XenServer 7.5 Release Notes

Welcome to XenServer 7.5. This document provides important information about the XenServer 7.5 release.

XenServer 7.5 is a Current Release (CR). The Current Release model allows customers to consume new features at the earliest possible juncture. This contrasts with the Long Term Service Release (XenServer 7.1 LTSR), which guarantees stability in terms of the feature set within XenServer.

XenServer 7.5 is available in the following editions:

- Standard Edition
- Enterprise Edition
- Free Edition

For information about the features available in each edition, see the XenServer Feature Matrix.

XenServer 7.5 is available to download from the XenServer Product Download page.

New Features and Improvements in XenServer 7.5

XenServer 7.5 introduces enhanced features and functionality for application, desktop, and server virtualization use cases. All XenServer 7.5 features are available to all licensed XenApp/XenDesktop customers.

Supported Pool Size Increased to 64

XenServer now supports up to a maximum of 64 hosts in a pool. Increased pool size helps in a more efficient management of VMs and provides greater flexibility when using High Availability.

Note: This feature is not available to users of the Free Edition

USB Passthrough Enterprise Edition

XenServer now supports passing through individual, physical USB devices to a VM. The VM's OS can use the physical USB device as a local USB device.

Changes to Guest Operating System Support

The set of guest operating systems that XenServer supports has been updated. For more information, see the *Citrix XenServer 7.5 Virtual Machine User's Guide.*

Added

XenServer now supports the following additional Linux guest templates:

- CentOS 7.4
- CentOS 6.9
- Oracle Linux 6.9
- Red Hat Enterprise Linux 6.9
- Scientific Linux 6.9

Changed

The following Linux guest templates, which were virtualized using PV in previous releases, are now virtualized using HVM to enable graphics hardware acceleration:

- SUSE Linux Enterprise Server 12 SP3
- SUSE Linux Enterprise Desktop 12 SP3

Citrix continues to support existing VMs with these operating systems used as PV.

Removed

We have removed support for the following guest templates, because their vendors no longer support these operating systems:

- SUSE Linux Enterprise Server 11, 11 SP1, 11 SP2
- SUSE Linux Enterprise Desktop 11, 11 SP1, 11 SP2
- Scientific Linux 5
- Ubuntu 10.04
- Ubuntu 10.10
- Windows 8

Note: Windows 8.1 is still available. If you attempt to install a Windows 8 guest, XenServer upgrades it to Windows 8.1.

You can continue to use existing VMs with these operating systems; however, Citrix no longer supports these VMs.

XenCenter, C# SDK, and PowerShell module performance improvements

XenCenter, the C# SDK, and the PowerShell module now use JSON-RPC instead of XML-RPC to communicate with the XenServer host. This change improves the performance when interacting with XenServer, especially when connecting to a pool.

Update to XenServer 7.5 from XenServer 7.3 or XenServer 7.4

You can move from XenServer 7.3 or XenServer 7.4 to XenServer 7.5 using the update method. Use the XenServer 7.5 Update ISO to perform the update. For more information, see Installation Options.

Updating your version of XenServer is quicker and more efficient than upgrading or creating a fresh installation.

NVIDIA Virtual GPU Support for Ubuntu 16.04 VMs[Enterprise Edition]

Customers using vGPU on NVIDIA can now use GPU passthrough and shared GPU with Ubuntu 16.04 VMs. For more information, see *Configuring XenServer 7.5 for Graphics*.

Experimental Features

Experimental features are not suitable for use in production environments. Citrix offers no guarantee that the experimental features will be available in a GA release of Citrix XenServer.

Networking SR-IOV: Passthrough of Virtual Functions[Enterprise Edition]

XenServer can now use Single Root I/O Virtualization (SR-IOV) that allows a single PCI device to appear as multiple PCI devices on the physical system.

The hypervisor can assign one or more VFs to a Virtual Machine (VM). The guest can then use the device as if it were directly assigned. You can assign one or more NIC VFs to a VM allowing its network traffic to bypass the virtual switch. When configured, each VM behaves as though it is using the NIC directly, reducing processing overhead and improving performance.

To use this experimental feature, enable it by using the following command on all hosts in a pool:

```
xe-enable-experimental-feature network_sriov
```

If SR-IOV is not enabled for all hosts in the pool, the SR-IOV option in XenCenter is disabled and the command-line displays a message that the feature is unlicensed.

For more information, see *Citrix XenServer 7.5 Administrator's Guide*.

Thin Provisioning for Shared Block Storage Devices[Enterprise Edition]

XenServer uses GFS2 to make thin provisioning available to customers with block-based storage devices that are accessed through iSCSI software initiator or Hardware HBA.

Thin provisioning optimizes the utilization of available storage by allocating disk storage space to VDIs as data is written to the virtual disk, rather than allocating in advance the full virtual size of the VDI. Using thin provisioning enables you to significantly reduce the amount of space required on a shared storage array and with that your Total Cost of Ownership (TCO).

For more information, see *Citrix XenServer 7.5 Thin Provisioning for Shared Block-based Storage*.

Create VDIs greater than 2 TiB

You can now create virtual disk images on GFS2 SRs that are larger than the previous 2 TiB limit. This experimental feature is not supported in XenCenter. Use the command-line to create VDIs that are greater than 2 TiB.

The performance for these greater than 2TiB disks is not yet characterized. You cannot export these large VDIs as VHD or OVA/OVF.

Primary disks for Windows VMs are in Master Boot Record (MBR) format. MBR limits the maximum addressable storage space of a disk to 2TiB. To use a greater than 2 TiB disk for a Windows VM, create it as the secondary disk for the VM and select GUID Partition Table (GPT) format.

Enterprise features are available for XenServer Enterprise edition customers, or those who have access to XenServer through their XenApp/XenDesktop entitlement. To learn more about XenServer editions, and to find out how to upgrade, visit the Citrix website.

Installation Options

XenServer 7.5 is available to download from the XenServer Product Download page in the following packages:

- XenServer 7.5 Update ISO. Use this file to update an existing installation of XenServer 7.4 or 7.3 CR.
- XenServer 7.5 Base Installation ISO. Use this file to create a fresh installation of XenServer 7.5 or to upgrade from XenServer 6.2, 6.5, 7.0, or 7.1 Cumulative Update 1.

Please note:

- If you use XenCenter to update your hosts, you must update your XenCenter installation to the latest version supplied on the XenServer 7.5 download page before beginning.
- Always update the pool master before updating any other hosts in a pool.

The following table shows the available options when moving from an existing version of XenServer to XenServer 7.5.

Installed Version	Update using XenServer 7.5 Update ISO	Upgrade using XenServer 7.5 Base Installation ISO
XenServer 7.4	Yes	No
XenServer 7.3	Yes	No
XenServer 7.1 CU 1	No	Yes
XenServer 7.0	No	Yes
XenServer 6.5	No	Yes
XenServer 6.2	No	Yes

Upgrading from XenServer 7.1 without CU 1 applied is not supported. Ensure that you update your XenServer 7.1 to the latest Cumulative Update before upgrading to XenServer 7.5.

Before beginning installation, review the system requirements and installation instructions detailed in the *XenServer 7.5 Installation Guide*.

Changing from the Long Term Service Release to the Current Release

If you're running a XenServer LTSR, but want to take advantage of new features, you can decide to change to the XenServer CR stream. Using the XenServer versions from the CR stream requires you to adopt new CRs regularly to remain in support.

Move to this Current Release by upgrading from XenServer 7.1 CU 1 LTSR.

Changing from the Current Release to the Long Term Service Release

If you're running a XenServer CR, but instead want to move to a version of XenServer with a guaranteed and stable feature set, you can change to a XenServer LTSR. The latest XenServer LTSR is available to download from the XenServer Product Download page.

Move to the latest LTSR by creating a fresh installation of XenServer 7.1 CU 1 LTSR.

For more information about LTSRs and CRs, see XenApp, XenDesktop, and XenServer Servicing Options.

Licensing

Customers should upgrade their Citrix License Server to version 11.14 or higher in order to use all XenServer 7.5 licensed features.

For more information about XenServer 7.5 licensing, see *XenServer 7.5 Licensing FAQ*.

Hardware Compatibility

Refer to the XenServer Hardware Compatibility List (HCL) for the most recent additions and advice for all hardware compatibility questions.

Interoperability with Citrix Products

XenServer 7.5 is interoperable with Citrix XenApp/XenDesktop 7.15 (LTSR), and 7.18.

XenServer 7.5 is interoperable with Citrix PVS 7.15 and 7.18.

Localization Support

The localized version of XenCenter (Simplified Chinese and Japanese) is also available in this release.

Product Documentation

To access XenServer 7.5 product documentation, see XenServer 7.5 Product Documentation. For frequently asked questions about XenServer, see *XenServer 7.5 Technical FAQ*.

Documentation can be updated or changed after the initial release. We suggest that you regularly visit the XenServer 7.5 page on Citrix Product Documentation to learn about updates.

Fixed Issues

The following section details issues present in previous releases that are fixed in this release.

- Errors occur when running in legacy boot mode on Intel Xeon 81xx/61xx/51xx/41xx/31xx CPU-based systems.
- XenServer does not prevent users from unplugging a NIC used by the FCoE SR.
- It is not possible to attach storage provided by iSCSI Target Server on Windows Server 2016.
- After migrating a VM using vGPU XenMotion the guest VNC console might become corrupted. Use ICA, RDP, or another network-based method for accessing VMs after a vGPU XenMotion has been performed.
- XenServer can fail to exit maintenance mode after an upgrade.
- After changing the streamed vDisk, the PVS Accelerator cache stays in the 'Initialized' state and doesn't move to the 'Caching' state. A VM with changed vDisk is cached again after the VM is powered-off completely and started again.
- The clock on dom0 drifts on Dell R740 hardware.
- When you add a host to a pool as a slave, the performance alerts can stop working.
- The Workload Balancing appliance shows errors and performance issues when monitoring large numbers of VMs (>400).

This release also includes all fixes provided as hotfixes to the previous current release of XenServer.

Advisories and Known Issues

The following section details advisories and minor issues with this release and any workarounds that you can apply.

General

- If a pool's CPU feature set changes while a VM is running (for example, when a new host is added to an existing pool, or when the VM is migrated to a host in another pool), the VM will continue to use the feature set which was applied when it was started. To update the VM to use the pool's new feature set, you must power off and then start the VM. Rebooting the VM, for example, by clicking 'Reboot' in XenCenter, does not update the VM's feature set.
- Do not assign more than 32GB of memory to Dom0, as otherwise intermittent VM freezes can occur, often during boot of VMs.

Internationalization

- Non-ASCII characters, such as characters with accents, cannot be used in the host console.
- XenServer root passwords must not contain non-ASCII characters.
- In a Windows VM with XenServer Tools installed, copy and paste of double-byte characters can fail when using the default desktop console in XenCenter. The pasted characters are displayed as question marks (?).
  To work around this issue, you can use the remote desktop console instead.

Installation

- If you use GVT-d, update the GPU drivers in your VM before upgrading to XenServer 7.5.

- If you have previously upgraded your XenServer installation from XenServer 6.5 or earlier, with virtual machines using the server's "Local Storage" storage repository, or if a vendor utility partition is present on your disk, you are using a legacy disk layout. The legacy disk layout means the control domain has significantly less space available to it than the current layout (4GB vs 18GB)
  When attempting to apply the XenServer 7.5 update to the XenServer 7.3 or 7.4 installation, you receive the error message "the server does not have enough space". This happens because installation of the XenServer 7.5 update requires sufficient free space to avoid filling the disk, which is not possible with the legacy layout.
  If you receive this error, you cannot update to XenServer 7.5, and you must perform a fresh installation instead.

Storage

- When using Nutanix SRs, the two VDIs (previously used for the HA statefile and pool metadata) that remain after disabling HA will not be reused if HA is subsequently re-enabled. Customers can safely delete these VDIs.

XenCenter

- Modifying the font size or DPI on the computer on which XenCenter is running can result in the user interface displaying incorrectly. The default font size is 96 DPI; Windows 8 and Windows 10 refer to this as 100%.

Guests

- On XenServer hosts that use the bnxt_en driver, Oracle 6.x VMs can crash when connecting to a network. Ensure that your bnxt_en driver is up to date by installing the following driver disk: https://support.citrix.com/article/CTX232688
- VMs that use Intel GVT-d cannot output to a connected physical display.
- Live migration of VMs newly created on XenServer 7.5 is incompatible with adding or removing a network device from a Windows VM configured with **has-vendor-device** to be **true** (to enable Windows Update for PV drivers). VMs live migrated from a previous version of XenServer are not affected by this issue. If hotplugging of network devices and live migration for a new Windows VM are both required, set the VM's metadata for **has-vendor-device** to be **false** (to disable Windows Update for PV drivers), or use the old device model by setting the VM's metadata for **platform:device-model** to be **qemu-trad**.

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