



# Operational Technology Defense Console – Virtual Appliance 1.4

**Quick Setup Guide**  
(for KVM)

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## Table of Contents

|   |    |
|---|----|
| Table of Contents .....                           | 3  |
| Chapter 1 .....                                   | 4  |
| ODC Onboarding to KVM.....                        | 4  |
| Prerequisites .....                               | 4  |
| Deploying OT Defense Console .....                | 4  |
| Accessing the ODC CLI .....                       | 8  |
| Getting the IP Address of the ODC Instance.....   | 9  |
| [Optional] Configure the IP Address Settings..... | 9  |
| Opening the Management Console .....              | 10 |
| System Migration .....                            | 12 |
| Appendix A .....                                  | 13 |
| Terms and Acronyms.....                           | 13 |

# ODC Onboarding to KVM

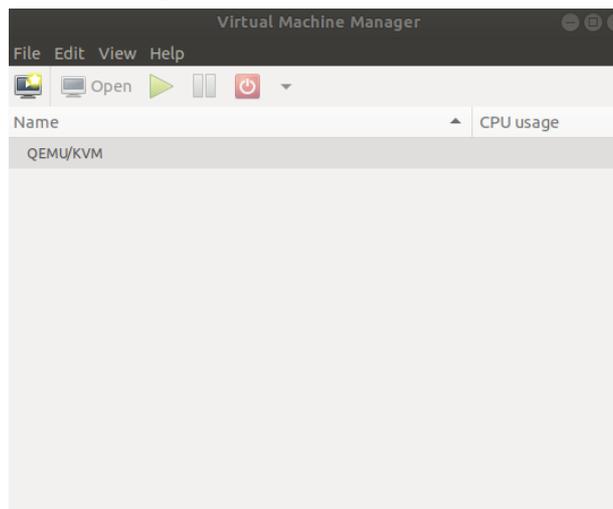
This chapter describes how to deploy OT Defense Console to a KVM.

## Prerequisites

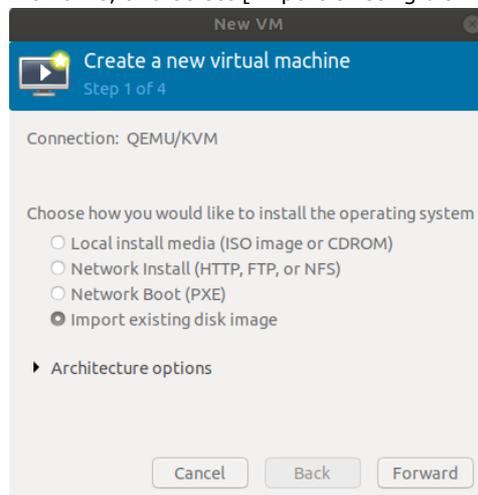
- The qcow2 packages provided by Trend Micro must be available and accessible to KVM 2.0.0.
- The necessary networks have been properly created in KVM.
- An extra disk (with more than 50GB free)

## Deploying OT Defense Console

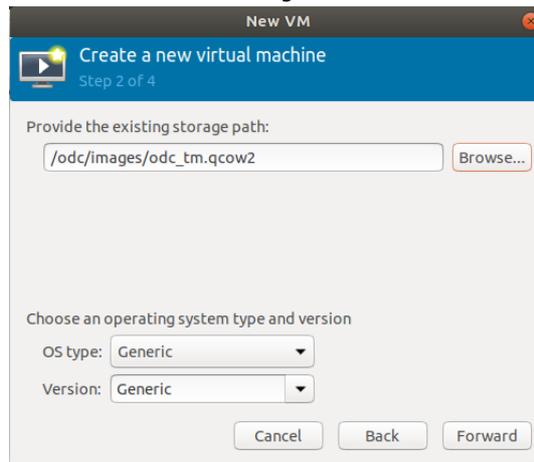
1. Open Virtual Machine Manager.



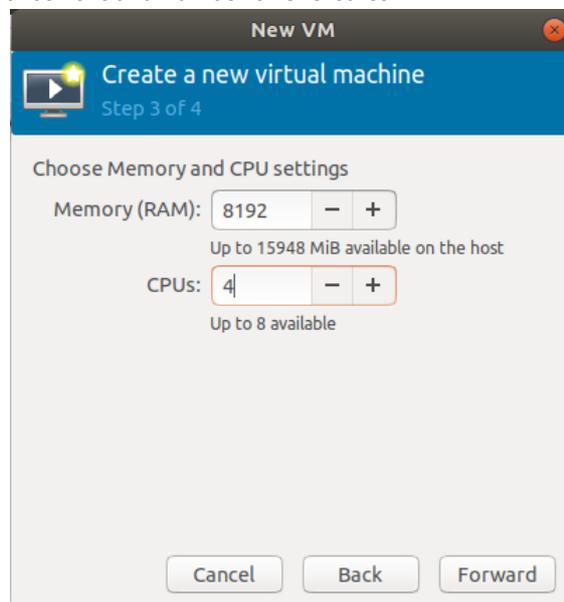
2. Click the [Create a new virtual machine] icon at the left top corner.
3. Input a virtual machine name, and select [Import existing disk image].



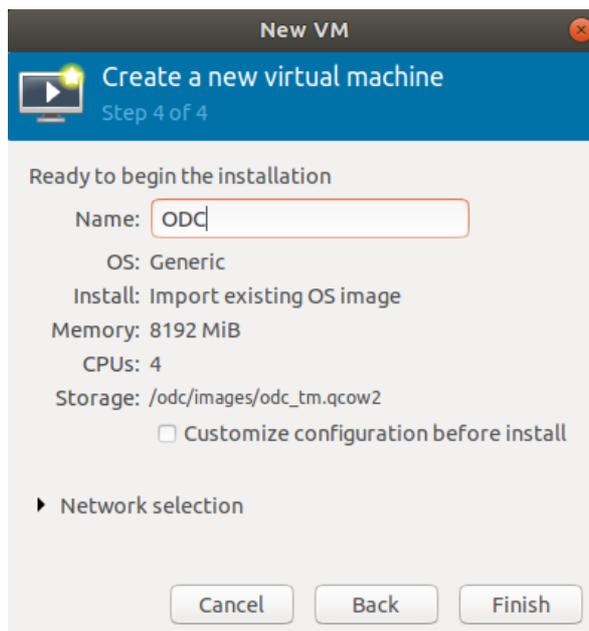
4. Click [Browse] and choose an ODC VM image.



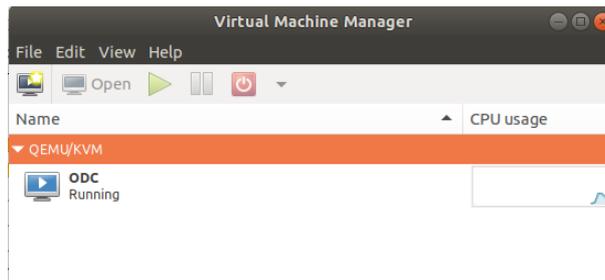
5. Adjust memory allotment and number of CPU cores.



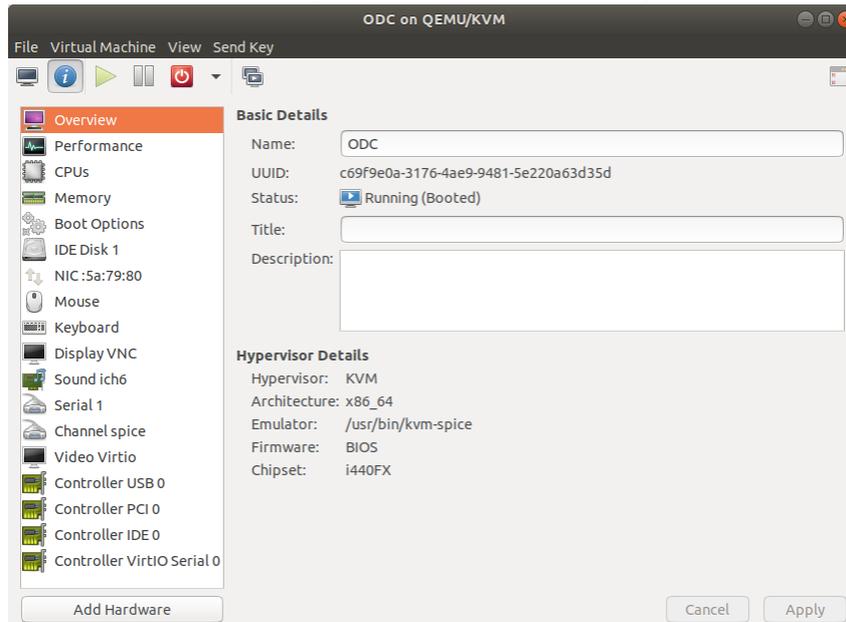
6. Click [Finish].



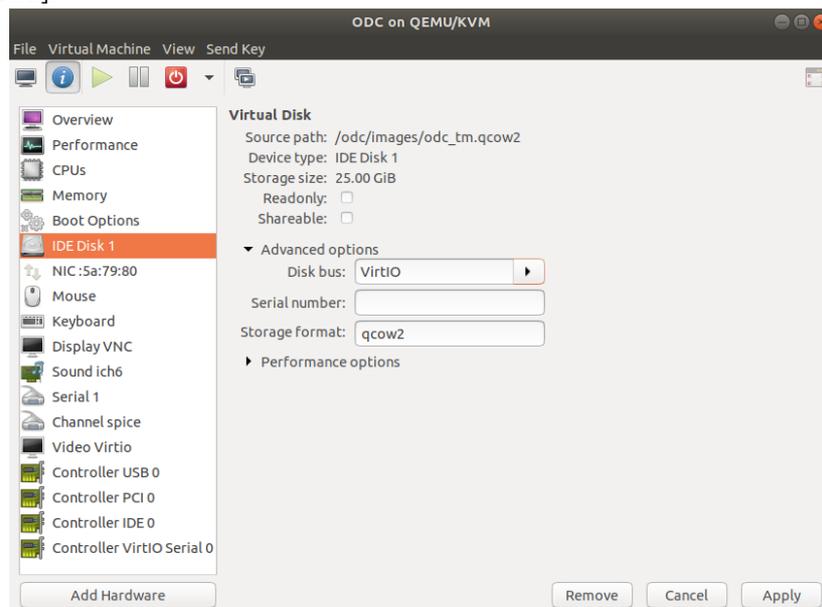
- The new VM will be shown in the virtual machine list.



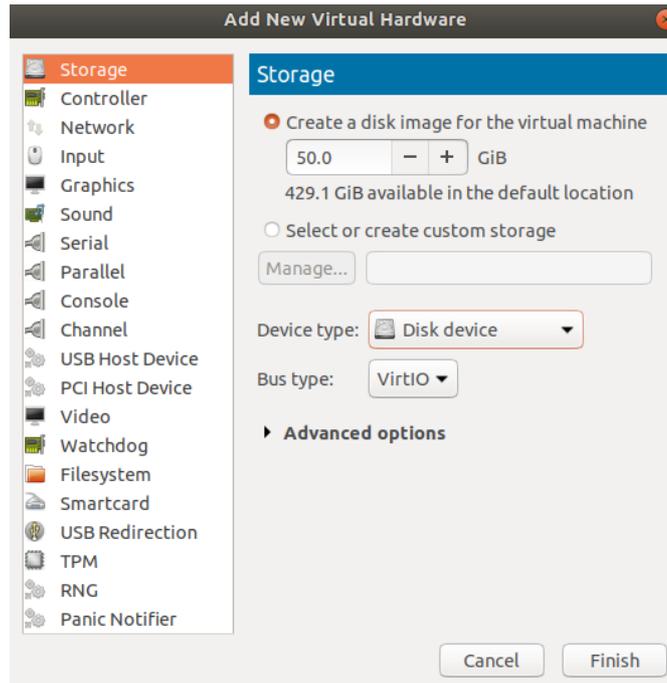
- Click the selected VM and click [Show virtual hardware details].



- At the bottom left corner, click [Add Hardware]. First, select existing disk, then adjust disk settings. Under [Disk bus] options, choose [Virtio]. Under [Storage format] options, select [qcow2].



- Add a new disk. We can create a new disk image or select other existing storage.

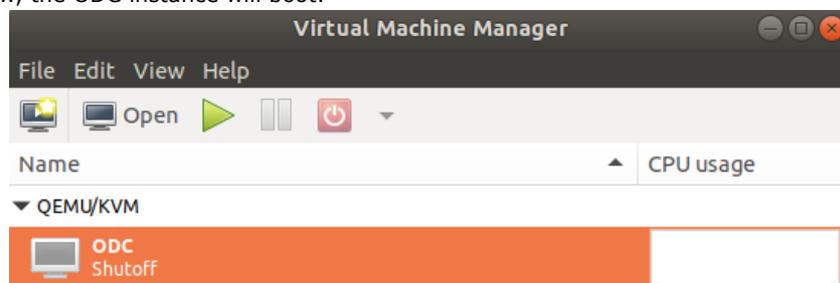


The external disk size can be decided depending on the number of logs to be stored, as shown on the suggestion table below.

| #of Logs    | Disk   |
|-------------|--------|
| 5,000,000   | 50 GB  |
| 10,000,000  | 150 GB |
| 50,000,000  | 300 GB |
| 100,000,000 | 500 GB |

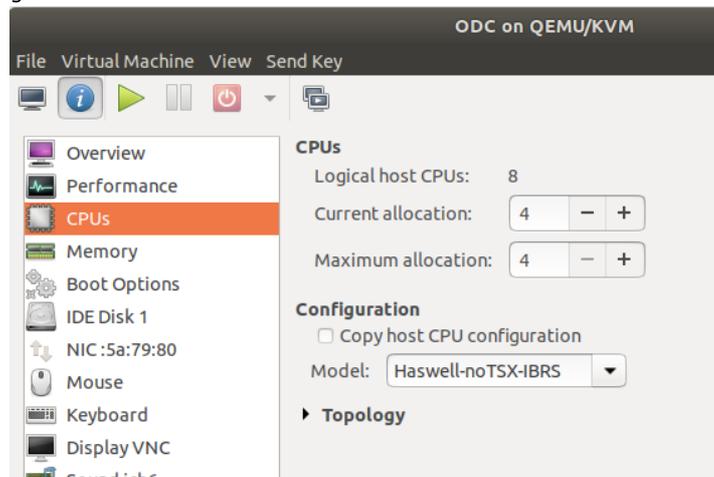
- Note:** The ODC requires one external disk and the minimum size of the external disk must be above 50GB, otherwise the ODC will not finish initialization and will not complete the boot process.
- Note:** The ODC requires one external disk and the minimum size of the external disk must be above 50GB, otherwise the ODC will not finish initialization and will not complete the boot process.

11. Now, the ODC instance will boot.

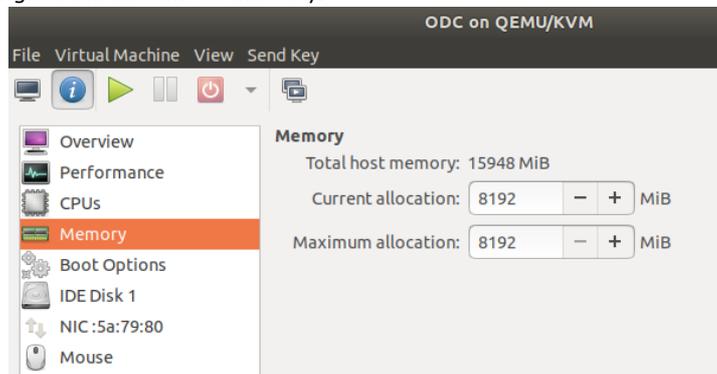


12. **(Optional)** Adjust your ODC instance to use proper resource configurations based on the following sizing table or using default settings (default settings are as follows: 8 CPU cores, 16 GB of memory).

- a. Shut down the instance of ODC and click [Edit].  
The [Edit settings] window will appear.
- b. Configure the number of CPU cores.



- c. Configure the amount of memory.



- d. Boot the ODC instance.

#### Sizing Table

| Nodes | CPU     | Memory |
|-------|---------|--------|
| 50    | 4 cores | 16 GB  |
| 100   | 4 cores | 16 GB  |
| 150   | 6 cores | 32 GB  |
| 200   | 8 cores | 32 GB  |

## Accessing the ODC CLI

1. Open the ODC VM console.
2. Login with "root / txone"
3. Change the default password
  - a. Type oobe
  - b. Change the default password

- c. Re-log in to the ODC with your new password

```
vShell, version v1.0.0
If you want to exit this shell, please type 'exit' or 'Ctrl-D'.
Caution: please type the command ``oobe`` to activate the vShell.
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Caution: please type the command ``oobe`` to activate the vShell.
$ oobe
Type current password:
Type the new password:
```

4. After logging into the ODC, you may optionally type the "help" command to see a list of

```
vShell, version v1.5.4
The commands provided in:
access-list    Manage the IP whitelists
dx             Curl the target server.
env           Manage system environment variables
exit          Exit this shell
help          List all command usage
iface         Manage the network interfaces
ping          Test the reachability of a host
poweroff      Shut down the machine immediately
pwd           Change the root user password
reboot        Restart the machine immediately
resolv        Manage the domain name server
scp           Send files via scp
service       Manage the device center services
sftp          Send files via sftp
web           Commands of the device center web

Shortcut table:
Tab           Auto-complete or choose the next suggestion on the list
Ctrl + A     Go to the head of the line (Home)
Ctrl + E     Go to the tail of the line (End)
Ctrl + D     Delete the character located at the cursor
Ctrl + L     Clear the screen
```

available commands on the instance.

## Getting the IP Address of the ODC Instance

1. Type the following command to get the IP address of the ODC Instance

```
$ iface ls
```

```
[
  {
    "Name": "lo",
    "Family": "inet",
    "Method": "loopback"
  },
  {
    "Name": "eth0",
    "Family": "inet",
    "Method": "static",
    "Address": "10.7.19.157",
    "Netmask": "255.255.255.0",
    "Gateway": "10.7.19.254"
  }
]
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 00:0c:29:2f:05:2d brd ff:ff:ff:ff:ff:ff
    inet 10.7.19.157/24 brd 10.7.19.255 scope global eth0
        valid_lft forever preferred_lft forever
    inet6 fe80::20c:29ff:fe2f:52d/64 scope link
        valid_lft forever preferred_lft forever
```

## [Optional] Configure the IP Address Settings

You can choose to configure the IP address manually.

1. Use the "iface update" command to update the settings of an existing network interface. For example, the following command sets the interface "eth0" to a static IP address 10.7.19.187/24 with the Gateway IP address 10.7.19.190:

```
$ iface update eth0 --method static --address 10.7.19.187 --netmask
255.255.255.0 --gateway 10.7.19.190
```

2. Confirm the network interface settings are correct and execute the following command to put the new settings into effect:

```
$ iface restart eth0
```

3. Input the following command to view the network interface settings:

```
$ iface ls
```

```
[
  {
    "Name": "lo",
    "Family": "inet",
    "Method": "loopback"
  },
  {
    "Name": "eth0",
    "Family": "inet",
    "Method": "static",
    "Address": "10.7.19.157",
    "Netmask": "255.255.255.0",
    "Gateway": "10.7.19.254"
  }
]
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 00:0c:29:2f:05:2d brd ff:ff:ff:ff:ff:ff
    inet 10.7.19.157/24 brd 10.7.19.255 scope global eth0
        valid_lft forever preferred_lft forever
    inet6 fe80::20c:29ff:fe2f:52d/64 scope link
        valid_lft forever preferred_lft forever
```

4. Use the "resolv add" command to add a DNS server and "resolv ls" to list the DNS servers you've added. For example, the following command adds "8.8.8.8" to the DNS server list.

```
$ resolv mode custom
```

```
$ resolv add 8.8.8.8
```

5. Type the following command to view the DNS server settings.

```
$ resolv ls
```

```
$ resolv mode custom
$ resolv add 8.8.8.8
8.8.8.8 is added
$ resolv ls
Custom Mode
8.8.8.8
```

6. Execute the following command to reboot the VM:

```
$ reboot
```

## Opening the Management Console

OT Defense Console provides a built-in management console that you can use to configure and manage the product. View the management console using a web browser.

**Note:** View the management console using Google Chrome version 63 or later; Firefox version 53 or later; Safari version 10.1 or later; or Edge version 15 or later.

### Procedure

1. In a web browser, type the address of the OT Defense Console in the following format:

```
https://<target server IP address or FQDN>
```

The login screen will appear.

2. Enter your login credentials (user name and password).

Use the default administrator credentials when logging on for the first time:

- User ID: admin
  - Password: txone
3. Click Log On.  
If this is your first login, the Login Information Setup frame will appear.

**Note:** You must change the default login name and password at first login before you can access the management console.

**Note:** New login name can not be "root", "admin", "administrator" or "auditor" (case-insensitive).

- a. Confirm your password settings.
  - New Login Name
  - New Password
  - Retype Password
- b. Click Confirm.  
You will be automatically logged out of the system. The Log On screen will appear again.
- c. Log on again using your new credentials.

The screenshot shows the OT Defense Console interface. At the top, there is a navigation bar with 'OT Defense Console' on the left and 'admin (Admin)' on the right. Below the navigation bar is a 'Dashboard' section with a 'Summary' tab selected. The dashboard contains two main widgets: 'Environment Summary (Group Summary)' and 'Asset Types'. The 'Environment Summary' widget shows 'All Groups' with 50 Assets and 5 Devices. The 'Asset Types' widget shows a donut chart with a legend for SCADA 9, Industrial Network Appliance 4, Industrial Embedded PC 3, HMI 6, and Industrial Production Machines 4. Below these widgets is a 'Device List' table with columns for Device, IP, Status, Pattern Version, Firmware Version, Model, and Assets.

| Device     | IP          | Status | Pattern Version   | Firmware Version | Model              | Assets |
|------------|-------------|--------|-------------------|------------------|--------------------|--------|
| IPS-355eb2 | 172.24.0.34 | Online | TM_200921_12      | 1.1.4            | IPS-102-BP_TM      | 10     |
| IPS-48e12f | 172.24.0.35 | Online | TM_200921_12      | 1.1.4            | IPS-102-BP_TM      | 10     |
| IPSP-41bfc | 172.24.0.36 | Online | TM_IPSP_200930_14 | 1.0.17           | IPS-Pro-1048-BP-TM | 10     |
| IEF-b69e2b | 172.24.0.33 | Online | TM_190115_1_RELS  | 1.1.4            | IEF-1012_TM        | 10     |

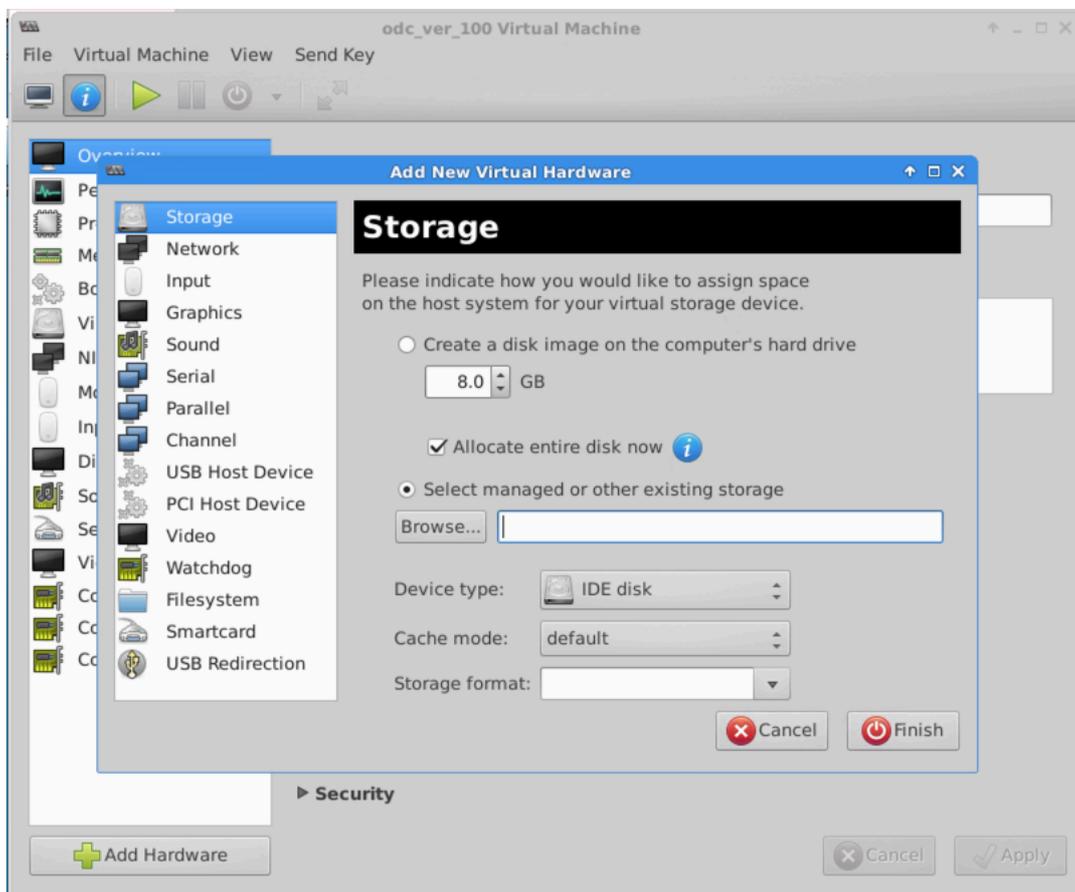
## System Migration

When a new version of ODC is released, we can migrate the settings of the old ODC by attaching the external disk of the old ODC to the new ODC VM. The migration of settings includes:

- The UUID of the old ODC
- The pattern and firmware downloaded by the old ODC
- The system configuration settings from the old ODC such as its license, accounting information, security policies, and so on
- The security event logs stored by the old ODC

### Procedure

1. Launch the new ODC instance (refer to section [Deploying OT Defense Console on page 4](#))
2. Power off the old ODC
3. Click [Browser] and choose an existing disk
4. Attach the external disk of the old ODC to the new ODC
5. The old ODC's information will be migrated into the new ODC



## Terms and Acronyms

The following table lists the terms and acronyms used in this document.

| <b>Term/Acronym</b> | <b>Definition</b>                        |
|---------------------|--|
| EWS                 | Engineering Workstation                  |
| HMI                 | Human-Machine Interface                  |
| ICS                 | Industrial Control System                |
| IT                  | Informational Technology                 |
| ODC                 | Operational Technology Defense Console   |
| OT                  | Operational Technology                   |
| OT Defense Console  | Operational Technology Defense Console   |
| PLC                 | Programmable Logic Controller            |
| SCADA               | Supervisory Control and Data Acquisition |