Release Notes for Dominion® KX III Software Version 3.4

Date: January 2017
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 broadcast and other dynamic applications.

Release 3.4 Firmware Overview

Release 3.4 is a major release, based on Release 3.2, with a new HTML KVM Client for Java-free access on Linux and Mac, support for the new DSAM modules, enhancements, fixes, and security updates. For approved customers a KX III Software Development Kit & API is available for purchase.

Dominion KX III Release 3.4 Features

- **Basic, Java-Free KVM-over-IP Access**. A new HTML KVM Client (HKC) is available for Linux and Mac platforms. For customers looking to minimize their use of Java, this HTML-based KVM Client runs in the browser and does not utilize Java or .NET. As this is the first release of the HTML Client software, it does not yet support all of the KX III advanced features such as audio, virtual media and smart card. Customers wanting those features can use the Java-based Virtual KVM Client or the Active KVM Client on Windows.

- **Dominion Serial Access Modules (DSAM)**.   With the new DSAM modules, KX III users can connect to up to 8 serial devices with Java-free, serial access. The 4 port (and future 2 port) DSAM modules connect to the KX III switch's USB ports. They provide "true serial access" with copy and paste capability for up to 8 simultaneous connections to serial devices like LAN switches, routers and Linux/Unix servers.

- **Dominion KX III SDK / API**. An optional Dominion KX III Software Development Kit (SDK) and Application Programming Interface (API) is available for customers wanting integration with their internal systems, customized KVM-over-IP access or want an automated KVM Client session .   The KX III SDK/API is available for purchase under separate license agreement to approved customers.

- **Disable specific TLS versions**. SSLv1, SSLv2 and SSLv3 are disabled for security reasons.   The more secure TLS protocol is used. Furthermore, the KX III administrator has control over which TLS versions can be used.

- **Network Failover to Cellular Modem Option**. There is now a security option to enable the cellular modem only when LAN access is not operational. This limits cellular access to when it is truly required.

- **RSA SecurID Authentication with Radius**. RSA SecurID is supported via RADIUS for two-factor authentication security to log into the KX II.

- **StartTLS encryption for secure LDAPS Authentication**. StartTLS encryption is now available for increased security for LDAPS authentication.

- **Raritan/Legrand branding, Mini-DisplayPort to DisplayPort Adapter for (D2CIM-DVUSB-DP)**.

- **Various fixes, security updates, 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 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)

Dominion KX III Blade Configuration Guide – detailed instructions 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. Go to the Support section and select Dominion KX III. 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 available on   http://www.raritan.com/support/online-help/

Computer Interface Module (CIM) Overview

Dominion KX III can use the following CIMs:

D2CIM-*D*VUSB: *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-AUSBDUAL

P2CIM-SER: connects to a single serial device.

Release 3.4 Compatibility Information

1. The above Dominion KX III models and Release 3.4 have been certified for use with the CommandCenter® Secure Gateway (CC-SG) Releases 6.1 and 6.2.

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 three KVM remote clients:

KVM Client	Description
HTML KVM Client (HKC)	**Java-free KVM Client that runs in the browser. For Linux and Mac users.** **Can force launch by <IP Address>/hkc**
Active KVM Client (AKC)	**Java-free, Microsoft .NET-based Client for Windows platforms.** **Can force launch by <IP Address>/akc**
Virtual KVM Client (VKC)	**Java-based client invoked from web browser. For Windows, Linux and Mac users.** **Can force launch by <IP Address>/vkc** **Use <IP Address>/vkcs on Chrome & Edge**

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_112.

   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.

   • For best results, we recommend that Java Plug-in Caching is <u>not</u> 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. Supported browser versions include: Internet Explorer 10 and 11; Microsoft Edge 25; Firefox 47, 48 and 49; Chrome 53, and 54; Safari 9.1.2 and 9.1.3, and Safari 10 (requires JRE 1.8.0_112).

6. The Active KVM Client (AKC), the native Windows Client, requires Internet Explorer 10 or above and Microsoft .NET Framework versions: 4.0 and above.

   • 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 3.4 Important Notes and Information

1. HTML KVM Client. The first phase of the HTML KVM Client (HKC) doesn't include certain advanced KVM Client features such as audio, virtual media and smart card. Additional features will be available in future releases. Check the Online Help for details.

   HKC will be automatically launched on non-Windows platforms when Java is not installed. Otherwise use <KX3 IP Address>/hkc to launch it. CommandCenter Release 6.2 and above supports HKC.

2. Dominion Serial Access Modules (DSAM). A maximum of two DSAM's can be connected to the KX III. There are limits on the number of USB devices that can be connected to a KX III. The DSAM supports a "true" serial connection, but certain SX II features are not yet available. See the Online Help for more details.

3. Dominion KX III Client SDK & API. This is available for purchase for approved customers that sign a legal agreement. Detailed programming experience with the Microsoft Windows C# Programming Language, Visual Studio IDE & .NET Framework Library is required to use the SDK.

4. 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.

5. 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.

6. 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.

7. 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.

8. 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
1280×720	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.