



# 1.0 TXOne StellarOne™

## Installation Guide

Unify your cyber security posture with one centralized console



Endpoint Security

# **TXOne StellarOne<sup>™</sup>**

## **Installation Guide**

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<http://docs.trendmicro.com/en-us/enterprise/txone-stellarenforce.aspx>

and

<http://docs.trendmicro.com/en-us/enterprise/txone-stellarprotect.aspx>

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

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

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## System Requirements

StellarOne is packaged in an Open Virtual Appliance (OVA) format. This section lists the minimum system requirements.

### Supported Hypervisor:

- VMWare ESX 6.X or above
- VMware Workstation 14 or later

### Supported Browser:

- Microsoft Internet Explorer 11.0
- Google Chrome 87 or latest
- Microsoft Edge 79 or latest
- Mozilla Firefox 78 or latest

## Sizing

The sizing recommendation varies by the scale of agents, configuration, and logs that will be retained. Users can gradually increase the number of endpoints while observing server performance data.

Maximum number of Agents	30,000	20,000	15,000	10,000	5,000	1,000	500
vCore	12 Core	8 / 4 Core	4 Core				
Memory	24 GB	16 GB	16 GB	16 GB	16 GB	16 GB	16 GB
1st HDD size	25 GB						
2st HDD Size (Recommend)	100 GB	100 GB	50 GB	50 GB	50 GB	50 GB	50 GB

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

#of Logs	Disk
50,000,000	50 GB
100,000,000	100 GB
150,000,000	150 GB

To determine your external HDD spec, please refer to the following formula:  
[ Output log numbers from a single agent per day ] x [ Log storage period in days ] x  
[ Total number of agents ]

Example: External HDD size for 20,000 agents

- Output log numbers from a single agent per day: 100 events
- Log storage period in days: 30 days
- Total number of agents: 20,000 agents

Number of Logs:  $100 \times 30 \times 20000 = 60,000,000$  Logs

This use case would require 100GB of storage space.

## Ports and FQDN Used

The following table shows the ports that are used by the StellarOne server.

From	To	Open Port	FQDN	Comments
StellarProtect	StellarOne	9443		StellarOne listening port for StellarProtect
StellarEnforce	StellarOne	8000		StellarOne listening port for StellarEnforce
StellarOne	StellarProtect	14336		StellarProtect's listening port
StellarOne	StellarEnforce	14336		StellarEnforce's listening port
StellarOne	License(PR) Server	443	licenseupdate.trendmicro.com	StellarOne's port for license checking and renewal through HTTPS
Browser	StellarOne Web	443		StellarOne's port for web access through HTTPS

## StellarOne Onboarding to VMware ESXi

This chapter describes how to deploy StellarOne to a VMware ESXi system.

### Prerequisites

- The OVA packages provided by TXOne must be available and accessible to VMware ESXi (ESXi version 6 or above, including the required specifications).
- The necessary networks have been properly created in ESXi.

### Ports Used by StellarOne

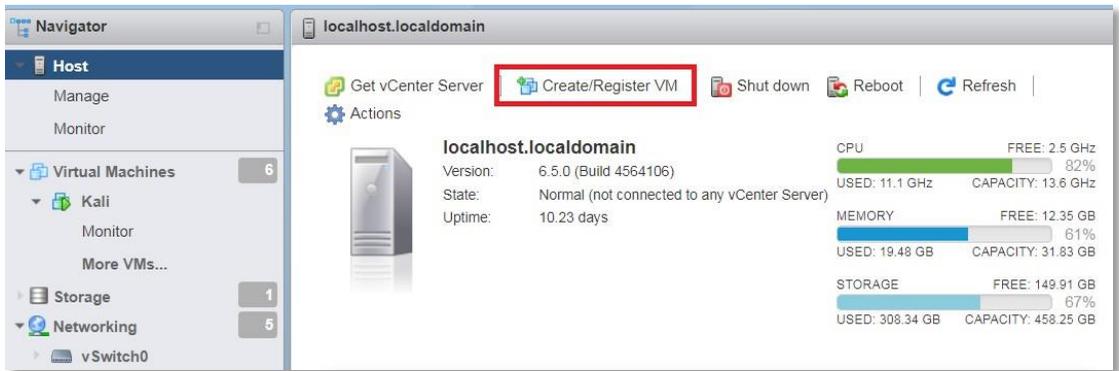
The following table shows the ports that are used by the StellarOne server.

From	To	Open Port	Comments
StellarProtect	StellarOne	9443	StellarOne listening port for StellarProtect
StellarEnforce	StellarOne	8000	StellarOne listening port for StellarEnforce
StellarOne	StellarProtect	14336	StellarProtect listening port for StellarOne
StellarOne	StellarEnforce	14336	StellarEnforce listening port for StellarOne
Browser	StellarOne Web	443	Port for StellarOne web access and license checking through HTTPS

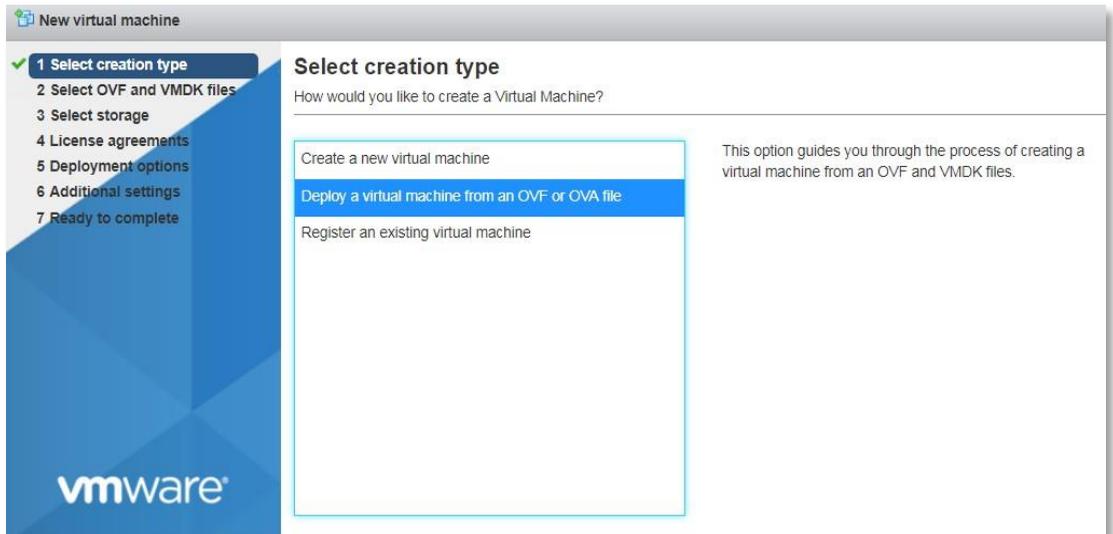
### Deploying StellarOne

1. Log in to the VMware vSphere web client.

2. Under [Navigator], click [Host] and then click [Create/Register VM].



3. Select [Deploy a virtual machine from an OVF or OVA file].



4. Input a name for your new StellarOne virtual machine and then select an StellarOne disk image to upload.

New virtual machine - odc

- ✓ 1 Select creation type
- ✓ 2 Select OVF and VMDK files
- ✓ 3 Select storage
- ✓ 4 Deployment options
- 5 Ready to complete

### Select storage

Select the datastore in which to store the configuration and disk files.

The following datastores are accessible from the destination resource that you selected. Select the destination datastore for the virtual machine configuration files and all of the virtual disks.

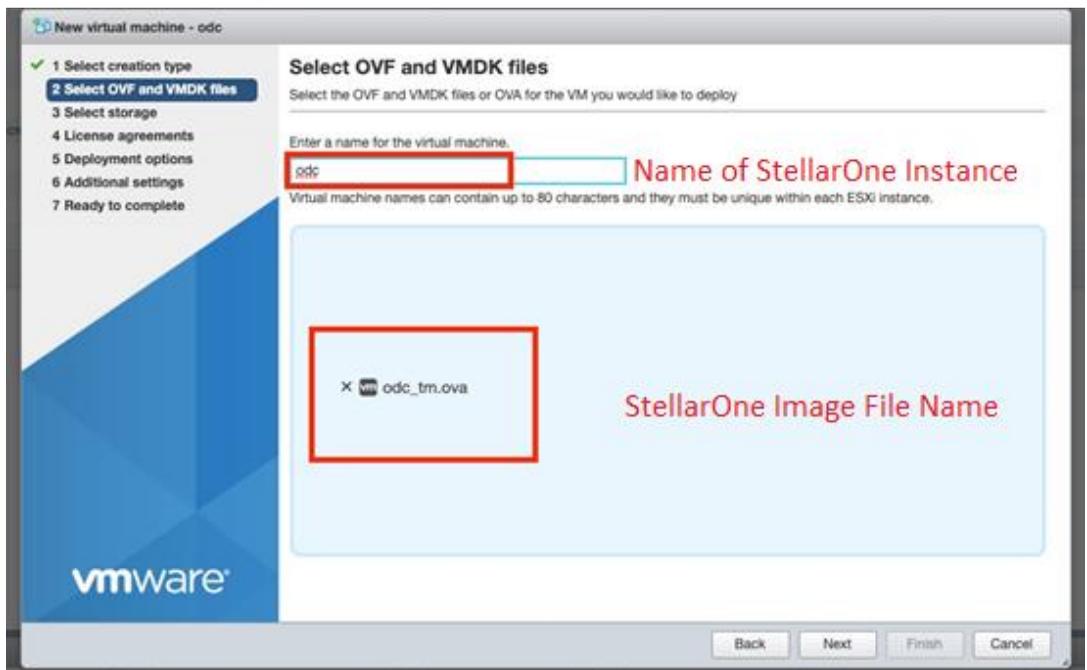
Name	Capacity	Free	Type	Thin pro...	Access
datastore1	3.63 TB	1.63 TB	VMFS5	Supported	Single

**1 items**

vmware®

Back Next Finish Cancel

5. Choose a storage location for the StellarOne virtual machine.



6. Select deployment options.

The screenshot shows the 'New virtual machine - odc' wizard in VMware Workstation. The left sidebar contains a progress list with five steps: 1 Select creation type, 2 Select OVF and VMDK files, 3 Select storage, 4 Deployment options (highlighted), and 5 Ready to complete. The main area is titled 'Deployment options' and contains the instruction 'Select deployment options'. Below this, there are two configuration sections: 'Network mappings' with a NAT dropdown menu set to 'test', and 'Disk provisioning' with radio buttons for 'Thin' (selected) and 'Thick'. At the bottom right, there are four buttons: 'Back', 'Next', 'Finish', and 'Cancel'. The VMware logo is visible in the bottom left corner of the window.

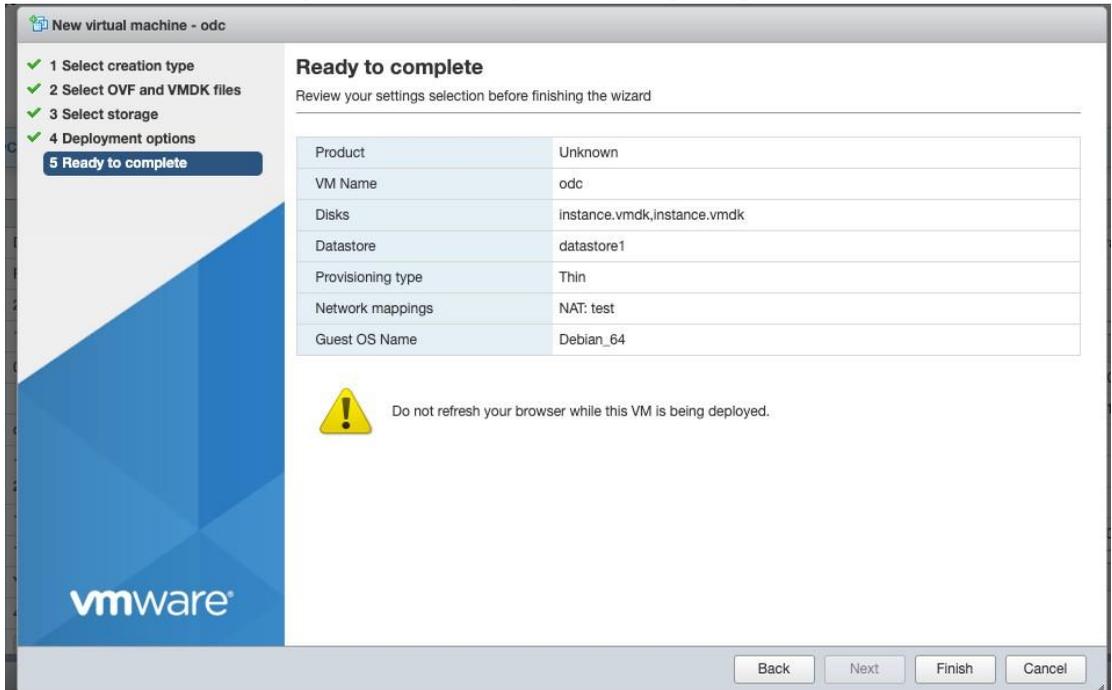
Step	Description
1	Select creation type
2	Select OVF and VMDK files
3	Select storage
4	Deployment options
5	Ready to complete

**Deployment options**  
Select deployment options

Network mappings	NAT test
Disk provisioning	<input checked="" type="radio"/> Thin <input type="radio"/> Thick

Back Next Finish Cancel

7. When you see the [Ready to complete] screen, click [Finish] to start the deployment.



8. Under the [Recent Tasks] pane, you will see a progress bar indicating that the StellarOne image is being uploaded. Please wait until the upload is finished.
9. Add an external disk with at least 50 GB of space to the StellarOne instance.
  - a. Close the StellarOne instance if it is open.
  - b. You can decide external disk size depending on the number of logs to be stored, as shown in the table below.

#of Logs	Disk
50,000,000	50 GB
100,000,000	100 GB
150,000,000	150 GB

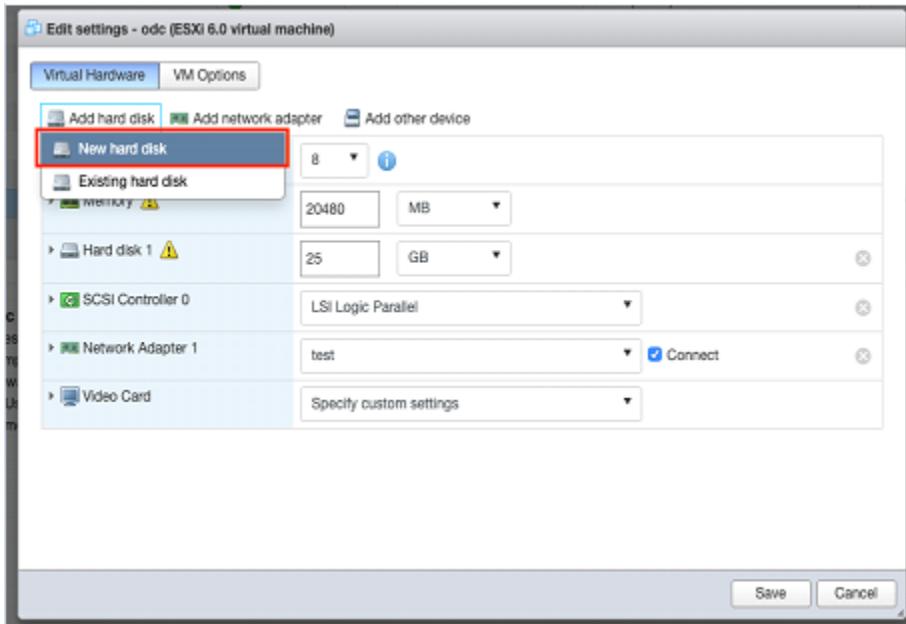
To determine ideal specifications for your external HDD, please refer to the following formula:  
[ Log output numbers for a single agent] X [Log storage period in days] X [total number of agents]

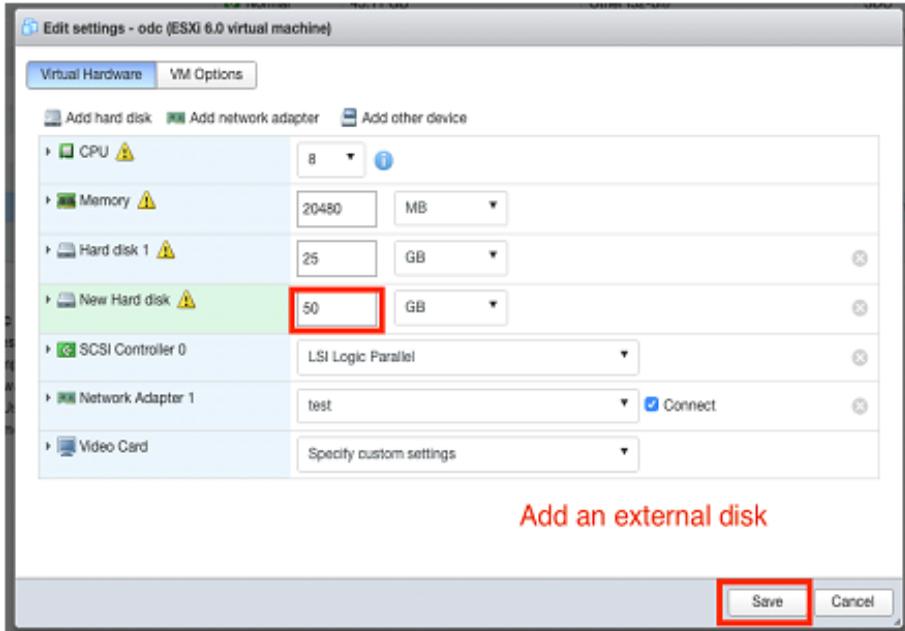
**Example: External HDD size for 20,000 agents**

- Log output per day for a single agent: 100 events
- Log storage period: 30 days
- Total number of agents: 20,000 agents

Total log numbers :  $100 \times 30 \times 20,000 = 60,000,000$  logs

Please prepare 100GB for this use case.



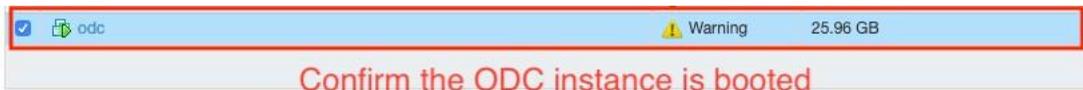


- c. Add the external disk by the following steps: [Actions] → [Edit Settings] → [Add Hard Disk] → [Save].
- d. If you must increase the number of the logs StellarOne can store, the steps are (1) close StellarOne, (2) enlarge the external disk size to fit the maximum log requirement, and (3) restart the instance of StellarOne. After that, storage available for StellarOne's log files will be expanded.
- e. If we want to migrate the existing StellarOne setting to the newly launched VM, please refer to [System Migration on page 21](#).

**Note:** StellarOne requires one external disk with a minimum size above 50GB, otherwise StellarOne will not finish initialization and will not complete the boot process.

**Note:** The external disk is used to store the system configurations and event logs. You may attach the external disk of a terminated StellarOne instance here instead of adding a new disk if you want to migrate the previous configurations and logs to a new instance.

10. Turn on the VM.



Confirm the ODC instance is booted



**odc**  
 Guest OS Other (32-bit)  
 Compatibility ESXi 6.0 and later (VM version 11)  
 VMware Tools Yes  
 CPUs 8  
 Memory 20 GB

Click the window to log into the vShell of StellarOne

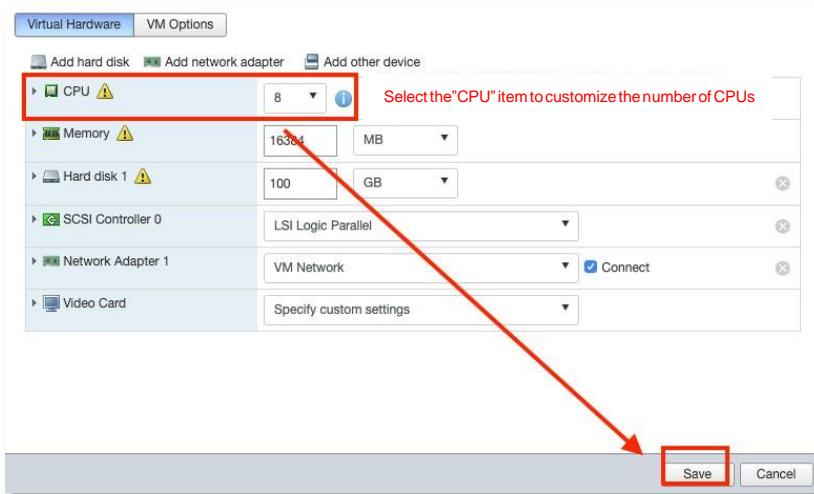
11. **(Optional)** Adjust your StellarOne instance to use proper resource configurations based on the default settings (8 core CPU, 16 GB Memory).

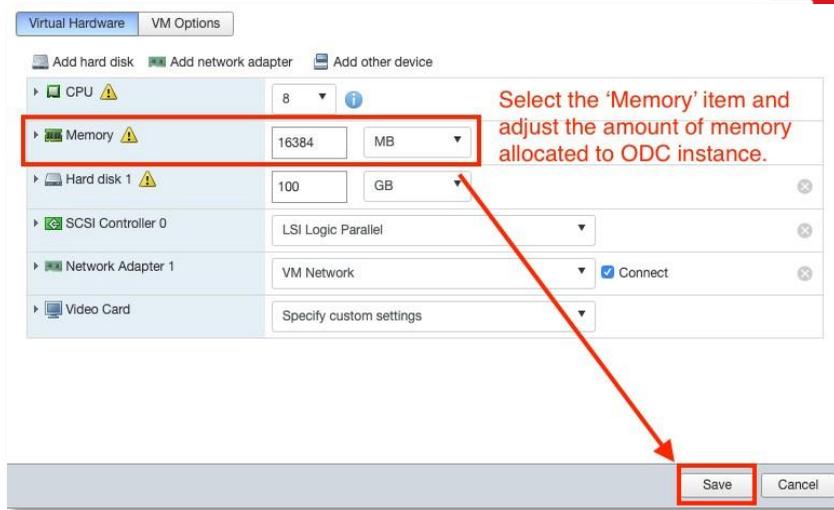
- a. Shut down the instance of StellarOne and click [Edit]. The [Edit Settings] window will appear.
- b. Configure the number of CPU cores.
- c. Configure the amount of memory.
- d. Boot the StellarOne instance.

**Sizing Table**

Agents	CPU	Memory
--------	-----	--------

500	4 cores	8 GB
1,000	4 / 8 cores	16 GB
5,000	8 cores	16 GB
10,000	8 cores	16 GB
15,000	8 cores	16 GB
20,000	8 cores	16 GB
30,000	10 cores	24 GB





## Accessing the StellarOne CLI

1. Open the StellarOne VM console.
2. Log in with "root / txone"
3. Change the default password
  - a. Type oobe and hit enter
  - b. Change the default password
  - c. Log in to StellarOne again with your new password

```
vShell, version v1.0.0
If you want to exit this shell, please type 'exit' or 'Ctrl-D'.
$ help
vShell, version v1.0.0
The commands provided in:
  access-list  Manage the IP whitelists
  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
  reboot     Restart the machine immediately
  resolv     Manage the domain name server
  scp        Send files via scp
  service    Manage the dashboard service
  sftp       Send files via sftp

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
$
```

4. After logging in to StellarOne again, you may optionally type the "help" command to see a list of available commands for the instance.

## Getting the IP Address of the StellarOne Instance

1. Type the following command to get the IP address of the StellarOne instance:

```
$ iface ls
```

```
$ iface
vShell: command not found
$ iface ls
[
  {
    "Name": "lo",
    "Family": "inet",
    "Method": "loopback"
  }
  {
    "Name": "eth0",
    "Family": "inet",
    "Method": "dhcp"
  }
]
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:29:09:80:3c brd ff:ff:ff:ff:ff:ff
    inet 10.7.19.195/24 brd 10.7.19.255 scope global eth0
        valid_lft forever preferred_lft forever
    inet6 fe80::20c:29ff:fe09:803c/64 scope link
        valid_lft forever preferred_lft forever
$
```

```
Linux ODC 4.9.0-11-amd64 #1 SMP Debian 4.9.189-3+deb9u2 (2019-11-11) x86_64

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Wed Jan 22 03:25:45 2020 from 10.7.98.45
vShell, version v1.0.0

If you want to exit this shell, please type 'exit' or 'Ctrl-D'.
$ iface update eth0 --method static --address 10.7.19.157 --netmask 255.255.255.0 --gateway 10.7.19.254
Interface settings are changed. Please restart interface
$
```

## [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 10.7.19.157/24 with the Gateway IP address 10.7.19.254:

```
$ iface update eth0 --method static --address 10.7.19.157 --
netmask 255.255.255.0 --gateway 10.7.19.254
```

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

```
$ iface restart eth0
```

3. Execute 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 commands add "8.8.8.8" to the DNS server list.

```
$ resolv mode custom  
$ resolv add 8.8.8.8
```

5. You can then use "resolv ls" view the DNS server settings.

```
$ resolv ls
```



```
vShell  
File Edit Tabs Help  
$ resolv ls  
$ resolv add 8.8.8.8  
8.8.8 is added.  
$ resolv ls  
nameserver 8.8.8.8
```

6. Execute the following command to reboot the VM:

```
$ reboot
```

## [Optional] How to Modify Communication Ports

You can modify communication ports manually.

1. Use the "env ls" command to list the current communication ports.

```
$ env ls  
Hostname: ODC  
Status: INIT: DB INITIALIZATION  
Product Serial Number: 17b958c8-a738-11eb-a1cc-000c299a2ab9  
Version: 1.0.1069-ja  
External IP: Not Set  
DPI Engine Version:  
DPI Pattern Version:  
Stellar Enforce Agent Up Port:8000  
Stellar Enforce Agent Down Port:14336  
Stellar Protect Agent Up Port:9443  
Stellar Protect Agent Down Port:14336
```

2. Type "Stellar", and the product agent will appear for selection.

```
$ stellar
  set-enforce-ports  Edit the communication ports for Stellar Enforce agents
  set-protect-ports  Edit the communication ports for Stellar Protect agents
```

3. Select one product agent (set-enforce-ports or set-protect-ports) you want to edit.

```
$ stellar set-enforce-ports
  set-enforce-ports  Edit the communication ports for Stellar Enforce agents
  set-protect-ports  Edit the communication ports for Stellar Protect agents
```

4. Input the valid value for <up-port> and <down-port>.
  - <up-port>: Port for receiving data from agents
  - <down-port>: Port to send command to agents

```
$ stellar set-enforce-ports 8888 14000
Port for receiving data from Stellar Enforce agents: 8888
Port to send commands to Stellar Enforce agents: 14000

Successfully set up ports for Stellar Enforce.
Please reload services to take effect.
```

5. Type "service reload", and the up and/or down ports will change to specified values.

```
$ env ls
Hostname:                ODC
Status:                  INIT: GET SYSTEM BEST RESOURCE
Product Serial Number:   17b958c8-a738-11eb-a1cc-000c299a2ab9
Version:                 1.0.1069-ja
External IP:             Not Set
DPI Engine Version:
DPI Pattern Version:
Stellar Enforce Agent Up Port:8888
Stellar Enforce Agent Down Port:14000
Stellar Protect Agent Up Port:8448
```

## Opening the Management Console

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

**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.

browser.

### Procedure

1. In a web browser, type the address of the StellarOne in the following format:

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

The login screen will appear.

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

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

- User name: `admin`
- Password: `txone`

3. Click Log On.

If this is your first log on, the Login Information Setup frame will appear.

**Note:** You must change the default login name and password at first log on 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.
4. After you log in again, specify the Date and Time, as well as your Time Zone, then click continue.
  5. Enter your first Activation Code, then click Continue. If you want to enter an activation code for another product, click Enter Another Code instead of Continue.

- You are now logged in to StellarOne.

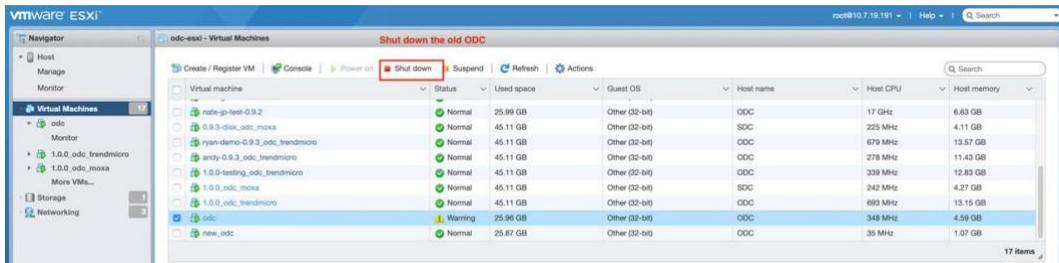
## System Migration

When a new version of StellarOne is released, you can migrate the settings of an existing StellarOne instance by attaching the external disk of the old StellarOne to the new StellarOne VM. The migration of settings includes:

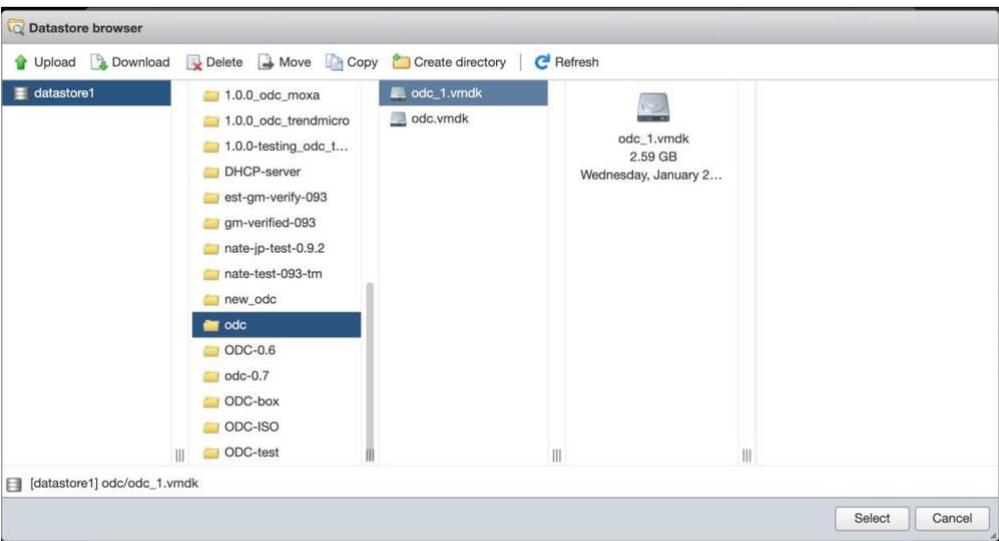
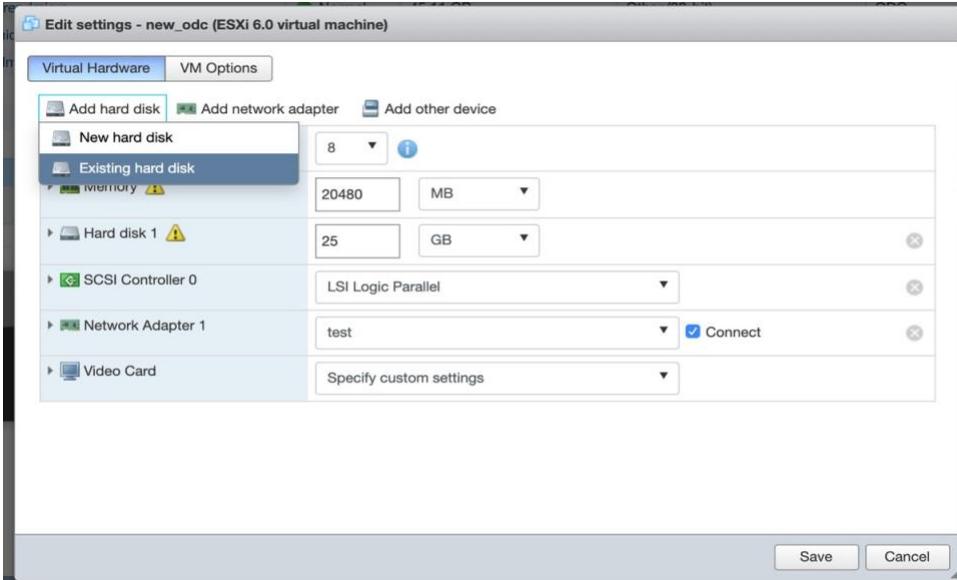
- The UUID of the old StellarOne
- The pattern and firmware downloaded by the old StellarOne
- The system configuration set from the old StellarOne including its license, accounting information, security policies, and so on
- The security event logs stored by old StellarOne

### Procedure

- Launch the new instance of StellarOne (refer to section “Deploying StellarOne”)
- Close the old instance of StellarOne



- Attach the external disk of the old StellarOne to the new StellarOne.
- The old StellarOne’s information will be migrated into the new StellarOne.



## Installing StellarOne on a VMware Workstation

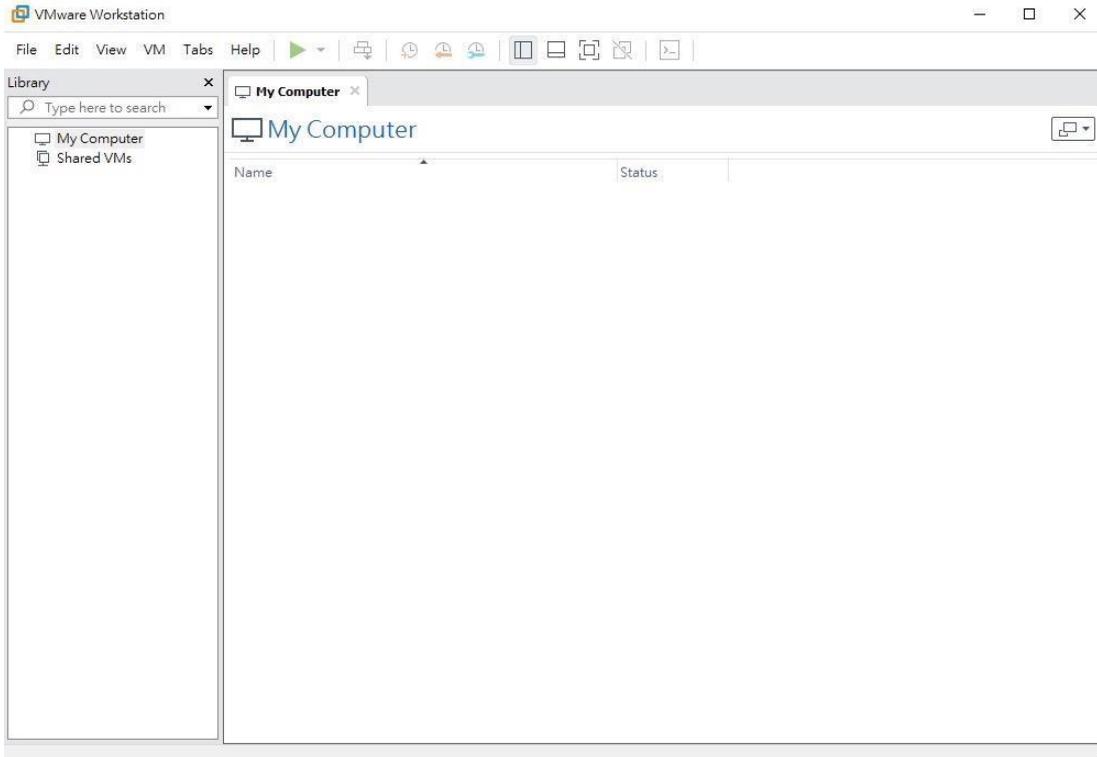
This chapter describes how to deploy StellarOne to a VMware Workstation system.

### Prerequisites

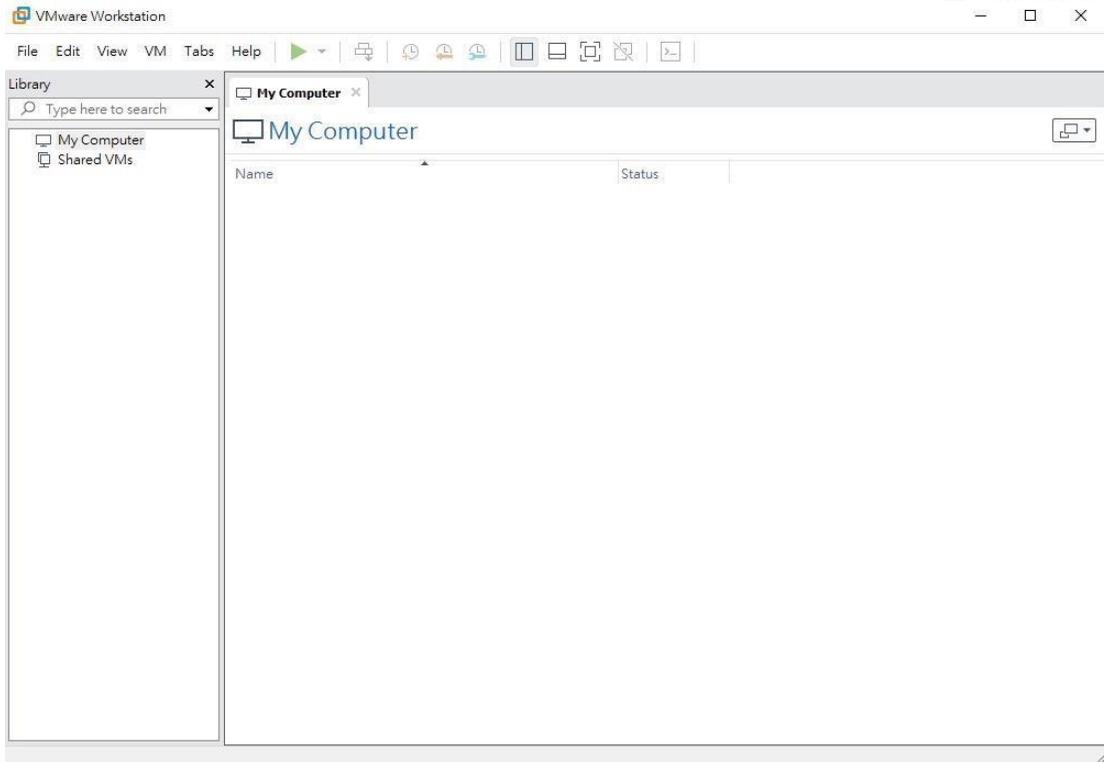
- The OVA packages provided by TXOne must be available and accessible to the VMware Workstation.
- VMware workstation 14 or later is required.

## Deploying StellarOne

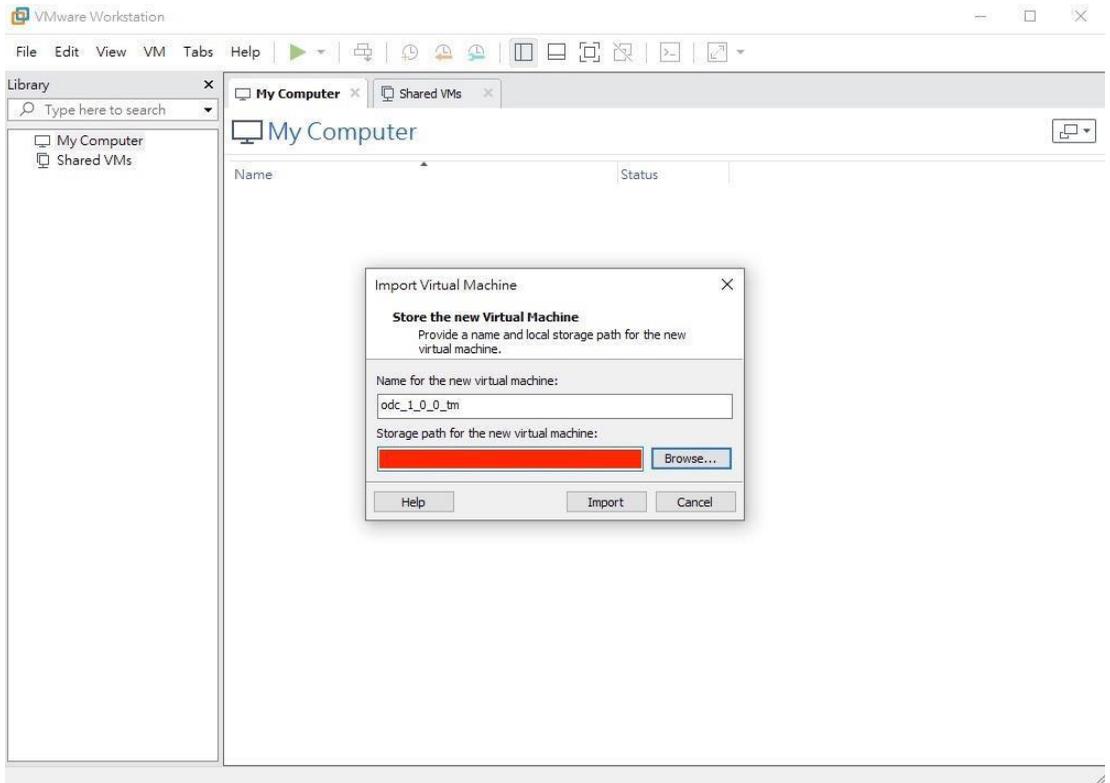
1. Start the VMware Workstation and click [File] on the menu bar.



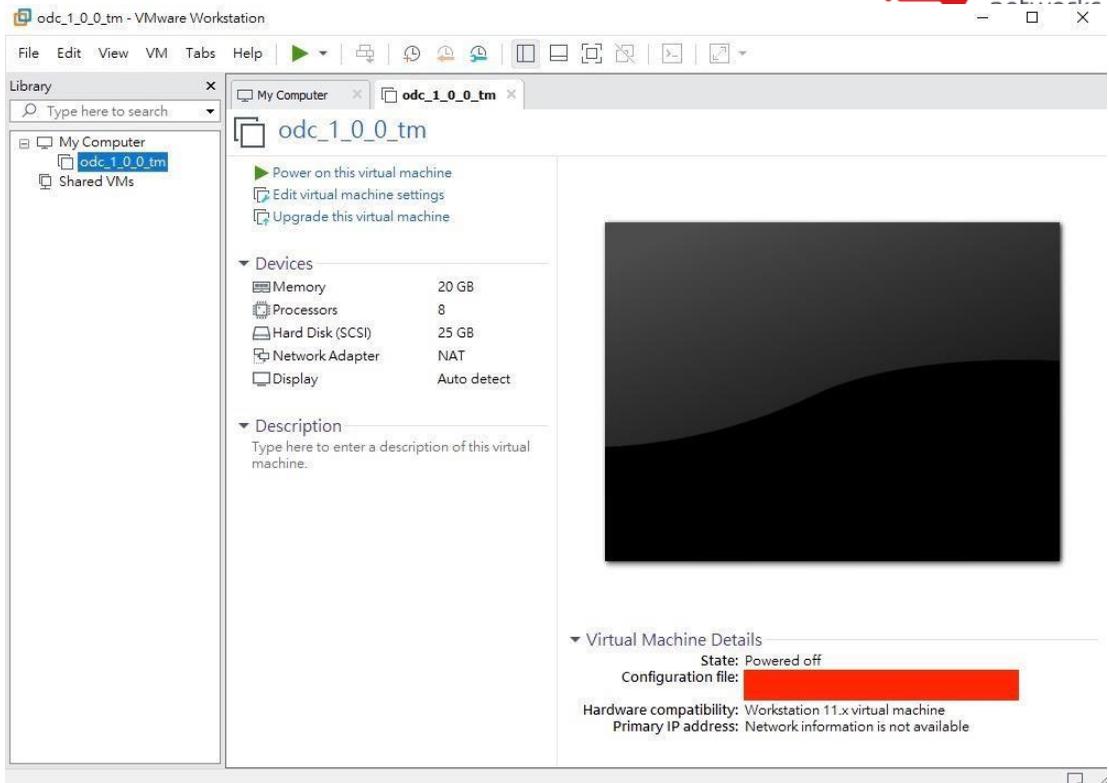
2. Select [Open] to import the StellarOne VM image file (\*.ova).



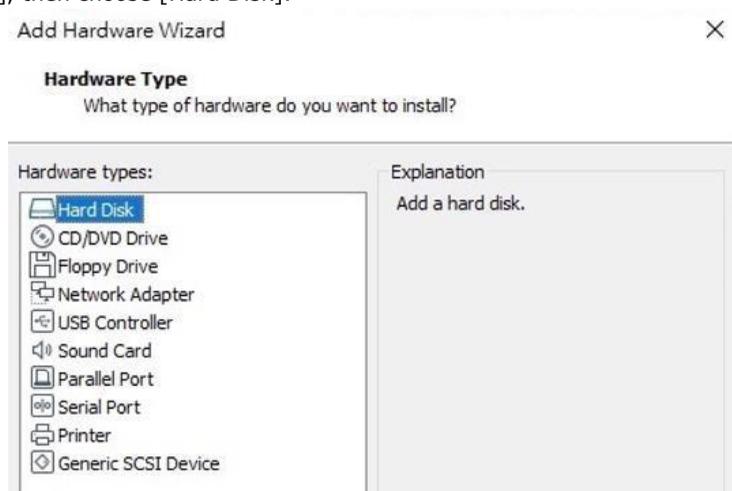
3. Select the StellarOne VM image file from your localhost file path and click the [Import] button.



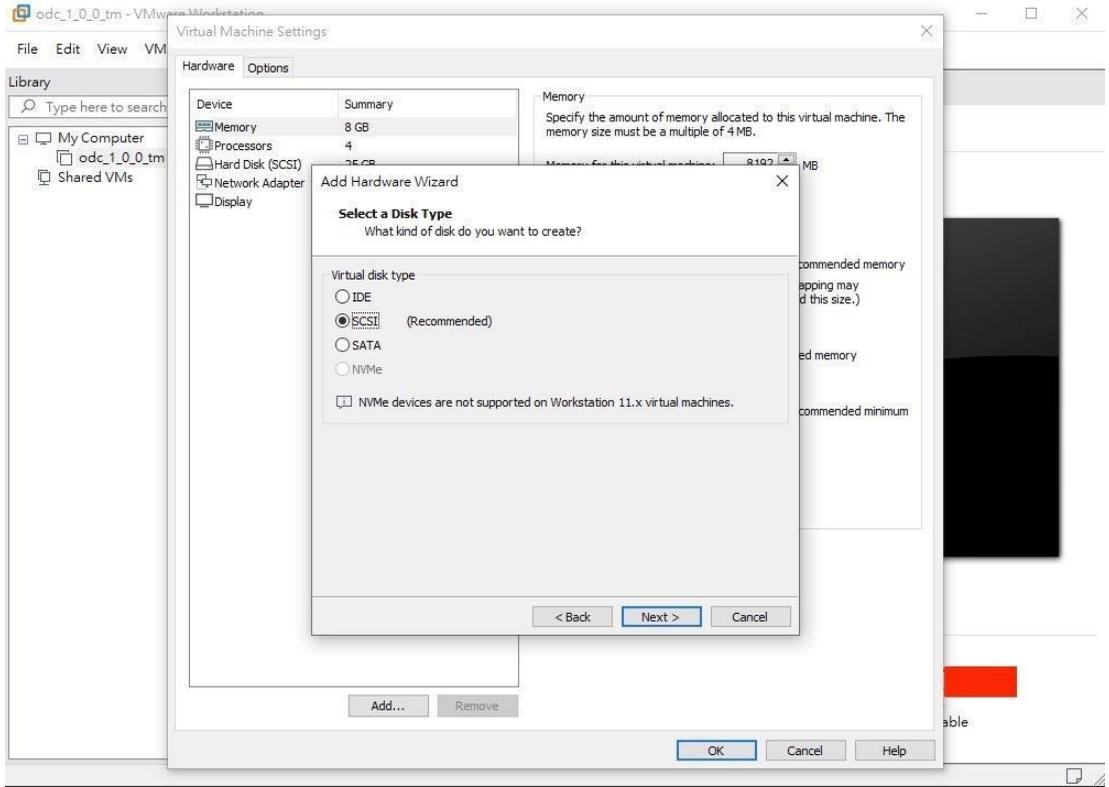
4. Check the detailed VM information of the imported StellarOne VM.



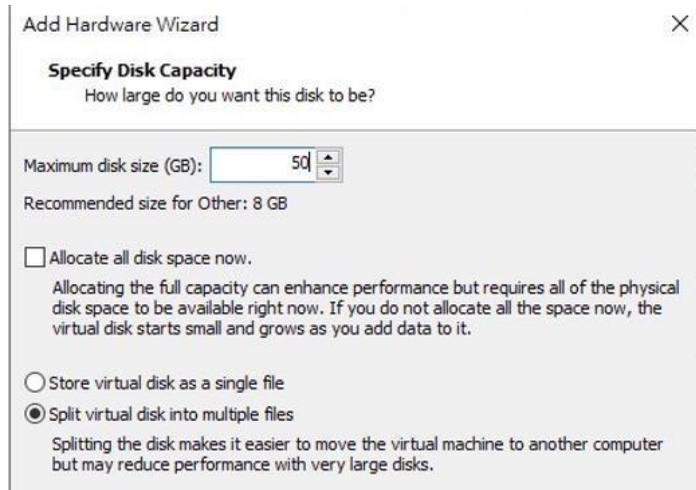
5. Add an extra disk.
  - a. Click [Edit virtual machine settings].
  - b. Click [Add], then choose [Hard Disk].



c. Select Disk type.



d. Select Disk size.



- e. Select path to store the disk.
  - f. Click [OK].
6. **(Optional)** Adjust your StellarOne instance to use proper resource configurations based on the default settings (8 CPU cores, 16 GB of memory).
- a. Click [Edit virtual machine settings].
  - b. Configure the amount of memory.

odc\_1\_0\_0\_tm - VMware Workstation

File Edit View VM Tabs Help

Library

Type here to search

- My Computer
  - odc\_1\_0\_0\_tm
  - Shared VMs

### odc\_1\_0\_0\_tm

- Power on this virtual machine
- Edit virtual machine settings
- Upgrade this virtual machine

#### Devices

Memory	20 GB
Processors	8
Hard Disk (SCSI)	25 GB
Network Adapter	NAT
Display	Auto detect

#### Description

Type here to enter a description of this virtual machine.

#### Virtual Machine Details

State: Powered off  
Configuration file: [REDACTED]  
Hardware compatibility: Workstation 11.x virtual machine  
Primary IP address: Network information is not available

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KS

odc\_1\_0\_0\_tm - VMware Workstation

File Edit View VM

Library

Type here to search

- My Computer
  - odc\_1\_0\_0\_tm
  - Shared VMs

### Virtual Machine Settings

Hardware Options

Device	Summary
Memory	20 GB
Processors	8
Hard Disk (SCSI)	25 GB
Network Adapter	NAT
Display	Auto detect

#### Memory

Specify the amount of memory allocated to this virtual machine. The memory size must be a multiple of 4 MB.

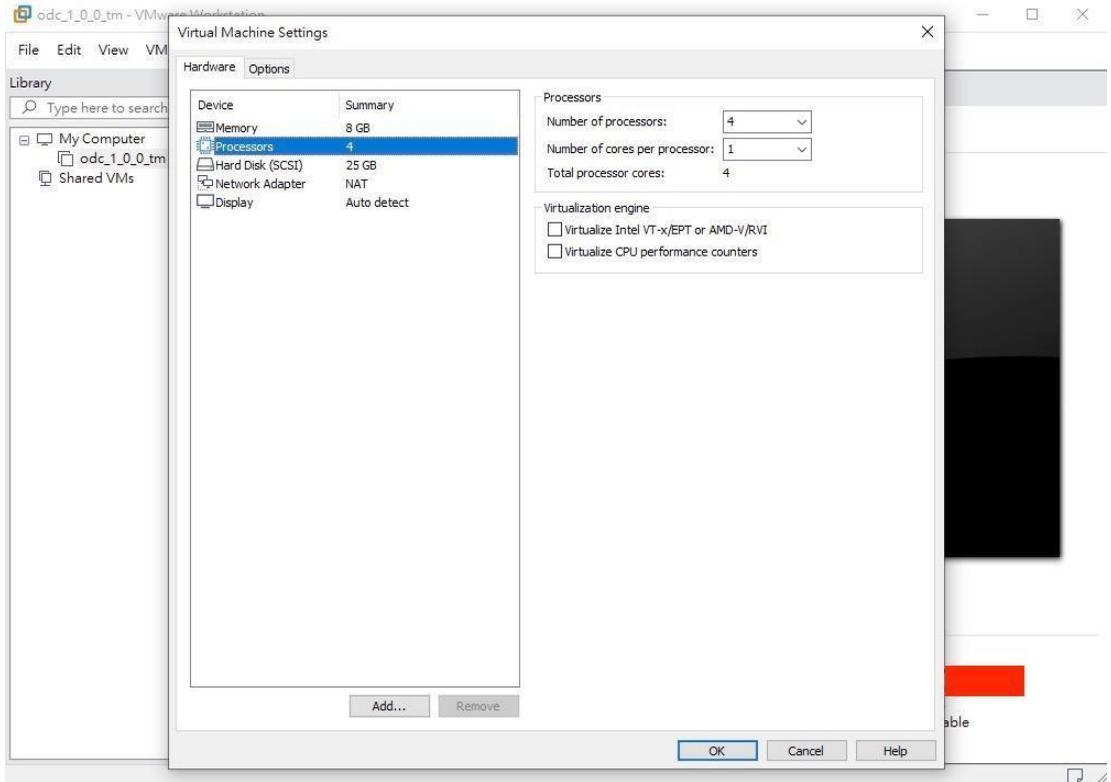
Memory for this virtual machine: 8192 MB

64 GB	32 GB	16 GB	8 GB	4 GB	2 GB	1 GB	512 MB	256 MB	128 MB	64 MB	32 MB	16 MB	8 MB	4 MB
-------	-------	-------	------	------	------	------	--------	--------	--------	-------	-------	-------	------	------

- Maximum recommended memory (Memory swapping may occur beyond this size.) 6.2 GB
- Recommended memory 256 MB
- Guest OS recommended minimum 32 MB

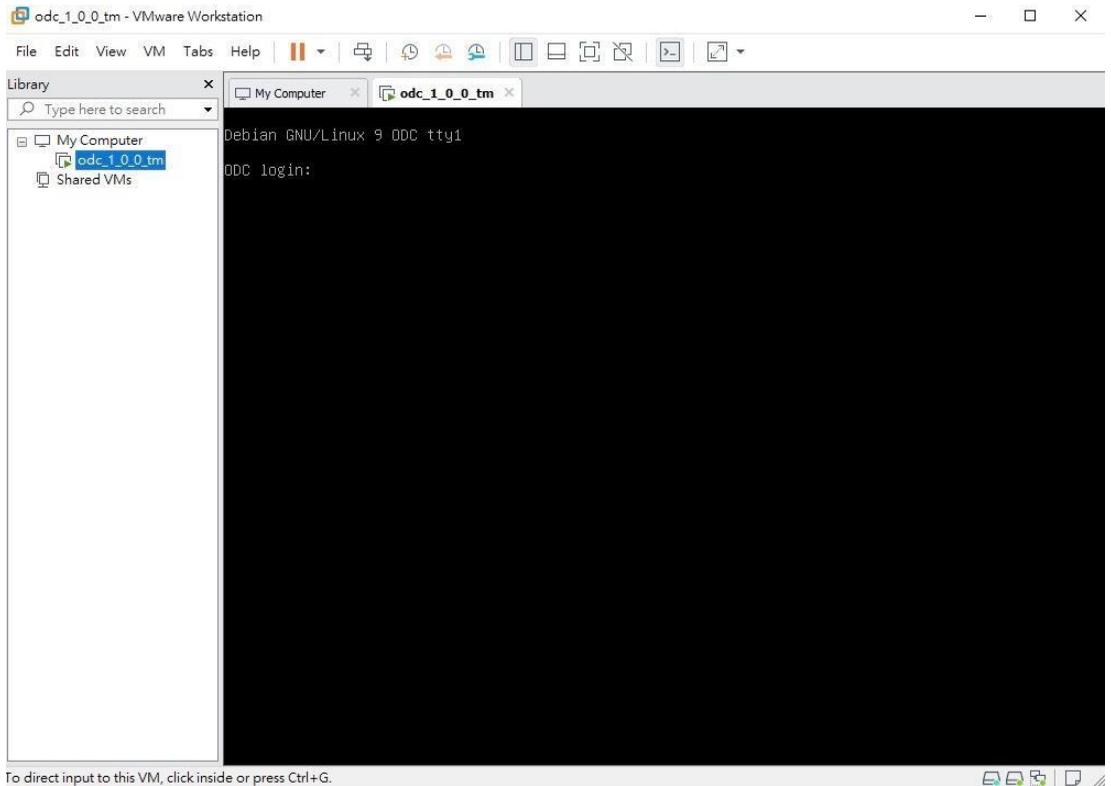
Add... Remove

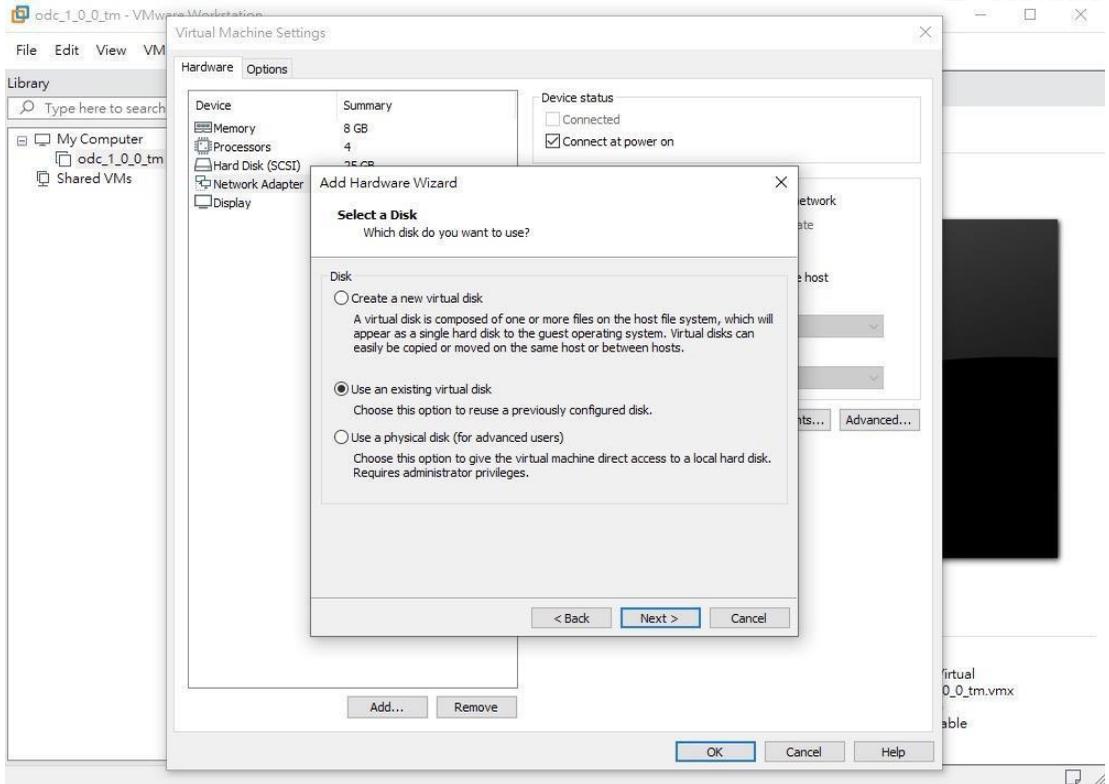
OK Cancel Help



7. **(Optional)** Change the network adapter setting from 'NAT' to 'Bridged'.
  - a. Right click the StellarOne VM icon and select [Settings].
  - b. Select [Network Adapter] and change the default setting from [NAT] to [Bridged] if necessary.

8. Boot the StellarOne VM, and the StellarOne instance will start.





## System Migration

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

- The UUID of the old StellarOne
- The pattern and firmware downloaded by the old StellarOne
- The system configuration set by the old StellarOne including license, accounting information, security policies, and so on.
- The security event logs stored by the old StellarOne

## Procedure

1. Launch the new StellarOne instance (refer to section "Deploying StellarOne")
2. Close the old instance of StellarOne
3. Attach the external disk of the old StellarOne to the new StellarOne.
4. A window will come up where you can select which settings and data will be migrated into the new StellarOne, and after your confirmation the old StellarOne's selected information will be migrated into the new StellarOne.

## Configuring the StellarOne system

Please check the following sections for directions on configuring your StellarOne system:

- [Accessing the StellarOne CLI on page 9](#)
- [Getting the IP Address of the StellarOne Instance on page 9](#)
- [\[Optional\] Configure the IP Address Settings on page 10](#)
- [Opening the Management Console on page 11](#)

### Appendix A

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
OT	Operational Technology
PLC	Programmable Logic Controller
SCADA	Supervisory Control and Data Acquisition



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