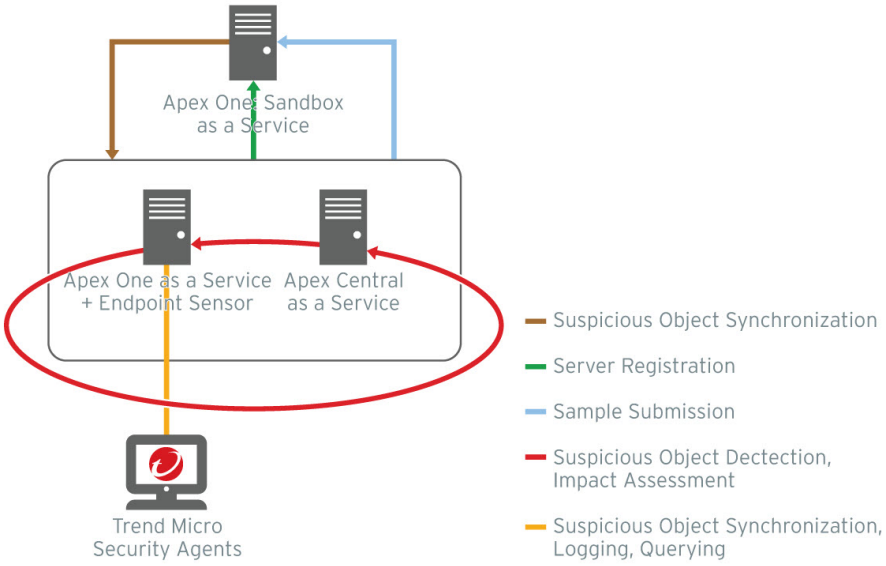
# Feature Requirements

The following table outlines the required products/services for individual Connected Threat Defense features. Ensure you have a valid license for each required product/service or contact your service provider to obtain an Activation Code.

| Feature | Required Products/Services |
|---|---|
| Security threat monitoring | • Apex One as a Service<br>• Apex One: Sandbox as a Service |
| Suspicious Object list synchronization | • Apex One as a Service<br>• Apex One: Sandbox as a Service |
| Suspicious Object sample submission | • Apex One as a Service<br>• Apex One: Sandbox as a Service |
| Suspicious Object management | • Apex One as a Service<br>• Apex One: Sandbox as a Service |
| Endpoint isolation | • Apex One as a Service |
| IOC management | • Apex One as a Service<br>• Apex One: Endpoint Sensor |

# Connected Threat Defense Integration

The following diagram outlines the basic Connected Threat Defense architecture for Apex Central.




Enable Connected Threat Defense features on Apex Central by completing the following steps.

---

**Procedure**

1. Activate additional licenses (if any) for the Connected Threat Defense features you want to use.

   In addition to a valid Apex Central license, you may require additional licensing for the following:

   - Apex One: Sandbox as a Service
   - Apex One: Endpoint Sensor

For more information, see *Feature Requirements on page 21-2*.

2. Apex Central automatically configures sample submission.
3. Synchronize suspicious object lists.

   For more information, see *Configuring Distribution Settings on page 21-8*.

4. Detect suspicious objects and perform impact assessments.

   For more information, see *Preemptive Protection Against Suspicious Objects on page 21-12*.

# Suspicious Object List Management

Apex Central allows you to synchronize Suspicious Object lists among managed products and create User-Defined and Exception lists to further control the spread of suspicious objects. You can also configure specific actions that supported managed products take upon detecting suspicious objects in your environment.

Apex Central consolidates Virtual Analyzer and user-defined suspicious object lists (excluding exceptions) and synchronizes the lists with integrated managed products.

For more information about products that can synchronize Suspicious Objects lists with Apex Central, see *Suspicious Object list synchronization* in *Feature Requirements on page 21-2*.

## Suspicious Object Lists

Apex Central consolidates Virtual Analyzer Suspicious Objects lists and synchronizes all Suspicious Object lists among many managed products. The way each managed product implements the lists depends on how the product implements the feature. Refer to your managed product Administrator's Guide for more information about how the product uses and synchronizes the Suspicious Object lists.

**Note**

Administrators can configure specific scan actions on Suspicious Objects using the Apex Central console. You can then configure certain managed products to perform actions based on the Suspicious Object list settings.

For more information, see *Suspicious Object Scan Actions on page 21-7*.

| List Type | Description |
|---|---|
| Virtual Analyzer Suspicious Objects | Apex Central synchronizes Suspicious Object lists from Apex One Sandbox as a Service. If Apex One Sandbox as a Service determines that an object is a possible threat, Apex One Sandbox as a Service adds the object to the Virtual Analyzer Suspicious Object list. Apex One Sandbox as a Service then sends the list to its registered Apex Central server for consolidation and synchronization purposes.<br><br>On the Apex Central console, go to the **Threat Intel** > **Virtual Analyzer Suspicious Objects** > **Objects** tab to view the Virtual Analyzer Suspicious Objects list.<br><br>For more information, see *Suspicious Object Detection on page 21-10*. |
| Exceptions to Virtual Analyzer Suspicious Objects | From the list of Virtual Analyzer suspicious objects, Apex Central administrators can select objects that are considered safe and then add them to an exception list.<br><br>On the Apex Central console, go to the **Threat Intel** > **Virtual Analyzer Suspicious Objects** > **Exceptions** tab to view the Virtual Analyzer Suspicious Object Exceptions list.<br><br>For more information, see *Adding Exceptions to the Virtual Analyzer Suspicious Object List on page 21-6*. |
| User-Defined Suspicious Objects | Apex Central administrators can add objects they consider suspicious but are not currently in the list of Virtual Analyzer suspicious objects by going to the **Threat Intel** > **Custom Intelligence** > **User-Defined Suspicious Objects**.<br><br>For more information, see *Preemptive Protection Against Suspicious Objects on page 21-12*. |

## Adding Exceptions to the Virtual Analyzer Suspicious Object List

Apex Central allows you to exclude objects from the Virtual Analyzer Suspicious Object list based on the file SHA-1, domain, IP address, or URL.

**Important**

The User-Defined Suspicious Object list has a higher priority than the Virtual Analyzer Suspicious Object list.

**Procedure**

1. Go to **Threat Intel** > **Virtual Analyzer Suspicious Objects**.

   The **Virtual Analyzer Suspicious Objects** screen appears.
2. Click the **Exceptions** tab.
3. Click **Add**.
4. Specify the **Type** of object.
   - **File**: Specify the **File SHA-1** hash value for the file.
   - **IP address**: Specify the IP address.
   - **URL**: Specify the URL.
   - **Domain**: Specify the domain.

     Apex Central allows you to use a wildcard character (*) to exclude specific subdomains or subdirectories from the Virtual Analyzer Suspicious Object list.

| Example | Description |
|---|---|
| https://*.domain.com/ | Excludes all URLs within subdomains of the domain “domain.com” from the Virtual Analyzer Suspicious Object list<br><br>**Important**<br>If a URL contains a subdirectory, then the URL will not be excluded even if the URL contains a matching subdomain. For example, “https://abc.domain.com/abc” will not be excluded. |
| *.abc.domain.com | Excludes all subdomains of the subdomain “abc” from the Virtual Analyzer Suspicious Object list |
| https://*.domain.com/abc/* | Excludes all URLs within subdomains of the domain “domain.com” and all subdirectories of the subdirectory “abc” from the Virtual Analyzer Suspicious Object list<br><br>**Important**<br>If a URL does not contain a subdirectory within subdirectory “abc”, then the URL will still be excluded. For example, “https://abc.domain.com/abc” will be excluded. |

5. (Optional) Specify a **Note** to assist in identifying the suspicious object.
6. Click **Add**.

   The object appears in the Virtual Analyzer Exception list. Managed products that subscribe to the suspicious objects lists receive the new object information during the next synchronization.

## Suspicious Object Scan Actions

Using the Apex Central console, administrators can configure scan actions that certain managed products take after detecting specific suspicious

objects in the **Virtual Analyzer Suspicious Objects** list or the **User-Defined Suspicious Objects** list.

**Important**

Apex Central does not support the "Quarantine" scan action. Selecting the "Quarantine" scan action for user-defined **File SHA-1** objects will perform the "Block" scan action on detected objects.

| VIRTUAL ANALYZER LIST | USER-DEFINED LIST |
|---|---|
| Performs actions against the following suspicious object types:<br>• **File**: Log, Block, Quarantine<br>• **IP address**: Log, Block<br>• **URL**: Log, Block<br>• **Domain**: Log, Block | Performs actions against the following suspicious object types:<br>• **File**: Log, Block, Quarantine<br>• **File SHA-1**: Log, Block<br>• **IP address**: Log, Block<br>• **URL**: Log, Block<br>• **Domain**: Log, Block |

## Configuring Distribution Settings

Configure distribution settings to enable Apex Central to consolidate and send Virtual Analyzer and user-defined suspicious objects (excluding exceptions) to certain managed products. These products synchronize and use all or some of these objects.

Apex Central can also send suspicious IP addresses and domains to TippingPoint.

**Note**

The **Distribution Settings** also allows you to configure Suspicious Object Hub and Node Apex Central server settings to synchronize suspicious object lists across multiple Apex Central servers.

For more information, see *Suspicious Object Hub and Node Architecture on page 24-1*.

**Procedure**

1. Go to **Threat Intel** > **Distribution Settings**.

   The **Distribution Settings** screen appears.

2. To send suspicious objects to managed products:

   a. Click the **Managed Products** tab.

   b. Select the **Send suspicious objects to managed products** check box.

   c. Record the following information for use when configuring Apex Central as the Virtual Analyzer source in managed products:

      - **Service URL**: The service URL of Apex Central
      - **API key**: The code that identifies Apex Central to the managed product

   d. Click **Save**.

   e. Click **Sync Now**.

3. To send suspicious objects to TippingPoint:

   a. Click the **TippingPoint** tab.

   b. Select the **Send suspicious objects (IP addresses and domain names only) to TippingPoint** check box.

   **Note**

   Apex Central sends suspicious IP addresses and domain names analyzed by Virtual Analyzer. TippingPoint uses reputation filters to apply block, permit, or notify actions across an entire reputation group. For more information about reputation filters, refer to your TippingPoint documentation.

   c. Specify the following:

      - **Server name**: Type the server URL and port number for your TippingPoint deployment.

- **User name**: Type the user name of an account with sufficient privileges to access the TippingPoint console.
- **Password**: Type the password for the account.

**d.** (Optional) Click **Test Connection** to confirm the connection.

**e.** Select the severity level that triggers Apex Central to send domain names or IP address information to TippingPoint.

- **High only**: IP addresses and domain names with high severity
- **High and medium**: IP addresses and domain names with high and medium severity
- **All**: Includes IP addresses and domain names with high, medium, and low severity

**f.** Click **Save**.

**g.** Click **Sync Now**.

## Suspicious Object Detection

You can view suspicious object detections in your environment in many ways using the Apex Central console. For information regarding the different ways of viewing suspicious object detections, refer to the following:

- *Viewing At Risk Endpoints and Recipients on page 21-10*

**Note**

Apex Central only identifies users or endpoints exposed to suspicious objects in your environment. You cannot take any direct action on any suspicious objects using the Apex Central console.

### Viewing At Risk Endpoints and Recipients

Apex Central checks Web Reputation, URL filtering, network content inspection, and rule-based detection logs received from all managed products and then compares these logs with its list of suspicious objects.

**Procedure**

1. Go to **Threat Intel** > **Virtual Analyzer Suspicious Objects**.

   The **Virtual Analyzer Suspicious Objects** screen appears.

2. Click the **Objects** tab.

3. Expand the arrow to the left of the **Object** you want to view.

   - The **At Risk Endpoints** list displays all endpoints and users still affected by the suspicious object.
     - For **File** detections, the **Latest Action Result** column displays the last action result reported from managed products.
     - For all other detection types, the **Latest Action Result** column displays “N/A”.
   - The **At Risk Recipients** list displays all recipients still affected by the suspicious object.

## Viewing the Handling Process

The **Handling Process** screen provides an overview of the life-cycle for a suspicious object in your environment and current effect of the suspicious object to your users or endpoints.

**Important**

Viewing the handling process requires additional licensing. Ensure that you have a valid license for Apex One Sandbox as a Service or contact your service provider for the Activation Code.

**Procedure**

1. Go to **Threat Intel** > **Virtual Analyzer Suspicious Objects**.

2. Click the **View** link in the **Handling Process** column of the table for a specific suspicious object.

   The **Handling Process** screen appears.

3. Click any of the following tabs to view more information about the suspicious object.

| Tab | Description |
|---|---|
| **Analysis** | Displays the Virtual Analyzer analysis of the submitted object<br><br>Virtual Analyzer determines the risk level of suspicious objects based on their potential to expose systems to danger or loss. Supported objects include files (SHA-1 hash values), IP addresses, domains, and URLs. |
| **Distribution** | Displays all products that synchronized the Suspicious Object list and the last synchronization time<br><br>Apex Central consolidates Virtual Analyzer and user-defined suspicious object lists (excluding exceptions) and synchronizes the lists with integrated managed products. |
| **Impact Analysis & Mitigation** | Displays all endpoints and users affected by the suspicious object<br><br>• For **File** detections, the **Latest Action Result** column displays the last action result reported from managed products.<br><br>• For all other detection types, the **Latest Action Result** column displays “N/A”.<br><br>Click the **Root Cause Analysis** link to further investigate how the object affected the user or endpoint. |

## Preemptive Protection Against Suspicious Objects

Apex Central provides different ways to protect against suspicious objects not yet identified within your network. Use the User-Defined Suspicious Object list or import indicators from OpenIOC or STIX files to take proactive actions on suspicious threats identified by external sources.

| Feature | Description |
|---|---|
| User-Defined Suspicious Objects list | The User-Defined Suspicious Objects list allows you to define suspicious file, file SHA-1, IP address, URL, and domain objects that your registered Virtual Analyzer has not yet detected on your network.<br><br>Supported managed products that subscribe to the Suspicious Object lists can take action on the objects found in the list to prevent the spread of unknown threats.<br><br>For more information, see the following topics:<br><br>• *Adding Objects to the User-Defined Suspicious Object List on page 21-13*<br><br>• *Suspicious Object Scan Actions on page 21-7* |
| STIX file list | The STIX file list allows you to import Structured Threat Import Expression (STIX) files and extract suspicious file SHA-1, IP address, URL, and domain objects to the User-Defined Suspicious Object list.<br><br>For more information, see the following topics:<br><br>• *Adding STIX Objects to the User-Defined Suspicious Object List on page 21-15* |
| OpenIOC file list | The OpenIOC file list allows you to import OpenIOC files and extract suspicious file SHA-1, IP address, URL, and domain objects to the User-Defined Suspicious Object list.<br><br>For more information, see the following topics:<br><br>• *Adding OpenIOC Objects to the User-Defined Suspicious Object List on page 21-18* |

## Adding Objects to the User-Defined Suspicious Object List

You can protect your network from objects not yet identified on your network by adding the suspicious objects to the User-Defined Suspicious Object list. Apex Central provides you the options to add objects based on the file, file SHA-1, domain, IP address, or URL. You can also specify the scan action that supported Trend Micro products perform after detecting the suspicious objects.

For more information, see the following topics:

- *Importing User-Defined Suspicious Object Lists on page 21-15*
- *Adding OpenIOC Objects to the User-Defined Suspicious Object List on page 21-18*
- *Adding STIX Objects to the User-Defined Suspicious Object List on page 21-15*

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**Procedure**

1. Go to **Threat Intel** > **Custom Intelligence**.

   The **Custom Intelligence** screen appears.

2. Click the **User-Defined Suspicious Objects** tab.

   The User-Defined Suspicious Object list appears.

3. Click **Add**.

4. Specify the **Type** of object.

   - **File**: Click **Browse** to upload a suspicious object file.
   - **File**: Specify the **File SHA-1** hash value for the file.
   - **IP address**: Specify the IP address.
   - **URL**: Specify the URL.
   - **Domain**: Specify the domain.

5. Specify the **Scan action** that supported products take after detecting the object.

   - **Log**
   - **Block**
   - **Quarantine**

   **Note**

   This scan action is only available for **File** or **File SHA-1** objects.

6. (Optional) Specify a **Note** to assist in identifying the suspicious object.

7. Click **Add**.

   The object appears in the User-Defined Suspicious Object list. Managed products that subscribe to the suspicious objects lists receive the new object information during the next synchronization.

### Importing User-Defined Suspicious Object Lists

Add multiple suspicious objects to the User-Defined Suspicious Objects list using a properly formatted CSV file.

**Procedure**

1. Go to **Threat Intel** > **Custom Intelligence**.

   The **Custom Intelligence** screen appears.

2. Click the **User-Defined Suspicious Objects** tab.

   The User-Defined Suspicious Object list appears.

3. Click **Import**.

4. Select the CSV file containing the list of suspicious objects.

   **Tip**

   Click the **Download sample CSV** link to obtain a properly formatted example CSV file with detailed instructions on creating a user-defined suspicious objects list.

5. Click **Import**.

   Objects in the CSV file appear in the User-Defined Suspicious Objects list. Managed products that subscribe to the suspicious objects lists receive the new object information during the next synchronization.

## Adding STIX Objects to the User-Defined Suspicious Object List

After obtaining a properly formatted Structured Threat Information Expression (STIX) file (`*.xml`) from a trusted external source (a security

forum or other Deep Discovery Virtual Analyzer product), import the file to Apex Central to extract the suspicious file SHA-1, IP address, URL, and domain objects to the User-Defined Suspicious Object list. When uploading a file, you can also specify the scan action that supported Trend Micro products perform after detecting the suspicious objects.

For more information about manually adding suspicious objects to the User-Defined Suspicious Object list, see *Adding Objects to the User-Defined Suspicious Object List on page 21-13*.

**Important**

Apex Central only supports uploading properly formatted STIX files that have `*.xml` file extensions and conform to the following STIX and Cybox releases:

- STIX 1.1
- STIX 1.1.1
- STIX 1.2
- Cybox 2.1

**Note**

Apex Central automatically extracts suspicious objects to the User-Defined Suspicious Object list when the STIX file is imported.

### Procedure

1. Go to **Threat Intel** > **Custom Intelligence**.

   The **Custom Intelligence** screen appears.

2. Click the **STIX** tab.

   The STIX file list appears.

3. (Optional) To filter the files that display in the file list, use the search box to specify a full or partial string contained in the **File Name**, **Short Description**, or **Source Added By** columns.

4. Click **Add**.

   The **Add STIX Files** screen appears.

5. Select STIX files (`*.xml`) to upload.

   a. Click **Select Files...**.

   b. Select one or more files to upload.

   **Note**

   - The maximum file size for each file is 10 MB.
   - The total number of files uploaded at the same time cannot exceed 200 files.

   c. Click **Open**.

6. (Optional) Click **Advanced settings** to specify scan actions that supported products perform after detecting the object.

   **Note**

   You can also configure scan actions for suspicious objects on the User-Defined Suspicious Object list.

   For more information, see *Suspicious Object Scan Actions on page 21-7*.

7. Click **Add**.

   Apex Central uploads the selected STIX files and extracts suspicious objects to the User-Defined Suspicious Object list.

   - To download a copy of a specific file, click the link in the **File Name** column.
   - To track the file extraction status, use the **Command Tracking** screen.

     For more information, see *Command Tracking on page 13-2*.

- To view the extracted suspicious objects on a filtered view of the User-Defined Suspicious Object list, click the count in the **Extracted Objects** column.
- To delete files, select the check box next to the **File Name** of at least one file and click **Delete**.

**Note**

- Deleting a file does not remove the extracted suspicious objects from the User-Defined Suspicious Object list.
- You cannot delete a file until Apex Central has finished extracting suspicious objects from the file.

## Adding OpenIOC Objects to the User-Defined Suspicious Object List

You can protect your network from objects not yet identified on your network by importing properly formatted OpenIOC files (`*.ioc`) and extracting suspicious file SHA-1, IP address, URL, and domain objects to the User-Defined Suspicious Object list. When uploading a file, you can specify the scan action that supported Trend Micro products perform after detecting the suspicious objects.

For details about manually adding suspicious objects directly to the User-Defined Suspicious Object list, see *Adding Objects to the User-Defined Suspicious Object List on page 21-13*.

**Important**

Apex Central only supports OpenIOC 1.0.

**Note**

By default, Apex Central automatically extracts suspicious objects to the User-Defined Suspicious Object list when the OpenIOC file upload is complete.

Alternatively, you can choose to upload the OpenIOC file first, and then manually extract suspicious objects after the file upload is complete.

**Procedure**

1. Go to **Threat Intel** > **Custom Intelligence**.

   The **Custom Intelligence** screen appears.

2. Click the **OpenIOC** tab.

   The OpenIOC file list appears.

3. (Optional) To filter the files that display in the file list, use the search box to specify a full or partial string contained in the **File Name**, **Short Description**, or **Source Added By** columns.

4. Click **Add**.

   The **Add OpenIOC Files** screen appears.

5. Select OpenIOC files (`*.ioc`) to upload.

   a. Click **Select Files...**.

   b. Select one or more files to upload.

**Note**

- The maximum file size for each file is 10 MB.
- The total number of files uploaded at the same time cannot exceed 200 files.
- The maximum number of objects for each suspicious object type in the User-Defined Suspicious Object list cannot exceed 10,000 objects for each type.

  The extraction task for a suspicious object type will be unsuccessful if the maximum number of objects has been reached for the object type.

**c.** Click **Open**.

**6.** (Optional) Click **Advanced settings** to configure the following settings:

- To upload the file without automatically extracting the suspicious objects, clear the **Extract file SHA-1, IP address, URL, and domain objects to the list of User-Defined Suspicious Objects** check box.

  **Note**

  If you disable automatic extraction when uploading files, you can still manually extract objects after the file upload is complete.

- Specify scan actions for supported products to perform after detecting the object.

  **Note**

  You can also configure scan actions for suspicious objects on the User-Defined Suspicious Object list.

  For more information, see *Suspicious Object Scan Actions on page 21-7*.

**7.** Click **Add**.

**Tip**

- To track the file upload status, perform a log query by using the **User Access** log type.

  For more information, see *Querying Logs on page 17-2*.

- To track the suspicious object extraction status, use the **Command Tracking** screen.

  For more information, see *Command Tracking on page 13-2*.

Apex Central uploads the selected OpenIOC files to the OpenIOC file list.

**Note**

- If default settings are selected, Apex Central automatically extracts suspicious objects to the User-Defined Suspicious Object list.
- The **Extracted Objects** column in the OpenIOC file list displays “N/A” for the following scenarios:
  - You uploaded the OpenIOC file without automatically extracting the suspicious objects.
  - Apex Central was unable to extract suspicious objects from the OpenIOC file.

**8.** To manually extract suspicious objects from an uploaded OpenIOC file:

**a.** Select the check box next the **File Name** of the uploaded file.

**b.** Click **Extract**.

The **Extracted Objects** column displays the number of suspicious objects from the OpenIOC file to the User-Defined Suspicious Object list.

- To download a copy of a specific file, click the link in the **File Name** column.

- To track the file extraction status, use the **Command Tracking** screen.

  For more information, see *Command Tracking on page 13-2*.

- To view the extracted suspicious objects on a filtered view of the User-Defined Suspicious Object list, click the count in the **Extracted Objects** column.

- To delete files, select the check box next to the **File Name** of at least one file and click **Delete**.

**Note**

- Deleting a file does not remove the extracted suspicious objects from the User-Defined Suspicious Object list.
- You cannot delete a file until Apex Central has finished extracting suspicious objects from the file.

## Isolating Endpoints

Isolate at-risk endpoints to run an investigation and resolve security issues. Restore the connection promptly when all issues have been resolved.

**Important**

- Endpoint isolation requires a valid Apex Central license.
- For OfficeScan agents running versions 11 SP1 to XG SP1, you must enable the OfficeScan Firewall to perform endpoint isolation.

**Procedure**

1. Go to **Directories** > **Users/Endpoints**.
2. Select to view endpoints.
3. Click the name of an endpoint in the list.

4. On the **Endpoint** information screen that appears, click **Task** > **Isolate**.

   Apex Central disables the **Isolate** option on endpoints for the following reasons:

   - The agent on the endpoint runs an unsupported version.
   - The user account used to log on to Apex Central does not have the necessary permissions.

5. A message appears at the top of the **Endpoint** information screen that allows you to monitor the isolation status. After isolation completes, the message closes and a notification appears on the target endpoint to inform the user.

   If a problem occurs during the isolation process, the message at the top of the **Endpoint - {name}** screen informs you of the problem.

6. To view all isolated endpoints on your Apex Central network, click the **Endpoints** > **Filters** > **Network Connection** > **Isolated** node in the User/Endpoint Directory tree.

7. (Optional) To configure allowed inbound and outbound traffic to all isolated endpoints:

   a. Select **Control traffic on isolated endpoints**.

   b. Expand the **Inbound Traffic** or **Outbound Traffic** sections.

   c. Specify the allowed traffic by specifying the **Protocol**, **IP Address**, and **Destination Port**.

      Separate multiple destination ports using commas.

   d. Add multiple inbound and outbound entries by clicking the - control to the right of the **Destination Port** information.

**Note**

After modifying the allowed traffic settings, all previously isolated endpoints and any endpoints isolated later apply the inbound and outbound traffic settings.

8. After you have resolved the security threats on an isolated endpoint, restore network connectivity from the following locations:
   - **Endpoint** information screen: Click **Task** > **Restore**.
   - **Endpoints** > **Filters** > **Network Connection** > **Isolated**: Select the endpoint row in the table and click **Task** > **Restore Network Connection**.
9. A message appears at the top of the screen that allows you to monitor the restoration status. After restoration completes, the message closes and a notification appears on the target endpoint to inform the user.

   If a problem occurs during the restoration process, the message at the top of the screen informs you of the problem.

# Chapter 22

## Threat Investigation

This section discusses how to perform investigations and analyze the results using Threat Investigation.

Topics include:


- *Threat Investigation Overview on page 22-2*
- *Historical Investigations on page 22-2*
- *Live Investigations on page 22-3*
- *Investigation Results on page 22-12*

# Threat Investigation Overview

Use **Threat Investigation** to locate suspicious objects in the network.

Threat Investigations can correlate information from Endpoint Sensor, Cloud App Security, and Active Directory to display attack information about an endpoint, user account, and possible email attack vectors throughout your network.

**Note**

You must properly configure Cloud App Security and Apex Central before being able to correlate email message information.

For more information, see *Configuring Cloud Service Settings on page 9-10*.

If the network is the target of an ongoing attack or an APT, a threat investigation can:

- Assess the extent of damage caused by the targeted attack
- Provide information on the arrival and progression of the attack
- Aid in planning an effective security incident response

Live Investigations perform the investigation on the current system state. Live Investigations can be configured to run at specific periods, and also support a wider set of criteria through the use of OpenIOC and YARA rules.

For more information, see *Live Investigations on page 22-3*.

# Historical Investigations

Historical Investigation and some other EDR functions have been replaced by the **Search** app in Trend Micro Vision One. The **Search** app provides you with the ability to construct powerful query strings to pinpoint data or objects of interest in your environment.

For more information, see https://docs.trendmicro.com/en-us/enterprise/trend-micro-vision-one-online-help/Home.

# Live Investigations

Live Investigations perform the investigation on the current system state. Live Investigations can be configured to run at specific periods, and also support a wider set of criteria through the use of OpenIOC and YARA rules.

**Important**

Only available for Security Agents installed on Windows platforms.

Live Investigations support the following criteria:

- **OpenIOC rules**: Use OpenIOC rules to scan for all files currently on the disk.

  **Note**

  After selection, Endpoint Sensor displays a preview of the OpenIOC file. Review the preview to verify if the OpenIOC file contains supported indicators and conditions. Unsupported combinations are formatted with a strike-through and are ignored during the investigation.

  For more information, see *Supported IOC Indicators for Live Investigations on page 22-11*.

- **YARA rules**: Use YARA rules to scan all processes currently running in memory.

  **Note**

  Root Cause Analysis results are only available for YARA rules.

  Because Live Investigations run on the current system state, some files and registry entries may be locked or in use during this period. Root Cause Analysis results are not available for investigations using OpenIOC rules or registry search.

- **Search registry**: Specify registry keys, names and data to match on the target endpoints.

**Note**

Investigations are performed only on registry values under the following root keys:

- HKEY_CURRENT_USER
- HKEY_CLASSES_ROOT
- HKEY_LOCAL_MACHINE
- HKEY_USERS

Administrators can specify the type of Live Investigation to run:

- A one-time investigation runs only once. The investigation runs immediately after creation.

  For more information, see *Starting a One-time Investigation on page 22-4*.

- A scheduled investigation can be configured to run automatically at specific intervals.

  For more information, see *Starting a Scheduled Investigation on page 22-7*.

Live Investigations take some time to complete.

## Starting a One-time Investigation

**Procedure**

1. Go to **Response** > **Live Investigation**.
2. Click the **One Time Investigation** tab.
3. Click **New Investigation**.
4. Specify a **Name** for this investigation.
5. Select a **Method** based on what objects need to be matched:

- **Scan disk files using OpenIOC**: objects on the disk that match the rules provided in an OpenIOC file

**Note**

After selection, Endpoint Sensor displays a preview of the OpenIOC file. Review the preview to verify if the OpenIOC file contains supported indicators and conditions. Unsupported combinations are formatted with a strike-through and are ignored during the investigation.

For more information, see *Supported IOC Indicators for Live Investigations on page 22-11*.

- **Scan in-memory processes using YARA**: objects currently in memory that match the rules provided in a YARA file
- **Search registry**: registry keys, names and data that match criteria defined by the user

6. Click **Select Endpoints** and specify which endpoints to include in the investigation.

**Note**

The **Target Endpoints** screen may not show all endpoints selected for the investigation.

- A user can only view endpoints where he has been granted sufficient access rights.
- Only available for Security Agents installed on Windows platforms.

7. Click **Start Investigation**.
8. To view the results and monitor the progress of one-time investigations:
   a. Go to **Response** > **Live Investigation**.
   b. Click the **One Time Investigation** tab.

   For details, see *One-Time Investigation on page 22-6*.

## One-Time Investigation

A one-time investigation is an investigation that runs only once.

To view the results and monitor the progress of one-time investigations, go to **Response** > **Live Investigation**, and click the **One Time Investigation** tab.

The following details are available for review.

| Column | Description |
|---|---|
| Status | Current state of the investigation |
| Progress | Percentage of completion of the investigation |
| Name | User-defined name that identifies the investigation<br>Click to view the investigation results. |
| Method | Method used by the investigation |
| Criteria | • File name of the OpenIOC or YARA rule file<br>• User-defined registry value |
| Matched Endpoints | Number of endpoints that contain an object matching the specified criteria |
| Target Endpoints | Total number of selected endpoints for investigation<br>Click to view more details about the selected endpoints.<br>**Note**<br>The **Target Endpoints** screen may not show all endpoints selected for the investigation. A user can only view endpoints where he has been granted sufficient access rights. |
| Started | Date and time when the investigation started |
| Elapsed | Time elapsed since the start of the investigation |
| Creator | User who created the investigation |

Click **New Investigation** to start a new investigation.

Select at least one investigation to enable the following options:

- **Stop**: Cancels the investigation. Stopped investigations cannot be resumed.
- **Delete**: Stops the investigation, and then removes the investigation from the list. Removed investigations cannot be recovered.

## Starting a Scheduled Investigation

**Procedure**

1. Go to **Response** > **Live Investigation**.
2. Click the **Scheduled Investigation** tab.
3. Click **New Investigation**.
4. Specify a **Name** for this investigation.
5. Select a **Method** based on what objects need to be matched:
   - **Scan disk files using OpenIOC**: objects on the disk that match the rules provided in an OpenIOC file

     **Note**

     After selection, Endpoint Sensor displays a preview of the OpenIOC file. Review the preview to verify if the OpenIOC file contains supported indicators and conditions. Unsupported combinations are formatted with a strike-through and are ignored during the investigation.

     For more information, see *Supported IOC Indicators for Live Investigations on page 22-11*.

   - **Scan in-memory processes using YARA**: objects currently in memory that match the rules provided in a YARA file

- **Search registry**: registry keys, names and data that match criteria defined by the user

6. Click **Select Endpoints** and specify which endpoints to include in the investigation.

**Note**

The **Target Endpoints** screen may not show all endpoints selected for the investigation.

- A user can only view endpoints where he has been granted sufficient access rights.
- Only available for Security Agents installed on Windows platforms.

7. Specify a schedule for this investigation.
   - **Period**: Specify a starting and ending date for the investigation. The investigation only runs within the dates provided. The default period is set to one month.
   - **Frequency**: Specify how often the investigation repeats during the duration of the schedule. The default frequency is set to **Daily** at **08:00**.
8. Click **Start Investigation**.
9. To view the results and monitor the progress of scheduled investigations:
   a. Go to **Response** > **Live Investigation**.
   b. Click the **Scheduled Investigation** tab.

      For details, see *Scheduled Investigation on page 22-9*.
   c. To view details for each schedule run, click the investigation name to open the **Scheduled Investigation History** screen.

      For details, see *Reviewing the Scheduled Investigation History on page 22-10*.

## Scheduled Investigation

A scheduled investigation is an investigation that is set to run automatically at certain periods.

To view the results and monitor the progress of scheduled investigations, go to **Response** > **Live Investigation**, and click the **Scheduled Investigation** tab.

The following table lists the details available for review.

| Column | Description |
|---|---|
| Enable | Current state of the investigation |
| Name | User-defined name that identifies the investigation<br>Click to open the **Scheduled Task History** screen. |
| Method | Method used by the investigation |
| Criteria | File name of the OpenIOC file<br>User-defined registry value |
| Target Endpoints | Total number of selected endpoints for investigation<br>Click to view more details about the selected endpoints.<br>**Note**<br>The **Target Endpoints** screen may not show all endpoints selected for the investigation. A user can only view endpoints where he has been granted sufficient access rights. |
| Frequency | How often the investigation repeats during the duration of the schedule |
| Latest Investigation | Date and time when the latest investigation started |
| Latest Time Elapsed | Time elapsed since the start of the latest investigation |
| Latest Match Endpoints | Number of endpoints that contain an object matching the specified criteria for the latest investigation |

| Column | Description |
|---|---|
| Creator | User who created the investigation |

Click **New Investigation** to start a new investigation.

Click **Delete** to stop the investigation, and then removes the investigation from the list. Removed investigations cannot be recovered.

**Note**

Deleting an OpenIOC file will automatically disable any scheduled investigation that uses the deleted OpenIOC file.

## Reviewing the Scheduled Investigation History

Use the **Scheduled Investigation History** screen to view past schedules and monitor the progress of running schedules.

**Procedure**

1. Access the **Scheduled Investigation History** screen:
   a. Go to **Response** > **Live Investigation**.
   b. On the **Scheduled Investigation** tab, click a value in the **Name** column.
2. Review the details listed in the schedule overview:
   - **Task name**: Name given to the schedule
   - **Period and frequency**: Shows when and how often the schedule runs the investigation.
   - **Method**: Criteria used for each run of the schedule. Click to show the full criteria.
   - **Target endpoints**: Click to view the list of endpoints included in the schedule.
3. Review the investigation details for each run of the schedule.

| Column Name | Description |
|---|---|
| Status | Current state of the investigation |
| Progress | Percentage of completion of the investigation |
| Matched Endpoints | Number of endpoints that contain an object matching the specified criteria<br><br>Click to open the **Investigation Results** screen. |
| Started | Date and time the investigation started |
| Elapsed | Time elapsed since the start of the investigation<br><br>For completed investigations, total time spent running the investigation |

4. Select at least one investigation to enable the following options:
   - **Stop**: Cancels the investigation. Stopped investigations cannot be resumed.
   - **Delete**: Stops the investigation, and then removes the investigation from the list. Removed investigations cannot be recovered.

## Supported IOC Indicators for Live Investigations

An OpenIOC file is an XML file which contains one or more Indicators of Compromise (IOCs). Verify that the OpenIOC file uses indicator terms supported by the type of investigation selected.

The table below lists the IOC indicators supported in investigations.

**Important**

When choosing an IOC file, you must ensure that the IOC indicators include the location of the file to match (either "FileItem/FullPath" or "FileItem/FilePath").

| Category | Item | Required Condition | Notes |
|---|---|---|---|
| FILEITEM | FULLPATH | IS | Refers to a complete directory path, file name, and extension |
| | FILEPATH | IS, CONTAINS, STARTS-WITH, ENDS-WITH | Partial matching supported |
| | FILENAME | IS, CONTAINS, STARTS-WITH, ENDS-WITH | Partial matching supported |
| | MD5SUM | IS | |
| | SHA1SUM | IS | |
| | SHA256SUM | IS | |
| | SIZEINBYTES | IS | |
| | CREATED | GREATER-THAN, LESS-THAN | Required format (in UTC): yyyy-mm-ddThh:mm:ss |
| | MODIFIED | GREATER-THAN, LESS-THAN | Required format (in UTC): yyyy-mm-ddThh:mm:ss |
| | ACCESSED | GREATER-THAN, LESS-THAN | Required format (in UTC): yyyy-mm-ddThh:mm:ss |

**Note**

After selection, Endpoint Sensor displays a preview of the OpenIOC file. Review the preview to verify if the OpenIOC file contains supported indicators and conditions. Unsupported combinations are formatted with a strike-through and are ignored during the investigation.

## Investigation Results

Use the **Investigation Results** screen to get a quick overview of the investigation results. This screen is accessible from the following locations:

- On the **One Time Investigation** tab, click the investigation **Name**.

- On the **Scheduled Investigation** tab, click the investigation **Name**, and then click a value in the **Matched Endpoints** column.

This screen displays the following information:

- A doughnut chart that shows the number of total endpoints already classified as **Matched, No Match, Queued** or **Cancelled**

  A summary of the totals is given on the left of the chart. This summary updates in real time as the investigation progresses.

| Icon | Label | Description |
|---|---|---|
| | Matched | Number of investigated endpoints containing a matching object |
| | No match | Number of investigated endpoints that did not have a matching object |
| | Queued | Number of endpoints still to be investigated.<br>An investigation is complete once there are no more queued endpoints to investigate. |
| | Cancelled | Number of endpoints not investigated.<br>This may be due to user cancellation, system error, or endpoint timeout. |

- Parameters used when the investigation was created.

  Click **Criteria** to review the search conditions used by the investigation.

- A table of results which provides more details about each endpoint included in the investigation.

  This table groups the endpoints into tabs based on the investigation status. This table displays the following details:

| Column Name | Description |
|---|---|
| Asterisk (*) | Indicates an endpoint tagged as “Important” |

| Column Name | Description |
|---|---|
| Endpoint | Name of the endpoint containing the matching object<br><br>Click the **Endpoint** name to view more details about the endpoint. |
| IP Address | IP address of the endpoint containing the matching object<br><br>The IP address is assigned by the network. |
| Operating System | Operating system used by the endpoint |
| User | User name of the user logged in when the Endpoint Sensor agent first logged the matched object<br><br>Click the user name to view more details about the user. |
| Match Details | Click to view details of the match. |
| Root Cause Analysis | Click to view the **Root Cause Analysis** screen.<br><br>**Note**<br>Root Cause Analysis results are only available for YARA rules.<br><br>Because Live Investigations run on the current system state, some files and registry entries may be locked or in use during this period. Root Cause Analysis results are not available for investigations using OpenIOC rules or registry search. |
| Elapsed | Time elapsed since the investigation started. |

## Analysis Chains

The **Analysis Chains** tab displays the Root Cause Analysis and also highlights additional information which might be beneficial to the investigation.

Threat Investigations can correlate information from Endpoint Sensor, Cloud App Security, and Active Directory to display attack information about an endpoint, user account, and possible email attack vectors throughout your network.

**Note**

You must properly configure Cloud App Security and Apex Central before being able to correlate email message information.

For more information, see *Configuring Cloud Service Settings on page 9-10*.

| Information | Description |
|---|---|
| Target Endpoint | Displays details about the endpoint that was investigated<br><br>Click the endpoint name and user name to view details.<br><br>Click **Isolate Endpoint** to disconnect the endpoint from the network. During isolation, the agent can only communicate with the server.<br><br>**Note**<br>After resolving the security threats on an isolated endpoint, the following locations on the **Directories** > **Users/Endpoints** screen provides options to restore the network connection of an isolated endpoint:<br>• **Endpoints** > **All**: Click the name of an endpoint in the table, and click **Task** > **Restore** on the screen that appears.<br>• **Endpoints** > **Filters** > **Network Connection** > **Isolated**: Select the endpoint row in the table, and click **Task** > **Restore Network Connection**. |
| First Observed Object | The first object in the analysis chain suspected to have been responsible for the creation of the investigated object.<br><br>This is often the entry point of a targeted attack.<br><br>Hover over an object and click 🔍 to locate the object in the Analysis Chain. |
| Matched Objects | Displays the object or a list of objects matching the investigation criteria<br><br>Hover over an object and click 🔍 to locate the object in the Root Cause Analysis. |

| Information | Description |
|---|---|
| Noteworthy Objects | Highlights objects in the chain that are possibly malicious, based on existing Trend Micro intelligence<br><br>The value counts the number of unique noteworthy objects in the chain.<br><br>Click to view the list of noteworthy objects.<br><br>Hover over an object and click 🔍 to locate the object in the Analysis Chain. |
| Root Cause Analysis area | Displays a visual analysis of the objects involved in an event<br><br>**Note**<br>If the number of nodes in the analysis chain exceeds the presentation limit, only the main analysis chains are displayed. To avoid this issue, refine the investigation criteria.<br><br>Click any available node to view more information about the selected object.<br><br>For more information on how to interpret Analysis Chains, see:<br>• *Object Details: Profile Tab on page 22-17*<br><br>**Note**<br>The **Profile** tab is the default view if no other tabs are available for a selected object.<br><br>• *Object Details: Related Objects Tab on page 22-18*<br>• *Email Message Correlation on page 22-19*<br>• *Navigating the Analysis Chain on page 22-20*<br>• *Root Cause Analysis Icons on page 22-20* |

**Note**

To export the data, click and perform one of the following:

- Select **Analysis Chains** to export all root cause chains as `.png` files.
- Select **Object Details** to export all data as CSV files.

## Object Details: Profile Tab

The **Profile** tab shows the details applicable for the selected object type.

Some objects may show only a limited set of details, or may not have any details available at the time of execution.

**Note**

You can further examine objects with "Malicious" ratings in Threat Connect or VirusTotal.

The tab may also display additional options for **Matched Objects** and **Noteworthy Objects**.

| Option | Description |
|---|---|
| **Terminate Object** | Terminates all running instances of the object only on the target endpoint's current state<br><br>**Note**<br>This action is available only for unrated, malicious, and suspicious "process" type objects. To verify if the command was successful, go to **Administration** > **Command Tracking**. |

| Option | Description |
|---|---|
| **Add to Suspicious Objects List** | Terminates all running instances of the object only on the target endpoint's current state, and then adds the object to the **User-Defined Suspicious Object** list<br><br>**Note**<br>If Application Control is enabled, processes that match the hash value of objects added to the **User-Defined Suspicious Object** list are not allowed to run on all endpoints. Endpoint Sensor also terminates "process" type objects before adding them to the list, and Application Control prevents them from starting again. |

## Object Details: Related Objects Tab

The **Related Objects** tab displays all the dependencies of the selected object.

**Note**

The **Related Objects** tab only displays additional information for "Process" objects.

These are the objects required to run the matched object. This tab displays the following details:

| Property | Description |
|---|---|
| Action | Action done by the object |
| Logged | Date and time of the recorded action |
| Rating | Rating assigned to the object based on Trend Micro intelligence |
| Affected Endpoints | Affected endpoints, if any |
| Destination path | Target destination of the object |

The following options are available to manage the **Related Objects** tab:

- The tab provides a drop-down that can filter objects based on the specified action. Click the drop down to view all available actions.
- Click **Show details** to view more details about the object.

## Email Message Correlation

Threat Investigations can correlate information from Endpoint Sensor, Cloud App Security, and Active Directory to display attack information about an endpoint, user account, and possible email attack vectors throughout your network.

**Note**

You must properly configure Cloud App Security and Apex Central before being able to correlate email message information.

For more information, see *Configuring Cloud Service Settings on page 9-10*.

The **Email Message** pane displays information about selected email messages associated with the Analysis Chain and provides further details about users within your organization.

The following table highlights some of the correlated data.

| Data | Description |
|---|---|
| **Recipients** | Click to display a list of all of the recipients that received the email message |
| **Attachments** | Click to displays a list of all files attached to the email message |
| **Embedded URLs** | Click to displays a list of all URLs embedded in the email body |
| **Affected Users** | Click to display a list of all of the email accounts within your organization that currently have the specified file attached to an email message within the email account |

## Navigating the Analysis Chain

To navigate the analysis chain, click and drag the area or use the available navigation icons.

| Icon | Description |
|---|---|
| 2 matched chains : Chain 1: 2018/08/06 13:24:09 | A Root Cause Analysis can contain one or more matched root cause chains.<br><br>Click the drop-down to view other analysis chains for the selected endpoint. |
| | Click to enter full screen mode.<br><br>Click again to exit full screen mode. |
| | Click to zoom in or zoom out. |
| | Hover to view an explanation of the symbols appearing in the analysis chain.<br><br>For more information, see *Root Cause Analysis Icons on page 22-20*. |

## Root Cause Analysis Icons

The analysis chain shows object types using the following icons:

| Icon | Name | Description |
|---|---|---|
| | First Observed Object | Marks an object that most likely created the matched object |
| | Matched Criteria | Marks objects matching the investigation criteria |
| | Normal Object | Marks objects that have been verified to not pose a threat<br>These are usually common system files. |
| | Unrated Object | Marks objects that have not yet been rated |
| | Suspicious Object | Marks objects that exhibit behaviors that are similar to known threats |
| | Malicious Object | Marks objects that match a known threat |
| | Boot | Objects that launch during system startup |
| | Browser | Objects that are capable of displaying web pages, usually a web browser |
| | Email client | Objects that can send and receive email messages, usually an email client or server |
| | Email message | Objects identified through use of the Cloud App Security integration email correlation feature |
| | File | Objects that are files on the disk |
| | Network | Objects related to network connections or the Internet |

| Icon | Name | Description |
|---|---|---|
| | Process | Objects that are processes running during the time of execution |
| | Registry | Objects that are registry keys, entries or data |
| | Event | Indicates actions done by the object |
| | Association | Indicates relationships between two objects |

## Object Details

The **Object Details** tab displays the same information as the **Root Cause Analysis** tab, but presents the information as a table. It also organizes the objects into the following tabs:

- **Objects**: Objects involved in the execution of the matched object, grouped by their parent processes. Click ▸ to expand the list.
- **Noteworthy events**: Objects in the chain that are possibly malicious, based on existing Trend Micro intelligence
- **File events**: Objects in the chain that are files
- **Registry events**: Objects in the chain that are registry keys, data and entries
- **IP address / DNS events**: Objects that are IP addresses or DNS events

The table provides the following details:

| Column Name | Description |
|---|---|
| Recorded Object | Name of the recorded object<br>Click the object name to view more details. |
| PID | Process ID of the recorded object |

| Column Name | Description |
|---|---|
| Recorded | Date and time when the object became involved in the chain |
| Activity | Action done by the object<br><br>Click the object name to view more details. |
| Object Reputation | Rating assigned to the object based on Trend Micro intelligence<br><br>You can further examine objects with “Malicious” ratings in Threat Connect or VirusTotal. |
| Affected Endpoints | Number of endpoints where the object appears<br><br>Percentage of endpoints affected, based on the total number of endpoints on the network<br><br>Click the value to view more details about the endpoint. |

Use the following options to manage the table:

- On all tabs, select at least one object in the **Recorded Object** column, and click **Start a Historical Investigation** to start another investigation.
- On the **Objects** tab, click the filter icon ( ) to filter the table according to the specified criteria.
- On the **File events** tab, sort the table by clicking on the **Recorded** and **Object Reputation** columns.

# Chapter 23

## Managed Detection and Response

This chapter discuses how to configure Managed Detection and Response settings and administer investigation tasks using the Apex Central as a Service console.

Topics include:


- *Managed Detection and Response Overview on page 23-2*
- *Tracking Managed Detection and Response Task Commands on page 23-17*
- *Querying Supported Targets on page 23-19*

# Managed Detection and Response Overview

The **Managed Detection and Response** screen allows you to deploy Managed Detection and Response settings and investigation tasks to specified targets from the Apex Central as a Service console.

**Tip**

- To view the status of Managed Detection and Response task commands, use the **Command Tracking** screen.

  For more information, see *Tracking Managed Detection and Response Task Commands on page 23-17*.

- To perform an advanced search for targets that support the Managed Detection and Response Service, use the **User/Endpoint Directory** screen.

  For more information, see *Querying Supported Targets on page 23-19*.

Use the **Managed Detection and Response** screen to perform the following tasks.

| Task | Description |
|---|---|
| Register to the Threat Investigation Center server | Click the **Settings** tab to register Apex Central as a Service to the Threat Investigation Center server.<br><br>Apex Central as a Service integrates with Trend Micro Threat Investigation Center to enable Managed Detection and Response capabilities.<br><br>For more information, see *Registering Apex Central to the Threat Investigation Center on page 23-3*. |
| Unregister from the Threat Investigation Center server | Click the **Settings** tab to unregister Apex Central as a Service to the Threat Investigation Center server.<br><br>For more information, see *Unregistering from the Threat Investigation Center Server on page 23-5*. |

| Task | Description |
|---|---|
| Suspend or resume the Managed Detection and Response Service | Click the **Settings** tab to suspend or resume the Managed Detection and Response Service.<br><br>**Important**<br>Suspending the Managed Detection and Response Service stops the receipt of new investigation tasks from the Threat Investigation Center server. Apex Central as a Service does not cancel any ongoing tasks and the results are still sent to the Threat Investigation Center server.<br><br>For more information, see *Suspending or Resuming the Managed Detection and Response Service on page 23-6*. |
| Approve or reject new investigation tasks | Click the **Pending Tasks** tab to approve or reject new investigation tasks.<br><br>For more information, see *Approving or Rejecting Investigation Tasks on page 23-7*. |
| Track deployed investigation tasks | Click the **Task Tracking** tab to track and view approved or rejected investigation tasks and commands.<br><br>For more information, see *Tracking Investigation Tasks on page 23-12*. |
| View automated analyses | Click the **Automated Analyses** tab to view information about the log data that Trend Micro collects to further protect your network.<br><br>For more information, see *Viewing Automated Analyses on page 23-16*. |

## Registering Apex Central to the Threat Investigation Center

Apex Central as a Service integrates with Trend Micro Threat Investigation Center to enable Managed Detection and Response capabilities.

**Important**

- Managed Detection and Response capabilities require purchasing a service plan to obtain a valid server address and company GUID. Contact Trend Micro sales or your reseller to purchase a service plan.

### Procedure

1. Go to **Response** > **Managed Detection and Response**.

   The **Managed Detection and Response** screen appears.

2. Click the **Settings** tab.

3. Specify the following information:

   - **Server address**: The Threat Investigation Center server address provided by Trend Micro sales or your reseller
   - **Company GUID**: The Managed Detection and Response Service GUID provided by Trend Micro sales or your reseller

4. Configure automatic approval settings for new investigation tasks.

   **Note**

   - If automatic approval is enabled, Apex Central as a Service will send email notifications to inform recipients of new automatically approved investigation tasks.
   - If automatic approval is disabled, Apex Central as a Service will send email notifications for all new investigation tasks to request manual approval.

   - Select the **Automatically approve investigation tasks** check box to enable automatic approval of new investigation tasks.
   - Clear the **Automatically approve investigation tasks** check box to disable automatic approval of new investigation tasks.

5. (Optional) Configure notification recipients.

**Note**

- You can add new user accounts on the **User Accounts** screen (**Administration** > **Account Management** > **User Accounts**).
- You can add new contact groups on the **Contact Groups** screen (**Detections** > **Notifications** > **Contact Groups**).

- To add recipients, select contacts from the **Available Users and Groups** list and click **>**.

  The selected contacts appear in the **Selected Users and Groups** list.
- To remove recipients, select contacts from the **Selected Users and Groups** list and click **<**.

  The selected contacts appear in the **Available Users and Groups** list.

6. Click **Register**.
   - The **Server address** field displays the address of the registered Threat Investigation Center server.
   - The **Sender ID** field replaces the **Company GUID** field and displays the GUID of the Apex Central as a Service server that receives investigation tasks from the registered Threat Investigation Center server.

## Unregistering from the Threat Investigation Center Server

**Important**

Unregistering automatically disables the Managed Detection and Response Service.

**Procedure**

1. Go to **Response** > **Managed Detection and Response**.

   The **Managed Detection and Response** screen appears.

2. Click the **Settings** tab.

3. Click **Unregister**.

   A confirmation dialog appears.

4. Click **Unregister**.

   The Managed Detection and Response Service automatically disables.

## Suspending or Resuming the Managed Detection and Response Service

**Important**

Suspending the Managed Detection and Response Service stops the receipt of new investigation tasks from the Threat Investigation Center server. Apex Central as a Service does not cancel any ongoing tasks and the results are still sent to the Threat Investigation Center server.

**Procedure**

1. Go to **Response** > **Managed Detection and Response**.

   The **Managed Detection and Response** screen appears.

2. Click the **Settings** tab.

3. To suspend the Managed Detection and Response Service:

   **a.** Click **Suspend Service**.

   **b.** On the confirmation dialog that appears:

   - Click **Suspend Service** to suspend the Managed Detection and Response Service.

- Click **Cancel** to return to the **Settings** screen without suspending the Managed Detection and Response Service.

4. To resume the Managed Detection and Response Service, click **Resume Service**.

   Apex Central as a Service receives new investigation tasks from the Threat Investigation Center server.

## Approving or Rejecting Investigation Tasks

The **Pending Tasks** tab on the **Managed Detection and Response** screen displays investigation tasks submitted by the Threat Investigation Center that require manual administrator approval. You can view targets and commands for specific tasks, modify selected targets, and approve or reject selected tasks.

For more information about the Threat Investigation Center task commands that display on the **Managed Detection and Response** screen, see *Threat Investigation Center Task Commands on page 23-11*.

**Tip**

To view the status of Managed Detection and Response task commands, use the **Command Tracking** screen.

For more information, see *Tracking Managed Detection and Response Task Commands on page 23-17*.

**Important**

- Apex Central as a Service only retains investigation task information for 90 days after submission by the Threat Investigation Center.
- By default, new investigation tasks that are not approved or rejected within 72 hours of receipt by Apex Central as a Service will automatically time out.

  For more information about investigation task command statuses, see *Threat Investigation Center Command Statuses on page 23-15*.

## Procedure

1. Go to **Response** > **Managed Detection and Response**.

   The **Managed Detection and Response** screen appears.

2. Click the **Pending Tasks** tab.

   A table appears and displays a list of investigation tasks with the following information:

| Column | Description |
|---|---|
| Task Description | The task name manually specified by the Threat Investigation Center administrator |
| Command | The task command to deploy to selected targets<br><br>For more information about the Threat Investigation Center task commands that display on the **Managed Detection and Response** screen, see *Threat Investigation Center Task Commands on page 23-11*. |
| Targets | The number of targets for the task |

| Column | Description |
|---|---|
| Expiration | The local time on the Apex Central as a Service server for when the task will expire<br><br>**Important**<br>By default, new investigation tasks that are not approved or rejected within 72 hours of receipt by Apex Central as a Service will automatically time out.<br><br>For more information about investigation task command statuses, see *Threat Investigation Center Command Statuses on page 23-15*. |

3. To view targets for a pending task, click the right arrow icon (▶) next to the **Task Description** field.

   A table appears and displays the following details:

| Column | Description |
|---|---|
| Endpoint | The name of the target endpoint |
| IP Address | The IP address of the target endpoint |
| User | The name of the user that last logged on to the target endpoint |
| Endpoint Sensor Service | The status of the Endpoint Sensor Service on the target endpoint<br><br>For more information, see *Endpoint Sensor Service Statuses on page 23-12*.<br><br>**Important**<br>In order for Apex Central as a Service to deploy investigation tasks to a specified target, the Endpoint Sensor Service must be enabled on the target. |

4. To approve pending investigation tasks:

**a.** Select the check box next to the name of each task that you want to approve.

> **Note**
> Selecting a check box for a task selects all targets for that task.

**b.** Click the right arrow icon (▶) next to a task name to modify selected targets for the task.

> **Important**
> In order for Apex Central as a Service to deploy investigation tasks to a specified target, the Endpoint Sensor Service must be enabled on the target.

- Select check box(es) next to the target(s) that you want to include.
- Clear check box(es) next to the target(s) that you want to exclude.

**c.** Repeat the previous steps for each pending task.

**d.** Click **Approve**.

Approved tasks display on the **Task Tracking** tab.

For more information, see *Tracking Investigation Tasks on page 23-12*.

**5.** To reject pending investigation tasks:

**a.** Select the check box next to the name of each task that you want to reject.

> **Note**
> Selecting a check box for a task selects all targets for that task.

**b.** Click the right arrow icon (▶) next to a task name to modify selected targets for the task.

- Select check box(es) next to the target(s) that you want to include.
- Clear check box(es) next to the target(s) that you want to exclude.

**c.** Repeat the previous steps for each pending task.

**d.** Click **Reject**.

Rejected tasks display on the **Task Tracking** tab.

For more information, see *Tracking Investigation Tasks on page 23-12*.

## Threat Investigation Center Task Commands

The following table describes the Threat Investigation Center task commands that display on the Apex Central as a Service **Managed Detection and Response** screen.

| Command Name | Description |
|---|---|
| Collect File Samples | Collects samples of suspicious files from target endpoints and sends the samples to the Threat Investigation Center |
| Run Trend Micro Investigation Kit | Deploys and executes the Trend Micro Investigation Kit on target endpoints |
| Run Advanced Threat Assessment | Deploys and executes the Trend Micro Anti-Threat Toolkit on target endpoints |
| Evaluate Impact | Starts an impact evaluation on target endpoints |
| Run Root Cause Analysis | Starts a root cause analysis on target endpoints by using criteria specified by the Threat Investigation Center administrator |

### Endpoint Sensor Service Statuses

The following table describes the agent statuses that display in the **Endpoint Sensor Service** column on the **Pending Tasks** tab.

| Status | Description |
|---|---|
| Enabled | The target endpoint has Endpoint Sensor enabled<br><br>**Important**<br>In order for Apex Central as a Service to deploy investigation tasks to a specified target, the Endpoint Sensor Service must be enabled on the target. |
| Disabled | The target endpoint has Endpoint Sensor disabled |
| Server license not supported | The Apex One license does not support the Endpoint Sensor Service |
| Requires a supported Security Agent version | The target endpoint does not have the Security Agent installed or the server version of the target endpoint is not supported |

## Tracking Investigation Tasks

Use the **Task Tracking** tab on the **Managed Detection and Response** screen to track and view the statuses of approved or rejected investigation tasks and commands.

**Tip**

To view the status of Managed Detection and Response task commands, use the **Command Tracking** screen.

For more information, see *Tracking Managed Detection and Response Task Commands on page 23-17*.

**Important**

Apex Central as a Service only retains investigation task information for 90 days after submission by the Threat Investigation Center.

## Procedure

1. Go to **Response** > **Managed Detection and Response**.

   The **Managed Detection and Response** screen appears.

2. Click the **Task Tracking** tab.

   A table appears and displays a list of investigation tasks with the following information:

| Column | Description |
|---|---|
| Task Description | The task name manually specified by the Threat Investigation Center administrator |
| Command | The task command to deploy to selected targets<br>For more information, see *Threat Investigation Center Task Commands on page 23-11*. |
| Targets | The number of targets for the task |
| Task Status | The deployment status of the investigation task<br>For more information, see *Threat Investigation Center Task Statuses on page 23-14*. |
| Last Updated | The local time on the Apex Central as a Service server of the latest status update |

3. Click the right arrow icon (▶) next to a task description to view task command information.

   A table appears and displays the following details:

| Column | Description |
|---|---|
| Command Status | The deployment status of the task command<br><br>For more information, see *Threat Investigation Center Command Statuses on page 23-15*. |
| Endpoint | The name of the target endpoint |
| IP Address | The IP address of the target endpoint |
| User | The name of the user that last logged on to the target endpoint |
| Approved / Rejected | The local time on the Apex Central as a Service server for when the task was approved or rejected by the administrator |
| Approved / Rejected By | The user account name of the administrator that approved or rejected the task |
| Last Updated | The local time on the Apex Central as a Service server of the latest status update |

## Threat Investigation Center Task Statuses

The following table describes the statuses of the Threat Investigation Center tasks that display on the **Task Tracking** tab of the **Managed Detection and Response** screen.

For more information about the Threat Investigation Center task commands that display on the **Managed Detection and Response** screen, see *Threat Investigation Center Task Commands on page 23-11*.

| Status | Description |
|---|---|
| In progress | Scenarios include:<br>• The task was approved but has not been deployed to the Apex One server<br>• The task command was deployed to the Apex One server but has not been completed on the specified targets |

| Status | Description |
| --- | --- |
| Completed | The task was approved or rejected by the Apex Central as a Service administrator and completed on the specified targets successfully or unsuccessfully<br><br>For more information, see *Threat Investigation Center Command Statuses on page 23-15*. |

## Threat Investigation Center Command Statuses

The following table describes the command statuses that display on the **Task Tracking** screen.

| Status | Description |
| --- | --- |
| Pending approval | The task has not been approved or rejected by the Apex Central as a Service administrator |
| Rejected | The task has been rejected by the Apex Central as a Service administrator |
| Sending command | The task was approved and Apex Central as a Service is sending the task command to the specified targets |
| In progress | The task command was deployed to the Apex One server but has not been completed on the specified targets |
| Uploading | The managed product is uploading the task payload |
| Successful | The task command completed on the specified targets successfully |
| Unable to process command | The task command completed on the specified targets unsuccessfully |
| Command time-out | Scenarios include:<br>• The task was not approved by the Apex Central as a Service administrator within 72 hours of receipt<br>• The managed product was unable to complete the task command within 9 days after approval<br>• The task command timed out on the Apex One server |

| Status | Description |
|---|---|
| No response from agent | The Apex One server is unable to establish communication with the target agent |
| Endpoint Sensor disabled | The target endpoint has Endpoint Sensor disabled |
| Requires a supported Security Agent version | The target endpoint does not have the Security Agent installed or the server version of the target endpoint is not supported |
| Server license not supported | The Apex One license does not support the Endpoint Sensor Service |

## Viewing Automated Analyses

Trend Micro periodically performs automated analyses to collect log data to further protect your network. Use the **Automated Analyses** tab to view information about the logs that Trend Micro collects.

**Important**

Apex Central as a Service only retains investigation task information for 90 days after submission by the Threat Investigation Center.

### Procedure

1. Go to **Response** > **Managed Detection and Response**.

   The **Managed Detection and Response** screen appears.

2. Click the **Automated Analyses** tab.

   A table appears and displays the following details:

| Column | Description |
|---|---|
| Start Time | The local time on the Trend Micro server for when the automated analysis task started |

| Column | Description |
|---|---|
| End Time | The local time on the Trend Micro server for when the automated analysis task completed |
| Status | The status of the automated analysis task |
| Command | The type of automated analysis task |
| Target | The endpoint name or number of targets of the automated analysis task |

3. Click a count in the **Target** column to view targets.

   The **Targets** screen appears and displays a list of affected endpoints.

## Tracking Managed Detection and Response Task Commands

Use the **Command Tracking** screen to query and view details of Managed Detection and Response task commands issued by the Apex Central server.

For information about tracking Threat Investigation Center task commands that display on the **Managed Detection and Response** screen, see *Tracking Investigation Tasks on page 23-12*.

### Procedure

1. Go to **Administration** > **Command Tracking**.

   The **Command Tracking** screen appears.

2. To filter the command list, specify the following:

   - **Issued**: Specify when Apex Central sent the task command
   - **Command**: Select the command type

     Apex Central Managed Detection and Response task commands include the following:

| Command Name | Description |
|---|---|
| Deploy Threat Investigation Center settings to managed products | Command for deploying Threat Investigation Center settings to managed products |
| Deploy Threat Investigation Center tasks to managed products | Command for deploying Threat Investigation Center tasks to managed products |
| Renew Threat Investigation Center certificate | Command for renewing the Threat Investigation Center certificate on the Apex Central server<br>**Note**<br>The Threat Investigation Center server automatically deploys a task to renew the Threat Investigation Center certificate on the Apex Central server 30 days prior to the certificate expiration date. |
| Pull Threat Investigation Center tasks | Command for pulling tasks from the Threat Investigation Center server<br>**Note**<br>This command only displays on the **Command Tracking** screen if the task command is unsuccessful. |

- **User**: Provide the user account name used to send the command

  **Tip**
  Leave this field blank to query commands issued by all users.

- **Status**: Select one or more command statuses and click **Apply**.

3. Click the count in the **Successful**, **Unsuccessful**, **In Progress**, or **All** column to view detailed command information.

   The **Command Details** screen appears.

For more information, see *Command Details on page 13-4*.

## Command Details

The **Command Details** screen displays the following information about an issued command.

| Column Name | Description |
|---|---|
| Last Reported | The date and time when the managed product last sent a response to the Apex Central server |
| Server/Entity | The host name of the managed product server |
| Status | The status of the issued command |
| Description | Additional details about the command status |

**Note**

The **Command Details** screen refreshes every 30 seconds.

# Querying Supported Targets

Use the **User/Endpoint Directory** screen to perform an advanced search for targets that support the Managed Detection and Response Service.

**Procedure**

1. Go to **Directories** > **Users/Endpoints**.

   The **User/Endpoint Directory** screen appears.

2. Click the **Advanced** link above the table.

3. In the **Search** drop-down control, select **Endpoints**.

   The search criteria in the second drop-down control dynamically changes based on your selection.

4. In the second drop-down control, select **Services**.

A third drop-down control and a fourth drop-down control appear.

5. In the third drop-down control, select **Endpoint Sensor**.
6. In the fourth drop-down control, select the agent status:
   - **Enabled**: Searches for endpoints that have the Endpoint Sensor Service enabled
   - **Disabled**: Searches for endpoints that have the Endpoint Sensor Service disabled
7. Add multiple search criteria using the Boolean operators to the right of the filters.
   - **OR**: Allows you to search for multiple values for the specified criteria. All records that match either value display.
   - **AND**: Allows you to select a new search criteria. Only records that match the values specified for this criteria and all other selected criteria values display.
8. Display results by clicking one of the following:
   - **Search**: Displays the search results in the list but does not save the search criteria.
   - **Save as New Custom Filter**: Displays the search results in the list and prompts you to save the search criteria to a custom filter. The custom filter displays under the **Endpoints** node in the User/Endpoint Directory tree.
9. (Optional) Use the drop-down controls below the **Endpoints** tab to specify the time period for the data that displays or to switch between**Tabular view** and **Tabular view**.
10. (Optional) Click **Export** to export the data as a `*.csv` file or `*.png` image.

**Note**

- **Tabular view** only supports exporting data as a `*.csv` file.
- **Timeline view** can export data as a `*.csv` file or a `*.png` image.

# Chapter 24

## Suspicious Object Hub and Node Architecture

This section presents material administrators need to synchronize suspicious object lists across multiple Apex Central servers.

Topics include:


- *Suspicious Object Hub and Node Apex Central Servers on page 24-2*
- *Configuring the Suspicious Object Hub and Nodes on page 24-3*
- *Unregistering a Suspicious Object Node from the Hub Apex Central on page 24-4*
- *Configuration Notes on page 24-5*

# Suspicious Object Hub and Node Apex Central Servers

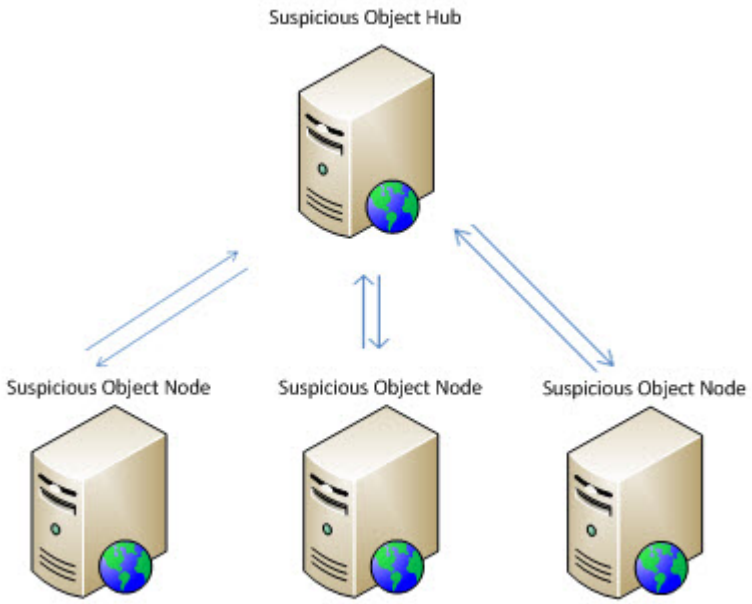
Trend Micro Apex Central™ Suspicious Object Hub and Node architecture allows you to synchronize suspicious object lists across multiple Apex Central servers. The suspicious object lists on the Hub Apex Central server consolidate the suspicious object lists from all Node Apex Central servers, and any other managed products registered to any of these servers, and then deploys the lists back to the Node Apex Central servers.

Administrators must first configure a Suspicious Object Hub Apex Central server and, depending on the environment, assign other Apex Central servers to act as Suspicious Object Node servers. Trend Micro Deep Discovery products can register to the Suspicious Object Hub or any Suspicious Object Node Apex Central server. This architecture requires that you configure all suspicious object actions through the Suspicious Object Hub Apex Central server console.

**Important**

You must perform all operations on the suspicious object lists through the Suspicious Object Hub Apex Central to ensure that all Node Apex Central servers remain properly synchronized.

Scan actions performed on suspicious objects though a Suspicious Object Node Apex Central may not synchronize to all connected servers.




## Configuring the Suspicious Object Hub and Nodes

**Procedure**

1. Log on to the Suspicious Object Hub Apex Central server console.
2. Go to **Threat Intel** > **Distribution Settings**.

   The **Distribution Settings** screen appears.
3. Click the **Managed Products** tab and copy (write down) the following settings:
   - **Service URL**
   - **API key**
4. Log on to the Suspicious Object Node Apex Central server console.

5. Go to **Threat Intel** > **Distribution Settings**.

   The **Distribution Settings** screen appears.

6. On the **Hub Apex Central** tab, provide the following settings copied from the Suspicious Object Hub Apex Central:

   - **Service URL**
   - **API key**

7. (Optional) Select the **Use a proxy server** check box to connect to the Hub Apex Central through a proxy server.

   **Note**

   To configure or modify proxy server settings, click **Configure proxy settings**.

8. Click **Register**.

   A confirmation dialog appears with a message indicating that the server is properly registered to the Hub Apex Central.

9. Repeat the process for each Suspicious Object Node Apex Central server.

10. To configure the default synchronization interval:

    a. Select a time period from the **Sync every** drop-down.

    b. Click **Save**.

## Unregistering a Suspicious Object Node from the Hub Apex Central

**Note**

After unregistering a Node Apex Central server, all previously synchronized objects remain in the Node Apex Central server suspicious object lists.

**Procedure**

1. Log on to the Suspicious Object Node Apex Central server console.
2. Go to **Threat Intel** > **Distribution Settings**.

   The **Distribution Settings** screen appears.
3. In the **Hub Apex Central Settings** section, click **Unregister**.

   A confirmation dialog appears with a message indicating that the server is properly unregistered from the Hub Apex Central.
4. If you are completely stopping the Suspicious Object Hub and Node deployment, repeat the process for each Suspicious Object Node Apex Central server.

## Configuration Notes

After successfully setting up the Suspicious Object Hub and registering the Suspicious Object Node Apex Central servers, note the following configuration information.

**Note**

After unregistering a Node Apex Central server, all previously synchronized objects remain in the Node Apex Central server suspicious object lists.

| Configuration | Hub Apex Central | Node Apex Central |
|---|---|---|
| Synchronization interval | N/A | 5 minutes (default) |
| Suspicious Object list synchronization | From the Hub Apex Central to Nodes:<br>• Virtual Analyzer list<br>• User-Defined list | From a Node Apex Central to the Hub:<br>• Virtual Analyzer list |

| Configuration | Hub Apex Central | Node Apex Central |
|---|---|---|
| | **Note**<br>• The Hub Apex Central server does not send data from the **Notes** column of the User-Defined list or the Exception list to the Node Apex Central servers.<br>• When synchronizing lists, the User-Defined list has a higher priority than the Virtual Analyzer list.<br>  • If an object is added to both the User-Defined list and the Virtual Analyzer list on the Hub Apex Central before the next synchronization, the Hub Apex Central server deploys both lists to the Node Apex Central servers.<br>  • If an object in the Node Apex Central Virtual Analyzer list also exists in the Hub Apex Central User-Defined list, the suspicious object risk level changes to “High” on the Node Apex Central Virtual Analyzer list during the next synchronization. | |
| Configuring Suspicious Object settings | Recommended<br>Configuring Suspicious Objects through the Hub Apex Central ensures consistency across the registered Node Apex Central servers. | N/A |

# Part VII

## Automation Center

# Chapter 25

## Apex Central Automation Center

Apex Central provides RESTful APIs that allow access to specific product functions. You can use the APIs to integrate third-party solutions with Apex Central, gather and share suspicious object information, and automate investigation and management tasks.

For more information, see https://automation.trendmicro.com/apex-central/home.

# Part VIII

## Getting Help

# Chapter 26

## Technical Support

Learn about the following topics:


- *Troubleshooting Resources on page 26-2*
- *Contacting Trend Micro on page 26-3*
- *Sending Suspicious Content to Trend Micro on page 26-4*
- *Other Resources on page 26-5*

# Troubleshooting Resources

Before contacting technical support, consider visiting the following Trend Micro online resources.

## Using the Support Portal

The Trend Micro Support Portal is a 24x7 online resource that contains the most up-to-date information about both common and unusual problems.

**Procedure**

1. Go to https://success.trendmicro.com.
2. Select from the available products or click the appropriate button to search for solutions.
3. Use the **Search Support** box to search for available solutions.
4. If no solution is found, click **Contact Support** and select the type of support needed.

   **Tip**

   To submit a support case online, visit the following URL:

   https://success.trendmicro.com/smb-new-request

   A Trend Micro support engineer investigates the case and responds in 24 hours or less.

## Threat Encyclopedia

Most malware today consists of blended threats, which combine two or more technologies, to bypass computer security protocols. Trend Micro combats this complex malware with products that create a custom defense strategy. The Threat Encyclopedia provides a comprehensive list of names and symptoms for various blended threats, including known malware, spam, malicious URLs, and known vulnerabilities.

Go to https://www.trendmicro.com/vinfo/us/threat-encyclopedia/#malware to learn more about:

- Malware and malicious mobile code currently active or "in the wild"
- Correlated threat information pages to form a complete web attack story
- Internet threat advisories about targeted attacks and security threats
- Web attack and online trend information
- Weekly malware reports

# Contacting Trend Micro

In the United States, Trend Micro representatives are available by phone or email:

| | |
|---|---|
| Address | Trend Micro, Incorporated<br>225 E. John Carpenter Freeway, Suite 1500<br>Irving, Texas 75062 U.S.A. |
| Phone | Phone: +1 (817) 569-8900<br>Toll-free: (888) 762-8736 |
| Website | https://www.trendmicro.com |
| Email address | support@trendmicro.com |

- Worldwide support offices:

  https://www.trendmicro.com/us/about-us/contact/index.html

- Trend Micro product documentation:

  https://docs.trendmicro.com

## Speeding Up the Support Call

To improve problem resolution, have the following information available:

- Steps to reproduce the problem

- Appliance or network information
- Computer brand, model, and any additional connected hardware or devices
- Amount of memory and free hard disk space
- Operating system and service pack version
- Version of the installed agent
- Serial number or Activation Code
- Detailed description of install environment
- Exact text of any error message received

# Sending Suspicious Content to Trend Micro

Several options are available for sending suspicious content to Trend Micro for further analysis.

## Email Reputation Services

Query the reputation of a specific IP address and nominate a message transfer agent for inclusion in the global approved list:

https://servicecentral.trendmicro.com/en-us/ers/

Refer to the following Knowledge Base entry to send message samples to Trend Micro:

https://success.trendmicro.com/solution/1112106

## File Reputation Services

Gather system information and submit suspicious file content to Trend Micro:

https://success.trendmicro.com/solution/1059565

Record the case number for tracking purposes.

### Web Reputation Services

Query the safety rating and content type of a URL suspected of being a phishing site, or other so-called "disease vector" (the intentional source of Internet threats such as spyware and malware):

https://global.sitesafety.trendmicro.com/

If the assigned rating is incorrect, send a re-classification request to Trend Micro.

## Other Resources

In addition to solutions and support, there are many other helpful resources available online to stay up to date, learn about innovations, and be aware of the latest security trends.

### Download Center

From time to time, Trend Micro may release a patch for a reported known issue or an upgrade that applies to a specific product or service. To find out whether any patches are available, go to:

https://www.trendmicro.com/download/

If a patch has not been applied (patches are dated), open the Readme file to determine whether it is relevant to your environment. The Readme file also contains installation instructions.

### Documentation Feedback

Trend Micro always seeks to improve its documentation. If you have questions, comments, or suggestions about this or any Trend Micro document, please go to the following site:

https://docs.trendmicro.com/en-us/survey.aspx

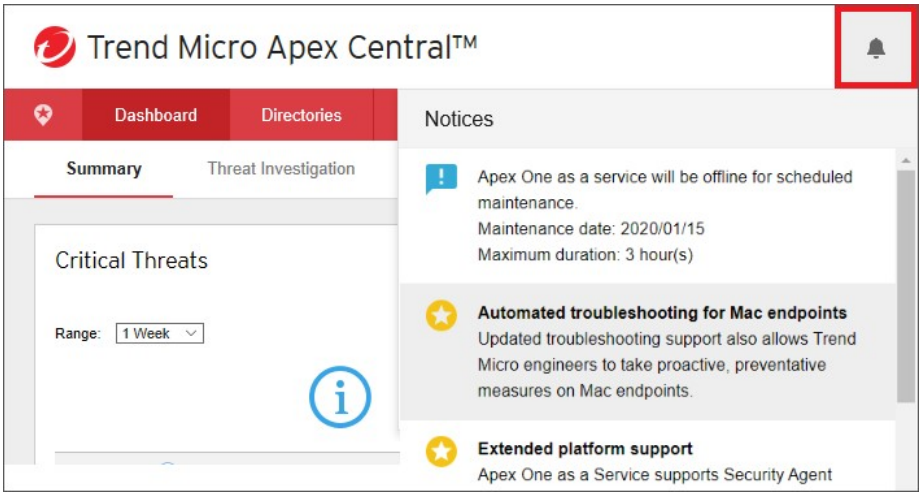
# Chapter 27

# Apex One as a Service FAQs

## Where can I find the latest news about Trend Micro Apex One™ as a Service?

Trend Micro Apex One™ as a Service regularly publishes news about upcoming events, emerging threats, product updates, and more.

You can access the news feed by clicking the bell icon in the upper right of the Apex Central web console.




## What files and folders can I exclude from scanning?

Trend Micro recommends excluding certain files and folders from scanning to avoid issues with performance or functionality.

To configure scan exclusion settings, go to **Policies** > **Policy Management** > **<Policy Name>** > **Real-time Scan Settings** > **Scan Exclusion**.

**Note**

The listed files and folders refer to the default installation locations of the related products. If you installed a product using a customized installation location, change the directories accordingly.

## AutoDesk Inventor/AutoCAD

- `C:\Program Files\Autodesk\Inventor 2013\Bin\Inventor.exe`
- `C:\Program Files\Autodesk\Vault Professional 201\Explorer\Connectivity.VaultPro.exe`
- `C:\Program Files\Autodesk\AutoCAD 2013\acad.exe`
- `C:\Program Files\Autodesk\Inventor Fusion 2013\Inventor Fusion.exe`
- `C:\Program Files\Autodesk\DWG TrueView 2013\dwgviewr.exe`
- `C:\Program Files (x86)\Autodesk\Autodesk Design Review 2013\DesignReview.exe`
- `C:\Program Files\Autodesk\Product Design Suite 2013\Bin\ProductDesignSuite.exe`

## Cisco AnyConnect VPN

- `C:\Program Files (x86)\cisco\cisco anyconnect vpn client\vpnagent.exe`
- `C:\Program Files (x86)\cisco\cisco anyconnect vpn client\vpnui.exe`

## Citrix Products

Exclude the following file extensions from scanning:

- `.LOG`
- `.DAT`
- `.TMP`

- `.POL`
- `.PF`

**Note**

By default, Deep Security excludes the following process:

`C:\Windows\System32\winlogon.exe`

You do not need to add this process to Process Image exclusion again.

## IBM Domino Data Directory

The IBM Domino data directory stores Domino email messages. Trend Micro recommends excluding the Domino data directory from scanning because this directory is regularly updated with new messages; thus, repeated scanning of this folder may not be efficient.

The default Domino data directory for a non-partitioned installation is as follows:

`\lotus\domino\data`

## FSLogix Profile Containers

File directories:

- `C:\Program Files\FSLogix*`

Files:

- `server*.vhdx` (file server)
- `[example.com]*.vhdx` (DFS namespace)
- `L:*.vhdx` (local drive on the file server)
- `C:\Windows\Temp*.vhdx`

**Note**

Excluded files or directories may vary among environments depending on the UNC path and mapped drives.

## Microsoft Active Directory Domain Controller

- `C:\WINNT\SYSVOL`
- `C:\WINNT\NTDS`
- `C:\WINNT\ntfrs`
- `C:\WINNT\system32\dhcp`
- `C:\WINNT\system32\dns`

## Microsoft Exchange Server

Trend Micro recommends excluding the directory or partition where the Microsoft Exchange mailbox is stored.

To prevent the Exchange Information Store from being corrupted, you must exclude the Installable File System (IFS) `M:` drive from scanning.

## Microsoft Internet Information Services (IIS) 7.0

Trend Micro recommends excluding web server log files stored in the default IIS log directory:

`C:\inetpub\logs\*.log`

## Oracle Database

Exclude the following file extensions from scanning:

- `.DBF`
- `.LOG`
- `.RDO`
- `.ARC`

- `.CTL`

## SAP Products

- SAP ABAP or Java installations:

  `\usr\sap\`

- SAP Content Server installations:

  `\SAPDB\`

Files:

- SAP Print Server:

  `SAPSprint.exe`

- Servers where SAPgui is installed:

  `lsagent.exe`

**Note**

Trend Micro recommends excluding base SAPinst directories and subdirectories during SAP upgrades and installations:

`C:\Program Files\SAPinst_instdir\`

## Symantec Backup Exec

- `C:\Program Files\Symantec\Backup Exec\beremote.exe`
- `C:\Program Files\Symantec\Backup Exec\beserver.exe`
- `C:\Program Files\Symantec\Backup Exec\bengine.exe`
- `C:\Program Files\Symantec\Backup Exec\benetns.exe`
- `C:\Program Files\Symantec\Backup Exec\pvlsvr.exe`
- `C:\Program Files\Symantec\Backup Exec\BkUpexec.exe`

## System Center Configuration Manager (SCCM)

SCCM 2012 Manager:

- `%windir%\Windows\TEMP\BootImages\`

  (boot image)

- `%windir%\ConfigMgr_OfflineImageServicing\*`

  (OS image)

SCCM 2012 Endpoint Protection:

- File directories:
  - `%programfiles%\Microsoft Configuration Manager\Inboxes\*.*`
  - `%programfiles(x86)%\Microsoft Configuration Manager\Inboxes\*.*`
- File paths:
  - `%allusersprofile%\NTUser.pol`
  - `%systemroot%\system32\GroupPolicy\registry.pol`
  - `%windir%\Security\database\*.chk`
  - `%windir%\Security\database\*.edb`
  - `%windir%\Security\database\*.jrs`
  - `%windir%\Security\database\*.log`
  - `%windir%\Security\database\*.sdb`
  - `%windir%\SoftwareDistribution\Datastore\Datastore.edb`
  - `%windir%\SoftwareDistribution\Datastore\Logs\edb.chk`
  - `%windir%\SoftwareDistribution\Datastore\Logs\edb*.log`
  - `%windir%\SoftwareDistribution\Datastore\Logs\Edbres00001.jrs`

- `%windir%\SoftwareDistribution\Datastore\Logs\Edbres00002.jrs`
- `%windir%\SoftwareDistribution\Datastore\Logs\Res1.log`
- `%windir%\SoftwareDistribution\Datastore\Logs\Res2.log`
- `%windir%\SoftwareDistribution\Datastore\Logs\tmp.edb`

## System Center Operations Manager (SCOM)

File directories:

- Operations Manager 2007 and Operations Manager 2007 R2:

  `%programfiles%\System Center Operations Manager\<version>\Health Service State`

  The placeholder "<version>" represents "2007" for Operations Manager 2007 or Operations Manager 2007 R2.

  Operations Manager 2012:

  - `%programfiles%\System Center Operations Manager\<component>\Health Service State`

    The placeholder "<component>" represents "Agent" or "Server" for Operations Manager 2012.

- Operations Manager 2012 R2 (management server):

  `%programfiles%\Microsoft System Center 2012 R2\Operations Manager\Server\Health Service State`

- Operations Manager 2012 R2 (gateway server):

  `%programfiles%\System Center Operations Manager\Gateway\Health Service State`

- Operations Manager 2012 R2 (agent):

  `%programfiles%\Microsoft Monitoring Agent\Agent\Health Service State`

File extensions:

- SQL database servers:

  Recommended exclusions include SQL Server database files used by Operations Manager components and the system database files for the master database and tempdb database. For example:

  - `.MDF`
  - `.LDF`

- Operations Manager (servers, gateways, and agents):

  Recommended exclusions include the queue and log files used by Operations Manager. For example:

  - `.EDB`
  - `.CHK`
  - `.LOG`

### VMware

Attempting to access VMware disk partitions during scanning may affect session loading performance and the ability to interact with virtual machines. As such, Trend Micro recommends excluding large flat files and designed files such as VMware disk partitions.

You can exclude virtual machines by excluding the directories containing the virtual machines or by excluding `.VMDK` and `.VMEM` file extensions.

## How do I add DNS names and IP addresses to exception lists?

For security reasons, many organizations use exception lists to limit intranet access to only approved communication sources. Because Apex One as a Service servers rely on the Internet to manage Security Agents on endpoints, you may need to add the Apex One DNS names and IP addresses to firewall or gateway exception lists to ensure that your endpoints remain protected.

### Ports

Apex One as a Service servers use the following ports:

- Apex One: TCP 443
- Apex One (Mac): TCP 8443

## DNS

Trend Micro recommends adding DNS names to exception lists so that IP subnets can be dynamically approved according to DNS.

You can find the registered Apex One DNS names on the **Product Servers** screen of the Apex Central web console (**Directories** > **Product Servers**).

## IP Addresses

Because Apex One as a Service resides on the Microsoft Azure Cloud, Apex One as a Service servers do not use a single IP address or set of IP addresses.

Currently, Apex One as a Service resides in several regions of Azure Cloud. Microsoft provides a list of their datacenter IP ranges at the following location:

https://www.microsoft.com/en-us/download/details.aspx?id=56519

**Note**

When adding IP addresses to exception lists, you must import the following region names:

- "name": "AzureCloud.australiaeast"
- "name": "AzureCloud.centralus"
- "name": "AzureCloud.westeurope"
- "name": "AzureCloud.southeastasia"

## URLs

**Note**

- The services listed below use the Content Delivery Network (CDN) for caching, so static IPs are not available.
- You should only add IP addresses according to your language version (i.e., for English-language product versions, you should only add "*-en" URLs).

The following URLs must be available to endpoint Security Agents:

- ActiveUpdate:

  `https://osce14-p.activeupdate.trendmicro.com/activeupdate`

- Global Smart Scan Server:

  `https://osce14.icrc.trendmicro.com/tmcss`

- License server:

  `http://licenseupdate.trendmicro.com/ollu/license_update.aspx`

- Host Data Lake:

  `xdr-nabu-prod.etdl.trendmicro.com`

- PR Feedback server:

  `https://licenseupdate.trendmicro.com/fb/bifconnect.ashx`

- Web Rating server:
  - `osce14-0-en.url.trendmicro.com`
  - `osce14-0-jp.url.trendmicro.com`
  - `osce14-0-tc.url.trendmicro.com`
  - `osce14-0-de.url.trendmicro.com`
  - `osce14-0-fr.url.trendmicro.com`

    - osce14-0-sp.url.trendmicro.com
    - osce14-0-ru.url.trendmicro.com
    - osce14-0-it.url.trendmicro.com
    - osce14-0-po.url.trendmicro.com
    - osce14-0-kr.url.trendmicro.com
- Smart Feedback:
    - osce140-de.fbs25.trendmicro.com
    - osce140-en.fbs25.trendmicro.com
    - osce140-es.fbs25.trendmicro.com
    - osce140-fr.fbs25.trendmicro.com
    - osce140-jp.fbs25.trendmicro.com
    - osce140-pl.fbs25.trendmicro.com
    - osce140-it.fbs25.trendmicro.com
    - osce140-ru.fbs25.trendmicro.com
    - osce140-tc.fbs25.trendmicro.com
    - osce140-kr.fbs25.trendmicro.com
- Near Field Communication (NFC) server:
    - osce14-en.gfrbridge.trendmicro.com
    - osce14-jp.gfrbridge.trendmicro.com
    - osce14-tc.gfrbridge.trendmicro.com
    - osce14-kr.gfrbridge.trendmicro.com
    - osce14-de.gfrbridge.trendmicro.com
    - osce14-fr.gfrbridge.trendmicro.com
    - osce14-it.gfrbridge.trendmicro.com

    - osce14-es.gfrbridge.trendmicro.com
    - osce14-ru.gfrbridge.trendmicro.com
    - osce14-po.gfrbridge.trendmicro.com
- Census server:
    - https://osce14-en-census.trendmicro.com
    - https://osce14-de-census.trendmicro.com
    - https://osce14-fr-census.trendmicro.com
    - https://osce14-es-census.trendmicro.com
    - https://osce14-it-census.trendmicro.com
    - https://osce14-pl-census.trendmicro.com
    - https://osce14-ru-census.trendmicro.com
    - https://osce14-jp-census.trendmicro.com
    - https://osce14-kr-census.trendmicro.com
    - https://osce14-tc-census.trendmicro.com
- Census server (backup):
    - osce14bak-en-census.trendmicro.com
    - osce14bak-de-census.trendmicro.com
    - osce14bak-es-census.trendmicro.com
    - osce14bak-fr-census.trendmicro.com
    - osce14bak-it-census.trendmicro.com
    - osce14bak-jp-census.trendmicro.com
    - osce14bak-kr-census.trendmicro.com
    - osce14bak-pl-census.trendmicro.com
    - osce14bak-ru-census.trendmicro.com

    - osce14bak-sc-census.trendmicro.com
    - osce14bak-tc-census.trendmicro.com
- Predictive Machine Learning (File)
    - osce140-en-f.trx.trendmicro.com
    - osce140-de-f.trx.trendmicro.com
    - osce140-es-f.trx.trendmicro.com
    - osce140-fr-f.trx.trendmicro.com
    - osce140-it-f.trx.trendmicro.com
    - osce140-jp-f.trx.trendmicro.com
    - osce140-kr-f.trx.trendmicro.com
    - osce140-pl-f.trx.trendmicro.com
    - osce140-ru-f.trx.trendmicro.com
    - osce140-tc-f.trx.trendmicro.com
- Predictive Machine Learning (Behavior)
    - osce140-en-b.trx.trendmicro.com
    - osce140-de-b.trx.trendmicro.com
    - osce140-es-b.trx.trendmicro.com
    - osce140-fr-b.trx.trendmicro.com
    - osce140-it-b.trx.trendmicro.com
    - osce140-jp-b.trx.trendmicro.com
    - osce140-kr-b.trx.trendmicro.com
    - osce140-pl-b.trx.trendmicro.com
    - osce140-ru-b.trx.trendmicro.com
    - osce140-tc-b.trx.trendmicro.com

- Predictive Machine Learning (Coexist mode)
  - `oscecmp140-de-f.trx.trendmicro.com`
  - `oscecmp140-en-f.trx.trendmicro.com`
  - `oscecmp140-es-f.trx.trendmicro.com`
  - `oscecmp140-fr-f.trx.trendmicro.com`
  - `oscecmp140-it-f.trx.trendmicro.com`
  - `oscecmp140-jp-f.trx.trendmicro.com`
  - `oscecmp140-kr-f.trx.trendmicro.com`
  - `oscecmp140-pl-f.trx.trendmicro.com`
  - `oscecmp140-ru-f.trx.trendmicro.com`
  - `oscecmp140-tc-f.trx.trendmicro.com`

## How do I send logs from Apex One as a Service to a third-party SIEM solution?

Apex Central allows you to forward syslog messages from Apex One as a Service to a third-party security information and event management (SIEM) solution.

**Important**

Before enabling syslog forwarding on Apex Central, ensure that the syslog input/receiver service on your SIEM solution is preconfigured and running.

For specific SIEM configurations, refer to your SIEM server documentation.

To configure syslog forwarding on Apex Central, go to **Administration** > **Settings** > **Syslog Settings** and provide the following SIEM server information on the **Syslog Settings** screen:

- **Server address**: Provide the IP address or host name of the SIEM server that receives the forwarded syslogs

- **Port**: Provide the communication port number on the SIEM server

**Note**

- For TCP/UDP communications, the default port number is usually **514**.
- For TLS communications, the default port number is usually **6514**.

- **Protocol**: Select the communication method used by the SIEM server

## How does Apex One as a Service policy deployment work?

Apex Central deploys policies to the Apex One server.

For detailed information about the Apex One as a Service policy deployment process and deployment triggers, see the following article:

https://success.trendmicro.com/solution/1123401-understanding-apex-one-policy-deployment.

# Appendices

## Appendices

# Appendix A

## Data Views

This section describes data views that Apex Central supports for customizing report templates and log queries.

Topics include:


- *Data View: Security Logs on page A-2*
- *Data View: Product Information on page A-93*

# Data View: Security Logs

Displays information about security threats that managed products detect: viruses, spyware/grayware, phishing sites, and more.

## Advanced Threat Information

Displays summary and detailed data about advanced persistent threats and targeted attacks that managed products detect on your network.

### Detailed C&C Callback Information

Provides specific information about C&C callback events detected on your network

**TABLE A-1. Detailed C&C Callback Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Compromised Host | The IP address, host name, or email address that attempted a callback |
| Callback Address | The object from/to which a compromised host attempted a callback |
| C&C List Source | The C&C list source that identified the C&C server<br>• C&C IP List<br>• Global Intelligence List<br>• User-defined IP List<br>• Virtual Analyzer List |
| Network Groups | The monitored network groups as defined by the administrators of managed products, such as Deep Discovery Inspector |

| Data | Description |
|---|---|
| C&C Risk Level | The risk level Trend Micro assigns to the event:<br>• **High**: Known malicious or involved in high-severity connections<br>• **Medium**: IP address/domain/URL is unknown to reputation service<br>• **Low**: Reputation service indicates previous compromise or spam involvement |
| C&C Server Location | The region and country where the C&C server is located |
| First Monitored | The date and time the callback address was first detected by Trend Micro |
| Last Activity | The date and time the callback address was last contacted by a compromised host |
| Malware Families | The malware names associated with the callback address |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Product Entity | The display name of the managed product server in Apex Central |

## Detailed Predictive Machine Learning Information

Provides specific information about advanced unknown threats detected by Predictive Machine Learning

**Table A-2. Detailed Predictive Machine Learning Information**

| Data | Description |
|---|---|
| Detection Time | The date and time the managed product server or the Security Agent detected the threat |
| Received | The date and time Apex Central received the data from the managed product |

| Data | Description |
|---|---|
| Product Entity/ Endpoint | Depending on the related source:<br>• The display name of the managed product server in Apex Central<br>• The name or IP address of the endpoint |
| Product/Endpoint IP | Depending on the related source:<br>• The IP address of the managed product server<br>• The IP address of the endpoint |
| Product | The name of the managed product or service |
| Server | The display name of the managed product server in Apex Central |
| Probable Threat Type | The most likely type of threat contained in the file after Predictive Machine Learning compared the analysis to other known threats |
| Security Threat | The name of the security threat |
| Logon User | The logged on user name at the time of the event |
| Type | The type of object that triggered the detection ("File" or "Process") |
| File Path | The path of the file object or the path of the program that executed the process |
| File Creation Time | The date and time the file object was created |
| Parent Process | The process that triggered the detected process |
| Process Command | The command that executed the detected process |
| Process Owner | The user name that triggered the detected process |
| Endpoint Infection Channel | The channel that the threat originated from |
| Infection Source | The origin of the threat |
| Threat Probability | How closely the file/process matched the malware model |
| Action Result | The result of the action taken by the managed product |
| Subject | The subject of the email message that triggered the detection |

| Data | Description |
|---|---|
| Delivery Time | The date and time the email message was delivered to the mail server |
| Sender | The sender of the email message that triggered the detection |
| Recipients | The recipient(s) of the email message that triggered the detection |
| Cloud Service Vendor | The name of the cloud service vendor |

## Detailed Suspicious File Information

Provides specific information about suspicious files detected on your network

**Table A-3. Detailed Suspicious File Information Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Detected | The date and time the managed product detected the threat |
| Endpoint | The name of the endpoint |
| Product | The name of the managed product or service<br><br>Example: Apex One, ScanMail for Microsoft Exchange |
| Product Entity | The display name of the managed product server in Apex Central |
| Endpoint IP Address | The IP address of the endpoint |
| Endpoint Host Name | The host name of the endpoint |
| File Type | The type of file object |
| File SHA-1 | The SHA-1 hash value of the file object |
| File Path | The path of the file object or the path of the program that executed the process |

| Data | Description |
|---|---|
| C&C List Source | The C&C list source that identified the C&C server<br>• C&C IP List<br>• Global Intelligence List<br>• User-defined IP List<br>• Virtual Analyzer List |
| Action | The action taken by the managed product |
| Scan Type | The type of scan that reported the event (for example, Real-time Scan, Scheduled Scan, Manual Scan) |
| Created | The date and time the file object was created |
| Modified | The date and time the file object was last modified |

## Virtual Analyzer Detection Information

Provides specific information about advanced unknown threats detected by Virtual Analyzer

**Table A-4. Virtual Analyzer Detection Information**

| Data | Description |
|---|---|
| Generated | The date and time the managed product generated the data |
| Received | The date and time Apex Central received the data from the managed product |
| Product | The name of the managed product or service |
| Server Name | The name of the server |
| Host | The name of the host |
| Entry Channel | The infection channel |
| Source | The origin of the threat |
| Destination | The target location of the threat |

| Data | Description |
|---|---|
| Process Name | The name of the process that triggered the detection |
| SHA1 | The SHA-1 hash value of the file object that triggered the detection |
| Type | The type of object that triggered the detection ("File" or "Process") |
| File Name | The name of the file object that triggered the detection |
| File Type | The type of file object that triggered the detection |
| URL | The URL object that triggered the detection |
| Submission Rule | The rule submitted by Virtual Analyzer |
| Submission Time | The date and time Virtual Analyzer submitted the rule |
| Completed Time | The date and time Virtual Analyzer completed the analysis |
| Security Threat | The name of the security threat |
| Risk Level | The risk level assigned by Virtual Analyzer |
| Threat Categories | The type of security threat |
| Most Critical Threat | The most critical threats by severity level |
| Cloud Service Vendor | The name of the cloud service vendor |

## Detailed Virtual Analyzer Suspicious Object Impact Information

Provides detailed information about the impact of Virtual Analyzer suspicious objects

| Data | Description |
|---|---|
| Type | The type of suspicious object |
| Object | The name of the suspicious object |
| Scan Action | The scan action taken by the managed product that detected the suspicious object (for example, Log, Bock) |
| Risk Level | The risk level of the security threat |

| Data | Description |
|---|---|
| Expiration | The date and time the suspicious object is set to expire |
| First Submission Time | The date and time the managed product first submitted the suspicious object to Virtual Analyzer |
| First Submission Product Name | The name of the managed product that first submitted the suspicious object to Virtual Analyzer |
| First Submission Host Name | The display name of the managed server that first submitted the suspicious object to Virtual Analyzer |
| First Submission IP Address | The IP address of the managed server that first submitted the suspicious object to Virtual Analyzer |
| First Submission File Name | The file name of the suspicious object that the managed product first submitted to Virtual Analyzer |
| First Submission File Type | The file type of the suspicious object that the managed product first submitted to Virtual Analyzer |
| First Submission Source | The source of the suspicious object that the managed product first submitted to Virtual Analyzer |
| First Submission Destination | The destination of the suspicious object that the managed product first submitted to Virtual Analyzer |
| Latest Submission Time | The date and time the managed product last submitted the suspicious object to Virtual Analyzer |
| Latest Submission Product Name | The name of the managed product that last submitted the suspicious object to Virtual Analyzer |
| Latest Submission Host Name | The display name of the managed product that last submitted the suspicious object to Virtual Analyzer |
| Latest Submission IP Address | The IP address of the last managed server that last submitted the suspicious object to Virtual Analyzer |
| Latest Submission File Name | The file name of the suspicious object that the managed product last submitted to Virtual Analyzer |
| Latest Submission File Type | The file type of the suspicious object that the managed product last submitted to Virtual Analyzer |

| Data | Description |
|---|---|
| Latest Submission File SHA-1 | The file SHA-1 of the suspicious object that the managed product last submitted to Virtual Analyzer |
| Latest Submission Detection Name | The detection name of the suspicious object that the managed product last submitted to Virtual Analyzer |
| Latest Submission Source | The source of the suspicious object that the managed product last submitted to Virtual Analyzer |
| Latest Submission Destination | The destination of the suspicious object that the managed product last submitted to Virtual Analyzer |
| Endpoint Domain Name | The domain name of the endpoint that triggered the detection |
| Endpoint Host Name | The display name of the endpoint that triggered the detection |
| Endpoint User Domain Name | The domain name of the user logged on to the endpoint at the time of the detection |
| Endpoint User Domain Account | The domain account of the user logged on to the endpoint at the time of the detection |
| Endpoint User Name | The logged on user name at the time of the event |
| Endpoint IP Address | The IP address of the endpoint |
| Endpoint First Found Time | The date and time the suspicious object was first detected on the endpoint |
| Endpoint First Product Detection | The name of the managed product that first detected the suspicious object on the endpoint |
| Endpoint First Action Taken | The first action taken on the endpoint by the managed product |
| Endpoint Last Found Time | The date and time the suspicious object was last detected on the endpoint |
| Endpoint Last Product Detection | The name of the managed product that last detected the suspicious object on the endpoint |
| Endpoint Last Action Taken | The last action taken on the endpoint by the managed product |

| Data | Description |
|---|---|
| Endpoint Last Action Result | The result of the last action taken on the endpoint by the managed product |

## Attack Discovery Detections

Displays information provided by Attack Discovery.

### Attack Discovery Detection Information

Provides general information about threats detected by Attack Discovery

**Table A-5. Attack Discovery Detection Information**

| Data | Description |
|---|---|
| Generated | The date and time the managed product generated the data |
| Received | The date and time Apex Central received the data from the managed product |
| Endpoint | The name of the endpoint |
| Product | The name of the managed product or service |
| Managing Server Entity | The display name of the managed product server in Apex Central to which the endpoint reports |
| Product Version | The version of the managed product |
| Tactics | The MITRE ATT&CK™ tactic(s) detected<br>For more information, see https://attack.mitre.org/tactics/enterprise/. |
| Techniques | The MITRE ATT&CK™ technique(s) detected<br>For more information, see https://attack.mitre.org/techniques/enterprise/. |
| Endpoint IP | The IP address of the endpoint |
| Risk Level | The risk level assigned by Attack Discovery |
| Pattern Version | The Attack Discovery pattern number for the detection type |

| Data | Description |
|---|---|
| Rule ID | The serial number of the detection rule |
| Rule Name | The rules which specify behaviors to be detected by Attack Discovery |
| Related Objects | The number of detections<br>Click the count to view additional details.<br>For more information, see *Detailed Attack Discovery Detection Information on page A-11*. |
| Generated (Local Time) | The time in the agent's local timezone when Attack Discovery detected the threat<br>The time is displayed with the UTC offset. |
| Instance ID | The detection ID assigned to the event<br>Entries having the same instance ID belong under the same event. |

## Detailed Attack Discovery Detection Information

Provides general information about threats detected by Attack Discovery

**Table A-6. Detailed Attack Discovery Detection Information**

| Data | Description |
|---|---|
| Object Value | The name of the object targeted by the detected threat |
| Object Type | The type of object targeted by the detected threat |
| First Logged | The time when the threat detection was first logged by Attack Discovery |
| File Directory | The directory of the object targeted by the detected threat |
| Process ID | The PID of the process |
| CLI Command | The process command that triggered the threat detection |
| Signer | The certificate signer |
| User Domain | The domain name of the detected user account |

| Data | Description |
|---|---|
| User Name | The account name associated with the object |
| Impersonated User Name | The user name that the threat impersonated |
| Authentication ID | The local unique identifier assigned to the logon session |
| Integrity Level | The level of protection or access assigned to the logon user |
| File SHA-1 | The SHA-1 hash value of the object file |
| File SHA-256 | The SHA-256 hash value of the object file |
| File MD5 | The MD5 hash value of the object file |
| Census Rating | The rating determined by Trend Micro threat experts based on the recorded history of the file |
| File Security Owner | The current owner of the file according to the file properties |
| File Security Owner Domain | The domain of the current owner of the file according to the file properties |
| File Security Previous Owner | The previous owner of the file according to the file properties |
| File Security Previous Owner Domain | The domain of the previous owner of the file according to the file properties |
| Registry Key | The registry key that the threat accessed |
| Registry Value Name | The registry value name that the threat accessed |
| Registry Value Data | The registry value data that the threat accessed |
| AMSI App Name | The application name or scripting language associated with the threat |
| AMSI App Full Path | The full path of the application associated with the threat |
| AMSI App Version | The application version associated with the threat |
| AMSI Script Source | The file name and extension of the script source |
| AMSI Script Content | The content of the script |

| Data | Description |
|---|---|
| AMSI Script Source SHA-1 | The SHA-1 hash value of the script source |
| AMSI Script Source SHA-256 | The SHA-256 hash value of the script source |
| Source IP Address | The source IP address of the detected threat |
| Source IP Address Port | The source IP address port number of the detected threat |
| Destination IP Address | The IP address that the threat accessed |
| Destination IP Address Port | The IP port number that the threat accessed |
| Destination URL | The URL that the threat accessed |
| Destination Domain | The domain name that the threat accessed |
| WMI Event | The WMI event information associated with the threat |
| Windows Event Source | The name of the software that logged the event according to the Windows Event Logs |
| Windows Event Log Content | The Windows Event log content that triggered the detection |
| Auth Priv Name | The Authorization Privilege Name that the threat modified |
| Auth Priv Attribute | The Authorization Privilege Attribute that the threat modified |
| Auth Priv Disable All | The status of the Authorization Privilege Disable All that the threat modified |

## Content Violation Information

Displays summary and detailed data about prohibited content that managed products detect on your network.

## Content Violation Action/Result Summary

Provides a summary of actions managed products take against content violations. Example: the action managed products take against the content violation, the number of email messages affected by the action taken

**TABLE A-7. Content Violation Action/Result Summary Data View**

| DATA | DESCRIPTION |
|---|---|
| Action | Displays the type of action managed products take against email message in violation of content policies.<br><br>Example: forwarded, attachments stripped, deleted |
| Policy Violation Detection Count | Displays the number of violations with the specified action taken by managed products. |

## Content Violation Detection Over Time Summary

Provides a summary of content violation detections over a period of time (daily, weekly, monthly). Example: time and date of when summary data was collected, number of endpoints affected by the content violation, total number of unique content violations and total number of content violations on the network

**TABLE A-8. Content Violation Detection Over Time Summary Data View**

| DATA | DESCRIPTION |
|---|---|
| Date/Time | Displays the time that the summary of the data occurs. |
| Unique Policies | Displays the number of unique policies in violation managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same policy on one computer.<br><br>Detections = 10 |

| Data | Description |
|---|---|
| Unique Senders/ Users | Displays the number of unique email message addresses or users sending content that violates managed product policies.<br><br>Example: A managed product detects 10 violation instances of the same policy coming from 3 computers.<br><br>Unique Senders/Users = 3 |
| Unique Recipients | Displays the number of unique email message recipients receiving content that violate managed product policies.<br><br>Example: A managed product detects 10 violation instances of the same policy on 2 computers.<br><br>Unique Recipients = 2 |
| Detections | Displays the total number of policy violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same policy on one computer.<br><br>Detections = 10 |

## Content Violation Policy Summary

Provides a summary of content violation detections due to specific policies. Example: name of the policy in violation, the type of filter that detects the content violation, the total number of content violations on the network

**Table A-9. Content Violation Policy Summary Data View**

| Data | Description |
|---|---|
| Policy | Displays the name of the policy that endpoints violate. |
| Filter Type | Displays the type of filter that triggers the violation. Example: content filter, phishing filter, URL reputation filter |

| Data | Description |
|---|---|
| Unique Senders/ Users | Displays the number of unique email message addresses or users sending content that violates managed product policies.<br><br>Example: A managed product detects 10 violation instances of the same policy coming from 3 computers.<br><br>Unique Senders/Users = 3 |
| Unique Recipients | Displays the number of unique email message recipients receiving content that violate managed product policies.<br><br>Example: A managed product detects 10 violation instances of the same policy on 2 computers.<br><br>Unique Recipients = 2 |
| Detections | Displays the total number of policy violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same policy on one computer.<br><br>Detections = 10 |

## Content Violation Sender Summary

Provides a summary of content violation detections due to specific senders. Example: name of the content sender, the number of unique content violations, the total number of content violations on the network

**Table A-10. Content Violation Sender Summary Data View**

| Data | Description |
|---|---|
| Sender/User | Displays the email message address or users sending content that violates managed product policies. |
| Detections | Displays the total number of policy violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same policy on one computer.<br><br>Detections = 10 |

| Data | Description |
|---|---|
| Unique Recipients | Displays the number of unique email message recipients receiving content that violate managed product policies.<br><br>Example: A managed product detects 10 violation instances of the same policy on 2 computers.<br><br>Unique Recipients = 2 |
| Unique Policies | Displays the number of unique policies in violation managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same policy on one computer.<br><br>Detections = 10 |

## Detailed Content Violation Information

Provides specific information about the email messages with content violations, such as the managed product that detected the content violation, the sender(s) and recipients(s) of the email message, the name of the content violation policy, and the total number of violations detected

**Table A-11. Detailed Content Violation Information Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity | The display name of the managed product server in Apex Central |
| Product | The name of the managed product or service<br><br>Example: Apex One, ScanMail for Microsoft Exchange |
| Recipient | The email recipients receiving content that violate managed product policies |
| Sender/User | The email address or user sending content that violates managed product policies |

| Data | Description |
|---|---|
| Subject | The content of the subject line of the email that violates a policy |
| Policy | The name of the policy an email violates |
| Policy Settings | The settings for the policy that an email violates |
| File Location | The location of the file that violates a policy |
| File | The name of the file that violates a policy |
| URL | The URL in violation of the specified policy |
| Risk Level | The Trend Micro assessment of risk to your network<br>Example: high security, low security, medium security |
| Filter Type | The type of filter that detects the email in violation<br>Example: content filter, size filter, attachment filter |
| Sub-filter Type | The type of sub-filter that detects the email in violation |
| Filter Action | The action the detecting filter takes against email in violation of a policy<br>Example: clean, quarantine, strip |
| Filter Action Result | The result of the action taken by the filter that detected the violation |
| Action | The action taken by the managed product<br>Example: deliver, strip, forward |
| Detections | The total number of detections |

## Email Messages with Advanced Threats

Provides specific information about email messages with advanced threats, such as anomalous behavior, false or misleading data, suspicious and malicious behavior patterns, and strings that indicate system compromise but require further investigation to confirm

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Product Entity | The display name of the managed product server in Apex Central |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Recipients | The recipient(s) of the email message that triggered the detection |
| Sender | The sender of the email message that triggered the detection |
| Subject | The subject of the email message that triggered the detection |
| Attachment Count | The number of email attachments |
| Attachment | The name of the email attachment |
| Attachment Type | The type of email attachment |
| Action | The action taken by the managed product<br>Example: deliver, strip, quarantine |
| Threat Type | The type of security threat |
| Threat Name | The name of the security threat |
| Risk Level | The email message risk level after investigation |
| Source IP | The message transfer agent (MTA) IP address nearest to the email sender |
| Message ID | The administrator-configured unique message ID |
| Link Count | The number of links in the email message |
| Links | The list of links in the email message |

## Data Discovery Information

Displays information about Data Discovery detections.

## Data Discovery Data Loss Prevention Detection Information

Displays specific information about incidents detected by Data Discovery

**TABLE A-12. Data Discovery Data Loss Prevention Detection Information**

| DATA | DESCRIPTION |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Rule | The name of the rule that triggered the detection |
| Endpoint | The name or IP address of the endpoint |
| Domain | The domain to which the managed product belongs |
| User | The logged on user name at the time of the event |
| User Domain | The name of the domain to which the user belongs |
| File Path | The full path of the location containing the digital asset or channel (if no source is available) |
| File | The name of the file object that the threat accessed |
| Template | The exact rule name(s) and template(s) triggered by the incident |
| Action | The action taken by the managed product |
| Details | Additional information, such as the reason a user has provided for continuing to transfer sensitive data |

## Data Discovery Endpoint Information

**TABLE A-13. Data Discovery Endpoint Information**

| DATA | DESCRIPTION |
|---|---|
| Generated | Displays the time when the log data was generated in the managed product. |
| Endpoint | Displays the IP address or host name of a computer where Data Loss Prevention detected the transmission. |

| Data | Description |
|---|---|
| Device Class | Displays the name of the device category as shown in Windows Device Manager. |
| Device Display Name | Displays the display name of the device, as shown in Windows Device Manager. |
| Provider | Displays the name of the company that provides the device. |

## Data Loss Prevention Information

Displays information about DLP incidents, template matches, and incident sources collected from the managed products.

### DLP Incident Information

Provides specific information about incidents detected by Data Loss Prevention

**Table A-14. DLP Incident Information**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Incident ID | The identifier of the incident |
| Severity | The severity level of the event |
| Status | The detection status of the incident |
| Manager | The name of the manager of the department |
| Department | The name of the department |
| Policy | The policy that triggered the detection |
| Product Entity/ Endpoint | The name of the endpoint |

| Data | Description |
|---|---|
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Product/Endpoint IP | Depending on the related source:<br>• The IP address of the managed product server<br>• The IP address of the endpoint |
| Product/Endpoint MAC | Depending on the related source:<br>• The MAC address of the managed product server<br>• The MAC address of the Security Agent endpoint |
| Managing Server | The display name of the managed product server in Apex Central to which the endpoint reports |
| Endpoint | The IP address or host name of a computer with an agent (for example, Apex One agent) installed |
| Incident Source (AD Display Name) | The Active Directory display name of the incident source |
| Incident Source (AD Account) | The Active Directory account name of the incident source |
| Incident Source (Sender) | The source email address |
| Website | The URL of the website that triggered the incident |
| Recipient | The destination email address |
| Subject | The subject of the email message |
| File Location | The location and the name of the file |
| File | The name of the file from which the incident was triggered |
| File/Data Size | The size of the file or data that triggered the incident |
| Rule | The name of the rule triggered by the incident |
| Template | The name of the template in which a template match was triggered |

| Data | Description |
|---|---|
| Channel | The entity through which a digital asset was transmitted |
| Destination | The destination of the transmission |
| Action | The action taken by the managed product |
| Incidents | The number of incidents |
| Cloud Service Vendor | The name of the cloud service vendor |

## DLP Template Match Information

**Table A-15. DLP Template Match Information**

| Data | Description |
|---|---|
| ID | Displays the unique ID for the log. |
| Received | Displays the time when the managed product received the incident information. |
| Generated | Displays the time when the incident was triggered. |
| Product Entity/ Endpoint | This data column displays one of the following:<br>• The entity display name for a managed product. Apex Central identifies managed products using the managed product's entity display name.<br>• The IP address or host name of a computer with an agent (for example, Apex One agent) installed. |
| Product | Displays the name of the managed product. Example: Apex One, ScanMail for Microsoft Exchange |
| Product/Endpoint IP | This data column displays one of the following:<br>• The IP address of the server on which the managed product installs.<br>• The IP address of a computer with an agent (for example, Apex One agent) installed. |

| Data | Description |
|---|---|
| Product/Endpoint MAC | This data column displays one of the following:<br>• The MAC address of the server on which the managed product installs.<br>• The MAC address of a computer with an agent (for example, Apex One agent) installed. |
| Managing Server | Displays the entity display name for a managed product to which an endpoint is registered. Apex Central identifies managed products using the managed product's entity display name. |
| Endpoint | Displays the IP address or host name of a computer with an agent (for example, Apex One agent) installed. |
| Incident Source (User) | Displays the logged on user name. |
| Recipient | Displays the destination email address. |
| Subject | Displays the subject of the email message. |
| File Location | Displays the location and the name of the file. |
| File | Displays the name of the file from which the incident was triggered. |
| Rule | Displays the name of the rule triggered by the incident. |
| Template | Displays the name of the template in which a template match was triggered. |
| Channel | Displays the entity through which a digital asset was transmitted. |

## Deep Discovery Information

Displays summary and detailed data about suspicious activity that managed products detect on your network.

### Detailed Correlation Information

Provides specific information about detailed threat analyses and remediation recommendations

**TABLE A-16. Detailed Correlation Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Generated | The date and time the managed product generated the data |
| IP Address | The IP address of the endpoint |
| Network Group | The monitored network group |
| Protocol | The broad protocol group from which the managed product detected the threat |
| Threat Type | The type of security threat<br>Example: virus, spyware/grayware, fraud |
| Severity | The severity level of the event |
| Detection | The type of detection based on the correlation rules |
| Details | Remarks or comments related to the detection |
| MAC Address | The MAC address of the endpoint |
| Host Name | The name of the endpoint |
| Correlation Rule ID | The rule ID of the correlation rule |

## Detailed Mitigation Information

Provides specific information about tasks carried out by mitigation servers to resolve threats on your network

**TABLE A-17. Detailed Mitigation Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Mitigation Entity | The display name of the managed product server in Apex Central |
| Product | The name of the managed product or service |

| Data | Description |
|---|---|
| Endpoint IP | The IP address of the endpoint |
| Endpoint | The name of the endpoint |
| Data Source | The Deep Discovery product or task that generated the threat event information |
| Data Source Host | The host name of the Deep Discovery product that generated the threat event information |
| Threat Event | The threat-related events logged by the mitigation server<br>For more information, see http://docs.trendmicro.com/all/ent/tms/v2.6/en-us/tmtm_2.6_olh/help/info/threat_event_logs.htm. |
| Mitigation Status | The threat events by status groups<br>For more information, see http://docs.trendmicro.com/all/ent/tms/v2.6/en-us/tmtm_2.6_olh/help/info/threat_event_logs.htm. |
| Mitigation Details | The mitigation details about the threat events<br>For more information, see http://docs.trendmicro.com/all/ent/tms/v2.6/en-us/tmtm_2.6_olh/help/info/mitigation_status.htm. |
| Detections | The total number of detections |
| Detailed Information | The details about the threats |

## Detailed Suspicious Threat Information

Provides specific information about suspicious threats on your network, such as the managed product that detected the suspicious threat, specific information about the source and destination, and the total number of suspicious threats on the network

**Table A-18. Detailed Suspicious Threat Information Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |

| Data | Description |
|---|---|
| Generated | The date and time the managed product generated the data |
| Product Entity | The display name of the managed product server in Apex Central |
| Product | The name of the managed product or service<br><br>Example: Apex One, ScanMail for Microsoft Exchange |
| Mitigation Host | The host name of the mitigation server (for example, Network VirusWall Enforcer or Threat Mitigator) |
| Traffic/Connection | The direction of the transmission |
| Protocol Group | The broad protocol group from which the managed product detected the threat<br><br>Example: FTP, HTTP, P2P |
| Protocol | The protocol from which the managed product detected the suspicious threat<br><br>Example: ARP, BitTorrent |
| Destination IP Address | The IP address that the threat accessed |
| Destination Host | The display name of the endpoint that the threat accessed |
| Destination Port | The IP port number that the threat accessed |
| Destination MAC Address | The MAC address that the threat accessed |
| Destination OS | The operating system on the endpoint that the threat accessed |
| Destination User <x> | The name used to log on to the target host<br><br><x> is the user name |
| Logon (Destination User <x>) | The logon timestamp<br><br><x> represents the number of logon times and the specific timestamp |
| Source IP Address | The source IP address of the detected threat |
| Source Host Name | The name of the endpoint from which the security threat originated |

| Data | Description |
|---|---|
| Source Port | The source IP address port number of the detected threat |
| Source MAC Address | The source MAC address of the detected threat |
| Source OS | The operating system on the endpoint from which the security threat originated |
| Source User <x> | The name used to log on to the target source host<br><br><x> is the user names |
| Logon (Source User <x>) | The logon timestamp on the source<br><br><x> represents the number of logon times and the specific timestamp |
| Source Domain | The domain of the endpoint from which the threat originated |
| Security Threat Type | The type of security threat<br><br>Example: virus, spyware/grayware, fraud |
| Policy/Rule | The policy or rule that triggered the detection |
| Recipient | The recipient(s) of the transmission that triggered the detection |
| Sender | The sender of the transmission that triggered the detection |
| Subject | The subject of the email message that triggered the detection |
| Attachment File Name | The file name and extension of the attachment |
| Attachment File Type | The file type of the attachment |
| Attachment SHA-1 | The SHA-1 hash value of the attachment |
| URL | The URL considered a suspicious threat |
| User | The user name logged on to the destination when the managed product detected the threat |
| IM/IRC User | The instant messaging or IRC user name logged on when Deep Discovery Inspector detects a violation. |

| Data | Description |
|---|---|
| Browser/FTP Client | The web browser or FTP endpoint where the suspicious threat originates. |
| File | The name of the file object or the program that executed the process |
| File in Compressed File | The name of the affected file object in the compressed archive |
| Archive SHA-1 | The SHA-1 hash value of the archived file object |
| Archive File Type | The type of archived file object |
| Shared Folder | Displays whether the suspicious threat originates from a shared folder |
| SHA-1 | The SHA-1 hash value of the file object |
| Mitigation Action | The action taken by the mitigation server<br>Example: File cleaned, File dropped, File deleted |
| Mitigation Result | The result of the action taken by the mitigation server |
| Source IP Group | The IP address group of the source where the suspicious threat originates |
| Source Network Zone | The network zone of the source where the suspicious threat originates |
| Endpoint Group | The IP address group of the endpoint the suspicious threat affects |
| Endpoint Network Zone | The network zone of the endpoint the suspicious threat affects |
| Detections | The total number of detections<br>Example: A managed product detects 10 violation instances of the same type on one computer.<br>Detections = 10 |

| Data | Description |
|---|---|
| C&C List Source | The C&C list source that identified the C&C server<br>• C&C IP List<br>• Global Intelligence List<br>• User-defined IP List<br>• Virtual Analyzer List |
| C&C Risk Level | The risk level of the C&C callback |
| Remarks | Additional information about the event |
| C&C Server | The name, URL, or IP address of the C&C server |
| C&C Server Type | The type of C&C server |
| Malware Type | The type of malware |

## Overall Suspicious Threat Summary

Provides specific information about suspicious threats on your network. Example: the policy/rule in violation, summary information about the source and destination, the total number of suspicious threats on the network

**Table A-19. Overall Suspicious Threat Summary Data View**

| Data | Description |
|---|---|
| Policy/Rule | Displays the name of the policy/rule in violation. |
| Protocol | Displays the protocol over which the violation takes place.<br>Example: HTTP, FTP, SMTP |
| Unique Endpoints | Displays the number of unique computers affected by the suspicious threat.<br>Example: A managed product detects 10 suspicious threat instances of the same type on 2 computers.<br>Unique Endpoints = 2 |

| Data | Description |
|---|---|
| Unique Sources | Displays the number of unique sources where suspicious threats originate.<br><br>Example: A managed product detects 10 suspicious threat instances of the same type originating from 3 computers.<br><br>Unique Sources = 3 |
| Unique Recipients | Displays the number of unique email message recipients receiving content that violates managed product suspicious threat policies.<br><br>Example: A managed product detects 10 suspicious threat violation instances of the same policy on 2 computers.<br><br>Unique Recipients = 2 |
| Unique Senders | Displays the number of unique email message senders sending content that violates managed product suspicious threat policies.<br><br>Example: A managed product detects 10 suspicious threat violation instances of the same policy coming from 3 computers.<br><br>Unique Senders = 3 |
| Detections | Displays the total number of policy/rule violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same type on one computer.<br><br>Detections equals 10. |
| Mitigations | Displays the number of endpoints Network VirusWall Enforcer devices or Trend Micro™ Threat Mitigator™ take action against. |
| Cleaned Endpoints | Displays the total number of endpoints Trend Micro Threat Mitigator cleans. |
| Clean Endpoint Rate (%) | Displays the percentage of endpoints Trend Micro Threat Mitigator cleans compared to the total Detections. |

## Suspicious Source Summary

Provides a summary of suspicious threat detections from a specific source. Example: name of the source, summary information about the destination and rules/violations, the total number of suspicious threats on the network

**TABLE A-20. Suspicious Source Summary Data View**

| DATA | DESCRIPTION |
|---|---|
| Source IP | Displays the IP addresses of sources where suspicious threats originate. |
| Unique Policies/Rules | Displays the number of unique policies/rules the source computer violates.<br><br>Example: A managed product detects 10 policy violation instances of the same policy on 2 computers.<br><br>Unique Policies/Rules = 1 |
| Unique Endpoints | Displays the number of unique computers affected by the suspicious threat.<br><br>Example: A managed product detects 10 suspicious threat instances of the same type on 2 computers.<br><br>Unique Endpoints = 2 |
| Detections | Displays the total number of policy/rule violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same type on one computer.<br><br>Detections = 10 |

## Suspicious Riskiest Endpoints Summary

Provides a summary of the endpoints with the most suspicious threat detections. Example: name of the destination, summary information about the source and rules/violations, the total number of suspicious threats on the network

**TABLE A-21. Suspicious Threat Riskiest Endpoints Summary Data View**

| DATA | DESCRIPTION |
|---|---|
| Endpoint IP | Displays the IP addresses of computers affected by suspicious threats. |
| Unique Policies/Rules | Displays the number of unique policies/rules the source computer violates.<br><br>Example: A managed product detects 10 policy violation instances of the same policy on 2 computers.<br><br>Unique Policies/Rules = 1 |
| Unique Sources | Displays the number of unique sources where suspicious threats originate.<br><br>Example: A managed product detects 10 suspicious threat instances of the same type originating from 3 computers.<br><br>Unique Sources = 3 |
| Detections | Displays the total number of policy/rule violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same type on one computer.<br><br>Detections = 10 |

## Suspicious Riskiest Recipient Summary

Provides a summary of the recipients with the most suspicious threat detections. Example: name of the recipient, summary information about the senders and rules/violations, the total number of suspicious threats on the network

**TABLE A-22. Suspicious Riskiest Recipient Summary Data View**

| DATA | DESCRIPTION |
|---|---|
| Recipient | Displays the email address of the recipient affected by the suspicious threat. |

| Data | Description |
|---|---|
| Unique Policies/Rules | Displays the number of unique policies/rules the source computer violates.<br><br>Example: A managed product detects 10 policy violation instances of the same policy on 2 computers.<br><br>Unique Policies/Rules = 1 |
| Unique Senders | Displays the number of unique email message senders sending content that violates managed product suspicious threat policies.<br><br>Example: A managed product detects 10 suspicious threat violation instances of the same policy coming from 3 computers.<br><br>Unique Senders = 3 |
| Detections | Displays the total number of policy/rule violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same type on one computer.<br><br>Detections = 10 |

## Suspicious Sender Summary

Provides a summary of suspicious threat detections from a specific sender. Example: name of the sender, summary information about the recipient and rules/violations, the total number of suspicious threats on the network

**Table A-23. Suspicious Sender Summary Data View**

| Data | Description |
|---|---|
| Sender | Displays the email address for the source of policy/rule violations. |
| Unique Policies/Rules | Displays the number of unique policies/rules the source computer violates.<br><br>Example: A managed product detects 10 policy violation instances of the same policy on 2 computers.<br><br>Unique Policies/Rules = 1 |

| Data | Description |
|---|---|
| Unique Recipients | Displays the number of unique email message recipients receiving content that violate managed product suspicious threat policies.<br><br>Example: A managed product detects 10 suspicious threat violation instances of the same policy on 2 computers.<br><br>Unique Recipients = 2 |
| Detections | Displays the total number of policy/rule violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same type on one computer.<br><br>Detections = 10 |

## Suspicious Threat Protocol Detection Summary

Provides a summary of suspicious threat detections over a specific protocol. Example: name of the protocol, summary information about the source and destination, the total number of suspicious threats on the network

**Table A-24. Suspicious Threat Protocol Detection Summary Data View**

| Data | Description |
|---|---|
| Protocol | Displays the name of the protocol over which the suspicious threat occurs. Example: HTTP, FTP, SMTP |
| Unique Policies/Rules | Displays the number of unique policies/rules the source computer violates.<br><br>Example: A managed product detects 10 policy violation instances of the same policy on 2 computers.<br><br>Unique Policies/Rules = 1 |
| Unique Endpoints | Displays the number of unique computers affected by the suspicious threat.<br><br>Example: A managed product detects 10 suspicious threat instances of the same type on 2 computers.<br><br>Unique Endpoints = 2 |

| Data | Description |
|---|---|
| Unique Sources | Displays the number of unique sources where suspicious threats originate.<br><br>Example: A managed product detects 10 suspicious threat instances of the same type originating from 3 computers.<br><br>Unique Sources = 3 |
| Unique Recipients | Displays the number of unique email message recipients receiving content that violates managed product suspicious threat policies.<br><br>Example: A managed product detects 10 suspicious threat violation instances of the same policy on 2 computers.<br><br>Unique Recipients = 2 |
| Unique Senders | Displays the number of unique email message senders sending content that violates managed product suspicious threat policies.<br><br>Example: A managed product detects 10 suspicious threat violation instances of the same policy coming from 3 computers.<br><br>Unique Senders = 3 |
| Detections | Displays the total number of policy/rule violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same type on one computer.<br><br>Detections = 10 |

## Suspicious Threat Detection Over Time Summary

Provides a summary of suspicious threat detections over a period of time (daily, weekly, monthly). Example: time and date when summary data was collected, summary information about the source and destination, the total number of suspicious threats on the network

**Table A-25. Suspicious Threat Detection Over Time Summary Data View**

| Data | Description |
|---|---|
| Date/Time | Displays the time that the summary of the data occurs. |

| Data | Description |
|---|---|
| Unique Policies/Rules | Displays the number of unique policies/rules the source computer violates.<br><br>Example: A managed product detects 10 policy violation instances of the same policy on 2 computers.<br><br>Unique Policies/Rules = 1 |
| Unique Endpoints | Displays the number of unique computers affected by the suspicious threat.<br><br>Example: A managed product detects 10 suspicious threat instances of the same type on 2 computers.<br><br>Unique Endpoints = 2 |
| Unique Sources | Displays the number of unique sources where suspicious threats originate.<br><br>Example: A managed product detects 10 suspicious threat instances of the same type originating from 3 computers.<br><br>Unique Sources = 3 |
| Unique Recipients | Displays the number of unique email message recipients receiving content that violates managed product suspicious threat policies.<br><br>Example: A managed product detects 10 suspicious threat violation instances of the same policy on 2 computers.<br><br>Unique Recipients = 2 |
| Unique Senders | Displays the number of unique email message senders sending content that violates managed product suspicious threat policies.<br><br>Example: A managed product detects 10 suspicious threat violation instances of the same policy coming from 3 computers.<br><br>Unique Senders = 3 |
| Detections | Displays the total number of policy/rule violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same type on one computer.<br><br>Detections = 10 |

## Gray Detection Information

Provides detailed information about possible indicators of attack detected on your network

**TABLE A-26. Gray Detection Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Endpoint | The name of the endpoint |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Managing Server Entity | The display name of the managed product server in Apex Central to which the endpoint reports |
| Detection Type | The type of gray detection |
| Rule | The policy or rule that triggered the detection |
| Details | The JSON object containing additional information about the detection |
| Tactics | The MITRE ATT&CK™ tactic(s) detected<br>For more information, see https://attack.mitre.org/tactics/enterprise/. |
| Techniques | The MITRE ATT&CK™ technique(s) detected<br>For more information, see https://attack.mitre.org/techniques/enterprise/. |

## Overall Threat Information

Displays summary and statistical data about the overall threat landscape of your network.

## Network Protection Boundary Information

Displays information for a broad overview of security threats affecting your entire network. Examples: managed product network protection type (gateway, email), type of security threat, number of endpoints affected

**TABLE A-27. Network Protection Boundary Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Product Category | Displays the category to which the managed product belongs.<br><br>Example: desktop products, mail server products, network products |
| Product | Displays the name of the managed product.<br><br>Example: Apex One, ScanMail for Microsoft Exchange |
| Security Threat Category | Displays the broad category of the security threat managed products detect.<br><br>Example: Antivirus, Antispyware, Antiphishing |
| Unique Endpoints | Displays the number of unique computers affected by the security threat/violation.<br><br>Example: Apex One detects 10 virus instances of the same virus on 2 computers.<br><br>Unique Endpoints = 2 |
| Unique Sources | Displays the number of unique computers where security threats/violations originate.<br><br>Example: Apex One detects 10 virus instances of the same virus, coming from 3 sources, on 2 computers.<br><br>Unique Sources = 3 |
| Detections | Displays the total number of security threats/violations managed products detect.<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Detections = 10 |

## Network Security Threat Analysis Information

Displays information for overall security threats affecting your desktops. Examples: name of the security threat, total number of security threat detections, number of endpoints affected

**TABLE A-28. Network Security Threat Analysis Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Security Threat Category | Displays the broad category of the security threat managed products detect.<br><br>Example: Antivirus, Antispyware, Antiphishing |
| Security Threat | Displays the name of security threat managed products detect. |
| Entry Type | Displays the entry point for the security threat that managed products detect.<br><br>Example: virus found in file, HTTP, Windows Live Messenger (MSN) |
| Unique Endpoints | Displays the number of unique computers affected by the security threat/violation.<br><br>Example: Apex One detects 10 virus instances of the same virus on 2 computers.<br><br>Unique Endpoints = 2 |
| Unique Sources | Displays the number of unique computers where security threats/violations originate.<br><br>Example: Apex One detects 10 virus instances of the same virus, coming from 3 sources, on 2 computers.<br><br>Unique Sources = 3 |
| Detections | Displays the total number of security threats/violations managed products detect.<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Detections = 10 |

## Security Threat Endpoint Analysis Information

Displays information with affected endpoints as the focus. Examples: name of the endpoint, the broad range of how the security threat enters your network, number of endpoints affected

**TABLE A-29. Security Threat Endpoint Analysis Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Endpoint | Displays the name of the computer affected by the security threat/violation. |
| Security Threat Category | Displays the broad category of the security threat managed products detect.<br><br>Example: Antivirus, Antispyware, Antiphishing |
| Security Threat Name | Displays the name of security threat managed products detect. |
| Detections | Displays the total number of security threats/violations managed products detect.<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Detections = 10 |
| Detected | Displays the time and date of the last security threat/violation detection on the computer affected the security threat/violation. |

## Security Threat Entry Analysis Information

Displays information with the entry point of security threats as the focus. Examples: managed product network protection type (gateway, email, desktop), name of the security threat, time of the last security threat detection

**TABLE A-30. Security Threat Entry Analysis Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Entry Type | Displays the point of entry for security threats managed products detect.<br><br>Example: Virus found in file, FTP, File transfer |
| Product | Displays the name of the managed product which detects the security threat.<br><br>Example: Apex One, ScanMail for Microsoft Exchange |
| Security Threat Category | Displays the specific category for security threats managed products detect.<br><br>Example: Antivirus, Antispyware, Content filtering |
| Unique Endpoints | Displays the number of unique computers affected by the security threat/violation.<br><br>Example: Apex One detects 10 virus instances of the same virus on 2 computers.<br><br>Unique Endpoints = 2 |
| Unique Sources | Displays the number of unique computers where security threats/violations originate.<br><br>Example: Apex One detects 10 virus instances of the same virus, coming from 3 sources, on 2 computers.<br><br>Unique Sources = 3 |
| Detections | Displays the total number of security threats/violations managed products detect.<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Detections = 10 |

## Security Threat Source Analysis Information

Displays information with the security threat source as the focus. Examples: name of the security threat source, the broad range of how the security threat enters your network, number of endpoints affected

**TABLE A-31. Security Threat Source Analysis Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Source Host | Displays the name of the computer where the cause of the security threat/violation originates. |
| Security Threat Category | Displays the broad category of the security threat managed products detect.<br><br>Example: Antivirus, Antispyware, Antiphishing |
| Security Threat | Displays the name of security threat managed products detect. |
| Detections | Displays the total number of security threats/violations managed products detect.<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Detections = 10 |
| Detected | Displays the time and date of the last security threat/violation detection on the computer affected the security threat/violation. |

## Policy/Rule Violation Information

Displays summary and detailed data about policy/rule violations that managed products detect on your network.

### Device Access Control Information

Provides specific information about events on your network that are related to Device Access Control.

**TABLE A-32. Device Access Control Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Received | Displays the time that Apex Central receives data from the managed product |
| Generated | Displays the time that the managed product generates data |

| Data | Description |
|---|---|
| Product Entity/ Endpoint | This data column displays one of the following:<br>• The entity display name for a managed product. Apex Central identifies managed products using the managed product's entity display name<br>• The IP address or host name of a computer with an agent (for example, Apex One agent) installed |
| Product | Displays the name of the managed product<br>Example: Apex One |
| Target Process | Displays the process the violation has targeted |
| File Name | Displays the name of the file |
| Device Type | Displays the type of device accessed |
| Permission | Displays the permission type |
| User | Displays the name of the user that was logged on to the endpoint when the managed product detected the event |

## Detailed Application Activity

Displays specific information about application activities that violate network security policies

**Table A-33. Detailed Application Activity Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity | The display name of the managed product server in Apex Central |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |

| Data | Description |
|---|---|
| VLAN ID | The VLAN ID (VID) of the source from which the suspicious threat originates |
| Detected By | The filter, scan engine, or managed product which detects the suspicious threat |
| Traffic/Connection | The direction of network traffic or the position on the network the suspicious threat originates |
| Protocol Group | The broad protocol group from which a managed product detects the suspicious threat<br><br>Example: FTP, HTTP, P2P |
| Protocol | The protocol from which a managed product detects the suspicious threat<br><br>Example: ARP, Bearshare, BitTorrent |
| Description | Detailed description of the incident by Trend Micro |
| Endpoint Host | The host name of the computer in compliance of the policy/rule |
| Source IP | The IP address of the source from which the suspicious threat originates |
| Source MAC | The MAC address of the source from which the suspicious threat originates |
| Source Port | The port number of the source from which the suspicious threat originates |
| Source IP Group | The IP address group of the source where the violation originates |
| Source Network Zone | The network zone of the source where the violation originates |
| Endpoint IP | The IP address of the endpoint the suspicious threat affects |
| Endpoint Port | The port number of the endpoint the suspicious threat affects |
| Endpoint MAC | The MAC address of the endpoint the suspicious threat affects |
| Endpoint Group | The IP address group of the endpoint the suspicious threat affects |

| Data | Description |
|---|---|
| Endpoint Network Zone | The network zone of the endpoint the suspicious threat affects |
| Detections | The total number of detections<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Detections = 10 |
| Threat Type | The specific type of security threat managed products detect |
| Detection Severity | The severity level of the incident |
| IP Address (Interested) | The IP address of the target endpoint (source or destination)<br><br>For an exchange occurring within the network, the Interested IP is the source IP address. If the traffic is an external traffic, the Interested IP is the destination IP address. |
| IP Address (Peer) | The IP address opposite of the Interested IP<br><br>For example, if the Interested IP is the source IP address, then the Peer IP is the destination IP address. |
| Matching Classified Events | The log count matching the same aggregated rule |
| Aggregated Matching Classified Events | The aggregated log count matching the same rule |
| Network Group | The name of the group |
| Host Severity | The host severity |
| Log ID | The log ID |

## Detailed Application Control Violation Information

Provides specific information about application control violations on your network, such as the violated Security Agent policy and criteria

**Table A-34. Detailed Application Control Violation Information Data View**

| Data | Description |
|---|---|
| Generated | The date and time the managed product generated the data |
| Received | The date and time Apex Central received the data from the managed product |
| User Name | The logged on user name at the time of the event |
| Endpoint | The name of the endpoint |
| Action | The action taken by the managed product |
| File | The name of the file object or the program that executed the process |
| Process | The process executed by the file object |
| Policy | The name of the policy applied by the Apex Central or managed product console |
| Criteria | The name of the rule for application usage |
| Match Method | The method used to identify applications in the allow and block criteria |
| Version | The Certified Safe Software Pattern version |
| Hash Type | The type of hash algorithm used |
| Hash Value | The hash value of the file object |
| Certificate Signer | The issuer of the certificate |
| Server | The display name of the managed product server in Apex Central to which the endpoint reports |
| Connection Status | The status of the connection between the endpoint and the managed product server |
| Endpoint IP Address | The IP address of the endpoint |
| Command | The command issued |
| Process Owner | The user name of the account that issued the command |

| Data | Description |
|---|---|
| Application | The name of the application to which the file object belongs |
| Matched File Path | The directory location of the file object |
| Detections | The total number of detections |
| File Last Modified | The date and time the file object was last modified |

## Detailed Behavior Monitoring Information

Provides specific information about events on your network that are related to Behavior Monitoring.

**Table A-35. Detailed Behavior Monitoring Information Data View**

| Data | Description |
|---|---|
| Time Received From Entity | Displays the time that Apex Central received the data from the managed product |
| Time Generated at Entity | Displays the time that the managed product generates data |
| Host | Displays the IP address or host name of the computer accessed |
| Risk Level | Displays the Trend Micro assessment of risk to your network |
| Log Type | Displays the type of log that triggers the violation |
| Policy | Displays the name of the policy triggered by the violation |
| Subject | Displays the specific file, including its directory |
| Event Type | Displays the type of violation |
| Target | Displays the path or directory specified by the Event Type |
| Action | Displays the action taken by the managed product |
| Operation | Displays read/write or execute operation |
| Endpoint | Displays the host name of the computer under attack |

| Data | Description |
|---|---|
| Endpoint IP | Displays the IP address of the computer under attack |
| Endpoint Infection Channel | Displays the channel the threat originated from |
| Cloud Service Vendor | Displays the name of the cloud service vendor |

## Detailed Endpoint Security Compliance Information

Provides specific information about endpoint security compliance on your network

**Table A-36. Detailed Endpoint Security Compliance Information Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity | The display name of the managed product server in Apex Central |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Endpoint | The host name of the computer in compliance of the policy/rule |
| Endpoint IP | The IP address of the computer in compliance of the policy/rule |
| Endpoint MAC | The MAC address of the computer in compliance of the policy/rule |
| Policy/Rule | The name of the policy/rule in compliance |
| Service | The name of the service/program in compliance of the policy/rule |
| User | The logged on user name at the time of the event |
| Description | The detailed description of the incident provided by Trend Micro |

| Data | Description |
|---|---|
| Detections | The total number of detections<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Detections = 10 |

## Detailed Endpoint Security Violation Information

Provides specific information about endpoint security violations on your network

**Table A-37. Detailed Endpoint Security Violation Information Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity | The display name of the managed product server in Apex Central |
| Product | The name of the managed product or service<br><br>Example: Apex One, ScanMail for Microsoft Exchange |
| Endpoint | The name of the endpoint |
| Endpoint IP | The IP address of the endpoint |
| Endpoint MAC | The MAC address of the endpoint |
| Policy/Rule | The name of the policy/rule that triggered the detection |
| Service | The name of the service/program that triggered the detection |
| User | The logged on user name at the time of the event |
| Enforcement Action | The action enforced by the policy/rule |
| Remediation Action | The action that helps stop payload caused by the violation |
| Description | The detailed description of the incident by Trend Micro |

| Data | Description |
|---|---|
| Detections | The total number of detections<br><br>Example: Apex One detects 10 security violations of the same type on one computer.<br><br>Detections = 10 |

## Detailed Firewall Violation Information

Provides specific information about firewall violations on your network, such as the managed product that detected the violation, the source and destination of the transmission, and the total number of firewall violations

**Table A-38. Detailed Firewall Violation Information Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity/ Endpoint | Depending on the related source:<br>• The display name of the managed product server in Apex Central<br>• The name or IP address of the endpoint |
| Product | The name of the managed product or service<br><br>Example: Apex One, ScanMail for Microsoft Exchange |
| Event Type | The type of event that triggered the detection<br><br>Example: intrusion, policy violation |
| Risk Level | The Trend Micro assessment of risk to your network<br><br>Example: High security, low security, medium security |
| Traffic/Connection | The direction of the transmission |
| Protocol | The protocol the intrusion uses<br><br>Example: HTTP, SMTP, FTP |

| Data | Description |
|---|---|
| Source Port | The source IP address port number of the detected threat |
| Source IP | The source IP address of the detected threat |
| Destination Port | The port number accessed by the detected threat |
| Destination IP | The IP address of the endpoint accessed by the detected threat |
| Target Process | The process the violation targeted |
| Description | The detailed description of the incident by Trend Micro |
| Action | The action taken by the managed product<br><br>Example: file cleaned, file quarantined, file passed |
| Detections | The total number of detections<br><br>Example: A managed product detects 10 violation instances of the same type on one computer<br><br>Detections = 10 |

## Detailed Intrusion Prevention Information

Provides specific information to help you achieve timely protection against known and zero-day attacks, defend against web application vulnerabilities, and identify malicious software accessing the network

| Data | Description |
|---|---|
| Generated | The date and time the managed product generated the data |
| Received | The date and time Apex Central received the data from the managed product |
| Server | The display name of the managed product server |
| Product Entity/ Endpoint | The name or IP address of the endpoint |
| Affected IP Address | The IP address of the endpoint affected by the threat |

| Data | Description |
|---|---|
| Reason/Rule | The Intrusion Prevention Rule triggered by the event |
| Mode | The network engine detection mode used by the Intrusion Prevention module |
| Action | The action taken by the managed product |
| Application Type | The **Application Type** associated with the Intrusion Prevention Rule triggered by the event |
| Attack Source | The source of the detected threat |
| Source IP Address | The source IP address of the detected threat |
| Source MAC Address | The source MAC address of the detected threat |
| Source Port | The source port of the detected threat |
| Destination IP Address | The IP address that the threat accessed |
| Destination MAC Address | The MAC address that the threat accessed |
| Destination Port | The port number that the threat accessed |
| MAC Address (Interested) | Depending on the direction of network traffic:<br>• The **Source MAC Address** of inbound network traffic<br>• The **Destination MAC Address** of outbound network traffic |
| Protocol | The protocol that the threat used to enter the network |
| Direction | The direction of the transmission |
| Priority | The importance of the detection according to the ranking system used by the standalone version of Vulnerability Protection |
| Severity | The severity level of the event |

## Integrity Monitoring Information

Use to monitor specific changes to an endpoint, such as installed software, running services, processes, files, directories, listening ports, registry keys, and registry values

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Server | The host name of the managed product server |
| Change | The change detected by the integrity rule |
| User | The logged on user name at the time of the event |
| Process | The process from which the event originated |
| Type | The type of registry key |
| Key | The registry key |
| Rank | The integrity rank |
| Severity | The severity level of the event |

## Network Content Inspection Information

Provides specific information about network content violations on your network

**Table A-39. Network Content Inspection Information Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |

| Data | Description |
|---|---|
| Product/Endpoint IP | Depending on the related source:<br>• The display name of the managed product server in Apex Central<br>• The name or IP address of the endpoint |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Traffic Direction | The direction of the transmission |
| Local IP Address | The IP address of the Security Agent endpoint |
| Local IP Address Port | The IP address port number of the Security Agent endpoint |
| Remote IP Address | The IP address of the external endpoint |
| Remote IP Address Port | The IP address port number of the external endpoint |
| Remote Domain | The domain name associated with the detection |
| Process | The process through which the contact was attempted (path \application_name) |
| Action | The action taken by the managed product |
| Pattern Type | The type of pattern associated with the detection |
| Threat Name | The name of the security threat |

## Spam Violation Information

Displays summary and detailed data about spam that managed products detect on your network.

### Detailed Spam Information

Provides specific information about the spam violations on your network, such as the managed product that detected the content violation, the name of the specific policy in violation, and the total number of spam violations on the network

**TABLE A-40. Detailed Spam Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity | The display name of the managed product server in Apex Central |
| Product | The name of the managed product or service<br><br>Example: Apex One, ScanMail for Microsoft Exchange |
| Recipient | The recipient(s) of the email message that triggered the detection |
| Sender | The sender of the email message that triggered the detection |
| Subject | The subject of the email message that triggered the detection |
| Policy | The policy that triggered the detection |
| Action | The action taken by the managed product |
| Detections | The total number of detections<br><br>Example: The managed product detects 10 violation instances of the same spam on one endpoint.<br><br>Detections = 10 |

## Overall Spam Violation Summary

Provides a summary of spam violations on the network

| DATA | DESCRIPTION |
|---|---|
| Recipient Domain | Domain of recipients affected by spam |
| Unique Recipients | Displays the number of unique recipients receiving spam from the specified domain.<br><br>Example: A managed product detects 10 violation instances of spam from the same domain on 3 computers.<br><br>Unique Recipients = 3 |

| Data | Description |
|---|---|
| Detections | Displays the total number of spam violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same spam on one computer.<br><br>Detections = 10 |

## Spam Connection Information

Provides specific information about the source of spam on your network, such as the managed product that detected the spam, the specific action taken by the managed product, and the total number of spam detected

**Table A-41. Spam Connection Information Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity | The display name of the managed product server in Apex Central |
| Product | The name of the managed product or service<br><br>Example: Apex One, ScanMail for Microsoft Exchange |
| Source IP | The source IP address of the detected threat |
| Filter Type | The type of filter that detected the event |
| Action | The action taken by the managed product<br><br>Example: drop connection, bypass connection |
| Detections | The total number of detections<br><br>Example: Apex One detects 10 violation instances of the same spam on one computer.<br><br>Detections = 10 |

## Spam Detection Over Time Summary

Provides a summary of spam detections over a period of time (daily, weekly, monthly). Example: time and date of when summary data was collected, number of endpoints affected by spam, the total number of spam violations on the network

**TABLE A-42. Spam Detection Over Time Summary Data View**

| DATA | DESCRIPTION |
|---|---|
| Summary Time | Displays the time that the summary of the data occurs. |
| Unique Recipient Domains | Displays the total number of unique recipient domains affected by spam.<br>Example: A managed product detects 10 violation instances of the same spam from 2 domains on 1 recipient domain.<br>Unique Recipient Domains = 1 |
| Unique Recipients | Displays the number of unique recipients receiving spam from the specified domain.<br>Example: A managed product detects 10 violation instances of spam from the same domain on 3 computers.<br>Unique Recipients = 3 |
| Detections | Displays the total number of spam violations managed products detect.<br>Example: A managed product detects 10 violation instances of the same spam on one computer.<br>Detections = 10 |

## Spam Recipient Summary

Provides a summary of spam violations on specific endpoints. Example: name of endpoint, total number of instances of viruses/malware on the endpoint

**TABLE A-43. Spam Recipient Summary Data View**

| DATA | DESCRIPTION |
|---|---|
| Recipient | Displays the name of the recipient who receives spam. |
| Detections | Displays the total number of spam violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same spam on one computer.<br><br>Detections = 10 |

## Spyware/Grayware Information

Displays summary and detailed data about spyware/grayware that managed products detect on your network.

### Detailed Spyware/Grayware Information

Provides specific information about the spyware/grayware detections on your network, such as the managed product that detected the spyware/grayware, the name of the spyware/grayware, and the name of the infected endpoint

**TABLE A-44. Detailed Spyware/Grayware Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity/ Endpoint | Depending on the related source:<br>• The display name of the managed product server in Apex Central<br>• The name or IP address of the endpoint |
| Product | The name of the managed product or service<br><br>Example: Apex One, ScanMail for Microsoft Exchange |

| Data | Description |
|---|---|
| Product/Endpoint IP | Depending on the related source:<br>• The IP address of the managed product server<br>• The IP address of the endpoint |
| Product/Endpoint MAC | Depending on the related source:<br>• The MAC address of the managed product server<br>• The MAC address of the Security Agent endpoint |
| Managing Server Entity | The display name of the managed product server in Apex Central to which the endpoint reports |
| Spyware/Grayware | The name of the security threat |
| Endpoint | The name or IP address of the endpoint |
| Source Host | The IP address or name of the endpoint from which the security threat originated |
| User | The logged on user name at the time of the event |
| Result | The result of the action taken by the managed product<br>Example: successful, further action required |
| Action | The action taken by the managed product<br>Example: File cleaned, File quarantined, File deleted |
| Detections | The total number of detections<br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware on one computer.<br>Detections = 10 |
| Entry Type | The entry point of the security threat |
| Detailed Information | A link that displays additional information about the specific detection |
| Endpoint Infection Channel | The channel that the threat originated from |

| Data | Description |
|---|---|
| Apex One Domain Hierarchy | The agent tree domain or subdomain to which the Security Agent belongs |
| Domain | The domain of the managed product server to which the endpoint reports |
| Operating System | The operating system on the endpoint |
| Cloud Service Vendor | The name of the cloud service vendor |

## Endpoint Spyware/Grayware

Provides specific information about endpoints with spyware/grayware detections, such as the managed product that detected the spyware/grayware, the type of scan that detected the spyware/grayware, and the file path on the endpoint to the detected spyware/grayware

**Table A-45. Endpoint Spyware/Grayware Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity/ Endpoint | Depending on the related source:<br>• The display name of the managed product server in Apex Central<br>• The name or IP address of the Security Agent endpoint |
| Product/Endpoint IP | Depending on the related source:<br>• The IP address of the managed product server<br>• The IP address of the endpoint |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Managing Server Entity | The display name of the managed product server in Apex Central to which the endpoint reports |

| Data | Description |
|---|---|
| Spyware/Grayware | The name of the security threat |
| Endpoint | The IP address or name of the endpoint that the threat accessed |
| Source Host | The IP address or name of the endpoint from which the security threat originated |
| User | The logged on user name at the time of the event |
| Scan Type | The type of scan that reported the event (for example, Real-time Scan, Scheduled Scan, Manual Scan) |
| Resource | The specific resource affected by the security threat<br>Example: `application.exe`, `H Key Local Machine\SOFTWARE\ACME` |
| Resource Type | The type of resource affected by the security threat<br>Example: registry, memory resource |
| Security Threat Type | The type of security threat<br>Example: adware, COOKIE, peer-to-peer application |
| Risk Level | The risk level of the security threat<br>Example: High security, Medium security, Low security |
| Result | The result of the action taken by the managed product<br>Example: successful, further action required |
| Action | The action taken by the managed product<br>Example: File cleaned, File quarantined, File deleted |
| Detections | The total number of detections |
| Cloud Service Vendor | The name of the cloud service vendor |

## Endpoint Spyware/Grayware Summary

Provides a summary of spyware/grayware detections from specific endpoints. Example: name of endpoint, number of specific spyware/

grayware instances on the endpoint, total number of instances of spyware/grayware on the network

**TABLE A-46. Endpoint Spyware/Grayware Summary Data View**

| DATA | DESCRIPTION |
|---|---|
| Endpoint | Displays the host name or IP address of the computer affected by spyware/grayware. |
| Unique Sources | Displays the number of unique sources where spyware/grayware originates.<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware originating from 2 infection sources.<br><br>Unique Sources = 2 |
| Unique Detections | Displays the number of unique spyware/grayware managed products detect.<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware on one computer.<br><br>Unique Detections = 1 |
| Detections | Displays the total number of spyware/grayware managed products detect.<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware on one computer.<br><br>Detections = 10 |

## Email Spyware/Grayware

Provides specific information about email messages with spyware/grayware detections, such as the managed product that detected the spyware/grayware, the subject line content of the email message, and the sender of the email message containing spyware/grayware

**TABLE A-47. Email Spyware/Grayware Data View**

| DATA | DESCRIPTION |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity | The display name of the managed product server in Apex Central |
| Product | The name of the managed product or service<br><br>Example: Apex One, ScanMail for Microsoft Exchange |
| Spyware/Grayware | The name of the security threat |
| Recipient | The recipient(s) of the email message that triggered the detection |
| Sender | The sender of the email message that triggered the detection |
| User | The logged on user name at the time of the event |
| Subject | The subject of the email message that triggered the detection |
| File | The name of the file object that the threat accessed |
| File in Compressed File | The name of the affected file object in the compressed archive |
| Result | The result of the action taken by the managed product<br><br>Example: successful, further action required |
| Action | The action taken by the managed product<br><br>Example: File cleaned, File quarantined, File deleted |
| Detections | The total number of detections<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware on one computer.<br><br>Detections = 10 |
| Cloud Service Vendor | The name of the cloud service vendor |

## Network Spyware/Grayware

Provides specific information about the spyware/grayware instances found in network traffic, such as the managed product that detected the spyware/grayware, the protocol the spyware/grayware used to enter your network, and specific information about the source and destination of the spyware/grayware

**TABLE A-48. Network Spyware/Grayware Data View**

| DATA | DESCRIPTION |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity/ Endpoint | Depending on the related source:<br>• The display name of the managed product server in Apex Central<br>• The name or IP address of the Security Agent endpoint |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Spyware/Grayware | The name of the security threat |
| Traffic/Connection | The direction of the transmission |
| Protocol | The protocol that the threat used to enter the network<br>Example: HTTP, SMTP, FTP |
| Endpoint IP | The IP address that the threat accessed |
| Endpoint | The IP address or name of the endpoint that the threat accessed |
| Endpoint Port | The IP port number that the threat accessed |
| Endpoint MAC | The MAC address that the threat accessed |
| Source IP | The source IP address of the detected threat |
| Source Host | The IP address or name of the endpoint from which the security threat originated |

| Data | Description |
|---|---|
| Source Port | The source IP address port number of the detected threat |
| Source MAC | The source MAC address of the detected threat |
| User | The logged on user name at the time of the event |
| File | The name of the file object that the threat accessed |
| Result | The result of the action taken by the managed product<br>Example: successful, further action required |
| Action | The action taken by the managed product<br>Example: File cleaned, File quarantined, File deleted |
| Detections | The total number of detections<br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware on one computer.<br>Detections = 10 |
| Cloud Service Vendor | The name of the cloud service vendor |

## Overall Spyware/Grayware Summary

Provides overall specific summary for spyware/grayware detections. Example: name of spyware/grayware, number of endpoints affected by the spyware/grayware, total number of instances of the spyware/grayware on the network

**Table A-49. Overall Spyware/Grayware Summary Data View**

| Data | Description |
|---|---|
| Spyware/Grayware | Displays the name of spyware/grayware managed products detect. |

| Data | Description |
|---|---|
| Unique Endpoints | Displays the number of unique computers affected by the spyware/grayware.<br><br>Apex One detects 10 spyware/grayware instances of the same spyware/grayware on 3 different computers.<br><br>Unique Endpoints = 3 |
| Unique Sources | Displays the number of unique sources where spyware/grayware originates.<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware originating from 2 infection sources.<br><br>Unique Sources = 2 |
| Detections | Displays the total number of spyware/grayware managed products detect. |

## Spyware/Grayware Action/Result Summary

Provides a summary of the actions managed products take against spyware/grayware. Example: specific actions taken against spyware/grayware, the result of the action taken, total number of instances of spyware/grayware on the network

**Table A-50. Spyware/Grayware Action/Result Summary Data View**

| Data | Description |
|---|---|
| Result | Displays the results of the action managed products take against spyware/grayware.<br><br>Example: successful, further action required |
| Action | Displays the type of action managed products take against spyware/grayware.<br><br>Example: File cleaned, File quarantined, File deleted |

| Data | Description |
|---|---|
| Unique Endpoints | Displays the number of unique computers affected by the spyware/grayware.<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware on 3 different computers.<br><br>Unique Endpoints = 3 |
| Unique Sources | Displays the number of unique sources where spyware/grayware originates.<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware originating from 2 infection sources.<br><br>Unique Sources = 2 |
| Detections | Displays the total number of spyware/grayware managed products detect.<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware on one computer.<br><br>Detections = 10 |

## Spyware/Grayware Detection Over Time Summary

Provides a summary of spyware/grayware detections over a period of time (daily, weekly, monthly). Example: time and date of when summary data was collected, number of endpoints affected by the spyware/grayware, total number of instances of spyware/grayware on the network

**Table A-51. Spyware/Grayware Detection Over Time Summary Data View**

| Data | Description |
|---|---|
| Date/Time | Displays the time that the summary of the data occurs. |
| Unique Detections | Displays the number of unique spyware/grayware managed products detect.<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware on one computer.<br><br>Unique Detections = 1 |

| Data | Description |
|---|---|
| Unique Endpoints | Displays the number of unique computers affected by the spyware/grayware.<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware on 3 different computers.<br><br>Unique Endpoints = 3 |
| Unique Sources | Displays the number of unique sources where spyware/grayware originates.<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware originating from 2 infection sources.<br><br>Unique Sources = 2 |
| Detections | Displays the total number of spyware/grayware managed products detect.<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware on one computer.<br><br>Detections = 10 |

## Spyware/Grayware Source Summary

Provides a summary of spyware/grayware detections from the source of the outbreak. Example: name of source computer, number of specific spyware/grayware instances from the source computer, total number of instances of spyware/grayware on the network

**Table A-52. Spyware/Grayware Source Summary Data View**

| Data | Description |
|---|---|
| Source Host | Displays the name of the computer where spyware/grayware originates. |

| Data | Description |
|---|---|
| Unique Endpoints | Displays the number of unique computers affected by the spyware/grayware.<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware on 3 different computers.<br><br>Unique Endpoints = 3 |
| Unique Detections | Displays the number of unique spyware/grayware managed products detect.<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware on one computer.<br><br>Unique Detections = 1 |
| Detections | Displays the total number of spyware/grayware managed products detect.<br><br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware on one computer.<br><br>Detections = 10 |

## Web Spyware/Grayware

Provides specific information about the spyware/grayware instances found in HTTP or FTP traffic, such as the managed product that detected the spyware/grayware, the direction of traffic where the spyware/grayware occurs, and the web browser or FTP client that downloaded the spyware/grayware

**Table A-53. Web Spyware/Grayware Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |

| Data | Description |
|---|---|
| Product Entity/ Endpoint | Depending on the related source:<br>• The display name of the managed product server in Apex Central<br>• The name or IP address of the Security Agent endpoint |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Spyware/Grayware | The name of the security threat |
| IP | The IP address of the endpoint |
| Source URL | The URL of the web/FTP site from which the security threat originated |
| Traffic/Connection | The direction of the transmission |
| Browser/FTP Client | The web browser or FTP client that the threat accessed |
| User | The logged on user name at the time of the event |
| Result | The result of the action taken by the managed product<br>Example: successful, further action required |
| Action | The action taken by the managed product<br>Example: File cleaned, File quarantined, File deleted |
| Detections | The total number of detections<br>Example: Apex One detects 10 spyware/grayware instances of the same spyware/grayware on one computer.<br>Detections = 10 |
| Cloud Service Vendor | The name of the cloud service vendor |

## Virus/Malware Information

Displays summary and detailed data about malware/viruses that managed products detect on your network.

## Detailed Virus/Malware Information

Provides specific information about the virus/malware detections on your network, such as the managed product that detected the viruses/malware, the name of the virus/malware, and the infected endpoint

**TABLE A-54. Detailed Virus/Malware Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity/ Endpoint | Depending on the related source:<br>• The display name of the managed product server in Apex Central<br>• The name or IP address of the endpoint |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Product/Endpoint IP | Depending on the related source:<br>• The IP address of the managed product server<br>• The IP address of the endpoint |
| Product/Endpoint MAC | Depending on the related source:<br>• The MAC address of the managed product server<br>• The MAC address of the Security Agent endpoint |
| Managing Server Entity | The display name of the managed product server in Apex Central to which the endpoint reports |
| Domain | The domain of the managed product server to which the endpoint reports |
| Virus/Malware | The name of the security threat |
| Endpoint Infection Channel | The channel that the threat originated from |
| Endpoint | The name or IP address of the endpoint |

| Data | Description |
|---|---|
| Source Host | The IP address or name of the endpoint from which the security threat originated |
| User | The logged on user name at the time of the event |
| Result | The result of the action taken by the managed product |
| Action | The action taken by the managed product |
| Detections | The total number of detections<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Detections = 10 |
| Entry Type | The entry point of the security threat |
| Detailed Information | A link that displays additional information about the specific detection |
| Apex One Domain Hierarchy | The agent tree domain or subdomain to which the Security Agent belongs |
| Department | The Active Directory department to which the endpoint belongs |
| Operating System | The operating system on the endpoint |
| Pattern/Rule | The pattern or rule that triggered the detection |
| Pattern/Rule Version | The version of the pattern or rule that triggered the detection |
| Cloud Service Vendor | The name of the cloud service vendor |
| File | The name of the file object or the program that executed the process |
| File Path | The path of the file object or the path of the program that executed the process |

## Endpoint Virus/Malware Information

Provides specific information about endpoints with virus/malware detections, such as the managed product that detected the viruses/malware, the type of scan that detected the virus/malware, and the file path on the endpoint to the detected viruses/malware

**TABLE A-55. Endpoint Virus/Malware Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity/ Endpoint | Depending on the related source:<br>• The display name of the managed product server in Apex Central<br>• The name or IP address of the Security Agent endpoint |
| Product/Endpoint IP | Depending on the related source:<br>• The IP address of the managed product server<br>• The IP address of the Security Agent endpoint |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Managing Server Entity | The display name of the managed product server in Apex Central to which the endpoint reports |
| Virus/Malware | The name of the security threat<br>Example: `NIMDA, BLASTER, I_LOVE_YOU.EXE` |
| Endpoint | The name of the endpoint |
| User | The logged on user name at the time of the event |
| Scan Type | The type of scan that reported the event (for example, Real-time Scan, Scheduled Scan, Manual Scan) |
| File | The name of the file object that the threat accessed |
| File Path | The path of the file object that the threat accessed |
| File in Compressed File | The name of the affected file object in the compressed archive |
| Result | The result of the action taken by the managed product<br>Example: successful, further action required |

| Data | Description |
|---|---|
| Action | The action taken by the managed product<br><br>Example: File cleaned, File quarantined, File deleted |
| Detections | The total number of detections<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Detections = 10 |
| Cloud Service Vendor | The name of the cloud service vendor |

## Email Virus/Malware Information

Provides specific information about email messages with virus/malware detections, such the managed product that detected the viruses/malware, the subject line content of the email message, and the sender of the email message containing viruses/malware

**Table A-56. Email Virus/Malware Information Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity | The display name of the managed product server in Apex Central |
| Product | The name of the managed product or service<br><br>Example: Apex One, ScanMail for Microsoft Exchange |
| Virus/Malware | The name of the security threat<br><br>Example: `NIMDA, BLASTER, I_LOVE_YOU.EXE` |
| Recipient | The recipient(s) of the email message that triggered the detection |
| Sender | The sender of the email message that triggered the detection |
| User | The logged on user name at the time of the event |

| Data | Description |
|---|---|
| Subject | The subject of the email message that triggered the detection |
| File | The name of the file object that the threat accessed |
| File in Compressed File | The name of the affected file object in the compressed archive |
| Result | The result of the action taken by the managed product<br><br>Example: successful, further action required |
| Action | The action taken by the managed product<br><br>Example: File cleaned, File quarantined, File deleted |
| Detections | The total number of detections<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Detections = 10 |
| Cloud Service Vendor | The name of the cloud service vendor |

## Network Virus/Malware Information

Provides specific information about the virus/malware instances found in network traffic, such as the managed product that detects the viruses/malware, the protocol the virus/malware uses to enter your network, specific information about the source and destination of the virus/malware

**Table A-57. Network Virus/Malware Information Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |

| Data | Description |
|---|---|
| Product Entity/ Endpoint | Depending on the related source:<br>• The display name of the managed product server in Apex Central<br>• The name or IP address of the endpoint |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Virus/Malware | The name of the security threat<br>Example: `NIMDA, BLASTER, I_LOVE_YOU.EXE` |
| Endpoint | The IP address or name of the endpoint that the threat accessed |
| Source Host | The IP address or name of the endpoint from which the security threat originated |
| User | The logged on user name at the time of the event |
| Traffic/Connection | The direction of the transmission |
| Protocol | The protocol that the threat used to enter the network<br>Example: HTTP, SMTP, FTP |
| Endpoint Computer | The IP address or name of the endpoint that the threat accessed |
| Endpoint Port | The IP port number that the threat accessed |
| Endpoint MAC | The MAC address that the threat accessed |
| Source Computer | The IP address or name of the endpoint from which the security threat originated |
| Source Port | The source IP address port number of the detected threat |
| Source MAC | The source MAC address of the detected threat |
| File | The name of the file object that the threat accessed |
| Result | The result of the action taken by the managed product<br>Example: successful, further action required |

| Data | Description |
|---|---|
| Action | The action taken by the managed product<br><br>Example: File cleaned, File quarantined, File deleted |
| Detections | The total number of detections<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Detections = 10 |
| Cloud Service Vendor | The name of the cloud service vendor |

## Overall Virus/Malware Summary

Provides overall specific summary for virus/malware detections. Example: name of virus/malware, number of endpoints affected by the virus, total number of instances of the virus on the network

**Table A-58. Overall Virus/Malware Summary Data View**

| Data | Description |
|---|---|
| Virus/Malware | Displays the name of viruses/malware managed products detect.<br><br>Example: NIMDA, BLASTER, I_LOVE_YOU.EXE |
| Unique Endpoints | Displays the number of unique computers affected by the virus/malware.<br><br>Example: Apex One detects 10 virus instances of the same virus on 3 different computers.<br><br>Unique Endpoints = 3 |
| Unique Sources | Displays the number of unique infection sources where viruses/malware originate.<br><br>Example: Apex One detects 10 virus instances of the same virus originating from 2 infection sources.<br><br>Unique Sources = 2 |

| Data | Description |
|---|---|
| Detections | Displays the total number of viruses/malware managed products detect.<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Detections = 10 |

## Virus/Malware Action/Result Summary

Provides a summary of the actions managed products take against viruses/malware. Example: specific actions taken against viruses/malware, the result of the action taken, total number of instances of viruses/malware on the network

**Table A-59. Virus/Malware Action/Result Summary Data View**

| Data | Description |
|---|---|
| Result | Displays the results of the action managed products take against viruses/malware.<br><br>Example: successful, further action required |
| Action | Displays the type of action managed products take against viruses/malware.<br><br>Example: File cleaned, File quarantined, File deleted |
| Unique Endpoints | Displays the number of unique computers affected by the virus/malware.<br><br>Example: Apex One detects 10 virus instances of the same virus on 3 different computers.<br><br>Unique Endpoints = 3 |
| Unique Sources | Displays the number of unique infection sources where viruses/malware originate.<br><br>Example: Apex One detects 10 virus instances of the same virus originating from 2 infection sources.<br><br>Unique Sources = 2 |

| Data | Description |
|---|---|
| Detections | Displays the total number of viruses/malware managed products detect. Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Detections = 10 |

## Virus/Malware Detection Over Time Summary

Provides a summary of virus/malware detections over a period of time

| Data | Description |
|---|---|
| Date/Time | Displays the time that the summary of the data occurs. |
| Unique Detections | Displays the number of unique virus/malware detections.<br><br>Example: A managed product detects the same virus on 2 endpoints.<br><br>Unique Detections = 1 |
| Unique Endpoints | Displays the number of unique endpoints with virus/malware detections.<br><br>Example: A managed product detects a virus on 4 endpoints.<br><br>Unique Endpoints = 4 |
| Unique Sources | Displays the number of unique sources of virus/malware.<br><br>Example: A managed product detects 10 viruses from two different sources.<br><br>Unique Sources = 2 |
| Detections | Displays the total number of viruses/malware managed products detect.<br><br>Example: A managed product detects 10 viruses/malware on one computer.<br><br>Detections = 10 |

## Virus/Malware Endpoint Summary

Provides a summary of virus/malware detections from specific endpoints. Example: name of endpoint, number of specific virus/malware instances on the endpoint, total number of instances of viruses/malware on the network

**TABLE A-60. Virus/Malware Endpoint Summary Data View**

| DATA | DESCRIPTION |
|---|---|
| Endpoint | Displays the IP address or host name of the computer affected by viruses/malware. |
| Unique Sources | Displays the number of unique infection sources where viruses/malware originate.<br><br>Example: Apex One detects 10 virus instances of the same virus originating from 2 infection sources.<br><br>Unique Sources = 2 |
| Unique Detections | Displays the number of unique virus/malware managed products detect.<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Unique Detections = 1 |
| Detections | Displays the total number of viruses/malware managed products detect.<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br><br>Detections = 10 |

## Virus/Malware Source Summary

Provides a summary of virus/malware detections from the source of the outbreak. Example: name of source computer, number of specific virus/malware instances from the source computer, total number of instances of viruses/malware on the network

**TABLE A-61. Virus/Malware Source Summary Data View**

| DATA | DESCRIPTION |
|---|---|
| Source Host | Displays the IP address or host name of the computer where viruses/malware originate |
| Unique Endpoints | Displays the number of unique computers affected by the virus/malware<br><br>Example: Apex One detects 10 virus instances of the same virus on 3 different computers<br><br>Unique Detections = 3 |
| Unique Detections | Displays the number of unique virus/malware managed products detect<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer<br><br>Detections = 10 |
| Detections | Displays the total number of viruses/malware managed products detect<br><br>Example: Apex One detects 10 virus instances of the same virus on one computer<br><br>Detections = 10 |
| Department | Displays the name of the department that the endpoint belongs to |

## Web Virus/Malware Information

Provides specific information about the virus/malware instances found in HTTP or FTP traffic, such as the managed product that detected the viruses/malware, the direction of traffic, and the web browser or FTP client that downloaded the virus/malware

**TABLE A-62. Web Virus/Malware Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |

| Data | Description |
|---|---|
| Generated | The date and time the managed product generated the data |
| Product Entity/ Endpoint | Depending on the related source:<br>• The display name of the managed product server in Apex Central<br>• The name or IP address of the endpoint |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Virus/Malware | The name of the security threat<br>Example: `NIMDA, BLASTER, I_LOVE_YOU.EXE` |
| Endpoint | The IP address or name of the endpoint that the threat accessed |
| Source URL | The URL of the web/FTP site from which the security threat originated |
| User | The logged on user name at the time of the event |
| Traffic/Connection | The direction of the transmission |
| Browser/FTP Client | The web browser or FTP client that the threat accessed |
| Result | The result of the action taken by the managed product |
| Action | The action taken by the managed product |
| Detections | The total number of detections<br>Example: Apex One detects 10 virus instances of the same virus on one computer.<br>Detections = 10 |
| Cloud Service Vendor | The name of the cloud service vendor |

## Web Violation/Reputation Information

Displays summary and detailed data about Internet violations that managed products detect on your network.

## Detailed Web Reputation Information

Provides compliance information about application activity detected by Web Reputation Services

**TABLE A-63. Detailed Web Reputation Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity | The display name of the managed product server in Apex Central |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| VLAN ID | The VLAN ID (VID) of the source from which the suspicious threat originates |
| Detected By | The filter, scan engine, or managed product that detected the threat |
| Traffic/Connection | The direction of the transmission |
| Protocol Group | The broad protocol group from which a managed product detects the suspicious threat<br>Example: FTP, HTTP, P2P |
| Protocol | The protocol from which a managed product detects the suspicious threat<br>Example: ARP, BitTorrent |
| Description | Detailed description of the incident by Trend Micro |
| Endpoint | The host name of the computer in compliance of the policy/rule |
| Source IP | The source IP address of the detected threat |
| Source MAC | The source MAC address of the detected threat |
| Source Port | The source IP address port number of the detected threat |

| Data | Description |
|---|---|
| Source IP Group | The IP address group of the source where the suspicious threat originates |
| Source Network Zone | The network zone of the source where the suspicious threat originates |
| Endpoint IP | The IP address of the endpoint the suspicious threat affects |
| Endpoint Port | The port number of the endpoint the suspicious threat affects |
| Endpoint MAC | The MAC address of the endpoint the suspicious threat affects |
| Endpoint Group | The IP address group of the endpoint the suspicious threat affects |
| Endpoint Network Zone | The network zone of the endpoint the suspicious threat affects |
| Policy/Rule | The policy or rule that triggered the detection |
| URL | The URL object that triggered the detection |
| Detections | The total number of detections<br><br>Example: A managed product detects 10 violations of the same type on one computer.<br><br>Detections = 10 |
| C&C List Source | The C&C list source that identified the C&C server |
| C&C Risk Level | The risk level of the C&C server |
| Threat Type | The type of security threat |
| Detection Severity | The severity level of the event |
| IP Address (Interested) | The IP address of the target endpoint (source or destination)<br><br>For an exchange occurring within the network, the Interested IP is the source IP address. If the traffic is an external traffic, the Interested IP is the destination IP address. |
| IP Address (Peer) | The IP address opposite of the Interested IP<br><br>For example, if the Interested IP is the source IP address, then the Peer IP is the destination IP address. |

| Data | Description |
|---|---|
| Matching Classified Events | The log count matching the same aggregated rule |
| Aggregated Matching Classified Events | The aggregated log count matching the same rule |
| Network Group | The name of the group |
| Host Severity | The host severity |
| Log ID | The log ID |
| Attack Phase | The phase with which the attack happened |
| Remarks | Additional information about the event |
| C&C Server | The name, URL, or IP address of the C&C server |
| C&C Server Type | The type of C&C server |
| Sender | The sender of the transmission that triggered the detection |
| Recipient | The recipient(s) of the transmission that triggered the detection |
| Subject | The subject of the email message containing the web URL |

## Detailed Web Violation Information

Provides specific information about web violations on your network

**Table A-64. Detailed Web Violation Information Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Managing Server Entity | The display name of the managed product server in Apex Central to which the endpoint reports |
| Product Entity | The display name of the managed product server in Apex Central |

| Data | Description |
|---|---|
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Traffic/Connection | The direction of the transmission |
| Protocol | The protocol over which the violation takes place<br>Example: HTTP, FTP, SMTP |
| URL | The URL object that triggered the detection |
| User/IP | The user or IP address of the endpoint that violates a policy |
| User Group | The user group for the user that violates a policy |
| Endpoint | The IP address of the endpoint that violates a policy |
| Endpoint Host | The IP address or host name of the endpoint that violates a policy |
| Product Host | The IP address or host name of the managed product which detects the violation |
| Filter/Blocking Type | The type of filter/blocking preventing access to the URL in violation<br>Example: URL blocking, URL filtering, web blocking |
| Blocking Rule | The blocking rule preventing access to the URL in violation<br>Example: URL blocking |
| Policy | The policy that triggered the detection |
| File | The name of the file that violates a policy |
| Process | The name of the process that violates a policy |
| Web Reputation Rating | The relative safety, as a percentage, of a website according to Trend Micro |
| Action | The action taken by the managed product<br>Example: pass, block |

| Data | Description |
|---|---|
| Detections | The total number of detections<br><br>Example: A managed product detects 10 violation instances of the same URL on one computer.<br><br>Detections = 10 |

## Overall Web Violation Summary

Provides a summary of web violations of specific policies. Example: name of the policy in violation, the type of filter/blocking to stop access to the URL, the total number of web violations on the network

**Table A-65. Overall Web Violation Summary Data View**

| Data | Description |
|---|---|
| Policy | Displays the name of the policy the URL violates. |
| Filter/Blocking Type | Displays the type of filter/blocking preventing access to the URL in violation.<br><br>Example: URL blocking, URL filtering, web blocking |
| Unique Endpoints | Displays the number of unique endpoints in violation of the specified policy.<br><br>Example: A managed product detects 10 violation instances of the same URL on 4 computers.<br><br>Unique Endpoints = 4 |
| Unique URLs | Displays the number of unique URLs in violation of the specified policy.<br><br>Example: A managed product detects 10 violation instances of the same URL on one computer.<br><br>Unique URLs = 1 |

| Data | Description |
|---|---|
| Detections | Displays the total number of web violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same URL on 1 computer.<br><br>Detections = 10 |

## Web Violation Detection Over Time Summary

Provides a summary of web violation detections over a period of time (daily, weekly, monthly). Example: time and date of when summary data was collected, number of endpoints in violation, the total number of web violations on the network

**Table A-66. Web Violation Detection Over Time Summary Data View**

| Data | Description |
|---|---|
| Date/Time | Displays the time that the summary of the data occurs. |
| Unique Policies | Displays the number of the policies in violation.<br><br>Example: A managed product detects 10 policy violation instances of the same policy on 2 computers.<br><br>Unique Policies = 1 |
| Unique Endpoints | Displays the number of unique endpoints in violation of the specified policy.<br><br>Example: A managed product detects 10 violation instances of the same URL on 4 computers.<br><br>Unique Endpoints = 4 |
| Unique URLs | Displays the number of unique URLs in violation of the specified policy.<br><br>Example: A managed product detects 10 violation instances of the same URL on one computer.<br><br>Unique URLs = 1 |

| Data | Description |
|---|---|
| Detections | Displays the total number of web violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same URL on one computer.<br><br>Detections = 10 |

## Web Violation Detection Summary

Provides a summary of web violation detections over a period of time (daily, weekly, monthly). Example: time and date of when summary data was collected, number of endpoints in violation, the total number of web violations on the network

**Table A-67. Web Violation Detection Summary Data View**

| Data | Description |
|---|---|
| Unique Policies | Displays the number of the policies in violation.<br><br>Example: A managed product detects 10 policy violation instances of the same policy on 2 computers.<br><br>Unique Policies = 1 |
| Unique Endpoints | Displays the number of unique endpoints in violation of the specified policy.<br><br>Example: A managed product detects 10 violation instances of the same URL on 4 computers.<br><br>Unique Endpoints = 4 |
| Unique URLs | Displays the number of unique URLs in violation of the specified policy.<br><br>Example: A managed product detects 10 violation instances of the same URL on one computer.<br><br>Unique URLs = 1 |

| Data | Description |
|---|---|
| Unique Users/IPs | Displays the number of unique users or IP addresses of endpoints in violation of the specified policy.<br><br>Example: A managed product detects 10 violation instances of the same URL from one user.<br><br>Unique Users/IPs = 1 |
| Unique User Groups | Displays the number of unique user groups for users in violation of the specified policy.<br><br>Example: A managed product detects 10 violation instances of the same URL from one user group.<br><br>Unique User Groups = 1 |
| Detections | Displays the total number of web violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same URL on one computer.<br><br>Detections = 10 |

## Web Violation Endpoint Summary

Provides a summary of web violation detections from a specific endpoint. Example: IP address of the endpoint in violation, number of policies in violation, the total number of web violations on the network

**Table A-68. Web Violation Endpoint Summary Data View**

| Data | Description |
|---|---|
| Endpoint | Displays the IP address or host name of endpoints in violation of web policies. |
| Unique Policies | Displays the number of the policies in violation.<br><br>Example: A managed product detects 10 policy violation instances of the same policy on 2 computers.<br><br>Unique Policies = 1 |

| Data | Description |
|---|---|
| Unique URLs | Displays the number of unique URLs in violation of the specified policy.<br><br>Example: A managed product detects 10 violation instances of the same URL on one computer.<br><br>Unique URLs = 1 |
| Detections | Displays the total number of web violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same URL on one computer.<br><br>Detections = 10 |

## Web Violation Filter/Blocking Type Summary

Provides a summary of the action managed products take against web violations. Example: the type of filter/blocking to stop access to the URL, the total number of web violations on the network

**Table A-69. Web Violation Filter/Blocking Type Summary Data View**

| Data | Description |
|---|---|
| Blocking Category | Displays the broad type of filter/blocking preventing access to the URL in violation.<br><br>Example: URL blocking, URL filtering, Anti-spyware |
| Filter/Blocking Type | Displays the specific type of filter/blocking preventing access to the URL in violation.<br><br>Example: URL blocking, URL filtering, Virus/Malware |
| Detections | Displays the total number of web violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same URL on one computer.<br><br>Detections = 10 |

### Web Violation URL Summary

Provides a summary of web violation detections from specific URLs. Example: name of the URL causing the web violation, the type of filter/blocking to stop access to the URL, the total number of web violations on the network

**TABLE A-70. Web Violation URL Summary Data View**

| DATA | DESCRIPTION |
|---|---|
| URL | Displays the URL violating a web policy. |
| Filter/Blocking Type | Displays the type of filter/blocking preventing access to the URL in violation.<br><br>Example: URL blocking, URL filtering, web blocking |
| Unique Endpoints | Displays the number of unique endpoints in violation of the specified policy.<br><br>Example: A managed product detects 10 violation instances of the same URL on 4 computers.<br><br>Unique Endpoints = 4 |
| Detections | Displays the total number of web violations managed products detect.<br><br>Example: A managed product detects 10 violation instances of the same URL on one computer.<br><br>Detections = 10 |

## Data View: Product Information

Displays information about Apex Central, managed products, components, and licenses.

### Apex Central Information

Displays information about Apex Central user access, Command Tracking information, and Apex Central server events.

## Apex Central Event Information

Provides information about Apex Central server events, such as managed products registering to Apex Central, component updates, and Activation Code deployments

**TABLE A-71. Apex Central Event Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Date/Time | The that the event occurred |
| Event Type | The type of event that occurred (Example: notify TMI agent, server notify user, report service notify user) |
| Result | The result of the event (Example: successful, unsuccessful) |
| Description | The description of the activity (if available) |

## Command Tracking Information

Provides information about commands Apex Central issued to managed products, such as the date and time Apex Central issued commands for component updates or Activation Code deployments, and the status of the commands

**TABLE A-72. Command Tracking Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Date/Time | The time that the issuer of the command issues the command |
| Command Type | The type of command issued (Example: scheduled update, Activation Code deployment) |
| Command Parameter | The specific information relating to the command (Example: specific pattern file name, specific Activation Code) |
| User | The user who issued the command |
| Status Update | The time of the latest status check of all commands for the selected Apex Central |
| Successful | The number of successful commands |

| Data | Description |
|---|---|
| Unsuccessful | The number of unsuccessful commands |
| In Progress | The number of commands that are still in progress |
| All | The total number of commands (Successful + Unsuccessful + In progress) |

## Detailed Command Tracking Information

Displays detailed information relating to commands. Examples: managed products registering to Apex Central, component updates, Activation Code deployments

**Table A-73. Detailed Command Tracking Information Data View**

| Data | Description |
|---|---|
| Date/Time | Displays the time that the command was issued. |
| Command Type | Displays the type of command issued. Example: scheduled update, Activation Code deployment |
| Command Parameter | Displays the specific information relating to the command. Example: specific pattern file name, specific Activation Code |
| Product Entity | Displays the managed product to which the command was issued. |
| User | Displays the user who issued the command. |
| Command Status | Displays the status of the command: successful, unsuccessful, in progress |
| Status Update | Displays the time of the latest status check of all commands for the selected Apex Central. |
| Result Detail Description | Displays the description Apex Central provides for events. |

## Unmanaged Endpoint Information

Provides information about detected endpoints that do not have a Trend Micro Security Agent installed

**TABLE A-74. Unmanaged Endpoint Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Endpoint | The name of the endpoint |

### User Access Information

Provides information about Apex Central user access and the activities users perform while logged on to Apex Central

**TABLE A-75. User Access Information Data View**

| DATA | DESCRIPTION |
|---|---|
| Date/Time | Date and time the activity started |
| User | Name of the user who initiated the activity |
| Active Directory Group | Name of the Active Directory group |
| User Role | User role assigned to the user account in Apex Central |
| Activity | Activity the user performed on Apex Central (Example: log on, edit user account, add deployment plan) |
| Result | Result of the activity |
| Description | Description of the activity (if available) |
| Description of Role | Description of the user role assigned to the user account |

## Component Information

Displays status, detailed, and summary information about out of date and up to date and component deployment of managed product components.

### Endpoint Pattern/Engine Status Summary

Displays summary information about pattern files/scan engine managed products use.

**TABLE A-76. Endpoint Pattern/Engine Status Summary**

| DATA | DESCRIPTION |
|---|---|
| Product Host | Displays the host name of the server on which the managed product installs. |
| Domain | Displays the domain name of the host. |
| Endpoints | Displays the host name of a computer with an agent (for example Apex One agent) installed. |
| Patterns Out-of-Date | Displays the number of managed products with out-of-date pattern files. |
| Pattern Up-to-Date Rate (%) | Displays the percentage of managed products with up-to-date pattern files. This includes pattern files that return n/a as a value. |
| Engines Out-of-Date | Displays the number of managed products with out-of-date scan engines. |
| Engine Up-to-Date Rate (%) | Displays the percentage of managed products with up-to-date scan engines. This includes scan engines that return n/a as a value. |

## Endpoint Pattern/Rule Update Status Summary

This data view displays summary information about the update status of patterns or rules.

**TABLE A-77. Endpoint Pattern/Rule Update Status Summary Data View**

| DATA | DESCRIPTION |
|---|---|
| Pattern/Rule | Displays the name of the pattern or rule |
| Pattern/Rule Status | Indicates whether the current version of the pattern or rule is up-to-date |
| Pattern/Rule Version | Displays the version of the pattern or rule |
| Pattern/Rule Updated | Indicates whether the pattern or rule has been updated successfully |
| Endpoint Count | Displays the number of endpoints that use the current version of the pattern or rule |

| Data | Description |
|---|---|
| Total Endpoints | Displays the total number endpoints that use the pattern or rule |
| Rate (%) | Displays the percentage of endpoints using the current version of the pattern or rule |

## Engine Status

Displays detailed information about scan engines managed products use. Examples: scan engine name, time of the latest scan engine deployment, and which managed products use the scan engine

**Table A-78. Engine Status Data View**

| Data | Description |
|---|---|
| Product Entity/ Endpoint | This data column displays one of the following:<br>• The entity display name for a managed product. Apex Central identifies managed products using the managed product's entity display name.<br>• The IP address or host name of a computer with an agent (for example, Apex One agent) installed. |
| Product Host/ Endpoint | This data column displays one of the following:<br>• The host name of the server on which the managed product installs.<br>• The IP address of a computer with an agent (for example, Apex One agent) installed. |
| Product/Endpoint IP | This data column displays one of the following:<br>• The IP address of the server on which the managed product installs.<br>• The IP address of a computer with an agent (for example, Apex One agent) installed. |

| Data | Description |
| --- | --- |
| Connection Status | This data column displays one of the following:<br>• The managed product's connection status to Apex Central. Example: Normal, Abnormal, Offline<br>• The endpoint agent's connection status to a managed product (Apex One). Example: Normal, Abnormal, Offline |
| Product | Displays the name of the managed product. Example: Apex One, ScanMail for Microsoft Exchange |
| Product Version | Displays the managed product's or managed product agent's version number. Example: Apex One 2019, Apex Central 2019 |
| Product Role | Displays the role the managed product or a computer with an agent (for example, Apex One agent) has in the network environment. Example: server |
| Engine | Displays the name of the scan engine. Example: Anti-spam Engine (Windows), Virus Scan Engine IA 64 bit Scan Engine |
| Engine Version | Displays the version of the scan engine. Example: Anti-spam Engine (Windows): 3.000.1153, Virus Scan Engine IA 64 bit Scan Engine: 8.000.1008 |
| Engine Status | Displays the scan engine currency status. Example: up-to-date, out-of-date |
| Engine Updated | Displays the time of the latest scan engine deployment to managed products or endpoints. |

## Pattern/Rule Status

Displays detailed information about pattern files/rules managed products use. Examples: pattern file/rule name, time of the latest pattern file/rule deployment, and which managed products use the pattern file/rule

**TABLE A-79. Pattern/Rule Status Data View**

| DATA | DESCRIPTION |
|---|---|
| Product Entity/ Endpoint | This data column displays one of the following:<br>• The entity display name for a managed product. Apex Central identifies managed products using the managed product's entity display name.<br>• The IP address or host name of a computer with an agent (for example, Apex One agent) installed. |
| Operating System | This data column displays the operating system of the server on which the managed product installs. |
| Product Host/ Endpoint | This data column displays one of the following:<br>• The host name of the server on which the managed product installs.<br>• The IP address of a computer with an agent (for example, Apex One agent) installed. |
| Product/Endpoint IP | This data column displays one of the following:<br>• The IP address of the server on which the managed product installs.<br>• The IP address of a computer with an agent (for example, Apex One agent) installed. |
| Update Agent | This data column displays Update Agents for the managed product. |
| Domain | This data column displays the domain of the server on which the managed product installs. |
| Managing Server Entity Display Name | This data column displays the managing server entity display name. |
| Connection Status | This data column displays one of the following:<br>• The managed product's connection status to Apex Central. Example: Normal, Abnormal, Offline<br>• The endpoint agent's connection status to a managed product (Apex One). Example: Normal, Abnormal, Offline |

| Data | Description |
|---|---|
| Product | Displays the name of the managed product. Example: Apex One, ScanMail for Microsoft Exchange |
| Product Version | Displays the managed product's or managed product agent's version number. Example: Apex One 2019, Apex Central 2019 |
| Product Role | Displays the role the managed product or a computer with an agent (for example, Apex One agent) has in the network environment. Example: server |
| Pattern/Rule | Displays the name of the pattern file or rule. Example: Virus Pattern File, Anti-spam Pattern |
| Pattern/Rule Version | Displays the version of the pattern file or rule. Example: Virus Pattern File: 3.203.00, Anti-spam Pattern: 14256 |
| Pattern/Rule Status | Displays the pattern file/rule currency status. Example: up-to-date, out-of-date |
| Pattern/Rule Updated | Displays the time of the latest pattern file/rule deployment to managed products or endpoints. |
| Apex One Domain Hierarchy | Displays the path on the Apex One domain hierarchy. |

## Pattern File/Rule Status Summary

Displays summary information about pattern files/rules that managed products use. Examples: pattern file/rule name, pattern file/rule up-to-date rate, and the number of pattern files/rules out-of-date

**Table A-80. Pattern File/Rule Status Summary Data View**

| Data | Description |
|---|---|
| Pattern File/Rule | Displays the name of the pattern file or rule. Example: Virus Pattern File, Anti-spam Pattern |
| Version | Displays the version of the pattern file or rule. Example: Virus Pattern File: 3.203.00, Anti-spam Pattern: 14256 |

| Data | Description |
|---|---|
| Up-to-Date | Displays the number of managed products with up-to-date pattern files or rules. |
| Out-of-Date | Displays the number of managed products with out-of-date pattern files or rules. |
| Up-to-Date Rate (%) | Displays the percentage of managed products with up-to-date pattern files/rules. This includes pattern files/rules that return n/a as a value. |
| 1 Version Old Rate (%) | Displays the percentage of managed products with pattern files/rules that are 1 version old |
| 2 Versions Old Rate (%) | Displays the percentage of managed products with pattern files/rules that are 2 versions old |
| 3 Versions Old Rate (%) | Displays the percentage of managed products with pattern files/rules that are 3 versions old |
| 4 Versions Old Rate (%) | Displays the percentage of managed products with pattern files/rules that are 4 versions old |
| 5 Versions Old Rate (%) | Displays the percentage of managed products with pattern files/rules that are 5 versions old |
| 6 or More Versions Old Rate (%) | Displays the percentage of managed products with pattern files/rules that are 6 or more versions old |

## Product Component Deployment

Displays detailed information about components managed products use. Examples: pattern file/rule name, pattern file/rule version number, and scan engine deployment status

**Table A-81. Product Component Deployment Data View**

| Data | Description |
|---|---|
| Product Entity | Displays the entity display name for a managed product. Apex Central identifies managed products using the managed product's entity display name. |

| Data | Description |
|---|---|
| Product | Displays the name of the managed product. Example: Apex One, ScanMail for Microsoft Exchange |
| Product Version | Displays the managed product's version number. Example: Apex One 2019, Apex Central 2019 |
| Connection Status | Displays the connection status between the managed product and Apex Central server or managed products and their endpoints. |
| Pattern/Rule Status | Displays the pattern file/rule currency status. Example: up-to-date, out-of-date |
| Pattern/Rule Deployment Status | Displays the deployment status for the latest pattern file/rule update. Example: successful, unsuccessful, in progress |
| Pattern/Rule Deployment | Displays the time of the latest pattern file/rule deployment to managed products or endpoints. |
| Engine Status | Displays the scan engine currency status. Example: up-to-date, out-of-date |
| Engine Deployment Status | Displays the deployment status for the latest scan update. Example: successful, unsuccessful, in progress |
| Engine Deployment | Displays the time of the latest scan engine deployment to managed products or endpoints. |

## Scan Engine Status Summary

Displays summary information about scan engines managed products use. Examples: scan engine name, scan engine rate, and the number of scan engines out-of-date

**Table A-82. Engine Status Summary Data View**

| Data | Description |
|---|---|
| Engine | Displays the name of the scan engine. Example: Anti-spam Engine (Windows), Virus Scan Engine IA 64 bit Scan Engine |

| Data | Description |
|---|---|
| Version | Displays the version of the scan engine. Example: Anti-spam Engine (Windows): 3.000.1153, Virus Scan Engine IA 64 bit Scan Engine: 8.000.1008 |
| Up-to-Date | Displays the number of managed products with up-to-date scan engines. |
| Out-of-Date | Displays the number of managed products with out-of-date scan engines. |
| Up-to-Date Rate (%) | Displays the percentage of managed products with up-to-date scan engines. This includes scan engines that return N/A as a value. |

## License Information

Displays status, detailed, and summary information about Apex Central and managed product license information.

### Detailed Product License Information

Provides information about the Activation Codes and licensing status of managed products or services, such as the managed product version and license expiration date

**Table A-83. Detailed Product License Information Data View**

| Data | Description |
|---|---|
| Product Entity | The display name of the managed product server in Apex Central |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Product Version | The version of the managed product or service |
| Managed Service | The name of the managed service<br>Example: Web Reputation Service |
| License Status | The status of the license for managed products<br>Example: Activated, Expired, In grace period |

| Data | Description |
|---|---|
| Product Type | The type of managed product the Activation Code provides<br><br>Example: Trial version, Full version |
| Activation Code | The Activation Code for the managed product or service |
| License Expiration | The date the license expires for the managed product or service |
| Seats | The number of seats the Activation Code allows |
| Description | The description for the Activation Code |

## Product License Information Summary

Displays detailed information about the Activation Code and information on managed products that use the Activation Code. Examples: seat count that the Activation Code allows, evaluation or full product version, user-defined description about the Activation Code

**Table A-84. Product License Information Summary Data View**

| Data | Description |
|---|---|
| Activation Code | Displays the Activation Code for managed products. |
| User-defined Description | Displays the user-defined description for the Activation Code. |
| Products/Services | Displays the number of managed products or services that use the Activation Code. |
| License Status | Displays the status of the license for managed products. Example: Activated, Expired, In grace period |
| Product Type | Displays the type of managed product the Activation Code provides. Example: Trial version, Full version |
| License Expiration | Displays the date the license expires for the managed product. |
| Seats | Displays the number of seats the Activation Code allows. |

### Product License Status

Displays detailed information about the managed product and information about the Activation Code the managed product uses. Examples: managed product information, whether the Activation Code is active, the number of managed products the Activation Code activates

**TABLE A-85. Product License Status Data View**

| DATA | DESCRIPTION |
|---|---|
| Product Entity | Displays the entity display name for a managed product. Apex Central identifies managed products using the managed product's entity display name. |
| Product | Displays the name of the managed product. Example: Apex One, ScanMail for Microsoft Exchange |
| Product Version | Displays the managed product's version number. Example: Apex One 2019, Apex Central 2019 |
| Service | Displays the name of the managed product service. Example: Outbreak Protection Services |
| License Status | Displays the status of the license for managed products. Example: Activated, Expired, In grace period |
| Activation Code | Displays the Activation Code for managed products. |
| Activation Codes | Displays the number of Activation Codes a managed products uses. |
| License Expiration | Displays the date the license expires for the managed product. |

## Managed Product Information

Displays status, detailed, and summary information about managed products or managed product endpoints.

### Product Auditing Event Log

Provides information about managed product auditing events, such as managed product console access

**TABLE A-86. Product Auditing Event Log Data View**

| DATA | DESCRIPTION |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Host | Depending on the related source:<br>• The display name of the managed product server<br>• The display name of the Security Agent endpoint |
| User | The logged on user name at the time of the event |
| Event Category | The type of event<br>Example: management console access |
| Event Level | The severity level of the event |
| Event Description | A description of the event |

## Product Distribution Summary

Displays summary information about managed products registered to Apex Central. Examples: managed product name, version number, and number of managed products

**TABLE A-87. Product Distribution Summary Data View**

| DATA | DESCRIPTION |
|---|---|
| Registered to Apex Central | Displays the Apex Central server to which the managed product is registered. |
| Product Category | Displays the threat protection category for a managed product. Example: Server-based products, Desktop (computers and mobile devices) products<br>**Note**<br>Desktop products includes mobile device solutions. |

| Data | Description |
|---|---|
| Product | Displays the name of the managed product. Example: Apex One, ScanMail for Microsoft Exchange |
| Product Version | Displays the managed product's version number. Example: Apex One 2019, Apex Central 2019 |
| Product Role | Displays the role the managed product has in the network environment. Example: server, client |
| Products | Displays the total number of a specific managed product a network contains. |

## Product Event Information

Provides information about managed product events, such as managed products registering to Apex Central, component updates, and Activation Code deployments

**Table A-88. Product Event Information Data View**

| Data | Description |
|---|---|
| Received | The date and time Apex Central received the data from the managed product |
| Generated | The date and time the managed product generated the data |
| Product Entity | The display name of the managed product server in Apex Central |
| Product | The name of the managed product or service<br><br>Example: Apex One, ScanMail for Microsoft Exchange |
| Product Version | The version of the managed product or service |
| Event Severity | The severity level of the event |
| Event Type | The type of event<br><br>Example: download virus found, file blocking, rollback |
| Command Status | The status of the command<br><br>Example: successful, unsuccessful, in progress |

| Data | Description |
|---|---|
| Description | A description of the event |

## Product Status Information

Provides detailed information about managed products registered to the Apex Central server, such as the managed product version and build number, and the managed product server operating system

**Table A-89. Product Status Information Data View**

| Data | Description |
|---|---|
| Product Entity/ Endpoint | Depending on the related source:<br>• The display name of the managed product server in Apex Central<br>• The name or IP address of the Security Agent endpoint |
| Product Host/ Endpoint | Depending on the related source:<br>• The display name of the managed product server<br>• The display name of the Security Agent endpoint |
| Product/Endpoint IP | Depending on the related source:<br>• The IP address of the managed product server<br>• The IP address of the Security Agent endpoint |
| Product/Endpoint MAC | Depending on the related source:<br>• The MAC address of the managed product server<br>• The MAC address of the Security Agent endpoint |
| Managing Apex Central Entity | The display name of the Apex Central server to which the managed product server reports |
| Managing Server Entity | The display name of the managed product server in Apex Central to which the endpoint reports |
| Domain | The domain to which the managed product belongs |

| Data | Description |
|---|---|
| Connection Status | Depending on the related source:<br>• The status of the managed product server connection to Apex Central (Example: Normal, Abnormal, Offline)<br>• The status of the Security Agent endpoint connection to the managed product server (Example: Normal, Abnormal, Offline) |
| Data Protection Status | The Data Loss Prevention status of the Security Agent<br>Example: Installed, Not installed |
| Pattern Status | The status of the pattern files/rules used by the managed product or Security Agent<br>Example: up-to-date, out-of-date |
| Engine Status | The status of the scan engines used by the managed product or Security Agent<br>Example: up-to-date, out-of-date |
| Product | The name of the managed product or service<br>Example: Apex One, ScanMail for Microsoft Exchange |
| Product Version | The version of the managed product or service |
| Endpoint Sensor Version | The version of Endpoint Sensor |
| Application Control Version | The version of Application Control |
| Vulnerability Protection Version | The version of Vulnerability Protection |
| Product Build | The build number of the managed product |
| Product Role | The role the managed product server or Security Agent endpoint has in the network environment. (for example, server) |
| Operating System | The operating system on the managed product server or Security Agent endpoint |

| Data | Description |
|---|---|
| OS Version | The version of the operating system on the managed product server or Security Agent endpoint |
| OS Service Pack | The service pack number of the operating system on the managed product server or Security Agent endpoint |
| Update Agent | If the Security Agent is an Update Agent |
| Last Scheduled Scan | The date and time of the last Scheduled Scan |
| Last Manual Scan | The date and time of the last Manual Scan |
| Last Scan Now | The date and time of the last Scan Now action |
| Real-time Scan | If Real-time Scan is enabled |
| Firewall | If the firewall is enabled |
| Pattern/Rule Deployment Status | The deployment status of the pattern/rule |
| Pattern/Rule Deployment | The date and time of the pattern/rule deployment |
| Engine Deployment Status | The scan engine deployment status |
| Engine Deployment | The date and time of the scan engine deployment |
| Logon User | The down-level logon name (NetBIOS_Domain\User_Name) of the last user logged on to the managed endpoint |
| Last Startup | The date and time the Security Agent last started running |
| Offline Time | The date and time the Security Agent last went offline |
| User Name | The logged on user name at the time of the event |

# Appendix B

## Token Variables

This section describes token variables that Apex Central supports for customizing event notification messages.

Topics include:


- *Standard Token Variables on page 18-53*
- *Advanced Threat Activity Token Variables on page 18-55*
- *Attack Discovery Token Variables on page 18-54*
- *C&C Callback Token Variables on page 18-58*
- *Content Policy Violation Token Variables on page 18-60*
- *Data Loss Prevention Token Variables on page 18-61*
- *Known Threat Activity Token Variables on page 18-63*
- *Network Access Control Token Variables on page 18-65*
- *Web Access Policy Violation Token Variables on page 18-66*

# Standard Token Variables

The following table describes token variables for customizing all event notification messages.

**Note**

Some event notifications support additional token variables. For the complete list of supported token variables for a specific event notification, refer to the notification method information for the specific event notification.

| Variable | Description |
|---|---|
| `%cmserver%` | The Apex Central server name |
| `%computer%` | The name of the endpoint |
| `%entity%` | The display name of the managed product server in Apex Central |
| `%event%` | The event detected |
| `%pname%` | The name of the managed product |
| `%pver%` | The version of the managed product |
| `%time%` | The time (hh:mm) when the event occurred |
| `%vloginuser%` | The logged on user name at the time of the event |
| `%act%` | The action taken by the managed product. Example: file cleaned, file deleted, file quarantined |

# Advanced Threat Activity Token Variables

**Note**

For the list of standard token variables supported by all event notifications, see *Standard Token Variables on page 18-53*.

The following table describes token variables for customizing Advanced Threat Activity event notification messages.

| Variable | Description |
|---|---|
| %hostIP% | Depending on the traffic direction, %hostIP% is IP address determined by Deep Discovery Inspector:<br>• Outbound traffic (internal traffic going to an external network): %hostIP% is the IP address of the endpoint in the network (source)<br>• Traffic within the network: %hostIP% is the IP address of the endpoint in the network<br>• External traffic to an endpoint in a network: %hostIP% is the IP address of the endpoint in the network<br>• Traffic outside the network: %hostIP% is the IP address of the endpoint outside the network |
| %group% | The name of the subnetwork |
| %START_TIME% | The start date and time of the detection period<br>**Note**<br>The specified time period for the notification criteria determines the start and end times. |
| %END_TIME% | The end date and time of the detection period<br>The start and end times define the time range interval. When logs are received during a certain interval, Apex Central calculates those logs. If the alert criteria is met, Apex Central counts the logs. %START_TIME% is the start time of the interval and %END_TIME% is the end time of the interval. The length of the interval is determined by the period threshold in the alert settings.<br>**Note**<br>The specified time period for the notification criteria determines the start and end times. |

| Variable | Description |
|---|---|
| `%detections%` | The number of detections<br><br>For example:<br><br>`Event: High risk Virtual Analyzer detections`<br><br>`IP address: %hostIP%`<br><br>`Host name: %computer%`<br><br>`Group: %group%`<br><br>`Time range: %START_TIME% - %END_TIME%`<br><br>`Detections: %detections%` |

The following table describes token variables for customizing event notification messages for Behavior Monitoring violations and Predictive Machine Learning detections.

| Variable | Description |
|---|---|
| `%hostIP%` | Depending on the traffic direction, %hostIP% is IP address determined by Deep Discovery Inspector:<br><br>• Outbound traffic (internal traffic going to an external network): `%hostIP%` is the IP address of the endpoint in the network (source)<br><br>• Traffic within the network: `%hostIP%` is the IP address of the endpoint in the network<br><br>• External traffic to an endpoint in a network: `%hostIP%` is the IP address of the endpoint in the network<br><br>• Traffic outside the network: `%hostIP%` is the IP address of the endpoint outside the network |
| `%START_TIME%` | The start date and time of the detection period<br><br>**Note**<br>The specified time period for the notification criteria determines the start and end times. |

| Variable | Description |
|---|---|
| %END_TIME% | The end date and time of the detection period<br><br>The start and end times define the time range interval. When logs are received during a certain interval, Apex Central calculates those logs. If the alert criteria is met, Apex Central counts the logs. %START_TIME% is the start time of the interval and %END_TIME% is the end time of the interval. The length of the interval is determined by the period threshold in the alert settings.<br><br>**Note**<br>The specified time period for the notification criteria determines the start and end times. |
| %detections% | The number of detections<br><br>For example:<br><br>`Event: High risk Virtual Analyzer detections`<br><br>`IP address: %hostIP%`<br><br>`Host name: %computer%`<br><br>`Group: %group%`<br><br>`Time range: %START_TIME% - %END_TIME%`<br><br>`Detections: %detections%` |
| %domain% | The root domain of the target in the Apex One domain hierarchy |
| %hierarchy% | The full path of the target in the Apex One domain hierarchy |
| %BM_policy% | The Behavior Monitoring policy ID |
| %risklevel% | The risk level of the event |
| %target% | The target of the event |

## Attack Discovery Token Variables

The following table describes token variables for customizing Attack Discovery event notification messages.

| Variable | Description |
|---|---|
| %cmserver% | The Apex Central server name |
| %computer% | The name of the endpoint |
| %entity% | The display name of the managed product server in Apex Central |
| %event% | The event detected |
| %pname% | The name of the managed product |
| %pver% | The version of the managed product |
| %time% | The time (hh:mm) when the event occurred |
| %vloginuser% | The logged on user name at the time of the event |
| %act% | The action taken by the managed product. Example: file cleaned, file deleted, file quarantined |
| %actresult% | The result of the action taken by the managed product. Example: successful, further action required |
| %highrisk_detection% | The number of high-risk detections for the specified period |
| %highrisk_detection_endpoint% | The number of endpoints with high-risk detections for the specified period |
| %mediumrisk_detection% | The number of medium-risk detections for the specified period |
| %mediumrisk_detection_endpoint% | The number of endpoints with medium-risk detections for the specified period |
| %start_time% | The start date and time of the detection period |
| %end_time% | The end date and time of the detection period |

## C&C Callback Token Variables

The following table describes token variables for customizing C&C Callback event notification messages.

**Note**

For the list of standard token variables supported by all event notifications, see *Standard Token Variables on page 18-53*.

| Variable | Description |
|---|---|
| %CnC_LIST_SRC% | Name of the list that contains the callback address |
| %CNC_PD_NAME% | Product ID of the managed product server that sent the log |
| %CNC_PD_VERSION% | Version of the managed product server that sent the log |
| %CNC_PD_NODE% | Endpoint name of the managed product server that sent the log |
| %CNC_PD_IP% | IP address of the managed product server that sent the log |
| %CNC_EVTTIME% | Time the log was generated |
| %CNC_AGENTNAME% | Name of the Security Agent endpoint that detected the callback |
| %CNC_AGENTIP% | IP address of the Security Agent endpoint that detected the callback |
| %CNC_AGENTDOMAIN% | Apex One domain of the Security Agent endpoint that detected the callback |
| %CNC_POLICY_RULE% | Name or rule ID of the policy that detected the callback |
| %CNC_ACTION% | Action result from the security log, personal firewall, NCIE log, or web security log |
| %CNC_EMAIL_SENDER% | Email sender associated with the callback |
| %CNC_EMAIL_SUBJECT% | Email subject associated with the callback |
| %CNC_RISKLEVEL% | Risk level of the malware groups associated with the C&C server |
| %CNC_DETECT_SOURCE% | The C&C list that defined the detection rule |
| %CNC_CHANNEL% | The type ID that indicates the destination format |

| Variable | Description |
|---|---|
| %CNC_URL% | The remote URL that the endpoint attempted to contact |
| %CNC_URL_CATEGORY% | The URL category of the site that the endpoint attempted to contact |
| %CNC_IP_PORT% | The C&C server IP address and port |
| %CNC_EMAIL_REPT% | Email recipient associated with the callback |
| %CNC_FIRST_SEEN% | The first known detection of the C&C server |
| %CNC_LAST_SEEN% | The last known detection of the C&C server |
| %CNC_LOCATION% | The country code of the C&C server |
| %CNC_MALEWARE_FAMILY% | The malware family associated with the C&C detection |
| %CNC_ATTACK_GROUP% | The C&C group lists |
| %CNC_PROCESS_NAME% | The process name associated with the C&C detection |
| %CALLBACK_ADDR% | URL, IP address, or email address to which a compromised host attempts a callback |
| %COMPR_HOST% | Affected host or email address |
| %CALLBACK_NUM% | Number of contacts made between callback addresses and compromised hosts |
| %COMPR_HOST_NUM% | Number of compromised hosts involved in the outbreak |
| %CALLBACK_ADDR_NUM% | Number of callback addresses involved in the outbreak |

## Content Policy Violation Token Variables

The following table describes token variables for customizing Content Policy Violation event notification messages.

**Note**

For the list of standard token variables supported by all event notifications, see *Standard Token Variables on page 18-53*.

| Variable | Description |
|---|---|
| `%subject%` | Subject header of the email notification |
| `%sender%` | Sender's email address |
| `%recipient%` | Recipient's email address |
| `%filtername%` | Name of the content filter rule/policy that has been violated |
| `%filteract%%` | Action applied by the filter |
| `%msgact%` | Action applied to the message |

## Data Loss Prevention Token Variables

The following table describes token variables for customizing Data Loss Prevention event notification messages.

**Note**

For the list of standard token variables supported by all event notifications, see *Standard Token Variables on page 18-53*.

| Variable | Description |
|---|---|
| `%DLP_INCIDENT_TOTAL_NUM%` | The total number of incidents triggered by directly managed users |
| `%DLP_INCIDENT_HIGH_NUM%` | The total number of high severity incidents triggered by directly managed users |
| `%DLP_INCIDENT_MED_NUM%` | The total number of medium severity incidents triggered by directly managed users |

| Variable | Description |
|---|---|
| %DLP_INCIDENT_LOW_NUM% | The total number of low severity incidents triggered by directly managed users |
| %DLP_INCIDENT_INFO_NUM% | The total number of informational incidents triggered by directly managed users |
| %DLP_INCIDENT_UNDEFINED_NUM% | The total number of undefined severity incidents triggered by directly managed users |
| %DLP_INCIDENT_ALLTOTAL_NUM% | The total number of incidents triggered by all managed users |
| %DLP_INCIDENT_ALLHIGH_NUM% | The total number of high severity incidents triggered by all managed users |
| %DLP_INCIDENT_ALLMED_NUM% | The total number of medium severity incidents triggered by all managed users |
| %DLP_INCIDENT_ALLLOW_NUM% | The total number of low severity incidents triggered by all managed users |
| %DLP_INCIDENT_ALLINFO_NUM% | The total number of informational incidents triggered by all managed users |
| %DLP_INCIDENT_ALLUNDEFINED_NUM% | The total number of undefined severity incidents triggered by all managed users |
| %DLP_START_TIME% | The start date and time for the reporting period |
| %DLP_END_TIME% | The end date and time for the reporting period |
| %weblink% | The link to view details of the incident information listed in the notification message |
| %INCIDENTID% | Incident ID number |
| %SEVERITY% | Incident severity level |

| Variable | Description |
|---|---|
| %POLICY% | Apex Central policy name<br><br>**Note**<br>For incidents triggering DLP policies created on the managed product console, the Apex Central policy name appears as **N/A**. |
| %ACCOUNT% | User name |
| %OLD_STATUS% | Incident status before modification |
| %NEW_STATUS% | Incident status after modification |
| %LATEST_COMMENT% | The latest comments about the incident |
| %DLP_VIOLATION_NUM% | The number of violations matching DLP policies |
| %DLP_THRESHOLD% | The number of violations that must be triggered to indicate a significant increase on policy violations |
| %DLP_TEMPLATE% | Template matching the significant incident increase |
| %DLP_USER_NAME% | The user name associated with the endpoint that triggered the DLP policy violation |
| %DLP_SENDER% | The sender of the message that triggered the DLP policy violation |
| %DLP_CHANNEL% | The channel of the incident that triggered the DLP policy violation |
| %STATUS_CHANGE_TIME% | Incident details updated |

## Known Threat Activity Token Variables

The following table describes token variables for customizing Known Threat Activity or Outbreak Prevention Service event notification messages.

**Note**

For the list of standard token variables supported by all event notifications, see *Standard Token Variables on page 18-53*.

| Variable | Description |
|---|---|
| `%device_ip%` | IP address of an infected endpoint |
| `%egnver%` | • Scan engine version<br>• Used by the alert event category as well as the "Active Outbreak Prevention Policy received" and "Outbreak Prevention Mode started" notifications. For the notification types of the alert event category, this variable refers to the scan engine version currently installed on the managed product server.<br>• For the "Active Outbreak Prevention Policy received" and "Outbreak Prevention Mode started" notifications, this variable refers to the Outbreak Prevention Policy required. |
| `%hierarchy%` | • The location of the endpoint within the Apex One domain hierarchy<br>• Used by the alert event category |
| `%ptnver%` | • Virus pattern version<br>• Used by the alert event category and the "Active Outbreak Prevention Policy received" and "Outbreak Prevention Services started" notifications. For the notification types of the alert event category, this variable refers to the virus pattern version currently installed on the managed product server.<br>• For the "Active Outbreak Prevention Policy received" and "Outbreak Prevention Services started" notifications, this variable refers to the Outbreak Prevention Policy required. |

| Variable | Description |
|---|---|
| %scanmethod% | The scan method for specific virus actions. This token is only available for the following alerts:<br>• Virus found-first action unsuccessful and second action unavailable<br>• Virus found-first and second actions unsuccessful<br>• Virus found-first action successful<br>• Virus found-second action successful |
| %threat_info% | • Virus/malware threat information provided by outbreak prevention policies<br>• Used by "Active Outbreak Prevention Policy received" and "Outbreak Prevention Services started" |
| %vcnt% | • Virus count.<br>• Used by virus outbreak alert. |
| %vdest% | • Virus/malware destination.<br>• Examples:<br>Email detection: %vdest% is the intended recipient<br>Host-based/Endpoint detection: %vdest% is the endpoint IP address or host name<br>• Used by the alert event category |
| %vfile% | Infected file name. Used by the alert event category. |
| %vfilepath% | Infected file directory. Used by the alert event category. |
| %vname% | Virus or malware name. Used by the alert event category. |
| %vsrc% | • Virus/malware origin or infection source.<br>• For example, the message sender takes the value of %vsrc% if an antivirus managed product detected a virus/malware in an email message.<br>• Used by the alert event category as well as the network virus alert notification type. |

## Network Access Control Token Variables

The following table describes token variables for customizing Network Access Control event notification messages.

**Note**

For the list of standard token variables supported by all event notifications, see *Standard Token Variables on page 18-53*.

| Variable | Description |
|---|---|
| `%action%` | Network VirusWall Enforcer action (pass, drop, or quarantine) taken on the network virus |
| `%description%` | Error description used by the potential vulnerability attack detected events |

## Web Access Policy Violation Token Variables

The following table describes token variables for customizing Web Access Policy Violation event notification messages.

**Note**

For the list of standard token variables supported by all event notifications, see *Standard Token Variables on page 18-53*.

| Variable | Description |
|---|---|
| `%url%` | URL in question |
| `%vdestip%` | IP address of the target URL |
| `%blockrule%` | Name of the rule that has been violated |
| `%blocktype%` | Action applied to the URL |

# Appendix C

## IPv6 Support

This appendix contains information on the extent of IPv6 support in Apex Central.

Topics include:


- *IPv6 Support Limitations on page C-2*
- *Configuring IPv6 Addresses on page C-2*
- *Screens That Display IP Addresses on page C-3*

# IPv6 Support Limitations

The following table lists the limitations for IPv6 support:

| Item | Limitation |
|---|---|
| IPv6 address format | Apex Central does not support the **%** character for IPv6 server addresses. |
| Apex Central reports | The following static reports do not support IPv6 addresses:<br>• Policy violation report<br>• Service violation report |
| Apex Central features | The following features do not support IPv6 addresses:<br>• IP address ranges for advanced log queries<br>• The Active Directory agent synchronization tool does not support IPv6 proxy servers |

# Configuring IPv6 Addresses

The web console allows you to configure an IPv6 address. The following are some configuration guidelines.

- Apex Central accepts standard IPv6 address presentations.

  For example:

  `2001:0db7:85a3:0000:0000:8a2e:0370:7334`

  `2001:db7:85a3:0:0:8a2e:370:7334`

  `2001:db7:85a3::8a2e:370:7334`

  `::ffff:192.0.2.128`

- Apex Central also accepts link-local IPv6 addresses, such as:

  fe80::210:5aff:feaa:20a2

**WARNING!**

Exercise caution when specifying a link-local IPv6 address because even though Apex Central can accept the address, it might not work as expected under certain circumstances. For example, Apex Central cannot update from an update source if the source is on another network segment and is identified by its link-local IPv6 address.

- When the IPv6 address is part of a URL, enclose the address in square brackets ([]).

## Screens That Display IP Addresses

IP addresses are shown on the following screens:

- **Product Directory**
- **Log Query Results**
- **Dashboard Widgets**

# Appendix D

## Threat Investigation Extraction Rules

This appendix contains information on how Apex Central extracts indicators from supported OpenIOC and STIX files.

Topics include:


- *OpenIOC Extraction Rules on page D-2*
- *STIX Extraction Rules on page D-3*

# OpenIOC Extraction Rules

### Indicators with Operators

If an uploaded OpenIOC file contains conditions that use operators to combine indicators, Apex Central extracts the OpenIOC indicators as suspicious objects and automatically configures scan actions based on the operator used in the OpenIOC indicator condition.

| Operator | Scan Action |
|---|---|
| OR | Extracted objects apply the user-defined scan action |
| AND | Extracted objects always apply the “Log” scan action |

Apex Central supports the following OpenIOC indicator conditions (`IndicatorItemCondition`):

- `is`
- `contains`

### Suspicious Object Mapping

The following table outlines the corresponding Apex Central suspicious object type for each supported OpenIOC indicator (`IndicatorItem`) extracted.

| Object Type | OpenIOC Indicators |
|---|---|
| File SHA-1 | FileItem/Sha1sum |
| | Taskitem/ActionList/Action/ExecProgramSha1sum |
| | DriverItem/Sha1sum |
| URL | Network/URI |
| | FileDownloadHistoryItem/SourceURL |
| | UrlHistoryItem/URL |
| Domain | Network/DNS |

| Object Type | OpenIOC Indicators |
|---|---|
| | DnsEntryItem/Host |
| | DnsEntryItem/RecordData/Host |
| | UrlHistoryItem/HostName |
| | CookieHistoryItem/HostName |
| | FormHistoryItem/HostName |
| IP Address | ArpEntryItem/IPv4Address |
| | DnsEntryItem/RecordData/IPv4Address |
| | Email/ReceivedFromIP PortItem/localIP |
| | PortItem/remoteIP |
| | ProcessItem/PortList/PortItem/localIP |
| | ProcessItem/PortList/PortItem/remoteIP |
| | RouteEntryItem/Destination RouteEntryItem/Gateway |
| | SystemInfoItem/networkArray/networkInfo/dhcpServerArray/dhcpServer |
| | SystemInfoItem/networkArray/networkInfo/ipGatewayArray/ipGateway |

# STIX Extraction Rules

### Indicators with Operators

If an uploaded STIX file contains conditions that use operators to combine indicators, Apex Central extracts the STIX indicators as suspicious objects and automatically configures scan actions based on the operator used in the STIX indicator condition.

| Operator | Scan Action |
|---|---|
| OR | Extracted objects apply the user-defined scan action |

| Operator | Scan Action |
|---|---|
| AND | Extracted objects always apply the “Log” scan action |

Apex Central supports the following STIX indicator conditions:

- `Equals`

### Suspicious Object Mapping

The following table outlines the corresponding Apex Central suspicious object type for each supported STIX indicator (watchlist) and Cybox indicator (observable) extracted.

| Object Type | STIX Indicator | Cybox Indicator |
|---|---|---|
| File SHA-1 | File Hash Watchlist | • `cyboxCommon:Simple_Hash_Value`<br>(with sibling element `cyboxCommon:Type="SHA1"`) |
| URL | URL Watchlist | • `URIObject:Value`<br>(with parent element attribute `@type="URL"`) |
| Domain | Domain Watchlist | • `DomainNameObj:Value`<br>(with parent element attribute `@type="FQDN"`)<br>• `URIObject:Value`<br>(with parent element attribute `@type="Domain Name"`)<br>• `HostnameObject:Hostname_Value` |
| IP Address | IP Watchlist | • `AddressObject:Address_Value`<br>(with parent element attribute `@category="ipv4-addr"`) |

# Appendix E

## Syslog Content Mapping - CEF

The following tables map syslog content between Apex Central log output and CEF syslog types.

Topics include:


- *CEF Attack Discovery Detection Logs on page E-3*
- *CEF Behavior Monitoring Logs on page E-9*
- *CEF C&C Callback Logs on page E-15*
- *CEF Content Security Logs on page E-20*
- *CEF Data Loss Prevention Logs on page E-28*
- *CEF Device Access Control Logs on page E-36*
- *CEF Endpoint Application Control Logs on page E-43*
- *CEF Engine Update Status Logs on page E-46*
- *CEF Intrusion Prevention Logs on page E-48*
- *CEF Network Content Inspection Logs on page E-52*
- *CEF Pattern Update Status Logs on page E-55*
- *CEF Predictive Machine Learning Logs on page E-58*
- *CEF Product Auditing Events on page E-63*

- *CEF Sandbox Detection Logs on page E-64*
- *CEF Spyware/Grayware Logs on page E-68*
- *CEF Suspicious File Logs on page E-76*
- *CEF Virus/Malware Logs on page E-80*
- *CEF Web Security Logs on page E-85*

# CEF Attack Discovery Detection Logs

**Note**

If one Attack Discovery detection log relates to more than 4 objects, Apex Central only forwards the first 4 objects.

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Appliance vendor | Trend Micro |
| Header (pname) | Appliance product | Apex Central |
| Header (pver) | Appliance version | 2019 |
| Header (eventid) | Event ID | 700220 |
| Header (eventName) | Log name | Attack Discovery Detections |
| Header (severity) | Severity | 3 |
| deviceExternalId | ID | Example: “38” |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT +00:00” |
| dhost | Endpoint host name | Example: “ApexOneClient01” |
| dst | Client IPv4 address | Example: “10.0.8.20” |
| C6a3 | Client IPv6 address | Example: “fd96:7521:9502:6:b5b0:b2b5:4173:3f5d” |
| duser | User name | Example: “Admin004” |
| customerExternalID | Instance ID | Example: “8c1e2d8f-a03b-47ea-aef8-5aeab99ea697” |
| cn1Label | Corresponding label for the "cn1" field | “SLF_RiskLevel” |

| CEF Key | Description | Value |
|---|---|---|
| cn1 | Risk Level | Example: “0”<br>• 0: Unknown<br>• 100: Low risk<br>• 500: Medium risk<br>• 1000: High risk |
| cn2Label | Corresponding label for the "cn2" field | “SLF_PatternNumber” |
| cn2 | Pattern Number | Example: “30.1012.00” |
| cs1Label | Corresponding label for the "cs1" field | “SLF_RuleID” |
| cs1 | Rule ID | Example: “powershell invoke expression” |
| cat | Category ID | Example: “point of entry” |
| cs2Label | Corresponding label for the "cs2" field | “SLF_ADEObjectGroup_Info_1” |

| CEF Key | Description | Value |
|---|---|---|
| cs2 | Attack Discovery object information | Example:<br>`process - powershell.exe - {`<br>`"META_FILE_MD5" :`<br>`"9393f60b1739074eb17c5f4dddefe239",`<br>`"META_FILE_NAME" :`<br>`"powershell.exe",`<br>`"META_FILE_SHA1" :`<br>`"887ce4a295c163791b60fc23d285e6d84f28ee4c",`<br>`"META_FILE_SHA2" :`<br>`"de96a6e50044335375dc1ac238336066889d9ffc7d73628ef4fe1b1b160ab32c",`<br>`"META_PATH" :`<br>`"c:\\windows\\system32\\windowspowershell\\v1.0\\",`<br>`"META_PROCESS_CMD" :`<br>`[ "powershell cmd " ],`<br>`"META_PROCESS_PID" : 7132,`<br>`"META_SIGNER" :`<br>`"microsoft windows",`<br>`"META_SIGNER_VALIDATION" :`<br>`true,`<br>`"META_USER_USER_NAME" :`<br>`"Administrator",`<br>`"META_USER_USER_SERVERNAME" :`<br>`"Host",`<br>`"OID" : 1`<br>`}` |
| cs3Label | Corresponding label for the "cs3" field | “SLF_ADEObjectGroup_Info_2” |

| CEF Key | Description | Value |
|---|---|---|
| cs3 | Attack Discovery object information | Example:<br>`process - powershell.exe - {`<br>`"META_FILE_MD5" : "9393f60b1739074eb17c5f4dddefe239",`<br>`"META_FILE_NAME" : "powershell.exe",`<br>`"META_FILE_SHA1" : "887ce4a295c163791b60fc23d285e6d84f28ee4c",`<br>`"META_FILE_SHA2" : "de96a6e50044335375dc1ac238336066889d9ffc7d73628ef4fe1b1b160ab32c",`<br>`"META_PATH" : "c:\\windows\\system32\\windowspowershell\\v1.0\\",`<br>`"META_PROCESS_CMD" : [ "powershell  cmd " ],`<br>`"META_PROCESS_PID" : 7132,`<br>`"META_SIGNER" : "microsoft windows",`<br>`"META_SIGNER_VALIDATION" : true,`<br>`"META_USER_USER_NAME" : "Administrator",`<br>`"META_USER_USER_SERVERNAME" : "Host",`<br>`"OID" : 1`<br>`}` |
| cs4Label | Corresponding label for the "cs4" field | “SLF_ADEObjectGroup_Info_3” |

| CEF Key | Description | Value |
|---|---|---|
| cs4 | Attack Discovery object information | Example:<br>`process - powershell.exe - {`<br>`"META_FILE_MD5" :`<br>`"9393f60b1739074eb17c5f4dddefe239",`<br>`"META_FILE_NAME" :`<br>`"powershell.exe",`<br>`"META_FILE_SHA1" :`<br>`"887ce4a295c163791b60fc23d285e6d84f28ee4c",`<br>`"META_FILE_SHA2" :`<br>`"de96a6e50044335375dc1ac238336066889d9ffc7d73628ef4fe1b1b160ab32c",`<br>`"META_PATH" :`<br>`"c:\\windows\\system32\\windowspowershell\\v1.0\\",`<br>`"META_PROCESS_CMD" :`<br>`[ "powershell cmd " ],`<br>`"META_PROCESS_PID" : 7132,`<br>`"META_SIGNER" :`<br>`"microsoft windows",`<br>`"META_SIGNER_VALIDATION" :`<br>`true,`<br>`"META_USER_USER_NAME" :`<br>`"Administrator",`<br>`"META_USER_USER_SERVERNAME" :`<br>`"Host",`<br>`"OID" : 1`<br>`}` |
| cs5Label | Corresponding label for the "cs5" field | “SLF_ADEObjectGroup_Info_4” |

| CEF Key | Description | Value |
|---|---|---|
| cs5 | Attack Discovery object information | Example:<br>`process - powershell.exe - { "META_FILE_MD5" : "9393f60b1739074eb17c5f4dddefe239", "META_FILE_NAME" : "powershell.exe", "META_FILE_SHA1" : "887ce4a295c163791b60fc23d285e6d84f28ee4c", "META_FILE_SHA2" : "de96a6e50044335375dc1ac238336066889d9ffc7d73628ef4fe1b1b160ab32c", "META_PATH" : "c:\\windows\\system32\\windowspowershell\\v1.0\\", "META_PROCESS_CMD" : [ "powershell  cmd " ], "META_PROCESS_PID" : 7132, "META_SIGNER" : "microsoft windows", "META_SIGNER_VALIDATION" : true, "META_USER_USER_NAME" : "Administrator", "META_USER_USER_SERVERNAME" : "Host", "OID" : 1 }` |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| TMCMLogDetectedHost | Endpoint name where the log event occurred | Example: MachineHostName |

| CEF Key | Description | Value |
|---|---|---|
| TMCMLogDetectedIP | IP address where the log event occurred | Example: 10.1.2.3 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|700211|Attack Discovery
Detections|3|deviceExternalId=5 rt=Jan 17 2019 03:38:06 GMT+
00:00 dhost=VCAC-Window-331 dst=10.201.86.150 customerExtern
alID=8c1e2d8f-a03b-47ea-aef8-5aeab99ea697 cn1Label=SLF_RiskL
evel cn1=0 cn2Label=SLF_PatternNumber cn2=30.1012.00 cs1Labe
l=SLF_RuleID cs1=powershell invoke expression cat=point of e
ntry cs2Label=SLF_ADEObjectGroup_Info_1 cs2=process - code9.
exe - {USER: administrator09} deviceNtDomain=APEXTMCM dntdom
=OSCEDomain1 TMCMLogDetectedHost=VCAC-Window-331 TMCMLogDete
ctedIP=10.201.86.150 ApexCentralHost=TW-CHRIS-W2019devicePay
loadId=1C00290C0360-9CDE11EB-D4B8-F51F-C697 TMCMdevicePlatfo
rm=Windows 7 6.1 (Build 7601) Service Pack 1
```

## CEF Behavior Monitoring Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Product vendor | Trend Micro |
| Header (pname) | Product name | Apex Central |
| Header (pver) | Product version | 2019 |

| CEF Key | Description | Value |
|---|---|---|
| Header (eventid) | Behavior Monitoring policy ID | BM:1000 |
| Header (eventName) | Log name | Behavior Monitoring |
| Header (severity) | Severity | 3 |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| dvchost | Host name | Example: “localhost” |
| cs2Label | Corresponding label for the “cs2” field | “Policy” |

| CEF Key | Description | Value |
|---|---|---|
| cs2 | Policy type | • Compromised executable file<br>• New startup program<br>• Host file modification<br>• Program library injection<br>• New Internet Explorer plugin<br>• Internet Explorer setting modification<br>• Shell modification<br>• New service<br>• Security policy modification<br>• Firewall policy modification<br>• System file modification<br>• Duplicated system file<br>• Layered service provider<br>• System process modification<br>• Suspicious behavior<br>• Newly encountered programs<br>• Unauthorized file encryption<br>• Threat behavior analysis<br>• User-defined policy |
| sproc | Target of the event | Example: “C:\\Windows\\SysWOW64\\rundll32.exe” |
| cs3Label | Corresponding label for the “cs3” field | “Event_Type” |

| CEF Key | Description | Value |
|---|---|---|
| cs3 | Event type | • Process<br>• Process image<br>• Registry<br>• File system<br>• Driver<br>• SDT<br>• System API<br>• User Mode<br>• Exploit<br>• All |
| cs4Label | Corresponding label for the “cs4” field | “Operation” |
| cs4 | The operation to be performed by the target of the event | • Create Process<br>• Open<br>• Terminate<br>• Delete<br>• Write<br>• Access<br>• Create File<br>• Close<br>• Execute<br>• Invoke<br>• Exploit<br>• Unhandled Operation |
| cs5Label | Corresponding label for the “cs5” field | “Risk_Level” |

| CEF Key | Description | Value |
|---|---|---|
| cs5 | Risk level | Example: “1”<br>• 0: Low<br>• 1: High |
| TMCMLogTarget | Target host | Example: “HKCU\\Software\\Microsoft\\Windows\\CurrentVersion\\Run\\COM+” |
| act | Translated action | • Allow<br>• Ask<br>• Deny<br>• Terminate<br>• Read Only<br>• Read/Write Only<br>• Read/Execute Only<br>• Feedback<br>• Clean<br>• Unknown<br>• Assess<br>• Terminated. Files were recovered.<br>• Terminated. Some files were not recovered.<br>• Terminated. Files were not recovered.<br>• Terminated. Restart result: Files were recovered.<br>• Terminated: Restart result: Some files were not recovered.<br>• Terminated: Restart result: Files were not recovered. |

| CEF Key | Description | Value |
|---|---|---|
| shost | Source host (endpoint) | Example: “shost1” |
| src | Source host IP address | Example: "10.0.147.105" |
| deviceFacility | Product | Example: “Apex One” |
| reason | Critical threat type | Example: “E”<br>• A: Known Advanced Persistent Threat (APT)<br>• B: Social engineering attack<br>• C: Vulnerability attack<br>• D: Lateral movement<br>• E: Unknown threats<br>• F: C&C callback<br>• G: Ransomware |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| TMCMLogDetectedHost | Endpoint name where the log event occurred | Example: MachineHostName |
| TMCMLogDetectedIP | IP address where the log event occurred | Example: 10.1.2.3 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|BM:1000|Behavior Monitor
ing|3|rt=Sep 20 2019 01:02:03 GMT+00:00 dvchost=localhost cs
```

```
5Label=Risk_Level cs5=1 cs2Label=Policy cs2=Threat Behavior
Analysis sproc=subject cs3Label=Event_Type cs3=File system
TMCMLogTarget=HKCU\\Software\\Microsoft\\Windows\\CurrentVer
sion\\Run\\COM+ act=Ask cs4Label=Operation cs4=Create Proces
s shost=shost1 src=10.0.76.40 deviceFacility=Apex One reason
=G deviceNtDomain=APEXTMCM dntdom=OSCEDomain1 TMCMLogDetecte
dHost=shost1 TMCMLogDetectedIP=10.0.76.40 ApexCentralHost=TW
-CHRIS-W2019 devicePayloadId=1C00290C0360-9CDE11EB-D4B8-F51F
-C697 TMCMdevicePlatform=Windows 7 6.1 (Build 7601) Service
Pack 1
```

## CEF C&C Callback Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Appliance vendor | Trend Micro |
| Header (pname) | Appliance product | Apex Central |
| Header (pver) | Appliance version | 2019 |
| Header (eventid) | CnC:Action | CnC:Block |
| Header (eventName) | Name | CnC Callback |
| Header (severity) | Severity | 3 |
| deviceExternalId | ID | Example: “12” |
| cat | Log type | Example: “1756” |
| deviceFacility | Product | Example: “Apex One” |
| cs2Label | Corresponding label for the “cs2” field | Example: “El_ProductVersion” |
| cs2 | Product version | Example: “11.0” |

| CEF Key | Description | Value |
|---|---|---|
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| shost | Endpoint host name | Example: “ApexOneClient01” |
| src | Endpoint IPv4 address | Example: “10.201.86.187” |
| c6a2Label | Corresponding label for the “c6a2” field | Example: “SLF_ClientIP” |
| c6a2 | Endpoint IPv6 address | Example: “2620:101:4003:7a0:fd4b:52ed:53bd:ae3d” |
| cs3Label | Corresponding label for the “cs3” field | Example: “SLF_DomainName” |
| cs3 | Domain name | Example: “DOMAIN1” |
| cs4Label | Corresponding label for the “cs4” field | Example: “SLF_PolicyName” |
| cs4 | Policy name | Example: “C&C Server URL in Web Reputation Services database - HTTP (Request)” |
| act | Action | Example: “Block”<br>• 0: Unknown<br>• 1: Pass<br>• 2: Block<br>• 3: Monitor<br>• 4: Delete<br>• 5: Quarantine<br>• 6: Warn<br>• 7: Warn and continue<br>• 8: Override |

| CEF Key | Description | Value |
|---|---|---|
| cn1Label | Corresponding label for the “cn1” field | Example: “SLF_CCCA_RiskLevel” |
| cn1 | C&C risk level | Example: “1”<br>• 0: SLF_CCCA_RISKLEVEL_UNKNOWN<br>• 1: SLF_CCCA_RISKLEVEL_LOW<br>• 2: SLF_CCCA_RISKLEVEL_MEDIUM<br>• 3: SLF_CCCA_RISKLEVEL_HIGH |
| cn2Label | Corresponding label for the “cn2” field | Example: “SLF_CCCA_DetectionSource” |
| cn2 | C&C list source | Example: “1”<br>• 0: SLF_CCCA_GLOBAL_LIST<br>• 1: SLF_CCCA_CUSTOM_LIST<br>• 2: SLF_CCCA_CUSTOM_LIST_USER_DEFINED |
| cn3Label | Corresponding label for the “cn3” field | Example: “SLF_CCCA_DetectionFormat” |
| cn3 | Callback address format | Example: “1”<br>• 0: IP<br>• 1: IP<br>• 2: HTTP<br>• 3: SMTP |
| request | URL | Example: “http://CC13.jojo.com” |

| CEF Key | Description | Value |
|---|---|---|
| deviceCustomDate1Label | Corresponding label for the “deviceCustomDate1” field | Example: “SLF_FirstSeen” |
| deviceCustomDate1 | The UTC time when the callback attempt was first monitored | Example: “Oct 10 2017 16:58:03 GMT+00:00” |
| deviceCustomDate2Label | Corresponding label for the “deviceCustomDate2” field | Example: “SLF_LastSeen” |
| deviceCustomDate2 | The UTC time when the callback attempt was last monitored | Example: “Oct 11 2017 10:58:03 GMT+00:00” |
| cs5Label | Corresponding label for the “cs5” field | Example: “CnCDestination” |
| cs5 | Callback URL address | Example: “http://CC13.jojo.com” |
| dst | Callback IPv4 address | Example: “10.201.86.195” |
| c6a3Label | Corresponding label for the “c6a3” field | Example: “CnCDestination” |
| c6a3 | Callback IPv6 address | Example: “fe80::38ca:cd15:443c:40bb%11” |
| deviceProcessName | Process name | Example: “C:\\Program Files (x86)\\Internet Explorer\\iexplore.exe” |
| dvchost | Host name | Example: "localhost" |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| TMCMLogDetectedHost | Endpoint name where the log event occurred | Example: MachineHostName |
| TMCMLogDetectedIP | IP address where the log event occurred | Example: 10.1.2.3 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |

| CEF Key | Description | Value |
|---|---|---|
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| deviceDirection | Network traffic direction | Example: 0<br>The meaning of the value varies depending on the “cat” field value.<br>If the “cat” field value is 1756, 1707, or 1733:<br>• 0: Unknown<br>• 1: Inbound<br>• 2: Outbound<br>If the “cat” field value is 1739, 1741, or 1723:<br>• 0: Outbound<br>• 1: Inbound<br>• 2: Unknown<br>If the “cat” field value is 1705, 1735, or 1775:<br>• -1: Unknown<br>• 0: Outbound email<br>• 1: Inbound email<br>• 2: Internal email |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|CnC:Block|CnC Callback
|3|deviceExternalId=12 rt=Oct 11 2017 06:34:09 GMT+00:00 cat
=1756 deviceFacility=Apex One cs2Label=EI_ProductVersion cs2
```

```
=11.0 shost=ApexOneClient01 src=10.201.86.187 cs3Label=SLF_D
omainName cs3=DOMAIN act=Block cn1Label=SLF_CCCA_RiskLevel c
n1=1 cn2Label=SLF_CCCA_DetectionSource cn2=1 cn3Label=SLF_CC
CA_DestinationFormat cn3=1 dst=10.201.86.195 deviceProcessNa
me=C:\\Program Files (x86)\\Internet Explorer\\iexplore.exe
deviceNtDomain=APEXTMCM dntdom=OSCEDomain1 dvchost=localhost
TMCMLogDetectedHost=ApexOneClient01 TMCMLogDetectedIP=10.201
.86.187 ApexCentralHost=TW-CHRIS-W2019 devicePayloadId=1C002
90C0360-9CDE11EB-D4B8-F51F-C697 deviceDirection=0 TMCMdevice
Platform=Windows 7 6.1 (Build 7601) Service Pack 1
```

## CEF Content Security Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Appliance vendor | Trend Micro |
| Header (pname) | Appliance product | Apex Central |
| Header (pver) | Appliance product version | 2019 |
| Header (eventid) | MS: Filter action | MS:Clean |
| Header (eventName) | Policy name | Policy |
| Header (severity) | Severity | 3 |
| cnt | Number of detections | Example: 10 |
| dhost | List of all recipients | Example: employee_a1@Acompany.com;employee_a2@Acompany.com |
| duser | One of the recipients | Example: employee_a1@Acompany.com |

| CEF Key | Description | Value |
|---|---|---|
| act | Filter action | Example: “Clean”<br>For more information, see *Filter Action Mapping Table on page E-25*. |
| cs1Label | Corresponding label for the “cs1” field | Example: “Policy_Settings” |
| cs1 | Policy settings | Example: “Default_policy” |
| cs2Label | Corresponding label for the “cs2” field | Example: “Product_Version” |
| cs2 | Product version | Example: “11” |
| cs3Label | Corresponding label for the “cs3” field | Example: “Filter_Type” |
| cs3 | Filter type | Example: “URL reputation filter”<br>• 0: Unknown<br>• 1: ContentFilter<br>• 2: AttachmentFilter<br>• 3: StandardFilter<br>• 4: SizeFilter<br>• 5: DisclaimerMgr<br>• 6: SpamFilter<br>• 7: OPP<br>• 8: ImportFilter<br>• 9: PhishingFilter<br>• 10: UrlReputationFilter |
| cs4Label | Corresponding label for the “cs4” field | Example: “CLF_ReasonCode” |
| cs4 | Reason Code | Example: “access” |

| CEF Key | Description | Value |
|---|---|---|
| cs5Label | Corresponding label for the “cs5” field | Example: “CLF_ReasonCodeSource” |
| cs5 | Reason code source | Example: “web” |
| cs6Label | Corresponding label for the “cs6” field | Example: “Action_on_Message” |
| cs6 | Action | Example: “3”<br>• 0: Unknown<br>• 1: N/A<br>• 2: Deliver<br>• 3: Delete<br>• 4: Quarantine<br>• 5: Postpone<br>• 6: Forward<br>• 7: Replace<br>• 8: Archive<br>• 100: Strip<br>• 101: Pass |
| cat | Log type | Example: “1705” |
| dvchost | Endpoint host name | Example: “ApexOneClient01” |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| cn1Label | Corresponding label for the “cn1” field | Example: “Severity” |

| CEF Key | Description | Value |
|---|---|---|
| cn1 | Severity code | Example: “2”<br>• 0: Unknown<br>• 1: Information<br>• 2: Warning<br>• 3: Error<br>• 4: Critical |
| TMCMLogSeverity | Description of severity | Second scan engine |
| cn2Label | Corresponding label for the “cn2” field | Filter_Action_Result |
| cn2 | Filter action result | Example: 21<br>For more information, see *Filter Action Result Mapping Table on page E-26*. |
| deviceExternalId | ID | Example: “5” |
| fname | File | Example: “RERERW~42w.exe” |
| msg | Subject | Example: “Open this email to win a free phone” |
| shost | List of all senders/users in violation | Example: "bear" <bear@abc.mail.com>;"yumi" <yumi@abc.mail.com> |
| suser | One of the senders/users in violation | Example: "bear" <bear@abc.mail.com> |
| deviceFacility | Product | Example: “Deep Discovery Email Inspector” |
| src | Email sender IP address | Example: “10.206.155.122” |
| filepath | Suspicious file location | Example: “https://ca91-1.testurl.com:443” |

| CEF Key | Description | Value |
|---|---|---|
| request | Suspicious URL | Example: “https://ca91-1.testurl.com:443” |
| reason | Critical threat type | Example: “E”<br>• A: Known Advanced Persistent Threat (APT)<br>• B: Social engineering attack<br>• C: Vulnerability attack<br>• D: Lateral movement<br>• E: Unknown threats<br>• F: C&C callback<br>• G: Ransomware |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|MS:Clean|This is a policy
name|3|deviceExternalId=90045 rt=Sep 17 2018 01:27:42 GMT+00
:00 dhost=user@test.com duser=user@test.com act=Clean cs1Label
=Policy_Settings cs1=This is policy content cs2Label=CLF_Produ
ctVersion cs2=3.2 cs3Label=Filter_Type cs3=URL reputation filt
er cs5Label=CLF_ReasonCodeSource cs5=20 cs6Label=Action_on_Mes
sage cs6=0 cat=1705 dvchost=ApexOneClient01 cn1Label=Severity
cn1=2 TMCMLogSeverity=Second scan engine fname=NE_AEP.1550
msg=plain_qp_no8_av1u_NE_AEP.1550 shost=user2@test.com suser=
user2@test.com cn2Label=Filter_Action_Result cn2=21 deviceFaci
lity=Deep Discovery Email Inspector src=10.206.155.122 reason=
```

```
B,G ApexCentralHost=TW-CHRIS-W2019 devicePayloadId=1C00290C036
0-9CDE11EB-D4B8-F51F-C697 TMCMdevicePlatform=Windows 7 6.1 (B
uild 7601) Service Pack 1
```

## Filter Action Mapping Table

| Value | Description |
|---|---|
| 0 | Unknown |
| 1 | N/A |
| 2 | Clean |
| 3 | Delete |
| 4 | Move |
| 5 | Rename |
| 6 | Pass/Log |
| 7 | Strip |
| 8 | Drop |
| 9 | Quarantine |
| 10 | Insert/Replace |
| 11 | Archive |
| 12 | Stamp |
| 13 | Block |
| 14 | Redirect mail for approval |
| 81 | Encrypt |
| 90 | Detect |
| 257 | Reset |

## Filter Action Result Mapping Table

| Value | Description |
|---|---|
| 0 | Unknown |
| 1 | N/A |
| 21 | File cleaned |
| 22 | File deleted |
| 23 | File quarantined |
| 24 | File renamed |
| 25 | File passed |
| 26 | Unable to clean file. Passed |
| 27 | Unable to clean file. Deleted |
| 28 | Unable to clean file. Renamed |
| 29 | Unable to clean file. Quarantined |
| 30 | File stripped |
| 31 | Unable to clean file. Stripped |
| 32 | File replaced |
| 33 | File dropped |
| 34 | File archived |
| 35 | File blocked successfully |
| 36 | File quarantined successfully |
| 37 | File stamped successfully |
| 38 | File uploaded |
| 39 | Unable to clean file. Quarantined |
| 40 | Unable to clean file. Passed |

| Value | Description |
|---|---|
| 41 | Access denied |
| 42 | No action |
| 43 | Reboot system successfully |
| 44 | Spyware/Grayware unsafe to clean |
| 45 | Stop scan manually successfully |
| 46 | Redirect Mail for Approval successfully |
| 81 | Encrypted |
| 121 | Unable to clean file |
| 122 | Unable to delete file |
| 123 | Unable to quarantine file |
| 124 | Unable to rename file |
| 125 | Unable to pass file |
| 126 | Unable to clean or pass file |
| 127 | Unable to clean or delete file |
| 128 | Unable to clean or rename file |
| 129 | Unable to clean or quarantine file |
| 130 | Unable to strip file |
| 131 | Unable to clean or strip file |
| 132 | Unable to replace file |
| 133 | Unable to drop file |
| 134 | Unable to archive file |
| 135 | Unable to block file |
| 136 | Unable to quarantine file |

| Value | Description |
|---|---|
| 137 | Unable to stamp file |
| 138 | Unable to upload file |
| 139 | Unable to clean or quarantine file |
| 140 | Unable to clean or pass file |
| 141 | Unable to deny access |
| 142 | Unable to perform action |
| 143 | Action required - Restart the endpoint to finish cleaning the security threat |
| 145 | Unable to stop scan manually |
| 146 | Unable to Redirect Mail for Approval |
| 201 | Action required - Perform a full system scan |
| 202 | Action required - Use the "Rescue Disk" tool in the Apex One ToolBox to remove this threat. If the problem persists, contact Support |
| 203 | Action required - Use the "Rootkit Buster" tool in the Apex One ToolBox to remove this threat. If the problem persists, contact Support |
| 204 | Action required - Use the "Clean Boot" tool in the Apex One ToolBox to remove this threat. If the problem persists, contact Support |

## CEF Data Loss Prevention Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Appliance vendor | Trend Micro |
| Header (pname) | Appliance product | Apex Central |
| Header (pver) | Appliance version | 2019 |
| Header (eventid) | Event ID | 700106 |

| CEF Key | Description | Value |
|---|---|---|
| Header (eventName) | Log name | Data Loss Prevention |
| Header (severity) | Severity | 3 |
| cs1Label | Corresponding label for the “cs1” field | "Policy GUID" |
| cs1 | Policy GUID | Example: "FAF492CF-164C-4672-9A79-F1AB9CB288A3" |
| cn1Label | Corresponding label for the “cn1” field | "Product" |
| cn1 | Product type value | Example: "15" |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| src | Source host IP address | Example: "10.0.57.160" |
| smac | Source host MAC address | Example: "74-27-00-0C-65-E7" |
| shost | Source host name | Example: "shost1" |
| cs4Label | Corresponding label for the “cs4” field | "Incident_Source_(AD_Account)" |
| cs4 | The user name in violation | Example: "Trend" |
| suser | Email sender | Example: "sender@example.com" |
| request | The URL accessed | Example: "https://example.com/api/content" |
| duser | Comma (,) separated list of recipients | Example: “user1@example.com;user2@example.com;” |
| msg | Subject | Example: “Sample,20171017” |

| CEF Key | Description | Value |
|---|---|---|
| filepath | File path | Example: “D:\\Windows Live Mail\\Storage Folders\\Imported Fo e52\\Local Folders\\Sent Items\\Archive Aft de1\\Clients,Adv 22b\\” |
| fname | Trigger file name | Example: “2B43363A-000000A4.eml” |
| fsize | File size in bytes | Example: “3” |
| cs5Label | Corresponding label for the “cs5” field | "Rule" |
| cs5 | Rule name | Example: "SAMPLE RULE SET" |
| cs6Label | Corresponding label for the “cs6” field | “Template” |
| cs6 | Template name | Example: “Apex One policy” |
| cn3Label | Corresponding label for the “cn3” field | “Channel” |
| cn3 | Channel type | Example: “3”<br>For more information, see *Channel Mapping Table on page E-34*. |
| cn2Label | Corresponding label for the “cn2” field | “Action” |
| cn2 | Action result | Example: “4”<br>For more information, see *Action Result Mapping Table on page E-32*. |
| cs2Label | Corresponding label for the “cs2” field | “Policy” |
| cs2 | Policy name | Example: “OfficeScan” |

| CEF Key | Description | Value |
|---|---|---|
| cs3Label | Corresponding label for the “cs3” field | “Product_Entity/Endpoint” |
| cs3 | Endpoint host name | Example: “Sample_Host” |
| dvchost | Server host name | Example: “localhost” |
| deviceFacility | Product name | Example: “Apex One” |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| externalId | Log ID of the event | Example: “101” |
| cfp1Label | Corresponding label for the “cfp1Label” field | “ForensicFileAvailable” |
| cfp1 | Indicates whether the forensic file can be downloaded | • 0: The file cannot be downloaded<br>• 1: The file can be downloaded |
| TMCMLogDetectedHost | Endpoint name where the log event occurred | Example: MachineHostName |
| TMCMLogDetectedIP | IP address where the log event occurred | Example: 10.1.2.3 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|700106|Data Loss Prevent
ion|3|cs3Label=Product_Entity/Endpoint cs3=Sample_Host dvc
```

```
host=Sampledvchost cs2Label=Policy cs2=N/A cn1Label=Product
cn1=15 rt=Oct 13 2017 02:54:04 GMT+00:00 src=10.0.9.34 smac=
34-E6-D7-84-BC-7F shost=shost1 cs4Label=Incident_Source_(AD_
Account) cs4=12467 filePath=D:\\2. DRIVER\\drivers WIN7\\Dri
vers\\DP_CardReader_14032.7z\\O2Micro\\FORCED\\6x86\\ fname=
O2MDFvst.INF cs5Label=Rule cs5=SAMPLE RULE SET cs6Label=Temp
late cs6=Apex One policy cn3Label=Channel cn3=0 cn2Label=Act
ion cn2=4 deviceFacility=Apex One deviceNtDomain=APEXTMCM dn
tdom=OSCEDomain1 externalId=101 cfp1Label=ForensicFileAvaila
ble cfp1=0 dvchost=localhost TMCMLogDetectedHost=ApexOneClie
nt01 TMCMLogDetectedIP=10.201.86.187 ApexCentralHost=TW-CHRI
S-W2019 devicePayloadId=1C00290C0360-9CDE11EB-D4B8-F51F-C697
 TMCMdevicePlatform=Windows 7 6.1 (Build 7601) Service Pack
 1
```

## Action Result Mapping Table

| Value | Description |
|---|---|
| -1 | Not available |
| 0 | Blocked |
| 1 | Deleted |
| 2 | Delivered |
| 3 | Logged |
| 4 | Passed |
| 5 | Quarantined |
| 6 | Replaced |
| 7 | Archived |
| 8 | Archived (message body only) |
| 9 | Quarantined (message body only) |

| Value | Description |
|---|---|
| 10 | Passed (message body only) |
| 11 | Encrypted |
| 12 | Alerted (endpoint) |
| 13 | Alerted (server) |
| 14 | Data recorded |
| 15 | User justified |
| 16 | Handed off |
| 17 | Recipient altered |
| 18 | Blind carbon copied |
| 19 | Delivery postponed |
| 20 | Stamped |
| 21 | Attachment deleted |
| 22 | Subject tagged |
| 23 | X-header tagged |
| 24 | Decrypted |
| 25 | Re-encrypted |
| 26 | Tagged (mail) |
| 27 | Encrypted (user key) |
| 28 | Encrypted (group key) |
| 29 | Moved |
| 30 | Passed (encrypted) |
| 31 | Passed (user justified) |
| 32 | Blocked (Endpoint Encryption not installed) |

| Value | Description |
|---|---|
| 33 | Blocked (user justified) |
| 34 | Blocked (Endpoint Encryption logged off) |
| 35 | Blocked (Endpoint Encryption error) |
| 36 | web upload |

## Channel Mapping Table

| Value | Description |
|---|---|
| 65535 | Not available |
| 0 | Removable storage |
| 1 | SMB |
| 2 | Email |
| 3 | IM |
| 4 | FTP |
| 5 | HTTP |
| 6 | HTTPS |
| 7 | PGP |
| 8 | Data recorders |
| 9 | Printer |
| 10 | Clipboard |
| 11 | Sync |
| 12 | P2P |
| 13 | Webmail |
| 14 | Document management |

| Value | Description |
|---|---|
| 15 | Cloud storage |
| 121 | SMTP email |
| 122 | Exchange Client Mail |
| 123 | Lotus Note Email |
| 130 | Webmail (Yahoo! Mail) |
| 131 | Webmail (Hotmail) |
| 132 | Webmail (Gmail) |
| 133 | Webmail (AOL Mail) |
| 140 | IM (MSN) |
| 141 | IM (AIM) |
| 142 | IM (Yahoo Messenger) |
| 143 | IM (Skype) |
| 191 | P2P (BitTorrent) |
| 192 | P2P (EMule) |
| 193 | P2P (Winny) |
| 194 | P2P (HTCSYN) |
| 195 | P2P (iTunes) |
| 196 | Cloud storage (DropBox) |
| 197 | Cloud storage (Box) |
| 198 | Cloud storage (Google Drive) |
| 199 | Cloud storage (OneDrive) |
| 200 | Cloud storage (SugarSync) |
| 201 | Cloud storage (Hightail) |

| Value | Description |
|---|---|
| 202 | IM (QQ) |
| 203 | Webmail (other) |
| 204 | Cloud storage (Evernote) |
| 211 | Document management (SharePoint) |

# CEF Device Access Control Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Appliance vendor | Trend Micro |
| Header (pname) | Appliance product | Apex Central |
| Header (pver) | Appliance version | 2019 |
| Header (eventid) | Event ID | 700107 |
| Header (eventName) | Log name | Device Access Control |
| Header (severity) | Severity | 3 |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| cs1Label | Corresponding label for the “cs1” field | “Product Entity/Endpoint” |
| cs1 | Server host name | Example: “Sample_Host” |
| shost | Source host name | Example: “shost1” |
| duser | User name | Example: “testserver\ \administrator” |
| dvchost | Target host name | Example: “localhost” |
| cn1Label | Corresponding label for the “cn1” field | “Product” |

| CEF Key | Description | Value |
|---|---|---|
| cn1 | Product ID | Example: “Apex One”<br>For more information, see *Product ID Mapping Table on page E-38*. |
| sproc | Target process | Example: “C:\\Windows\\explorer.exe” |
| fname | File name | Example: “F:\\Autorun.inf” |
| cn2Label | Corresponding label for the “cn2” field | “Device_Type” |
| cn2 | Device type | Example: “0”<br>• 0: USB storage device<br>• 1: Non-storage USB<br>• 2: CD/DVD<br>• 3: Floppy disks<br>• 4: Network driver |
| cn3Label | Corresponding label for the “cn3” field | “Permission” |
| cn3 | Permission | Example: “3”<br>• 0: Modify<br>• 1: Read and execute<br>• 2: Read<br>• 3: List device content only<br>• 4: Block |
| deviceFacility | Product | Example: “Apex One” |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |

| CEF Key | Description | Value |
|---|---|---|
| TMCMLogDetectedHost | Endpoint name where the log event occurred | Example: MachineHostName |
| TMCMLogDetectedIP | IP address where the log event occurred | Example: 10.1.2.3 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|700107|Device Access C
ontrol|3|rt=Aug 16 2017 04:49:15 GMT+00:00 cs1Label=Product_
Entity/Endpoint cs1=Sample_Host shost=shost1 dvchost=localho
st cn1Label=Product cn1=15 sproc=C:\\Windows\\explorer.exe f
name=F:\\Autorun.inf cn2Label=Device_Type cn2=0 cn3Label=Per
mission cn3=3 deviceFacility=Apex One deviceNtDomain=APEXTMC
M dntdom=OSCEDomain1 TMCMLogDetectedHost=shost1 TMCMLogDetec
tedIP=10.0.76.40 ApexCentralHost=TW-CHRIS-W2019 devicePayloa
dId=1C00290C0360-9CDE11EB-D4B8-F51F-C697 TMCMdevicePlatform
=Windows 7 6.1 (Build 7601) Service Pack 1
```

## Product ID Mapping Table

| Value | Description |
|---|---|
| 0 | Unknown product |
| 1 | ScanMail for ccMail |
| 2 | ScanMail for Lotus Domino |

| Value | Description |
|---|---|
| 3 | ScanMail for Microsoft Exchange |
| 4 | ScanMail for Microsoft Mail |
| 5 | ScanMail for OpenMail |
| 6 | Reserved 1 |
| 7 | Reserved 2 |
| 8 | Reserved 3 |
| 9 | Reserved 4 |
| 10 | InterScan WebProtect |
| 11 | Reserved 5 |
| 12 | Reserved 6 |
| 13 | Reserved 7 |
| 14 | PC-cillin Corporate Edition |
| 15 | Apex One |
| 16 | Apex One for Microsoft SBS |
| 18 | ServerProtect for Windows |
| 19 | ServerProtect for Windows (SOHO) |
| 20 | Apex Central |
| 21 | Generic |
| 22 | InterScan VirusWall for Unix |
| 23 | InterScan VirusWall for Windows |
| 24 | MOCA |
| 25 | GoldenGate |
| 26 | ActiveUpdate |

| Value | Description |
|---|---|
| 27 | IS_Y2K_SCANNER |
| 28 | Y2K VIRUS TECH SUPPORT SRV |
| 30 | HouseCall |
| 31 | PC-cillin ISP server |
| 32 | PC-cillin ISP client |
| 33 | eManager for ScanMail Exchange |
| 34 | InterScan Messaging Security Suite for Windows |
| 35 | InterScan Messaging Security Suite for UNIX |
| 36 | PortalProtect |
| 37 | GateLock Corporate Edition |
| 38 | Firewall management (NetScreen) |
| 39 | InterScan Web Security Suite for Solaris |
| 40 | InterScan Web Security Suite for Windows NT |
| 41 | Nokia Message Protector |
| 42 | InterScan Web Security Suite for Linux |
| 43 | InterScan Web Security Suite for Appliance |
| 44 | InterScan Messaging Security Appliance |
| 45 | InterScan for Small and Medium Business for Windows NT |
| 46 | InterScan Web Security Virtual Appliance |
| 47 | InterScan Messaging Security Virtual Appliance |
| 50 | InterScan Gateway Security Appliance |
| 51 | ServerProtect for Linux |
| 52 | ServerProtect for EMC |

| Value | Description |
|---|---|
| 53 | ServerProtect for NetApp |
| 56 | Child Apex Central Server |
| 60 | Damage Cleanup Services |
| 65 | Golden Gate for NT |
| 66 | Network VirusWall 1200 |
| 67 | Network VirusWall MIPS |
| 68 | Network VirusWall 2500 |
| 69 | Network VirusWall 2500 v2 |
| 70 | Vulnerability Assessment |
| 71 | Network Virus Wall Enforcer 1200 |
| 72 | Network VirusWall Enforcer |
| 73 | Network VirusWall Enforcer |
| 75 | Trend Micro Threat Mitigator |
| 85 | Anti-Spyware Enterprise Edition |
| 87 | Trend Micro InterScan for Cisco CSC SSM-20 |
| 88 | Trend Micro InterScan for Cisco CSC SSM-10 |
| 90 | IM Security |
| 95 | InterScan VirusWall |
| 96 | InterScan VirusWall for Linux |
| 100 | Control Manager Agent |
| 200 | eDoctor Server |
| 300 | eDoctor Agent |
| 132 | InterScan Messaging Security Suite for Solaris |

| Value | Description |
|---|---|
| 120 | Threat Discovery Appliance |
| 131 | Database Protect for Linux |
| 151 | Total Discovery Mitigation Server |
| 154 | Deep Discovery Inspector |
| 155 | ScanMail for IBM Domino |
| 156 | Deep Discovery Email Inspector |
| 1000 | InterScan eManager |
| 1001 | InterScan AppletTrap |
| 1002 | InterScan VirusWall Java |
| 1003 | IS_SEMAIL |
| 1004 | InterScan WebProtect for ICAP |
| 10001 | NEC StarOffice |
| 20001 | Dr. Soloman Anti-virus |
| 20002 | Inoculan |
| 20003 | Norton Anti-virus |
| 20004 | Sophos Sweep |
| 20005 | Intel LANProtect |
| 20006 | McAfee Virus Scan |
| 20007 | FProt |
| 21000 | Other third-party product |
| 31001 | Apex One (Mac) |
| 31002 | Trend Micro Endpoint Encryption |
| 31003 | Trend Micro Endpoint Application Control |

| Value | Description |
|---|---|
| 31004 | Trend Micro Deep Security |
| 31006 | Vulnerability Protection |
| 31005 | Trend Micro Mobile Security |
| 31007 | Trend Micro Safe Mobile Workforce |
| 31008 | Deep Discovery Analyzer |
| 31009 | Trend Micro Endpoint Sensor |
| 31012 | Deep Discovery Web Inspector |
| 31101 | Trend Micro Email Security |
| 31102 | Worry Free Business Security Services |
| 31103 | Trend Micro Web Security |
| 31104 | Cloud App Security |
| 55555 | Demo product |

## CEF Endpoint Application Control Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Appliance vendor | Trend Micro |
| Header (pname) | Appliance product | Apex Central |
| Header (pver) | Appliance version | 2019 |
| Header (eventid) | Device event class ID | • 0: Allow<br>• 1: Block<br>• 2: Lockdown |
| Header (eventName) | Event name | Endpoint Application Control Violation Information |

| CEF Key | Description | Value |
|---|---|---|
| Header (severity) | Severity | 3 |
| deviceExternalId | ID | Example: “39” |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| dvchost | Computer name | Example: “localhost” |
| shost | Client host name | Example: “shost1” |
| cs1 | Product server pattern version | Example: “1297” |
| suser | Client user name | Example: “TREND\User” |
| cs2 | Client IPv4 address | Example: “10.0.17.6” |
| c6a3 | Client IPv6 address | Example: “fe80::38ca:cd15:443c:40bb%11” |
| cn1 | Client status | • 1: Rebuilding database<br>• 2: Online<br>• 3: Offline |
| filehash | Application file SHA-1 hash | Example: “D6712CAE5EC821F910E14945153AE7871AA536CA” |
| fname | Application file name | Example: “notepad.exe” |
| cs3 | Application process command line | Example: “notepad.exe” |
| duser | User name | Example: “Admin004” |
| cs4 | Rule name | Example: “SAMPLE RULE SET” |
| cs5 | Policy name | Example: “SAMPLE POLICY” |

| CEF Key | Description | Value |
|---|---|---|
| act | Policy action | • 0: Allowed<br>• 1: Blocked<br>• 2: Reported as allowed<br>• 3: Reported as blocked |
| deviceFacility | Product name | Example: “Trend Micro Endpoint Application Control” |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|EAC:1|Endpoint Applica
tion Control Violation Information|3|deviceExternalId=39 rt=
Jun 27 2012 03:14:03 GMT+00:00 cs1Label=Version cs1=1.299.00
 suser=TMCM\\QA cs2Label=ApplicationControlEvent_ClientIPAdd
ress_V4 cs2=0.0.0.0 cn1Label=Connection_Status cn1=0 fileHas
h=c0869b72C5606D22D92A6AC986686BB87485A25b fname=P2P_TEST.ex
e cs3Label=Command cs3=C:\\P2P_TEST.exe duser=QA cs4Label=Ru
le cs4=Test cs5Label=Policy cs5=TestPolicy act=Blocked devic
eFacility=Trend Micro Endpoint Application Control deviceNtD
omain=APEXTMCM dntdom=OSCEDomain1 ApexCentralHost=TW-CHRIS-
W2019 devicePayloadId=1C00290C0360-9CDE11EB-D4B8-F51F-C697
TMCMdevicePlatform=Windows 7 6.1 (Build 7601) Service Pack
1
```

# CEF Engine Update Status Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Product vendor | Trend Micro |
| Header (pname) | Product name | Apex Central |
| Header (pver) | Product version | 2019 |
| Header (eventid) | Event ID | 800102 |
| Header (eventName) | Log name | Engine Update Status |
| Header (severity) | Severity | 3 |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| shost | Product Entity/Endpoint | Example: “shost1” |
| cs2Label | Corresponding label for the “cs2” field | “Product/Endpoint IP” |
| cs2 | Product/Endpoint IP | Example: “10.0.17.6” |
| cn1Label | Corresponding label for the “cn1” field | “Connection Status” |
| cn1 | Connection status | Example: “100”<br>• 0: Unable to connect<br>• 1: Active<br>• 2: Inactive<br>• 100: Product active<br>• 101: Product inactive but agent is active<br>• 102: Roaming |
| cn2Label | Corresponding label for the “cn2” field | “Engine” |

| CEF Key | Description | Value |
|---|---|---|
| cn2 | Engine | Example: “4096” |
| cn5Label | Corresponding label for the “cn5” field | “Engine Version” |
| cs5 | Engine version | Example: “9.950.1006” |
| cn3Level | Corresponding label for the “cn3” field | “Engine Status” |
| cn3 | Engine status | Example: “1”<br>• 1: Up-to-date<br>• 2: Out-of-date |
| cs6Label | Corresponding label for the “cs6” field | “AUComponent_Type” |
| cs6 | ActiveUpdate component type | Example: “1”<br>• 1: Engine |
| deviceFacility | Managed product name | Example: “Apex One” |
| msg | Engine type display name | Example: "Virus Scan Engine DLL (Windows 2000/NT, 32-bit)" |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|800102|Engine Update S
tatus|3|rt=Apr 20 2017 12:04:34 GMT+00:00 shost=shost1 cs2La
bel=Product/Endpoint_IP cs2=10.0.17.6 cn1Label=Connection_St
atus cn1=100 cn2Label=Engine cn2=4096 cs5Label=Engine_Versio
```

```
n cs5=9.950.1006 cn3Label=Engine_Status cn3=1 cs6Label=AUCom
ponent_Type cs6=1 deviceFacility=Apex One deviceNtDomain=APE
XTMCM dntdom=OSCEDomain1
```

## CEF Intrusion Prevention Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Product vendor | Trend Micro |
| Header (pname) | Product name | Apex Central |
| Header (pver) | Product version | 2019 |
| Header (eventid) | Event ID | Log |
| Header (eventName) | Log name | Intrusion Prevention |
| Header (severity) | Severity | 3 |
| dvchost | Display name of the managed endpoint | Example: “localhost” |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| src | Source IPv4 address | Example: "10.1.152.12" |
| c6a2Label | Corresponding label for the "c6a2" field | SLF_SourceIPv6 |
| c6a2 | Source IPv6 address | "2001:b011:1004:325b:8db7:6ca9:8fc5:321a" |
| smac | Source MAC address | Example: "18:31:BF:4F:30:DD" |
| spt | Source port | Example: "60886" |
| dst | Destination IPv4 address | Example: "10.1.153.151" |
| c6a3Label | Corresponding label for the "c6a3" field | SLF_DestinationIPv6 |

| CEF Key | Description | Value |
|---|---|---|
| c6a3 | Destination IPv6 address | Example: "2001:b011:1004:325b:8db7:6ca9:8fc5:654a" |
| dmac | Destination host MAC address | Example: "D0:17:C2:95:ED:71" |
| dpt | Destination port | Example: "139" |
| cn2Label | Corresponding label for the "cn2" field | Mode |
| cn2 | Indicates whether the system is in "detection only" mode | Example: "0"<br>• 0 or NULL = No<br>• 1 = Yes |
| act | Action | Example: "LOG"<br>SLF_ACTION maps:<br>• 0 = UNKNOWN<br>• 3 = DELETE<br>• 6 = LOG<br>• 10 = INSERT/REPLACE<br>• 13 = BLOCK<br>• 257 = RESET |
| deviceDirection | Incoming or outgoing direction | Example: "Apex One" |
| cn3Label | Corresponding label for the "cn3" field | Priority |
| cn3 | Weighted priority of the incident | Example: "3"<br>Calculated from Severity x Asset Value |
| cn4Label | Corresponding label for the "cn4" field | Severity |

| CEF Key | Description | Value |
|---|---|---|
| cn4 | The system defined incident severity value | Example: "1"<br>• 1 = LOW<br>• 2 = MEDIUM<br>• 3 = HIGH<br>• 4 = CRITICAL |
| proto | The network protocol being exploited | Example: "10009"<br>• 28 = ICMP<br>• 46 = ICMPv6<br>• 10003 = TCP<br>• 10004 = UDP<br>• 10005 = IGMP<br>• 10006 = GGP<br>• 10007 = PUP<br>• 10008 = IDP<br>• 10009 = ND<br>• 10010 = RAW |
| cs2Label | Corresponding label for the "cs2" field | Application_Type |
| cs2 | The network application name | Example: "DCERPC Services" |
| cn1Label | Corresponding label for the "cn1" field | Rule |
| cn1 | The ID of the inspection rule | Example: "1005448" |
| cs1Label | Corresponding label for the "cs1" field | Reason/Rule |
| cs1 | The string literal of the rule ID and description | Example: "1005448 - SMB Null Session Detected - 1" |
| cnt | Aggregated count | Example: "1" |

| CEF Key | Description | Value |
|---|---|---|
| deviceFacility | Product | Example: "Apex One" |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| TMCMLogDetectedHost | Endpoint name where the log event occurred | Example: MachineHostName |
| TMCMLogDetectedIP | IP address where the log event occurred | Example: 10.1.2.3 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|Log|Intrusion Prevention|3|
rt=Apr 20 2020 03:33:20 GMT+00:00 dvchost=OSCEClient23 device
Facility=Apex One act=Log,src=10.1.1.9 dst=80.1.1.9 smac=54-B
F-64-84-7F-09 spt=89 dmac=54-BF-64-84-7F-19 dpt=449 cn2Label=
Mode cn2=0 deviceDirection=Inbound cn3Label=Priority cn3=1 cn
4Label=Severity cn4=1 proto=10009 cs2Label=Application_Type c
s2=N/A cn1Label=Rule cn1=1009549 cs1Label=Reason/Rule cs1=100
9549 - Detected Terminal Services (RDP) Server Traffic - 1 (A
TT&CK T1015,T1043,T1076,T1048,T1032,T1071) cnt=1 deviceNtDoma
in=APEXTMCM dntdom=OSCEDomain1 deviceFacility=Apex One TMCMLo
gDetectedHost=shost1 TMCMLogDetectedIP=10.1.1.9 devicePayload
Id=1C00290C0360-9CDE11EB-D4B8-F51F-C697 TMCMdevicePlatform=W
indows 7 6.1 (Build 7601) Service Pack 1
```

# CEF Network Content Inspection Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Appliance vendor | Trend Micro |
| Header (pname) | Appliance product | Apex Central |
| Header (pver) | Appliance version | 2019 |
| Header (eventid) | NCIE:Action | NCIE:Pass |
| Header (eventName) | Name | Suspicious Connection |
| Header (severity) | Severity | 3 |
| deviceExternalId | ID | Example: “1” |
| cat | Log type | Example: “1756” |
| deviceFacility | Product | Example: “Apex One” |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| deviceProcessName | Process | Example: “C:\\Windows\\system32\\svchost-1.exe” |
| src | Local IPv4 address | Example: “10.201.86.152” |
| c6a2Label | Corresponding label for the “c6a2” field | Example: “SLF_SourceIP” |
| c6a2 | Local IPv6 address | Example: “2620:101:4003:7a0:fd4b:52ed:53bd:ae3d” |
| spt | Local IP address port | Example: “54594” |
| dst | Remote IPv4 address | Example: “10.69.81.64” |
| c6a3Label | Corresponding label for the “c6a3” field | Example: “SLF_DestinationIP” |

| CEF Key | Description | Value |
|---|---|---|
| c6a3 | Remote IPv6 address | Example: “fe80::38ca:cd15:443c:40bb%11” |
| dpt | Remote IP address port | Example: “80” |
| act | Action | Example: “Pass”<br>• 0: Unknown<br>• 1: Pass<br>• 2: Block<br>• 3: Monitor<br>• 4: Delete<br>• 5: Quarantine<br>• 6: Warn<br>• 7: Warn and continue<br>• 8: Override |
| deviceDirection | Traffic direction | Example: “Inbound”<br>• 0: None<br>• 1: Inbound<br>• 2: Outbound |
| cn1Label | Corresponding label for the “cn1” field | Example: “SLF_PatternType” |
| cn1 | Pattern type | Example: “2”<br>• 0: Global C&C pattern<br>• 1: Relevance rules<br>• 2: User-defined block list |
| cs2Label | Corresponding label for the “cs2” field | Example: “NCIE_ThreatName” |

| CEF Key | Description | Value |
|---|---|---|
| cs2 | Threat name | Example: “Malicious_identified_CnC_querying_on_UDP_detected” |
| reason | Critical threat type | Example: “E”<br>• A: Known Advanced Persistent Threat (APT)<br>• B: Social engineering attack<br>• C: Vulnerability attack<br>• D: Lateral movement<br>• E: Unknown threats<br>• F: C&C callback<br>• G: Ransomware |
| dvchost | Host name | Example: "localhost" |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| TMCMLogDetectedHost | Endpoint name where the log event occurred | Example: MachineHostName |
| TMCMLogDetectedIP | IP address where the log event occurred | Example: 10.1.2.3 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|NCIE:Pass|Suspicious
Connection|3|deviceExternalId=1 rt=Oct 11 2017 06:34:06 GMT+0
```

```
0:00 cat=1756 deviceFacility=Apex One deviceProcessName=C:\\W
indows\\system32\\svchost-1.exe act=Pass src=10.201.86.152 ds
t=10.69.81.64 spt=54594 dpt=80 deviceDirection=None cn1Label=
SLF_PatternType cn1=2 cs2Label=NCIE_ThreatName cs2=Malicious_
identified_CnC_querying_on_UDP_detected reason=F deviceNtDoma
in=APEXTMCM dntdom=OSCEDomain1 dvchost=shost1 TMCMLogDetected
Host=shost1 TMCMLogDetectedIP=10.1.2.3ApexCentralHost=TW-CHRI
S-W2019 devicePayloadId=1C00290C0360-9CDE11EB-D4B8-F51F-C697
TMCMdevicePlatform=Windows 7 6.1 (Build 7601) Service Pack 1
```

## CEF Pattern Update Status Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Product vendor | Trend Micro |
| Header (pname) | Product name | Apex Central |
| Header (pver) | Product version | 2019 |
| Header (eventid) | Event ID | 800101 |
| Header (eventName) | Log name | Pattern Update Status |
| Header (severity) | Severity | 3 |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| shost | Product Entity/Endpoint | Example: “shost1” |
| cs1Label | Corresponding label for the “cs1” field | “Operating System” |
| cs1 | Operating system | Example: “Windows 7” |
| cs2Label | Corresponding label for the “cs2” field | “Product/Endpoint IP” |
| cs2 | Product/Endpoint IP | Example: “10.0.7.20” |

| CEF Key | Description | Value |
|---|---|---|
| cs3Label | Corresponding label for the “cs3” field | “Update Agent” |
| cs3 | Update Agent | Example: “0” |
| cs4Label | Corresponding label for the “cs4” field | “Domain” |
| cs4 | Domain | Example: “Default” |
| cn1Label | Corresponding label for the “cn1” field | “Connection Status” |
| cn1 | Connection status | Example: “100”<br>• 0: Unable to connect<br>• 1: Active<br>• 2: Inactive<br>• 100: Product active<br>• 101: Product inactive but agent is active<br>• 102: Roaming |
| cn2Label | Corresponding label for the “cn2” field | “Pattern/Rule” |
| cn2 | Pattern/Rule | Example: “2048” |
| cs5Label | Corresponding label for the “cs5” field | “Pattern/Rule Version” |
| cs5 | Pattern/Rule version | Example: “1548” |
| cn3Label | Corresponding label for the “cn3” field | “Pattern/Rule Status” |

| CEF Key | Description | Value |
|---|---|---|
| cn3 | Pattern/Rule status | Example: “1”<br>• 1: Up-to-date<br>• 2: 1 version old<br>• 3: 2 versions old<br>• 4: 3 versions old<br>• 5: 4 versions old<br>• 6: 5 versions old<br>• 7: 6 or more versions old |
| cs6Label | Corresponding label for the “cs6” field | “AUComponent_Type” |
| cs6 | ActiveUpdate component type | Example: “2”<br>• 2: Pattern |
| deviceFacility | Managed product name | Example: “Apex One” |
| msg | Pattern type display name | Example: "Virus Pattern" |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|800101|Pattern Update
Status|3|rt=Nov 02 2017 12:46:44 GMT+00:00 shost=shost1 cs1L
abel=Operating_System cs1=Windows 7  cs2Label=Product/Endpoi
nt_IP cs2=10.0.7.20 cs3Label=Update_Agent cs3=0 cs4Label=Dom
ain cs4=Default cn1Label=Connection_Status cn1=100 cn2Label=
Pattern/Rule cn2=2048 cs5Label=Pattern/Rule_Version cs5=1548
```

```
 cn3Label=Pattern/Rule_Status cn3=1 cs6Label=AUComponent_Typ
e cs6=2 deviceFacility=Apex One deviceNtDomain=APEXTMCM dntd
om=OSCEDomain1
```

## CEF Predictive Machine Learning Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Product vendor | Trend Micro |
| Header (pname) | Product name | Apex Central |
| Header (pver) | Product version | 2019 |
| Header (eventid) | PML:Action result | PML:File cleaned |
| Header (eventName) | Detection name | virusa |
| Header (severity) | Severity | 3 |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| dvchost | Product server | Example: “Sample_Host” |
| cn1Label | Corresponding label for the “cn1” field | “ThreatType” |
| cn1 | Probable threat type | Example: “35143”<br>For more information, see *Threat Type Mapping Table on page E-62*. |
| cs2Label | Corresponding label for the “cs2” field | “DetectionName” |
| cs2 | Security threat | Example: “Troj.Win32.TRX.XXPE002FF017” |
| shost | Infected endpoint | Example: “10.0.0.1” |

| CEF Key | Description | Value |
|---|---|---|
| suser | Logon user | Example: “TREND\\User” |
| cn2Label | Corresponding label for the “cn2” field | “DetectionType” |
| cn2 | Detection type | Example: “0”<br>• 0: File<br>• 1: Process |
| filePath | File path | Example: "D:\\" |
| fname | File name | Example: "ALCORMP.EXE" |
| deviceCustomDate1 | File creation time | Example: “2017-04-26 05:53:27.000” |
| sproc | System process | Example: “notepad.exe” |
| cn4Label | Corresponding label for the “cn4” field | “ProcessCommandLine” |
| cs4 | Process command | Example: “notepad.exe” |
| duser | Process owner | Example: “user1” |
| app | Infection channel | Example: “10”<br>• 0: Unknown<br>• 1: Local drive<br>• 2: Network drive<br>• 3: AutoRun files<br>• 10: Web<br>• 11: Email<br>• 999: Local or network drive |
| cs3Label | Corresponding label for the “cs3” field | “InfectionLocation” |
| cs3 | Infection source | Example: “http://10.0.0.1/” |

| CEF Key | Description | Value |
|---|---|---|
| dst | Product/Endpoint IPv4 Address | Example: “10.0.17.6” |
| c6a3Label | Corresponding label for the “c6a3” field | “Product/Endpoint IP” |
| c6a3 | Product/Endpoint IPv6 Address | Example: “fd66:5168:9882:6:b5b0:b2b5:4173:3f5d” |
| cn3Label | Corresponding label for the “cn3” field | “Confidence” |
| cn3 | Threat probability | Example: “82” |
| act | Action result | Example: “21”<br>For more information, see *Action Mapping Table on page E-72*. |
| filehash | File SHA-1 | Example: “52c17c785b45ee961f68fb17744276076f383085” |
| dhost | Product entity/endpoint | Example: “dhost1” |
| deviceExternalId | Log sequence number | Example: “100” |
| deviceFacility | Product | Example: “Apex One” |
| reason | Critical threat type | Example: “E”<br>• A: Known Advanced Persistent Threat (APT)<br>• B: Social engineering attack<br>• C: Vulnerability attack<br>• D: Lateral movement<br>• E: Unknown threats<br>• F: C&C callback<br>• G: Ransomware |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |

| CEF Key | Description | Value |
|---|---|---|
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| TMCMLogDetectedHost | Endpoint name where the log event occurred | Example: MachineHostName |
| TMCMLogDetectedIP | IP address where the log event occurred | Example: 10.1.2.3 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|PML:File cleaned|Detecti
on01|3|deviceExternalId=1 rt=Dec 01 2018 16:01:00 GMT+00:00
deviceFacility=15 dvchost=OSCE01 cn1Label=ThreatType cn1=1 c
s2Label=DetectionName cs2=Detection01 shost=10.0.0.1 suser=S
ample_Domain\\Sample_User cn2Label=DetectionType cn2=0 fileP
ath=C:\\test01\\aaa.exe fname=aaa.exe deviceCustomDate1Label
=FileCreationDate deviceCustomDate1=Dec 02 2018 00:01:00 GMT
+00:00 sproc=notepad.exe cs4Label=ProcessCommandLine cs4=not
epad.exe -test duser=admin01 app=1 cs3Label=InfectionLocatio
n cs3=https://10.1.1.1 dst=80.1.1.1 cn3Label=Confidence cn3=
81 act=21 fileHash=177750B65A21A9043105FD0820B85B58CF148A01
dhost=OSCEClient11 reason=E deviceNtDomain=APEXTMCM dntdom=O
SCEDomain1 TMCMLogDetectedHost=OSCEClient11 TMCMLogDetectedI
P=80.1.1.1 ApexCentralHost=TW-CHRIS-W2019 devicePayloadId=1C
00290C0360-9CDE11EB-D4B8-F51F-C697 TMCMdevicePlatform=Windo
ws 7 6.1 (Build 7601) Service Pack 1
```

## Threat Type Mapping Table

| Value | Description |
|---|---|
| 35140 | Adware |
| 35141 | Backdoor |
| 35142 | Browser modifier |
| 35143 | DDoS |
| 35144 | Dialer |
| 35145 | Exploit |
| 35146 | Hacking tool |
| 35147 | Joke program |
| 35148 | PUA |
| 35149 | Ransomware |
| 35150 | Rootkit |
| 35151 | Spyware |
| 35152 | Trojan |
| 35153 | Trojan clicker |
| 35154 | Trojan downloader |
| 35155 | Trojan dropper |
| 35156 | Trojan proxy |
| 35157 | Trojan spyware |
| 35158 | File infector |
| 35159 | Worm |
| 35160 | Boot |

# CEF Product Auditing Events

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Product vendor | Trend Micro |
| Header (pname) | Product name | Apex Central |
| Header (pver) | Product version | 2019 |
| Header (eventid) | Event ID | 1745 |
| Header (eventName) | Log name | Product Auditing Events |
| Header (severity) | Severity | 3 |
| cat | Log type | 1745 |
| deviceFacility | Managed product | Example: “Apex One” |
| dvchost | Display name of the managed endpoint | Example: “localhost” |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| cn1Label | Corresponding label for the “cn1” field | SLF_CategoryID |
| cn1 | Category ID | Example: “536,870,912” |
| cn2Label | Corresponding label for the "cn2" field | SLF_SeverityLevel |
| cn2 | Severity level | Example: “4”<br>• 1 = ERROR<br>• 2 = WARNING<br>• 4 = INFORMATION<br>• 16 = FAILURE AUDIT |

| CEF Key | Description | Value |
|---|---|---|
| suser | The name of the user on whose behalf the event occurred | Example: "administrator" |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|Delete|1009490 - Block A
dministrative Share - 1 (ATT&CK T1077,T1105)|3|rt=Apr 20 202
0 03:33:15 GMT+00:00 dvchost=OSCEClient22 deviceFacility=Ape
x One act=Delete, src=10.1.1.8 dst=80.1.1.8 smac=54-BF-64-84
-7F-08 spt=88 dmac=54-BF-64-84-7F-18 dpt=448 cn2Label=SLF_Is
DetectionOnly cn2=1 deviceDirection=Outbound cn3Label=SLF_Ra
nk cn3=100 cn4Label=SLF_SeverityCode cn4=4 proto=10008 cs2La
bel=SLF_ConnectionType cs2=Suspicious Client Application Act
ivity cn1Label=SLF_RuleID cn1=1009490 cs1Label=SLF_RuleConte
nt cs1=1009490 - Block Administrative Share - 1 (ATT&CK T107
7,T1105) cnt=1 deviceNtDomain=APEXTMCM dntdom=OSCEDomain1
```

## CEF Sandbox Detection Logs

**Note**

Sandbox Detection logs are called Virtual Analyzer Detections on the Apex Central console.

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Appliance vendor | Trend Micro |
| Header (pname) | Appliance product | Apex Central |
| Header (pver) | Appliance version | 2019 |
| Header (eventid) | Device event class ID | VAD |
| Header (eventName) | Event name | Virtual Analyzer detection name |
| Header (severity) | Severity | 3 |
| deviceExternalId | ID | Example: “2” |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| deviceFacility | Product | Example: “Apex One” |
| dvchost | Server name | Example: “OSCE01” |
| dhost | Endpoint name | Example: “Isolate-ClientA” |
| dst | Endpoint IPv4 address | Example: “10.0.17.6” |
| c6a3 | Endpoint IPv6 address | Example: “fe80::38ca:cd15:443c:40bb%11” |
| app | Entry channel | Example: “0”<br>For more information, see *Protocol Mapping Table on page E-92* |
| sourceServiceName | Source | Example: “Test1@tmcm.extbeta.com” |
| destinationServiceName | Destination | Example: “Test2@tmcm.extbeta.com;Test3@tmcm.extbeta.com” |
| sproc | Process name | Example: “VA” |

| CEF Key | Description | Value |
|---|---|---|
| fileHash | File SHA-1 hash | Example: “D6712CAE5EC821F910E14945153AE7871AA536CA” |
| fname | File name | Example: “C:\\\\QA_Log.zip” |
| request | URL | Example: “http://127.1.1.1” |
| cs1 | The name of the security threat determined by Virtual Analyzer | Example: “VAN_RANSOMWARE.umxxhellorransom_abc” |
| cn1 | Displays the risk level assigned by Virtual Analyzer | Example: “0”<br>• 0: No risk<br>• 1: Low risk<br>• 2: Medium risk<br>• 3: High risk<br>• 9999: Unknown |
| cs2 | Displays the security threat type | Example: “Anti-security, self-preservation” |

| CEF Key | Description | Value |
|---|---|---|
| cs3 | Cloud storage vendor | Example: “Google Drive”<br>• Dropbox<br>• Box<br>• Google Drive<br>• Microsoft OneDrive<br>• SugarSync<br>• Hightail<br>• Evernote<br>• Microsoft Exchange Online<br>• Microsoft SharePoint Online<br>• Unknown<br>• N/A |
| reason | Critical threat type | Example: “E”<br>• A: Known Advanced Persistent Threat (APT)<br>• B: Social engineering attack<br>• C: Vulnerability attack<br>• D: Lateral movement<br>• E: Unknown threats<br>• F: C&C callback<br>• G: Ransomware |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| TMCMLogDetectedHost | Endpoint name where the log event occurred | Example: MachineHostName |
| TMCMLogDetectedIP | IP address where the log event occurred | Example: 10.1.2.3 |

| CEF Key | Description | Value |
|---|---|---|
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF: 0|Trend Micro|Apex Central|2019|VAD|VAN_RANSOMWARE.um
xxhelloransom_abc|3|deviceExternalId=2 rt=Mar 22 2018 08:23:
23 GMT+00:00 deviceFacility=Apex One dvchost=OSCE01 dhost=
Isolate-ClientA dst=0.0.0.0 app=1 sourceServiceNameTest1@tre
nd.com.tw destinationServiceName=Test2@tmcm.extbeta.com;Test
3@tmcm.extbeta.com sproc=VA fileHash=3395856CE81F2B7382DEE72
602F798B642F14140 fname=C:\\\\QA_Log.zip request=http://127.
1.1.1 cs1Label=Security_Threat cs1=VAN_RANSOMWARE.umxxhellor
ansom_abc cn1Label=Risk_Level cn1=0 cs2Label=Threat_Categori
es cs2=Anti-security, self-preservation cs3Label=Cloud_Servi
ce_Vendor cs3=Google Drive reason=E deviceNtDomain=APEXTMCM
dntdom=OSCEDomain1 TMCMLogDetectedHost=OSCEClient TMCMLogDe
tectedIP=0.0.0.0 ApexCentralHost=TW-CHRIS-W2019 devicePaylo
adId=1C00290C0360-9CDE11EB-D4B8-F51F-C697 TMCMdevicePlatfor
m=Windows 7 6.1 (Build 7601) Service Pack 1
```

## CEF Spyware/Grayware Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Appliance vendor | Trend Micro |
| Header (pname) | Appliance product | Apex Central |

| CEF Key | Description | Value |
|---|---|---|
| Header (pver) | Appliance version | 2019 |
| Header (eventid) | Device event class ID | Spyware Detected |
| Header (eventName) | Event name | Spyware Detected |
| Header (severity) | Severity | 3 |
| cnt | Number of detections | Example: “10” |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| cn1Label | Corresponding label for the “cn1” field | Example: “Pattern Type” |
| cn1 | Pattern type | Example: “1073741840” |
| cs1Label | Corresponding label for the “cs1” field | Example: “VirusName” |
| cs1 | Spyware/Grayware | Example: “ADW_OPENCANDY” |
| cs2Label | Corresponding label for the “cs2” field | Example: “EngineVersion” |
| cs2 | Engine version | Example: “6.2.3027” |
| cs5Label | Corresponding label for the “cs5” field | Example: “ActionResult” |
| cs5 | Action | Example: “Reboot system successfully”<br>For more information, see *Action Mapping Table on page E-72*. |
| cs6Label | Corresponding label for the “cs6” field | Example: “PatternVersion” |
| cs6 | Pattern version | Example: “1297” |
| cat | Log type | Example: “1727” |

| CEF Key | Description | Value |
|---|---|---|
| dvchost | Endpoint host name | Example: “ApexOneClient01” |
| deviceExternalId | ID | Example: “3” |
| fname | Resource | Example: “F:\\Malware\\psas\\rsrc2.bin” |
| filePath | Resource | Example: “F:\\Malware\\psas\\rsrc2.bin” |
| dhost | Endpoint host name | Example: “ApexOneClient01” |
| dst | Endpoint IPv4 address | Examle: “50.8.1.1” |
| c6a3Label | Corresponding label for the “c6a3” field | Example: “SLP_DestinationIP” |
| c6a3 | Endpoint IPv6 address | Example: “fe80::38ca:cd15:443c:40bb%11” |
| fileHash | File SHA-1 | Example: “D6712CAE5EC821F910E14945153AE7871AA536CA” |
| deviceFacility | Product | Example: “Apex One” |
| duser | User name | Example: “Admin004” |
| cn2Label | Corresponding label for the “cn2” field | Example: “Scan_Type” |
| cn2 | Scan type | Example: “Scan Now”<br>For more information, see *Spyware/Grayware Scan Type Mapping Table on page E-74*. |
| cn3Label | Corresponding label for the “cn3” field | Example: “Security_Threat_Type” |

| CEF Key | Description | Value |
|---|---|---|
| cn3 | Security threat type | Example: “Adware”<br>For more information, see *Spyware/Grayware Risk Type Mapping Table on page E-75*. |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| TMCMLogDetectedHost | Endpoint name where the log event occurred | Example: MachineHostName |
| TMCMLogDetectedIP | IP address where the log event occurred | Example: 10.1.2.3 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|Spyware Detected|Spywa
re Detected|3|deviceExternalId=3 rt=Oct 06 2017 08:39:46 GMT
+00:00 cnt=1 dhost=ApexOneClient01 cn1Label=PatternType cn1=
1073741840 cs1Label=VirusName cs1=ADW_OPENCANDY cs2Label=Eng
ineVersion cs2=6.2.3027 cs5Label=ActionResult cs5=Reboot sys
tem successfully cs6Label=PatternVersion cs6=1297 cat=1727 d
vchost=ApexOneClient01 fname=F:\\Malware\\psas\\rsrc2.bin fi
lePath=F:\\Malware\\psas\\rsrc2.bin dst=50.8.1.1 deviceFacil
ity=Apex One deviceNtDomain=APEXTMCM dntdom=OSCEDomain1 TMCM
LogDetectedHost=ApexOneClient01 TMCMLogDetectedIP=50.8.1.1
ApexCentralHost=TW-CHRIS-W2019 devicePayloadId=1C00290C0360-
```

```
9CDE11EB-D4B8-F51F-C697 TMCMdevicePlatform=Windows 7 6.1 (Bu
ild 7601) Service Pack 1
```

## Action Mapping Table

| Value | Description |
|---|---|
| 0 | Unknown |
| 1 | N/A |
| 21 | File cleaned |
| 22 | File deleted |
| 23 | File quarantined |
| 24 | File renamed |
| 25 | File passed |
| 26 | Unable to clean file. Passed |
| 27 | Unable to clean file. File deleted |
| 28 | Unable to clean file. File renamed |
| 29 | Unable to clean file. File quarantined |
| 31 | Unable to clean file. File deleted |
| 32 | File replaced |
| 34 | File archived |
| 35 | Blocked successfully |
| 36 | Quarantined successfully |
| 37 | Added additional information to email message body successfully |
| 38 | File uploaded |
| 39 | Unable to clean file. File quarantined |

| Value | Description |
|---|---|
| 40 | Unable to clean file. Passed |
| 41 | Access denied |
| 42 | No action |
| 43 | System rebooted |
| 44 | Spyware/Grayware unsafe to clean |
| 45 | Scan manually stopped successfully |
| 46 | Email message redirected for approval successfully |
| 81 | Encrypted |
| 121 | Unable to clean file |
| 122 | Unable to delete file |
| 123 | Unable to quarantine file |
| 124 | Unable to rename file |
| 125 | Unable to pass file |
| 126 | Unable to clean or pass file |
| 127 | Unable to clean or delete file |
| 128 | Unable to clean or rename file |
| 129 | Unable to clean or quarantine file |
| 130 | Unable to delete attachment |
| 131 | Unable to clean or delete attachment |
| 132 | One of the following:<br>• Unable to replace file content<br>• Attachment name matched a content rule and the name changed |
| 134 | Unable to archive file |

| Value | Description |
|---|---|
| 135 | Unable to block file |
| 136 | Unable to quarantine file |
| 137 | Unable to add additional information to email message body |
| 138 | Unable to upload file |
| 139 | Unable to clean or quarantine file |
| 140 | Unable to clean or pass file |
| 141 | Unable to deny access |
| 142 | Unable to perform no action |
| 143 | Action required - Restart the endpoint to finish cleaning the security threat |
| 144 | Undefined |
| 145 | Unable to stop scan manually |
| 146 | Unable to redirect mail for approval |
| 201 | Action required - Perform a full system scan |
| 202 | Action required - Use the "Rescue Disk" tool in the OfficeScan |
| 203 | Action required - Use the "Rootkit Buster" tool in the OfficeScan ToolBox to remove this threat. If the problem persists, contact Support |
| 204 | Action required - Use the "Clean Boot" tool in the OfficeScan ToolBox to remove this threat. If the problem persists, contact Support |

## Spyware/Grayware Scan Type Mapping Table

| Value | Description |
|---|---|
| 0 | Unknown |
| 1 | N/A |

| Value | Description |
|---|---|
| 11 | Real-time Scan |
| 12 | Manual Scan |
| 13 | Scheduled Scan |
| 14 | Real-time Mail Scan |
| 15 | Real-time Database Scan |
| 16 | Scan Now |
| 17 | Card Scan |
| 18 | Damage Cleanup Services |
| 19 | Storage Scan |

## Spyware/Grayware Risk Type Mapping Table

| Value | Description |
|---|---|
| 0 | Unknown |
| 1 | Trackware |
| 2 | Adware |
| 3 | Cookie |
| 4 | Dialer |
| 5 | Security low |
| 6 | General |
| 7 | Key logger |
| 8 | Trojan |
| 9 | Suspect |
| 10 | Hijack |

| Value | Description |
|---|---|
| 11 | Parasite |
| 12 | Browser Helper Object (BHO) |
| 13 | LSP |
| 15 | URL shortcut |
| 16 | Peer-to-Peer application |
| 17 | Worm |
| 19 | Downloader |
| 20 | Virus |
| 21 | Eulaware |
| 22 | Variant |
| 23 | Security medium |
| 24 | Security high |
| 25 | Vulnerability Assessment |

# CEF Suspicious File Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Appliance vendor | Trend Micro |
| Header (pname) | Appliance product | Apex Central |
| Header (pver) | Appliance version | 2019 |
| Header (eventid) | FH:Action | FH:Log |
| Header (eventName) | Name | Suspicious Files |
| Header (severity) | Severity | 3 |

| CEF Key | Description | Value |
|---|---|---|
| deviceExternalId | ID | Example: “1” |
| cat | Log type | Example: “1766” |
| deviceFacility | Product | Example: “Apex One” |
| cn1Label | Corresponding label for the “cn1” field | Example: “SLF_ProductVersion” |
| cn1 | Product version | Example: “11” |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| dst | Endpoint IPv4 address | Example: “10.201.86.151” |
| c6a3Label | Corresponding label for the “c6a3” field | Example: “Endpoint IPv6 Address” |
| c6a3 | Endpoint IPv6 address | Example: “2620:101:4003:7a0:fd4b:52ed:53bd:ae3d” |
| dhost | Endpoint host name | Example: “APEX-ONE-CLIENT-1” |
| cs2Label | Corresponding label for the “cs2” field | Example: “SLF_TrueFileType” |
| cs2 | File type | Example: “TEXT” |
| fileHash | File SHA-1 | Example: “D6712CAE5EC821F910E14945153AE7871AA536CA” |
| cs3Label | Corresponding label for the “cs3” field | Example: “SLF_FileSource” |
| cs3 | File path | Example: “C:\\Users\\Administrator\\Desktop\\BT-SHA1-SAMPLE\\BT-SHA1-SAMPLE\\017545113A434757C5F0F13095DBBF138BD76A40;0x36D572AE” |

| CEF Key | Description | Value |
|---|---|---|
| cn2Label | Corresponding label for the “cn2” field | Example: “SLF_SourceType” |
| cn2 | C&C list source | Example: “0”<br>• 0: Sandbox<br>• 1: User-defined |
| act | Action | Example: “Log”<br>• 1: Log<br>• 2: Block<br>• 3: Quarantine |
| cn3Label | Corresponding label for the “cn3” field | Example: “SLF_ScanType” |
| cn3 | Scan type | Example: “1”<br>• 1: Scheduled scan<br>• 2: Manual scan<br>• 3: Scan now<br>• 4: Real-time scan |
| reason | Critical threat type | Example: “E”<br>• A: Known Advanced Persistent Threat (APT)<br>• B: Social engineering attack<br>• C: Vulnerability attack<br>• D: Lateral movement<br>• E: Unknown threats<br>• F: C&C callback<br>• G: Ransomware |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |

| CEF Key | Description | Value |
|---|---|---|
| TMCMLogDetectedHost | Endpoint name where the log event occurred | Example: MachineHostName |
| TMCMLogDetectedIP | IP address where the log event occurred | Example: 10.1.2.3 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|FH:Log|Suspicious File
s|3|deviceExternalId=1 rt=Nov 15 2016 02:47:21 GMT+00:00 cat
=1766 deviceFacility=Apex One cn1Label=SLF_ProductVersion cn
1=11 dst=10.201.86.151 dhost=APEX-ONE-CLIENT-1 cs2Label=SLF_
TrueFileType cs2=SLF_TrueFileType fileHash=D6712CAE5EC821F91
0E14945153AE7871AA536CA cs3Label=SLF_FileSource cs3=C:\\User
s\\Administrator\\Desktop\\BT-SHA1-SAMPLE\\BT-SHA1-SAMPLE\\0
17545113A434757C5F0F13095DBBF138BD76A40;0x36D572AE cn2Label=
SLF_SourceType cn2=0 act=Log cn3Label=SLF_ScanType cn3=1 rea
son=E deviceNtDomain=APEXTMCM dntdom=OSCEDomain1 TMCMLogDete
ctedHost=APEX-ONE-CLIENT-1 TMCMLogDetectedIP=10.201.86.151
ApexCentralHost=TW-CHRIS-W2019 devicePayloadId=1C00290C0360-
9CDE11EB-D4B8-F51F-C697 TMCMdevicePlatform=Windows 7 6.1 (Bu
ild 7601) Service Pack 1
```

# CEF Virus/Malware Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |
| Header (vendor) | Appliance vendor | Trend Micro |
| Header (pname) | Appliance product | Apex Central |
| Header (pver) | Appliance version | 2019 |
| Header (eventid) | AV:Action | AV:File renamed |
| Header (eventName) | Virus/Malware name | JS_EXPLOIT.SMDN |
| Header (severity) | Severity | 3 |
| cnt | Detections | Example: “10” |
| dhost | Endpoint | Example: “ApexOneClient01” |
| duser | User | Example: “Admin004” |
| act | Action | Example: “File renamed”<br>For more information, see *Action Mapping Table on page E-72*. |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| cn1Label | Corresponding label for the “cn1” field | Example: “VLF_PatternNumber” |
| cn1 | Pattern/Rule version | Example: “920500” |
| cn2Label | Corresponding label for the “cn2” field | Example: “VLF_SecondAction” |
| cn2 | Second action | Example: “3”<br>For more information, see *Second Action Mapping Table on page E-85*. |

| CEF Key | Description | Value |
|---|---|---|
| cs1Label | Corresponding label for the “cs1” field | Example: “VLF_FunctionCode” |
| cs1 | Scan type | Example: “Manual Scan”<br>• 0: Unknown<br>• 1: N/A<br>• 11: Real-time Scan<br>• 12: Manual Scan<br>• 13: Scheduled Scan<br>• 16: Scan Now<br>• 17: Card Scan<br>• 18: Damage Cleanup Services<br>• 19: Storage Scan |
| cs2Label | Corresponding label for the “cs2” field | Example: “VLF_EngineVersion” |
| cs2 | Engine version | Example: “9.500.1005” |
| cs3Label | Corresponding label for the “cs3” field | Example: “CLF_ProductVersion” |
| cs3 | Product version | Example: “11” |
| cs4Label | Corresponding label for the “cs4” field | Example: “CLF_ReasonCode” |
| cs4 | Reason code | Example: “virus log” |
| cs5Label | Corresponding label for the “cs5” field | Example: “VLF_FirstActionResult” |
| cs5 | First action result | Example: “Unable to clean file”<br>For more information, see *Action Mapping Table on page E-72*. |

| CEF Key | Description | Value |
|---|---|---|
| cs6Label | Corresponding label for the “cs6” field | Example: “Second Action Result” |
| cs6 | Second action result | Example: “Unable to clean file. Passed”<br>For more information, see *Action Mapping Table on page E-72*. |
| cat | Log type | Example: “1703” |
| dvchost | Product server name | Example: “ApexOneServer01” |
| cn3Label | Corresponding label for the “cn3” field | Example: “Overall_Risk_Rating” |
| cn3 | Severity code | Example: “0”<br>• 0: Low<br>• 1: Low<br>• 2: Medium<br>• 3: High |
| deviceExternalId | ID | Example: “3” |
| fname | File | Example: “FakeMalwareRebootDel.exe” |
| filePath | File path | Example: “C:\\Users\\ADMINI~1\\AppData\\Local\\Temp\\Rar $DR01.046\\” |
| msg | File in compressed file | Example: “BMAC Schedule of Events.xls” |

| CEF Key | Description | Value |
|---|---|---|
| shost | Source host, UNC, or email address<br><br>**Note**<br>The system may not include this key in logs. | Example: “xxx@test.com” |
| dst | Endpoint IPv4 address | Examle: “50.8.1.1” |
| c6a3Label | Corresponding label for the “c6a3” field | Example: “SLP_DestinationIP” |
| c6a3 | Endpoint IPv6 address | Example: “fe80::38ca:cd15:443c:40bb%11” |
| fileHash | File SHA-1 | Example: “D6712CAE5EC821F910E14945153AE7871AA536CA” |
| deviceFacility | Product | Example: “Apex One” |
| reason | Critical threat type | Example: “E”<br>• A: Known Advanced Persistent Threat (APT)<br>• B: Social engineering attack<br>• C: Vulnerability attack<br>• D: Lateral movement<br>• E: Unknown threats<br>• F: C&C callback<br>• G: Ransomware |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| TMCMLogDetectedHost | Endpoint name where the log event occurred | Example: MachineHostName |

| CEF Key | Description | Value |
|---|---|---|
| TMCMLogDetectedIP | IP address where the log event occurred | Example: 10.1.2.3 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|AV:File renamed|JS_EXP
LOIT.SMDN|3|deviceExternalId=104 rt=Feb 18 2016 14:34:00 G
MT+00:00 cnt=1 dhost=ApexOneClient01 duser=Admin004 act=Fi
le renamed cn1Label=VLF_PatternNumber cn1=920500 cn2Label=
VLF_SecondAction cn2=3 cs1Label=VLF_FunctionCode cs1=Manua
l Scan cs2Label=VLF_EngineVersion cs2=9.500.1005 cs3Label=
CLF_ProductVersion cs3=10.6 cs4Label=CLF_ReasonCode cs4=vi
rus log cs5Label=VLF_FirstActionResult cs5=File renamed cs
6Label=VLF_SecondActionResult cs6=N/A cat=1703 dvchost=Ape
xOneServer01 cn3Label=CLF_ServerityCode cn3=2 fname=0348C6
93056617D34FC5B5BAB4643885FEE5FEDF;0xD5D56AC2 filePath=C:\
\Users\\Administrator\\Desktop\\trend_test_virus\\Trojans\
\ msg=BMAC Schedule of Events.xls shost=xxx@test.com dst=1
0.201.129.24 devic eFacility=Apex One reason=B deviceNtDom
ain=APEXTMCM dntdom=O SCEDomain1 ApexCentralHost=TW-CHRIS-
W2019 devicePayloadId=1C00290C0360-9CDE11EB-D4B8-F51F-C697
TMCMdevicePlatform=Windows 7 6.1 (Build 7601) Service Pack
 1
```

## Second Action Mapping Table

| Value | Description |
|---|---|
| 0 | Unknown |
| 1 | N/A |
| 2 | Clean |
| 3 | Delete |
| 4 | Move |
| 5 | Rename |
| 6 | Pass/Log |
| 7 | Strip |
| 8 | Drop |
| 9 | Quarantine |
| 10 | Insert/Replace |
| 11 | Archive |
| 12 | Stamp |
| 13 | Block |
| 14 | Redirect mail for approval |
| 81 | Encrypted |
| 90 | Detect |
| 257 | Reset |

# CEF Web Security Logs

| CEF Key | Description | Value |
|---|---|---|
| Header (logVer) | CEF format version | CEF:0 |

| CEF Key | Description | Value |
|---|---|---|
| Header (vendor) | Appliance vendor | Trend Micro |
| Header (pname) | Appliance product | Apex Central |
| Header (pver) | Appliance version | 2019 |
| Header (eventid) | WB:Filter/Blocking Type | WB:1 |
| Header (eventName) | “Blocking Rule” or “Filter/ Blocking Type” | 5 |
| Header (severity) | Severity | 3 |
| app | Protocol | Example: “3”<br>For more information, see *Protocol Mapping Table on page E-92*. |
| cnt | Detections | Example: “10” |
| dpt | Server port | Example: “80” |
| act | Action | Example: “0”<br>• 0: Unknown<br>• 1: Pass<br>• 2: Block<br>• 3: Monitor<br>• 4: Delete<br>• 5: Quarantine<br>• 6: Warn<br>• 7: Warn and continue<br>• 8: Override |
| rt | Event trigger time in UTC | Example: “Mar 22 2018 08:23:23 GMT+00:00” |
| src | Endpoint IPv4 address | Example: “10.1.128.34” |

| CEF Key | Description | Value |
|---|---|---|
| c6a2Label | Corresponding label for the “c6a2” field | Example: “SLF_SourceIP” |
| c6a2 | Endpoint IPv6 address | Example: “2620:101:4003:7a0:fd4b:52ed:53bd:ae3d” |
| cs1Label | Corresponding label for the “cs1” field | Example: “SLF_PolicyName” |
| cs1 | Policy | Example: “External User Policy” |
| cs4Label | Corresponding label for the “cs4” field | Example: “CLF_ReasonCode” |
| cs4 | Reason Code | Example: “access” |
| cs5Label | Corresponding label for the “cs5” field | Example: “CLF_ReasonCodeSource” |
| cs5 | Reason code source | Example: “web” |
| deviceDirection | Traffic/Connection | Example: “2”<br>• 0: None<br>• 1: Inbound<br>• 2: Outbound |
| cat | Filter/Blocking Type | Example: “7”<br>For more information, see *Filter/Blocking Type Mapping Table on page E-90*. |
| dvchost | Endpoint host name | Example: “ApexOneClient08” |
| cn1Label | Corresponding label for the “cn1” field | Example: “CLF_SeverityCode” |

| CEF Key | Description | Value |
|---|---|---|
| cn1 | Severity code | Example: “0”<br>• 0: Unknown<br>• 1: Information<br>• 2: Warning<br>• 3: Error<br>• 4: Critical |
| deviceExternalId | ID | Example: “38” |
| fname | File | Example: “test.txt” |
| request | URL | Example: “http://www.violetsoft.net/counter/insert.php?dbserver\=db1&c_pcode\=25&c_pid\=funpop1&c_kind\=4&c_mac\=FE-ED-BE-EF-0C-E1” |
| deviceFacility | Product | Example: “Apex One” |
| duser | User name | Example: “Admin004” |
| shost | Client host name | Exmaple: “ABC-HOST-WKS12” |
| cs2Label | Corresponding label for the “cs2” field | Example: “Blocking_Rule” |
| cs2 | Blocking rule | Example: “content filter” |
| deviceProcessName | Process name | Example: “C:\\Windows\\system32\\svchost-1.exe” |
| cn3Label | Corresponding label for the “cn3” field | Example: “ReputationScore” |
| cn3 | Reputation score | Example: “49” |
| dst | Server IP address | Example: “10.69.81.64” |
| cn2Label | Corresponding label for the “cn2” field | Example: “SLF_SeverityLevel” |

| CEF Key | Description | Value |
|---|---|---|
| cn2 | Severity level | Example: “100”<br>• 100: High<br>• 300: Medium high<br>• 500: Medium<br>• 700: Medium low<br>• 900: Low |
| reason | Critical threat type | Example: “E”<br>• A: Known Advanced Persistent Threat (APT)<br>• B: Social engineering attack<br>• C: Vulnerability attack<br>• D: Lateral movement<br>• E: Unknown threats<br>• F: C&C callback<br>• G: Ransomware |
| deviceNtDomain | Active Directory domain | Example: APEXTMCM |
| dntdom | Apex One domain hierarchy | Example: OSCEDomain1 |
| TMCMLogDetectedHost | Endpoint name where the log event occurred | Example: MachineHostName |
| TMCMLogDetectedIP | IP address where the log event occurred | Example: 10.1.2.3 |
| ApexCentralHost | Apex Central host name | Example: TW-CHRIS-W2019 |
| devicePayloadId | Unique message GUID | Example: 1C00290C0360-9CDE11EB-D4B8-F51F-C697 |
| TMCMdevicePlatform | Endpoint operating system | Example: Windows 7 6.1 (Build 7601) Service Pack 1 |

Log sample:

```
CEF:0|Trend Micro|Apex Central|2019|WB:7|7|3|deviceExterna
lId=38 rt=Nov 15 2017 08:43:57 GMT+00:00 app=17 cntLabel=Agg
regatedCount cnt=1 dpt=80 act=1 src=10.1.128.46 cs1Label=SLF
_PolicyName cs1=External User Policy deviceDirection=2 cat=7
 dvchost=ApexOneClient08 fname=test.txt request=http://www.v
ioletsoft.net/counter/insert.php?dbserver\=db1&c_pcode\=25&c
_pid\=funpop1&c_kind\=4&c_mac\=FE-ED-BE-EF-0C-E1 deviceFacil
ity=Apex One shost=ABC-HOST-WKS12 reason=G deviceNtDomain=AP
EXTMCM dntdom=OSCEDomain1 TMCMLogDetectedHost=ABC-HOST-WKS12
TMCMLogDetectedIP=10.1.128.46 ApexCentralHost=TW-CHRIS-W2019
devicePayloadId=1C00290C0360-9CDE11EB-D4B8-F51F-C697 TMCMdev
icePlatform=Windows 7 6.1 (Build 7601) Service Pack 1
```

## Filter/Blocking Type Mapping Table

| Value | Description |
|---|---|
| 0 | Unknown |
| 1 | File name |
| 2 | Webmail site |
| 3 | Web server |
| 4 | URL pattern |
| 5 | Java/VB script |
| 6 | True file type |
| 7 | User-defined |
| 8 | Server-defined |
| 9 | Web policy |
| 11 | Phishing |

| Value | Description |
|---|---|
| 12 | Phishing/Spyware/Grayware |
| 13 | Phishing/Virus/Malware accomplice |
| 14 | Phishing/Forged signature |
| 15 | Phishing/Disease vector |
| 16 | Phishing/Malicious applet |
| 17 | Phishing reputation |
| 20 | IP translation policy |
| 21 | Java scanning policy |
| 22 | Malicious mobile code policy |
| 31 | Pharming |
| 32 | URL blocking |
| 33 | URL filtering |
| 34 | Client IP blocking |
| 35 | Destination port blocking |
| 36 | Web reputation |
| 41 | Unsupported file type |
| 42 | Exceeds total file count limit |
| 43 | Exceeds file size limit |
| 44 | Exceeds decompression layer limit |
| 45 | Exceeds decompression time frame |
| 46 | Exceeds compression ratio limit |
| 47 | Password protected file |
| 48 | Restricted spyware/grayware type |

| Value | Description |
|---|---|
| 60 | String pattern |
| 70 | HTTP inspection |
| -1 | Virus/Malware |
| -2 | Spyware/Grayware |
| -3 | Network virus |
| -4 | IntelliTrap |
| -5 | Suspicious virus/malware |
| -6 | Suspicious spyware/grayware |
| -7 | Fraud |
| -8 | Suspicious behavior |

## Protocol Mapping Table

| Value | Description |
|---|---|
| 0 | Unknown |
| 1 | SMTP |
| 2 | POP3 |
| 3 | IRC |
| 4 | DNS Response |
| 5 | HTTP |
| 6 | FTP |
| 7 | TFTP |
| 8 | SMB |
| 9 | Windows Live Messenger (MSN) |

| Value | Description |
|---|---|
| 10 | AIM |
| 11 | Yahoo! Messenger |
| 12 | Gmail |
| 13 | Yahoo! Mail |
| 14 | Windows Live Hotmail |
| 15 | RDP |
| 16 | DHCP |
| 17 | Telnet |
| 18 | LDAP |
| 19 | File transfer |
| 20 | SSH |
| 21 | Dameware |
| 22 | VNC |
| 23 | Cisco Telnet |
| 24 | Kerberos |
| 25 | DCE RPC |
| 26 | SQL |
| 27 | pcAnywhere |
| 28 | ICMP |
| 29 | SNMP |
| 30 | Virus pattern TCP |
| 31 | Virus pattern UDP |
| 32 | HTTPS |

| Value | Description |
|---|---|
| 33 | SMB2 |
| 34 | MMS |
| 35 | IMAP4 |
| 36 | RADIUS |
| 37 | Radmin |
| 38 | FTP_Response |
| 48 | RTSP/RTP-UDP |
| 49 | RTSP/RTP-TCP |
| 50 | RTSP/RDT-UDP |
| 51 | RTSP/RDT-TCP |
| 52 | WMSP |
| 53 | SHOUTCast |
| 54 | RTMP |
| 68 | DNS Request |
| 256 | BitTorrent |
| 257 | Kazaa |
| 258 | Limewire |
| 259 | Bearshare |
| 260 | Bluester |
| 261 | Edonkey emule |
| 262 | Edonkey2000 |
| 263 | Filezilla |
| 264 | Guncleus |

| Value | Description |
|---|---|
| 265 | Gnutella |
| 266 | Winny |
| 267 | Napster |
| 268 | Morpheus |
| 269 | Napster |
| 270 | Shareaza |
| 271 | WinMX |
| 272 | Mldonkey |
| 273 | Direct Connect |
| 274 | Soulseek |
| 275 | OpenAP |
| 276 | Kuro |
| 277 | Imesh |
| 278 | Skype |
| 279 | Google Talk |
| 317 | Cabos |
| 318 | Zultrax |
| 319 | Foxy |
| 320 | eDonkey |
| 321 | Ares |
| 322 | Miranda |
| 323 | Kceasy |
| 324 | MoodAmp |

| Value | Description |
|---|---|
| 325 | Deepnet Explorer |
| 326 | FreeWire |
| 327 | Gimme |
| 328 | GnucDNA GWebCache |
| 329 | Jubster |
| 330 | MyNapster |
| 331 | Nova GWebCache |
| 332 | Swapper GWebCache |
| 333 | Xnap |
| 334 | Xolox |
| 335 | Ppstream |
| 640 | AIM Express |
| 641 | Chikka SMS Messenger |
| 642 | eBuddy |
| 643 | ICQ2Go |
| 644 | ILoveIM Web Messenger |
| 645 | IMUnitive |
| 646 | Mabber |
| 647 | Meebo |
| 648 | Yahoo! Web Messenger |
| 848 | SIP2 |
| 1024 | GPass |
| 10001 | IP |

| Value | Description |
|---|---|
| 10002 | ARP |
| 10003 | TCP |
| 10004 | UDP |
| 10005 | IGMP |
| 60 | ORACLE |
| 44 | MySQL |
| 520 | MSSQL |
| 337 | Postgres |
| 41 | ICMPv6 |
| 10006 | GGP |
| 10007 | PUP |
| 10008 | IDP |
| 10009 | ND |
| 10010 | RAW |

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