

Release Notes for Citrix XenServer 6.0

Documentation may be updated or changed after the initial release. Citrix suggests regularly visiting the [XenServer 6.0 page](#) on the Citrix Support Website to learn about updates.

Release notes for Windows and Linux virtual machines (VMs) are available in the *Citrix XenServer 6.0 Virtual Machine Installation Guide*

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Licensing

Important: Utilizing the XenServer 6.0 advanced features requires a Citrix License Server Virtual Appliance (11.6.1 or higher) and a XenServer 6.0 license. A Citrix License Server Virtual Appliance with a pre-installed XenServer 6.0 license is available for download from the Citrix [XenServer 6.0 Download page](#). To use an existing Citrix License Server Virtual Appliance, installation of the XenServer 6.0 license is required. For information on downloading and installing the Citrix License Server Virtual Appliance, see the Knowledge Base article [CTX124501-Citrix License Server Virtual Appliance for XenServer](#).

- An overview of licensing in XenServer, including required settings, is in the *Citrix XenServer 6.0 Installation Guide*.
- For information about obtaining license files and installing a license server, see the [Licensing Your Product](#) section on [Citrix Product Documentation](#).

New Features

We're pleased to announce availability of the download of [XenServer 6.0](#). XenServer 6.0 includes a number of new features and ongoing improvements, including:

Integrated Site Recovery (Disaster Recovery). Remote data replication between storage arrays with fast recovery and failback capabilities. Integrated Site Recovery replaces StorageLink Gateway Site Recovery used in previous versions, removes the Windows VM requirement, and works with any iSCSI or Hardware HBA storage repository.

Integrated StorageLink. Access to use existing storage array-based features such as data replication, de-duplication, snapshot and cloning. Replaces the StorageLink Gateway technology used in previous editions and removes requirement to run a Windows VM with the StorageLink components.

GPU Pass-Through. Enables a physical GPU to be assigned to a VM providing high-end graphics. Allows applications to leverage GPU instructions in XenDesktop VDI deployments with HDX 3D Pro.

Virtual Appliance Support (vApp). Ability to create multi-VM and boot sequenced virtual appliances (vApps) that integrate with Integrated Site Recovery and High Availability. vApps can be easily imported and exported using the Open Virtualization Format (OVF) standard.

Rolling Pool Upgrade Wizard. Simplify upgrades (automated or semi-automated) to XenServer 6.0 with a wizard that performs pre-checks with a step-by-step process that blocks unsupported upgrades.

Microsoft SCVMM & SCOM Support. Manage XenServer hosts and VMs with System Center Virtual Machine Manager (SCVMM) 2012. System Center Operations Manager (SCOM) 2007 R2 will also be able to manage and monitor XenServer hosts and VMs. System Center integration is available with a special supplemental pack from Citrix. For more information refer to the [Microsoft System Center 2012 Virtual Machine Manager page](#).

Distributed Virtual Switch Improvements. New fail safe mode allows Cross-Server Private Networks, ACLs, QoS, RSPAN and NetFlow settings to continue to be applied to a running VM in the event of vSwitch Controller failure.

Increased Performance and Scale. Supported limits have been increased to 1 TB memory for XenServer hosts, and up to 16 virtual processors and 128 GB virtual memory for VMs. Improved XenServer Tools with smaller footprint.

Networking Improvements. Open vSwitch is now the default networking stack in XenServer 6.0 and now provides formal support for Active-Backup NIC bonding.

VM Import & Export Improvements. Full support for VM disk and OVF appliance imports directly from XenCenter with the ability to change VM parameters (virtual processor, virtual memory, virtual interfaces, and target storage repository) with the Import wizard. Full OVF import support for XenServer, XenConvert and VMware.

SR-IOV Improvements. Improved scalability and certification with the SR-IOV Test Kit. Experimental SR-IOV with XenMotion support with Solarflare SR-IOV adapters.

Simplified Installer. Host installations only require a single ISO.

Enhanced Guest OS Support. Support for Ubuntu 10.04 (32/64-bit). Updated support for Debian Squeeze 6.0 64-bit, Oracle Enterprise Linux 6.0 (32/64-bit) and SLES 10 SP4 (32/64-bit). Experimental VM templates for CentOS 6.0 (32/64-bit), Ubuntu 10.10 (32/64-bit) and Solaris 10.

Workload Balancing Improvements. New, ready-to-use Linux-based virtual appliance with a smaller footprint replaces the Windows-based virtual appliance and eliminates the Windows licensing dependency.

XenDesktop Enhancements. [HDX](#) enhancements for optimized user experience with virtual desktops, GPU Pass-Through, and increased VM and XenServer host limits.

VM Protection & Recovery. Now available for Advanced, Enterprise and Platinum Edition customers.

NFS Support for High Availability. HA Heartbeat disk can now reside on a NFS storage repository.

XenCenter Improvements. XenCenter operations now run in parallel, and XenCenter will be available in Japanese and Simplified Chinese (ETA Q4 2011).

Host Architectural Improvements. XenServer 6.0 now runs on the Xen 4.1 hypervisor, provides GPT support and a smaller, more scalable Dom0.

XenServer Virtual Appliances

The following XenServer virtual appliances are available for download from the Citrix [XenServer 6.0 Download page](#):

- Demo Linux Virtual Appliance
- Workload Balancing Virtual Appliance
- Citrix License Server Virtual Appliance
- vSwitch Controller Virtual Appliance

Installation and Upgrades

Upgrade to XenServer 6.0 is possible from any version of XenServer 5.6 including 5.6 (base), 5.6 Feature Pack 1, and 5.6 Service Pack 2.

Upgrading XenServer

Customers upgrading from XenServer 5.6 and later should follow the instructions below. These instructions apply to customers using the XenCenter Rolling Pool Upgrade wizard to upgrade XenServer hosts or pools. For details on upgrading XenServer using the xe CLI, please refer to the *XenServer 6.0 Installation Guide*.

Note: For information on upgrading the vSwitch Controller Virtual Appliance, see the *XenServer 6.0 vSwitch Controller User Guide*.

Before You Upgrade

- Download the 6.0 version of XenCenter.
- Citrix strongly recommends that you take a backup of the state of your existing pool using the **pool-dump-database** xe CLI command (see the *XenServer 6.0 Administrator's Guide*).
- Consider suspending any non-critical VMs to ensure that hosts have sufficient memory to carry out the upgrade.

To Upgrade XenServer Using the XenCenter Rolling Pool Upgrade Wizard:

1. Open the Rolling Pool Upgrade wizard: on the **Tools** menu, select **Rolling Pool Upgrade**.
2. Read the **Before You Start** information, and then click **Next** to continue.
3. Select the pool(s) and/or individual hosts that you wish to upgrade, and then click **Next**.
4. Choose **Automatic Mode** or **Manual Mode**, depending on whether you are planning an automated upgrade from network installation files located on an HTTP, NFS or FTP server, or a manual upgrade from either a CD/DVD or via PXE boot (using already existing infrastructure).

Note: If you choose **Manual Mode**, you must run the XenServer installer on each XenServer host in turn and follow the on-screen instructions on the serial console of the host. Once the upgrade begins, XenCenter prompts you to insert the XenServer installation media or to specify a PXE boot server for each host that you upgrade.

5. Once you have selected your Upgrade Mode, click **Run Prechecks**.
6. Follow the recommendations to resolve any upgrade prechecks that have failed. If you would like XenCenter to attempt to automatically resolve all failed prechecks, click **Resolve All**.

Once all prechecks have been resolved, click **Next** to continue.

7. Prepare the XenServer installation media.

- If you chose **Automatic Mode**, enter the installation media details. Choose **HTTP**, **NFS** or **FTP** and then specify the path, username and password, as appropriate.

Note: Enter the username and password associated with your HTTP, NFS or FTP server, if you have configured security credentials for this server. Do not enter the username and password associated with your XenServer pool.

- If you chose **Manual Mode**, note the upgrade plan and instructions.

Click **Start Upgrade**.

8. Once the upgrade begins, the Rolling Pool Upgrade wizard guides you through any actions you need to take to upgrade each host. Follow the instructions until you have upgraded all hosts in the pool(s).

Once the upgrade completes, the wizard prints a summary. Click **Finish** to close the wizard.

Fresh Installation of XenServer 6.0

To perform a fresh installation of XenServer 6.0, please refer to the instructions in the *XenServer 6.0 Installation Guide*.

Known Issues and Errata

This section details known issues with this release and any workarounds that can be applied.

General

- Citrix strongly recommends using the new XenServer 6.0 Disaster Recovery feature, as the legacy Metadata Backup, Restore and Update mechanism (accessible via the XenServer host console) will be deprecated in a future XenServer release. Citrix advises customers using the legacy mechanism to migrate to the new, integrated feature. [CA-65906]
- In some 10 Gigabit Ethernet environments, occasional performance problems with disk throughput on NFS SRs have been observed. The problem can be identified by a log entry in `/var/log/messages` similar to: `kernel: nfs: server 10.0.0.1 not responding, timed out`. Citrix continues to investigate this issue with an aim to resolve it in a future release. [CA-59187]
- If your XenServer hosts are configured with static IP addresses, be sure that the switch ports connected to the XenServer hosts are configured as detailed in the Knowledge Base article [CTX123158-Considerations for Connecting XenServer to the Switch Ports](#) before attempting an upgrade. [CA-66492]
- A Windows VM may fail to boot properly if streaming over Citrix Provisioning Services (PVS). This is an intermittent fault, and rebooting the VM should resolve the issue. [CA-60261]
- Attempting to revert back to a snapshot with memory, which has the XenServer Tools ISO in the DVD drive on a host that has been upgraded from an older version of XenServer, will produce a VM that cannot be restarted properly. You can start the suspended VM by forcibly shutting it down and emptying the DVD drive; however, the memory portion of the snapshot will be lost. [CA-59289]
- If upgrading from Beta versions of XenServer 6.0 (XenServer Project Boston Beta and XenServer 6.0 Beta) to XenServer 6.0, do not uninstall the older XenServer Tools before installing the new Tools. If the older XenServer Tools are uninstalled first, the installation of the new Tools will fail. If the installation fails for this reason, a second attempt at installing the new Tools will succeed. [CA-62082]

- If a VM is protected by a VM Protection Policy, and then that VM is converted to a template, the VM Protection Policy will fail to run in the future. To avoid this issue, you should first remove the VM from the VM Protection Policy before converting it to a template. [CA-62503]
- XenServer reports the amount of space used by a virtual disk, but this number can be substantially out of date. [CA-51466]

Internationalization

- Non-ASCII characters, such as characters with accents, cannot be used in the host console. [CA-40845]
- The root password of the host installer must not contain non-ASCII characters. [CA-47461]
- The network path and login credentials (username/password) for CIFS storage repositories must not contain non-ASCII characters. [CA-29017] [CA-64182]

Localization

For XenServer 6.0, XenCenter is available in Japanese and Simplified Chinese. Documentation for XenServer 6.0 is available in Japanese, Simplified Chinese, Traditional Chinese, and Korean. The Japanese/Simplified Chinese version of XenCenter detects the user's system locale and the operating-system language to choose the language of the XenCenter graphical user interface.

Hardware Compatibility

- Intel Errata for Nehalem and Westmere CPU implementations of C-states may lead to system instability, apparently random freezes or reboots — including during installation. Customers with Nehalem and Westmere CPUs are advised to disable C-states in the system BIOS as detailed in the Knowledge Base article [CTX127395-Hosts Become Unresponsive with XenServer on Nehalem and Westmere CPUs](#). [CA-60628]

Networking

- DHCP lease renewal fails if the DHCP client and DHCP server are both Linux VMs on the same host. This does not affect Windows VMs. If you wish to use dhcp3-server and dhcp3-client in Linux VMs which may be sharing the same host, you must disable checksum offload by issuing the command `ethtool -K eth0 tx off` within the DHCP server VM. [CA-40908]
- After migration, Windows-based VMs may see a drop in network throughput to other VMs on the same host. Traffic from VMs to machines on different hosts is unaffected. To work around this issue: after migration, open the **Device Manager** on the VM and select the PV network interface. Right-click the PV network interface and select **Properties**. In the dialog box, select the **Advanced** tab, and then select **Large Receive Offload (IPv4)**. Change the value to **Disabled**, and then click **OK**. If you then repeat this procedure but set the value back to **Enabled**, it should re-activate LRO and rectify the performance problem. [CA-65342]
- If you are using Internet Explorer (IE) version 7 or 8 to access the vSwitch Controller interface remotely, you may find that these versions of IE leak system handles. Citrix recommends using either Firefox or IE 9, which addresses some of the known IE memory and resource leak issues. To help prevent leak issues, the vSwitch Controller GUI now logs out a user after approximately 10 hours if the user has not manually refreshed or navigated away from a webpage. The logout will reclaim memory used by the browser. [CA-65261]
- When NIC bonds are deleted, the vSwitch Controller GUI may fail to show the slave networks that had been bonded. To resolve this issue, refresh the status of the pool or restart the vSwitch Controller. The networks should then reappear. [CA-65261]
- If RSPAN is configured, and you add a pool or network to your vSwitch Controller at the **All Resource Pools** level, then RSPAN will not work properly on the newly-added pool or network. Even though an RSPAN policy appears to be set using the configured RSPAN Target VLAN ID, no RSPAN traffic is detected. To work around this issue, the vSwitch Controller administrator can add additional RSPAN Target VLAN IDs after adding the new pool or network. This will refresh the

target VLAN IDs for all pools. The additional IDs can then be removed if they are not needed. [CA-65261]

Storage

- If your resource pool has an existing connection to a CIFS ISO share, subsequent attempts to create a new ISO SR on that same share may fail. [CA-37251]
- Quiesced snapshots are not supported for Windows Server 2008 R2 VMs. [CA-32734]
- If an SR has very little free space, a reversion to a snapshot may fail. This issue can be resolved by re-attempting the revert a few minutes later. [CA-63032]
- If you attempt to include a shared storage device in the list of devices to be incorporated into a host's local SR (in an answerfile that is used to automate XenServer installation), the contents of the shared storage will be destroyed. [CA-41786]
- Writing to CIFS ISO storage repositories is not supported and can result in disk corruption. [CA-41058]
- If your ISO SR is on an NFS server and the connection to the server is temporarily lost, you may need to restart your XenServer host in order to regain connection. [CA-10471]

XenCenter

- If you attempt to edit the networks of a VM using XenCenter, and the operation fails, the **Networking** tab may become blank for all your servers and VMs. The problem can be resolved by closing and reopening XenCenter. [CA-66815]
- If you are using the XenCenter Rolling Pool Upgrade wizard to upgrade an HA-enabled pool, the wizard may display the status message `The value '1' is invalid for field 'ha_restart_priority' for the task 'Revert precheck actions' on the Apply Upgrade page of the wizard.` If this happens, you will need to manually re-enable HA on the upgraded pool in order for the pool to be HA-protected. [CA-66495]
- 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 Vista refers to this as "Default Scale" and Windows 7 as "100%". [CA-45514]
- Importing an .ova or .ova.gz file from a directory for which the user has read-only access will fail. Write permission is required to uncompress the .ova.gz file and extract the .ovf package files from the .ova file. [CA-61238]

Guest OS Support

- If you wish to create an Ubuntu 10.04 VM (32-bit) with more than 512MB of memory, you must run `sudo apt-get upgrade` to upgrade to the latest version of the kernel **before** increasing the RAM to greater than 512MB. Upgrading to the latest version of the kernel is necessary due to a bug that was introduced between `linux-image-2.6.32-30-generic-pae-2.6.32-30.59` and `linux-image-2.6.32-32-generic-pae-2.6.32-32.62`. It was fixed in `linux-image-2.6.32-33-generic-pae-2.6.32-33.64`. For more information, see Ubuntu Launchpad [803811](#) and [790747](#). [CA-61400]
- Ubuntu 10.04 (64-bit) running the 2.6.32-32 #72 kernel, has been known to crash with the following message, `kernel BUG at /build/builddd/linux-2.6.32/arch/x86/xen/spinlock.c:343!`. The problem only affects VMs with multiple vCPUs. vCPU hotplugging (only available via the xe CLI/API) should not be attempted with this guest. [CA-57168]
- Significant CPU time can be taken by the Debian Squeeze Graphical Desktop Environment, which uses the Gnome Display Manager daemon. Citrix strongly advises that customers do not install the Gnome Display Manager `gdm3` process, or uninstall it if already installed. [CA-48630]
- A guest operating system which does not support Dynamic Memory Control (DMC) will *not* display an error message if you attempt to configure DMC on the guest. [CA-34753]
- Using DMC with RHEL or CentOS 5.3 or 5.4 (32-/64-bit) may cause the guest to crash. If you wish to use DMC, Citrix strongly recommends using a later version of RHEL or CentOS. [EXT-54]

- When running greater than 50 VMs per XenServer host, the steps in [CTX126531-How to Configure dom0 Memory in XenServer 5.6 and 6.0.x](#) should be followed to reconfigure Dom0 memory settings. [CA-48485]
- The XenServer Tools in Windows VMs imported from XenServer 4.0 are not compatible with this release. If the XenServer Tools are allowed to start, then this may cause filesystem corruption. If the imported VM has the Tools installed, first boot the VM in safe mode (by hitting **F8**) and uninstall the old Tools before rebooting normally and installing the new Tools. [CA-32958]
- The RHEL 6.0 kernel has a bug which affects disk I/O on multiple virtualization platforms. This issue causes VMs running RHEL 6.0 to lose interrupts. For more information, see Red Hat Bugzilla [681439](#), [603938](#) and [652262](#). [CA-60495]

Documentation and Support

Finding Documentation

For the most up-to-date product documentation for every Citrix product, visit [Citrix Product Documentation](#).

For licensing documentation, go to the [Licensing Your Product](#) section on [Citrix Product Documentation](#).

Getting Support

Citrix provides technical support primarily through Citrix Solutions Advisors. Contact your supplier for first-line support, or use Citrix Online Technical Support to find the nearest Citrix Solutions Advisor.

Citrix offers online technical support services on the [Citrix Support Web Site](#). This site includes links to downloads, the Citrix Knowledge Center, Citrix Consulting Services, and other useful resources.

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