

## Overview

XenServer introduces a seamless integration of the XenServer hypervisor with the Nutanix Hyperconverged Infrastructure (HCI) offering. The XenServer-Nutanix Integration feature enables Citrix customers to reap HCI benefits such as linear scalability and reduced complexity. This feature also allows Nutanix customers to deploy XenServer on the Nutanix HCI platform, and leverage the mature, fully featured and highly optimized integration of XenServer into the wider Citrix Stack (that is, XenDesktop/XenApp with both MCS and PVS, App Disks). Additionally, Nutanix customers can also benefit from the unique selling points of XenServer such as:

- Leading graphics virtualization solution
- Automated delivery of I/O drivers through Windows Update
- Support for Containers
- PVS Read Cache
- Advanced threat detection using Direct Inspect APIs

Customers can use the Nutanix Prism web console to configure storage and cluster (pool) infrastructure and to monitor the HCI platform, including the VM storage. Managing the XenServer hypervisor and performing VM lifecycle operations can be done using XenCenter.

### Notes:

- XenServer-Nutanix Integration applies only to Nutanix servers, and to certified servers running the Nutanix stack. For a list of supported servers, see the [Hardware Compatibility List](#). Please note that this guide serves as an auxiliary document to complement the [Citrix XenServer on Nutanix Administration Guide](#).
- Every XenServer release requires a compatible Nutanix release in order to enable the XenServer-Nutanix Integration feature. Refer to the [Citrix XenServer on Nutanix Administration Guide](#) for information on compatible releases.

## Compatibility Requirements and Caveats

With the tight integration of Nutanix with XenServer, the following XenServer features do not apply to the Nutanix HCI deployments:

- **Storage XenMotion** - Storage XenMotion enables the movement of a VM's storage from one Storage Repository (SR) to another, whereas Nutanix enables the aggregation of storage for an entire cluster.
- **Disaster Recovery (DR)** - The DR feature in XenServer is based on array-level mirroring that is not applicable in Nutanix deployments.
- **WLB Power Management** - Within HCI environments, the removal of any hardware has to be tightly managed. This is orchestrated through the Nutanix Prism UI, hence the Power

Management feature in XenServer Workload Balancing (WLB) is not permissible for Nutanix deployments.

- **SRs** - HCs mandate their own SR, simplifying the choice of SR type, hence local, NFS, iSCSI, Hardware HBA, SMB/CIFS and Software FCoE are not available. However, ISO libraries are supported.
- **IntelliCache** - The IntelliCache feature in XenServer does not apply as Nutanix storage already ensures data locality.
- **XenCenter Automated Updates** – The host-aggregated clustered storage requires that hosts are restarted in a specific sequence.

When using the XenCenter Install Tools wizard, the **Automated Updates** option is not available. Instead choose to **Download update or new version from Citrix** or to **Select update or supplemental pack from disk**.

After you have installed the updates, use the Nutanix Prism console to trigger a Rolling Pool Restart if a restart is required. This ensures that the restarts occur in the correct sequence.

In addition, the following limitations also apply when using XenServer on Nutanix:

- The concept of 'cluster' in Nutanix maps to the concept of 'pool' in XenServer. This means the cluster size is limited to a maximum 16 hosts per cluster.
- High availability (HA) can only accommodate a single host failure (assuming there are at least three hosts in a cluster). Note that this limit is only enforced in XenCenter.
- Customers should use OVS as the network backend. Linux Bridge is not supported.
- The Citrix XenServer VSS provider that enables quiesced snapshots is not applicable as the integration is based on Nutanix native snapshot format.

## Configuration

Customers should use the Nutanix Prism web console to configure storage and cluster infrastructure and to monitor the Hyperconverged Infrastructure platform, including the VM storage. Managing the XenServer hypervisor and performing VM lifecycle operations can be done using XenCenter.

### **Note:**

Use the Nutanix Prism console to manage host membership in the cluster and pool. The options for pool-join and -eject are disabled on the XenServer user interfaces. This is because hosts in the XenServer pool must match the hosts in the Nutanix cluster.

The Nutanix software stack runs inside a privileged VM called the Controller VM (CVM) on each host. Similar to the XenServer Control Domain (dom0), the Controller VM domain is visible in CLI and in XenCenter on the **Nutanix CVM Console** tab of the host. Note that the Controller VM will not be displayed as a VM in XenCenter.

## To modify the memory allocated to the Controller VM

Depending on the Nutanix features being used, customers may choose to modify the memory allocated to the Controller VM. Run the following command on the Controller VM to modify the memory

allocation:

```
xe vm-memory-limits-set uuid=<CVM UUID> static-min=10GiB dynamic-  
min=10GiB dynamic-max=10GiB static-max=10GiB
```

**Note:** Reboot the host for the changes to take effect.

## To modify the network of the CVM

**Important:** Customers should install [Hotfix XS71E004](#) before making any changes to the network configuration. Under certain circumstances, when you change a network bond without installing Hotfix XS71E004, the VM's network may not be moved to the new bond. This can cause the CVM to lose its external network connectivity.

You can change the network of the CVM using the xe CLI. Perform the following steps to change the network of the CVM:

1. Determine the UUID of the network that you would like to move to:

```
{noformat}  
[root@NTNX-X-D ~]# xe network-list  
uuid ( RO) : cd411246-343f-3852-fcda-0e24a6871bf9  
    name-label ( RW): Pool-wide network associated with eth0  
    name-description ( RW):  
    bridge ( RO): xenbr0  
  
uuid ( RO) : 043d8fa5-1f0d-d25e-1342-64d2336ae794  
    name-label ( RW): Pool-wide network associated with eth1  
    name-description ( RW):  
    bridge ( RO): xenbr1  
....  
{noformat}
```

2. Determine the UUID of the virtual network interface (VIF):

```
{noformat}  
[root@NTNX-X-D ~]# xe vif-list vm-uuid=<VM_UUID> params=uuid,network-  
name-label device=0  
uuid ( RO) : fd2aff65-d31f-d9ef-f013-e9eb9c7abf4a  
network-name-label ( RO): Pool-wide network associated with eth1  
{noformat}
```

3. Move the VIF to the new network:

```
{noformat}  
[root@NTNX-17SM6B020094-D ~]# xe vif-move uuid=fd2aff65-d31f-d9ef-  
f013-e9eb9c7abf4a network-uuid=cd411246-343f-3852-fcda-0e24a6871bf9  
{noformat}
```

4. Confirm that you have moved the VIF to the new network:

```
{noformat}
[root@NTNX-X-D ~]# xe vif-list vm-uuid=<VM_UUID> params=uuid,network-
name-label device=0
uuid ( RO)                : fd2aff65-d31f-d9ef-f013-e9eb9c7abf4a
network-name-label ( RO): Pool-wide network associated with eth0
{noformat}
```

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