Requirements for deploying SCV

SnapCenter Plug-in for VMware vSphere

NetApp
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Deployment planning and requirements

You should be aware of the deployment requirements before you deploy the virtual appliance. The deployment requirements are listed in the following five tables.

Host requirements

Before you begin deployment of SnapCenter Plug-in for VMware vSphere, you should be familiar with the host requirements.

- You must deploy the SnapCenter VMware plug-in as a Linux VM.

  The SnapCenter VMware plug-in is deployed as a Linux VM regardless of whether you use the plug-in to protect data on Windows systems or Linux systems.

- You should deploy the SnapCenter VMware plug-in on the vCenter Server.

  Backup schedules are executed in the time zone in which the SnapCenter VMware plug-in is deployed. vCenter reports data in the time zone in which the vCenter is located. Therefore, if the SnapCenter VMware plug-in and vCenter are in different time zones, data in the SnapCenter VMware plug-in Dashboard might not be the same as the data in the reports.

- You must not deploy the SnapCenter VMware plug-in in a folder that has a name with special characters.

  The folder name should not contain the following special characters: $!@#%^&()_+{}';.,*?"<>|

- You must deploy and register a separate, unique instance of the SnapCenter VMware plug-in for each vCenter Server.
  - Each vCenter Server, whether or not it is in Linked Mode, must be paired with a separate instance of the SnapCenter VMware plug-in.
  - Each instance of the SnapCenter VMware plug-in must be deployed as a separate Linux VM.

    For example, if you want to perform backups from six different instances of the vCenter Server, then you must deploy the SnapCenter VMware plug-in on six hosts and each vCenter Server must be paired with a unique instance of the SnapCenter VMware plug-in.

- To protect vVol VMs (VMs on VMware vVol datastores), you must first deploy ONTAP Tools for VMware vSphere. ONTAP Tools provisions and configures storage for vVols on ONTAP and on the VMware web client.

  For more information, see ONTAP Tools for VMware vSphere

  For the latest information about supported versions of ONTAP Tools, see the NetApp Interoperability Matrix Tool.

- The SnapCenter VMware plug-in provides limited support of shared PCI or PCIe devices (for example, NVIDIA Grid GPU) due to a limitation of the virtual machines in supporting Storage vMotion. For more information, see the vendor's document Deployment Guide for VMware.
  - What is supported:

Creating resource groups

Creating backups without VM consistency

Restoring a complete VM when all the VMDKs are on an NFS datastore and the plug-in does not need to use Storage vMotion

Attaching and detaching VMDKs

Mounting and unmounting datastores

Guest file restores

- What is not supported:

Creating backups with VM consistency

Restoring a complete VM when one or more VMDKs are on a VMFS datastore.

- For a detailed list of the SnapCenter VMware plug-in limitations, see the SnapCenter Plug-in for VMware vSphere Release Notes.

License requirements

You must provide licenses for…	License requirement
ONTAP	One of these: SnapMirror or SnapVault (for secondary data protection regardless of the type of relationship)
Additional products	vSphere Standard, Enterprise, or Enterprise Plus A vSphere license is required to perform restore operations, which use Storage vMotion. vSphere Essentials or Essentials Plus licenses do not include Storage vMotion.
Primary destinations	SnapCenter Standard: required to perform application-based protection over VMware SnapRestore: required to perform restore operations for VMware VMs and datastores only FlexClone: used for mount and attach operations on VMware VMs and datastores only
Secondary destinations	SnapCenter Standard: used for failover operations for application-based protection over VMware FlexClone: used for mount and attach operations on VMware VMs and datastores only

Software support

Item	Supported versions
vCenter vSphere	HTML5 client: 6.5U2/U3, 6.7x, 7.0, 7.0U1, 7.0U2, 7.0U3 Flex client is not supported.
ESXi	6.5U2 and later

Item	Supported versions
IP addresses	IPv4, IPv6
VMware TLS	1.2
TLS on the SnapCenter Server	TLSv1.1 and later The SnapCenter Server uses this to communicate with the SnapCenter VMware plug-in for application over VMDK data protection operations.
VMware application vStorage API for Array Integration (VAAI)	SnapCenter Plug-in for VMware vSphere uses this to improve performance for restore operations. It also improves performance in NFS environments.
ONTAP Tools for VMware	SnapCenter Plug-in for VMware vSphere uses this to manage vVol datastores (VMware virtual volumes). For supported versions, see the NetApp Interoperability Matrix Tool.

For the latest information about supported versions, see the NetApp Interoperability Matrix Tool.

Space and sizing requirements

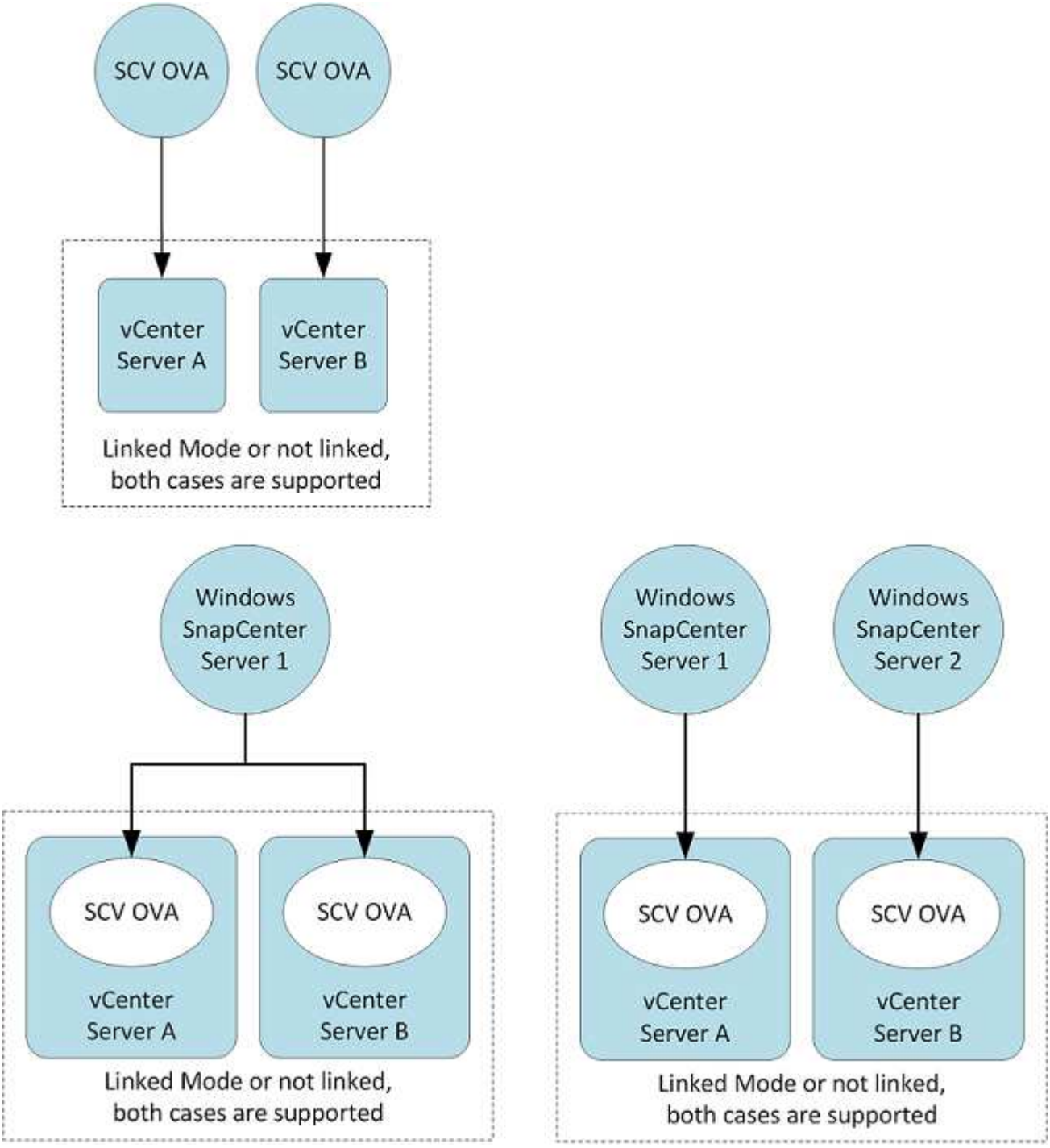
Item	Requirements
Operating system	Linux
Minimum CPU count	4 cores
Minimum RAM	Minimum: 12 GB Recommended: 16 GB
Minimum hard drive space for the SnapCenter Plug-in for VMware vSphere, logs, and MySQL database	100 GB

Connection and port requirements

Type of port	Preconfigured port
SnapCenter Plug-in for VMware vSphere port	8144 (HTTPS), bidirectional The port is used for communications from the VMware vSphere web client and from the SnapCenter Server. 8080 bidirectional This port is used to manage the virtual appliance. Note: You cannot modify the port configuration.
VMware vSphere vCenter Server port	You must use port 443 if you are protecting vVol VMs.
Storage cluster or storage VM port	443 (HTTPS), bidirectional 80 (HTTP), bidirectional The port is used for communication between the virtual appliance and the storage VM or the cluster that contains the storage VM.

Configurations supported

Each plug-in instance supports only one vCenter Server. vCenters in linked mode are supported. Multiple plug-in instances can support the same SnapCenter Server as shown in the following figure.



RBAC privileges required

The vCenter administrator account must have the required vCenter privileges, as listed in the following table.

To do this operation…	You must have these vCenter privileges…
Deploy and register the SnapCenter Plug-in for VMware vSphere in vCenter	Extension: Register extension
Upgrade or remove the SnapCenter Plug-in for VMware vSphere	Extension • Update extension • Unregister extension
Allow the vCenter Credential user account registered in SnapCenter to validate user access to the SnapCenter Plug-in for VMware vSphere	sessions.validate.session
Allow users to access the SnapCenter Plug-in for VMware vSphere	SCV Administrator SCV Backup SCV Guest File Restore SCV Restore SCV View The privilege must be assigned at the vCenter root.

AutoSupport

The SnapCenter Plug-in for VMware vSphere provides a minimum of information for tracking its usage, including the plug-in URL. AutoSupport includes a table of installed plug-ins that is displayed by the AutoSupport viewer.

Minimum ONTAP privileges required

The minimum ONTAP privileges that are required vary according to the SnapCenter plug-ins you are using for data protection.

All SnapCenter plug-ins require the following minimum privileges.

All-access commands: Minimum privileges required for ONTAP 8.3 and later
event generate-autosupport-log
job history show job stop

All-access commands: Minimum privileges required for ONTAP 8.3 and later
lun lun create lun delete lun igroup add lun igroup create lun igroup delete lun igroup rename lun igroup show lun mapping add-reporting-nodes lun mapping create lun mapping delete lun mapping remove-reporting-nodes lun mapping show lun modify lun move-in-volume lun offline lun online lun persistent-reservation clear lun resize lun serial lun show
snapmirror list-destinations snapmirror policy add-rule snapmirror policy modify-rule snapmirror policy remove-rule snapmirror policy show snapmirror restore snapmirror show snapmirror show-history snapmirror update snapmirror update-ls-set
Version

All-access commands: Minimum privileges required for ONTAP 8.3 and later
volume clone create volume clone show volume clone split start volume clone split stop volume create volume destroy volume file clone create volume file show-disk-usage volume offline volume online volume modify volume qtree create volume qtree delete volume qtree modify volume qtree show volume restrict volume show volume snapshot create volume snapshot delete volume snapshot modify volume snapshot rename volume snapshot restore volume snapshot restore-file volume snapshot show volume unmount
vserver cifs vserver cifs share create vserver cifs share delete vserver cifs shadowcopy show vserver cifs share show vserver cifs show vserver export-policy vserver export-policy create vserver export-policy delete vserver export-policy rule create vserver export-policy rule show vserver export-policy show vserver iscsi vserver iscsi connection show vserver show network interface network interface failover-groups network interface show

Read-only Commands: Minimum Privileges Required for ONTAP 8.3 and Later
vserver

Additional ONTAP information

- If you are running ONTAP 8.2.x:

You must login as `vsadmin` on the storage VM to have the appropriate privileges for SnapCenter Plug-in for VMware vSphere operations.

- If you are running ONTAP 8.3 and later:

  You must login as `vsadmin` or with a role that has the minimum privileges listed in the tables above.

Minimum vCenter privileges required

Before you begin deployment of SnapCenter Plug-in for VMware vSphere, you should make sure you have the minimum required vCenter privileges.

Required privileges for vCenter Admin role

System.Anonymous
System.View
System.Read
Datastore.Rename
Datastore.Move
Datastore.Delete
Datastore.Browse
Datastore.FileManagement
Datastore.AllocateSpace
Network.Assign
Host.Config.Storage
Host.Config.AdvancedConfig
Host.Config.Resources
Host.Config.Settings
Host.Local.CreateVM
Host.Local.ReconfigVM
Host.Local.DeleteVM
VirtualMachine.Inventory.Create
VirtualMachine.Inventory.CreateFromExisting
VirtualMachine.Inventory.Register
VirtualMachine.Inventory.Delete
VirtualMachine.Inventory.Unregister
VirtualMachine.Inventory.Move
VirtualMachine.Interact.PowerOn
VirtualMachine.Interact.PowerOff
VirtualMachine.GuestOperations.Query
VirtualMachine.GuestOperations.Modify
VirtualMachine.GuestOperations.Execute
VirtualMachine.Config.AddExistingDisk
VirtualMachine.Config.AddNewDisk
VirtualMachine.Config.RemoveDisk
VirtualMachine.Config.Resource
VirtualMachine.Config.AdvancedConfig
VirtualMachine.Config.ReloadFromPath
VirtualMachine.State.CreateSnapshot
VirtualMachine.State.RevertToSnapshot
VirtualMachine.State.RemoveSnapshot
Resource.AssignVMToPool

Resource.ApplyRecommendation
Resource.HotMigrate
Resource.ColdMigrate
Resource.QueryVMotion
Task.Create
Task.Update
Extension.Register
Extension.Update
Extension.Unregister

Required privileges specific to SnapCenter Plug-in for VMware vCenter

netappSCV.Guest.RestoreFile
netappSCV.Recovery.MountUnMount
netappSCV.Backup.DeleteBackupJob
netappSCV.Configure.ConfigureStorageSystems.Delete
netappSCV.View
netappSCV.Recovery.RecoverVM
netappSCV.Configure.ConfigureStorageSystems.AddUpdate
netappSCV.Backup.BackupNow
netappSCV.Guest.Configure
netappSCV.Configure.ConfigureSnapCenterServer
netappSCV.Backup.BackupScheduled