



3.1

TREND MICRO[™] Smart Protection Server

Installation and Upgrade Guide

Security Made Smarter



Endpoint Security



Messaging Security



Protected Cloud



Web Security

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This documentation introduces the main features of the product/service and/or provides installation instructions for a production environment. Read through the documentation before installing or using the product/service.

Detailed information about how to use specific features within the product/service may be available at the Trend Micro Online Help Center and/or the Trend Micro Knowledge Base.

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Preface

Preface

Welcome to the Smart Protection ServerTM Installation and Upgrade Guide. This document contains information about product settings.

Topics include:

- *About Trend Micro on page iv*
- *Product Documentation on page iv*
- *Audience on page iv*
- *Document Conventions on page v*

About Trend Micro

Trend Micro Incorporated provides virus protection, antispam, and content-filtering security software and services. Trend Micro helps customers worldwide stop malicious code from harming their computers.

Product Documentation

The Smart Protection Server documentation consists of the following:

DOCUMENTATION	DESCRIPTION
Installation and Upgrade Guide	Helps you plan for installation, upgrades, and deployment.
Administrator's Guide	Helps you configure all product settings.
Online Help	Provides detailed instructions on each field and how to configure all features through the user interface.
Readme file	Contains late-breaking product information that might not be found in the other documentation. Topics include a description of features, installation tips, known issues, and product release history.

The documentation is available at:

<http://downloadcenter.trendmicro.com/>

Audience

The Smart Protection Server™ documentation is written for IT managers and administrators. The documentation assumes that the reader has in-depth knowledge of computer networks.

The documentation does not assume the reader has any knowledge of virus/malware prevention or spam prevention technology.

Document Conventions

The Smart Protection Server™ User's Guide uses the following conventions.

TABLE 1. Document Conventions

CONVENTION	DESCRIPTION
ALL CAPITALS	Acronyms, abbreviations, and names of certain commands and keys on the keyboard
Bold	Menus and menu commands, command buttons, tabs, and options
Navigation > Path	The navigation path to reach a particular screen For example, File > Save means, click File and then click Save on the interface
 Note	Configuration notes
 Tip	Recommendations or suggestions
 WARNING!	Critical actions and configuration options

Chapter 1

Planning Smart Protection Server Installation and Upgrade

This chapter includes information about planning for a fresh installation or upgrade of Trend Micro™ Smart Protection Server™.

Topics include:

- *System Requirements on page 1-2*
- *Planning for Deployment on page 1-5*
- *Preparing to Install on page 1-6*

System Requirements

The following table lists the system requirements:

TABLE 1-1. System Requirements

Hardware/ Software	Requirements
Hardware	<ul style="list-style-type: none">2.0GHz Intel™ Core2 Duo™ 64-bit processor supporting Intel™ Virtualization Technology™ or equivalent2GB of RAM (Trend Micro recommends 4GB)50 GB disk space when installed on a virtual machine <p> Note Smart Protection Server automatically partitions the detected disk space as required.</p> <p> Note The Blocked URLs stop collecting data if Smart Protection Server detects that the available disk space is less than 1GB. Smart Protection Server starts collecting data again once the administrator has made at least 1.5GB of disk space available.</p> <ul style="list-style-type: none">Monitor with 1024 x 768 or greater resolution with 256 colors or higher

Hardware/ Software	Requirements
Virtualization	<ul style="list-style-type: none">• Microsoft™ Windows Server™ 2008 R2 Hyper-V™• Microsoft™ Windows Server™ 2012 Hyper-V™• Microsoft™ Windows Server™ 2012 R2 Hyper-V™• Microsoft™ Windows Server™ 2016 Hyper-V™• VMware™ ESXi™ Server 6.0 Update 2, 5.5 Update 3b, 5.1 Update 1, 5.0 Update 3, 4.1 Update 1, or 4.0 Update 3• VMware™ ESX™ Server 4.1 Update 1, 4.0 Update 3• Citrix™ XenServer™ 7.0, 6.5 <p> Note If you use a Citrix™ XenServer, create a new Virtual Machine using the Other install media template.</p> <p> Note Smart Protection Server already has a purpose-built, hardened, performance-tuned 64-bit Linux operating system.</p>

Hardware/ Software	Requirements
Virtual Machine	<ul style="list-style-type: none"> CentOS 5 64-bit (Guest Operating System) If your VMWare version (such as 4.0) does not support CentOS, use Red Hat™ Enterprise Linux™ 5 64-bit <hr/> <p> Note Only Virtual NIC E1000 and VMware VMXNET3 NICs are supported.</p> <hr/> <ul style="list-style-type: none"> Allocate at least 2GB of RAM to the Virtual Machine. Trend Micro recommends you allocate 4GB. 2.0GHz processor 2 virtual processors minimum (4 virtual processors recommended) 50 GB disk space 1 network device Network Device <hr/> <p> WARNING! Microsoft Hyper-V users must install the Legacy Network Adapter in order for Smart Protection Server to detect the current network device and mitigate network connectivity issues. After installing Smart Protection Server, use the Command Line Interface (CLI) to enable Hyper-V integration components to increase capacity.</p> <hr/> <p> Note The Smart Protection Server kernel module will install the VMWare Tools module vmxnet3. This means that VMWare Tools do not need to be installed after installing Smart Protection Server. If you choose a vmxnet3 NIC during installation, the message Minimum hardware requirements were not met might appear because the vmxnet3 driver has not been installed at that point. This message can be ignored and the installation will proceed normally.</p>

Hardware/ Software	Requirements
Web Console	<ul style="list-style-type: none">Microsoft Edge™Microsoft™ Internet Explorer™ 11Mozilla™ Firefox™ 3.6.0 or laterAdobe™ Flash™ Player 8.0 or above is required for viewing graphs in widgets1024 x 768 or greater resolution with 256 colors or higher

Planning for Deployment

The following section provides information on how to determine the type of environment to configure when installing local Smart Protection Servers.

Best Practices

- Avoid performing Manual scans and Scheduled scans simultaneously. Stagger the scans in groups.
- Avoid configuring all endpoints from performing Scan Now simultaneously. For example, the **Perform scan now after update** option.
- Install multiple Smart Protection Servers to ensure the continuity of protection in the event that connection to a Smart Protection Server is unavailable.
- Customize Smart Protection Server for slower network connections, about 512Kbps, by making changes to the `ptngrowth.ini` file.

Configuring the `ptngrowth.ini` File

Procedure

- Open the `ptngrowth.ini` file in `/var/tmcss/conf/`.

2. Modify the `ptngrowth.ini` file using the recommended values below:

```
[COOLDOWN]
ENABLE=1
MAX_UPDATE_CONNECTION=1
UPDATE_WAIT_SECOND=360
```

3. Save the `ptngrowth.ini` file.
4. Restart the `lighttpd` service by typing the following command from the Command Line Interface (CLI):

```
service lighttpd restart
```

Deployment Guidelines

Consider the following when setting up your local Smart Protection Server:

- Smart Protection Server is a CPU-bound application. This means that increasing CPU resources increases the number of simultaneous requests handled.
- Network bandwidth may become a bottleneck depending on network infrastructure and the number of simultaneous update requests or connections.
- Additional memory might be required if there is a large number of concurrent connections between Smart Protection Servers and endpoints.

Preparing to Install

The Smart Protection Server installation process formats your existing system for program installation. VMware or Hyper-V installation requires the creation of a virtual machine before installation. After determining the number of Smart Protection Servers to use for your network, you can begin the installation process.



Tip

Install multiple Smart Protection Servers to ensure the continuity of protection in the event that connection to a Smart Protection Server is unavailable.

You need the following information for the installation:

- Proxy server information
- A virtual machine server that fulfills the requirements for your network

Chapter 2

Installing and Upgrading Smart Protection Server

This chapter includes information about upgrading and installing Trend MicroTM Smart Protection ServerTM.

Topics include:

- *Performing a Fresh Installation on page 2-2*
- *Upgrading on page 2-14*

Performing a Fresh Installation

After preparing the requirements for installation, run the installation program to begin installation.

Installing Smart Protection Server

Procedure

1. Create a virtual machine on your VMware or Hyper-V server and specify the virtual machine to boot from the Smart Protection Server ISO image.

Refer to the Virtual Machine section in [System Requirements on page 1-2](#) for more information about the type of virtual machine required for installation.



A Legacy Network Adapter is required to detect the network device for Hyper-V installations.

2. Power on the virtual machine.

The Installation Menu displays with the following options:

- **Install Smart Protection Server:** Select this option to install Smart Protection Server to the new virtual machine.
- **System Memory Test:** Select this option to perform memory diagnostic tests to rule out any memory issues.
- **Exit Installation:** Select this option to exit the installation process and to boot from other media.



3. Select **Install Smart Protection Server**.

The Select language screen appears.



Note

From this screen on, you can access the readme from a button in the lower left hand corner of the installation screen.

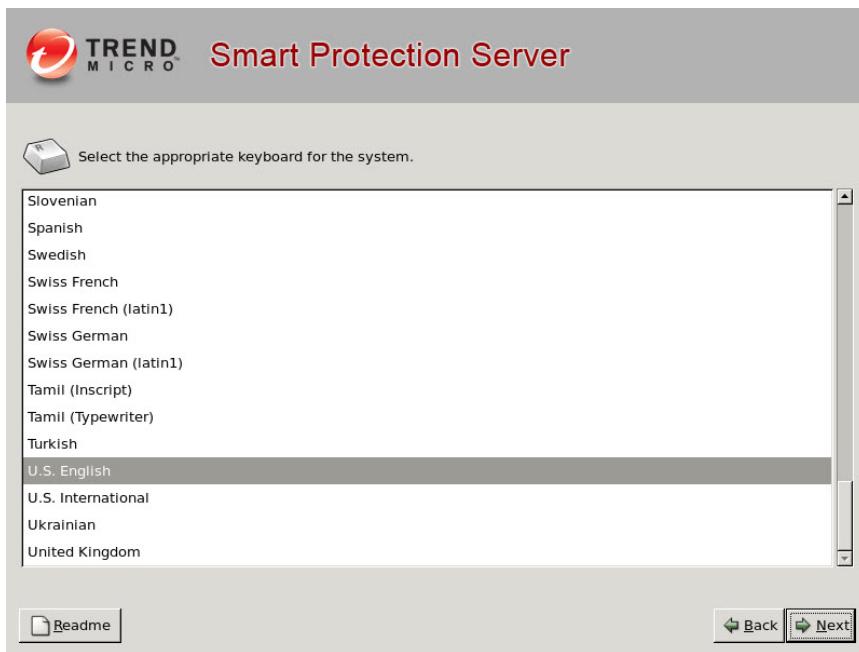
4. Select the language for this installation of Smart Protection Server and click **Next**.

The License Agreement screen appears.



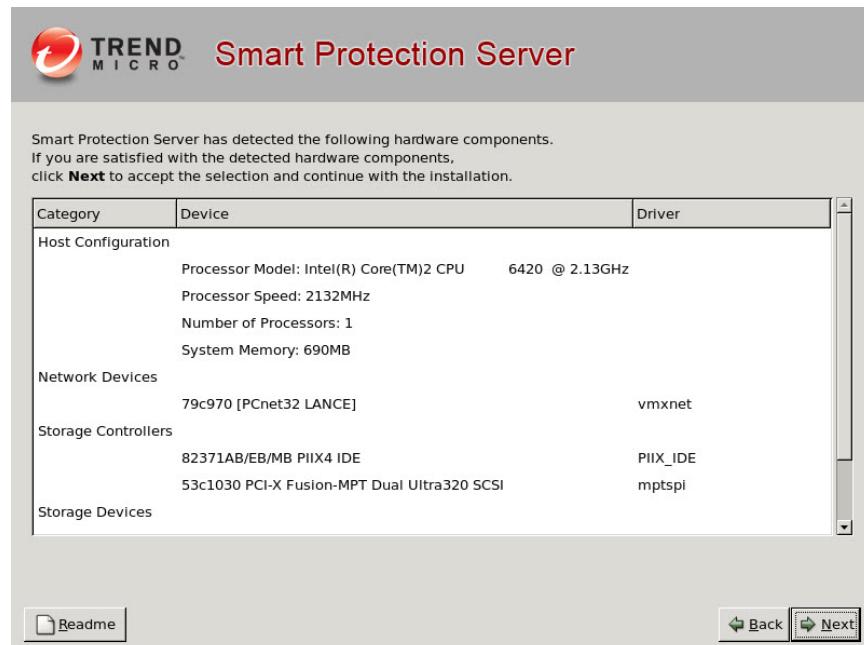
5. Click **Accept** to continue.

The Keyboard Selection screen appears.



6. Select the keyboard language and click **Next** to continue.

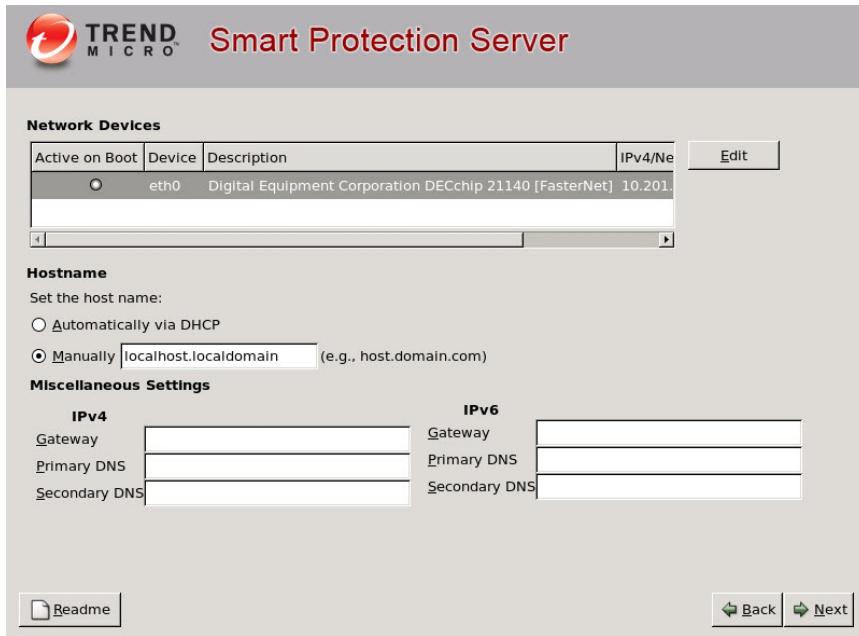
The Hardware Components Summary screen appears.



The installation program performs a scan to determine if the system specifications have been met and displays the results. If the hardware contains components that do not meet the system requirements, the installation program highlights those components. Installation can proceed as long as there is a hard drive and network device. If there is no hard drive or no network device, installation cannot continue.

7. Click **Next** to continue.

The Network Settings screen appears.



Note

To change the active on boot device after installation, log on to the Command Line Interface (CLI).

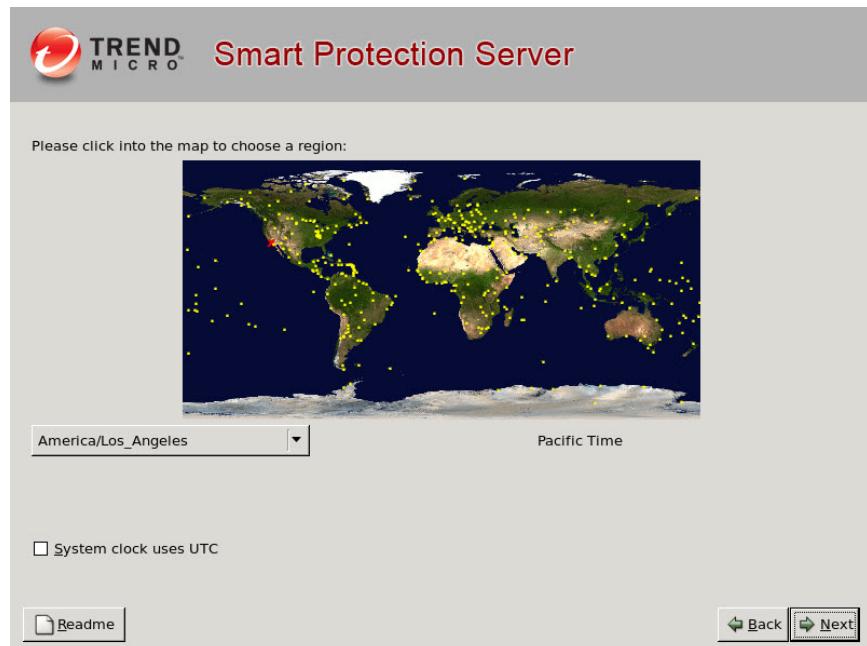
If there are multiple network devices, configure settings for all devices. (Only one device can be active on boot.)

8. Specify the Active on Boot network devices, host name, and miscellaneous settings.

The **Edit** button allows you to configure IPv4 and IPv6 settings. The default setting for IPv4 is Dynamic IP configuration (DHCP). The default setting for IPv6 is DHCPv6.

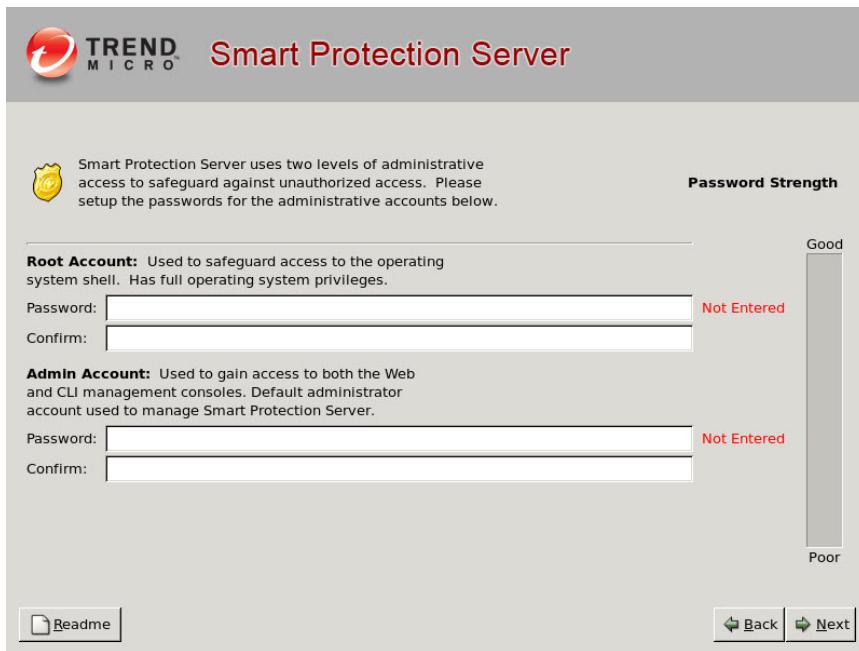
9. Click **Edit** to select manual configuration and configure miscellaneous settings.
10. Click **Next** to continue.

The Time Zone screen appears.



11. Specify the time zone.
12. Click **Next** to continue.

The Authentication screen appears.



13. Specify passwords.

Smart Protection Server uses two different levels of administrator types to secure the server, the **root** and **admin** passwords.

- **Root account:** This account is used to gain access to the operating system shell and has all rights to the server. This account includes the most privileges.
- **Admin account:** This account is the default administration account used to access the Smart Protection Server web and CLI product consoles. This account includes all rights to the Smart Protection Server application, but does not include access rights to the operating system shell.

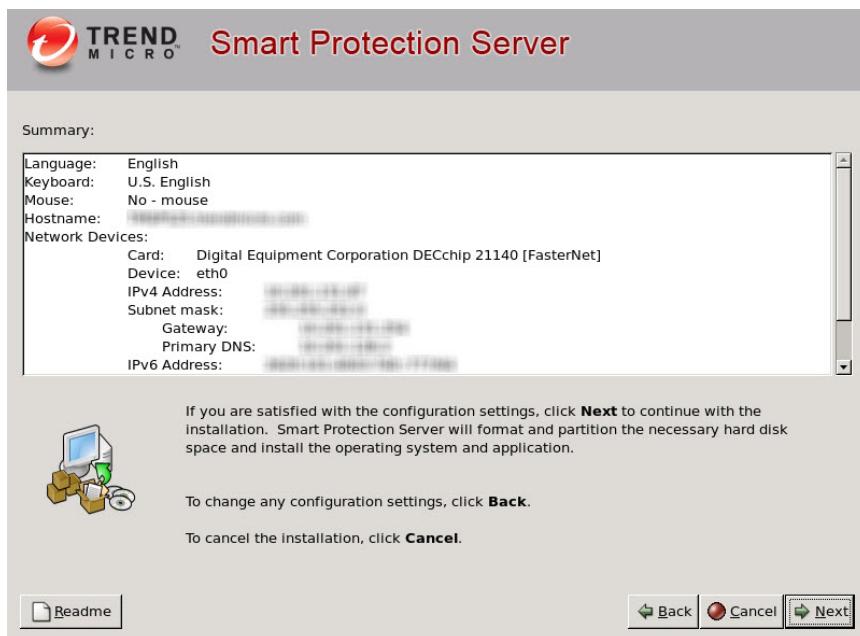
**Note**

The password must be a minimum of 6 characters and a maximum of 32 characters. To design a secure password consider the following:

- Include both letters and numbers.
- Avoid words found in any dictionary (of any language).
- Intentionally misspell words.
- Use phrases or combine words.
- Use a combination of uppercase and lowercase letters.
- Use symbols.

14. Click **Next to continue.**

The Installation Summary screen appears.

**15. Confirm the summary information.**

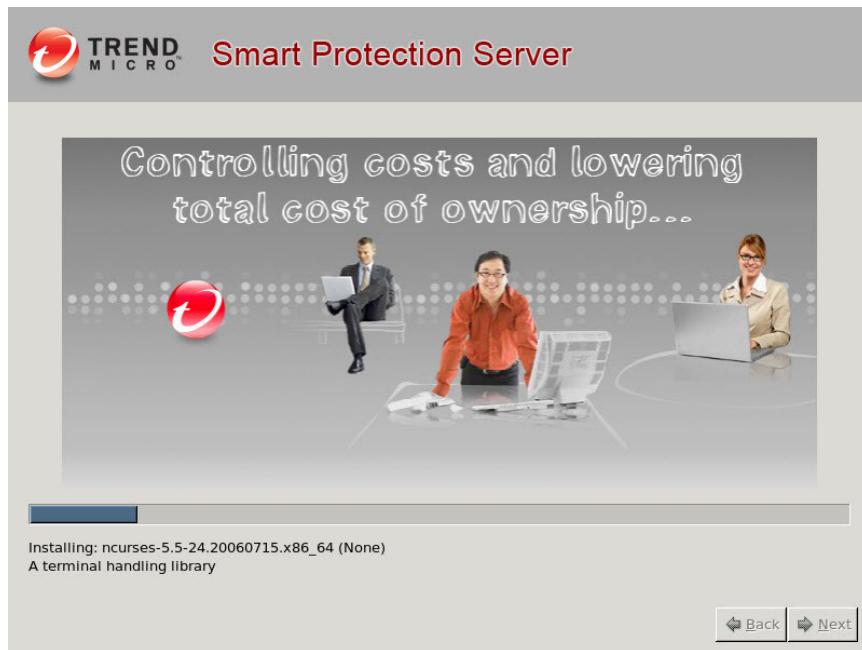
**Note**

Continuing with the installation formats and partitions the necessary disk space and installs the operating system and application. If there is any data on the hard disk that cannot be erased, cancel the installation and back up the information before proceeding.

If any of the information on this screen requires a different configuration, click **Back**.

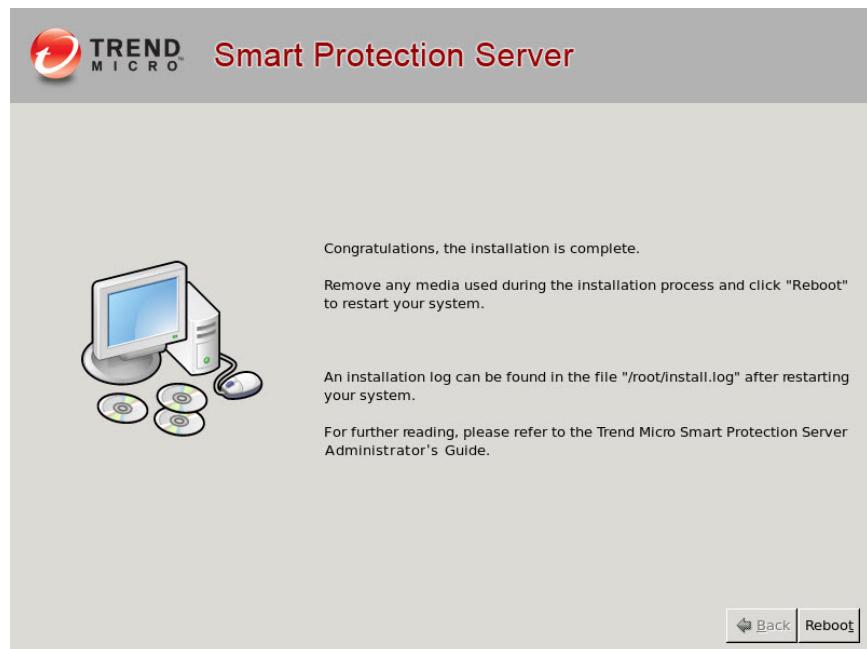
16. Click **Next** to continue and click **Continue** at the confirmation message.

The Installation Progress screen appears.



17. A message appears when the installation completes.

The installation log is saved in the `/root/install.log` file for reference.



18. Click **Reboot** to restart the virtual machine.

The initial product Command Line Interface (CLI) logon screen appears and displays the client connection addresses and the web console URL.



Note

Trend Micro recommends disconnecting the CD ROM device from the virtual machine after Smart Protection Server is installed.

19. Use admin to log on to the product CLI or the web console to manage Smart Protection Server. Log on to the web console to perform post installation tasks such as configuring proxy settings. Log on to the CLI shell if you need to perform additional configuration, troubleshooting, or maintenance tasks.



Note

Use **root** to log on to the operating system shell with full privileges.

20. Perform post installation tasks.

Refer to *Post-Installation Tasks on page 3-1*

Upgrading

Upgrade to this version of Smart Protection Server from Smart Protection Server 3.0 or 2.6.

TABLE 2-1. Version Upgrade Details

VERSION	REQUIREMENTS
Upgrading to Smart Protection Server 3.1	<ul style="list-style-type: none">• Ensure that System Requirements are met before installation. See System Requirements on page 1-2.• Smart Protection Server 2.6 or 3.0• Clear the browsers temporary Internet files before logging on to the web console.

The web service is disabled for about 5 minutes during the upgrade process. During this time, endpoints will not be able to send queries to Smart Protection Server. Trend Micro recommends redirecting endpoints to another Smart Protection Server for the duration of the upgrade. If there is only one Smart Protection Server installed on your network, Trend Micro recommends planning the upgrade for off-peak times. Suspicious files will be logged and scanned immediately once connection to Smart Protection Server is restored.



Note

SOCKS4 proxy configuration has been removed from Smart Protection Server. After upgrading to this version, if in the previous version SOCKS4 was configured for the proxy settings, the proxy settings need to be re-configured.

Upgrading to Smart Protection Server

Procedure

1. Log on to the web console.
2. Click **Updates** from the main menu.

A drop down menu appears.
3. Click **Program**.

The Program screen appears.
4. Under Upload Component, click **Browse**.

The **Choose File to Upload** screen appears.
5. Select the upgrade file from the Choose File to Upload screen.
6. Click **Open**.

The Choose File to Upload screen closes and the file name appears in the Upload program package text box.
7. Click **Update**.
8. Perform post installation tasks.

Refer to [*Post-Installation Tasks on page 3-1*](#)

Chapter 3

Post-Installation Tasks

This chapter includes information about Trend MicroTM Smart Protection ServerTM post installation tasks.

Topics include:

- *Post-Installation on page 3-2*
- *Initial Configuration on page 3-2*

Post-Installation

Trend Micro recommends performing the following post-installation tasks:

- After installing Smart Protection Server with Hyper-V, enable Hyper-V Integration Components to increase capacity. Ensure that a Network Adapter is available before enabling Hyper-V Integration Components. Enable Hyper-V Integration Components from the Command Line Interface (CLI) with your admin account by typing:

```
enable
enable hyperv-ic
```

- If you installed with minimum system requirements, disable the Blocked Web Access Log from the Command Line Interface (CLI) with your admin account by typing:

```
enable
disable adhoc-query
```

- Perform initial configuration. See [Initial Configuration on page 3-2](#)
- Configure Smart Protection Server settings on other Trend Micro products that support smart scan solutions.



Note

The Real Time Status widget and Smart Protection Server CLI console display Smart Protection Server addresses.

VMWare Tools do not need to be installed after installing Smart Protection Server. The server kernel module contains the VMWare Tools module (vmxnet3) Smart Protection Server requires.

Initial Configuration

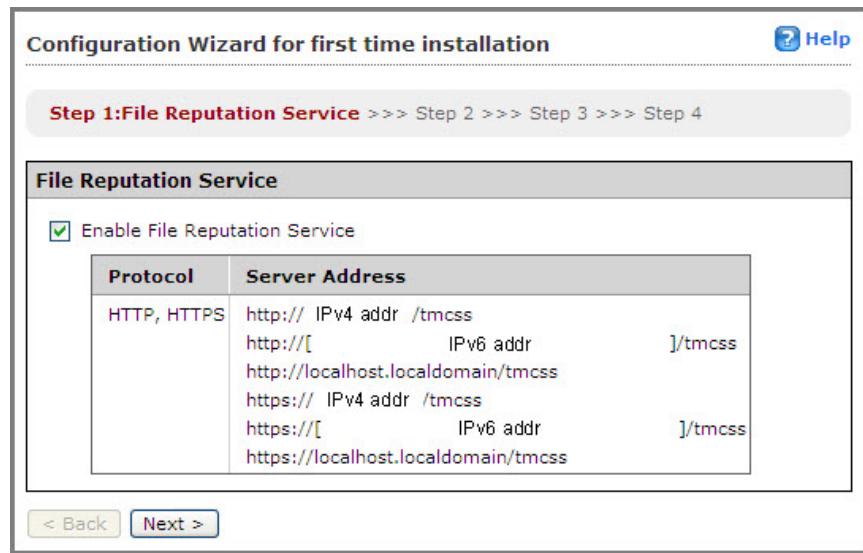
Perform the following tasks after installation.

Procedure

1. Log on to the web console.

The first time installation wizard appears.

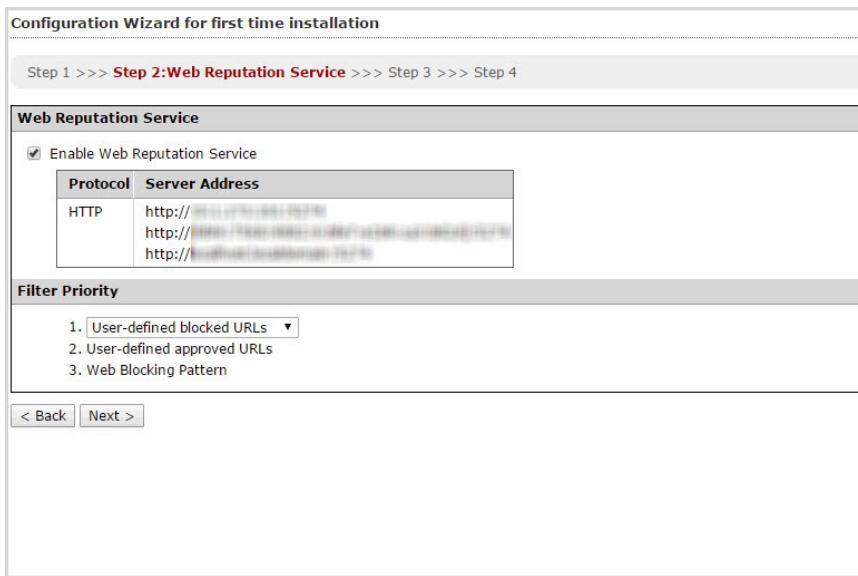
2. Select the **Enable File Reputation Service** check box to use File reputation.



3. Click **Next**.

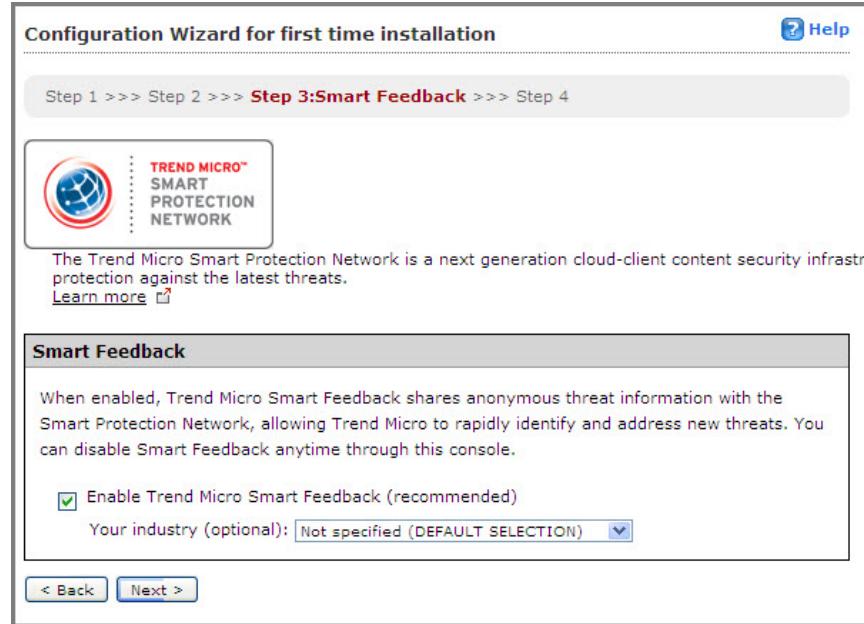
The Web Reputation Service screen appears.

4. Select the **Enable Web Reputation Service** check box to enable Web Reputation.



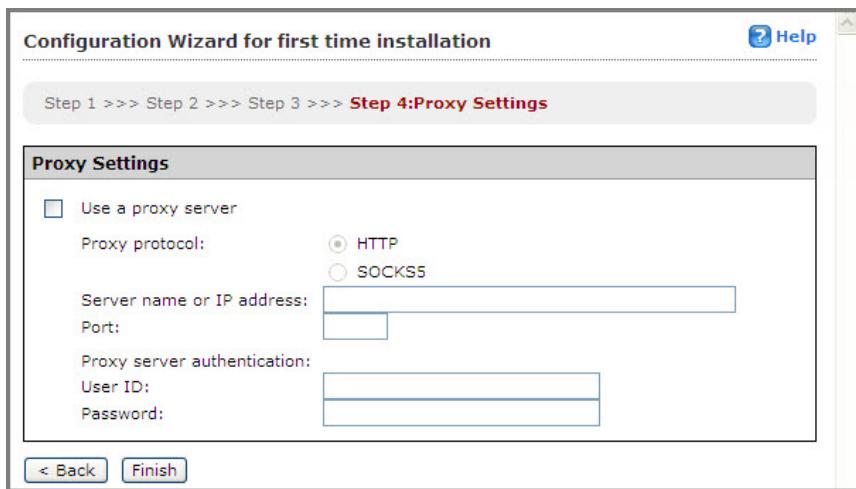
5. (Optional) The filter priority settings allow you to specify the filter order for URL queries.
6. Click **Next**.

The Smart Feedback screen appears.



7. Select to use Smart Feedback to help Trend Micro provide faster solutions for new threats.
8. Click **Next**.

The Proxy Settings screen appears.



9. Specify proxy settings if your network uses a proxy server.
10. Click **Finish** to complete the initial configuration of Smart Protection Server.

The Summary screen of the web console displays.



Note

Smart Protection Server will automatically update pattern files after initial configuration.

Chapter 4

Getting Help

This chapter includes details on how to get additional help while working with Trend MicroTM Smart Protection ServerTM.

Topics include:

- *Using the Support Portal on page 4-6*
- *Threat Encyclopedia on page 4-8*
- *Contacting Trend Micro on page 4-8*
- *TrendLabs on page 4-10*

Frequently Asked Questions

How do I log on to the Command Line Interface (CLI)?

CLI commands allow administrators to perform configuration tasks and to perform debugging and troubleshooting functions.

Administrators can log on to CLI through CLI or the SSH console using the **admin** account through the SSH connection.

Why Does the Smart Protection Server IP Address Disappear When I Use the CLI to Enable Hyper-V Integration Components on a Non-Hyper-V Machine?

Microsoft™ Hyper-V Integration Components should only be enabled on Microsoft™ Hyper-V machines. The Smart Protection Server IP address no longer appears if Hyper-V Integration Components are enabled on a non-Hyper-V machine as illustrated here. If

Hyper-V Integration Components are enabled on a non Hyper-V machine, you will not be able to connect to Smart Protection Server through the network.

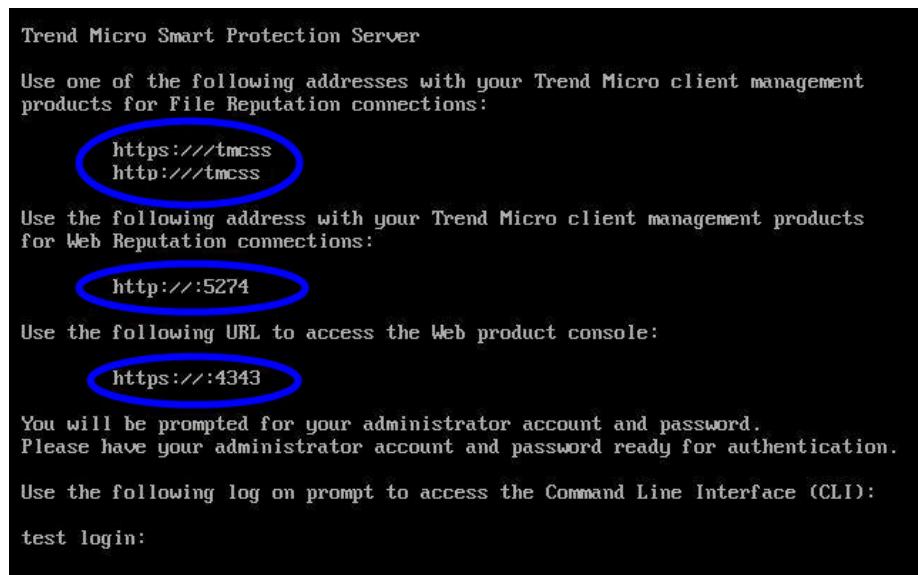


FIGURE 4-1. IP address no longer appears



Note

On Microsoft™ Hyper-V machines, the IP address may disappear if a network adapter is not connected.

Rolling Back the Network Setting

Procedure

1. Log on to the Command Line Interface (CLI) using **admin**.
2. Type the following commands:

```
enable
configure service interface eth0
```

Can Other Linux Software Be Installed on the Smart Protection Server?

Trend Micro does not recommend installing other Linux software on the Smart Protection Server virtual environment. Installing other Linux software may adversely affect the performance of the server and other applications might not work properly due to security settings on the Smart Protection Server.

How Do I Change the Smart Protection Server IP Address?

Changing an IPv4 Address

Procedure

1. Log on to the Command Line Interface (CLI) using **admin**.
2. Type the following commands:

```
enable
configure ipv4 static <new ipv4 add> <subnet> <v4gateway>
```

3. Verify the changes by typing the following command:

```
show ipv4 address
```

4. Restart the machine.

Changing an IPv6 Address

Procedure

1. Log on to the Command Line Interface (CLI) using **admin**.
2. Type the following commands:

```
enable
configure ipv6 static <new ipv6 add> <prefix> <v6gateway>
```

3. Verify the changes by typing the following command:
4. Restart the machine.

```
show ipv6 address
```

How Do I Change the Smart Protection Server Hostname?

Procedure

1. Log on to the Command Line Interface (CLI) using **admin**.
2. Type the following commands:

```
enable
configure hostname <hostname>
```

3. Verify the changes by typing the following command:
4. Restart the machine.

```
show hostname
```

How Do I Perform an Upgrade If a Pattern is Updating?

Trend Micro recommends waiting until a pattern finishes updating before performing an upgrade. To prevent an update from occurring while upgrading disable scheduled updates.

Procedure

1. Log on to the Smart Protection Server web management console using **admin**.
2. Click **Updates > Pattern**.
3. Disable scheduled updates.
4. Click **Save**.

**Note**

After performing an upgrade, remember to enable the scheduled updates.

How Do I Configure the NTP Server?

Procedure

1. Log on to the Command Line Interface (CLI) using **admin**.
2. Type the following commands:

```
enable
configure ntp <ip or FQDN>
```

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 <http://esupport.trendmicro.com>.
2. Select a product or service from the appropriate drop-down list and specify any other related information.

The **Technical Support** product page appears.

3. Use the **Search Support** box to search for available solutions.
4. If no solution is found, click **Submit a Support Case** from the left navigation and add any relevant details, or submit a support case here:

<http://esupport.trendmicro.com/srf/SRFMain.aspx>

A Trend Micro support engineer investigates the case and responds in 24 hours or less.

Known Issues

Known issues document unexpected product behavior that might require a temporary work around. Trend Micro recommends always checking the readme file for information about system requirements and known issues that could affect installation or performance. Readme files also contain a description of what's new in a particular release, and other helpful information.

The latest known issues and possible workarounds can also be found in the Trend Micro Knowledge Base:

<http://esupport.trendmicro.com>

Hot Fixes, Patches, and Service Packs

After an official product release, Trend Micro often develops hot fixes, patches and service packs to address outstanding issues, enhance product performance, and add new features.

The following is a summary of the items Trend Micro may release:

- **Hot Fix:** a work-around or solution to customer-reported issues. Trend Micro develops and releases hot fixes to specific customers only.
- **Security Patch:** a single hot fix or group of hot fixes suitable for deployment to all customers
- **Patch:** a group of security patches suitable for deployment to all customers

- **Service Pack:** significant feature enhancements that upgrade the product

Your vendor or support provider may contact you when these items become available. Check the Trend Micro website for information on new hot fix, patch, and service pack releases:

<http://downloadcenter.trendmicro.com/>

All releases include a readme file that contains installation, deployment, and configuration information. Read the readme file carefully before performing installation.

Threat Encyclopedia

Most malware today consists of "blended threats" - two or more technologies combined 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 <http://www.trendmicro.com/vinfo> 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, fax, or email:

Address	Trend Micro, Inc. 10101 North De Anza Blvd., Cupertino, CA 95014
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Phone	Toll free: +1 (800) 228-5651 (sales) Voice: +1 (408) 257-1500 (main)
Fax	+1 (408) 257-2003
Website	http://www.trendmicro.com
Email address	support@trendmicro.com

- Worldwide support offices:
<http://www.trendmicro.com/us/about-us/contact/index.html>
- Trend Micro product documentation:
<http://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 hardware connected to the endpoint
- Amount of memory and free hard disk space
- Operating system and service pack version
- Endpoint client version
- Serial number or activation code
- Detailed description of install environment
- Exact text of any error message received.
- Virtualization platform (VMwareTM or Hyper-VTM) and version

TrendLabs

TrendLabsSM is a global network of research, development, and action centers committed to 24x7 threat surveillance, attack prevention, and timely and seamless solutions delivery. Serving as the backbone of the Trend Micro service infrastructure, TrendLabs is staffed by a team of several hundred engineers and certified support personnel that provide a wide range of product and technical support services.

TrendLabs monitors the worldwide threat landscape to deliver effective security measures designed to detect, preempt, and eliminate attacks. The daily culmination of these efforts is shared with customers through frequent virus pattern file updates and scan engine refinements.

Learn more about TrendLabs at:

<http://cloudsecurity.trendmicro.com/us/technology-innovation/experts/index.html#trendlabs>

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