

Review Validated Design for Catalyst Center on ESXi Deployment

Contents

[Introduction](#)

[Prerequisites](#)

[Best Practices Guide](#)

[VMware version](#)

[OVA Deployment](#)

[CPU](#)

[Memory](#)

[Hard Disks](#)

[Additional Hard Disks](#)

[Network](#)

[Restrictions](#)

[VMware Compatibility Matrix](#)

Introduction

This document describes the best practices for the Catalyst Center VA deployment in a guide format.

Prerequisites

Basic knowledge in VMware and vSphere solution.

These acronyms are used in this document:

VM = Virtual Machine.

OVA = Open Virtual Appliance.

VA = Virtual Appliance.

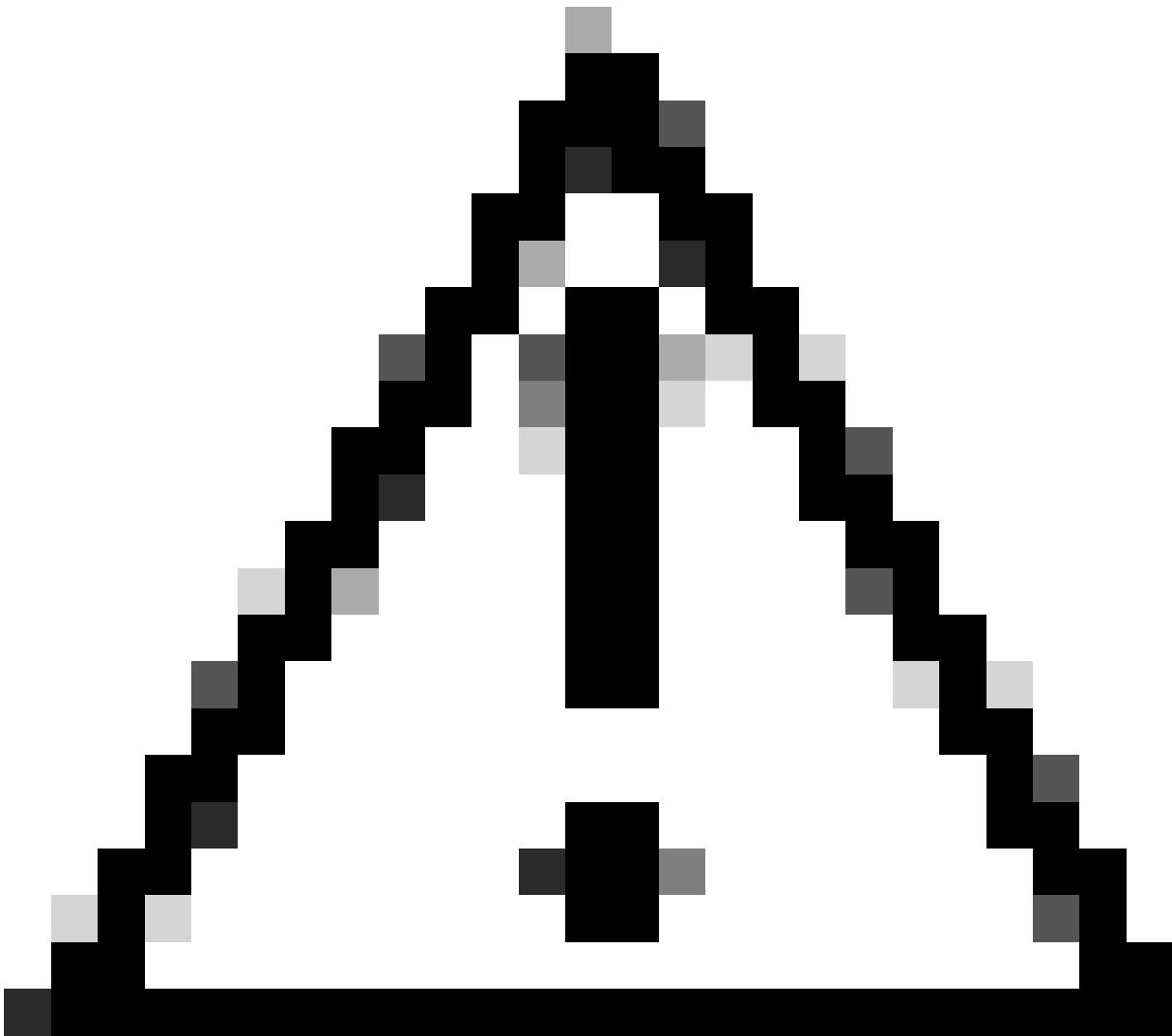
Catalyst Center VA = Catalyst Center on ESXi.

- Catalyst Center VA running any version.
- VMware vSphere Client 7.0 or 8.0.

Best Practices Guide

This goal of this guide:

- Shows the default configuration that is applied when we upload the OVA.
- Detail what configuration can be modified and what must be kept by default.



Caution: Modifying the CPU, RAM, default Hard Disks and Network Adapter Type in the Virtual Machine is NOT supported. The only supported changes are outlined along this document.

VMware version

Ensure you are running VMware version 7.0, 8.0, or higher:


- Navigate to VMware hamburger menu > Inventory and Select the node where Catalyst Center VM is installed, then, Select the **Summary** tab.
- Confirm the VMware version on the **Host Details** section:

vSphere Client Search in all environments

10.08.24-1100 ACTIONS

Summary Monitor Configure Permissions VMs Resource Pools

Host Details

	Hypervisor:	VMware ESXi, 8.0.1, 21813344
	Model:	DNI-HW-APL
	Processor Type:	Intel(R) Xeon(R) CPU E5-2699 v4 @ 2.20GHz
	Logical Processors:	88
	NICs:	4
	Virtual Machines:	8
	State:	Connected
	Uptime:	109 days

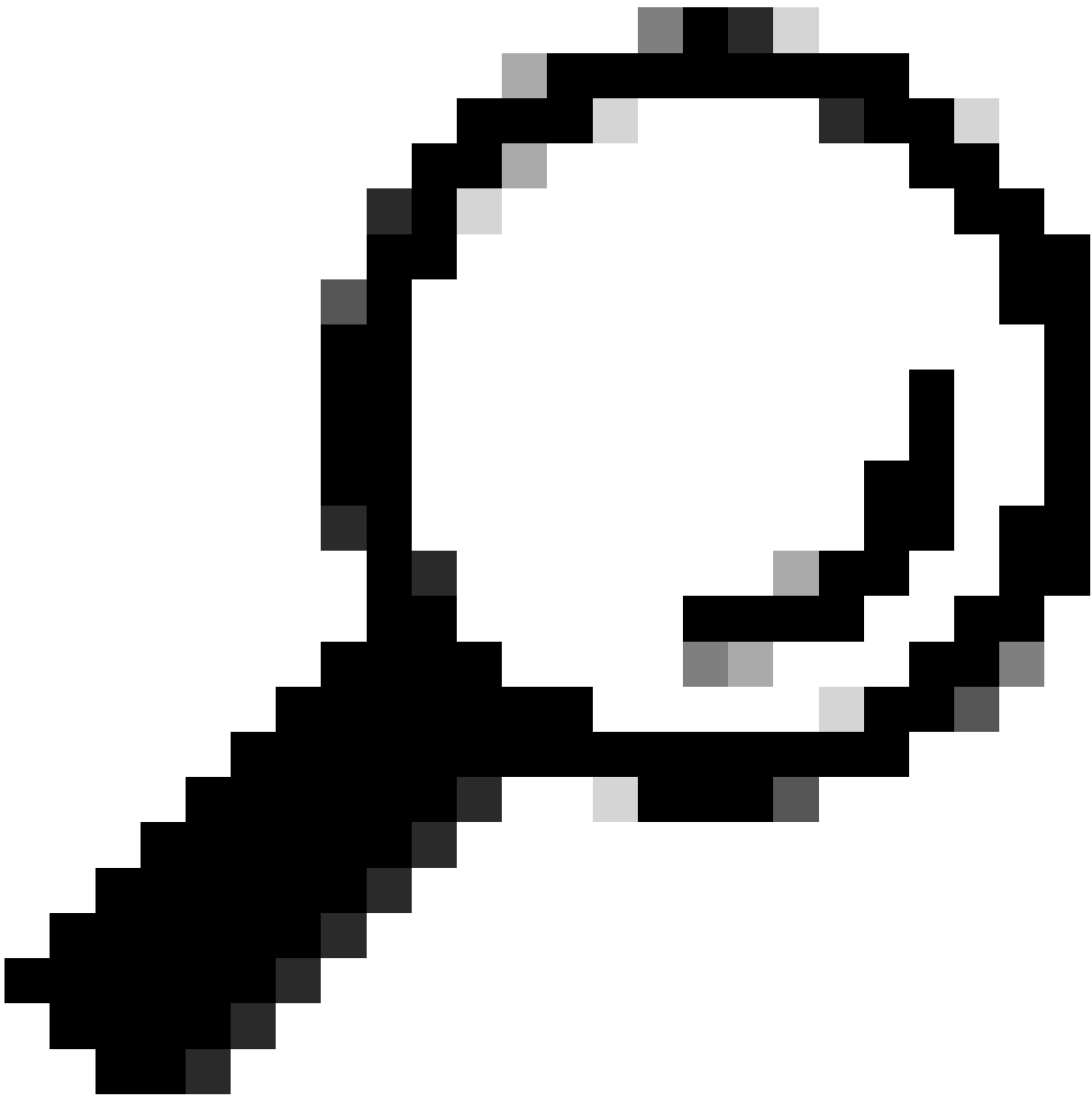
vcenter-mxcdnac.dnac.mx.com

Datacentre

- 10.08.24-1100
 - DEMO_VM
 - eft dnac esxi
 - ESXi-Catalyst-Center-2.3.7.0
 - ESXi-Catalyst-Center-2.3.7.4
 - ESXi-DNAC
 - RDP-AD
 - RDP-SRV
 - vcenter-mxcdnac

VMware version

OVA Deployment



Tip: If you have not installed the Catalyst Center VA yet, please refer to this guide: [Create a Virtual Machine](#).

Confirm the VM Hardware Configuration by selecting the **VM** and navigate to **Actions > Edit Settings**:

ESXi-Catalyst-Center-2.3.7.4 | [Play] [Stop] [Refresh] [Help]

Summary | Monitor | Configure | Permissions | Datastores | Networks

Guest OS


Powered Off

[LAUNCH REMOTE CONSOLE](#) ⓘ

[LAUNCH WEB CONSOLE](#)

Virtual Machine Details

- Power Status
- Guest OS
- VMware Tools
- DNS Name
- IP Addresses
- Encryption



Related Objects

Host

Tags

ACTIONS

- Actions - ESXi-Catalyst-Center-2.3.7.4
 - Power >
 - Guest OS >
 - Snapshots >
- Open Remote Console
- Migrate...
 - Clone >
- Fault Tolerance >
- VM Policies >
- Template >
- Compatibility >
- Export System Logs...
- Edit Settings...**
- Move to folder...
- Remove

OVA Deployment



Warning: These parameters CANNOT be modified. If you see any of those not matching with the ones presented here, your deployment become not supported.

The next table displays the VM resources that you can and cannot modify.

No Editable	CPU RAM Default Hard Disks (3 Hard Disk) Network Adapter Type
Editable	Additional Hard Disk Network adapter mapped to a virtual Switch

CPU

CPU	32
Reservation	6400 MHz
Limit	Unlimited MHz
Shares	High 64000

▼ CPU 32 ⓘ

Cores per Socket 1
Sockets: 32

CPU Hot Plug Enable CPU Hot Add

Reservation 64000 MHz

Limit Unlimited MHz

Shares High 64000

Hardware virtualization Expose hardware assisted virtualization to the guest OS

Performance Counters Enable virtualized CPU performance counters

I/O MMU Enabled

CPU

Memory

Memory	256 GB
Reservation	256 GB
Limit	Unlimited MB
Shares	Normal 2621440

▼ Memory 256 GB

Reservation 256 GB
 Reserve all guest memory (All locked)

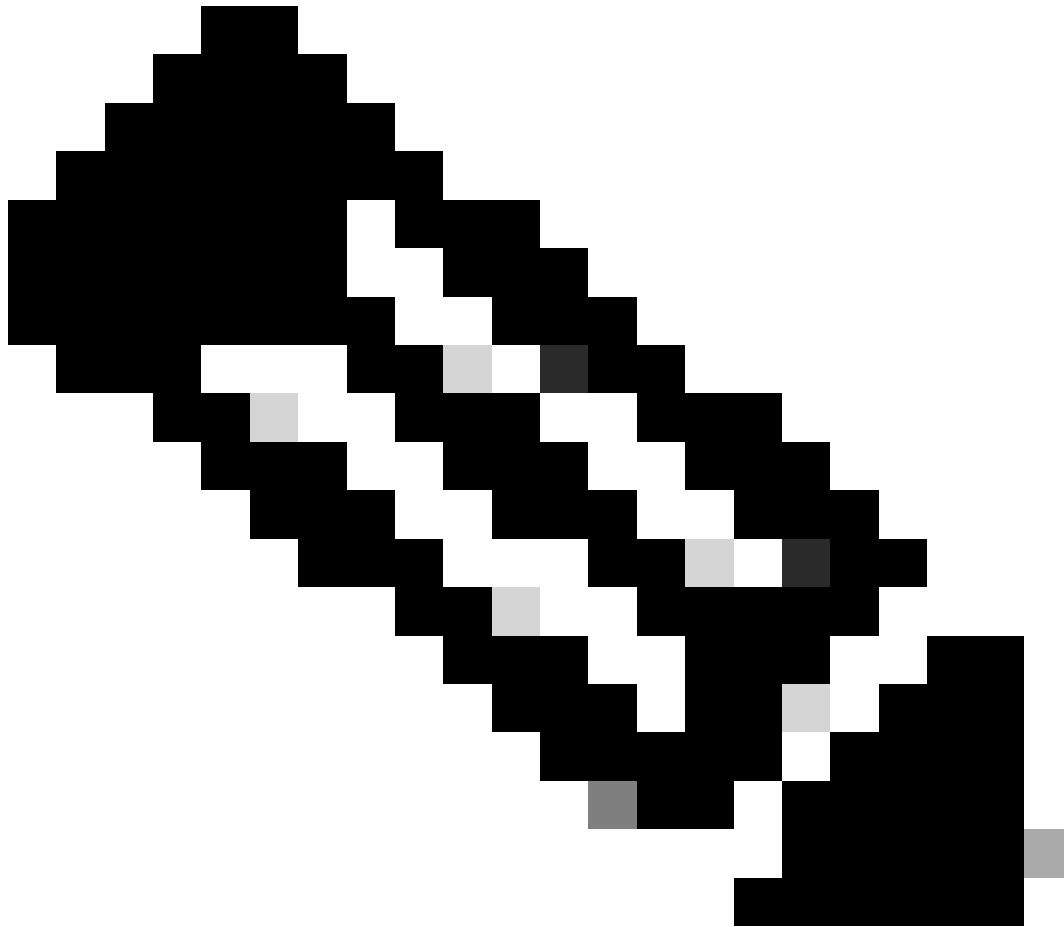
Limit Unlimited MB

Shares Normal 2621440

Memory Hot Plug Enable

Memory

Hard Disks



Note: By default, the OVA (installation) creates a total of 3 Hard Disks.

Hard Disk 1

HD	100 GB
Type	Thick Provision or Thin Provision

Hard disk 1	100	GB
Maximum Size	4.03 TB	
VM storage policy	Datastore Default	
Type	Thick Provision Lazy Zeroed	
Sharing	No sharing	
Disk File	[datastore2] ESXi-Catalyst-Center-2.3.7.4/ESXi-Catalyst-Center-2.3.7.4.vmdk	
Disk Mode	Dependent	
Virtual Device Node	SCSI controller 0 SCSI(0:0) Hard disk 1	

Hard Disk 1

Hard Disk 2

HD	550 GB
Type	Thick Provision or Thin Provision

Hard disk 2	550	GB
Maximum Size	4.47 TB	
VM storage policy	Datastore Default	
Type	Thick Provision Lazy Zeroed	
Sharing	No sharing	
Disk File	[datastore2] ESXi-Catalyst-Center-2.3.7.4/ESXi-Catalyst-Center-2.3.7.4_1.vmdk	
Disk Mode	Dependent	
Virtual Device Node	SCSI controller 0 SCSI(0:1) Hard disk 2	

Hard Disk 2

Hard Disk 3

HD	2.295 TB
----	----------

Type	Thick Provision or Thin Provision
------	-----------------------------------

▼ Hard disk 3 2.295 TB ▼

Maximum Size 6.23 TB

VM storage policy Datastore Default ▼

Type Thick Provision Lazy Zeroed

Sharing No sharing ▼

Disk File [datastore2] ESXi-Catalyst-Center-2.3.7.4/ESXi-Catalyst-Center-2.3.7.4_2.vmdk

Disk Mode Dependent ▼

Virtual Device Node SCSI controller 0 ▼ SCSI(0:2) Hard disk 3 ▼

Hard Disk 3

Additional Hard Disks



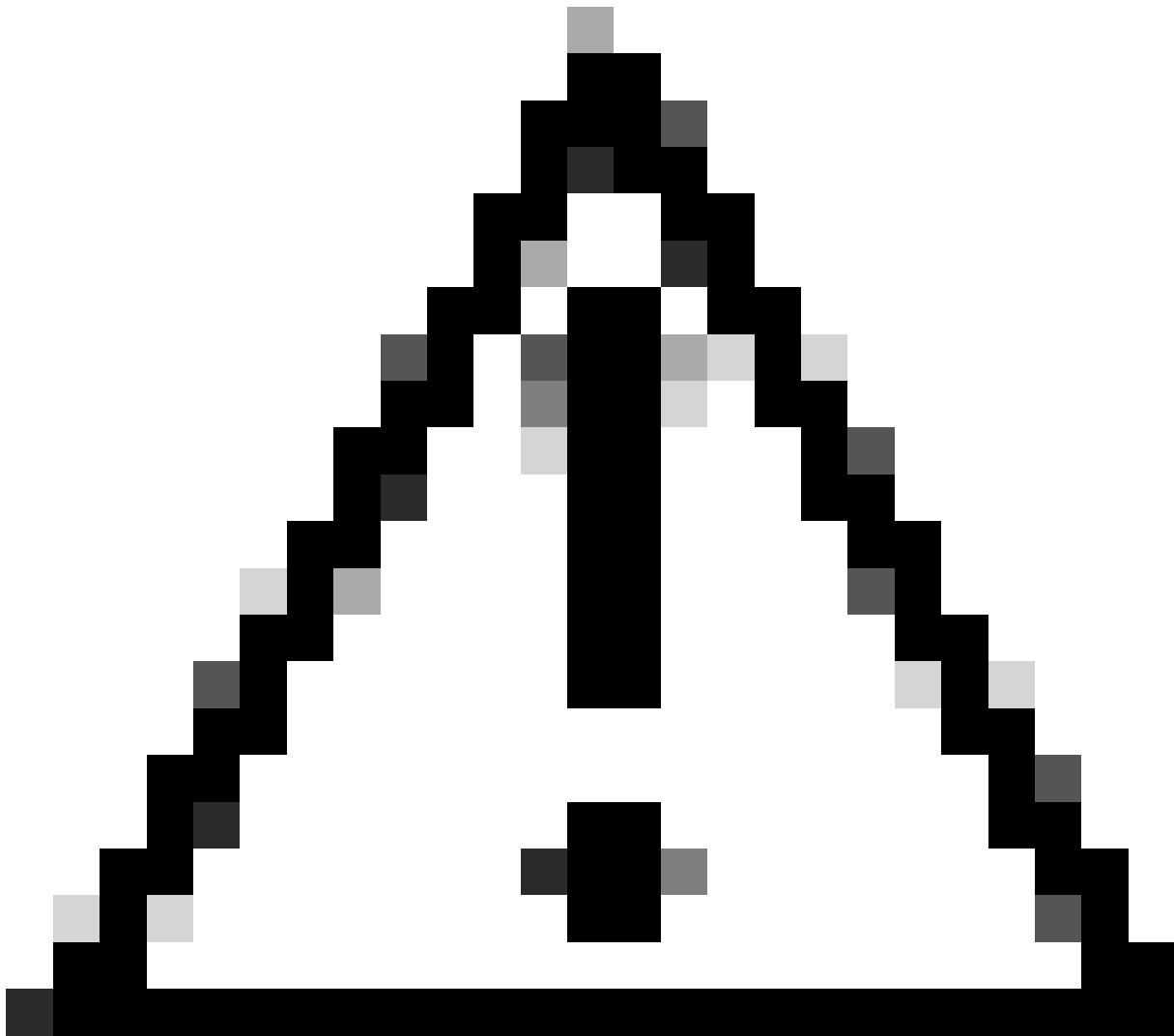
Note: You can add any extra Hard disks for specific use cases like: [Location to Store Backup Files.](#)

Physical Disk Configuration.

Catalyst Center Virtual Appliance provides an option to mount an external disk to the Virtual Machine for Assurance and Automation backups. Note:

> Hard disk 1	<u>100</u>	<u>GB</u> ▾	⋮
> Hard disk 2	<u>550</u>	<u>GB</u> ▾	⋮
> Hard disk 3	<u>2.295</u>	<u>TB</u> ▾	⋮
> Hard disk 4	<u>125</u>	<u>GB</u> ▾	⋮

Additional Hard Disks



Caution: Physical Disk option is only supported for single node Virtual Machines.

Network

Network adapter 1 - Enterprise.

Network adapter 1 = Must be mapped to a vSwitch.

Adapter Type = VMXNET3.

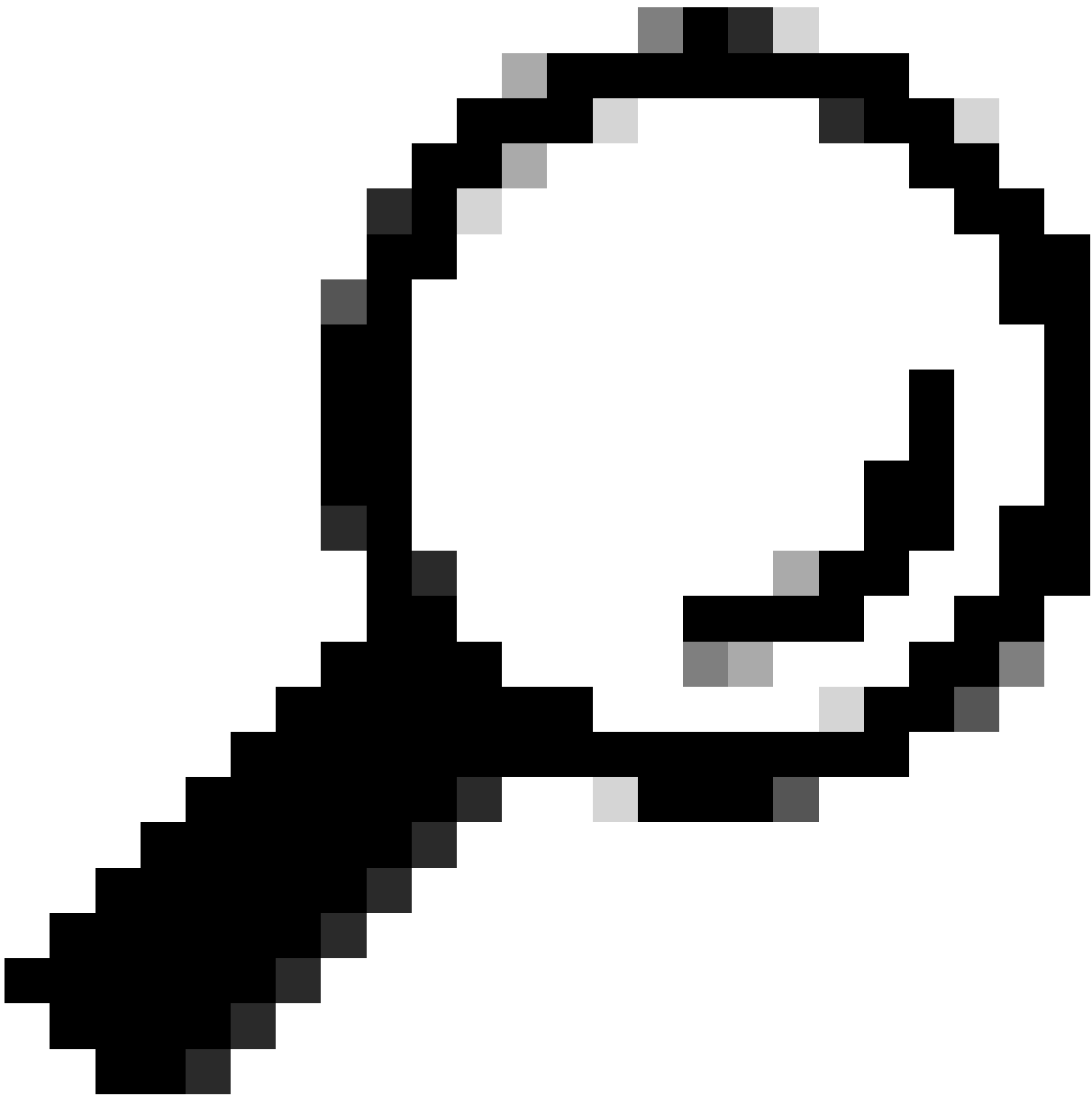
Network adapter 2 - Management.

Network adapter 2 = Must be mapped to a vSwitch.

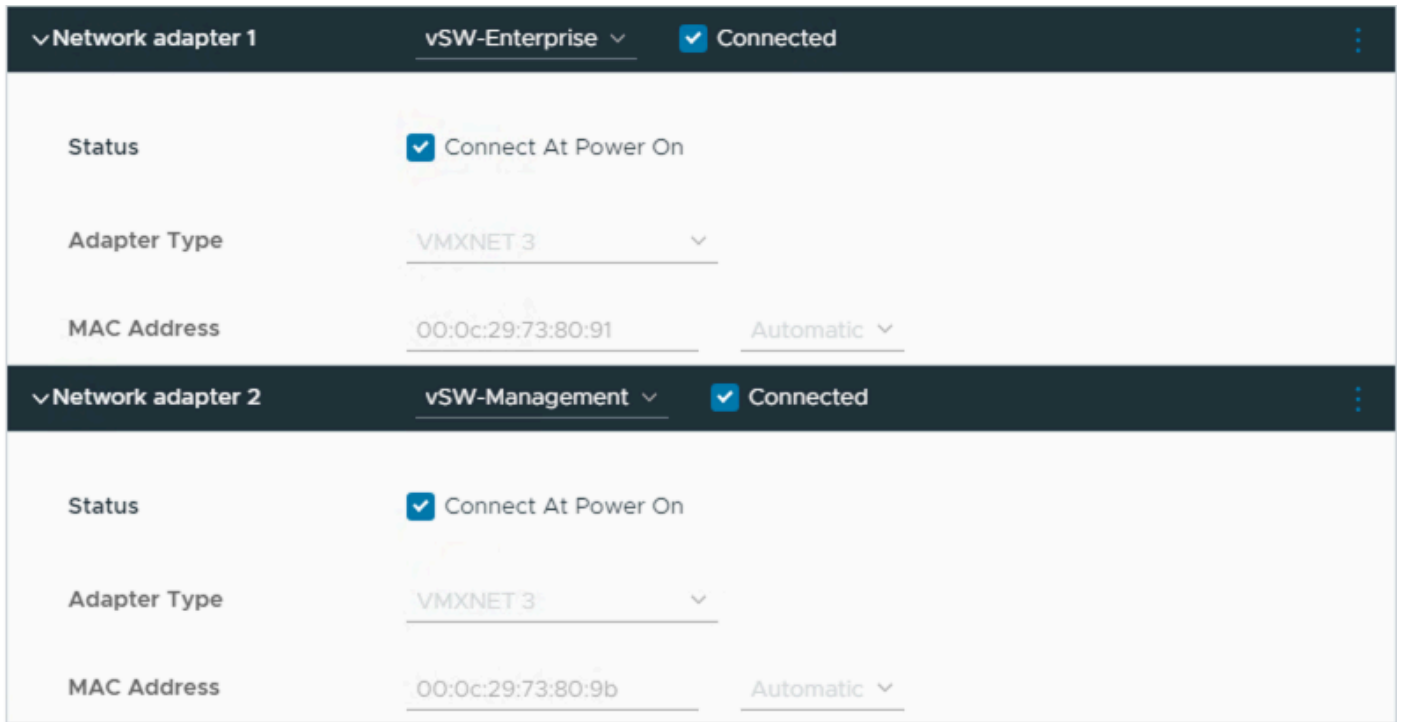
Adapter Type = VMXNET3.



Note: In the Catalyst Center VA OVA release 2.3.7.4 only the Enterprise interface is available. If you want to configure the Management interface, you must manually add a new network adapter.



Tip: The **VMXNET3** driver is NAPI-compliant on **Linux guests**. NAPI is an interrupt mitigation mechanism that improves high-speed networking performance on Linux by switching back and forth between interrupt mode and polling mode during packet receive.



Network adapter

Restrictions

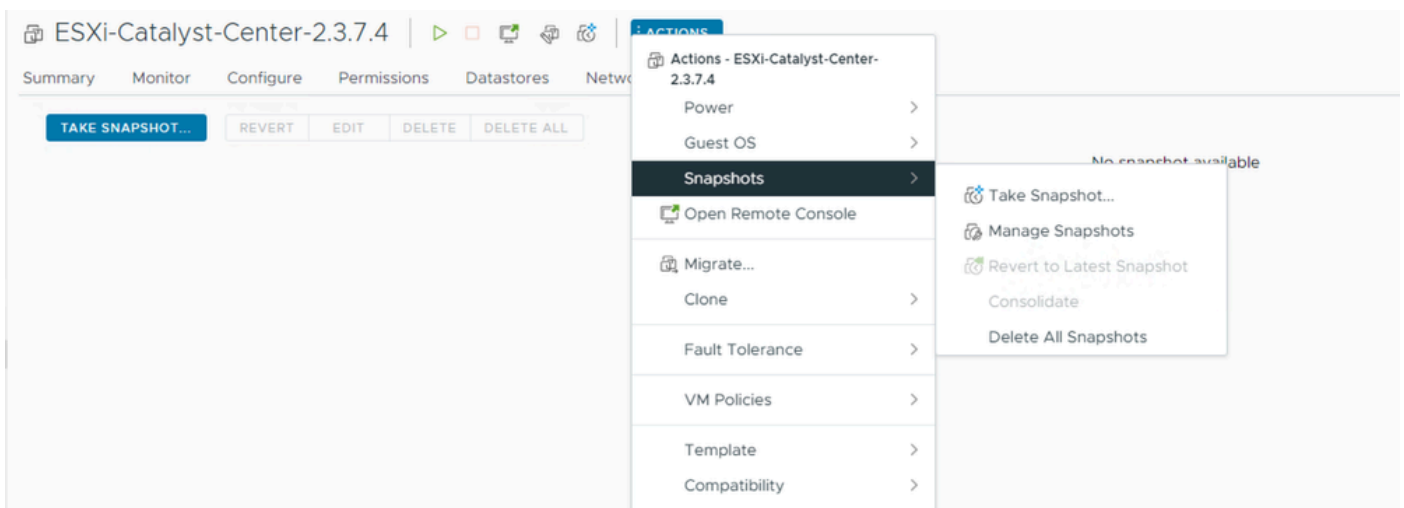
Refer to the [Limitation and Restriction](#) section on the Release Notes for Catalyst Center on ESXi.

- Catalyst Center VA does not support these VMware vSphere features:
 - Fault tolerance
 - Suspending and resuming VMs
 - Cloning VMs
 - **Snapshot** (as backup)

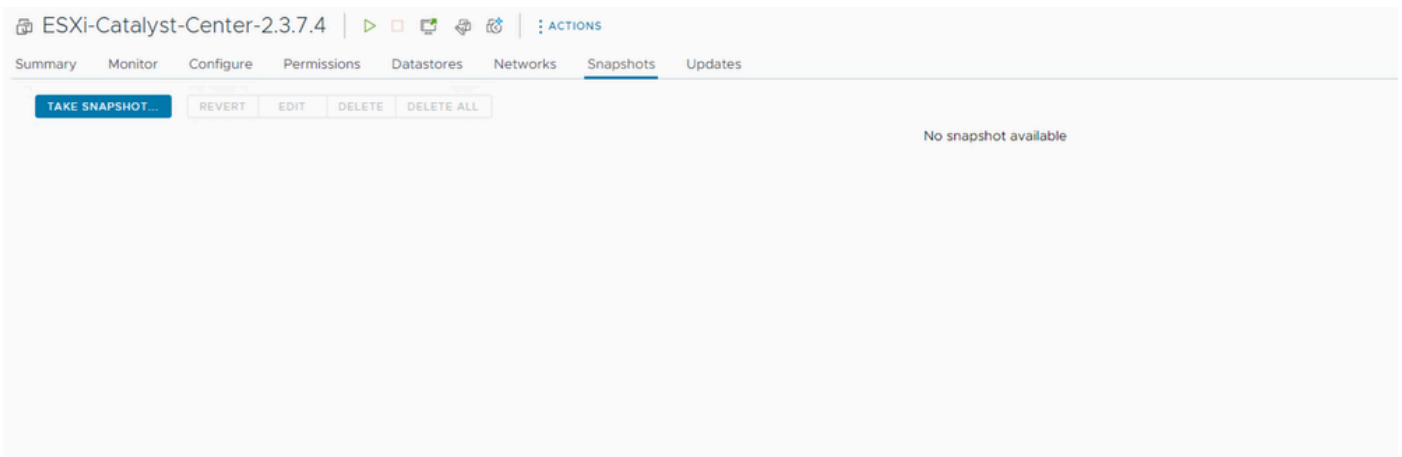


Warning: The usage of snapshots on Catalyst Center VA is NOT supported and causes major issues on your deployment.

To confirm that Snapshots are not used, navigate to the **VM** and navigate to **Actions > Snapshots > Manage Snapshots**.



Confirm there are no VM snapshots:



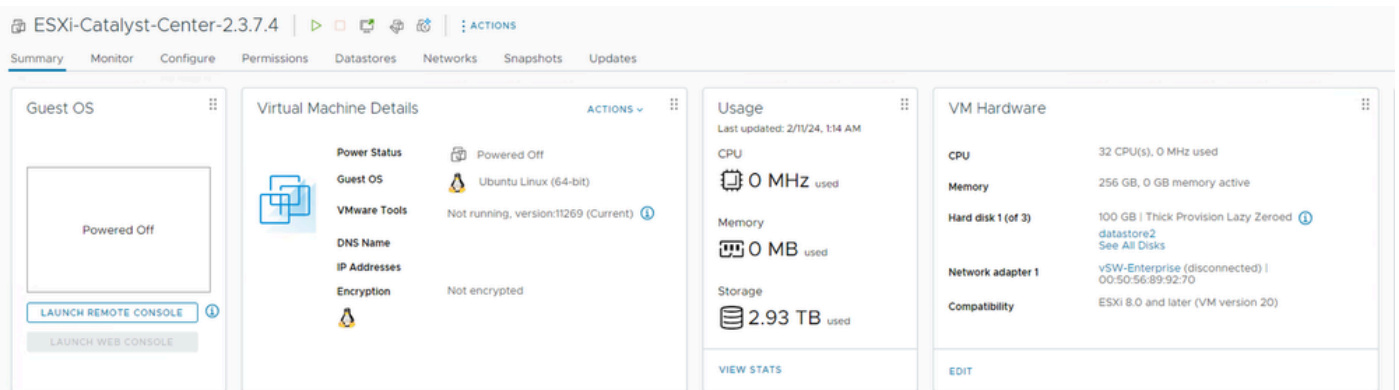
VMware Compatibility Matrix

When the virtual machine and ESXi host are managed by vCenter we need to confirm they are compatible.

Commonly the compatibility do not match and the virtual machine can have errors or unexpected behavior.

On your deployment, select the VM and navigate to **Summary > VM Hardware**.

Notice the **Compatibility** line under **VM Hardware** information.



Refer to the [VMware Hardware Compatibility](#) to compare your values on the VMware products compatibility table.

VMware products and their virtual hardware version

This table lists VMware products and their virtual hardware version:

Virtual Hardware Version	Products
21	ESXi 8.0 U2 (8.0.2) Fusion 13.5 Workstation Pro 17.5 Workstation Player 17.5
20	ESXi 8.0 Fusion 13.x Workstation Pro 17.x Workstation Player 17.x
19	ESXi 7.0 U2 (7.0.2) Fusion 12.2.x Workstation Pro 16.2.x Workstation Player 16.2.x
18	ESXi 7.0 U1 (7.0.1) Fusion 12.x Workstation Pro 16.x Workstation Player 16.x
17	ESXi 7.0 (7.0.0)
16	Fusion 11.x Workstation Pro 15.x Workstation Player 15.x
15	ESXi 6.7 U2