

Release Notes for Dominion® KX III Software Version 3.2

Date: November 16, 2015

Applicability:

Dominion KX III models:

DKX3-108, DKX3-116, DKX3-132, DKX3-216, DKX3-232, DKX3-416, DKX3-432, DKX3-464

DKX3-808, DKX3-832, DKX-864

Dominion KX III Overview:

The KX III is the next generation version of the KX II. Featuring a modern hardware design with increased computing power and storage, the KX III provides KVM-over-IP access for IT administration, as well as high performance IP access for streaming video and other dynamic applications.

Release 3.2 Firmware Overview:

Release 3.2 is a major release based on Release 3.1.2 with support for the upcoming KX III User Station, fast switching with the DKX3-808, performance enhancements, KVM Client improvements to reduce Java usage and support the latest browsers, and security updates.

Dominion KX III Release 3.2 Features:

- **KX III User Station Support.** Release 3.2 is required for KX III's used with the upcoming KX III User Station.
- **Fast Switching for DKX3-808.** With Release 3.2, the DKX3-808 model supports ultra-fast connections and switching between its connected servers.
- **Independent LAN Ports.** The KX III's dual LAN ports can be configured for failover or for independent operation with separate IP addresses for simultaneous connection to two different networks.
- **Cellular Modem Connections.** For emergency access, the Dominion KX III now supports cellular modem connections via USB using the Sierra Wireless GX440, GX450, and ES450 cellular modems.
- **Change Default KVM Client to AKC on Windows.** On Microsoft Windows platforms, the Java-free Active KVM Client (AKC) will be launched by default if the environment supports this .NET-based KVM Client. **AKC is now available for the Microsoft Internet Explorer and Edge browsers, as well as Chrome with the appropriate plugin.**

If the Java-based VKC KVM client is desired, then use <IP Address>/vkc or <IP Address>/vkcs with the Chrome or Edge browsers.
- **Improved video performance for streaming video.** New video library provides a platform-dependent increase in video frame rate.
- **Remember USB Audio Settings.** Option to automatically connect audio device (speakers) when the user connects to a specific port.
- **Color Calibration Caching.** This internal change will result in faster switching time between remote servers. Also now have the ability to clear the cached color values, useful when changing the server connected to a specific port.
- **Email (SMTP) Event Notification.** Gives the administrator the option to receive selected KX III events via email notifications.
- **Support for Microsoft Windows 10 and Edge browsers.**
- **Support Chrome Browser (Java Webstart).** The Chrome browser has recently stopped support for the protocol used to launch Java Applets like the Raritan Virtual KVM Client (VKC). This release will utilize Java Webstart to enable the latest Chrome releases (45+) to launch VKC (must use <IP Address>/vkcs).

- **Support AKC with Chrome.** The Raritan Active KVM Client (AKC), which does not use Java, can be launched via the Chrome browser on Windows platform. This requires the use of the Chrome ClickOnce plugin.
- **Java-Free Web User Interface for Admins.** Administrators have the option to launch the KX III User Interface just for Administration (no target server access), without loading Java or .Net. Use **<KX3 IP Address>/admin** to launch this new capability.
- **Security enhancements.** Support SHA-2 certificates, new Raritan code signing certificate, update OpenSSL library, increase key size for certificate generation to 4096 bits, favorites applet only available after login, and stop support for insecure RC4 encryption.
- **Various fixes, small enhancements and documentation updates.**

Dominion KX III Documentation:

The following user documentation is available for the Dominion KX III:

Dominion KX III User Guide – guide to the KX III's local and remote browser based user interfaces and general usage.

Dominion KX III Quick Setup Guide –for the initial setup of the KX III.

KVM and Serial Client Access Guide – reference for the remote clients for the Raritan products

Dominion KX III CIM Guide – reference for the Dominion KX Computer Interface Modules (CIMs). Which CIM to use, etc.

Dominion KX III Blade Configuration Guide – detailed instructions and screenshots for Dell and IBM blade servers.

The Dominion KX III documentation is available from the KX III web based user interface and on the Raritan.com website:

www.raritan.com. Please go to the **Support** section, go to **Firmware and Documentation** and then select **Dominion KX III**. The documentation is shown by release, so click on the appropriate release.

Dominion KX III Online Help:

An **Online Help System** is available. Click on **Help – Online Help** in the left hand information panel and the Online Help system will launch. You can browse to the appropriate topic via the Contents, Index and Search tabs. The entire Dominion KX III User guide is available, including text and images, with an extensive set of links.

Online help for the Raritan products is now available on raritan.com:

<http://www.raritan.com/support/online-help/>

Computer Interface Module (CIM) Overview:

Dominion KX III can use the following CIMs:

D2CIM-DVUSB: *dual* USB, VGA-based virtual media CIM, required for virtual media, absolute mouse synchronization, and the advanced KVM features. This CIM is recommended for customers planning to access virtual media drives at the OS/BIOS levels as well as the Smart Card, tiering and audio features.

D2CIM-DVUSB-DVI, D2CIM-DVUSB-HDMI & D2CIM-DVUSB-DP: DVI, HDMI and DisplayPort dual USB CIMs.

D2CIM-VUSB: *single* USB virtual media CIM, required for the virtual media and absolute mouse synchronization features. This CIM is recommended for customers planning to access virtual media drives only at the OS level.

KX I DCIMs: Older DCIM-PS2, DCIM-USBG2, and DCIM-SUN CIMs without virtual media and absolute mouse.

DCIM-USBG2: the DCIM-USBG2 is the recommended basic USB CIM for KX III. There is a small switch on the DCIM-USBG2, which should be set to the "S" position for use with SUN servers with USB ports.

D2CIM-PWR: required to connect a remote power strip to the KX III.

Select Paragon II CIMs: P2CIM-AUSB, P2CIM-PS2, P2CIM-USB, and P2CIM-SUSB.

Paragon Dual CIMs: the P2CIM-APS2DUAL and P2CIM-AUSB DUAL

P2CIM-SER, which can be connected to serial devices.

Release 3.2 Compatibility Information:

1. The above Dominion KX III models and Release 3.2 have been certified for use with the CommandCenter® Secure Gateway (CC-SG) Releases 6.0, 6.1 and above.
2. **The CommandCenter 5.x Releases were developed before KX III and therefore do not support the Dominion KX III.**
3. Computers connected to KX III switches can be remotely accessed by two KVM remote clients:

KVM Client	Description
Virtual KVM Client (VKC)	<p>Java-based client invoked from web browser.</p> <p>Can force launch by <IP Address>/vkc</p> <p>Use <IP Address>/vkcs on Chrome & Edge</p>
Active KVM Client (AKC)	<p>Microsoft .NET-based Windows client web browser:</p> <p>Can force launch by <IP Address>/akc</p>

4. **SUN Java™ Runtime Environment (JRE) version 7** is supported up to 1.7.0_80.

SUN Java™ Runtime Environment (JRE) version 8 is supported up to 1.8.0_65.

These were the current Java versions at release time. Future Java versions should work correctly assuming no incompatible changes are made by the Java developers. For any issues, please contact Tech Support who can provide workaround solutions or patch releases, if available.

- Java version 6 is not supported by the Dominion KX III
 - For best results, we recommend that Java Plug-in Caching is not enabled.
 - For greater security and fewer Java and browser warning messages, Raritan recommends customers upload a SSL certificate to each KX III switch.
 - Customers need to affirmatively click through all security warnings for the Raritan Java applets to load.
5. **Internet Explorer versions 10 /11 and the Edge browser are supported. Firefox versions include 33, 38, 40, and 41. Chrome versions 40, 44 and 45. Safari 7.0.5 & 8.0.7.**
 6. The Active KVM Client (AKC), the native Windows Client, requires Internet Explorer 10 or above and Microsoft .NET Framework versions: 4.0 or 4.5.
 - Windows Vista and Windows 7/8/10 desktops are supported.
 7. The above JRE version information applies to the Dominion KX III when used standalone. When used with CC-SG, please consult the CC-SG Release Notes and Compatibility Matrix.

Release 3.2 Important Notes and Information:

1. **Video Bandwidth and Quality.** To minimize network bandwidth for lower bandwidth situations, set the “Noise Filter” and “Video Mode” to the right towards “Least Bandwidth” on the Connection Properties panel. For higher image and video quality, set to the left towards “Best Quality.” To further increase video speed and responsiveness, you can disable encryption if your security requirements allow for this.

On the same panel, use “Text Readability” for general computer applications and “Color Accuracy” for higher performance applications such as watching videos or dynamically changing screens.

2. **Digital Local Port.** The KX III local port outputs DVD-D video. Connect this to a DVI-D monitor or to Raritan's T1700-LED or T1900-LED rackmount keyboard trays. To connect to an analog video monitor, an adapter must be used.

On the local port, the KX III will generally use the native video resolution of the monitor or keyboard tray connected to it. If the video resolution is too small, the monitor may not be properly reporting this. If so, try another monitor or Raritan's T1700-LED or T1900-LED keyboard trays. We have seen some lower video resolutions not scale properly to the native video resolution. In this case the KX III will automatically scale to a slightly smaller resolution and may not completely fill the screen. This is normal.

3. **Extending the KX III Local Port.** Use Raritan's Cat5 Reach DVI product to extend the KX III local port outside the data center. At-the-rack access is also available.
4. **Tiering Port.** KX II switches can be tiered to a KX III base unit, but KX III switches cannot be tiered to a KX II base unit.
5. **Java Recommendations.** Raritan recommends customers upload a SSL certificate to each KX III switch. This will eliminate certain Java messages.

Windows customers can use **the .NET based Active KVM Client (AKC)** which does not use Java – use this with URL: **<KX III IP Address>/akc**.

6. **VKC Direct Port Access with Chrome.** Direct Port Access with the VKC KVM Client does not work with Chrome in this release. Please use another browser or AKC if on a Microsoft Windows platform..

For the best possible video quality, adhere to these distance guidelines from the CIM to the KX III:

Server Video Resolution	Distance
1024x768 (and below)	150 feet
1280x1024	100 feet
1280x720	75 feet
1600x1200, 1920x1080	50 feet

Firmware Upgrades:

Raritan provides new firmware upgrade releases that contain software enhancements, new features, and improvements. These upgrades are available on the Raritan Website: www.raritan.com. Please go to the Support page and click on Dominion KX III in the “Choose a Product” button, or go directly to:

<https://www.raritan.com/support/product/dominion-kx-iii>

Locate the entry for the new firmware release. Release Notes are available with: (a) brief descriptions of new features/enhancements, (b) important operating instructions, and (c) firmware upgrade instructions. Follow the Release Notes instructions to upgrade the device.

Firmware Upgrade Prerequisites:

If you have any questions, or do not meet the pre-requisites listed below, please STOP and contact Raritan Technical Support for further instructions. Please read the entire instructions (this document) before proceeding.

General Upgrade Instructions (standalone upgrade from the browser based user interface):

1. **Note: for best results, the KX III device should be re-booted before the firmware upgrade is applied.** This will ensure no users are logged in or sessions active.
2. The user upgrading the KX III device must be a member of the default Admin Group to have sufficient administrator-level privileges to update the Dominion KX III unit.
3. Twenty minutes or more are required for the complete update procedure. The update and subsequent reboot time will vary according to the number and type of CIMs connected to the KX III.
4. The system provides an estimated time for the firmware upgrade to complete. It may possibly take more time to do the update based on networking conditions and other factors.
5. We recommend backing up the KX III using the “Backup / Restore” function on the Maintenance menu on the Remote Console before starting the upgrade..
6. Close any remote or local KX III sessions to all devices connected to the Dominion KX III unit – servers, power strips, and serial devices.
7. If doing the firmware upgrade over a VPN, ensure that the connection is stable and that no inactivity timeouts have been set.
8. The detailed, step-by-step instructions to perform the upgrade are given below.
9. The software upgrades are written to flash memory, and this takes time to complete. Please do not power-off the unit, or disconnect the Ethernet connection while the upgrade is going on.
10. The KX III firmware can be upgraded by CC-SG; consult the CC-SG documentation for more information.
11. Should you experience any difficulties with the upgrade, call Raritan Technical Support for assistance.

Step-by-Step Upgrade Instructions:

1. **Note: for best results, the KX III device should be re-booted before the firmware upgrade is applied.** This will ensure no users are logged in or sessions active.
2. In Internet Explorer (or other supported web browser), type in the IP Address of your Dominion KX III unit, and wait as the web based interface loads.
3. Logon as an administrative user “admin” (or other member of the Admin Group).
4. Click on the “Firmware Upgrade” command on the “Maintenance” menu.
5. Browse to locate the .rfp file containing the update. Click the “Upload” button. The current and future versions will be displayed. Click the “Upgrade” button to start the upgrade.

6. The firmware upgrade will then proceed:
 - a. You cannot operate the KX III during the upgrade.
 - b. The upgrade panel will inform you of the progress of the upgrade. This upgrade step will take up to 15 minutes or more.

DO NOT REBOOT OR POWER CYCLE THE KX III DURING THE UPGRADE OR THE REBOOT!

- c. You will see a completion message when the upgrade completes.
7. The device will now reboot and reset, which may take up to 5 minutes.
8. Close your web browser session and log back in after the reboot completes.
9. The KX III will beep when the upgrade is complete and the login screen will appear on the local console port.
10. Log back in via web browser or the local port. Use the "Upgrade History" report" on the "Maintenance" menu to check the upgrade status.
11. Any KX III CIMs (D2CIM-VUSB, D2CIM-DVUSB, D2CIM-DVUSB-XXX and D2CIM-PWR) connected to the KX III at the time of the upgrade will be upgraded also.
12. You cannot upload a KX II device (Release 2.x) to the KX III firmware.
13. In certain tiered configurations, when doing a firmware upgrade on the Base Switch, the user may see a message instructing them to reboot device. If the warning message is seen again, then the user should disable tiering on the device, upgrade the firmware and then re-establish tiering.
14. If you have any questions or issues during the update, call Raritan Technical Support for assistance.