



Virtual Iron® Software Release Notes

Virtual Iron® Version 4.3

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EXTENDED ENTERPRISE EDITION UPGRADE INSTRUCTIONS

If you are running an earlier version of Virtual Iron® EE or XEE, use these links and follow the instructions to upgrade to the current version of the product. Install the new VS Tools onto each of your Virtual Servers.

<http://www.virtualiron.com/services/virtual-iron-43-checklist.cfm>

<http://www.virtualiron.com/services/virtual-iron-43-upgrade.cfm>

SUPPORTED OPERATING SYSTEMS

Virtual Iron® supports virtual servers running the following OSs and versions. **Bold** type designates new or expanded support in Release 4.3.

- RHEL 3 U8 **and U9** 32-bit
- RHEL 4 U4, U5, **and U6** AS 32-bit and 64-bit
- RHEL 5 U0 **and U1** 32-bit and 64-bit
- SUSE Linux Enterprise Server 9 SP3 **and SP4** 32-bit and 64-bit
- SUSE Linux Enterprise Server 10 SP1 32-bit and 64-bit
- CentOS 4 U4, U5, **and U6** 32-bit and 64-bit
- CentOS 5 U0 **and U1** 32-bit and 64-bit
- Windows 2000 SP4 32-bit
- Windows XP SP2 32-bit
- Windows Server 2003 SP2 32-bit and 64-bit
- **Windows Server 2008 32-bit and 64-bit**
- Windows Vista 32-bit **and 64-bit**

NEW IN RELEASE 4.3

Release 4.3 includes the following new functionality and enhancements:

- With LiveUpgrade, you can now perform upgrades from 4.2 to 4.3 releases with no server downtime.
- Windows 2008: Support for the latest Windows server version in virtual servers.
- Experimental iSCSI MPIO: This provides experimental and partial support for iSCSI multi-path, focusing on multiple storage controllers. The following is what is supported in this release:
 - Recovery from port disconnect—For example, intermittent failure of a cable. If you pull your iSCSI cable and plug it back in, the connection will recover.
 - Target controller failover—If you have two connections to different controllers on the same iSCSI storage device, you can disconnect each in turn and the I/O traffic will failover/failback to the working controller.

The following is not yet supported:

- More than one physical Ethernet connection (bonded interfaces) is not supported for the iSCSI network. Thus, the iSCSI port on the node will not support failover and/or teaming/aggregation.

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- Virtual Iron is referring to this functionality as “experimental” because iSCSI MPIO has received limited testing with a small set of iSCSI controllers. Without iSCSI bonded networks on the node, it is not a complete iSCSI MPIO solution, but it is a step forward from v4.2. This is an area we are actively working on; expect more improvements in v4.4.
 - Jumbo Frame Support: 9000 bytes for gigabit Ethernet MTU support in addition to the 1500 byte MTU option. This feature improves iSCSI performance.
 - You can now change a virtual server CDROM while it is running. This allows you to mount and unmount CDROMs, including network CDROMs (ISOs) without stopping virtual servers.
 - Windows VS Tools upgrades no longer require an immediate reboot and now behave similar to Linux VS Tools upgrades. After the upgrade, the VS continues to run the older VS Tools version without interruption to the disk or network. The new version is activated after the next reboot. Also, user intervention is no longer required after the reboot to complete the network driver installation.
 - You can now run two Live Migrations simultaneously in a virtual data center. By holding down the Shift key as you select virtual servers in a virtual data center or node Virtual Server table, you can move multiple virtual servers to and from nodes in one operation. This works for both stopped and running virtual servers.
 - Menus and buttons have been modified for a more compact layout and improvements in ease-of-use. The left-side View buttons have been eliminated, the Job Progress area is smaller, and there are now selectable navigation objects in the Resource Center and Hardware views.
 - LDAP templates have been added.

NEW IN RELEASE 4.2

Release 4.2 includes the following major enhancements:

- VS Tools support for the following additional operating systems:
 - SUSE Linux Enterprise Server 10 32-bit and 64-bit
 - Red Hat Enterprise Linux 5 32-bit and 64-bit
- Multi-pathing for virtual server Ethernet and Fibre Channel networks to support business continuity and redundancy.
- Substantial improvements to disk performance.
- LiveSnapshot™, which provides logical disk and virtual server snapshots for hot backup and patch management. These capabilities enable off-loaded, space efficient, and no-downtime backups on live virtual machines running in production and development environments.
- The ability to reboot virtual servers without the Virtualization Manager running.
- Support for NDB CD ROM .iso files, which can now be used as data disks in addition to boot disks.

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- The packaging of VSTools as an ISO, which appears to the administrator as a virtual CD ROM, to further simplify deployments and upgrades.
 - A significant reduction in node boot and discovery times when there are large numbers of iSCSI physical disks.
 - Increased storage on demand with support for the dynamic addition of physical disks to a disk group, which can also now contain more than one physical disk.

FIXED IN THIS RELEASE

Number	Fixed in This Release
4779	HIGH CPU USAGE ON MANAGEMENT SERVER AFTER UPGRADE In the previous release, before you could perform an upgrade to the Virtualization Manager, you had to insure that the Virtualization Manager was completely stopped and that there were no clients running and connected to the server.
4803	TRYING TO INSTALL VSTOOLS ON SLES 10 64-BIT RETURNS ERROR In previous releases, it was necessary to remove the XEN kernel packages if they were installed in a virtual server or you would see an error. For example, installing VSTools on SLES 10 64-bit returned the following error: <pre>linux-sl9o:~ # rpm -ivh virtualiron-2.6.16.46-0.12-smp-4.2.8-13.x86_64.rpm error: Failed dependencies: xen-kmp conflicts with virtualiron-2.6.16.46-0.12-smp-4.2.8-13.x86_64 linux-sl9o:~ # uname -a Linux linux-sl9o 2.6.16.46-0.12-smp #1 SMP Thu May 17 14:00:09 UTC 2007 x86_64 x86_64 x86_64 GNU/Linux</pre>
4879	SLES 10 CD-BASED INSTALLS FAIL SLES10/SLES10 Sp1did not work with the previous version of Virtual Iron. It was necessary to use a network-based install of SLES10.

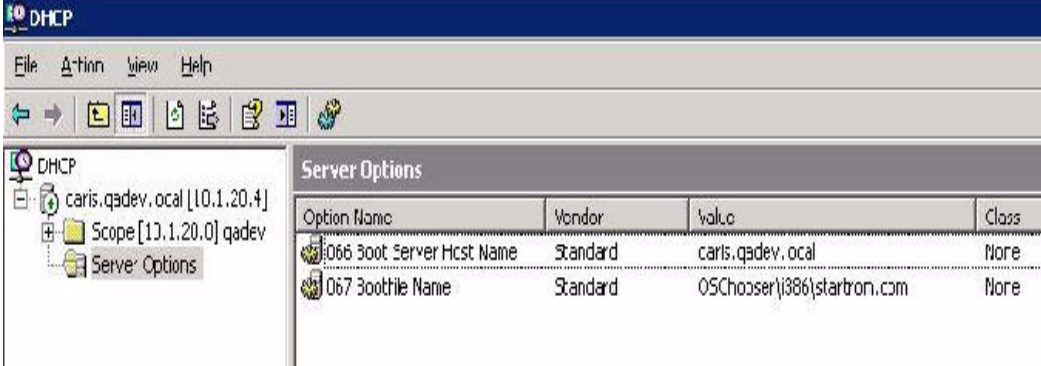
OPEN ISSUES IN THIS RELEASE

Following are known issues related to this release.

Reference Number	Open in This Release
29	<p>LINUX TIMER ISSUE</p> <p>Occasionally during Linux boot or kernel calibration issues, the following error will appear and the operating system will crash:</p> <p style="padding-left: 40px;">MP-BIOS bug: 8254 timer not connected to IO-APIC Kernel panic - not syncing: IO-APIC + timer doesn't work! Try using 'noapic'</p> <p>Please report crashes to Virtual Iron Technical Support. See Contacting Virtual Iron Support.</p>
172	<p>QLOGIC HBAS NOT REPORTING PERFORMANCE INFORMATION</p> <p>Nodes with QLogic HBAs will not report disk performance data in the Virtual Server Performance chart.</p>
355	<p>JBOD SAN DISKS ARE NOT RECOMMENDED AS VIRTUAL SERVER STORAGE DEVICES</p> <p>JBODs can be used for storage devices for Virtual Servers, but they are not recommended. If JBOD disks go off-line and then back on-line while connected to managed nodes, the node will go into an error state that requires a node reboot. Use SAN disks connected via a SAN controller.</p>
537	<p>KEYBOARD INPUT INTO VIRTUAL CONSOLE OCCASIONALLY RESULTS IN REPEATED CHARACTERS</p> <p>When you type into a virtual console that contains an X windows display, occasionally the keyboard output will be repeated. For example if you type ls into a terminal window in X, you may see llllssss output in the virtual console. The workaround is to disable the keyboard repeat function.</p>
619	<p>VIRTUALIZATION MANAGER SHUTDOWN CAUSES VSS BOOTED FROM A NETWORK BOOT DEVICE TO HANG</p> <p>Stopping or Restarting the management server takes down the NBD server. This takes down all VSs booted using NBD. To resolve this issue, restart the management server. Then, perform a hard reset on each impacted VS.</p>
723	<p>POOR NETWORK PERFORMANCE ON 3COM NICs</p> <p>Poor network performance has been observed on 3COM NICs. This may impact the performance of virtual server network operations.</p>

Reference Number	Open in This Release
892	<p>APPLICATIONS THAT ATTEMPT TO COMMUNICATE DIRECTLY TO AN HBA ARE NOT SUPPORTED</p> <p>Kernel-level management applications or agents (such as Emulex HBAnywhere, QLogic SANSurfer) in a guest operating system that communicate directly to an HBA or directly to other specific devices are not supported. Running these types of applications may cause virtual servers to become unresponsive.</p>
1122	<p>AFTER A RED HAT INSTALL, THE VCONSOLE IS BLANK WHEN VIRTUAL SERVER BOOTS TO RUN LEVEL 5</p> <p>The first time Red Hat boots after an OS installation, the virtual console may be blank when the system goes into run level 5.</p> <p>Workaround: Remove rhgb from the boot line in /boot/grub/menu.lst.</p>
1189 2278 3006 5139	<p>ADDING OR REMOVING LUNs COULD REQUIRE A NODE REBOOT</p> <p>When adding or removing LUNs to the system to modify storage capacity, it is sometimes necessary to reboot the nodes to accurately display the LUN configuration. If a LUN is removed or offline and the Virtualization Manager shows it as online, errors could result if a user attempts to perform operations on that LUN, such as creating virtual hard disks.</p> <p>First, LiveMigrate all virtual servers off the node, then reboot the node. You can then LiveMigrate servers back onto the node.</p>
1816	<p>VIRTUALIZATION MANAGER INSTALL FAILS WITH BONDED ETHERNET</p> <p>The Virtualization Manager installer does not handle bonded Ethernet controllers. Make sure the network controller on the node that will be running the management server is not bonded before starting the installation.</p>
1962	<p>DATAcore THIN PROVISIONING CONFIGURATION REQUIREMENTS</p> <p>DataCore LUNs used for logical volume groups must have sufficient backing storage for the size of the Virtual Iron volume group. Set the Datacore NMV chunk size to be 4 MB.</p>
2028	<p>RH3-U8 CONSOLE KEYBOARD NOT WORKING WITH KUDZU</p> <p>If RedHat 3 is installed while the virtual server is configured in the Virtualization Manager with a USB mouse (for example, RHEL4 LINUX) instead of a PS2 mouse, you will be in Kudzu after you boot with a PS2 mouse configuration. Kudzu can not use the mouse or keyboard at that point and will time-out. The system will continue to boot.</p> <p>Workaround: Configure the virtual server properly in the Virtualization Manager prior to installing.</p> <p>If the problem does occur, correct the Virtualization Manager virtual server configuration. Then, boot the virtual server and manually invoke Kudzu from a console window. Remove the USB drive when you are prompted to do so.</p>

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2244	<p>THE ADMINISTRATION MANAGER IS NOT COMPATIBLE WITH JAVA BUILD 1.5.0_06_B05.</p> <p>Virtual Iron® recommends running the latest Java Version 1.5.0 (build 1.5.0_10-b03 or later) on the system that is running the Administration Manager client.</p>
2549	<p>DYNAMIC RESIZING OF LUNS</p> <p>The following procedure may not work for all disk configurations. Please contact Technical Support if you experience a problem.</p> <p>If you have to resize a LUN:</p> <ol style="list-style-type: none"> 1. Make sure no guests are using the LUN. 2. Cause the LUN you wish to resize to go offline, which is depicted in the Management Server Hardware view as offline. 3. Delete that LUN from the Management Server Hardware view. 4. Resize the LUN to your needs. 5. Rediscover the LUN in your Management Server Hardware view with the Node--> Rediscover option or the Node--> Rescan SAN Ports option.
2763	<p>IPV6 NETWORKS ARE NOT SUPPORTED.</p> <p>IPV6 networks are not supported for dedicated management networks, iSCSI networks, or networks used by virtual servers.</p>
2884	<p>VS SHUTDOWN DOES NOT WORK IF YOU ARE NOT LOGGED INTO THE CONSOLE</p> <p>For a Windows 2003 server, if the login popup is visible in the console window, you cannot shut down the virtual server via the management server.</p>
2978	<p>RED HAT 3 VIRTUAL SERVER TOOLS HAVE SEPARATE RPMs FOR INTEL AND AMD PROCESSORS</p> <p>VS Tools for RH3 have separate RPMs for Intel and AMD processors. The RPM you install in a virtual server must match the processor type (Intel or AMD) of the node (physical server) on which the virtual server is installed. Name these virtual servers, since they will only run on that processor type from that point forward.</p> <p>AMD: virtualiron-2.4.21-47.ELsmp-4.1.*.athlon.rpm</p> <p>Intel: virtualiron-2.4.21-47.ELsmp-4.1.*.i686.rpm</p> <p>Use the standard rpm -Uvh to install the proper VS Tools as described in the <i>Virtualization Manager Administrator Guide</i>, Creating and Configuring Virtual Servers.</p>

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<p>3045</p>	<p>WINDOWS MOUSE LOSES CONNECTIVITY UPON FIRST BOOT AFTER VIRTUAL IRON UPGRADE FROM V3.X TO V4.X</p> <p>When Virtual Iron is upgraded, the first time each existing Windows virtual server is booted, the mouse loses connectivity. You may see the hardware wizard notification that a PCI device cannot be found and that a new device is discovered.</p> <p>Workaround: Please go through the hardware wizard as it is connecting the new virtual mouse hardware. The mouse will function correctly once you complete the steps in the hardware wizard.</p>
<p>3445</p>	<p>VIRTUAL IRON AND MICROSOFT RIS</p> <p>When using Windows RIS to install Windows into virtual servers, note that Windows 2000 RIS Server is unsupported; Windows 2000 does not provide RealTek NIC driver support. (Windows 2003 Server and RIS is supported.)</p> <p>Workaround: Configure the Windows DHCP server to use options 66 (boot server host name) and 67 (boot file name). Set DHCP option 67 to point to the location of your startrom.com. This causes the DHCP and PXE boot process to boot the RIS kernel. Refer to figure below.</p>  <p>For additional information, refer to: http://support.microsoft.com/kb/244036/</p>
<p>3466</p>	<p>WINDOWS RE-ACTIVATION MAY BE REQUIRED WHEN UPGRADING FROM VI V3.X TO V4.X</p> <p>Virtual Iron v4.x presents a significantly different virtual motherboard to virtual servers than v3.x. In some cases, these differences may be enough to trigger a Windows request to reactivate the virtual server's copy of Windows with Microsoft.</p>

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3494	<p>WINDOWS 2000 MAY REPORT AN UNKNOWN PCI DEVICE</p> <p>When a Windows 2000 virtual server boots, you may see an unknown PCI device reported as found. This is an innocuous message, and this PCI device should be disabled. This device is the HPET timer which is not used in the VI virtual environment.</p>
3831	<p>UPGRADING TO V4.X FROM V3.X CAUSES WINDOWS VIRTUAL SERVERS TO LOSE STATIC NETWORK CONFIGURATION INFORMATION</p> <p>When a Virtual Iron installation is upgraded to v4.x from v3.x, any Windows virtual servers will lose any static IP address assignments they may have when they are first booted without VSTools, and then again when they are first booted with the 4.x VSTools.</p> <p>To restore network connectivity, manually re-enter the static network configuration for the Virtualization Manager. This does not affect Windows VMs that use DHCP to auto-configure network settings.</p>
3839	<p>LEFTHAND NETWORKS iSCSI SERVERS ONLY SUPPORT 90 iSCSI DISKS</p> <p>During qualification testing of LeftHand Networks (LHN) iSCSI servers, it was found that LeftHand Networks iSCSI Servers support a maximum of 90 iSCSI disks.</p> <p>If you need more than 90 disks with LHN iSCSI storage, you can use the Virtual Iron virtual disk management features to partition raw iSCSI disks into multiple logical disks.</p>
4172	<p>VNICs do not presently support dynamically changing the MAC address</p> <p>This attribute is used by Windows Network Load Balancing (NLB). Removing NLB and the secondary IP and then rebooting restores connectivity.</p>
4317/ 4330	<p>BONDED ETHERNET NICs SHOULD BE CONFIGURED TO SEPARATE SWITCHES</p> <p>If you configure bonded Ethernet NICs to the same switch, you can experience up to 60 seconds of connection failure when a port fails. Outgoing data traffic experiences no issues.</p> <p>It is recommended to configure bonded Ethernet NICs to separate switches, creating a fully-redundant topology, and no incoming connection failure window.</p>

Reference Number	Open in This Release
4333	<p>CLONING LOGICAL DISKS WITH SAN-BASED CONTROLLERS</p> <p>If you can clone your storage array and you wish to use that cloning feature, you must use raw disks. The logical disks do not support storage array-based cloning.</p> <p>The reason for this is because, if physical disks that contain logical disks are cloned by a SAN-based storage controller, the resultant cloned logical disks will have identical IDs to the masters. This creates naming issues within the managed node. Logical disks should only be cloned via the Virtualization Manager.</p> <p>Raw physical disks that do not contain logical disks can be cloned by SAN-based storage controllers without issue.</p>
4577	<p>WINDOWS VIRTUAL SERVERS CREATED IN V3.X NEED TO CHANGE HALS TO RUN SMP IN V4.X</p> <p>Windows virtual servers created in Virtual Iron v3.x were created with a uni-processor Hardware Abstraction Layer (HAL). In order to run these virtual servers as SMP virtual servers in v4.x, replace the uni-processor HAL with a multiprocessor HAL. Please consult Microsoft's knowledge base (#299340) for the procedure to replace the HAL.</p>
4781	<p>IF UPGRADE LOCATION IS ON A DISK PATH WITH SPACES IN THE FOLDERS, UPGRADE FAILS</p> <p>On a Linux system, ensure that there are no spaces in the installation path so that you can later upgrade the product. For example, if you attempt to upgrade your Virtualization Manager originally installed into</p> <p><code>/opt/Virtual Iron/</code></p> <p>it will fail in the upgrade script.</p>
4843	<p>UPGRADE ERROR FROM 4.1 TO 4.2 VSTOOLS</p> <p>Virtual Iron recommends installing with the 32- or 64-bit Setup.exe file in your management server's VSTools directory. If you use the MSI to install, save the file first to your local server. This error occurs when MSI is not in the same location as it was when originally installed.</p> <p>When this error occurs, first try to remove the existing VSTools with the Windows Add or Remove programs in the Control Panel. After the reboot, try to install the new VSTools. If this is not successful, use the following from a command prompt:</p> <pre>msiexec /i VSTools.msi /L*V VSTools.log REINSTALLMODE=voums REINSTALL=ALL</pre> <p>The VSTools will then be installed.</p>

Reference Number	Open in This Release
<p>4874</p>	<p>SSE INSTALL PANIC ON DL360/DL365's</p> <p>If you Install Virtual Iron SSE on HP DL36x G5 series machines configured with 2GB of memory or less, you will encounter the following error when it starts to partition the hard drive:</p> <p>-kernel panic- not syncing:PCI-DMA</p> <p>You can get around this problem by entering a new boot option, "altboot", at the boot splash screen. You will only have to do this the first time Virtual Iron SSE is installed.</p>
<p>5694</p>	<p>BONDING ISSUES WITH SOME ETHERNET CHIPS</p> <p>Bonding is not supported on Ethernet chips that do not allow changing the MAC address while the chip is in the running state. In this case, the bonded network is rejected, and the "Operation not supported" error message is returned. This occurs on 3Com and some other older 10/100 Ethernet chips.</p> <p>Bonding is not supported on 3Com Ethernet chips (Marvell) that do not support interface carrier states. This causes bonding to keep the state as "up" when it should be "down", therefore never switching to the backup link.</p> <p>Broadcom and Intel chips are recommended.</p>
<p>5739</p>	<p>CAN NOT UPGRADE FROM SOURCE RPM TO RELEASE RPM</p> <p>If you have installed Linux VS tools using the SRPM package, and plan to upgrade to an official Virtual Iron VS Tools release, you need to use the following steps to upgrade:</p> <ol style="list-style-type: none"> 1. Type <ul style="list-style-type: none"> <code>rpm -qa grep virtualiron</code> to get the name of the package that is currently installed on your system. 2. Remove the currently installed package using: <ul style="list-style-type: none"> <code>rpm -e virtualiron-x.x.x-x.x.x</code> where the x is your kernel version and Virtual Iron version. 3. Download the package associated with your kernel version and type: <ul style="list-style-type: none"> <code>rpm -Uvh virtualiron-x.x.x-x-4.3.x</code> where the x is your kernel version and Virtual Iron version. 4. Reboot your Virtual Server and the new tools should be active on the guest.

Reference Number	Open in This Release
NONE	<p data-bbox="500 249 834 279">SAN MULTIPATH SUPPORT</p> <p data-bbox="500 306 1507 407">SAN multipath for fibre channel-based SAN has been tested on limited configurations in Virtual Iron. Please see the Virtual Iron HCL for complete multipath support information:</p> <p data-bbox="500 434 1110 464">http://www.virtualiron.com/products/servers.cfm</p> <p data-bbox="500 491 1479 554">SAN multipath for iSCSI-based SAN will be tested and supported in a future release.</p>

PRODUCT DOCUMENTATION

The following documents are also available online:

- *Virtualization Manager™ Administrator Guide* - Explains how to configure and manage virtual data centers and virtual servers.
- *Virtualization Manager™ Getting Started Guide* - Guides you through the process of getting a virtual server up and running
- *Virtual Iron Tutorial* - Guides you through installation, and storage, boot, and memory configuration options of a virtual server.

CONTACTING VIRTUAL IRON SUPPORT

Use this information to reach Virtual Iron® customer support.

Phone: 1-800-314-9872 (Select option 2)

Mail: support@virtualiron.com

Web: www.virtualiron.com/services/support_login.cfm