

Avocent® MP1000VA Management Platform Virtual Appliance

Installation/Deployment Guide

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Technical Support Site

If you encounter any installation or operational issues with your product, check the pertinent section of this manual to see if the issue can be resolved by following outlined procedures.

Visit https://www.vertiv.com/en-us/support/ for additional assistance.

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1 Getting Started

Once you have read the information outlined in the Vertiv[™] Avocent[®] MP1000VA Management Platform Virtual Appliance Getting Started Guide, you should complete the procedures in this document to gain access to the Avocent MP1000VA Management Platform Virtual Appliance (VA) web User Interface (UI), where target devices are launched and managed.

This guide describes the virtualization platforms supported by the Avocent MP1000VA Management Platform Virtual Appliance and provides installation, deployment and network configuration instructions for the VA.

1.1 Virtualization Platforms

The VA can be deployed on any of the following virtualization platforms:

- Microsoft Hyper-V Hypervisor 2019
- VMware vCenter Server 7.0
- VMware vSphere Hypervisor (ESXi) 7.0

Before continuing, ensure you have installed one of these virtualization platforms to deploy the management platform VA. If you have not, please see the installation instructions for the appropriate platform on the corresponding website:

- VMware: Server Management Software vCenter | VMware
- Hyper-V: Install the Hyper-V role on Windows Server | Microsoft Learn

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2 Installing the Virtual Appliance

NOTE: Vertiv distributes the Avocent MP1000VA Management Platform Virtual Appliance as an Open Virtual Appliance (OVA) disk image for VMware and as a Virtual Hard Disk v2 (VHDX) disk image for Hyper-V.

To install the VA:

- 1. From Vertiv.com, type MP1000 into the search bar and press Enter.
- 2. Click Vertiv[™] Avocent[®] MP1000VA Management Platform Virtual Appliance.
- 3. Scroll down and click the Documents & Downloads tab.
- 4. Under the Software heading, click Vertiv[™] Avocent[®] MP1000 Software Downloads.
- 5. For Hyper-V, download the latest version of the VHDX file from the Software Download column.

NOTE: The VHDX disk image must be unzipped after downloading. Ensure you have adequate space available to support the uncompressed file (more than 20 GB). For more information, see Prerequisite on page 5.

-or-

For VMware, download the latest version of the OVA file from the Software Download column.

NOTE: Ensure you review the accompanying Release Notes for any updates or troubleshooting procedures regarding the software.

6. The VA is now installed and ready for deployment. Proceed to the next section for deployment instructions.

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3 Deploying the Virtual Appliance

To begin the deployment process, review the hardware requirements, then navigate to the appropriate section for your chosen virtualization platform for further instructions.

3.1 Hardware Requirements

Before continuing, ensure the following hardware resources have been provisioned:

CAUTION: Avoid oversubscribing the host server's resources. When possible, use resources preserved for the Avocent MP1000VA Management Platform Virtual Appliance.

- Suitable processors, such as:
 - Intel Xeon Scalable Generation 1+ 6-Core+,
 - Intel Xeon Processor E5-1650 v4, 6C/12T @ 3.6GHz (4.0GHz),
 - Intel Xeon Silver 4309Y, 8C/8T @ 2.8GHz (3.6GHz),
 - AMD EPYC 72F3 [8C/16T @ 3.7GHz (4.1GHz)],
 - Or processors of equivalent or higher quality
- 4x vCPU
- 16 GB memory
- 1 TB storage

3.2 Microsoft Hyper-V Hypervisor 2019

3.2.1 Prerequisite

Prior to deployment, the VHDX disk image must be unzipped.

To prepare the VHDX disk image for deployment:

- 1. After downloading the VHDX disk image, move the .zip file to the Hyper-V server and use Windows Explorer to extract the VHDX file from the .zip file.
- 2. Move the extracted VHDX file to the location where the new Virtual Machine (VM) disk image will reside (the deployment location) and proceed to the next section of this guide for deployment instructions.

3.2.2 Deployment

To deploy the VA:

- 1. Using an account with administrator or Hyper-V management privileges, log into a remote desktop on the Windows 2019 server where Hyper-V is installed.
- 2. Open the Hyper-V Manager application.

3. Under the Hyper-V Manager node in the left-hand sidebar, right-click on the connected hypervisor (*HSVTST-HYPERV* in the following example) and select *New-Virtual Machine*.

Figure 3.1 Hyper-V Manager Screen

/ Manager TST-HYPERV	Virtual Machines						
	Name	State	CPU Usage	Assigned Memory	Uptime	Status	Configurati
		Running	0%	2194 MB	25.03:07:13		5.0
		Running	0%	4908 MB	25.03:07:06		9.0
	8	Running	0%	3544 MB	25.03:07:01		5.0
	8	Running	0%	3770 MB	25.03:07:02		5.0
		Running	0%	2874 MB	21.04:42:07		9.0
		Running	0%	1892 MB	25.03:10:43		5.0
	8	Off					9.0
		Running	0%	1670 MB	6.19:58:20		9.0
		Running	0%	816 MB	25.03:07:46		5.0
		Running	0%	696 MB	25.03:07:49		9.0
		Running	0%	1134 MB	25.03:07:49		5.0
		Off					9.0
		Running	0%	8192 MB	4.19:54:50		9.0
		Running	0%	16000 MB	1.01:51:28		9.0
		Off					9.0
		Running	0%	16000 MB	25.03:07:53		9.0
		Off					9.0
		Running	1%	16024 MB	25.03:07:55		9.0
		Running	0%	854 MB	25.03:07:48		9.0
		Running	0%	2304 MB	25.03:07:45		5.0
		Off					5.0
		Running	0%	778 MB	25.03:07:47		9.0
		Running	0%	788 MB	25.03:07:47		9.0
		Running	0%	2048 MB	25.03:07:45		9.0
		Running	0%	1378 MB	4.20:25:45		9.0

4. When the New Virtual Machine Wizard opens, select *Specify Name and Location*, then enter the name and storage location for the VM.

Figure 3.2 Specify Name and Location Screen

🖳 New Virtual Machine Wiza	rd	Х
Specify Nam 💴	e and Location	
Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options	Choose a name and location for this virtual machine. The name is displayed in Hyper-V Manager. We recommend that you use a name that helps you easily identify this virtual machine, such as the name of the guest operating system or workload. Name: Vertiv Avocent MP1000VA You can create a folder or use an existing folder to store the virtual machine. If you don't select a folder, the virtual machine is stored in the default folder configured for this server. Store the virtual machine in a different location	
Summary	Location: D:\VMs\ Browse ▲ If you plan to take checkpoints of this virtual machine, select a location that has enough free space. Checkpoints include virtual machine data and may require a large amount of space. Previous Next > Finish Cancel	

5. Click Next.

6. In the Specify Generation section of the Wizard, click the Generation 2 radio button and click Next.

NOTE: The Generation 1 option is not supported.

Figure 3.3 Specify Generation Screen

🖳 New Virtual Machine Wizar	rd X
💴 Specify Gene	eration
Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary	 Choose the generation of this virtual machine. Generation 1 This virtual machine generation supports 32-bit and 64-bit guest operating systems and provides virtual hardware which has been available in all previous versions of Hyper-V. Generation 2 This virtual machine generation provides support for newer virtualization features, has UEFI-based firmware, and requires a supported 64-bit guest operating system. Once a virtual machine has been created, you cannot change its generation.
	< Previous Next > Finish Cancel

7. In the Assign Memory section of the Wizard, enter 16384 MB (or greater) in the Startup memory field.



🖳 New Virtual Machine Wizar	d	×
🐸 Assign Memo	ry	
Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary	Specify the amount of memory to allocate to this virtual machine. You can specify an amount from 32 MB through 12582912 MB. To improve performance, specify more than the minimum amount recommended for the operating system. Startup memory: 16384 MB Use Dynamic Memory for this virtual machine. When you decide how much memory to assign to a virtual machine, consider how you intend to use the virtual machine and the operating system that it will run.	
	< Previous Next > Finish Cancel	

- 8. Leave the Use Dynamic Memory for this virtual machine checkbox unchecked (disabled) and click Next.
- 9. In the Configure Networking section of the Wizard, use the Connection drop-down menu to select the Hyper-V network to which you wish to connect.

Figure 3.5 Configure Networking Screen

🖳 New Virtual Machine Wiza	ard	×
📃 Configure N	etworking	
Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary	Each new virtual machine includes a network adapter. You can configure the network adapter to use virtual switch, or it can remain disconnected. Connection:	ea
	< Previous Next > Finish Cancel	

10. Click Next.

11. In the Connect Virtual Hard Disk section of the Wizard, click the radio button for the Use an existing virtual hard disk option and click *Browse*.

Figure 3.6 Connect Virtual Hard Disk Screen

🖳 New Virtual Machine Wizi	ard	×
Connect Vir	tual Hard Disk	
Before You Begin Specify Name and Location Specify Generation Assign Memory	A virtual machine requires storage so that you can install an operating system. You can specify the storage now or configure it later by modifying the virtual machine's properties. O Create a virtual hard disk Use this option to create a VHDX dynamically expanding virtual hard disk.	
Configure Networking Connect Virtual Hard Disk Summary	Name: Vertiv Avocent MP 1000VA.vhdx Location: D: \VMs\ Size: 127 GB (Maximum: 64 TB)	
	Use an existing virtual hard disk Use this option to attach an existing VHDX virtual hard disk. Location: MP1000VA 3.33.3\vApp-PROD-3.33.3.vhdx Browse	
	 Attach a virtual hard disk later Use this option to skip this step now and attach an existing virtual hard disk later. 	
	< Previous Next > Finish Cancel	

12. Browse to and select the extracted VHDX disk image (the image/file you extracted in Prerequisite on page 5).

13. Click Next.

14. In the Summary section of the Wizard, review the Description box and click *Finish* to confirm the details and create the VM.

Figure 3.7 Summary Screen

🖳 New Virtual Machine Wiza	ard	×
Completing	the New Virtual Machine Wizard	
Before You Begin Specify Name and Location Specify Generation	You have successfully completed the New Virtual Machine Wizard. You are about to create the following virtual machine. Description:	
Assign Memory Configure Networking Connect Virtual Hard Disk Summary	Name: Vertiv Avocent MP1000VA Generation: Generation 2 Memory: 16384 MB Network: Image: MP1000VA 3.33.3\vApp-PROD-3.33.3.vhdx (VHDX, dynamically expanding)	
	To create the virtual machine and close the wizard, click Finish.	
	< Previous Next > Finish Cancel	

A progress bar appears to provide the status. When the VM creation process completes, the new VM appears in the Hyper-V Manager list.

15. In the Hyper-V Manager node in the left-hand sidebar, right-click on the new VM and select Settings.

- 16. In the Settings menu, select Security under the Hardware section.
- 17. By default, Secure Boot is enabled. Click the Enable Secure Boot checkbox to disable that option.

NOTE: Secure Boot must be disabled for the VA to boot on Hyper-V. Hyper-V uses Vertiv custom keys and does not support custom Secure Boot keys.

Figure 3.8 Security Screen

rt	iv Avocent MP1000VA	✓ ▲ ► \ ७
-	Hardware	Security
]	Add Hardware	Secure Boot
	Firmware	
	Boot from Hard Drive	Use Secure Boot to help prevent unauthorized code from running at boot time (recommended).
	Security Secure Boot disabled	Enable Secure Boot
1	Memory	
1	16384 MB	Template:
I	Processor	Microsoft Windows 🗸
	1 Virtual processor	
4	SCSI Controller	Encryption Support
ī	Hard Drive	Enable Trusted Platform Module
	vApp-PROD-3.33.3.vhdx	A Trusted Platform Module (TPM) is a special purpose microprocessor which
	Network Adapter	provides cryptographic services to a compute platform.
	System Test Network 10.207.18.x	
	Management	Encrypt state and virtual machine migration traffic
[T Name	Encryption support requires a key protector (KP) configuration for the virtual
	Vertiv Avocent MP1000VA	machine. If not already present, selecting one of these options will generate a KP that allows running the virtual machine on this host.
	Integration Services	to that allows furning the virtual machine on this host.
	Some services offered	Security Policy
ţ	Production	Specify additional protection options for the virtual machine.
F	Smart Paging File Location	
2	D;\VMs	
E	Automatic Start Action	This affects additional settings.
1	Restart if previously running	Learn more about virtual machine security.
P	Automatic Stop Action	Learn more about virtual machine security.
	Save	

18. In the left-hand sidebar, select *Processor* and click the arrows in the Number of virtual processors field to increase the value to 4.

Vertiv Avocent MP1000VA 🛛 🗸 🗸	< ▶ 0
 Hardware Add Hardware Firmware Boot from Hard Drive Security Secure Boot disabled Memory 16384 MB Processor 4 Virtual processors 	Processor You can modify the number of virtual processors based on the number of processors on the physical computer. You can also modify other resource control settings. Number of virtual processors: It : Resource control You can use resource controls to balance resources among virtual machines. Virtual machine reserve (percentage): 0
 SCSI Controller Hard Drive vApp-PROD-3.33.3.vhdx Network Adapter System Test Network 10.207.18.x Management Name Vertiv Avocent MP 1000VA Integration Services Some services offered Checkpoints 	Percent of total system resources: 0 Virtual machine limit (percentage): 100 Percent of total system resources: 6 Relative weight: 100
Production Smart Paging File Location D:\VMs Automatic Start Action Restart if previously running Automatic Stop Action Save	

Figure 3.9 Processor Screen

- 19. Under the Management section in the left-hand sidebar, select Integration Services.
- 20. In the Services list, click the Guest services checkbox to select this option.

Figure 3.10 Integration Services Screen

Vertiv Avocent MP1000VA Image: Add Hardware Image: Add Hardware Boot from Hard Drive Security Secure Boot disabled Memory 16384 MB Image: Processor 4 Virtual processors Strice Strice Secure Boot disabled Image: Pland Drive Vapp-PROD-3.33.3.vhdx System Test Network 10.207.18.x Adage: All services Management Name Vertiv Avocent MP 1000VA Sect The services Sect The services Management Production Services Automatic Start Action	Settings for Vertiv Avocent MP1000VA on H	HSVTST-HYPERV		×
 Add Hardware Firmware Boot from Hard Drive Security Secure Boot disabled Memory 16384 MB Processor Yital processors SCSI Controller Hard Drive vApp-PROD-3.33.3.vhdx Mame Vertiv Avocent MP1000VA Integration Services All services offered Checkpoints Production Snart Paging File Location D: WMs Automatic Star Action Restart if previously running Automatic Stap Action Save 	Vertiv Avocent MP1000VA \sim	ق ∢ ►		
	★ Hardware Firmware Boot from Hard Drive Security Secure Boot disabled Memory 16384 MB Processor 4 Virtual processors SCSI Controller Metwork Adapter System Test Network 10.207.18.x Management Name Vertiv Avocent MP 1000VA Smart Paging File Location D:\WMs Automatic Start Action Restart if previously running Automatic Stop Action	Integration Services Select the services that you want Hyper-V to offer to this virtual machine services you select, they must be supported by the guest operating Examples of services that might not be available on the guest operate volume Shadow Copy Services and operating system shutdown. Services Operating system shutdown Time synchronization Data Exchange Heartbeat Backup (volume shadow copy) Guest services	system. ting system include	

- 21. Click OK to save all settings.
- 22. After the settings are saved, right-click the VM again and select *Start*. The Avocent MP1000VA Management Platform Virtual Appliance will start and its status will change to *Running*.

NOTE: If the VM fails to boot, verify that Secure Boot is disabled.

3.3 VMware vCenter Server 7.0

3.3.1 Deployment

NOTE: You must have administrator permissions to import, create, and/or configure a Virtual Machine (VM) and to deploy an Open Virtualization Format (OVF).

To deploy the VA:

1. From the vSphere web UI, log in with administrator permissions.

Figure 3.11 VMware vSphere Client Home Page

vm vSphere Client Menu v					
C C	MomoCenter Actions - Summary Monitor Configure Permissions Hosts & Clusters VMs Dat Hosts & Units & 4 Virtual Machines 24 Clusters: 0 Datastores: 0 Custom Attributes Arebute Edt.	A Taj		Category	Cruy Pres 350 0 Pr Deel 18 18 Ore; Ceparity 55 11 Ore Meniny First 12 0 0 Uses (18 18 00) Ceparity 55 11 Ore Mening First 12 0 0 Uses (18 18 00) Ceparity 35 11 Ore Deel 18 18 00 Ceparity 85 11 Ore Deel 18 10 Ore; First 10 0 Ceparity 85 11 Ore Deel 18 10 Ore; First 10 0 Ceparity 85 11 Ore Deel 18 10 Ore; First 10 0 Ceparity 85 11 Ore; Deel 18 10 Ore; First 10 0 Ceparity 85 11 Ore; Deel 18 10 Ore; No times to display
	Update Manager Host Baseline Compliance ② Compliant (never checked)				•
Recent Tasks Alarms					*
Task Name ~ Target	✓ Status ✓ Ir	nitiator v G	Queued For v Start T	Time v Completion 1	Time V Server ↑ V
					^
All V					Nore Tasks

2. In the left- hand sidebar, right-click a data center and select Deploy OVF Template.

Figure 3.12 Deploy OVF Template

vm vSphere Cl	ient Menu 🗸	Q Search
	<u>@</u>	🖻 M
ansystetzééstedoya 🔁 \sim	systemetreestedow	Summa
> 📑 MomoCenter	Actions - MomoCenter	
	🚹 Add Host	C C
	🕼 New Cluster	
	New Folder	+
	Distributed Switch	► 0
	New Virtual Machine	C
	to Deploy OV	
	Storage	•
	Edit Default VM Compa	atibility
	🖧 Migrate VMs to Anothe	er Net
	Move To	
	Rename	
	Tags & Custom Attribu	tes 🕨
	Add Permission	
	Alarms	+
	🗙 Delete	
	Update Manager	Þ

3. From the Select an OVF template tab, click the URL radio button to enter a URL for a remote OVA/OVF repository.

-or-

Click the Local file radio button to browse to a local file on your computer.

Figure 3.13 Select an OVF Template Screen

2 Select a name and folder Select a compute resource 3 Select a compute resource Review details 5 Select storage Enter a URL to download and install the OVF package from the Internet, or browse to a location accessible from your computer, such as a local hard drive, a network share, or a CD/DVD drive. 6 Ready to complete Image: URL to download and install the OVF package from the Internet, or browse to a location accessible from your computer, such as a local hard drive, a network share, or a CD/DVD drive. Image: URL to download and install the to the top of	1 Select an OVF template	Select an OVF template					
4 Review details 5 Select storage 6 Ready to complete CD/DVD drive. • URL http https://remoteserver-address/filetodeploy.ovf .ova CLocal file	2 Select a name and folder	Select an OVF template from remote URL or local file system					
Select storage CD/DVD drive. URL <pre></pre>	3 Select a compute resource						
6 Ready to complete CD/DVD drive. CD/DVD dri	4 Review details						
Ready to complete Inttp https://remoteserver-address/filetodeploy.ovf .ova Local file	5 Select storage						
http https://remoteserver-address/filetodeploy.ovf .ova	6 Ready to complete	CD/DVD drive.					
O Local file		O URL					
		http https://remoteserver-address/filetodeploy.ovf .ova					
Choose Files No file chosen		O Local file					
		Choose Files No file chosen					

- 4. Click Next.
- 5. From the Select a name and folder tab, enter a unique name for the VM.

Figure 3.14 Select a Name and Location Scre	Figure 3.14	Select a Name and Lo	ocation Scree
---	-------------	----------------------	---------------

1 Select an OVF template 2 Select a name and folder	Select a name and fold Specify a unique name			
3 Select a compute resource 4 Review details		MP1000VA_vSphere_demo		
5 Select storage				
6 Ready to complete	Select a location for the	e virtual machine.		
	systetséstetses 🕒 🗸	systemetration		
	> 📑 MomoCenter			

6. Select a location for the VM, then click Next.

7. From the Select a compute resource tab, select a compute resource the VM can support, then click Next.



1 Select an OVF template 2 Select a name and folder	Select a compute resource Select the destination compute resource for this operation
3 Select a compute resource4 Review details5 Select storage6 Ready to complete	MomoCenter
	Compatibility Compatibility checks succeeded.
	CANCEL BACK NEX

8. From the Review details tab, verify the details in the provided table, then click *Next*.



 1 Select an OVF template 2 Select a name and folder 	Review details Verify the templa	ate details.
 3 Select a compute resource 4 Review details 		
5 Select storage	Publisher	No certificate present
6 Select networks 7 Ready to complete	Description	this is a base template used for creation of OVF for distribution of the MP1000VA Virtual Appliance.
	Download size	1.5 GB
	Size on disk	2.1 GB (thin provisioned)
		40.0 GB (thick provisioned)
	Extra configuration	nvram = ovf:/file/file2

9. From the Select storage tab, use the drop-down menus to select the virtual disk format and VM storage policy.

Figure 3.17	Select Storage Screen
-------------	-----------------------

 1 Select an OVF template 2 Select a name and folder 3 Select a compute resource 	Select storage Select the storage for the conf	iguration and dis	k files		
• 4 Review details	Encrypt this virtual machine	2			
5 Select storage 6 Select networks	Select virtual disk format:	Thin F	Provision	~	
7 Ready to complete	VM Storage Policy:	Datas	tore Default 🗸 🗸		
	Name	Capacity	Provisioned	Free	Тур
	tartual disk fectral	458.25 GB	414.53 GB	203.91 GB	VN
	tártual dísic feutrat	465.5 GB	369.66 GB	95.84 GB	VN
	tertualdisioleutrat	465.5 GB	424.68 GB	102.23 GB	VN
	4	_			•
	Compatibility				
	✓ Compatibility checks succ	eeded.			

10. Select a data store to store the VM's hard drive and configuration files, then click Next.

11. From the Select networks tab, use the table to map the VM network to the desired destination network.

NOTE: By default, the VM attempts to obtain an IP address via DHCP upon boot.

Figure 3.18 Select Networks Screen

 1 Select an OVF template 2 Select a name and folder 2 Select a compute recourse 	Select networks Select a destination network for ea	ach sourc	e netwo	rk.			
' 3 Select a compute resource ' 4 Review details	Source Network	т	Desti	nation Network		т	
5 Select storage	VM Network		VM	Network		\sim	*
6 Select networks 7 Ready to complete						1 items	5
	IP Allocation Settings						
	IP allocation:	S	Static - M	lanual			
	IP protocol:	IF	Pv4				
				CANCEL	ВАСК	NE	×1

12. Click Next.

13. From the Ready to complete tab, review the deployment details and click *Finish*.

Figure 3.19 Ready to Complete Screen

1 Select an OVF template 2 Select a name and folder 3 Select a compute resource	Ready to complete Click Finish to start creat	ion.	
4 Review details 5 Select storage	Provisioning type	Deploy OVF From Remote URL	
6 Select networks	Name	MP1000VA_vSphere_demo	
7 Ready to complete	Template name	ADAPM948062V2A20049M2ADA	
	Download size	1.5 GB	
	Size on disk	2.1 GB	
	Folder	MomoCenter	
	Resource	23 22123 22	2
	Storage mapping	1	
	All disks	Datastore: datastore1; Format: Thin provision	
	Network mapping	1	
	VM Network	VM Network	
	IP allocation settings		
	IP protocol	IPV4	
	IP allocation	Static - Manual	

14. If you wish to monitor the deployment progress, expand the Recent Tasks panel at the bottom of the vSphere client.

Figure 3.20 Recent Tasks Panel

Recent Tasks Alarms									*
Task Name 🗸 🗸	Target ~	Status	~	Initiator ~	Queued For V	Start Time 🗸 🗸	Completion Time ~	Server 1	~
Deploy OVF template	MP1000VA		0%	ENGINEERING.NET/vpxd-e	99 ms	08/01/2022, 10:47:30 AM		photon-machine.systemtes	. *
Import OVF package	ADX_MP10C0VIA		0%	engineering.net\Administr	110 ms	08/01/2022, 10:47:14 AM		photon-machine.systemtes	

Figure 3.21 VM Summary with Import Completion Status

wigator 🖂	👸 localhost.hsvhwtest.com - Virtual Machines						
Host							
Manage	Screate / Register VM Sconsole Pow	er on 📱 Power off 🔢 Suspend 🛛 🥑 Refn	esh 🗠 Actions				Q Search
Monitor	Virtual machine	~ Status	 Used space 	~ Guest OS	- Host name	 Host CPU 	 Host memory
Virtual Machines 11	D. B DEV_CentOS_8	📀 Normal	4.08 GB	CentOS 8 (64-bit)	localhost.localdomain	21 MHz	1.47 GB
Storage 2	EST_CentOS_8	Normal	4.08 GB	CentOS 8 (64-bit)	localhost.localdomain	29 MHz	4.05 GB
Networking 1	API_CentOS_8	📀 Normal	4.08 GB	CentOS 8 (64-bit)	localhost.localdomain	33 MHz	4.06 GB
	B DSView_DEV_CentOS_8	📀 Normal	4.08 GB	CentOS 8 (64-bit)	localhost.localdomain	19 MHz	937 MB
	DSView_Test_CentOS_8	📀 Normal	4.08 GB	CentOS 8 (64-bit)	localhost.localdomain	22 MHz	934 MB
	B DEV_Win2022_Server	📀 Normal	4.08 GB	Microsoft Windows Server 2022 (64-bit)	Unknown	18 MHz	4.07 GB
	TEST_Win2022_Server	📀 Normal	4.08 GB	Microsoft Windows Server 2022 (64-bit)	Unknown	20 MHz	4.06 GB
	API_Win2022_Server	Normal	4.08 GB	Microsoft Windows Server 2022 (64-bit)	Unknown	13 MHz	4.07 GB
	DSView_DEV_Win2022_Server	📀 Normal	4.08 GB	Microsoft Windows Server 2022 (64-bit)	Unknown	16 MHz	4.06 GB
	D. DSView_Test_Win2022_Server	📀 Normal	4.08 GB	Microsoft Windows Server 2022 (64-bit)	Unknown	19 MHz	4.06 GB
	D. 8 mp1000va	Normal	Unknown	Other Linux (64-bit)	Unknown	0 MHz	0 MB
	Ould filters v						11 8
	Duis titer						11 2
	☐ Recent tasks Tast →			Current v Statist	✓ Retuit ▲		 Completed •
	Recent tasks Task v Fase Dr.W	🚯 mp1000va	root	05/25/2022 05:59:37 05/25/2022 05:59:37	Completed success		 Competed ● coperate or #38
	Receil tasks Ind Soft Soft	 mp1000vs mp1000vs 	reat reat	05/25/2022 05:59:37 05/25/2022 05:59:37 05/25/2022 09:35:53 05/25/2022 09:35:53	Completed auccess	etu ily	Complete conduct of the air conduct of the air conduct of the air
	Recent tasks Task v Fase Dr.W	 mp1000vs mp1000va 	teen teen teen	05/25/2022 05:59:37 05/25/2022 05:59:37	Completed success	ntu iy ntu iy	 Competed ● coperate or #38

- 15. Once deployment is complete, locate the new VM under your chosen compute resource in the left-hand sidebar.
- 16. Click the VM name.
- 17. The VM appears in the main panel. Click the Power On button to start the VM.

Figure 3.22 VM Details

vm vSphere Client Menu v	Q Search in all environments			SINEERING.NET 🗸 😳
Vm VSphere Client Meru Image: Client Image: Client Meru Image: Client Image: Client Image: Client Image: Client Imag	MP1000VA_Thud_3.12.5-66 Summary Monitor Configure Permis Guest OS: Other Compatibility: ESSI	sions Datastores Networks Updates (4.x or later Linux (64-bit) 6.7 and later (VM version 14) uning, version2147483647 (Guest Managed)	C O V Administrator@EN:	CPU USAGE 3.6 GHZ 2.4 GB 3.6 GHZ 2.4 GB 3.6 GHZ 3.6
		4 CPU(s) 16 GB, 12 GB memory active	Notes Test deployment for documentatic Edit Notes	^
	> Hard disk 1	40.04 GB	Custom Attributes	~
		VM Network (connected) 4 MB	VM Storage Policies	~
	VMCI device	1 100		
	Device on the virtual machine PCI bus that prov	vides support for the virtual machine communication interface		
	> Other	Additional Hardware		
	Compatibility	ESXI 6.7 and later (VM version 14)		
	Edit Settings			
	Related Objects	^		
	Host	aca595966.298		
	Networks	♀ VM Network		
Recent Tasks Alarms				*

NOTE: The Notes section can be edited via the prompt dialogue that appears when you first connect to the CLI.

3.4 VMware vSphere Hypervisor (ESXi) 7.0

3.4.1 Deployment

NOTE: You must have administrator permissions to import, create, and/or configure a Virtual Machine (VM) and to deploy an Open Virtualization Format (OVF).

To deploy the VA:

1. From the vSphere web UI, log in with administrator permissions.

Figure 3.23 VMware vSphere Hypervisor (ESXi) 7.0 VM Summary

n ware" Esxi"							
Navigator 🗆	Iocalhost.hextwitvert.com - Virtual Machines						
Host Manage	😚 Create / Register VM 📔 📝 Console 📔 🕨 Power on 🝵 Powe	r off 🔢 Suspend 🛛 🙋 Refresh	🔅 Actions				Q Search
Monitor	. Virtual machine	~ Status ~	Used space	Guest OS	 Host name 	✓ Host CPU	✓ Host memory
Virtual Machines	DEV_CentOS_8	📀 Normal	4.08 GB	CentOS 8 (64-bit)	localhost.localdomain	21 MHz	1.47 GB
Storage	C. B TEST_CentOS_8	Normal	4.08 GB	CentOS 8 (64-bit)	localhost.localdomain	29 MHz	4.05 GB
Networking	API_CentOS_8	Normal	4.08 GB	CentOS 8 (64-bit)	localhost.localdomain	33 MHz	4.06 GB
	DSView_DEV_CentOS_8	Normal	4.08 GB	CentOS 8 (64-bit)	localhost.localdomain	19 MHz	937 MB
	BSView_Test_CentOS_8	Normal	4.08 GB	CentOS 8 (64-bit)	localhost.localdomain	22 MHz	934 MB
	DEV_Win2022_Server	Normal	4.08 GB	Microsoft Windows Server 2022 (64-bit)	Unknown	18 MHz	4.07 GB
	TEST_Win2022_Server	Normal	4.08 GB	Microsoft Windows Server 2022 (64-bit)	Unknown	20 MHz	4.06 GB
	API_Win2022_Server	Normal	4.08 GB	Microsoft Windows Server 2022 (64-bit)	Unknown	13 MHz	4.07 GB
	BSView_DEV_Win2022_Server	Normal	4.08 GB	Microsoft Windows Server 2022 (64-bit)	Unknown	16 MHz	4.06 GB
	BSView_Test_Win2022_Server	Normal	4.08 GB	Microsoft Windows Server 2022 (64-bit)	Unknown	19 MHz	4.06 GB
	Quick filters						10 item
	😨 Recent tasks						
	Task v Target	~ Initiate	r ~ Queued	 Started 	Result .		Completed •

2. Click the Create / Register VM button.

3. From the Select creation type tab, click Deploy a virtual machine from an OVF or OVA file.

Figure 3.24 Select Creation Type Screen



- 4. From the Select OVF and VMDK files tab, locate the Avocent MP1000VA Management Platform Virtual Appliance software you downloaded in Installing the Virtual Appliance on page 3.
- 5. Upload the software file to the ESXi host server.
- 6. If you do not wish to use the default name, enter a new name for the VM.
- 7. Click Next.

Figure 3.25 Select OVF and VMDK Files Screen

🔁 New virtual machine - mp1000va						
 1 Select creation type 2 Select OVF and VMDK files 3 Select storage 	Select OVF and VMDK files Select the OVF and VMDK files or OVA for the VM you would like to deploy					
4 License agreements 5 Deployment options 6 Ad ditional settings 7 Ready to complete	Enter a name for the virtual machine. mp1000va Virtual machine names can contain up to 80 characters and they must be unique within each ESXi instance.					
	× m vertiv-mp1000va.ova					
vm ware*						
	Back Next Finish Cancel					

8. From the Select storage tab, select a data store for the VM's hard drive and configuration files, then click Next.

Figure 3.26 Select Storage Screen

 1 Select creation type 2 Select OVF and VMDK files 3 Select storage 4 Deployment options 5 Ready to complete 	Select storage Select the storage type and Standard Persistent I Select a datastore for the	Memory	onfiguration fil	es and all of	its' v	irtual disks.				
	Name	~	Capacity	Free	~	Туре	~	Thin pro \checkmark	Access	~
	isos		1.42 TB	1.39 TB		VMFS6		Supported	Single	
	VMs		3.64 TB	3.57 TB		VMFS6		Supported	Single	
									2 it	ems
vm ware [•]										

9. From the Deployment options tab, use the drop-down menu to select the VM network to map to the adapter.

NOTE: By default, the VM attempts to obtain an IP address via DHCP upon boot.

- 10. Select either the Thin or Thick radio button for disk provisioning.
- 11. Check the Power on automatically box, then click Next.

Figure 3.27 Deployment Options Screen

🔁 New virtual machine - adx-mp1000va							
 ✓ 1 Select creation type ✓ 2 Select OVF and VMDK files ✓ 3 Select storage 	Deployment options Select deployment options						
 4 Deployment options 5 Ready to complete 	Network mappings	VM Network	VM Network				~
	Disk provisioning	● Thin ○ Thick					
	Power on automatically						
vm ware [®]							
				Back	Next	Finish	Cancel

12. From the Ready to complete tab, verify your deployment options, then click *Finish*. The deployment process begins immediately.



Figure 3.28 Ready to Complete Screen

🔁 New virtual machine - mp1000va					
 1 Select creation type 2 Select OVF and VMDK files 3 Select storage 	Ready to complete Review your settings selection before finite	shing the wizard			
 4 Deployment options 5 Ready to complete 	Product	Vertiv-MP1000VA			
	VM Name Files	mp1000va vertiv-mp1000va-disk1.vmdk			
	Datastore	VMs			
	Provisioning type	Thin			
	Network mappings Guest OS Name	VM Network: VM Network Unknown			
	Do not refresh your brows	er while this VM is being deployed.			
		Back Next Finish Cancel			

CAUTION: If you receive the error message A required disk image was missing, do NOT continue. For troubleshooting information, proceed to the next section.

13. If you wish to monitor the deployment progress, expand the Recent tasks panel at the bottom of the client.

Figure 3.29 Recent Tasks Panel

Recent tasks						
Task v	Target ~	Initiator ~	Queued ~	Started ~	Result 🔺 🗸 🗸	Completed • ~
Upload disk - vertiv-mp1000va-disk1.vmdk (1 of 1)	🞒 mp1000va	root	05/28/2022 09:35:53	05/26/2022 09:35:53	S	Running 80 %
Create VM	🚰 mp1000va		05/28/2022 04:34:51	05/26/2022 04:34:51	Completed successfully	05/26/2022 04:34:51
Import VApp	Resources	root	05/28/2022 04:34:51	05/25/2022 04:34:51		Running 80 %

- 14. Once deployment is complete, locate the new VM in the left-hand sidebar.
- 15. Click the VM name.
- 16. The VM appears in the main panel. Click the *Power On* button to start the VM.

Figure 3.30 VM Details After Starting

VMWare" ESXi"								Help +	Q Search 🔹
Ta Navigator	🔁 mp1000va								
Contemporation Contemporation	🖉 Console 🗱 Monitor 🄌 Powe	er on Shut down Restart Propose Propose	Center Lenox (84-brt) Center Lenox (84-brt) ESX 87 - virtual machine Yes 4 16 GB	ions				~^ 	OMHZ
	→ General Information				+ Hardware Co	onfiguration			
	▶ Q Networking				+ 🔲 CPU		4 vCPUs		
	► m VMware Tools	VMware Tools is not managed by vSphere			Memory		16 GB		
	► I Storage	1 disk			+ 🛄 Hard disk	1	26.03 GB		
	Notes	Vertiv TM Avocent® MP1000VA		/ Edit notes	• IN Network a	idapter 1	VM Network (Connected)		
					• IN Network a	idapter 2	VM Network (Connected)		
	· Performance summary last hour				+ 🔳 Video car	d	4 MB		
			sumed host CPU Ready sumed host memory		• 📴 Others		Additional Hardware		
	8			15	* Resource Co	onsumption			
				Const	Consume	d host CPU	0 MHz		
	2 60			10 In Int	Consume	d host memory	0 MB		
	40 80 100 100 100 100 100 100 100 100 100			10 red host	Active gue	ast memory	0 MB		
	2 40			5 memo	+ 🗐 Storage				
	Ê 20		M	memory (G)	Provision	ad	26.03 GB		
	Recent tasks			m					
	Task	✓ Target	< Initiator	~ Queued		 Started 	~ Result .	~ Comp	lated =
	Power On VM	- Target	root	05/20/2022 05:59		05/25/2022 05:59:37	Completed successfully		022 05:59:38
	Upload disk - vertiv-mp1000va-disk1.vmdk (1 of 1)	mp1000va	root	05/26/2022 09:35		05/20/2022 09:35:53	Completed successfully		1022 11:00:32
	Import VApp	Resources	root	05/26/2022 04:34		05/26/2022 04:34:51	Completed successfully		022 05:59:38
	Create VM	(g) mp1000vs		05/26/2022 04:34	51	05/26/2022 04:34:51	Completed successfully	05/26/2	022 04:34:51

3.4.2 Troubleshooting for missing NVRAM disk image

If you are importing an OVA image file into the VMware standalone ESXi host, you may receive an error message indicating a required disk image is missing after clicking *Finish* on the Ready to complete screen.

NOTE: The following screenshot examples use OVA file version 3.17.8. The procedures are the same regardless of the version number.

Provintual machine - Vertiv_MP1000VA						
✓ 1 Select creation type	A required disk image was mis	sing.	×			
 2 Select OVF and VMDK files 3 Select storage 	Review your settings selection before finishing the wizard					
 ✓ 4 Deployment options 						
5 Ready to complete	Product	MP1000VA_PROD_TEMPLATE				
	VM Name Vertiv_MP1000VA					
	Files	AvocentVirtualAppliance3.17.8_GA-disk1.vmdk				
	Datastore	VMs				
	Provisioning type	Thin				
	Network mappings Guest OS Name	VM Network: VM Network Unknown				
	Do not refresh your brows	er while this VM is being deployed.				
		Back Next Finish	Cancel			

This message indicates you are missing a required NVRAM file. The deployment can still complete successfully without the NVRAM file; however, Secure Boot cannot be validated and the VA will boot into the EFI BIOS. Please refer to the following procedure.

To resolve a missing NVRAM file on ESXi OVA import:

- Using a TAR file extractor application (such as WinZip or 7Zip), extract the NVRAM file from the OVA archive and place it into the same folder as the OVA file. The extracted file will be the AvocentADXVirtualAppliance<VERSION>-file1.nvram file.
- 2. From the deployment screen, click *Back* until you are in the Select OVF and VMDK files tab.

3. In the Select OVF and VMDK files tab, drop the OVA and NVRAM file into the blue file drop box.

Figure 3.32 Upload the NVRAM File

🔁 New virtual machine - OVA_Deploy	Test
 1 Select creation type 2 Select OVF and VMDK files 3 Select storage 	Select OVF and VMDK files Select the OVF and VMDK files or OVA for the VM you would like to deploy
4 License agreements 5 Deployment options 6 Additional settings 7 Ready to complete	Enter a name for the virtual machine. OVA_Deploy_Test Virtual machine names can contain up to 80 characters and they must be unique within each ESXi instance.
	 AvocentVirtualAppliance3.17.8.ova AvocentVirtualAppliance3.17.8_GA-file1.nvram
vm ware*	
	Back Next Finish Cancel

4. Click Next until the Ready to complete screen appears.

NOTE: Do not select *Finish* until all settings are verified.

5. Click *Finish*. This successfully deploys the .nvram file and enables the Secure Boot feature used when the virtual appliance is booted.

4 Assigning an IP Address

Once the Avocent MP1000VA Management Platform Virtual Appliance is deployed, an IP address must be assigned. The management platform uses an IP address to uniquely identify itself to IP-based target devices. By default, an IP address is obtained via DHCP. You can also manually configure a static IP address.



CAUTION: The Avocent MP1000VA Management Platform Virtual Appliance only supports one virtual network interface. Additional interfaces will not be recognized by the application and may cause adverse effects, depending on the DHCP client/route metrics.

Initially, the Avocent MP1000VA Management Platform Virtual Appliance must be accessed via the Command Line Interface (CLI) to update your password. Once you log in with your new credentials, you can view the DHCP-assigned IP address or configure a static IP address. You will then use this IP address to access the web UI. See the following procedures to configure the network.

To view the DHCP-assigned IP address or to configure a static IP address:

NOTE: When the VA initially boots, it may take time for the services to start before the CLI responds. If a *Still Starting* message appears, wait for it to clear before proceeding.

1. From the CLI, login using **admin** as the username and password. You are prompted to change the password.

Figure 4.1 Obsidian Login Screen



2. Enter 1 to select the Show/Configure Network Settings option.

Figure 4.2 Show/Configure Network Settings

```
Options:
```

- 0 Exit the CLI
- 1 Show/Configure Network Settings
- 2 Show Thermal and Power Data
- 3 Show/Configure Chassis
- 4 Show/Configure Manager
- 5 Change Admin Password
- 6 Require Admin Password Change on Next Login
- 7 Update Firmware
- 8 Reset to Factory Defaults
- 9 Shutdown
- 10 Reboot
- 11 Diagnostics
 - 3. Enter 1 to select the eth0 option.



```
:: ∕network
Options:
0 Return to the Root Menu
1 eth0 172.17.243.5
Select an option:
/network> 1
:: /network/eth0
Interface ID : eth0
Enabled : True
MAC Address : 00:15:5d:38:01:00
DHCP or Static : DHCP
IP Address : 172.17.243.5
Prefix Length : 20
Gateway
               : 172.17.240.1
Options:
.. Back to Network Interfaces
0 Return to the Root Menu
1 Use DHCP
2 Configure Static Address
Select an option:
/network/eth0> _
```

NOTE: The DHCP-assigned IP address appears once this option is selected. Access the web UI by entering **https://** and the IP address into a web browser.

NOTE: If you cannot log into the web UI, the time settings may be incorrect. Ensure you are on a network with a reachable NTP server or set the time manually. For more information, see the Vertiv[™] Avocent[®] MP1000 Management Platform User Guide.

- 4. To assign a static IP address, enter **2** to select the Configure Static Address option, then follow the on-screen prompts to configure the IP, subnet and gateway.
- 5. Enter **O** (zero) to select the Return to the Root Menu option.

Figure 4.4 Return to the Root Menu



6. Open a web browser and type https:// and the static IP address to access the web UI.

For information on configuring your network from the web UI, see the Vertiv[™] Avocent[®] MP1000 Management Platform User Guide.

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5 Next Steps

With the completion of this guide, the VA has been installed, deployed and assigned an IP address. However, you cannot launch any target sessions until you obtain your licenses for the management platform and target devices.

To learn how to obtain your licenses and configure the web UI, refer to the Vertiv[™] Avocent[®] MP1000 Management Platform User Guide, which can be found on the <u>Vertiv[™] Avocent[®] MP1000 Management Platform Virtual Appliance</u> product page under the *Documents & Downloads* tab. This page intentionally left blank

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