

Release Notes for Dominion® KX II Software Version 2.1

Version: DKX II 2.1 Release Notes, Revision 1.1

Date: December 22, 2008

Effective: Immediately.

Applicability:

Dominion KX II models:

- DKX2-108, DKX2-116, DKX2-132, DKX2-216, DKX2-232, DKX2-416, DKX2-432, DKX2-464.

Note: the previous Dominion KX models will be referred to as Dominion KX I.

KX II Release 2.1 is **not** applicable to the existing Dominion KX I models:

- DKX101, DKX116, DKX132, DKX216, DKX232, DKX416, DKX432 and DKX464

Release Status: General Availability.

Dominion KX II Overview:

Dominion KX II is Raritan's next-generation, digital KVM switches with dual power supplies and dual gigabit Ethernet ports. KX II has a new user interface supporting advanced features such as virtual media, absolute mouse synchronization and 1600x1200 remote video resolution.

Release 2.1 Overview:

Release 2.1 is a major firmware release featuring support for Dell, HP and IBM blade servers as well as additional features and enhancements.

Dominion KX II Documentation:

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

- **Dominion KX II User Guide** – user guide to the KX II's local and remote browser based user interfaces and general KX II usage.
- **Dominion KX II Quick Setup Guide** –reference for the initial setup of the KX II.
- **KVM and Serial Client Access Guide** – reference for the remote clients for the Raritan products
- **Dominion KX II CIM Guide** – reference for the Dominion KX Computer Interface Modules (CIMs). Which CIM to use, etc.
- **Dominion KX II Blade Configuration Guide** –contains detailed instructions and screenshots for Dell and IBM blade servers.

The Dominion KX II documentation is contained on the CDROM included in the Dominion KX II package, available from the KX II web based user interface and on the Raritan.com website.

New in Release 2.1 is an **Online Help System**. Click on **Help – User Guide** 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 II User guide is available, including text and images, with an extensive set of links.

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

Computer Interface Module (CIM) Overview:

Dominion KX II can use the following CIMs:

- **D2CIM-DVUSB:** *dual* 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 at the OS and BIOS levels. This CIM requires KX II Release 2.0.10 or later.
- **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:** DCIM-PS2, DCIM-USBG2, and DCIM-SUN. The DCIM-USB and DCIM-SUSB are end-of-life, so the DCIM-USBG2 is now recommended.
- **DCIM-USBG2:** the DCIM-USBG2 is the recommended basic USB CIM for KX II. The DCIM-USBG2 has a new architecture with increased reliability and performance. 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 II.
- **Select Paragon CIMS:** P2CIM-AUSB, P2CIM-PS2, P2CIM-USB, P2CIM-SUSB, P2CIM-SUN, UKVMPD, UUSBPD, UKVMC and USKVMPD.
- **P2CIM-SER,** which can be connected to serial devices. When loaded with firmware V2.63, it is certified for use with KX II switches.

Release 2.1 Compatibility Information:

1. The above Dominion KX II models and Release 2.1 have been certified for use with CommandCenter[®] Secure Gateway (CC-SG) 4.1. Customers running previous CC-SG Releases must upgrade to this release or subsequent release (when available).
2. KX II devices can be remotely accessed by two Java-based remote clients:

REMOTE CLIENT	DESCRIPTION	VERSION
Virtual KVM Client (VKC)	Java-based client invoked from the browser-based remote user interface. KX II switches only.	Version 2.1
Multi-Platform Client (MPC)	Java-based MPC with traditional Raritan user interface. KX I and KX II switches.	Version 6.0
Raritan Remote Client (RRC)	RRC does not support KX II devices.	N/A

3. MPC version 6.0 is the version for 2.1. CC-SG customers with KX I switches may want to upgrade CC-SG with MPC version 6.0 for the new MPC features and improvements. See the “Dominion KX Release Enhancements” section below for more details.
4. If using CC-SG in Proxy mode, change the default in the Default Application tab in Application manager to Virtual KVM Client. MPC is not supported in Proxy mode. Please note that Virtual Media is not supported in proxy mode.
5. SUN Java™ Runtime Environment (JRE) versions 1.5 and 1.6 are generally supported. The certified JRE 1.6 builds at this time are JRE 1.6.0_01 through 1.6.0_09 with the following exceptions:

Versions explicitly not supported:

SUN Java Runtime Environment (JRE) 1.4.x is no longer supported.

JRE version 1.5.0_02 is explicitly not supported.

JRE version 1.6.0_03 (update 3) should not be used in CC-SG environments.

JRE version 1.6.0_05 (update 5) for non-English environments is not recommended due to an issue with the login window.

JRE version 1.6.0_10 (update 10) and version 1.6.0_11 (update 11) are not supported due to issues discovered during testing.

For best results, we recommend that Java Plug-in Caching is not enabled.

6. If the client does not have a JRE associated with the Browser or if the JRE version is below 1.5, then a message will be displayed, and the user will be directed to install the latest version from the SUN Java website.

7. The JRE installation requires the multi language option to be enabled for Korean and other non-English language support. For a "Custom" JRE installation, must ensure that "Support for Additional Languages" is included during the installation process.
8. A new SNMP v2 MIB is available for KX 2.1 on the Raritan website in the firmware upgrade section. This should be loaded into your SNMP management system if you are enabling SNMP traps from your KX II switch.

64 Bit Windows Client Support: Java Requirements:

The following 64 bit Windows clients are now supported: Windows XP Professional 64-bit, Windows Vista 64-bit, Windows XP Tablet 64 bit, Windows Server 2003 64 bit, and Windows Server 2008 64 bit.

Java 64 bit Windows OS requirements are documented in the following link:

<http://java.sun.com/javase/6/webnotes/install/system-configurations.html>

Please look at the "Windows 64-bit" section. For the Virtual KVM Client and Multi-Platform Client when accessed as Java applets – i.e. from the KX II HTML user interface or through CC-SG, the following is important:

1. At this time, **only the 32-bit JRE plug-in is available**. Customers must install the 32-bit version of the JRE.
2. **A 32-bit browser must be used** to launch the Dominion KX II clients, as these JRE plug-ins will work only with a 32-bit browser. A list of 32-bit browsers are reproduced here for your convenience:

Windows XP	Windows Server 2003	Windows Vista
IE 6.0 SP1+ or 7.0	IE 6.0 SP1+	IE 7.0+
Mozilla 1.4.X or 1.7+	Mozilla 1.4.X or 1.7+	
Netscape 7.X, Firefox 1.06+	Netscape 7.X, Firefox 1.06+	

3. For the standalone version of MPC, either a 32-bit or 64-bit JRE can be used.

Dominion KX Release 2.1 Enhancements:

Dominion KX II Release 2.1 includes the following enhancements:

1. **Blade Server Support for Dell, HP and IBM Blade Servers.** KX II based local and remote access of Dell, HP and IBM blade servers. Available standalone as well as through CC-SG Release 4.1.
2. **Force Local User Log Off.** Administrator can log off users that authenticated through the KX II local database.
3. **Customer SSL Certificate.** Administrator can create a certificate signing request and upload a customer provided SSL certificate for enhanced security.

4. **PX “Strip Level” Statistics.** For PX power strips connected to a KX II, strip level power statistics and information are provided to the user.
5. **Power cycle by outlet.** The user can power cycle specific power strip outlets without the need to create an association. This is useful for devices other than servers not connected to the KX II.
6. **Hot Key Switching on Local Port.** On the local port, the user can switch directly to servers using hotkeys. No mouse required.
7. **Keyboard Macro Import/Export.** VKC and MPC now have the ability to import and export user defined macros. Macro improvements including Sun keys, delays in macros and an **Add** button that adds both press and release.
8. **Full KX II Administration Settings from CC-SG.** When launching KX II from CC-SG’s “Launch Admin” function, the full set of administration settings is now available.
9. **Firefox 3.0 Support.**
10. **System test of Internet Explorer 8.0 Beta #1.**
11. **Client support for 64 bit Windows OS.** Use of 64 bit Windows client machines to use VKC and MPC. See the above section.
12. **Active Directory (LDAP) Path Lengths Increased.** The “DN of Administrative User” and “User Search DN” settings have been increased to a maximum 256 characters.
13. **New KX II User Guide, Quick Setup Guide and the Raritan Client Guide.**
14. **On-Line Help Available from KX II GUI.** New in Release 2.1 is an online help system. Click on **Help – User Guide** 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 II User guide is available, including text and images, with an extensive set of links.

Previous Release Enhancements:

Dominion KX II Release 2.0.20/2.0.21 includes the following enhancements and improvements:

1. **Dual stack IPv6 and IPv4 networking.** The Dominion KX II provides “dual stack” IP networking with simultaneous support of IPv4 and IPv6. Relevant KX II features enhanced to support IPv6. Support for IPv6 network settings and IPv6 addressable external servers, i.e. SNMP, LDAP, etc. Discovery of IPv6 devices. See User Guide for more info.
2. **External Modem.** Software support for external modem connected to the modem port on the back panel of the KX II. Please note that the MPC Standalone Client must be used for modem connections. See below for important information on modem usage and consult the User Guide.

3. **Enhanced Command Center Secure Gateway connectivity management.** Should a Dominion KX II under CC-SG management lose connectivity with the CC-SG due to loss of network connectivity, then the device will automatically and temporarily become available for standalone access. (Admin users will also have the option to remove the device from CC-SG management). When connectivity is restored, then CC-SG management of the device will be automatically re-established.
4. **256 Bit Advanced Encryption Standard (AES).** The Dominion KX II now supports 256 bit AES encryption for SSL connections. This option can be enabled on the “Security Settings” page. Please note that your browser must support 256 AES encryption and not all browser versions do.
5. Additional European keyboards: Italian and Slovenian.
6. The KX II User Guide and the Raritan Client Guide have been updated. The Release 2.0.20/2.1 version of the User Guide is available from the “Help – User Guide” link in the left panel of the KX II web based user interface.
7. External Radius and LDAP authentication can fail for certain customers after upgrading to Release 2.0.20 – this is resolved when upgrading to Release 2.1.
8. With Japanese and Korean keyboards, the Virtual KVM Client (VKC) will now work with CC-SG.
9. Additional security hardening.

Consult the Dominion KX II Documentation for more information on the KX II features.

Release 2.1 Important Notes and Information:

1. Blade server support is dependent on the particular blade server manufacturer and model. In general, there are two types: (1) connect a CIM to each blade and (2) connect a CIM to the blade server chassis’ internal KVM switch or management module. The module must be configured to work with the KX II. Consult the documentation or technical support for instructions. The Dominion KX II Blade Configuration guide contains detailed instructions and screenshots for Dell and IBM blade servers.
2. When connecting to individual Dell 1855/1995 blades, the “USB Front Dongle for Dell PowerEdge 1855/1955” cable is required; manufacturer part number N8138 and Dell part number 310-6484. For HP c3000 and c7000, the “HP c-Class Blade SUV Cable” is used; part # is 416003-001. Use the Port Group Management feature to group the ports. Note: the internal KVM module for the HP c3000 is not supported in this release.
3. Paragon blade server CIMs are not used with the Dominion KX II. Use the appropriate KX II CIM according to the type of ports on the blade server (PS2 or USB) and whether the advanced features (e.g. virtual media) are wanted and supported. See the Dominion KX II CIM Guide for more information.

4. Virtual media and advanced mouse synchronization is supported on blade servers where a CIM is connected to each blade, assuming the operating system on the blade supports it. Virtual media is also supported on the IBM Blade Center E and H chassis when using the D2CIM-DVUSB connected to the front and rear of the chassis, with auto-discovery enabled.
5. For blade server chassis with internal KVM switches, for performance and reliability reasons, there is a limit of 8 blade servers per KX II. If you connect a CIM to each individual blade server, then there is no limit.
6. For the IBM BladeCenter, the Advanced Management Module is supported. The older Management Module has not been certified in this release.
7. When connecting to a blade server in the IBM BladeCenter, you should wait a few seconds after seeing the video before moving the mouse. If not, then the mouse may be out of synch and you should manually synchronize it.
8. In a CC-SG environment, once a blade chassis type port has been configured on the KX II, the blade chassis should not be moved to another port.
9. The blade server feature is not currently supported by the Dominion KX II-101 and the KSX II products.
10. When blade chassis type ports are connected to the KX II, the User Management Group page must be edited remotely, rather than from the local port.
11. CC-SG 4.1 (or above) is required for use with Release 2.1 and the blade server feature. If you use a previous release of CC-SG, then for blade server chassis with internal KVM switches, you will see the individual blade servers displayed as standard KVM ports, but you will not have blade server functionality. For blade servers directly connected to CIMs, they will be displayed and can be connected to as standard KVM ports, but without the “Port Management” grouping and blade server functionality. Use CC-SG 4.1 for full blade server support.
12. Contact the Dominion KX II documentation, CIM Guide and Blade Configuration Guide or technical support for more information.

Previous Release Important Notes and Information:

1. Both power supplies are monitored by default. If only one power input is plugged in, then the front panel LED will light red. Configure it for a single power input using the “Power Supply Setup” function on the “Device Settings” menu.
2. For reliable network communication, configure the KX II and LAN Switch to the same LAN Interface Speed and Duplex. For example, configure both the KX II and LAN Switch to Autodetect (recommended) or set both to a fixed speed/duplex such as 100Mbps/Full.
3. There are several prerequisites for Virtual Media: (1) a D2CIM-VUSB or D2CIM-DVUSB must be connected to the server’s USB port, (2) the operating

- system (OS) or BIOS must support USB connected devices, and (3) the user must have the required administrator permissions on the client, target and the KX II.
4. Not all servers and operating systems support all virtual media options. In general, modern Windows[®] OS' do, including Windows Vista[™], 2003 Server, XP and Windows 2000 with the latest patches. Target Servers running Linux and Mac OS', when accessed from a Windows client, will generally mount CD/DVD drives, USB drives and ISO images. Mac[®], Linux and Solaris[™] clients can only mount ISO images from a local or remote drive. Other UNIX based OS' generally do not support virtual media.
 5. In general, due to varying BIOS implementations of the USB 2.0 standard regarding virtual media, it is not always possible to boot from a virtual media drive at the BIOS level. **The D2CIM-DVUSB CIM is recommended for customers who plan to use virtual media at the OS and BIOS levels.** Use D2CIM-VUSB for virtual media at the OS level and for the BIOS level when supported by the particular BIOS or with an applicable BIOS USB profile. Please note that some BIOS do not support USB devices as boot devices and hence virtual media is not possible.
 6. For Windows OS', do not use the "Safely Remove Hardware" function in the system tray on the target server to disconnect a mounted virtual media drive. Disconnect using the "Disconnect" command on the virtual media menu.
 7. Please note that the user at the local port can not change the active USB profile. If required, change from one of the remote clients.
 8. Absolute Mouse Synchronization requires support from the OS. Windows and Mac OS' generally support it. Linux and UNIX based OS' (AIX, HP-UX, Solaris) generally do not.
 9. When a panel is opened in the Virtual KVM Client (VKC), the client, as well as related browser tabs and windows, will wait for user input until the panel is closed.
 10. Be careful of the web browser refresh or reload function/button, which has the side-effect of closing VKC sessions.
 11. D2CIM-PWR must be separately ordered. It is not included with the powerstrip.
 12. To use AES encryption, first ensure that your web browser supports this stronger encryption – not all browsers do. For AES, set the "Encryption mode" on the "Security Settings" panel to "AES," not "Auto" which generally results in RC4 encryption. 128 bit and 256 bit AES encryption are supported.
 13. For the best possible video quality, adhere to these distance guidelines from the CIM to the KX II:

Server Video Resolution	Distance
1024x768 (and below)	150 feet
1280x1024	100 feet
1600x1200	50 feet

14. To further minimize network bandwidth for lower bandwidth situations, set the “Noise Filter” on the “Video Settings” panel in the remote clients above the default value of 2 - values of 3 or 4 are recommended.
15. In general, most administrative functions are available on the remote and local consoles. But some functions, by their nature, are only available on one console. For example, “Factory Reset” and the “Local Port Settings” are available on the local port. Firmware Update, Backup and Restore, and certain KX II Device Diagnostics features are available from the remote client.
16. IPv6 usage notes. IPv4 networking is the factory default. Enable IPv6 on the Network Settings panel for IPv6/IPv4 “dual stack” operation. IPv6 is available in standalone configuration. Access of remote ISO images in a virtual media connection via IPv6 is not supported due to third party software limitations. IPv6 with Apple MAC OS Leopard is not supported.
17. External modem usage. The Standalone Multi-Platform Client, available in the firmware section of raritan.com, must be used for modem connections. In order to enhance performance, modem connections are established with 4 bit grey and 33 Kbps connection parameters. Firmware upgrade over a modem connection is not supported.

Recommended modems include: US Robotics (USR) 56K 5686E, Sportster 56K and Courier 56K; and ZOOM v90 & v92. Modem sessions not currently supported from Apple MAC and Linux clients. For best results, when connecting remotely via an external modem to a KX II connected to a USR modem, the remote modem should be the same type of USR modem. Consult the User Guide for more information.
18. When changing the various user management, device and security settings, please remember to click the “OK” button at the end of the page to save and activate your changes.
19. SUN Backgrounds: Some of the SUN background screens may not center precisely on certain SUN servers, i.e. those backgrounds with dark borders (e.g. NoBackDrop). Use another background or place a light colored icon in the upper left hand corner.
20. An apostrophe (‘) is no longer an allowed character for port (CIM) names.
21. For Mac OS, the Safari™ browser is certified for use in KX Release 2.1. Absolute Mouse Synchronization is required for Mac servers. The “Mac OS-X (10.4.9 and later)” USB profile should be enabled for the specific port on the Port Configurations page.

Release Package Details:

The Release 2.1 package for the Dominion KX series has the following components:

“DominionKXIIReleaseNotes2.1.pdf” – this file

“DominionKXIIFirmware2.1.rfp” – Raritan firmware distribution file for this upgrade

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 II 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 II device must be a member of the default Admin Group to have sufficient administrator-level privileges to update the Dominion KX II 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 II.
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 II using the “Backup / Restore” function on the Maintenance menu on the Remote Console before starting the upgrade..
6. Close any remote or local KX II sessions to all devices connected to the Dominion KX II 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 II 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 II 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 II 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: “DominionKXIIFirmware2.1.rfp”. 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 II 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 II 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 II 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 II CIMs (D2CIM-VUSB, D2CIM-DVUSB and D2CIM-PWR) connected to the KX II at the time of the upgrade will be upgraded also.
12. To support the USB Profile feature, the D2CIM-VUSB must be updated to the Release 2.1 CIM firmware. Use the “CIM Firmware Upgrade” menu on the “Maintenance” menu to check the CIM version(s) and to upgrade any additional D2CIM-VUSB connected to the KX II after the upgrade.
13. Due to improvements made in subsequent releases, you cannot downgrade (or restore with a backup file) from Release 2.1 to Release 2.0.
15. If you have any questions or issues during the update, call Raritan Technical Support for assistance.

DKX 2.1 Release Notes, Revision 1.1

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