

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 hardware. 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.

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.

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}
```

About Citrix

Citrix (NASDAQ:CTXS) is leading the transition to software-defining the workplace, uniting virtualization, mobility management, networking and SaaS solutions to enable new ways for businesses and people to work better. Citrix solutions power business mobility through secure, mobile workspaces that provide people with instant access to apps, desktops, data and communications on any device, over any network and cloud. With annual revenue in 2015 of \$3.28 billion, Citrix solutions are in use at more than 400,000 organizations and by over 100 million users globally. Learn more at www.citrix.com.

The copyright in this report and all other works of authorship and all developments made, conceived, created, discovered, invented or reduced to practice in the performance of work during this engagement are and shall remain the sole and absolute property of Citrix, subject to a worldwide, non-exclusive license to you for your internal distribution and use as intended hereunder. No license to Citrix products is granted herein. Citrix products must be licensed separately. Citrix warrants that the services have been performed in a professional and workman-like manner using generally accepted industry standards and practices. Your exclusive remedy for breach of this warranty shall be timely re-performance of the work by Citrix such that the warranty is met. THE WARRANTY ABOVE IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE SERVICES OR PRODUCTS PROVIDED UNDER THIS AGREEMENT, THE PERFORMANCE OF MATERIALS OR PROCESSES DEVELOPED OR PROVIDED UNDER THIS AGREEMENT, OR AS TO THE RESULTS WHICH MAY BE OBTAINED THEREFROM, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR AGAINST INFRINGEMENT. Citrix' liability to you with respect to any services rendered shall be limited to the amount actually paid by you. IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER PARTY HEREUNDER FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT OR PUNITIVE DAMAGES (INCLUDING BUT NOT LIMITED TO LOST PROFITS) REGARDLESS OF WHETHER SUCH LIABILITY IS BASED ON BREACH OF CONTRACT, TORT, OR STRICT LIABILITY. Disputes regarding this engagement shall be governed by the internal laws of the State of Florida.

© 1999-2017 Citrix Systems, Inc. All rights reserved.

Citrix and Xen are registered trademarks. XenServer and XenCenter are trademarks of Citrix Systems, Inc. in the United States and other countries.

All other product names, company names, marks, logos, and symbols are trademarks of their respective owners.

851 West Cypress Creek Road
Fort Lauderdale, FL 33099
954-267-3000
www.citrix.com