



Dominion® KX

DKX116 DKX216 DKX416
DKX132 DKX232 DKX432
DKX464



User Guide

Release 1.4.5

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Ask for Technical Support – Monday through Friday, 8:00am to 8:00pm, Eastern.*

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Safety Guidelines

To avoid potentially fatal shock hazard and possible damage to Raritan equipment:

- Do not use a 2-wire power cord in any product configuration.
- Test AC outlets at your computer and monitor for proper polarity and grounding.
- Use only with grounded outlets at both the computer and monitor. When using a backup UPS, power the computer, monitor and appliance off the supply.

Rack Mount Safety Guidelines

In Raritan products which require Rack Mounting, please follow these precautions:

- Operation temperature in a closed rack environment may be greater than room temperature. Do not exceed the rated maximum ambient temperature of the appliances (please see [Appendix A: Specifications](#) for additional information).
- Ensure sufficient airflow through the rack environment.
- Mount equipment in the rack carefully to avoid uneven mechanical loading.
- Connect equipment to the supply circuit carefully to avoid overloading circuits.
- Ground all equipment properly, especially supply connections, such as power strips (other than direct connections), to the branch circuit.

Important Information

Login

- The default Dominion KX login user name is **admin** and the password is **raritan**. This user has administrative privileges.
- Passwords are case sensitive and must be entered in the exact case combination in which they were created.
- The default password **raritan** must be entered entirely in lowercase letters.
- To ensure security, change the default password as soon as possible.
- For backup and business continuity purposes, Raritan suggests that customers create a backup administrator login and keep the password in a secure location.

Default IP Address

- Dominion KX ships with the default IP address of 192.168.0.192.

Service Pack

- Dominion KX users with Microsoft Internet Explorer version 5.01 or Windows 2000 must upgrade to Service Pack 4 (SP4) or higher.

Version 1.4.5 Scope

- This User Manual applies to Dominion KX firmware version 1.4.5, which operates on all Dominion models: DKX116, DKX1342, DKX216, DKX232, DKX416, DKX432, and DKX64. To determine the firmware upgrade version on an existing KX device to upgrade from the Raritan website (www.raritan.com) in the **Firmware Upgrades** section, click the **System Information** command on the setup menu in KX Manager (or press the **F8** key from the OSD) to display the current firmware version.

FIRMWARE VERSION	KX FIRMWARE UPGRADE VERSION
0A28	Version 1.0
0A34	Version 1.0.3
0A47	Version 1.1
0B12	Version 1.2
0B1B	Version 1.3
0B20	Version 1.4

- Please check the Release Notes included with this product for important information on each firmware upgrade.

Supported Browsers

Dominion KX supports the following browsers:

- Internet Explorer 6
- Netscape 7.2
- Firefox 1.0 or later
- Mozilla 1.7

Note: Netscape 8 has an option (radio button) to change the rendering engine. When Internet Explorer is selected as the rendering engine from Netscape, the RRC is displayed. When Firefox is selected as the rendering engine from Netscape, the MPC is displayed.

Supported Paragon CIMs

Dominion KX version 1.4 and higher support the following CIMs:

DCIM-PS2 for PS/2 KB/MS	P2CIM-PS2
DCIM-SUN for SUN KB/MS	P2CIM-SUN
DCIM-USB for USB KB/MS (not Sun)	P2CIM-USB
DCIM-SUSB for SUN USB KB/MS	P2CIM-SUSB
P2CIM-PWR for power strip control	UKVMPD
UUSBPD	USKVMPD

Local Port – Supported Keyboard and Mouse Devices

The Dominion KX **supports** on the local port:

- USB/USB keyboard and mouse (two distinct connectors).
- PS2/PS2 keyboard and mouse (two distinct connectors).

The Dominion KX does **not** support on the local port:

- Combination keyboard/mouse devices through a single USB cable
- AUSB mouse and a PS/2 keyboard
- A PS/2 mouse and USB keyboard
- Keyboards that allow additional USB devices to be plugged into the keyboard itself (functioning as a hub)

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Chapter 1: Introduction

Dominion KX Overview

Dominion KX is an enterprise-class, secure, digital KVM switch that provides BIOS-level access and control of 64 servers from anywhere in the world via Web browser. At the rack, Dominion KX provides BIOS-level control of up to 64 servers and other IT devices from a single keyboard, monitor, and mouse. Dominion KX's integrated remote access capabilities provide the same BIOS-level control of your servers, from anywhere in the world, via Web browser.

Dominion KX is easily installed using standard UTP (Cat 5/5e/6) cabling. Its advanced features include 128-bit encryption, remote power control, dual Ethernet, LDAP, RADIUS, Active Directory, and syslog integration, and Web management. These features enable you to deliver higher uptime, better productivity, and bulletproof security – at any time from anywhere.

For larger data centers and enterprises, multiple Dominion KX units (along with Dominion SX units for remote serial console access and Dominion KSX for remote/branch office management) can be integrated into a single logical solution via Raritan's CommandCenter Secure Gateway (CC-SG) management appliance.

With release 1.4, Raritan introduces two new KX models: KX132 and KX464. The new Dominion KX132 offers an economical alternative with the same KX reliability, and the KX464 is the market's first 64-port digital KVM switch. It also offers a dual power option for added reliability. In addition, release 1.4 offers users intelligent mouse synchronization and SNMP management.

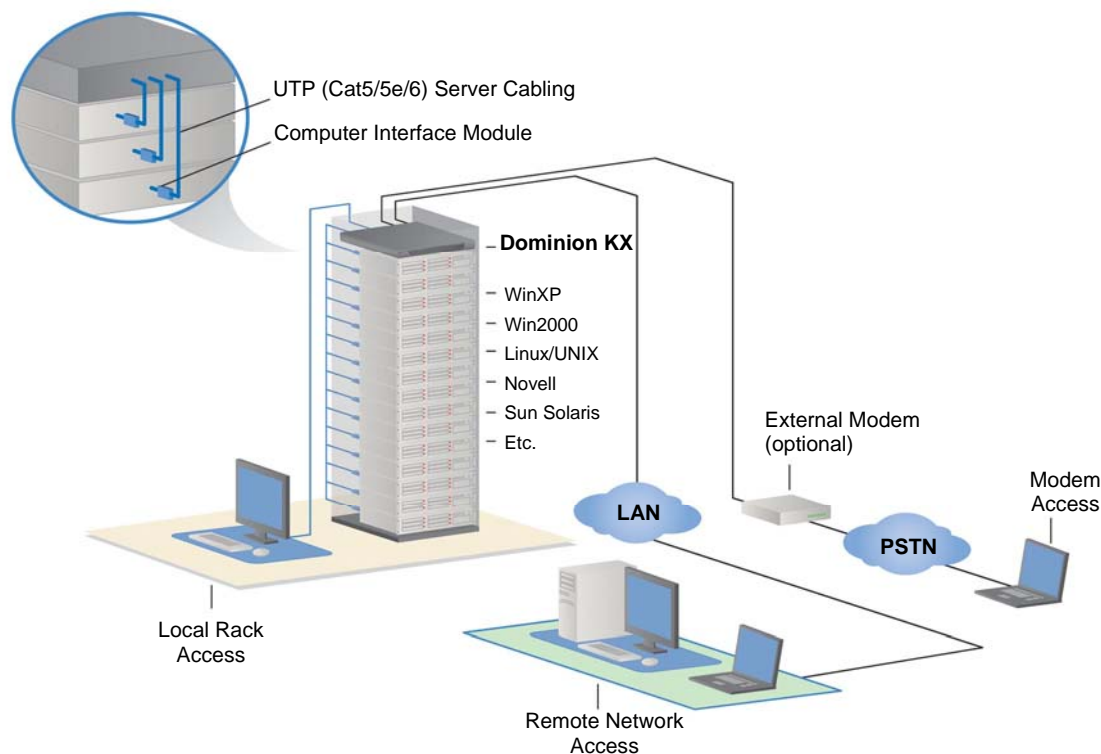


Figure 1 Dominion KX Configuration

Product Photos



Figure 2 Dominion KX132



Figure 3 Dominion KX464 with Dual Power Supply

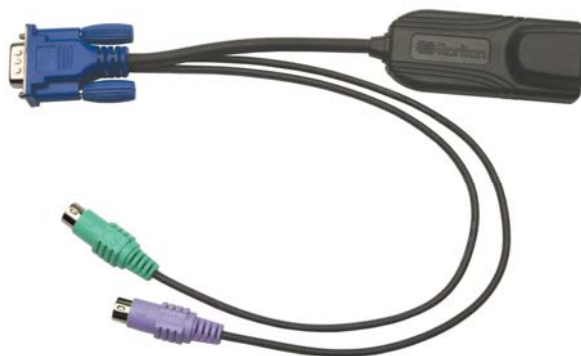


Figure 4 Dominion KX Computer Interface Module (DCIM)

Product Features

Hardware

- 1U or 2U rack-mountable (brackets included)
- Dual Power with Failover (with KX464)
- Dual-failover Ethernet Ports
- 16, 32, or 64 (on KX464) server ports
- Multiple User Capacity
- UTP (Cat5/5e/6) Server Cabling
- Dual failover 10/100 LAN
- Modem-ready via external Modem Port
- FLASH upgradeable
- Auto-switching power supply
- Local User Port for Rack Access
 - PS/2 and USB keyboard/mouse ports
 - Fully concurrent with remote users
 - On-Screen display
- Centralized access security
- Integrated Power Control
- LED indicators for power, network activity, and remote user status
- Integrated KVM Over IP Remote Access
- Cross-platform server support

Software

- Plug and Play Appliance
- Web based access and management
- Intuitive Graphical User Interface
- Integration with Raritan's CommandCenter Secure Gateway (CC-SG) management appliance
- High-color (15-bit+) palette support
- 128-bit encryption of complete KVM signal, including video
- LDAP, RADIUS, or Active Directory – or Internal Authentication
- DHCP or fixed IP addressing
- SNMP Management
- Intelligent Mouse Synchronization
- CC UnManage (via Dominion KX Manager)

Terminology

This manual uses the following terms for components of a typical Dominion KX configuration. Please refer to the diagram below for clarification, if needed.

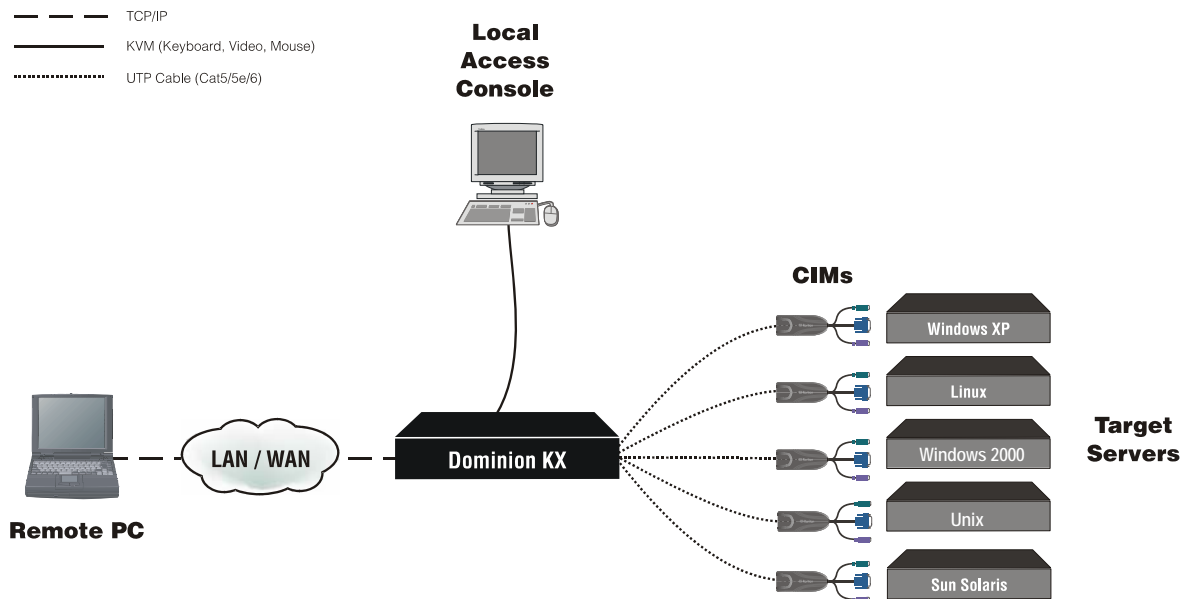


Figure 5 Terminology and Topology

Target Servers

Servers with graphical video cards and user interfaces (e.g., Windows, Linux, Solaris, etc.) to be accessed remotely via Dominion KX.

Remote PC

A networked computer used to access and control target devices connected to Dominion KX.

Local Access Console

An optional user console, consisting of a keyboard, mouse, and multi-sync VGA monitor, directly attached to Dominion KX to control target servers locally (directly at the rack, not through the network).

CIM (Computer Interface Modules)

Server dongles (Raritan P/N DCIM-xxxx) that connect to each target server. Available for PS/2, Sun, USB, and Sun USB keyboard and mouse ports.

Package Contents

Dominion KX ships as a fully configured stand-alone product in a standard 1U 19" rackmount chassis. Each Dominion KX unit ships with the following contents:

- (1) Dominion KX unit
- (1) Dominion KX printed Quick Setup Guide
- (1) Raritan User Manuals CD-ROM
- (1) Rackmount Kit
- (1) AC Power Cord
- (1) Cat5 Network cable
- (1) Cat5 Network crossover cable
- (1) Set of 4 rubber feet (for desktop use)

Chapter 2: Installation

Configuring Target Servers

Before installing Dominion KX, you must configure any target servers to be accessed via Dominion KX, to ensure optimum performance. Note that the following configuration requirements apply only to *target servers*, not to the client workstations (Remote PCs) that you use to access Dominion KX remotely (please see [Chapter 1: Introduction, Terminology](#) for additional information).

Server Video Resolution

Ensure that each target server's video resolution and refresh rate is supported by Dominion KX and that the signal is non-interlaced. Dominion KX supports the following video resolutions:

Text Modes	
640x480 @ 60Hz	1024x768 @ 60Hz
640x480 @ 72Hz	1024x768 @ 70Hz
640x480 @ 75Hz	1024x768 @ 75Hz
640x480 @ 85Hz	1024x768 @ 85Hz
720x400 @ 70Hz	1152x864 @ 60Hz
720x400 @ 85Hz	1152x864 @ 70Hz
800x600 @ 56Hz	1152x864 @ 75Hz
800x600 @ 60Hz	1280x960 @ 60Hz
800x600 @ 72Hz	1280x1024 @ 60Hz
800x600 @ 75Hz	
800x600 @ 85Hz	

Desktop Background

For optimal bandwidth efficiency and video performance, target servers running graphical user interfaces such as Windows, Linux, X-Windows, Solaris, and KDE should be configured with desktop backgrounds set to a predominantly solid, plain, light-colored graphic. The desktop background need not be *completely* solid; but desktop backgrounds featuring photos or complex gradients should be avoided.

Mouse Settings

Dominion KX operates in Standard mouse mode (by default), which requires that acceleration be disabled. However, depending on your OS, you can choose to work in Intelligent Mouse mode. In either mode, mouse parameters must be set to specific values, which are described later in this chapter. Although Absolute mouse mode appears on the **Mouse** menu, it is disabled at this time. Please see the Raritan Multi-Platform Client and Raritan Remote Client User Guide, available on Raritan's Website http://www.raritan.com/support/sup_prdmanuals.aspx, or on the Raritan User Manuals & Quick Setup Guides CD ROM included with your Dominion KX shipment for additional information on Intelligent Mouse mode. Please note that mouse configurations will vary on different target operations system; consult your OS guidelines for further details.

Windows XP / Windows 2003 Settings

On target servers running Microsoft Windows XP, disable the **Enhanced Pointer Precision** option, and set the mouse motion speed exactly to the middle speed setting. These parameters are found in **Control Panel → Mouse → Pointer Options**.

Disable transition effects in **Control Panel → Display → Appearance → Effects**.

Note: For target servers running Windows NT, 2000, or XP, you may wish to create a user name that will be used only for remote connections through Dominion KX. This will enable you to keep the target server's slow mouse pointer motion/acceleration settings exclusive to the Dominion KX connection only.

Windows XP and 2000 login screens revert to pre-set mouse parameters that differ from those suggested for optimal Dominion KX performance. As a result, mouse sync may not be optimal at these screens. If you are comfortable adjusting the registry on Windows target servers, you can obtain better Dominion KX mouse synchronization at login screens by using the Windows registry editor to change the following settings: Default user mouse motion speed = 0; mouse threshold 1 = 0; mouse threshold 2 = 0.

Important: Only the default, Standard mouse mode, works in these Operating Systems.

Windows 2000 / ME Settings

On target servers running Microsoft Windows 2000/ME, set the mouse pointer acceleration to **None** and the mouse motion speed exactly to the middle speed setting. These parameters are found in **Control Panel → Mouse**.

Disable transition effects in **Control Panel → Display → Effects**.

Windows 95 / 98 / NT Settings

On target servers running Microsoft Windows 95/98/NT, set the mouse motion speed to the slowest setting in **Control Panel → Mouse → Motion**.

Disable window, menu, and list animation in **Control Panel → Display → Effects**.

Linux Settings

On target servers running Linux graphical interfaces, set the mouse acceleration to exactly 1 and set threshold to exactly 1. Enter this command: **xset mouse 1 1**.

Ensure that each target server running Linux is using a resolution supported by Dominion KX at a standard VESA resolution and refresh rate. Each Linux target server should also be set so the blanking times are within +/- 40% of VESA standard values.

To check for these parameters:

- Go to the Xfree86 Configuration file XF86Config
- Using a text editor, disable all non-Dominion KX supported resolutions
- Disable the virtual desktop feature, which is not supported by Dominion KX
- Check blanking times (+/- 40% of VESA standard).
- Restart computer

Note: In many Linux graphical environments, the command <CTRL+ALT+ + (plus key)> will change the video resolution, scrolling through all available resolutions that remain enabled in the XF86Config file.

Sun Solaris Settings

On target servers running the Solaris operating system, set the mouse acceleration value to exactly 1 and threshold to exactly 1.

This can be performed from the graphical user interface, or with the command line:

```
xset mouse a t
```

where “a” is the acceleration and “t” is the threshold.

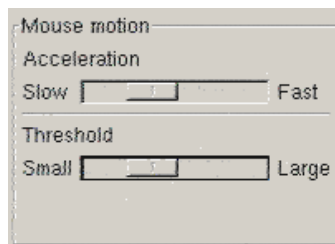


Figure 6 Solaris Mouse Configuration Window

All target servers must be configured to one of the display resolutions supported by Dominion KX, as listed in the beginning of this chapter. The most popular supported resolutions for Sun machines are:

1024 x 768 @ 60 Hz
1024 x 768 @ 70 Hz
1024 x 768 @ 75 Hz
1024 x 768 @ 85 Hz
1152 x 900 @ 66 Hz
1152 x 900 @ 76 Hz
1280 x 1024 @ 60 Hz

Target servers running the Solaris operating system must output VGA video (H-and-V sync, not composite sync). To change your Sun video card output from composite sync to the non-default

VGA output, first issue the **Stop+A** command to drop to bootprom mode. Then, issue the command:

```
setenv output-device screen:r1024x768x70
```

to change the output resolution. Issue the “**boot**” command to reboot the server.

You may also contact your Raritan representative to purchase a video output adapter. 13W3 Suns with composite sync output require APSSUN II Guardian converter for use with Dominion KX. HD15 Suns with composite sync output require the 1396C converter to convert from HD15 to 13W3 and an APSSUN II Guardian converter to support composite sync. HD15 Suns with separate sync output require an APKMSUN Guardian converter for use with Dominion KX.

Note: Some of the standard SUN background screens may not center precisely on certain SUN servers, that is, those with dark borders. Use another background or place a light colored icon in the upper left hand corner.

Raritan Remote Client Key Combination Equivalents

The following keys are commands specific to the special keys on the Sun keyboard. Please use the RRC key combinations in their place.

SUN KEY	RRC
Again	CTRL+ALT+F2
Props	CTRL+ALT+F3
Undo	CTRL+ALT+F4
Front	CTRL+ALT+F5
Copy	CTRL+ALT+F6
Open	CTRL+ALT+F7
Paste	CTRL+ALT+F8
Find	CTRL+ALT+F9
Cut	CTRL+ALT+F10
Help	CTRL+ALT+F11
Mute	CTRL+ALT+F12
Compose	CTRL+ALT+Kpd
VOL+	CTRL+ALT+ +
VOL-	CTRL+ALT+ -
Stop	Pause/Break
Stop+A	Special Pause/Break,A

Apple Macintosh Settings

For target servers running an Apple Macintosh operating system, no specific mouse setting is required. However, when using Dominion KX to access and control your target server, you must set Raritan Multi-Platform Client (MPC) to “single cursor” mode.

*Note: Please see the **Raritan Multi-Platform Client and Raritan Remote Client User Guide**, available on Raritan’s Website http://www.raritan.com/support/sup_prdmanuals.aspx, or on the Raritan User Manuals & Quick Setup Guides CD ROM included with your Dominion KX shipment for details on installing and operating MPC and RRC.*

Dual cursor mode is not supported for Macintosh target servers; the two mouse pointers will not appear in sync if you attempt to control a Macintosh server via Dominion KX in dual cursor mode.

IBM AIX Settings

For target servers running the IBM AIX operating system, go to the **Style Manager**, click on **Mouse Settings** and set **Mouse acceleration** to 1.0 and **Threshold** to 3.0.

Configurable Hotkey

The **Control+Alt+m** key sequence displays the RRC/MPC Shortcut menu. This sequence can be configured to a key other than the “m” key.

Please note, however, that some key sequences are pre-defined by certain operating systems. For UK keyboards, the “a” and “i” keys should not be used. Press **Control+Alt** to see the current hotkey sequence.

This hotkey sequence can be reconfigured from the Tools/Options panel.

Configuring Network Firewall Settings

If you wish to access Dominion KX through a network firewall, your firewall must allow communication on TCP Port 5000. Dominion KX can also be configured to use a different TCP port of your designation (please see [Chapter 3: Administrative Functions, Network Configuration](#) for additional information).

Optional: To take advantage of Dominion KX’s web-access capabilities, the firewall must also allow inbound communication on TCP Port 443 – the standard TCP port for HTTPS communication. To take advantage of Dominion KX’s automatic redirection of HTTP requests to HTTPS (i.e., so users may type the more common, “http://xxx.xxx.xxx” instead of “https://xxx.xxx.xxx”), then the firewall must also allow inbound communication on TCP Port 80 – the standard TCP port for HTTP communication.

Note: Depending on hardware status, firewall ports may require different settings. Please refer to the table below:

PORT	OLD DEVICE	NEW DEVICE
5000 UDP	Can be used for discovery	Will be used for discovery
5002 UDP	Can be used for discovery	Not supported
5000 TCP	Can be used for connecting to the device	Will be used for connecting to the device
5001 TCP	Can be used for connecting to the device	Not supported

Physical Connections

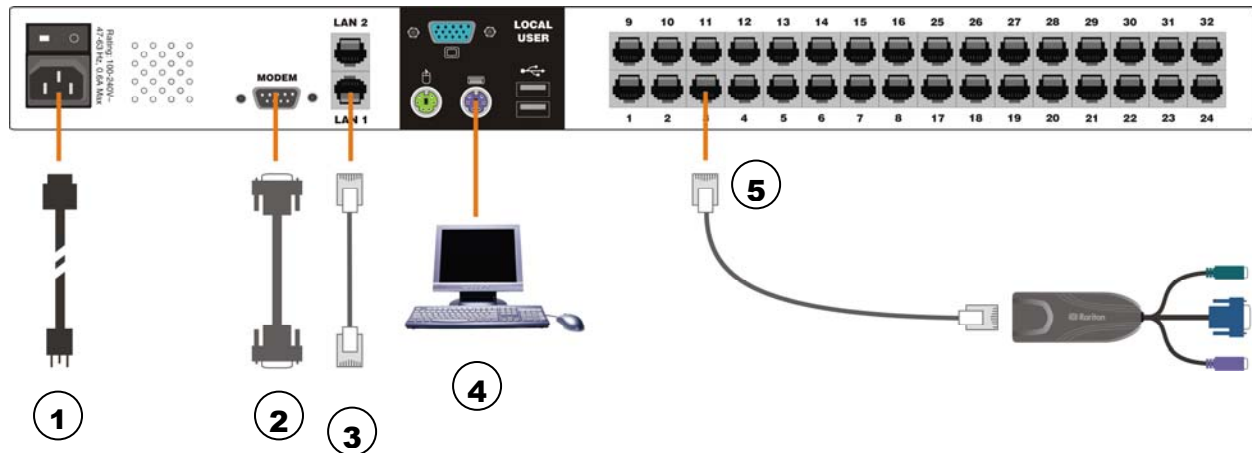


Figure 7 Back Panel of Dominion KX

1. AC Power Line

Attach the included AC power cord to Dominion KX and plug into an AC Power Outlet.

If you are installing a KX464 and want dual power failover protection, attach the second included AC power cord and plug it into a **different power source** than the first power cord.



Figure 8 Rear Panel of Dominion KX 464 with Dual Power Ports

2. Modem Port (optional)

Dominion KX features a dedicated modem port for remote access even when the LAN/WAN is unavailable. Using a straight-through serial (RS-232) cable, connect an external serial modem to the port labeled MODEM on the back of Dominion KX (please see [Appendix A: Specifications](#) for a list of certified modems and [Chapter 3: Administrative Functions](#) for additional information on modem functions). Use both network ports only if you want to use one as a failover port; using both ports is not mandatory. As with failover power supply, plug the second serial cable into a **different switch** than the first cable.

*Note: Raritan recommends configuring the modem by enabling the **CD** (carrier detect) setting.*

3. Network Ports

Dominion KX provides two Ethernet ports for failover purposes (not for load-balancing). By default, only LAN1 is active and automatic failover is disabled. In the case that the Dominion KX internal network interface or the network switch to which it is connected becomes unavailable, the port labeled LAN2 will become enabled, using the same IP address.

Connect a standard Ethernet cable (included) from the network port labeled LAN1 to an Ethernet switch, hub, or router. To make use of Dominion KX's Ethernet failover capabilities, you must also connect a standard Ethernet cable from the network port labeled LAN2 to an Ethernet switch,

hub, or router and then Enable Automatic Failover on the Network Configuration screen in KX Manager.

4. Local Access Console Ports (optional)

For convenient access to target servers while at the rack, use Dominion KX's Local Access Console ports. Attach a multisync VGA monitor, mouse, and keyboard to the ports labeled Local User using either a PS/2 keyboard and mouse or a USB keyboard and mouse.

The USB keyboard and mouse ports are to be used only for keyboard and mouse access – other USB devices such as external drives, scanners, etc. should not be connected to these ports.

5. Server Ports

Dominion KX uses standard UTP cabling (Cat5/5e/6) to connect to each target server. Please see [Appendix A: Specifications](#) for additional information. To connect a target server to Dominion KX, use the appropriate Computer Interface Module (CIM):

DCIM-PS2	PS/2 keyboard/mouse
DCIM-SUN	Sun keyboard/mouse
DCIM-USB	USB keyboard/mouse
DCIM-SUSB	USB keyboard/mouse for Sun Microsystems servers

Attach the HD15 video connector of your CIM to the video card of your target server. Ensure that your target server's video has already been configured to a supported resolution and refresh rate. For Sun servers, also ensure that your target server's video card has been set to output standard VGA (H-and-V sync) and not composite sync.

Attach the keyboard/mouse connector of your CIM to the corresponding ports of your target server. Then, using a standard straight-through UTP (Cat5/5e/6) cable, connect the CIM to an empty server port on the back of your Dominion KX unit.

Note: Other CIMs supported by DKX version 1.3 and higher include: P2CIM-PS2, P2CIM-SUN, P2CIM-USB, P2CIM-SUSB, UKVMPD, USKVMPD, UUSBPD, and P2CIM-PWR (for power strip control).

When using a DCIM-SUSB, please follow the steps below to change keyboard layout code:

1. Open a Text Editor window on the Sun workstation.
2. Ensure that the **NUM LOCK** key is active and press the *left* **CTRL** key and the **DEL** key on your Keypad. The **Caps Lock LED** starts to blink, which indicates that the CIM is in Layout Code Change mode.
3. The text window displays the following: **Raritan Computer, Inc. Current keyboard layout code = 22h (US5 Unix).**
4. Type the layout code desired (for example, **31** for Japanese keyboard).
5. Press **ENTER**.
6. Shut down the unit and power ON once again so that the DCIM-SUSB performs a reset (power cycle).
7. Use MPC or C/MPC to switch in again and press keys to verify all character is correct.

Initial Configuration

IMPORTANT: In some environments, the default 10/100 Mb Auto-negotiation does not properly set the network parameters, leading to network issues. For an example, please visit <http://www.cisco.com/warp/public/473/3.html>. In these cases, setting the Dominion KX to 100 Mbps/Full Duplex (or whatever is appropriate to your network) addresses the issue. To set, in the Network Settings screen, select Autonegotiate and set the values appropriate to your network.

Assigning an IP Address

1. Power ON Dominion KX via the power switch on the back of the unit. Wait approximately 45 seconds as Dominion KX boots.
2. After the KX unit boots, the on-screen display (OSD) appears on the monitor attached to Dominion KX's Local Access Console. Log on with the default username/password of **admin/raritan** and press **Enter**.
3. Press the **F5** key on your keyboard to activate the Administrative Menu.
4. Select Option 3, **Network Settings**, and press **ENTER**.
5. Specify TCP/IP parameters for your Dominion KX unit: IP address, subnet mask, and default gateway. When finished, press the **S** key to save the settings. The Dominion KX unit will automatically reboot.
6. Connect one end of a straight-through Ethernet cable (included) to the port labeled **LAN1** on the rear panel of Dominion KX, and the other end to a network switch or router.

Your Dominion KX unit is now network accessible.

Note: If two Dominion KX units are assigned the same IP address, an IP conflict results. A Raritan Remote Console attempting to connect to one of the units may get a "Bad Parameter" message. This is because the RRC discovers devices and maintains a list of discovered devices using the IP address of the device as the key. The device ID is also stored with the key. If another KX is discovered with the same IP address, the RRC will not know there an IP conflict. When the RRC starts communicating with the second device, it uses the device ID from the first device. As a result, the second device issues the Bad Parameter message.

Connecting and Naming Target Servers

1. Connect one end of a standard, straight-through UTP cable (Cat5/5e/6) to an unoccupied server port; connect the other end to the RJ45 port on a Dominion KX Computer Interface Module (CIM): DCIM-PS2 (PS/2 ports); DCIM-USB (USB ports); DCIM-SUSB (USB ports for Sun servers); or DCIM-SUN (Sun ports with HD15 video).
2. Connect the remaining ports on the CIM to the corresponding KVM ports of the server that you wish to manage using Dominion KX.
3. Repeat steps 1 and 2 to connect all servers that you wish to manage using Dominion KX.
4. On the Local Access Console, log on with the default username/password of **admin/raritan**.
5. Press the **F5** key to activate the Administrative Menu, and select Option 5, **Channel Configuration**.
6. Select a server port to rename, and press the **ENTER** key. When the cursor changes to a green color, assign a name (up to **20** characters, alphanumeric, no symbols allowed) to identify the server connected to that port. Press **ENTER** to complete the change.
7. Press **ESC** to exit the menu.

Changing Default Password

1. Find and log on to any workstation with (a) network connectivity to your Dominion KX unit, and (b) Java Runtime Environment v1.4.2_2 or higher installed (Java Runtime Environment is available at <http://java.sun.com/>).
2. Launch a Web browser such as Internet Explorer or Mozilla.
3. If you are using Internet Explorer (IE) type the following URL: **http://IP-ADDRESS/admin**, where **IP-ADDRESS** is the IP address that you assigned to your Dominion KX unit.
4. The Dominion KX remote management tool, Dominion KX Manager, will launch. Log on with the default username and password (**admin/raritan**).
5. In the User Navigation tree in the left panel of the screen, select the **Admin** user icon.
6. Right-click on the Admin user icon and select **Edit User** from the shortcut menu.

7. Type a new password in the **Password** field. Retype the password in the **Confirm Password** field. Passwords consist of twenty (20) English alphanumeric characters and the following symbols: !"#\$%&'()*+,-./:;<=>?@[\\]^_`{|}~.
8. Click **OK** to save User properties or click **Cancel** to close the window without saving.

The Default Password can also be changed from Raritan Multi-Platform Client and Raritan Remote Client (MPC and RRC).

1. Log on to the device at RRC with default user name **admin** and default password **raritan**.
2. Click once on the device in the Navigator panel and then right-click on it.
3. Click **Update** and then click **User Password**. The **Change Password** screen appears.
4. Type your old password in the **Old Password** field.
5. Type your new password in the **New Password** field.
6. Retype your new password in the **Retype Password** field.
7. Click **OK** to save new password.

Note to CC-SG Users

If you are using Dominion KX in a CC-SG configuration, perform the installation steps as outlined above, and when finished, consult the **CommandCenter Secure Gateway User Guide, Administrator Guide, or Deployment Guide** to proceed (all found on Raritan's Website under Support: http://www.raritan.com/support/sup_prdmanuals.aspx#com). The rest of this user guide applies primarily to users deploying their Dominion KX unit(s) without the integration functionality of CC-SG.

Upgrading Device Firmware

To update a device's firmware, first connect to the device. Highlight the device's icon in the MPC Navigator, and click on the **Tools** menu, click **Update** and then click **Update Device** to perform firmware upgrades.

MPC / RRC will prompt you to locate a Raritan firmware distribution file (*.RFP format), found on the Raritan Website **Firmware Upgrades** page when available:

http://www.raritan.com/support/sup_upgrades.aspx. Copy the RFP file to a **local drive**, not a network drive, and ensure that you read all instructions included in firmware ZIP files carefully before upgrading your Dominion KX.

Note: When a user upgrades a device, the device goes into a "Maintenance Mode." All sessions are disconnected and the device can execute only certain required software components. This allows the system to be in a clean, well understood state so that firmware update operations can occur reliably.

Updating User Password

After upgrading your firmware, the Change Password window automatically appears. Fill in new password information. To manually change your password at any time, connect to the target using its icon in the Navigator, and on the **Tools** menu, click **Update** and then click **User Password**. The Change Password window appears.



Figure 9 Change Password Window

1. Type your current password in the **Old Password** field.
2. Type the new password in the **New Password** field.
3. Retype the password in the **Confirm New Password** field.
4. When finished, click **OK**.

Connecting to Dominion KX Remotely Using Raritan Multi-Platform Client and Raritan Remote Client

Raritan Multi-Platform Client (MPC) and Raritan Remote Client (RRC) are graphical interfaces that allow you to remotely access the target devices connected to Raritan's Dominion and IP-Reach units. Both can be installed to use stand-alone or accessed remotely.

After installing the Dominion device, either download a standalone version of Raritan MPC or RRC and establish an initial network connection, or launch either application using the directions that follow.

Non-Windows users must use MPC, and Windows users running Internet Explorer default to RRC.

*Note: Please see the **Raritan Multi-Platform Client and Raritan Remote Client User Guide**, available on Raritan's Website http://www.raritan.com/support/sup_prdmanuals.aspx, or on the Raritan User Manuals & Quick Setup Guides CD ROM included with your Dominion shipment for additional information on installing and operating MPC and RRC.*

MPC Requirements

To run the Raritan Multi-Platform Client and Raritan Remote Client, your computer must meet the following minimum requirements:

- CPU speed of 1.0 GHz
- 512 Mbytes of RAM

All installations of MPC require Sun Microsystems' Java Runtime Environment (JRE) version **JRE 1.4.2_05** or greater. You may need some configuration depending on your OS and browser; configuration instructions are provided with the JRE download. Please note that modem use is not supported with Raritan's Dominion KX101.

Determine your version of the JRE on the Java webpage:

<http://www.java.com/en/download/help/testvm.xml>

Note: Raritan does not support JRE version 1.5.0_02 for use with MPC.

Supported Browsers

MPC supports the following browsers:

- Internet Explorer 6 or later

- Netscape 7.2 or later
- Safari 1.2 or later
- Firefox 1.0 or later
- Mozilla 1.7 or later

Installing and Launching MPC

1. To launch MPC from a machine running any browser except Internet Explorer, type **http://<IP address>** into the address line, where **<IP address>** is the IP address of your Raritan device. Please note that the MPC applet will launch in a new window that **does not** contain a Menu bar, Tool bar, Scroll bar, or Address bar. Work in this window and toggle to other open windows using the command **ALT+TAB**.
2. When MPC launches, a device tree of all automatically detected Raritan devices found on your subnet is displayed on the left side of the screen. If you do not find your Dominion unit listed by name, create an icon manually by selecting **Connection → New Profile**. The Add Profile window appears.
3. Type a device Description, specify a Connection Type, and add the Dominion unit's IP Address, and click **OK**. These specifications can be edited later, as described in the **MPC/RRC User Guide** (http://www.raritan.com/support/sup_prdmanuals.aspx).
4. In the Navigator panel on the left of the screen, double-click on the icon that corresponds to your Dominion unit.

To install MPC as a standalone applet, please see Appendix A in the [Raritan Multi-Platform Client and Raritan Remote Client User Guide](#).

Important: Regardless of the browser you use, you must allow pop-ups from the Dominion device's IP address in order to launch MPC.

Installing and Launching RRC

Important: RRC works only with MS Internet Explorer. If you are using a different Web browser, MPC automatically loads, instead of RRC.

1. Log on to any Windows-based computer with network access to your Dominion device.
2. If you are using Windows NT, 2000, XP, or 2003, ensure that you are not a "restricted" user.
3. Launch Microsoft Internet Explorer (ensure that your Internet Explorer security settings allow the download and execution of ActiveX controls).

*Note: The IE default security setting of **Medium** is sufficient.*

4. In the Internet Explorer Address bar, type the IP address you assigned to your Dominion device the previous section, **Initial Configuration**. Press **ENTER** to load and launch RRC.

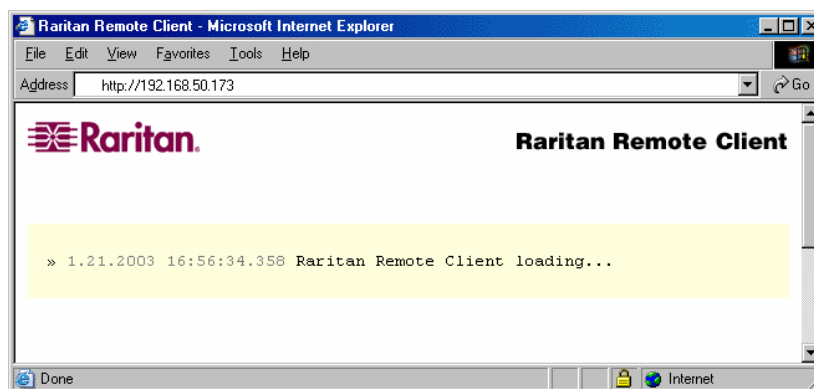


Figure 10 RRC Connection Window

5. When RRC launches, a device tree of all automatically detected Raritan devices found on your subnet is displayed on the left side of the screen. If you do not find your Dominion unit listed by name, create an icon manually by selecting **Connection → New Profile**. The Add Profile window appears.
6. Type a device Description, specify a Connection Type, and add the Dominion unit's IP Address, and click **OK**. These specifications can be edited later, as described in the **MPC/RRC User Guide** (http://www.raritan.com/support/sup_prdmanuals.aspx).
7. In the Navigator panel on the left of the screen, double-click on the icon that corresponds to your Dominion unit.

Establishing a Connection

When you double-click on your Dominion unit's icon in MPC or RRC, its login screen appears. Log on using your username and password (default: **admin/raritan**) to connect to your Dominion unit. Use the Navigator, on the left side of the MPC or RRC window, to select and connect to a server port.

MPC Interface

MPC functions are grouped into six general sections on the screen. As a standalone product, or as a Web applet, the MPC window contains these six main sections:

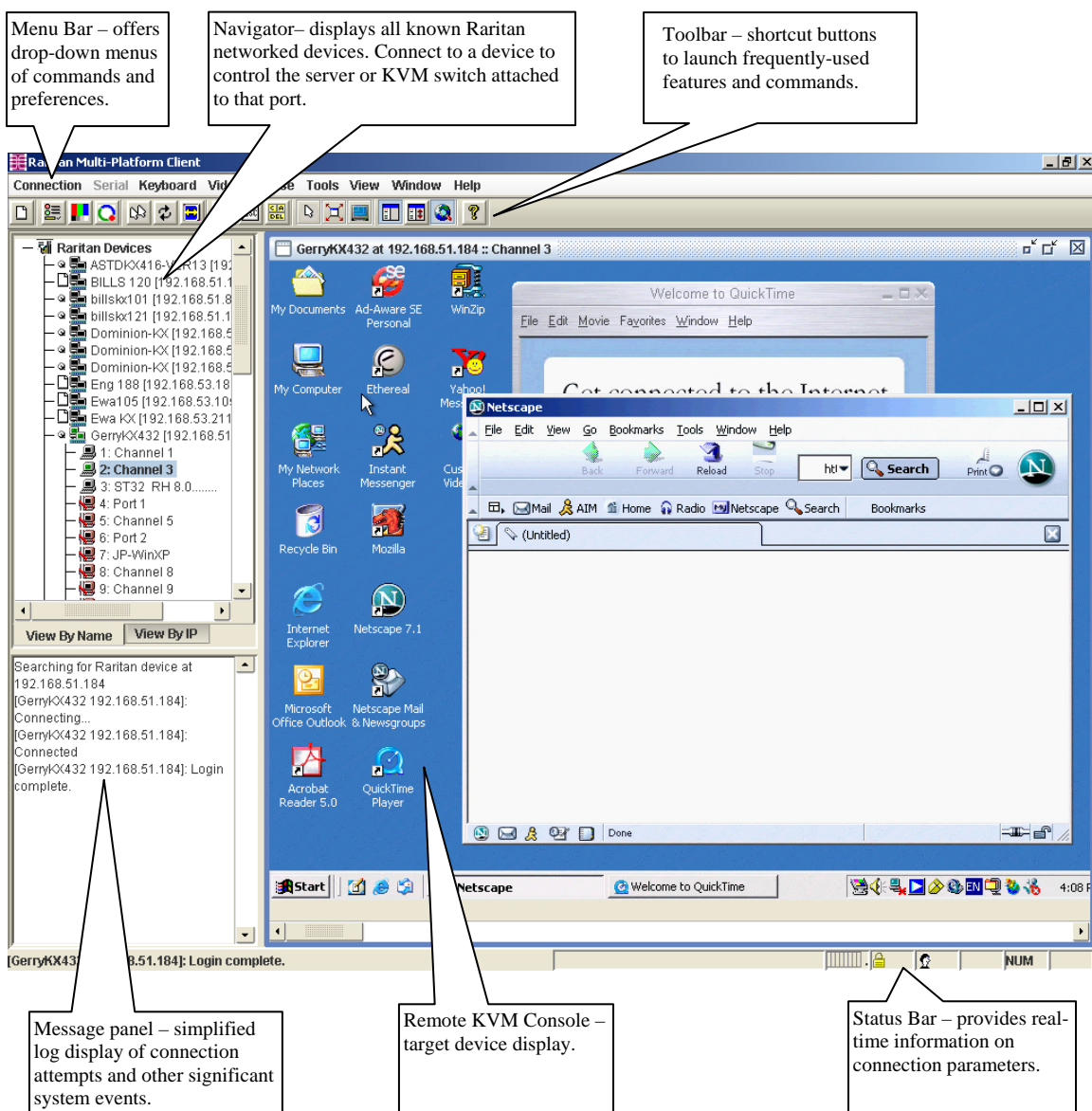


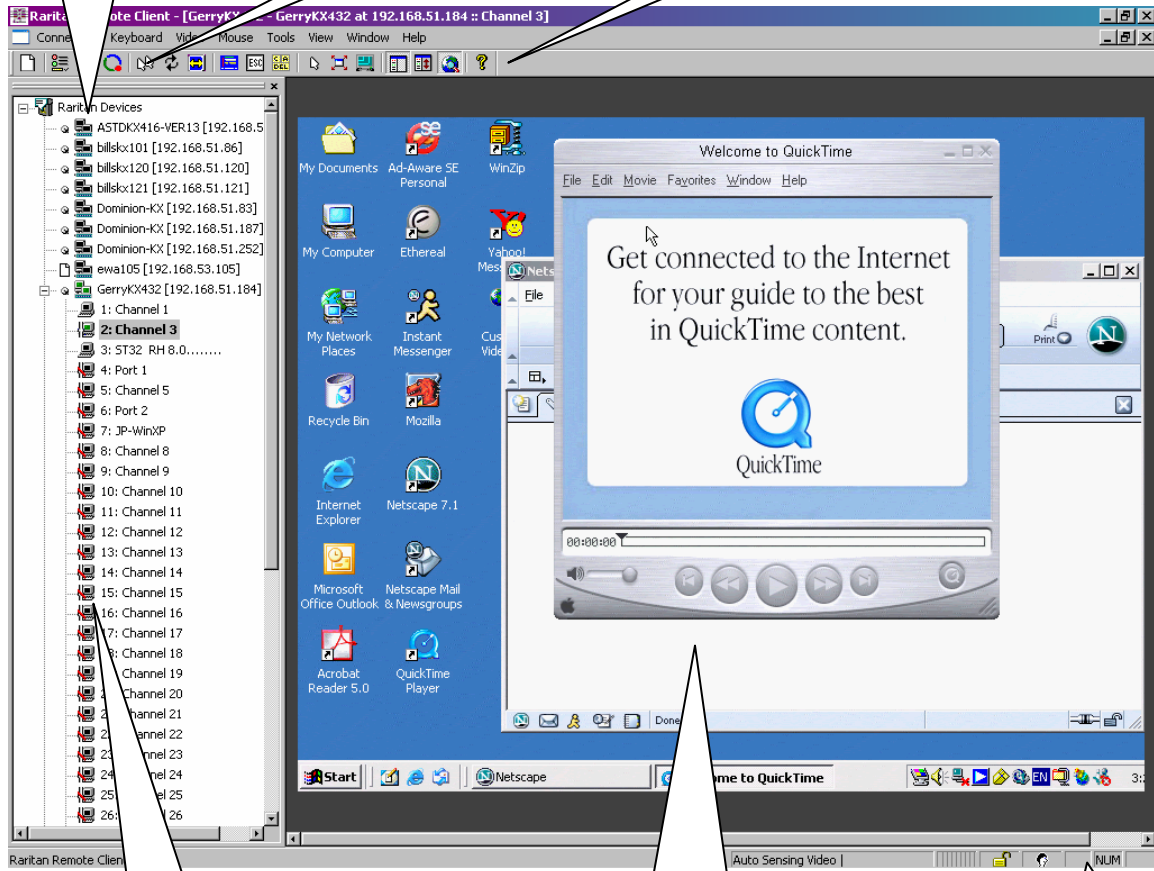
Figure 11 MPC Window Layout

RRC Interface

The Navigator displays any known Raritan networked appliances in a single view. Select **Connection** → **New Profile** to create new entries.

Click on the Synchronize Mouse tool to converge the mouse pointers displayed in KVM windows.

The Toolbar provides shortcuts to some of MPC's and RRC's most frequently-used commands.



Double-click on any server port to access and control the attached target server.

When connected to a KVM console port, keystrokes and video signals are transmitted in real-time — exactly as if you were situated locally.

The Status Bar provides real-time information on connection parameters.

Figure 12 RRC Screen

Mouse Pointer Synchronization

When controlling a target server, MPC and RRC display two mouse cursors: one belonging to your client workstation and the other belonging to the target server. When properly configured, the two mouse cursors will align. If you experience difficulty with mouse synchronization, please refer to the section **Configuring Target Servers**, at the beginning of this chapter.

You are now connected to your Dominion unit and can use your own keyboard, monitor, and mouse to control and execute commands on target machines, wherever they are located, as if you were sitting in front of them.

For additional information and detailed instructions for using MPC and RRC, please refer to the **Raritan Multi-Platform Client and Raritan Remote Client User Guide**, available on Raritan's Website http://www.raritan.com/support/sup_prdmanuals.aspx, or on the Raritan User Manuals & Quick Setup Guides CD ROM included with your Dominion shipment.

Keyboard Synchronization

The RRC will get the state of the keys (NUM, CAPS, SCRL) from the target server and will set the client PC keyboard to match. When RRC exits it does not change the client PC settings.

MPC does not have this problem because MPC will logically keep the state of the keys (Java is not allowed to set the physical keyboard setting). If you look at the bottom right-hand corner of the MPC window, the key settings are there as perceived by the target machine and MPC. They may not match the current setting of the client PC's keyboard.

RRC also has this display and the settings in the RRC window will match the client PC's keyboard. RRC has the ability to physically set the client PC keyboard.

Chapter 3: Administrative Functions

Dominion KX Manager is used to manage both the Dominion KX and the KX101 product lines. When running on a Dominion KX, features specific to the KX101 are disabled, and when running on a KX101, features specific to the Dominion KX are disabled. Specifics are called out throughout this chapter.

Launching Dominion KX Manager

Dominion KX Manager is a Java Applet and requires Java to function. When launching KX or KX101 via the Web, KX Manager checks the client's version of Java. If the version is incorrect or outdated, KX Manager leads you through the updated Java installation. Dominion KX Manager currently requires the following:

- Sun Java 1.4.2_05 or greater
- Sun Java 1.5.0 or greater *except* Sun Java 1.5.0_02, due to issues with this Java version

*Note: Because of a limitation in the JRE, Linux and Solaris clients receive an invalid response from Alt-Gr on UK Language keyboards. Linux and Solaris do not pick up events for the Alt-Gr key combination for Java 1.4.2 or 1.5. Java 1.6 appears to improve on this, although the **keyPressed** and **keyReleased** events for Alt-Gr still identify it as an "unknown key code".*

*Also, a key pressed in combination with Alt-tGr (such as on the UK keyboard AltGr-4, which is the Euro symbol, will only generate a **keyTyped** followed by a **keyReleased** event for that value, without a **keyPressed** event. Java 1.6 improves upon this by filling in the **keyPressed** event as well.*

Launch KX Manager in one of these ways:

- Launch via RRC/MPC by clicking on the "admin" port on a device.
- Launch directly from a Web browser by typing :

<http://IP-ADDRESS/admin>

where **IP-ADDRESS** is the IP Address assigned to your KX device. A browser will prompt you to grant permission to retrieve and launch KX Manager. After you grant permission, KX Manager launches.

– If you are using Internet Explorer (IE), launch your browser and type the URL:

<http://IP-ADDRESS/admin>

– If you are using Netscape version 7.1 or higher, launch your browser and type the URL:

<http://IP-ADDRESS/admin.html>

where **IP-ADDRESS** is the IP Address assigned to your KX device. A browser will prompt you to grant permission to retrieve and launch KX Manager. After you grant permission, KX Manager launches.

Important: Regardless of the browser you use, you must allow pop-ups from the Dominion device's IP address in order to launch KX Manager.



Figure 13 Dominion KX Manager Login Screen

1. **Username / Password:** Log on to KX Manager with an Administrator's username and password (defaults: **admin** and **raritan** (all lower case). To ensure security, please change the default username and password as soon as possible
2. **Port:** If your device has been configured to use a different TCP port than the default port 5000, type that number here.

***Note:** Due to a Java issue, before upgrading a device, if you launch KX Manager, upgrade the device, and then re-launch KX Manager, you will either generate a Java Exception or get an older version of KX Manager. To fix this problem, exit all instances of your Browser before upgrading your device.*

KX Manager Interface

KX Manager provides an interface for performing configuration and administrative functions. Many commands in the drop-down menus can be accessed by right-clicking on icons in the server and user lists on the left side of the screen.

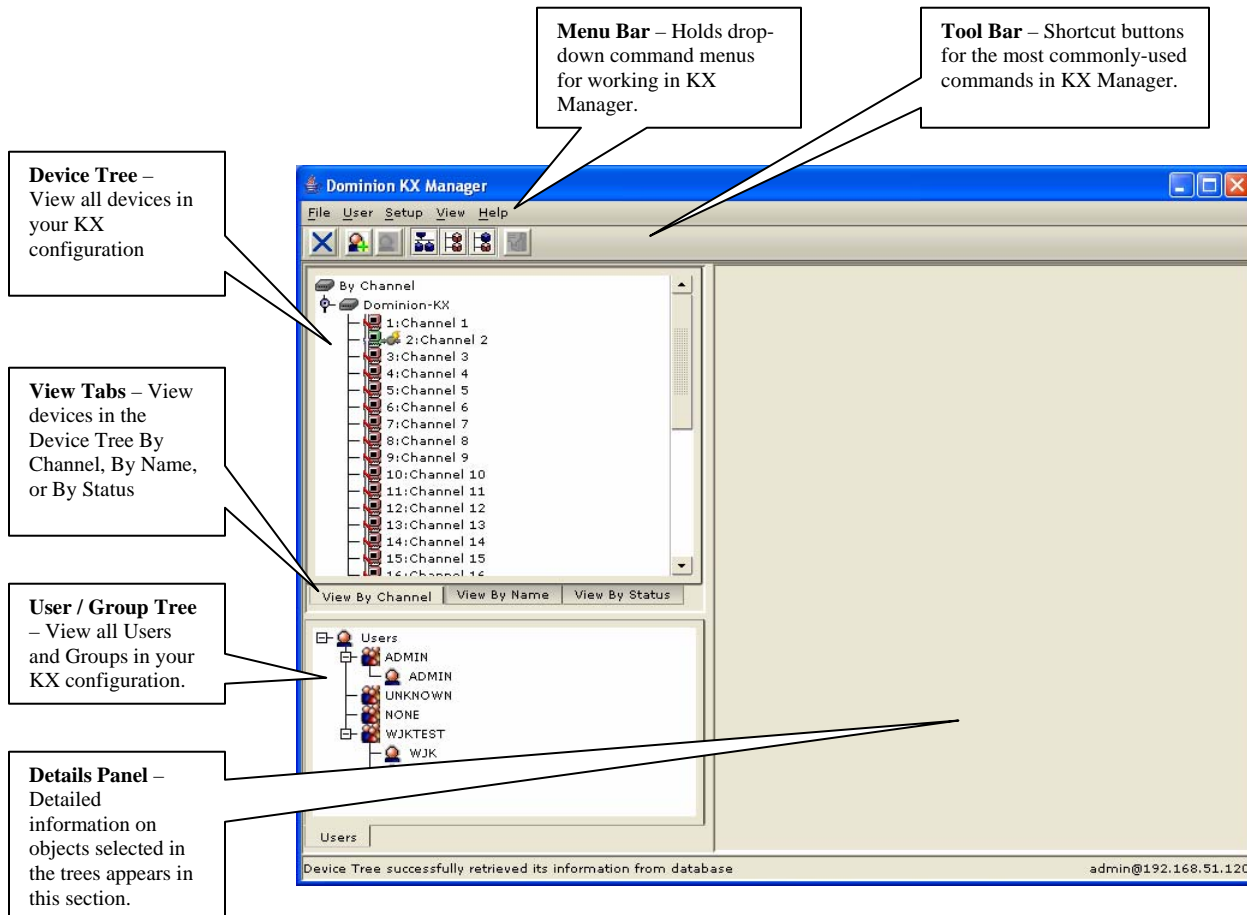


Figure 14 KX Manager Main Screen

There are three ways to view devices. Click on the View Tabs to change your view:

- View by Channel (number)
- View by Name
- View by Status – when viewing channels by Status, channels appear in the following order, sorted alphanumerically:
 - Busy Channels
 - Available Channels
 - Unavailable Channels

Network Configuration

Use the Setup menu to customize network configuration settings like IP Address and Ethernet speed on your Dominion KX unit.

- If you have a remote connection to KX Manager, you must reboot the unit after making Network Configurations in order to activate the new settings.
- Selecting to apply new Network settings will log out any users connected through the local port.

Important: Important: Before changing Network Configuration values, ensure that there are no other active user connections to the device; all connections will be dropped when the KX unit reboots.

1. On the **Setup** menu, click **Configuration**, and then click **Network**. The **Network Configuration** window appears.

Figure 15 Network Configuration Window

The fields, as you read down the left side of the Network Configuration window, and then the right, are as follows:

- **Manager name:** Type a unique name for the device. The default name for a Dominion KX unit is: “**Dominion-KX**” and for a KX101 unit is **KX_KIM-*<last five digits of serial number>***, for example, a KX101 with serial number S00002 would have a default name of **KX_KIM-00002**. Remote users will see and use this name to identify this

- particular device. However, if an MPC or RRC user has created a Connection Profile for a device, that user will see the **Description** field from the Profile instead.

Note: Spaces are **NOT** permitted in the Manager Name.

- **Enable modem interface:** (Dominion KX only) Enables the device’s internal modem port to allow remote users to dial into the device. Default value: Disabled.
- **Modem Initialization String:** Used to configure the modem for the settings below. Because different modems have different ways of settings these values, this document does not specify how to set these values, rather the user should refer to the modem to create the appropriate modem-specific string.
 - **Modem Settings:**
 - Enable RTS/CTS flow control
 - Send data to the computer on receipt of RTS
 - CTS should be configured to only drop if required by flow control.
 - DTR should be configured for Modem resets with DTR toggle.
 - DSR should be configured as always on.
 - DCD should be configured as enabled after a carrier signal is detected. (that is, DCD should only be enabled when modem connection is established with the remote side)
 - If the modem string is left blank, the following string is sent to the modem by default: ATSO=0Q0&D3&C1
 - **Use default TCP port 5000:** Besides the initial download of Raritan Remote Client and KX Manager (which occurs over secure HTTPS Port 443), all communication to and from the Dominion KX occurs over a single, configurable TCP Port. The default is Port 5000, but you can configure it to use any TCP port except 80 and 443. To access the KX unit from beyond a firewall, your firewall settings must enable two-way communication through the default port 5000 or the non-default port configured above.
- **Enable syslog forwarding:** Click on this check box to the device’s log messages to a remote syslog server. Type the IP Address of your syslog server in the **Remote IP address** field and click on the **Category** and **Priority threshold** drop-down arrows to select the level of event sensitivity.
- **Set System ACL:** Click to set a global-level access control list for your KX unit by ensuring that your device does not respond to packets being sent from disallowed IP addresses. The **Access Control List** window appears.

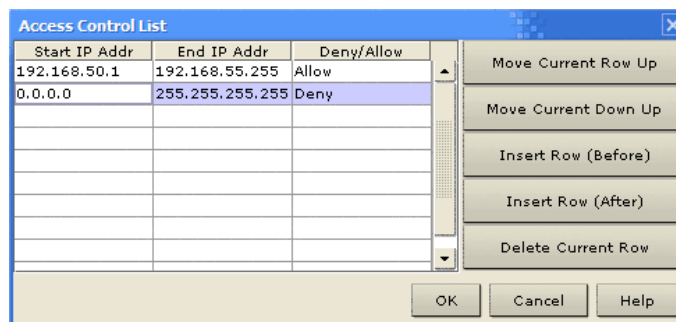


Figure 16 Access Control List Window

- These ACL values are global, affecting the KX unit as a whole. Your device allows you to create ACLs for each user group, for example, you can create a user group “Outsourced Vendors,” that is permitted to access Dominion KX only from a given IP address range (please see the section [Users, Groups, and Access Permissions](#) in this chapter, for more information on how to create group-specific ACLs).

- Click **OK** to accept the Access Control List changes or **Cancel** to close the window without saving changes.

Important: Please note that ACL rules are evaluated in the order in which they are listed. For instance, if in the above example, the two ACL rules were reversed, Dominion KX101 would accept no communication at all. Use the buttons on the right of the window to adjust the order of your list.

- **Enable automatic failover:** (Dominion KX only) Click on this check box to allow Dominion KX to automatically recover its network connection using a second network port if the active network port fails. **Ping interval** determines how often Dominion KX will check the status of the network connection (setting this too low may cause excess network traffic). **Timeout** determines how long a network port must be “dead” before the switch is made. Both network ports must be connected to the network and this option must be checked for Automatic Failover to function. Default Ping interval: 30 seconds; default Timeout: 60 second.

Note: The default Ping interval and Timeout generate a condition that when the KX device tries to switch over, any remote sessions will be dropped. Users must re-establish the session. Reducing these intervals to much lower values will allow remote sessions to stay connected but will result in increased network traffic.

2. Click **OK** to set Network Configurations or click **Cancel** to close the window without saving changes.
3. If your changes require rebooting the device, a reboot message appears.

Security Settings

1. On the **Setup** menu, click **Security**, and then click **Setting**. The **Security Settings** window appears.



Figure 17 Security Configuration Window

- **Encryption mode** – click on the drop-down arrow to select one of the following:
 - **No Encryption:** Nothing is secure. The communication channel is open to anyone to read and there is no data encryption.
 - **SSL authentication, NO data encryption:** Usernames and passwords are secured, but KVM transmissions are not. 128-bit Secure Socket Layer (SSL) protocol provides a private communications channel between the KX unit and the Remote PC during initial connection authentication. No encryption security in place during remote KVM data transfer.
 - **SSL authentication, data encryption:** Secures user names, passwords and KVM data, including video transmissions. 128-bit Secure Sockets Layer (SSL) protocol provides a private communications channel between the KX unit and the Remote PC during initial connection authentication. After authentication, KVM data is also transferred with 128-bit encryption, but using a protocol much more efficient than SSL (RC4 encryption, but without SSL headers). Raritan recommends this option.
 - **SSL authentication, SSL data encryption:** Secures user names and passwords, and provides high-level security for KVM data. 128-bit Secure Sockets Layer (SSL) protocol provides a private communications channel between the KX unit and the Remote PC during initial connection authentication. 128-bit SSL encryption is also in place during remote KVM data transfer. Note that because the SSL protocol was not designed for KVM communication, this mode is less efficient but no more secure than the recommended setting, above.
- **PC share mode** – Determines global concurrent remote access, enabling up to eight remote users to simultaneously log on to one KX unit and concurrently view and control

the same target server through the device. Click on the drop-down arrow to select one of the following:

- **Private mode (default):** No PC Share. Each target server can be accessed exclusively by only one user at a time.
- **PC share mode:** Target servers can be accessed by eight users (administrator or non-administrator) at one time. If there is a remote user and a local user sharing the target, control is based on first active keyboard/mouse input. However, if only remote users are sharing targets, each remote user has equal keyboard and mouse control. PC share timeout value is the idle time that is used to determine when a remote user or local user can take control of the keyboard/mouse from the other. Uneven control will happen if a user does not stop typing or moving the mouse. Automatic color calibration for the session is based on the first connected user's settings; subsequent connected users may notice visual differences from their usual calibration. The first user's settings are the default settings for the duration of the session.

*Note: PC share mode is a global setting. For individual user access settings see **Keyboard and Mouse Control and Concurrent Access Mode** on the **User Account Settings** screen. Each user profile can be set individually to enable/disable keyboard and mouse control, and concurrent access.*

- **Log out idle users:** Click on the check box to automatically disconnect remote users after a certain amount of inactive time has passed. Type the amount of time in the **After** field.

*Note: If you invoke KX Manager via the **Admin** channel in RRC, be aware that this timer can affect your session. Launch KX Manager outside of RRC or disable this parameter for the session to avoid having RRC's user idle time logout your KX Manager session.*

- **Enable strong passwords:** Requires user passwords to have a minimum of 6 characters with at least one alphabetical character and one non-alphabetical character (punctuation or number). The first four characters of the password and the username cannot match. Strong password rules affect only those usernames and passwords stored by Dominion KX. If you configure the device to authenticate to a remote server such as LDAP, RADIUS, or Active Directory, these rules are not enforced by the device (please see the section [Remote Authentication](#) in this chapter for more information on remote authentication).
 - **Enable multiple logins:** When this rule is selected, a given username/password combination can be connected into the device from multiple client workstations at a time.
 - **Password expiration time:** Type a number of days in this field to force users to change their passwords after a set duration.
 - **Private key:** Type a private key password. Only those remote users who know the private key, in addition to their own usernames and passwords, can log in and connect to the device.
 - **Re-enter key:** Type private key password again for confirmation. Remember that passwords are case sensitive. Private key passwords must be alphanumeric; special characters cannot be used.
 - **Local device reset mode:** Determines how the local factory and password reset feature in the OSD operates. Click on the drop down arrow to select one of the following:
 - **Enable local factory reset** (Default)
 - **Enable local admin password reset**
 - **Disable all local resets**
2. Click **OK** to set Security Configurations or click **Cancel** to close the window without saving changes.

Time and Date

The Time and Date screen allows you to access the device's current settings to set time, date, time zone, adjustment for Daylight Savings, and Network Time Protocol (NTP).

Time and Date

Date: January 2006

Sun	Mon	Tue	Wed	Thr	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Adjust for daylight savings time

Current time: **16:02:01**

Hours: 16
Minutes: 1
Seconds: 57

Get time from NTP server

NTP server

Primary server IP address: 0.0.0.0

Secondary server IP address:

Use standard UDP port 123

NTP time server port: 123

Time Zone: (GMT-05:00) Eastern Time Zone (US & Canada)

OK Cancel Help

Figure 18 Time and Date Settings

Users, Groups, and Access Permissions

Overview

The device stores an internal list of user and group names to determine access authorization and permissions. This information is stored internally in a hashed / encrypted format.

Note to CC-SG Users

If you are using Dominion KX in a CommandCenter Secure Gateway configuration, [this section of the User Manual does not apply to you](#). When the device is controlled by CommandCenter Secure Gateway, CC-SG determines the allowed users and groups. Please see the [CommandCenter Secure Gateway User Guide](#), [Administrator Guide](#), or [Deployment Guide](#) at http://www.raritan.com/support/sup_prdmanuals.aspx#com for additional information.

Note to Raritan Customers Upgrading from Previous Firmware Versions

If you previously configured Raritan products such as Dominion KSX and IP-Reach running legacy firmware versions earlier than v3.2, [read this entire section carefully](#). Beginning with firmware version v3.2 and above, the implementation of users and groups has changed significantly to provide more flexible and powerful configurations.

Relationship between Users and Group Entries

You may want to organize users in your device into groups. Assigning users to groups saves time by allowing you to manage permissions for all users in a group at once, instead of managing permissions on a user-by-user basis.

User information helps in authenticating users accessing your KX unit. Upon successful authentication, the device uses **Group information** to determine the user's permissions – which server ports are accessible, whether rebooting the unit is allowed, and other features.

You may choose not to associate specific users with groups. In this case, the KX unit classifies the user as “**Individual**.”

The user list on the left side of the screen displays both User and Group names created for the device. Users belonging to a Group are nested under their group name.

User Groups

Every Dominion KX unit has three default user groups, which cannot be deleted:

ADMIN	User group for original, factory-default administrative user.
NONE	Permissions defined for this group are employed for a user when your Dominion KX is configured for remote authentication via LDAP or RADIUS (see next section), and a login attempt is successful but no user group is returned by the remote authentication server.
UNKNOWN	Permissions defined for this group are employed for a user when your Dominion KX is configured for remote authentication via LDAP or RADIUS (see next section), and a login attempt is successful but the user group returned by the remote authentication server is not found in Dominion KX.

In addition to these three default groups, there is an “Individual” type of group that is built into the Dominion KX. This is used for a given user to have its own group, separate from other groups.

Creating or Editing User Groups and Access Permissions

Define User Groups before creating individual Users. When creating a user, you must assign that user to an existing user group. In addition, User Groups are used even if you implement remote authentication (via RADIUS or LDAP).

1. **To create a new User Group:** On the **User** menu, click **Add User Group**. **To edit an existing User Group:** Select the group that you wish to edit in the user list, right-click on the icon, and select **Edit User Group**. Either the **Add Group** or the **Edit Group** window appears.

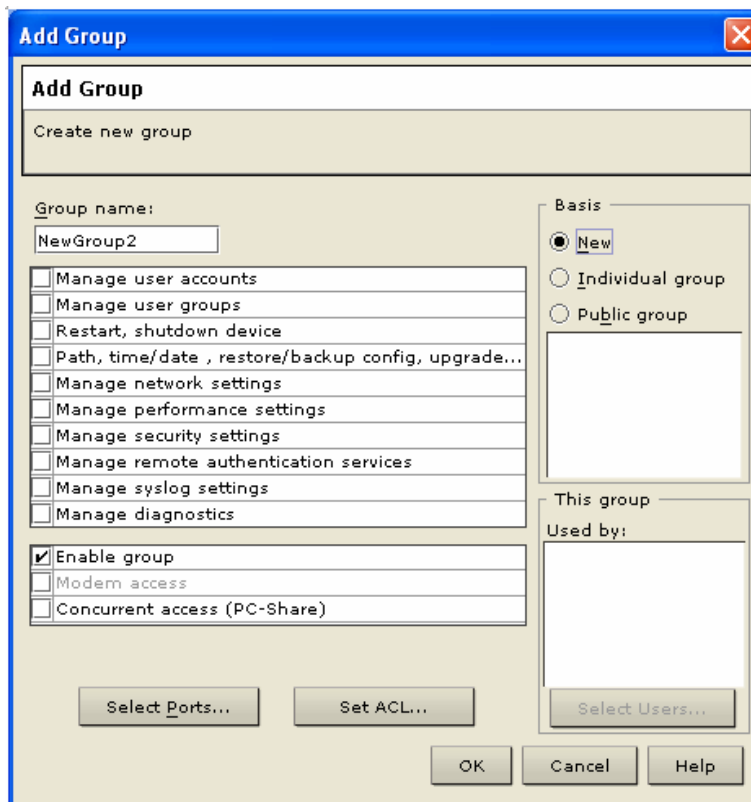


Figure 19 Add Group Window

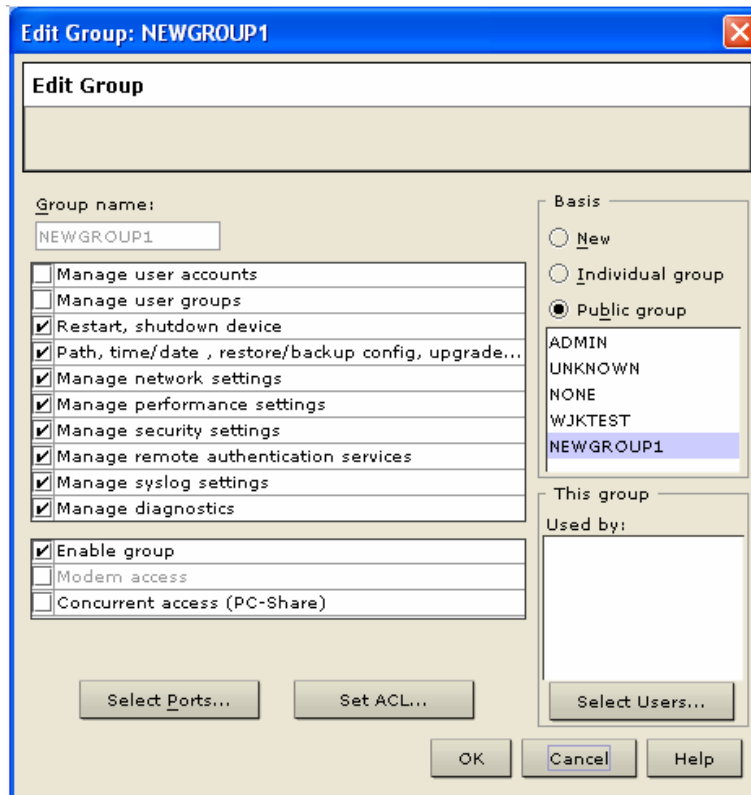


Figure 20 Edit Group Window

2. Type a name for the new user group, or edit the name for an existing user group in the **Group name** field.
3. Check the boxes before the permissions you want to assign to all users who belong to this group.
 - The first group of permissions (the upper table) controls user authorization for using these specific administrative functions within KX Manager and RRC. For example, if you check the box before **Manage user accounts**, the members in this group can create new user accounts in KX Manager. Likewise if you check **Restart, shutdown device**, the members can reboot the Dominion KX from RRC. Please note that in order to access the diagnostic panel in RaritanConsole, both **Manage diagnostics** and **Path, time/date...** must be checked. Several administration functions are available within MPC and from Dominion KX's Local Console Port; these functions are available only to members of the default ADMIN group. If you enable **Manage user accounts** and **Manage user groups**, a confirmation windows appears to allow you to confirm your choice; click **OK** to confirm, or click **Cancel** to exit.
 - In the second group of permissions (the lower table), uncheck **Enable group** to disable all access and permissions for members of this group. Check **Concurrent access (PC Share)** to allow group members simultaneous log-on capability to Dominion KX with concurrent view and control of targets, such as a PC Share session. (**Modem access** is disabled in KX101.)
4. In the **Basis** panel of the screen, click on the radio button before one of the options to indicate this is a **New** group, to specify it as an **Individual** group, or to copy the permissions from an existing **Public group**. If you select **Public group**, the names of currently existing groups appear in the field below; click on one of them to apply that group's properties to the group you are adding.

Important: Checking the check boxes before ‘Manage user accounts’ and ‘Manage user groups’ allows the members of the group to change the permissions of all users, including their own. Carefully consider granting these permissions.

5. Other permission elements on the Add Group or Edit Group screens include:
- **This Group** panel, **Used by** field - Displays all users assigned to this group. The **Select Users** button allows administrators to move previously configured users into this group.
 - **Select Ports** – Click this button to specify which server ports can be accessed by users who belong to this group. For each server port, users may be allowed to control the connected target server; view the video (but not interact with) the connected target server; or be denied permission altogether.

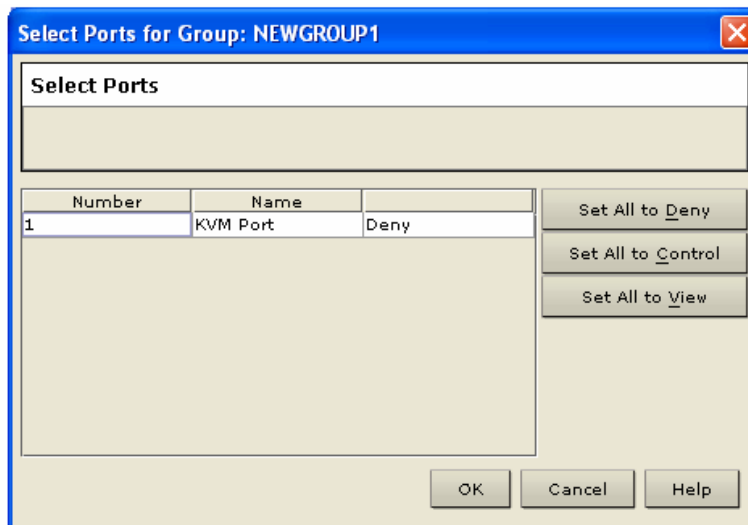


Figure 21 Select Ports Window

- **Set ACL** – Click this button to limit access to the device by users in this group to specific IP addresses. (This feature applies **only** to users belonging to a specific group, unlike the “Set System ACL” functionality found in the device’s Network Configuration (see previous section [Network Configuration](#)), which applies to **all** access attempts to the device).

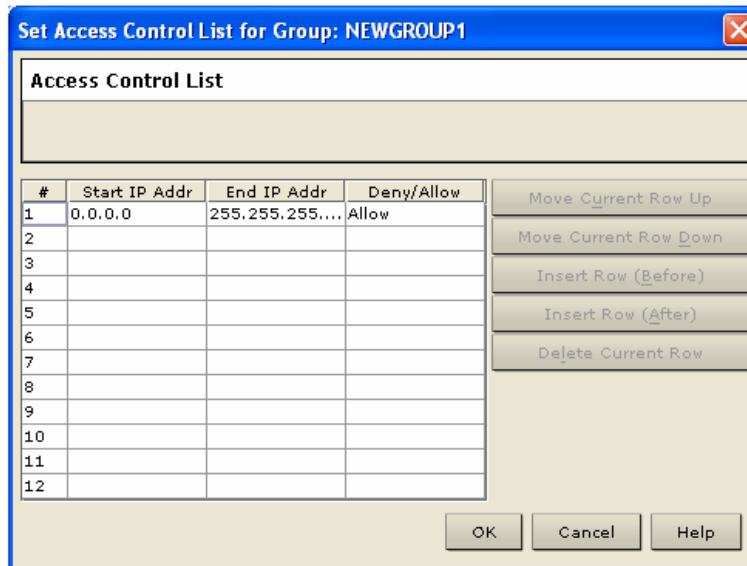


Figure 22 Set Access Control List for Group Window

Important: Please note that ACL rules are evaluated in the order that they are listed

6. Click **OK** to save Group properties or click **Cancel** to close the window without saving.

Moving Users Between Groups

To organize users into groups, select the user group you want to modify, and on the **User** menu, click **Add User to Group** (or click [**Select Users**] in the **Groups** window).

When the **Select Users** screen appears, add users to the group by selecting the user in the **All Users** list and clicking [**→**] to move the user to the **Users in Group** list. To remove users from the group, select the user in the **Users in Group** list and click [**←**] to move the user to the **All Users** list.

Deleting User Groups

To delete existing user groups, select the group that you wish to delete, right-click on the group icon, and select **Delete User Group**. Before deleting a group, ensure that there are no users assigned to it, or those users will also be deleted.

Creating or Editing Users

1. **To create a new User:** On the **User** menu, click **Add User**. **To edit an existing User:** Select the user that you wish to edit in the user list, right-click on the icon, and select **User Properties**. The **Add User** or the **Edit User** window appears:

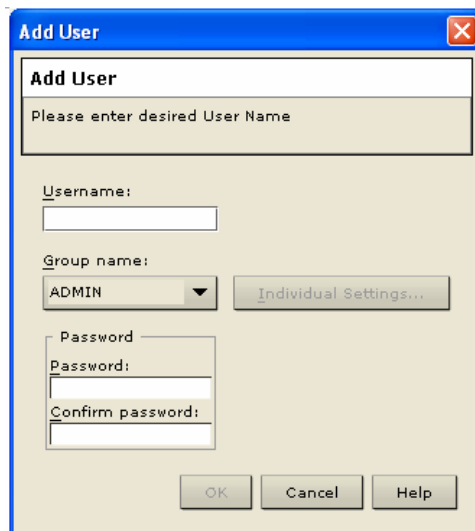


Figure 23 Add User Window

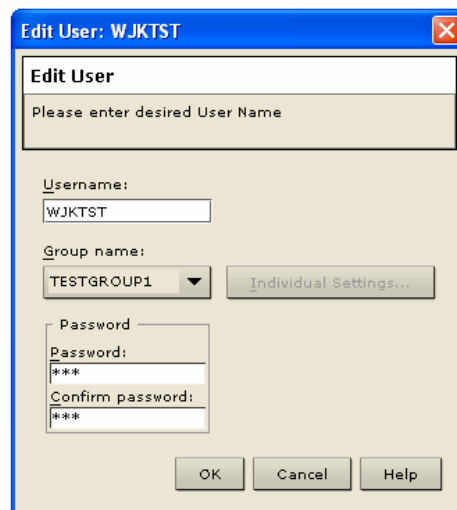


Figure 24 Edit User Window

2. Type a unique user name or edit the existing user name in the **Username** field.
3. Click on the **Group Name** drop-down arrow and select a User Group to which you want to assign this user. If you do not want to associate this user with an existing User Group, select **Individual Group** from the drop-down list, and then click **Individual Settings** to assign access permissions and privileges for this user.
4. Type a new password or edit an existing password in the **Password** field. Retype the password in the **Confirm password** field. Any character can be used to create a password.
5. Click **OK** to save User properties or click **Cancel** to close the window without saving.

Deleting Users

To delete an existing user, select the user that you wish to delete, right-click on the user icon, and select **Delete User**.

Remote Authentication

Introduction

Note to CC-SG Users

If you are using Dominion KX in a CommandCenter Secure Gateway configuration, this section of the User Manual does not apply to you. When the device is controlled by CommandCenter Secure Gateway, CC-SG determines Remote Authentication. Please see the **CommandCenter Secure Gateway User Guide, Administrator Guide, or Deployment Guide** at http://www.raritan.com/support/sup_prdmanuals.aspx#com for additional information.

Note to Raritan Customers Upgrading from Previous Firmware Versions

If you have previously implemented RADIUS authentication on Raritan products such as Dominion KSX and IP-Reach running legacy firmware versions earlier than v3.2, read this entire section carefully. Beginning with firmware version v3.2 and above, the implementation of external authentication has changed significantly to provide more flexible and powerful configurations.

Supported Protocols

In order to simplify management of usernames and passwords, device provides the capability to forward authentication requests to an external authentication server. The device supports two external authentication protocols: LDAP and RADIUS.

Note on Microsoft Active Directory

Microsoft Active Directory uses the LDAP protocol natively, and can function as an LDAP server and authentication source for Dominion KX. If it has the IAS (Internet Authorization Server) component, a Microsoft Active Directory server can also serve as a RADIUS authentication source.

Note on Remote Login Usernames and Passwords

The Dominion KX login username and password are both limited to 16 characters. Keep this limitation in mind when setting up remote authentication, because remote authentication usernames and password could exceed this minimum length.

Remote Authentication Implementation

Priority

When a user tries to authenticate to a Dominion KX unit that is configured for external authentication, Dominion KX first checks its own internal user database for that username. If the username is not found in the Dominion KX internal database, the request is forwarded to the external authentication server.

- **If Username is not found in the Dominion KX internal database:** Request is forwarded to external authentication server to determine whether the login is allowed or denied.
- **If Username is found in the Dominion KX internal database and Password is correct:** Login is allowed.
- **If Username is not found in the Dominion KX internal database and Password is incorrect:** Login is denied; the request does NOT get forwarded to the external authentication server.

Authentication vs. Authorization

When your device is configured for remote authentication, the external authentication server is used primarily for the purposes of authentication, not authorization.

Authorization is determined by the KX unit on the basis of user groups. That is, once a given user is allowed to access the device in general (authenticated), that user's specific permission (authorization) is determined by the device, based upon the user's group.

The external authentication server can assist in authorization by informing the device about the user group to which a user belongs whenever the authentication server approves a given user's login request. The sections **Implementing LDAP Remote Authentication** and **Implementing RADIUS Remote Authentication** that follow explain this in more detail.

The flow diagram below illustrates the steps taken:

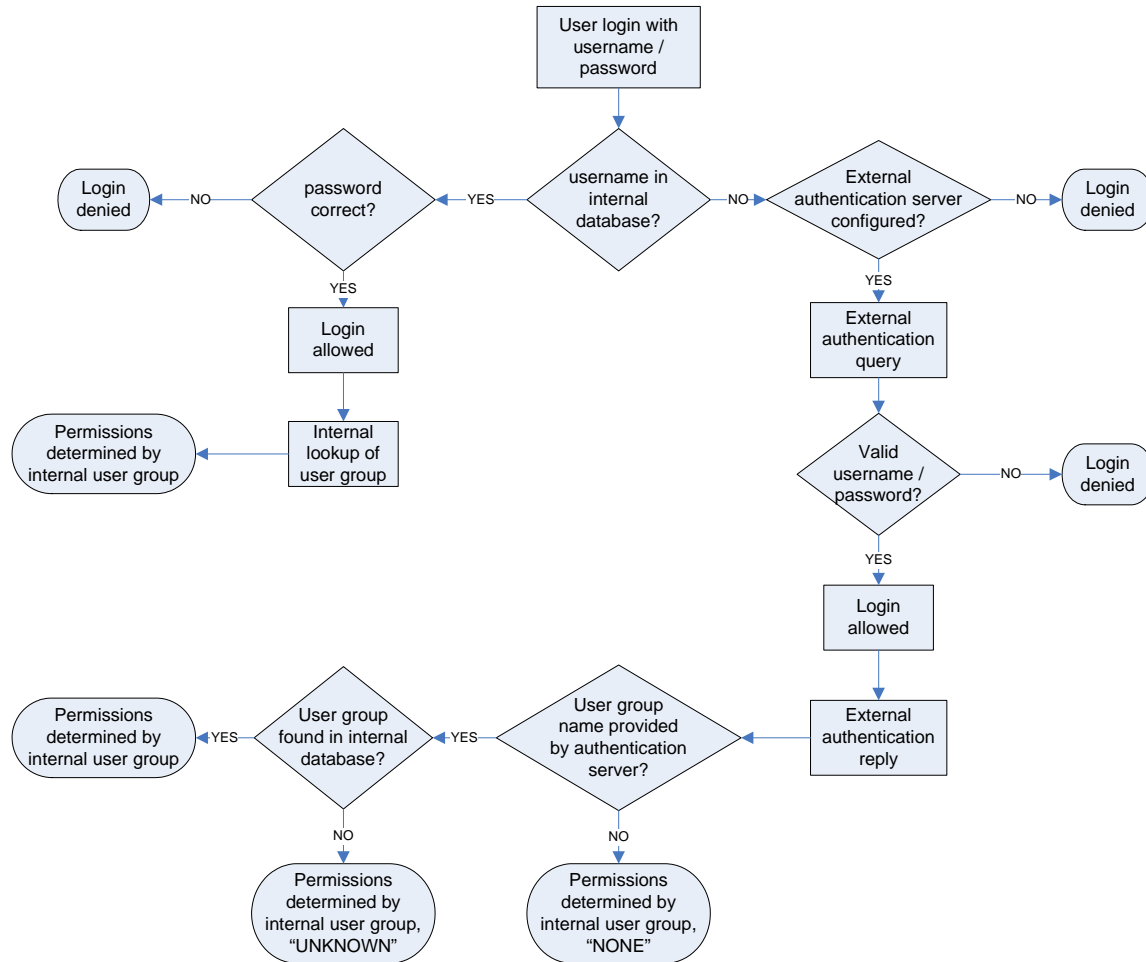


Figure 25 Authorization Flow Diagram

Note the importance of the group to which a given user belongs, as well as the need to configure the groups named, “UNKNOWN” and “NONE.” If the external authentication server returns a group name that is not recognized by the KX101, that user's permissions are determined by the permanent group named “UNKNOWN.” If the external authentication server does not return a group name, that user's permissions are determined by the permanent group named “NONE.”

Please see the sections **LDAP** or **RADIUS** in this chapter to determine how to configure your authentication server to return user group information to KX101 as part of its reply to an authentication query.

General Settings for Remote Authentication

1. On the **Setup** menu, click **Security**, and then click **Remote Authentication** to configure your Dominion unit for remote authentication. The **Remote Authentication** window appears:

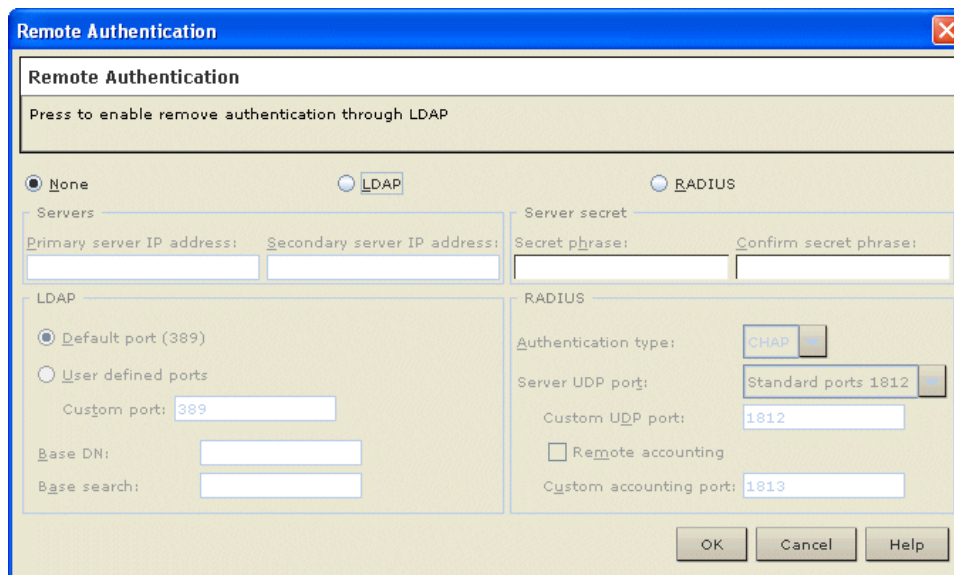


Figure 26 Remote Authentication Window

2. Select the option button of the remote authentication protocol you prefer (**LDAP** or **RADIUS**).
3. Type the IP Address of your primary and secondary remote authentication servers in the **Primary server IP address** and **Secondary server IP address** fields.
4. Type the server secret needed to authenticate against your remote authentication servers in the **Secret phrase** field. Re-type the server secret in the **Confirm secret phrase** field.
5. If you selected LDAP as your remote authentication protocol, please read the next section **Implementing LDAP Remote Authentication** to complete the fields in the LDAP panel of the **Remote Authentication** window. If you selected RADIUS, please skip to **Implementing RADIUS Remote Authentication** to complete the fields in the RADIUS panel of the window.
6. When finished, click **OK** to save the Remote Authentication changes or click **Cancel** to exit without saving.

Note: Upon receipt of an Access-Request from a valid client, an appropriate reply MUST be transmitted. An Access-Request SHOULD contain a User-Name attribute. It MUST contain either a NAS-IP-Address attribute or a NAS-Identifier attribute (or both). Raritan recommends using the NAS-IP-Address matches <IP Address>.

Implementing LDAP Remote Authentication

Reminder: Microsoft Active Directory functions natively as an LDAP authentication server.

If you choose LDAP authentication protocol, complete the LDAP fields as follows:

- **Default Port / User Defined Port:** By default, LDAP uses port 389. To use a different port, click **User defined ports**, and then enter a different port number in the **Custom port** field.
- **Base DN, Base Search:** This describes the name you want to bind against the LDAP, and where in the database to begin searching for the specified Base DN. An example Base DN value might be: "cn=Administrator,cn=Users,dc=testradius,dc=com" and an example Base Search value might be: "cn=Users,dc=raritan,dc=com". Consult your authentication server administrator for the appropriate values to enter into these fields.

- **Certificate File:** Consult your authentication server administrator for the appropriate values to type into this field in order to process LDAP authentication queries from Dominion KX.

Returning User Group Information via LDAP

When an LDAP authentication attempt succeeds, Dominion KX determines the permissions for a given user based on the permissions of the user's group. Your remote LDAP server can provide these user group names by returning an attribute named as follows:

```
rciusergroup      attribute type: string
```

This may require a schema extension on your LDAP server. Please consult your authentication server administrator to enable this attribute.

Returning User Group Information from Microsoft Active Directory

Returning user group information from Microsoft's Active Directory for Windows 2000 Server requires updating the LDAP schema. This should be attempted only by an experienced Active Directory administrator. Please refer to your Microsoft documentation for more detail.

1. Install the schema plug-in for Active Directory – please refer to Microsoft Active Directory documentation for instructions.
2. Run Active Directory Console and select **Active Directory Schema**.

Setting the Registry to Permit Write Operations to the Schema

To allow a domain controller to write to the schema, you must set a registry entry that permits schema updates.

1. Right-click the **Active Directory Schema** root node in the left pane of the window, and then click **Operations Master**.
2. Click on the check box before **The Schema may be modified on this Domain Controller**.
3. Click **OK**.

Creating a New Attribute

To create new attributes for the **rciusergroup** class:

1. Click the + symbol before **Active Directory Schema** in the left pane of the window.
2. Right-click **Attributes** in the left pane.
3. Click **New**, and then select **Attribute**. When the warning message appears, click **Continue** and the **Create New Attribute** window appears.

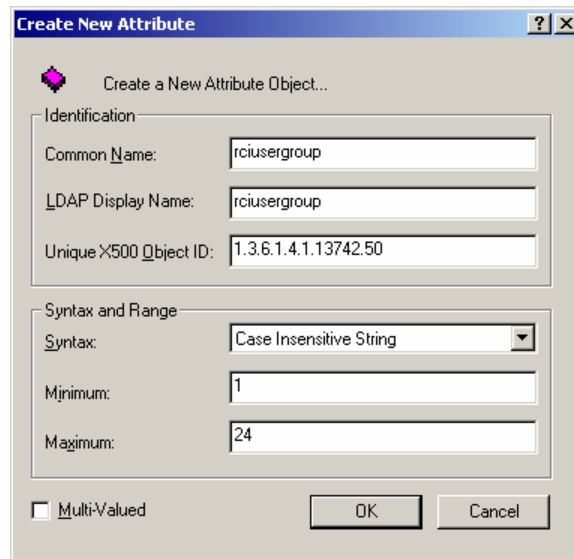


Figure 27 Create New Attribute Window

4. Type **rciusergroup** in the **Common Name** field.
5. Type **rciusergroup** in the **LDAP Display Name** field.
6. Type **1.3.6.1.4.1.13742.50** in the **Unique x500 Object ID** field.
7. Click on the **Syntax** drop-down arrow and select **Case Insensitive String** from the list.
8. Type **1** in the **Minimum** field.
9. Type **24** in the **Maximum** field.
10. Click **OK** to create the new attribute.

Adding Attributes to the Class

1. Click **Classes** in the left pane of the window.
2. Scroll to the **user** class in the right pane, and right-click on it.
3. Select **Properties** from the menu. The **user Properties** window appears.
4. Click on the **Attributes** tab.
5. Click **Add**.
6. Select **rcusergroup** from the **Select Schema Object** list.

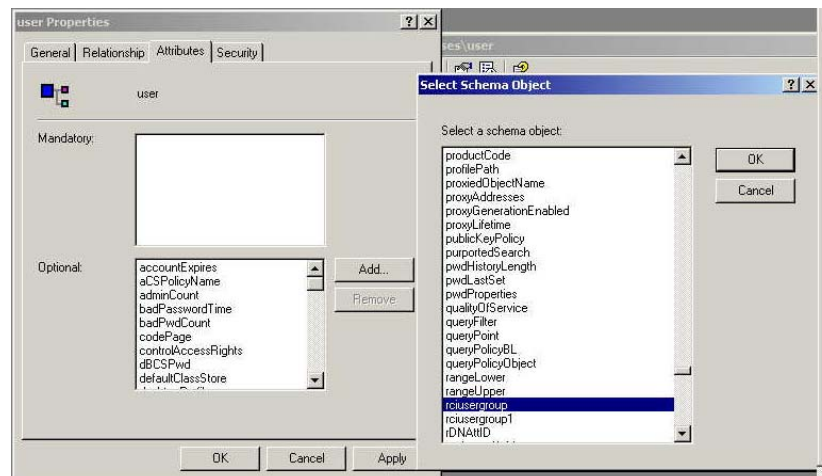


Figure 28 Adding the Attributes to the Class

7. Click **OK**.
8. Click **OK**.

Updating the Schema Cache

1. Right-click **Active Directory Schema** in the left pane of the window and select **Reload the Schema** from the shortcut menu.
2. Minimize the Active Directory Schema MMC console.

Editing RCI User Group Attributes for User Members

To run Active Directory script on Windows 2003 server, please use the script provided by Microsoft. These scripts are loaded onto your system with a Microsoft Windows 2003 installation. ADSI, or Active Directory Service Interface, acts as a low-level editor for Active Directory, allowing you to perform common administrative tasks such as adding, deleting, and moving objects with a directory service. For additional information, visit Microsoft's Web site:

<http://www.microsoft.com/technet/prodtechnol/windowsserver2003/library/TechRef/ebca3324-5427-471a-bc19-9aa1decd3d40.msp>.

To edit the individual user attributes within the group **rciusergroup**:

1. On the Windows **Start** menu, click **Run**.
2. Type **regsvr adsiedit.msc**. The ADSI Edit window appears.

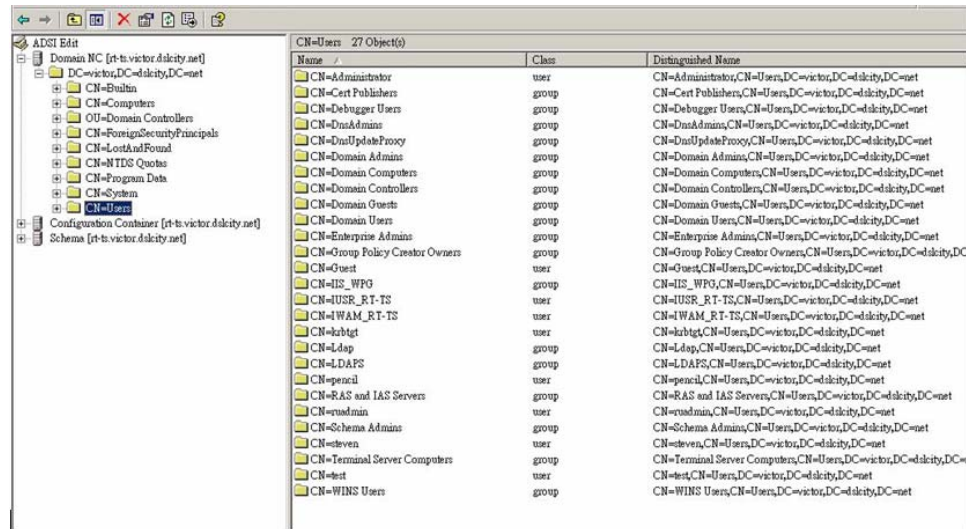


Figure 29 ADSI Edit Window

3. In the left pane of the window, select the **CN=User** folder.
4. Locate the user name whose properties you want to adjust in the right pane. Right-click on the user name and select **Properties**.
5. Click on the **Attributes** tab.

- Click on the **Select a property to view** drop-down arrow and select **rciusergroup** from the list.

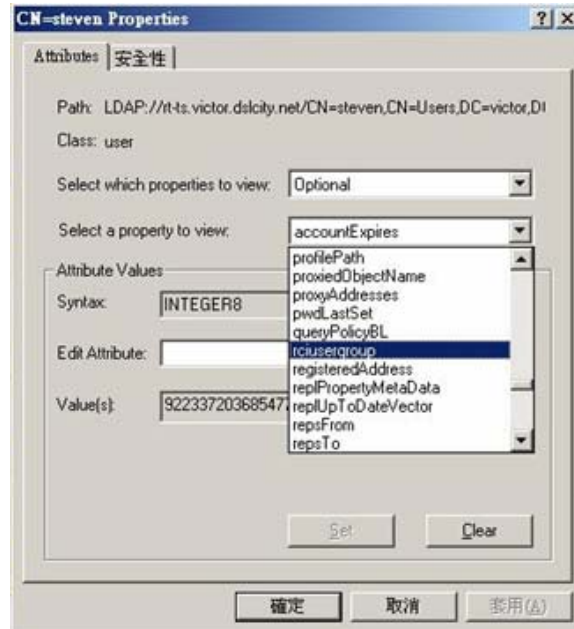


Figure 30 User Properties Screen

- In the **Attribute Values** panel of the window, type the user name you would like returned to RRC in the **Edit Attribute** field.

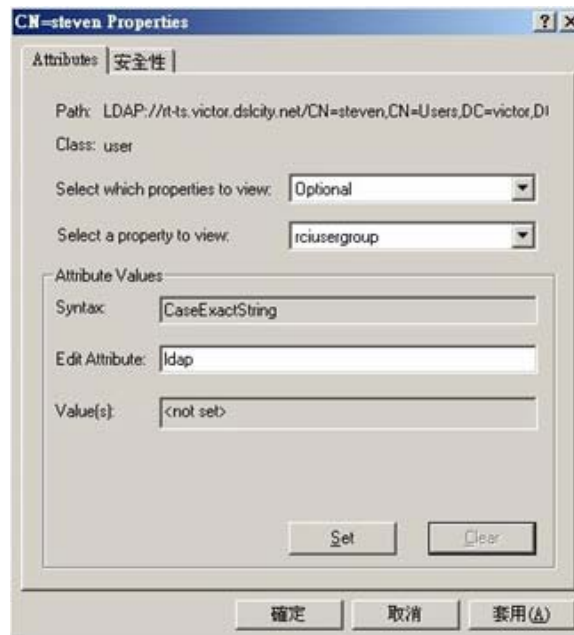


Figure 31 Edit Attribute - adding user to KX group

- Click **Set**.
- Click **OK**.

Returning User Group Information via RADIUS

When a RADIUS authentication attempt succeeds, the device determines the permissions for a given user based on the permissions of the user's group.

Your remote RADIUS server can provide these user group names by returning an attribute, implemented as a RADIUS *FILTER-ID*. The *FILTER-ID* should be formatted as follows:

```
Raritan:G{GROUP_NAME}
```

where `GROUP_NAME` is a string, denoting the name of the group to which the user belongs.

RADIUS Communication Exchange Specifications

KX101 sends the following information to RADIUS server in an authentication query:

ATTRIBUTE	DATA
USER-NAME	The user name entered at the login screen.
USER-PASSWORD	In PAP mode, the encrypted password entered at the login screen.
CHAP-PASSWORD	In CHAP mode, the CHAP protocol response computed from the password and the CHAP challenge data.
NAS-IP-ADDRESS	Dominion KX's IP Address
NAS-IDENTIFIER	The Dominion KX unit name as configured in "Network Configuration" (see previous section).
NAS-PORT-TYPE	The value ASYNC (0) for modem connections and ETHERNET (15) for network connections.
NAS-PORT	Always 0.
STATE	If this request is in response to an ACCESS-CHALLENGE, the state data from the ACCESS-CHALLENGE packet will be returned.
PROXY-STATE	If this request is in response to an ACCESS-CHALLENGE, the proxy state data from the ACCESS-CHALLENGE packet will be returned.

The KX unit sends the following RADIUS attributes to the RADIUS server with each accounting request:

ATTRIBUTE	DATA
SESSION-TYPE	Either START (1) for log in or STOP (2) for log out.
SESSION-ID	A string containing a unique session name. The name is in the format of "NAS-IDENTIFIER:user IP address:unique session number" Example: "Dominion KX:192.168.1.100:122"
USER-NAME	As above.
NAS-IP-ADDRESS	As above.
NAS-IDENTIFIER	As above.
NAS-PORT-TYPE	As above.
NAS-PORT	As above.
FILTER-ID	Any FILTER-ID attributes returned by the RADIUS server during authentication will be sent in each accounting request.
CLASS	Any CLASS attributes returned by the RADIUS server during authentication will be sent in each accounting request.
ACCT-AUTHENTIC	How the user was authenticated. Either RADIUS (1) if the user was authenticated by the RADIUS server or LOCAL (2) if the user was authenticated by Dominion KX's built-in user name database.
TERMINATE-CAUSE	If this is a STOP request, the reason the user was terminated. Either USER_REQUEST (1), LOST_SERVICE (3), SESSION_TIMEOUT (5), or ADMIN_RESET (6).

Forced User Logoff

To manually log a user off a device, select that user in the user tree, right-click on the user icon, and select **Logoff User**.

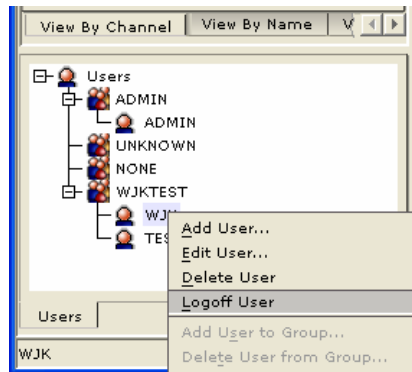


Figure 32 Logoff User Menu Option

Viewing KX Unit Event Log (Status)

On the **Setup** menu, click **Status** to view the device's Event Log. The device Status window appears, displaying events by date and time. Click **Export** and browse for a location to save the displayed log file to a text file. Click **Copy Log** to copy the display to your clipboard.

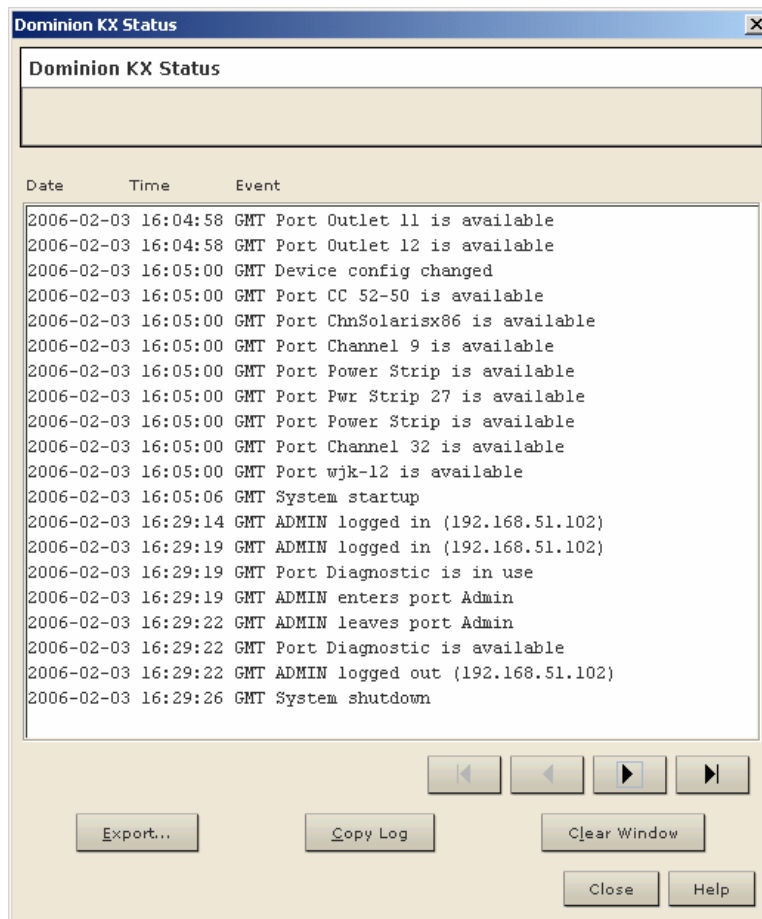


Figure 33 Dominion KX Status Window

Rebooting the Device

To reboot the device, do either of the following:

- Open the RRC/MPC **Tools** menu and select **Restart device**.
- Right-click the KVM device and select **Restart device**.

Device Diagnostic Console

On the **Setup** menu, click **Diagnostics** to view a Diagnostic window from KX Manager (without having to launch RRC).

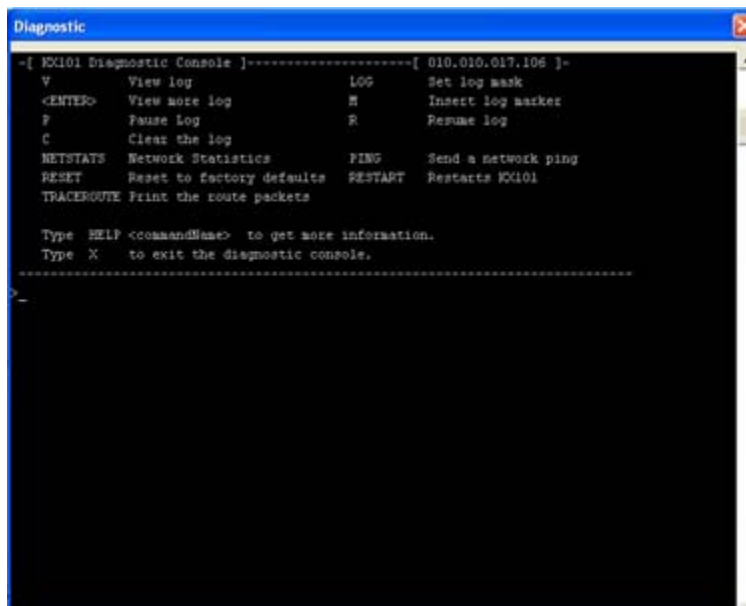


Figure 34 Device Diagnostic Window

To determine the Firmware Upgrade on the KX device, type **buildinfo** at the prompt and press **Enter**. For releases KX 1.3 and higher, the Firmware Upgrade Version appears. This version number is in the same format as used on the Raritan.com firmware upgrade page.

Device System Information

On the **Setup** menu, click **System information** to view Model type, hardware version, Firmware version, Serial number, and MAC Address of the device. The FPGA version field is inactive.

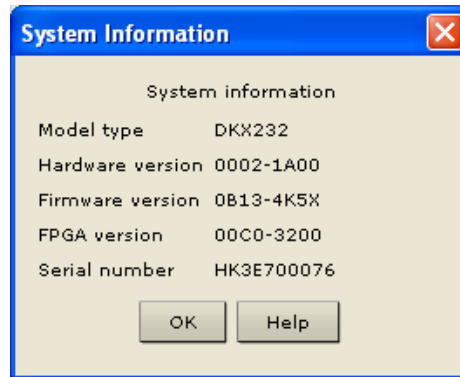


Figure 35 System Information Window (for Dominion KX)

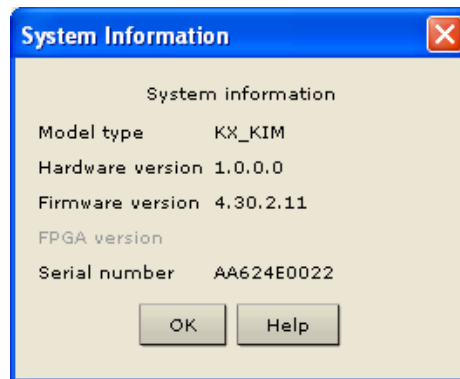


Figure 36 System Information Window (for KX101)

Configuration Backup and Restore

On the **File** menu, click **Backup**, and then click **User-Group Information** to download User Group information. On the **File** menu, click **Backup**, and then click **Device Configuration** to download the complete device configuration to your local computer.

To restore User-Group information saved on your local computer, on the **File** menu, click **Restore**, and then click **User-Group Information**. To restore a Device configuration saved on your local computer, on the **File** menu, click **Restore**, and then click **Device Configuration**.

Performance Settings

Use this window to set up the device's video data transfer and bandwidth parameters.

1. On the **Setup** menu, click **Configuration**, and then click **Performance**. The **Performance Settings** window appears.

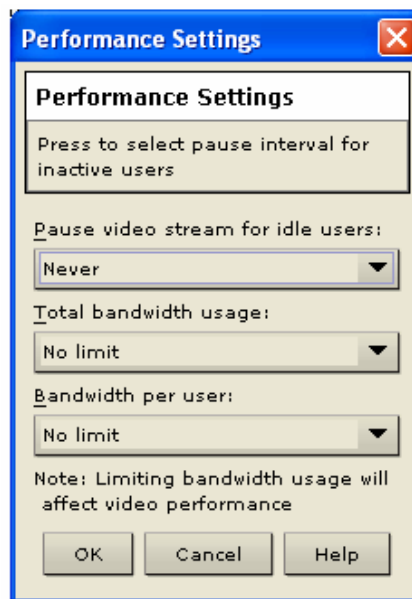


Figure 37 Performance Settings Window

- **Pause video stream for idle users:** Click on the drop-down arrow to pause the flow of video data during periods of prolonged inactivity to prevent inactive users from needlessly consuming bandwidth. *Options:* Never / 5 / 15 / 30 / 60 / 120 minutes. Please note: if Pause Video Stream is enabled and the keyboard or mouse do not respond on the channel after the timeout, disconnect and reconnect to the channel to resume operation.
 - **Total bandwidth usage:** Click on the drop-down arrow to set a maximum amount of bandwidth that can be consumed by this Dominion KX unit (global). The lower the bandwidth allowed, the slower the performance that may result. *Options:* No Limit / 10Mbps / 5Mbps / 2Mbps / 1Mbps / 512Kbps / 256Kbps / 128Kbps.
 - **Bandwidth per user:** Click on the drop-down arrow to set a maximum amount of bandwidth that can be consumed by each user logged onto this Dominion KX unit. *Options:* No Limit / 10Mbps / 5Mbps / 2Mbps / 1Mbps / 512Kbps / 256Kbps / 128Kbps.
2. Click **OK** to set Performance Settings or click **Cancel** to close the window.

PC Properties

To view PC Properties, select a server in the server list and on the **Setup** menu, click **Properties**, and then click **PC** (or select a server in the server list, right-clicking on it, and click **Properties**).

- **Name:** This is the name given to the target in that channel. Administrators can change the name by typing a new one in this field. The target name can also be changed directly in the target list by clicking on the name once after it has been highlighted.
- **Type:** This describes what type of target is connected to this port. This value will always be CPU for a server target.
- **Status:** The availability of a target is shown in this field. **Available** indicates that no one is currently viewing the target, **Busy** indicates that a user is currently using the target, and **Unavailable** indicates that a configured target has been powered off or disconnected.
- **Power Strip** and **Outlet:** These fields are used for associating the selected target with a connected Remote Power Control Strip (please see the [Power Control](#) section in this chapter for additional information).

Properties: PC		
Please enter name		
Name:	Type:	Status:
KVM Port		Available
Power Strip	Outlet	
OK Cancel Help		

Figure 38 PC Properties Screen (shown on a Dominion KX with a Power Strip association)

Power Control (Dominion KX only)

The Dominion KX supports up to eight (8) power strips. Users may group or assign up to four outlets to any of the Dominion channels. Once assigned, the power management function is available in MPC and RRC.

Setup Preparation

You must have a power strip and the P2CIM-PWR Computer Interface Module (CIM). The CIM is included with the power strip shipment; however, if you need a replacement CIM, you can purchase a P2CIM-PWR from Raritan Computer, Inc. or an authorized Raritan reseller.

Connecting the Power Strip

1. Connect the male RJ-45 of the P2CIM-PWR to the female RJ-45 connector on the power strip.
2. Connect the female RJ-45 connector of the P2CIM-PWR to any of the available female system port connectors on the Dominion KX using a straight through Cat 5 cable.
3. Power ON the power strip.
4. Power ON the Dominion KX unit.

Configuring the Power Strip

1. Once the power strip has been added, KX Manager will automatically recognize that a power device is connected. The Device Tree in the left panel of the window will change the appropriate target icon to indicate that a power strip is connected to that port.
2. Select the power strip icon, right-click on it, and click **Properties**. When the Power Strip Properties screen appears, type a name for the new power strip and click **OK**.
3. In the Devices Tree, select the target server(s) powered through the power strip. Right-click on the server icon and click **Properties**. The **PC Properties** window appears.

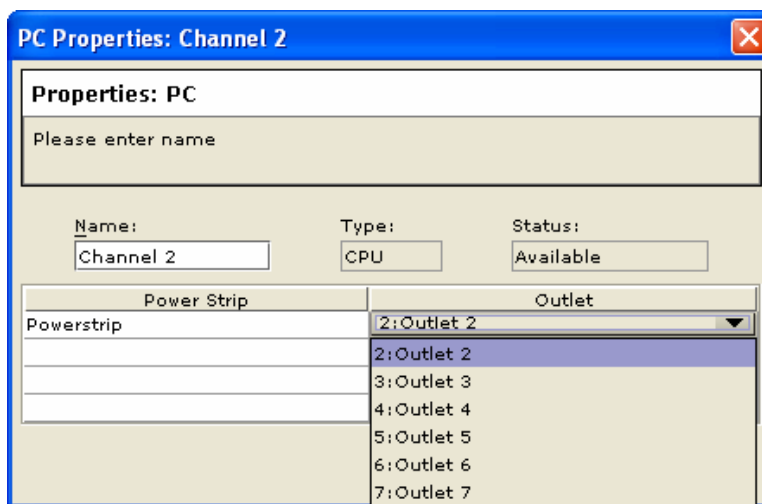


Figure 39 Associating a Target with a Power Outlet

4. Click on one of the **Power Strip** cells in the table and a list of available power strips connected to the Dominion KX appears. Click on the appropriate power strip.
5. Click on the **Outlet** cell in the same row as the power strip selected. A list of available outlets appears; select the outlet to which the device is connected.
6. Repeat these steps for all devices plugged into multiple outlets.

Once outlets have been assigned, Remote Power Management to the associated server will be available through RRC.

Note: Be sure to assign the correct outlets to each channel. If more than one outlet is physically associated with a different server, you could accidentally switch OFF the wrong server.

Power Strip Management

To view Power Strip Properties; name, model, number of outlets, and serial number:

- Right-click on the Power Strip channel / icon in the Device Tree.

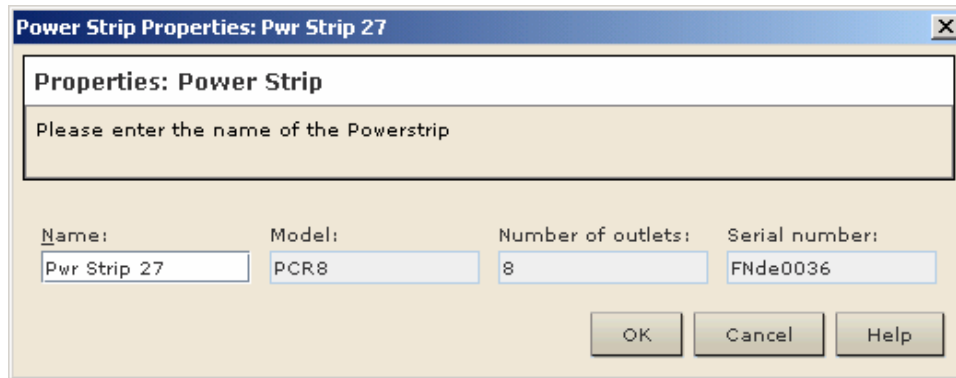


Figure 40 Power Strip Properties Window

OR

- On the **View** menu, click **Power Strip**. When the **Power Strip View** window of connected Power Strips appears, select a Power Strip in the list, right-click on it, and click **Properties**.
 - A list of the Power Strip's outlet appears under it. Select and right-click on an outlet, then click **Properties**, to view the outlet's **Properties** window. In this window, you can change the outlet's name (as shown in the **Power Strip View** window), view the device type that is plugged into that outlet (either an associated **Paragon Target**, or a non-associated **Appliance**), and delete any previously made associations.

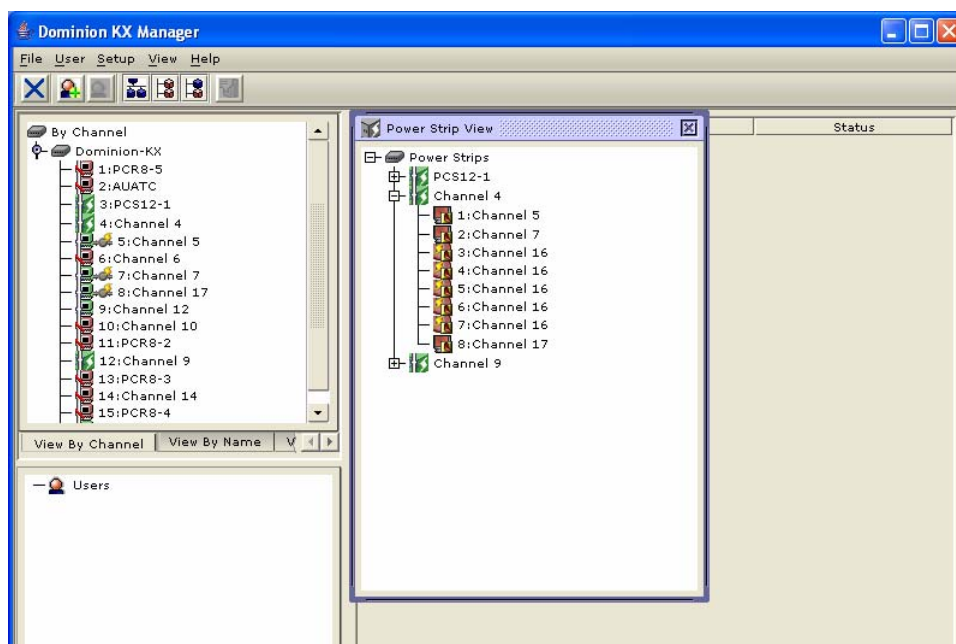




Figure 41 Power Strip View Window

Power Supply Management (Dominion KX only)

Dominion KX displays the status of its Power Supplies, one per unit, except for the KK464, which displays two Power Supplies. The Power Supply icon in the Device tree indicates whether the Power Supply is Active or Inactive:

	Active Power Supply
	Inactive Power Supply

as shown in the Device Tree below:



Figure 42 Active and Inactive Power Supplies in the Device Tree

Power Supply Properties

The Power Supply properties screen displays its status. None of the fields in this window can be edited, as these properties are obtained directly from the Power Supply device.

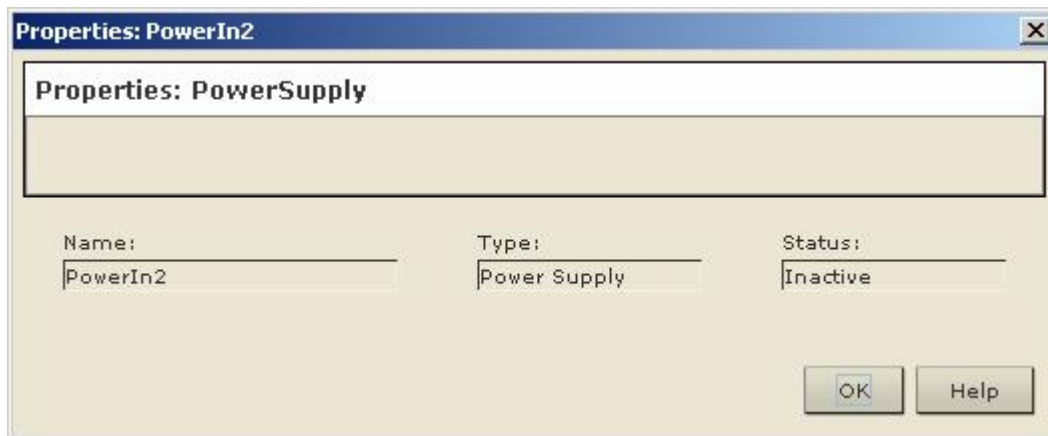


Figure 43 Power Supply Properties Window

CC UnManager

KX Manager supports CC UnManager, an “**Un-Manager**” feature that allows a Dominion that is managed by a Command Center Secure Gateway (CC-SG) device, but not *under* control by that CC-SG device, to remove itself from CC-SG management, or to “**Un-Manager**” itself. CC UnManager is designed to restore full control to the Dominion unit in the event the CC-SG goes off-line.

If the CC-SG loses communication with the Dominion unit, after 10 minutes the Dominion unit automatically allows users to log on using its own (the Dominion’s own) internal user and password information.

If users attempt to log onto the Dominion unit while it is under CC-SG control, the Dominion unit will issue either a Communication Error message or a Login Incorrect message.

Logging in with CC UnManager

When you launch KX Manager while the Dominion is under CC-SG control, it generates a warning that prompts you to remove it from CC-SG management.

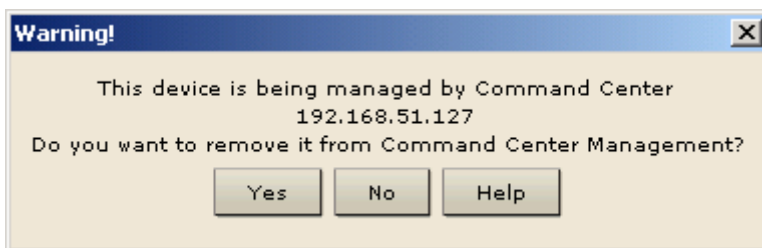


Figure 44 KX Manager Warning if KX is Under CC-SG Management

If you click **Yes** to remove the Dominion from CC-SG control, KX Manager issues a confirmation window. Click **Confirm** to remove the Dominion from CC-SG control or click **Cancel** to maintain CC-SG control of the Dominion device.



Figure 45 KX Manager Removing KX from CC-SG Management

If you click **No** and leave the Dominion device under CC-SG management, KX Manager issues a warning: any changes you make to this Dominion device while it is still under CC-SG management may have negative effects on the CC-SG unit controlling it and on itself.

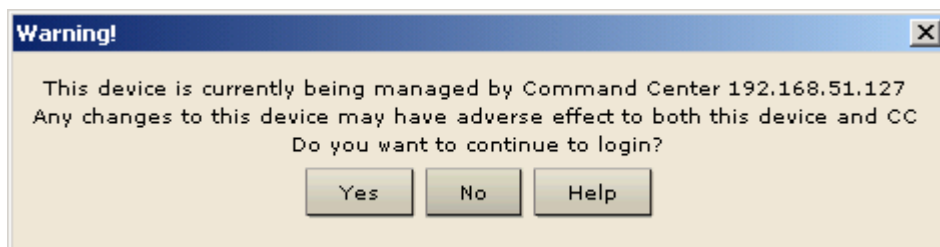


Figure 46 KX Manager Change Warning

Activating CC UnManager

If you are already logged into a Dominion unit that is under CC-SG management, but **not** under CC-SG control, you can issue the CC UnManager command to remove the Dominion from CC-SG management.

On the **Setup** menu, click **Configuration** and then click **CC UnManager**.



Figure 47 CC UnManager Command

Event Management

Dominion KX offers SNMP agent support through Dominion KX's Event Management feature. To run SNMP agent support properly, first set path, time and date permissions.

1. On the **Setup** menu, click **Configuration**, and then click **Events**. The Event Management window appears.

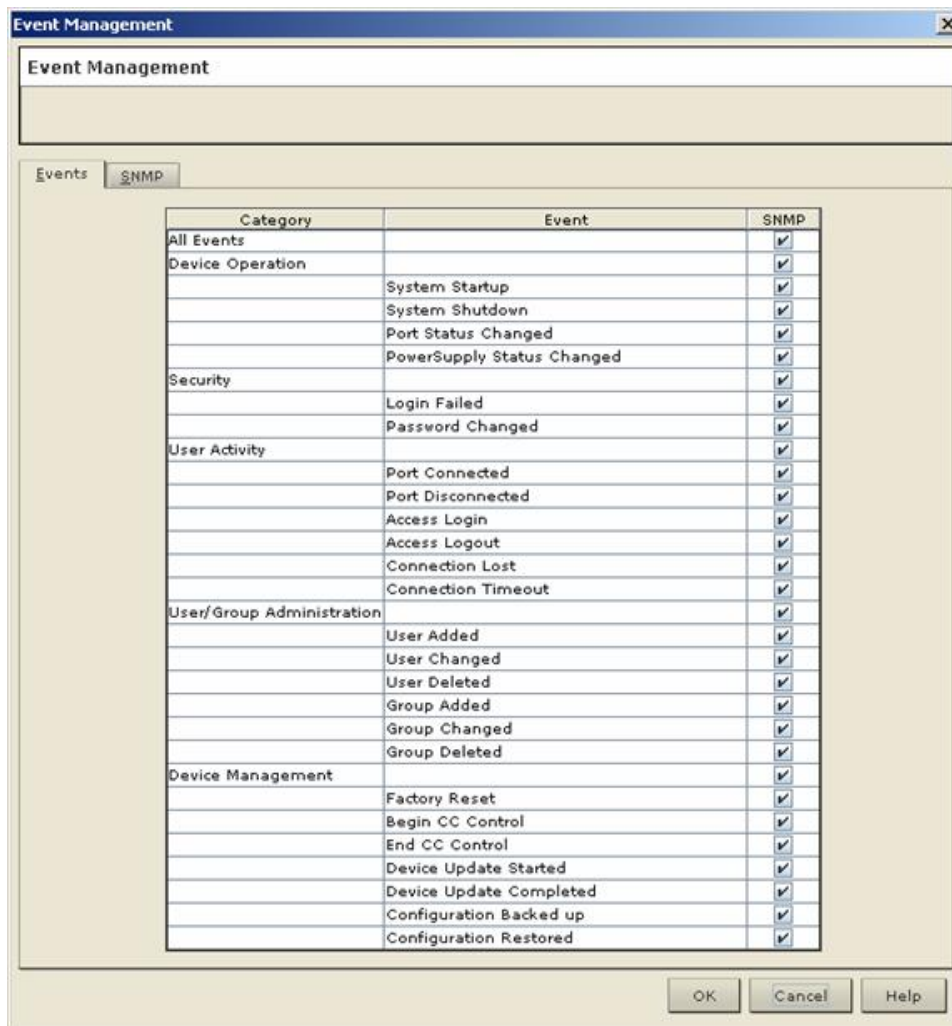


Figure 48 Event Notification Activation Tab

2. Click on the **Event Management** tab to select and configure Events that you want to generate SNMP notification events (traps).
3. Click on the checkboxes for those **Event** line items you wish to enable or disable. Enable or disable entire Categories by checking or unchecking the specific **Category** line checkboxes. Please see the SNMP Trap table that follows for additional information on SNMP Agents and Traps.
4. To configure the Dominion unit as an SNMP Agent, click on the **SNMP** tab. Otherwise, click **OK** when finished, or **Cancel** to exit without saving changes.

Note: No SNMP Traps are generated for the "Port Connect" and "Port Disconnect" trap when a user connects or disconnects from the Dominion KX device from the local (OSD) port.

SNMP Agent Configuration

Use the SNMP screen to configure the SNMP connection between the Dominion KX (SNMP Agent) and an SNMP manager.

1. In the Event Management window, click on the **SNMP** tab
2. Click on the **Enable SNMP** checkbox to enable the SNMP Agent feature; uncheck this checkbox to disable SNMP Agent.
3. In the **Name**, **Contact**, and **Location** fields, type the SNMP Agent's (this Dominion unit's) name as it appears in the Navigator panel, a contact name related to this unit, and where the Dominion unit is physically located.
4. Type the **Agent's Community Strings** (the Dominion unit's strings) and specify whether they are **Read Only** or **Read/Write**.
5. Configure up to five SNMP managers with by specifying their **IP Addresses**, **SNMP Port Numbers**, and the **Manager's Community String**.
6. Click **OK** when finished, or **Cancel** to exit without saving changes.

Event Management

Event Management

Events SNMP

Enable SNMP

Name: billskx121

Contact: Bill Klingler

Location: sweatbox

Agent Community String	Type
public	Read only
private	Read write

IP Address	Port #	Manager Community String
192.168.51.150	162	public

OK Cancel Help

Figure 49 SNMP Configuration Tab

SNMP Trap Configuration

The Raritan Enterprise MIB can be accessed via the FAQ Support section on Raritan's Web site, http://www.raritan.com/support/sup_faq.aspx. Click on the View FAQ drop-down arrow and select Dominion KX from the list. When directed to the Dominion KX FAQ section, click on the first MIB query, and then click on the link to view MIB file.

TRAP NAME	DESCRIPTION
rebootStarted	The KX has begun to reboot, either through recycling power to the system or by a warm reboot from the OS.
rebootCompleted	The KX has completed its reboot.
userLogin	A user has successfully logged into the KX and authenticated.
userLogout	A user has successfully logged out of the KX properly.
userAuthenticationFailure	A user attempted to log in without a correct username and/or password.
portConnect	A previously authenticated user has gained control of a particular KVM resource and begun a KVM control session.
portDisconnect	A user engaging in a KVM session closes the session properly.
userSessionTimeout	A user with an active session has experienced a session termination due to timeout.
userConnectionLost	A user with an active session has experienced an abnormal session termination.
portStatusChange	A new user record has been added to the KX user database.
userModified	A user record has been deleted.
groupAdded	A group record has been modified in the KX user database.
groupDeleted	A group record has been deleted.
startCCManagement	The device has been put under CC SG Management.
stopCCManagement	The device has been removed from CC SG Management.
factoryReset	The device has been reset to factory defaults.
deviceUpgradeStarted	The KX has begun updating itself via an RFP file.
deviceUpgradeComplete	The KX has completed updating itself via an RFP file.
KXPowerSupplyFailure	A power supply on a dual-power KX has failed.
userPasswordChanged	This event will signal if the password of any user within the product is modified.
networkFailure	One of the Ethernet interfaces of the product can no longer communicate over the network.

Chapter 4: Local Console Port Access

Local Port Functionality

When you are located at the server rack, Dominion KX provides standard KVM switch functionality via its Local Console Ports, which features an On-Screen Display (OSD) for quick, convenient switching between servers. The Dominion KX Local Console Port provides a direct analog connection to your connected servers; the performance is exactly as if you were directly connected to the server's keyboard, mouse, and video ports.

Dominion's local port supports the following language keyboards: US, UK, German, and French (remote ports support US, US International, UK, German, French, and Japanese).

Note: The IBM Mini Keyboard model ACK-540 may lock the local port of the DKX while OSD is showing. Leaving the PS2 connectors (keyboard and mouse) attached may lock the OSD on the local console after 1-2 minutes.

Physical Connections

Local Console Ports can be found on the rear panel of the Dominion KX.



Figure 50 Local User Panel on Dominion KX

Monitor: Attach a standard multisync VGA monitor to the HD15 (F) video port.

Keyboard: Attach *either* a standard PS/2 keyboard to the Mini-DIN6 (F) keyboard port *or* a standard USB mouse to one of the USB Type A (F) ports.

Mouse: Attach *either* a standard PS/2 mouse to the Mini-DIN6 (F) mouse port *or* a standard USB mouse to one of the USB Type A (F) ports.

Note: USB keyboard and mouse ports are to be used only for keyboard and mouse access – other USB devices such as external drives, scanners, etc. should not be connected to these ports.

Simultaneous Users

The Dominion KX Local Console Port provides an independent access path to your connected servers. Using the Local Console Port does not prevent users from simultaneously connecting over the network, and even when users have connected to Dominion KX over the network, you may still simultaneously access your servers from the rack via the Local Console Port.

Security and Authentication

To use the Dominion KX Local Console Port, first authenticate with a valid username and password. Dominion KX provides a fully-integrated authentication and security scheme, whether you access Dominion KX via the network or via the Local Console Port. In both cases, users use the same username and password, and Dominion KX allows access only to those servers to which a user has access permissions (please see [Chapter 3: Administrative Functions](#) for additional information on creating server access and security settings).

If your Dominion KX has been configured for external authentication services (LDAP, Active Directory, or RADIUS), authentication attempts at the Local Console Port also are authenticated against the external authentication service.

Local Factory and Password Reset

If you forget the administrator password, there is currently no way to reset it to factory default to gain access. However, you can hard-reset a Dominion KX unit with this special user name and password, as described below.

- Type the username **admin** and the password **R*E*S*E*T**. This password is case-sensitive.
- This username and password work **only** from your local access port. When working remotely, only the actual password assigned to **admin** will gain access.
- When this sequence is recognized, the device will not allow access as usual, but will perform the specified reset action (**Local Device Reset** mode) as specified in the KX Manager Security Settings panel.
 - If **Enable Local Factory Reset** is performed, reset the network and other parameters from the OSD and then reboot the Dominion KX unit.

*Note: Passwords can consist of twenty (20) alphanumeric characters on the English keyboard, as well as the following symbols: ! " # \$ % & ' () * + , - . / : ; < = > ? @ [\] ^ _ ` { | } ~*

Selecting Servers

Allowable Characters

The following characters are permitted in DCIM Channel Names:

Letters:	Upper and lowercase a – z, A – Z
Numbers:	0 – 9
Special characters:	Minus ('-'), plus ('+'), slash ('/'), period ('.'), space (' ')

Only these characters should be entered in the OSD due to hardware limitations in the OSD and CIMs. If other characters are entered, they will be blocked or changed to other valid characters. For example, underscore ('_') should not be used. If it is entered, it will be changed by the OSD to the letter M.

Accessing the OSD

To select a server for controlling at the Local Console Port, access the OSD:

- If you are presently logged out of the Local Console Port: Type a valid username and password, and the OSD appears.
- **If a server is presently already selected:** Press the OSD “Hot Key” **Scroll Lock** twice rapidly to access the OSD.

Important: The Local Console Port OSD Hotkey is Scroll Lock, Scroll Lock (this combination can be changed via the OSD). Keep in mind that certain hotkeys are reserved by the operating system, and you must not assign them to DKX functions.

Server Display Options

While you operate the Local Console Port, Dominion KX will display a list of those servers to which you have permission to access.

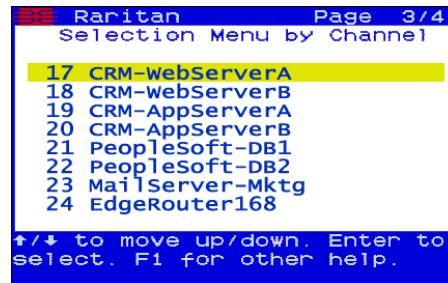


Figure 51 Local Server Display

Your servers can be sorted and displayed by two different parameters:

- **Select by Channel:** Press **F2** while in the OSD to display your servers listed in numerical order, as determined by the physical Dominion KX server port to which they are connected.
- **Select by Name:** Press **F12** while in the OSD to display your servers listed in alphabetical order by name.

Accessing a Server

While viewing the Server Display in the OSD, press the ↑ and ↓ arrow keys to scroll through the list of servers. Eight servers are listed per page, and if your list spans multiple pages, press the **PgUp** and **PgDown** keys to scroll between screens.

Select a server (when the server is highlighted with the yellow bar) you want to access and press **ENTER**. The OSD disappears and you are connected directly to the server you have selected.

To return to the OSD, press the “hotkey” (**Scroll Lock**) twice rapidly.

Local Port Administration

Dominion KX should ideally be managed via Dominion KX Manager (please see [Chapter 3: Administrative Functions, Launching Dominion KX Manager](#) for additional details). However, the Dominion KX Local Console Port provides access to select administrative functions. Only users with administrative privileges can access these functions, via the **Administrative Functions** menu.

Renaming Servers

Assign names to the servers connected to Dominion KX from the Local Console Port, while you are physically located next to the servers themselves.

1. Log on to Dominion KX as a user with administrative privileges, and press **F5** to activate the **Administrative Menu**.

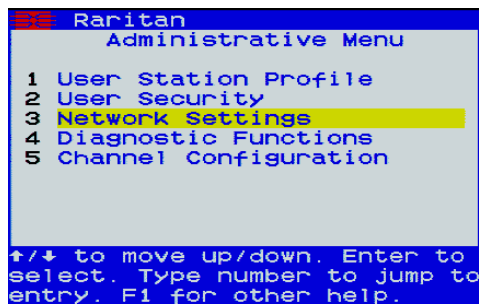


Figure 52 Administrative Menu

2. Select Option 5, **Channel Configuration**. The **Channel Configuration** menu appears.

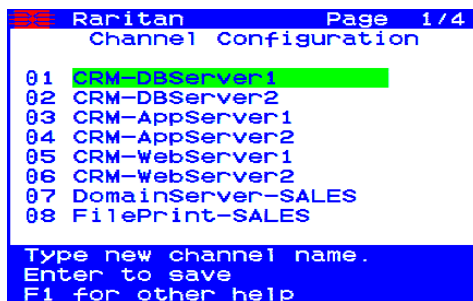


Figure 53 Channel Configuration Menu

3. Use the ↑ and ↓ keys to select a server port to rename, and press **ENTER**.
4. When the highlight turns green, type a name (up to **19** characters) to identify the server connected to that port.
5. Press **ENTER** to save and complete.

Power Management

Control channels with power associations on the local console using the **F3** key. If you select a channel without a power association, a **No Outlet / Access Denied** message appears at the base of the Channel Configuration menu.

1. From the Channel Configuration menu (above), select the channel to turn off, turn on, or recycle power to and press the **F3** key. The Server Power Control screen appears.
2. Use the **↑** and **↓** keys to select a channel.
 - A. Press the letter **X** to power Off the channel.
 - B. Press the letter **O** to power On the channel.
 - C. Press the letter **R** to Recycle power to the channel.

```

Raritan Page 1/1
Server Power Control
Device: Channel 0
Channel ID:
dkx232ST-Ver13.02

Outlets          Status
1 Channel 8.01
2 Channel 8.02
3
4

↑/↓ to move up/down.
X-Power Off. O-Power On.
R-Recycle. F1 for help
  
```

Figure 54 Power Management Screen

3. When finished, press **ESC** to return to the Channel Configuration menu.

Changing Network Settings

1. Log on to Dominion KX as a user with administrative privileges, and press **F5** to activate the **Administrative Menu**.
2. Select Option 3, **Network Settings**. The **Network Settings** menu appears.

```

Raritan
Network Settings
Name: RARITAN
IP Address: 192.168.050.239
SubnetMask: 255.255.255.000
Gateway: 192.168.050.126
MAC Layer Parameters
Autonegotiate [Yes]

↑/↓ to move up/down. S to
save. Enter to select.
F1 for other help
  
```

Figure 55 Network Settings Menu

3. Use the **↑** and **↓** keys to navigate through the menu. To edit a setting, press **ENTER**. When the highlight turns green, that setting can be edited; use numerical keys as well as the **↑** and **↓** arrow keys to change values.
4. Press **S** to save changes, and then press **ESC** to exit the menu.

Important: Dominion KX must be rebooted for new network settings to take effect.

Setting Session Timeout

Session Timeout applies only to local users. When the local user is viewing target video and there is no keyboard or mouse activity for a specified amount of time, that user is logged out of the target video, but the OSD remains active.

*Note: Please do not confuse Session Timeout with Idle User Timeout, which applies to **all** users, whether local or remote. When Idle User Timeout expires, the user is disconnected from the video and also logged out of the client application (the OSD, MPC, RRC).*

1. Log on to Dominion KX as a user with administrative privileges, and press **F5** to activate the **Administrative Menu**.

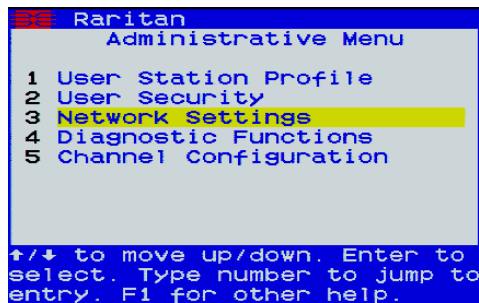


Figure 56 Administrative Menu

2. Select Option 1, User Station Profile. The User Station Profile screen appears.

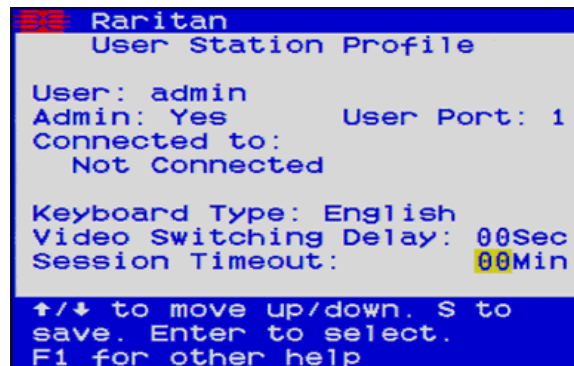


Figure 57 User Station Profile Screen

3. Use the **↑** and **↓** keys to navigate through the menu to the **Session Timeout** field.
4. Press **ENTER**.
5. When the highlight turns green, use numerical keys or the **↑** and **↓** keys to change values. By default, the session timeout feature is set to **00** minutes, which means there is no timeout, and users are never logged off for inactivity. You can set a timeout period in one minute increments, up to a maximum of 30 minutes.
6. Press **S** to save changes, and then press **ESC** to exit the menu.

Help Menu

To get information or help about the OSD of the Dominion KX Local Console Port, press **F1**. The Help Menu appears.

```

Raritan 1 of 2
Help Menu
F1 Help / ESC Exit
F2 Selection Menu
-F12 Sort by Channel/Name
F3 Power Control
F4 User Menu
F5 Administrative Menu
F8 System Info
PgDn for more
Black: key to press
Blue: function is available
Red: not available

```

Figure 58 Help Menu

Hardware / Firmware Information

If you need hardware and firmware information specific to your Dominion KX unit, log into the Local Console Port of your Dominion KX unit, and press **F8**. The **System Information** screen appears.

```

Raritan
System Information
Model Type: KX232
Firmware Ver: 0A10-0400
Hardware Ver: 0002-0001
FPGA Ver: 00B0-0001
Serial No: CT3456789A
MAC Address: 000D 5D00 03EC
ESC to Exit.
F1 for other help

```

Figure 59 System Information Window

Dominion KX firmware version 1.4 operates on all Dominion models: DKX116, DKX132, DKX216, DKX232, DKX416, DKX432, and DKX464. To determine the firmware upgrade version on an existing KX device to upgrade from the Raritan website (www.raritan.com) in the **Firmware Upgrades** section, click the **System Information** command on the Setup menu in KX Manager (or press the **F8** key from the OSD) to display the current firmware version.

FIRMWARE VERSION	KX FIRMWARE UPGRADE VERSION
0A28	Version 1.0
0A34	Version 1.0.3
0A47	Version 1.1
0B12	Version 1.2
0B1B	Version 1.3
0B20	Version 1.4

Local User Security Settings

1. Log on to Dominion KX as a user with administrative privileges, and press **F5** to activate the **Administrative** menu (Figure 52).
2. Select Option 2, **User Security**. The User Security menu appears.

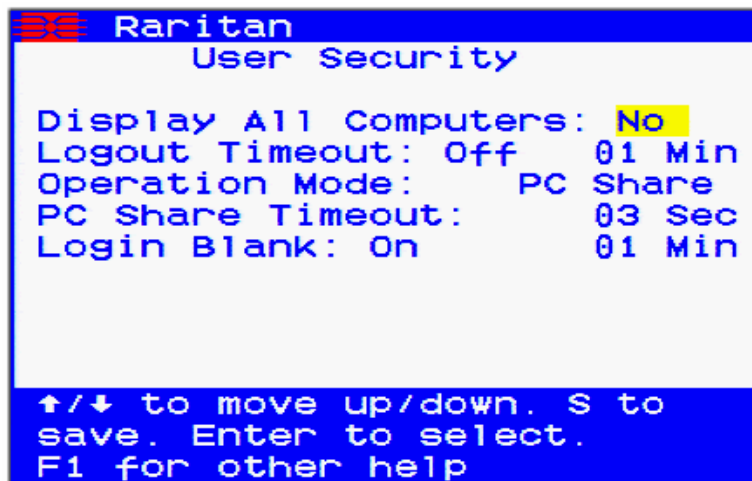


Figure 60 User Security Menu

3. To display all computers, enter **Yes** in the **Display All Computers** field. To display only active ones (the default), enter **No** in the field.
4. To set a logoff timeout, enter **On** and then enter the number of minutes for the timeout period in the **Logoff Timeout** field.
5. Select an operation mode in the **Operation Mode** field. The default is PC Share.
6. Enter a period of time for the login to remain blank in the **Login Blank** field. Default is 1 minute.
7. Press **S** to save changes, and then press **ESC** to exit the menu.

Appendix A: Specifications

Digital KVM Switches

PART NUMBER	PRODUCT WEIGHT	PRODUCT DIMENSIONS (WxDxH)	POWER
DKX116	8.65 lb 3.92 kg	17.3" x 11.4" x 1.75" 439 mm x 290 mm x 44 mm	100V/240V 47/63Hz 0.6A
DKX132	9.0 lb 4.1 kg	17.3" x 11.4" x 1.75" 439 mm x 290 mm x 44 mm	100V/240V 50/60Hz 0.6A
DKX216	8.65 lb 3.92 kg	17.3" x 11.4" x 1.75" 439 mm x 290 mm x 44 mm	100V/240V 50/60Hz 0.6A
DKX232	9.0 lb 4.08 kg	17.3" x 11.4" x 1.75" 439 mm x 290 mm x 44 mm	100V/240V 50/60Hz 0.6A
DKX416	9.0 lb 4.08 kg	17.3" x 11.4" x 1.75" 439 mm x 290 mm x 44 mm	100V/240V 50/60Hz 1A
DKX432	9.5 lb 4.3 kg	17.3" x 11.4" x 1.75" 439 mm x 290 mm x 44 mm	100V/240V 50/60Hz 1A
DKX464	13.73 lb 6.24 kg	17.3" x 11.4" x 3.5" 439 mm x 290 mm x 90 mm	Dual Power 100V/240V 47/63Hz 1.8A

Computer Interface Modules (CIMs)

PART NUMBER	PRODUCT WEIGHT	PRODUCT DIMENSIONS (WxDxH)
DCIM-PS2	0.2 lbs 0.09 kg	1.3" x 3.0" x 0.6" 33 mm x 76 mm x 15 mm
DCIM-USB	0.2 lbs 0.09 kg	1.3" x 3.0" x 0.6" 33 mm x 76 mm x 15 mm
DCIM-SUSB	0.2 lbs 0.09 kg	1.3" x 3.0" x 0.6" 33 mm x 76 mm x 15 mm
DCIM-SUN	0.2 lbs 0.09 kg	1.3" x 3.0" x 0.6" 33 mm x 76 mm x 15 mm

Remote Connection

Network: 10BASE-T, 100BASE-TX Ethernet
 Modem: Dedicated Modem Port (DB9M) for External Serial Modem
 Qualified for use with US Robotics external serial modems
 (as of press date – check Raritan website for latest manual with updated modem certifications).
 Protocols: TCP/IP, UDP, SNMP, HTTP, HTTPS, RADIUS, LDAP

Raritan Remote Client (RRC) Applet

Operating System Requirements: Windows XP / 2000 with DirectX.

- Windows NT support for some international keys are limited due to limited Microsoft support for DirectX on the Windows NT platform

Dominion KX Manager (Remote Administration Applet)

For consistent operation across multiple OS and Web Browsers, Sun Java Runtime Environment (JRE) version 1.4.2_05 is used. If this version is not installed on the desktop client, your system will prompt you to install.

TCP Ports Used

- **HTTP, Port 80 (optional)** – All requests received by Dominion KX via HTTP (port 80) are automatically forwarded to HTTPS for complete security. Dominion KX responds to Port 80 for user convenience, relieving users from having to explicitly type “https://” in the URL field to access Dominion KX, but while still preserving complete security.
- **HTTPS, Port 443 (optional)** – This port is used for a single purpose only: to send the Dominion KX web-accessible clients (Raritan Remote Client and Dominion KX Manager) to the user. No other communication occurs on this port. If you do not wish to use Dominion KX’s web-access capabilities and instead prefer to use the installed client software provided on CD-ROM, you can prevent access to Port 443 via your firewall and Dominion KX can still function.
- **Dominion KX (Raritan KVM Over IP) Protocol, Configurable Port 5000** – With the exception of the above, all communication to Dominion KX occurs over a single, configurable TCP Port. By default, this is set to Port 5000, but you may configure it to use any TCP port of your choice (except 80 and 443). For details on how to configure this setting, please see [Chapter 3: Administrative Functions, Network Configuration](#).
- **SNTP (Time Server) on Configurable UDP Port 123 (optional)** – Dominion KX offers the optional capability to synchronize its internal clock to a central time server. This function requires the use of UDP Port 123 (the standard for SNTP), but can also be configured to use any port of your designation.
- **LDAP on Configurable Ports 386 and 636 (optional)** – If Dominion KX is configured to remotely authenticate user logins via the LDAP protocol, ports 386 and 636 will be used, but the system can also be configured to use any port of your designation.
- **RADIUS on Configurable Port 1812, 1645, or custom port (optional)** – If Dominion KX is configured to remotely authenticate user logins via the RADIUS protocol, either port 1812 or 1645 will be used, but the system can also be configured to use any port of your designation.
- **RADIUS Accounting on Configurable Port** – If Dominion KX is configured to remotely authenticate user logins via the RADIUS protocol, and also employs RADIUS accounting for event logging, an additional port of your designation will be used to transfer log notifications.
- **SYSLOG on Configurable UDP Port 123 (optional)** – If Dominion KX is configured to send messages to a Syslog server, then the indicated port(s) will be used for communication - uses UDP Port 514.
- **SNMP Default UDP Ports (optional)** – Port 161 is used for inbound/outbound read/write SNMP access and port 162 is used for outbound traffic for SNMP traps.

Target Server Connection Distance and Video Resolution

Keyboard: PS/2 or USB

Mouse: PS/2 or USB

Video: VGA

DOMINION KX MODELS	LINUX SERVERS	WINDOWS SERVERS	SUN SOLARIS
	DCIM-PS2, USB	DCIM-PS2/USB	DCIM-SUN/SUSB
KX116 KX132 KX216 KX232	75 to 150 ft 19.5 to 45 m	50 to 100 ft 15 to 30 m	50 to 75 ft 15 to 19.5 m
KX416 KX432 KX464	75 to 150 ft 19.5 to 45 m	75 to 150 ft 19.5 to 45 m	75 to 150 ft 19.5 to 45 m

Generally, distances closer to the lower range will provide excellent video quality in most environments. Distances towards the upper end of the range should show acceptable quality, but in some environments degradation of the video signal may start to appear.

- The maximum supported distance is a function of many factors including the type/quality of CAT5 cable, server type, and server manufacturer, the video driver and monitor, environmental conditions and user expectations.
- The KX416 and KX432 models provided enhanced video signal quality at longer distances across the three types of servers tested. For maximum distance, utilize one of the KX4 models.
- The use of Paragon CIMs will not increase the distance between the KX and the target server.
- Due to the multiplicity of server manufacturers and types, OS versions, video drivers, etc. and the subjective nature of video quality, Raritan cannot guarantee performance across all distances in all environments.

Supported Video Resolutions

Text Modes	
640x480 @ 60Hz	1024x768 @ 60Hz
640x480 @ 72Hz	1024x768 @ 70Hz
640x480 @ 75Hz	1024x768 @ 75Hz
640x480 @ 85Hz	1024x768 @ 85Hz
720x400 @ 70Hz	1152x864 @ 60Hz
720x400 @ 85Hz	1152x864 @ 70Hz
800x600 @ 56Hz	1152x864 @ 75Hz
800x600 @ 60Hz	1280x960 @ 60Hz
800x600 @ 72Hz	1280x1024 @ 60Hz
800x600 @ 75Hz	
800x600 @ 85Hz	

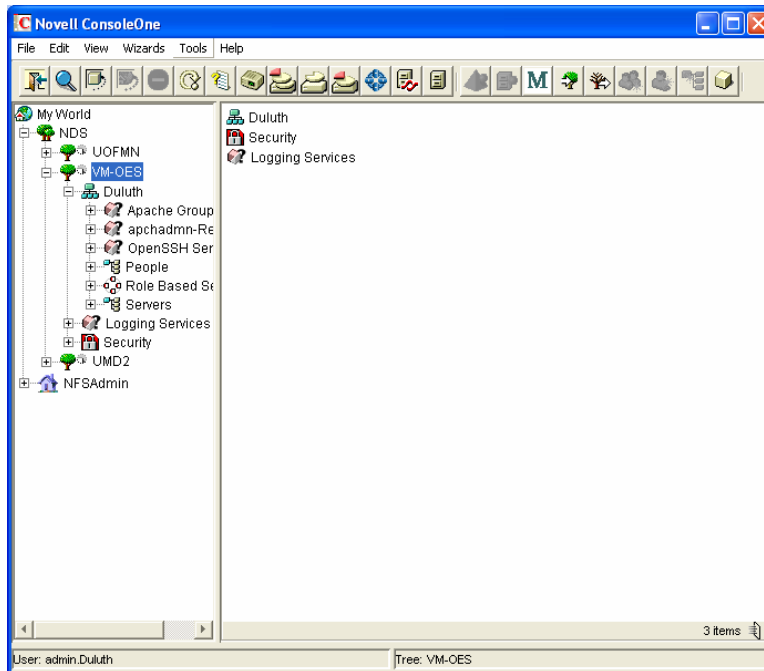
Certified Modems

1. US Robotic 56K Fax and Modem
2. ZOOM v90; RS232 interface
3. ZOOM v92; RS232 interface
4. USR (US Robotic) Sportster 56K v90
5. USR (US Robotic) Courier 56K v90
6. Trust 56K V.92 External Modem

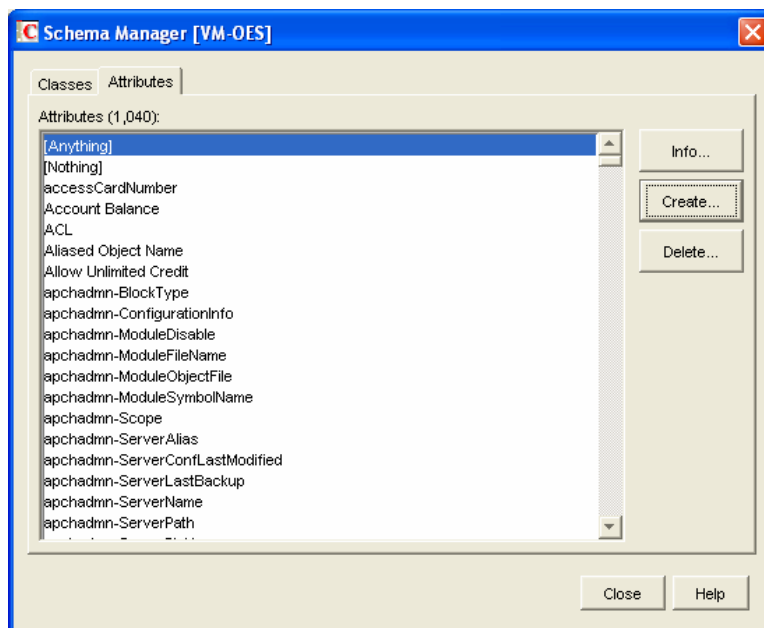
Appendix B: Novell eDirectory

This information is offered as an overview of Novell's eDirectory. For more detailed information, please visit Novell's Website.

1. Log on to the tree with Admin rights to [Root], or some equivalent that has rights to modify the schema of eDirectory. Open Console One and select your tree in the left panel.



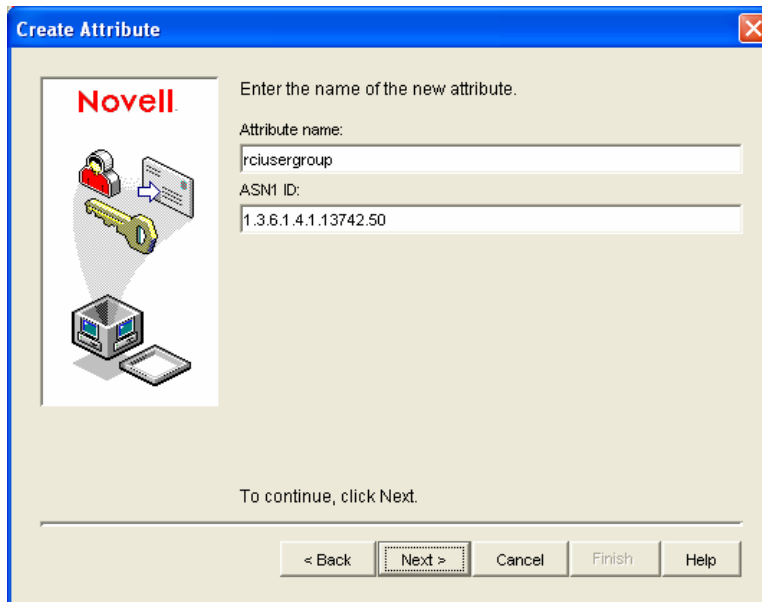
2. On the **Tools** menu, click **Schema Manager**.
3. In the Schema Manager window, click on the **Attributes** tab, then create **Create** to create a new attribute.



4. Console One will launch the **Create Attribute Wizard**. Click **Next**.



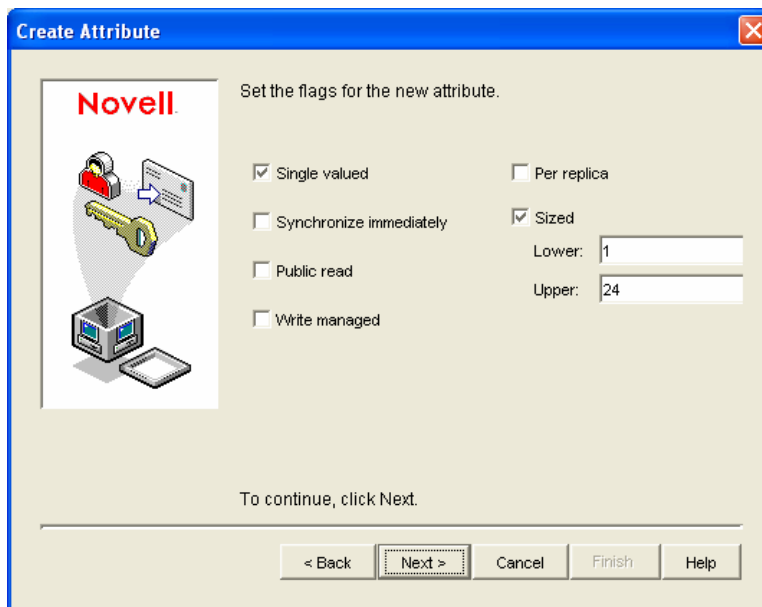
5. Type **rciusergroup** in the **Attribute name** field and type **1.3.6.1.4.1.13742.50** in the **ASN1 ID** field. Click **Next**.



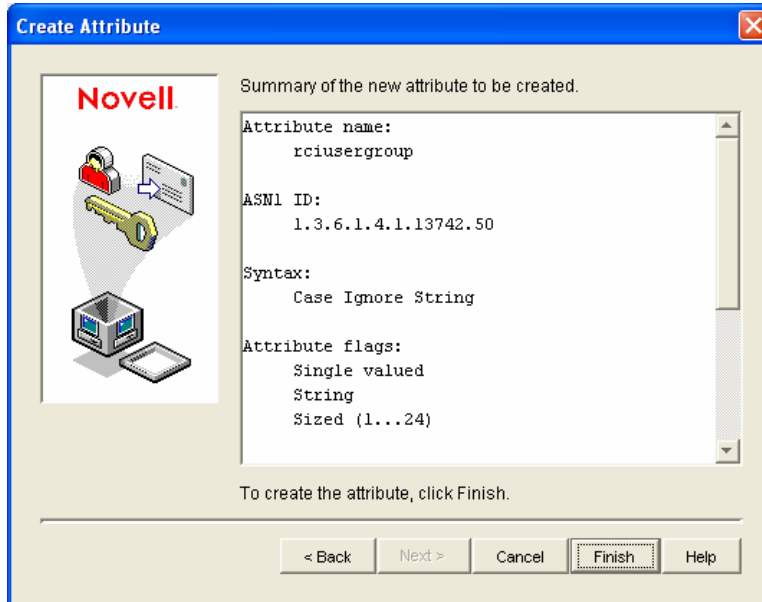
- Click on the **Syntax** drop-down arrow and select **Case Ignore String** from the list. Click **Next**.



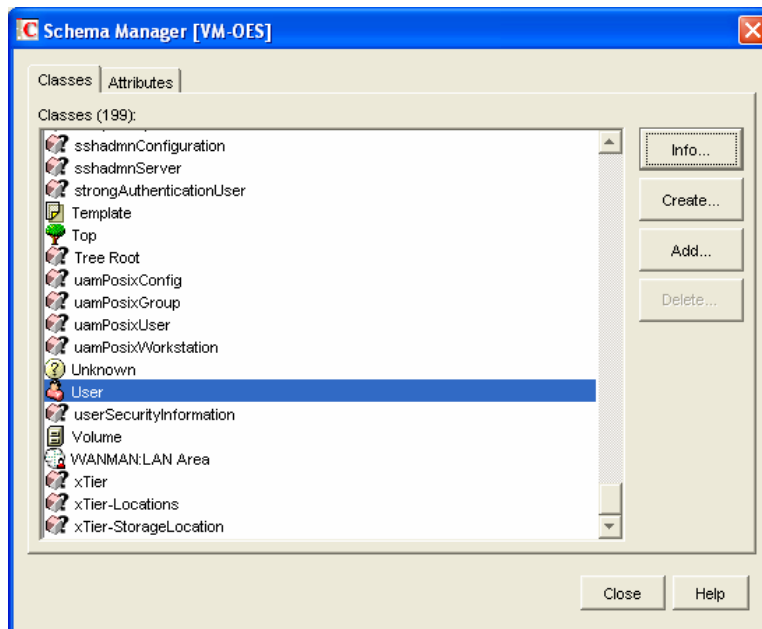
- Click on the check boxes before **Single valued** and **Sized** to set those flags. Type **1** in the **Lower** field and type **24** in the **Upper** field. Click **Next**.



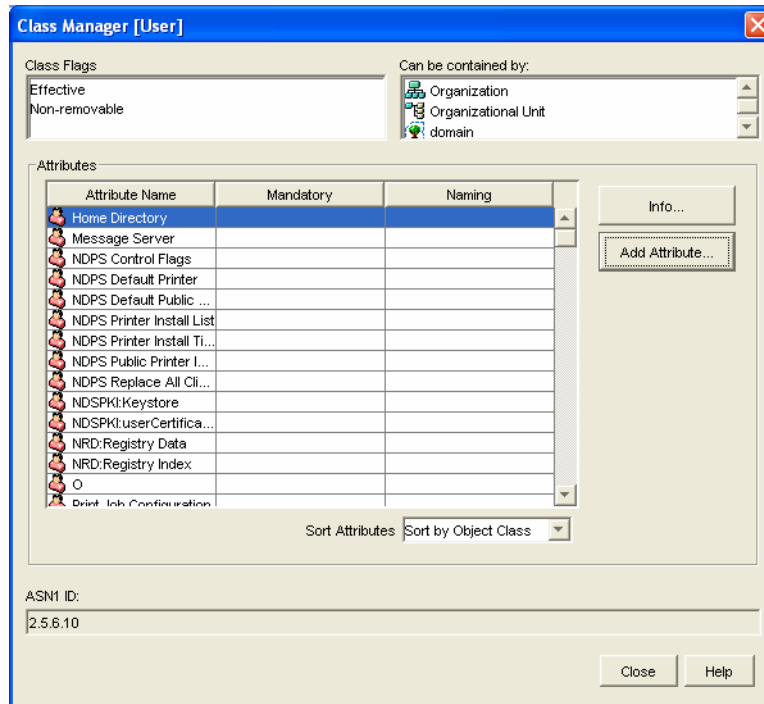
8. A Summary screen displaying your data appears. Click **Finish** to create the attribute in eDirectory, or click **Back** to return to previous screens and change your data.



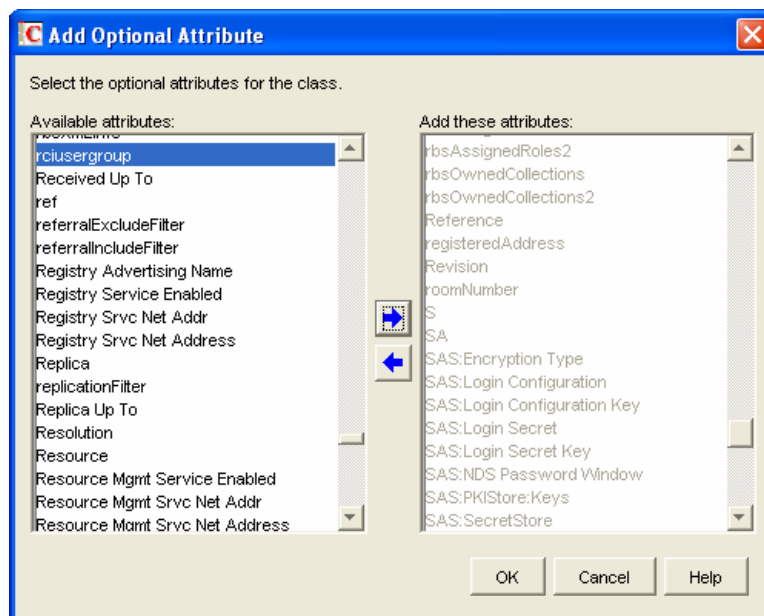
9. When you finish, you return to the **Schema Manager** screen.



10. Click on the **Classes** tab, select the **User** class, and click **Info**. The **Class Manager** screen appears.



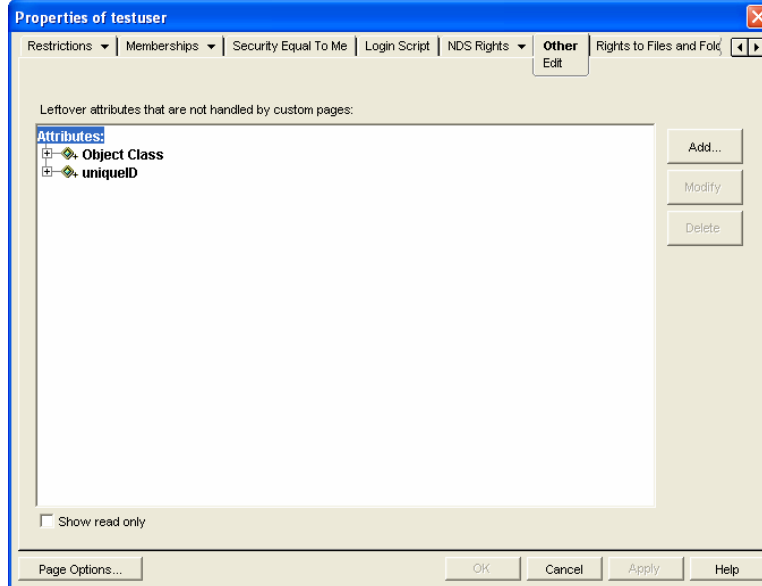
11. Click **Add Attribute** to add the **rciusergroup** attribute to the User class. The **Add Optional Attribute** window appears.



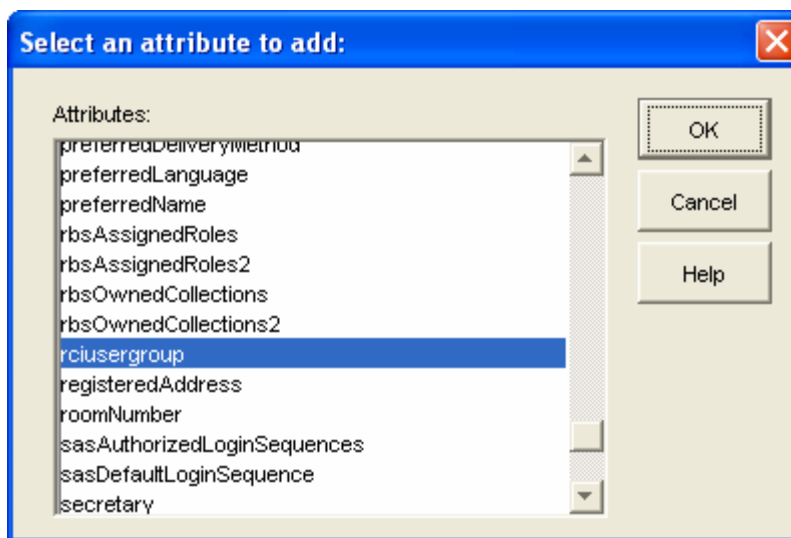
12. Select **rciusergroup** in the Available attributes pane on the left, and then click the blue arrow → to add the attribute to the Add these attributes pane on the right. Click **OK**.
13. Click **Close** and in the next screen, click **Close** once more to return to the main **Console One** screen.

Important: Ensure that you want to change this attribute; this is a permanent change.

14. Add a value to the attribute using Console One, LDIF operations with ICE, or **ldapmodify** (please note: these are outside scope of this document). If using Console One, right-click on the user object and click **Properties**. Click on the **Other** tab to add attribute and value for **rciusergroup**.

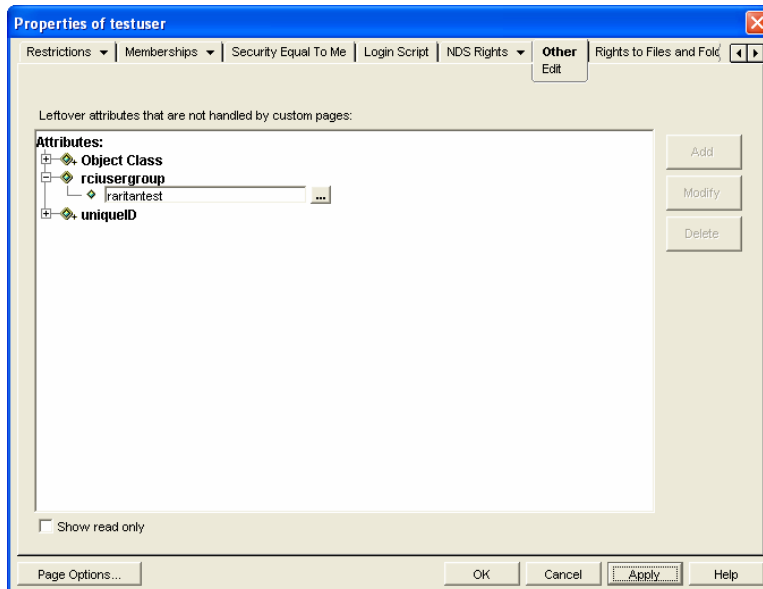


15. Click **Add**.

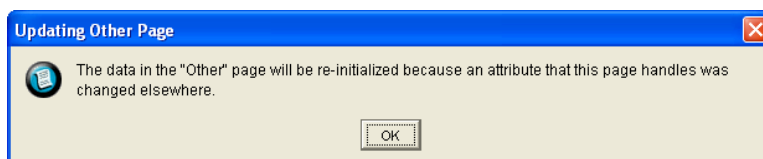


16. Select the **rciusergroup** attribute and click **OK** to add the attribute to your **User** object.

17. When you return to the **Properties** screen, **rciusergroup** appears in the Attributes tree. Type the name of the User Group you created on the Dominion KX device and then click **Apply**.



18. An **Updating Other Page** screen appears. Click **OK** to continue.



19. When the Properties window appears, click **Close**.
20. In MPC or RRC, connect to the Dominion device by double-clicking on its icon in the Device Tree and perform tasks as allowed by the user group you specified.



Appendix C: FAQs

General Questions

QUESTION	ANSWER
What is Dominion KX?	<p>Dominion KX is a digital KVM (keyboard / video / mouse) switch that enables IT administrators to access and control 16 or 32 servers over the network with BIOS-level functionality. Dominion KX is completely hardware and OS-independent; users can troubleshoot and reconfigure servers even when servers are down.</p> <p>At the rack, Dominion KX provides the same functionality, convenience, space savings, and cost savings as do traditional analog KVM switches. However, Dominion KX also integrates the industry's highest-performing KVM Over IP technology, thereby allowing multiple administrators to access server KVM consoles from any networked workstation in the world.</p>
How does Dominion KX differ from remote control software?	<p>When using Dominion KX remotely, the interface, at first glance, may seem similar to remote control software such as PC Anywhere, Windows Terminal Services / Remote Desktop, VNC, etc. However, because Dominion KX is not a software but a hardware solution, it is much more powerful:</p> <p>OS and hardware independent – Dominion KX can be used to manage any type of server running any OS, whether Intel, Sun, PowerPC running Windows, Linux, Solaris, Novell, etc.</p> <p>State-independent / Agent-less – Dominion KX does not require the managed server OS to be up and running, nor does it require any special software to be installed on the managed server.</p> <p>Out-of-Band – Even if the managed server's own network connection is unavailable, it can still be managed through Dominion KX.</p> <p>BIOS-level access – Even if the server is hung at boot up, requires booting to safe mode, or requires system BIOS parameters to be altered, Dominion KX still works flawlessly to enable these configurations to be made.</p>
Can Dominion KX be rack mounted?	Yes, Dominion KX ships standard with 19" rack mount brackets. It can also be reverse rack mounted such that the server ports face forward.
How large is Dominion KX?	Dominion KX is only 1U in height, fits in a standard 19" rack mount, and occupies only 11.4" (29 cm) in depth. The Dominion KX464, supporting 64 server ports, however is a 2U device.

Remote Access

QUESTION	ANSWER																					
How many users can remotely access servers on each Dominion KX?	<p>Currently, Dominion models KX416, KX432, and KX464 offer concurrent remote transmissions of up to four unique servers at any time. Dominion KX can, thereby, provide any of the following permutations:</p> <ul style="list-style-type: none"> • 1 User, viewing four unique servers simultaneously • 2 Users, each viewing two unique servers simultaneously • 8 Users – eight users viewing one server; four users each viewing two unique servers simultaneously • Any other permutations of up to 8 users, viewing up to 4 unique servers total. 																					
Can two people look at the same server at the same time?	Yes, up to eight people can look at the same server at the same time.																					
Can two people access the same server, one remotely and one from the local port?	Yes, the local port is completely independent of the remote “ports.” The local port can access the same server using the PC Share feature.																					
In order to access Dominion KX from a client, what hardware, software, or network configuration is required?	<p>Because Dominion KX is completely Web-accessible; it does not require proprietary software to be installed on clients used for access. (Although an optional installed client is available on the Raritan Web site (www.raritan.com) for the purposes of accessing Dominion KX via modem).</p> <p>Dominion KX can be accessed through major Web browsers including: Internet Explorer, Netscape, Mozilla, and Firefox. Dominion KX can now be accessed on Windows, Linux, SUN Solaris, and Macintosh desktops, with the introduction of Raritan’s Java-based Multi Platform Client (MPC).</p> <p>Dominion KX administrators can also perform remote management (set passwords and security, rename servers, change IP address, etc.). To perform remote management from a given workstation, you must also have Java Runtime Environment of v1.4.2.05 or later installed.</p>																					
What is the file size of the applet used to access Dominion KX? How long does it take to retrieve?	<p>The applet used to access Dominion KX is approximately 1.4MB in size. The following chart describes the time required to retrieve Dominion KX’s applet at different network speeds:</p> <table border="1" data-bbox="581 1457 1300 1965"> <tbody> <tr> <td>100Mbps</td> <td>Theoretical 100Mbit network speed</td> <td>0.1 seconds</td> </tr> <tr> <td>60Mbps</td> <td>Likely practical 100Mbit network speed</td> <td>0.2 seconds</td> </tr> <tr> <td>10Mbps</td> <td>Theoretical 10Mbit network speed</td> <td>1.1 seconds</td> </tr> <tr> <td>6Mbps</td> <td>Likely practical 10Mbit network speed</td> <td>2 seconds</td> </tr> <tr> <td>512Kbps</td> <td>Cable modem download speed (typical)</td> <td>22 seconds</td> </tr> <tr> <td>56Kbps</td> <td>Dial-up modem theoretical speed</td> <td>3 minutes</td> </tr> <tr> <td>38Kbps</td> <td>Likely practical dial-up modem speed</td> <td>5 minutes</td> </tr> </tbody> </table>	100Mbps	Theoretical 100Mbit network speed	0.1 seconds	60Mbps	Likely practical 100Mbit network speed	0.2 seconds	10Mbps	Theoretical 10Mbit network speed	1.1 seconds	6Mbps	Likely practical 10Mbit network speed	2 seconds	512Kbps	Cable modem download speed (typical)	22 seconds	56Kbps	Dial-up modem theoretical speed	3 minutes	38Kbps	Likely practical dial-up modem speed	5 minutes
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38Kbps	Likely practical dial-up modem speed	5 minutes																				

QUESTION	ANSWER
How do I access servers connected to Dominion KX if the network ever becomes unavailable?	Dominion KX offers a dedicated modem port for attaching an external modem. With this dedicated modem, your servers can still be remotely accessed in the event of a network emergency. Furthermore, Dominion KX's local ports always allow access to your servers from the rack, no matter the network condition.
Can non-Windows users use RRC?	Yes, using Raritan MPC, non-Windows users can connect to target servers through the Dominion KX. MPC can be run via Web browsers and standalone. Please refer to Raritan's MPC User Guide for more information.
My connection dropped and I got the error message "There was an unexpected communications error – connection terminated" – what should I do?	This might happen based the frequency with which you try to connect via modem. Reboot the KX unit and modem, and for future connections, wait at least two (2) minutes between attempts.

Ethernet and IP Networking

QUESTION	ANSWER												
<p>How much bandwidth does Dominion KX require?</p>	<p>Dominion KX offers integrated IP-Reach technology – the very best video compression available. Raritan has received numerous technical awards confirming its high video quality transmissions and the low bandwidth utilization.</p> <p>Raritan pioneered the KVM Over IP functionality that allows users to tailor their video parameters to conserve network bandwidth. For instance, when connecting to Dominion KX through a dial-up modem connection, video transmissions can be scaled to grayscale – allowing you to be fully productive while ensuring high performance.</p> <p>With that in mind, the following data refers to Dominion KX at its default video settings – again, these settings can be tailored to your environment. They can be increased to provide even higher quality video (color depth), or decreased to optimize for low-speed connections.</p> <p>As a general rule, a conservative estimate for bandwidth utilization (at Dominion KX’s default settings) is approximately 0.5Mbit/seconds per active KVM user (connected to and using a server), with very occasional spikes up to 2MBit/seconds. This is a very conservative estimate because bandwidth utilization will typically be even lower.</p> <p>Bandwidth required by each video transmission depends on what task is being performed on the managed server. The more the screen changes, the more bandwidth is utilized. The table below summarizes some use cases and the required bandwidth utilization at Dominion KX’s default settings on a 10Mbit/s network:</p> <table border="1" data-bbox="576 1050 1282 1339"> <tbody> <tr> <td>Idle Windows Desktop</td> <td>0 Mbps</td> </tr> <tr> <td>Move Cursor Around Desktop</td> <td>0.18Mbps</td> </tr> <tr> <td>Move Static 400x600 Window/Dialog Box</td> <td>0.35Mbps</td> </tr> <tr> <td>Navigate Start Menu</td> <td>0.49Mbps</td> </tr> <tr> <td>Scroll an Entire Page of Text</td> <td>1.23Mbps</td> </tr> <tr> <td>Run 3D Maze Screensaver</td> <td>1.55Mbps</td> </tr> </tbody> </table>	Idle Windows Desktop	0 Mbps	Move Cursor Around Desktop	0.18Mbps	Move Static 400x600 Window/Dialog Box	0.35Mbps	Navigate Start Menu	0.49Mbps	Scroll an Entire Page of Text	1.23Mbps	Run 3D Maze Screensaver	1.55Mbps
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Navigate Start Menu	0.49Mbps												
Scroll an Entire Page of Text	1.23Mbps												
Run 3D Maze Screensaver	1.55Mbps												
<p>What is the slowest connection (lowest bandwidth) over which Dominion KX can operate?</p>	<p>33Kbps or above is recommended for acceptable KX performance over a modem connection.</p>												
<p>What is the speed of Dominion KX’s Ethernet interfaces?</p>	<p>Dominion KX offers two 10/100 speed Ethernet interfaces, with configurable speed and duplex settings (either auto-detected or manually set). Dominion KX does not require a gigabit Ethernet interface because its output (see above question) would never even come close to exceeding the 100Mbit/sec limit of 10/100 Ethernet networking.</p>												
<p>Can I access Dominion KX over a wireless connection?</p>	<p>Yes. Dominion KX not only utilizes standard Ethernet, but also uses very conservative bandwidth with very high quality video. Thus, if you have a wireless client with network connectivity to Dominion KX, you can configure and manage your servers at BIOS-level wirelessly.</p>												

QUESTION	ANSWER
Can Dominion KX used over the WAN (Internet), or just over the corporate LAN?	Yes. Whether via a fast corporate LAN, the less predictable WAN (Internet), a cable modem, or dial-up modem, Dominion KX's KVM Over IP technology can accommodate your connection. Raritan's IP-Reach KVM Over IP technology is integrated into every Dominion KX unit. Raritan pioneered configurable video compression technology, leading the industry by years, as evidenced by its awards.
Can I use Dominion KX with a VPN?	Yes. Dominion KX uses standard Internet Protocol (IP) technologies from Layer 1 through Layer 4. Traffic can be easily tunneled through any standard VPN.
How many TCP ports must be open on my firewall in order to enable network access to Dominion KX? Are these ports configurable?	Only one. Dominion KX protects your network security by only requiring access to a single TCP port to operate. This port is completely configurable for additional security. To utilize Dominion KX's optional Web browser capability, the standard HTTPS port 443 must also be open.
Does the secondary network port provide redundant fail-over, or load balancing?	The secondary network port provides redundant fail-over capabilities: should the primary Ethernet port (or the switch/router to which it is connected) fail, Dominion KX will fail-over to the secondary network port with the same IP address – ensuring that your server operations are not disrupted. Note that Automatic Failover is disabled by default.
Does Dominion KX require an external authentication server to operate?	No. Dominion KX is a completely self-sufficient appliance. After assigning an IP address to Dominion KX, it is ready to use – with web browser and authentication capabilities completely built-in. Of course, should you desire to use an external authentication server (such as LDAP, Active Directory, RADIUS, etc.), Dominion KX allows you to, and will even fail-over to its own internal authentication should your external authentication server become unavailable. In this way, Dominion KX's design philosophy is optimized to provide ease of installation, complete independence from any external server, and maximum flexibility.
Can Dominion KX be used with CITRIX?	Dominion KX may work with remote access products like CITRIX if configured appropriately, but Raritan cannot guarantee it will work with acceptable performance. Customers should realize that products like CITRIX utilize video redirection technologies similar in concept to digital KVM switches so that two KVM over IP technologies are being used simultaneously.
Can the Dominion KX utilize DHCP?	DHCP addressing can be used, however, Raritan recommends fixed addressing since the DKX is an infrastructure device and can be accessed and administered more effectively with a fixed IP address.
I'm having problems connecting to the Dominion KX over my IP network. What could be the problem?	The Dominion KX relies on the customer's LAN/WAN network. Some possible problems include: 1) Ethernet AutoNegotiation. On some networks 10/100 autonegotiation does not work properly and the KX unit must be set to 100MB/full duplex or the appropriate choice for its network. 2) Duplicate IP Address. If the IP Address of the KX is the same as another device, network connectivity may be inconsistent. 3) Port 5000 conflicts. If another device is using port 5000, the KX default port must be changed (or the other device must be changed). 4) When changing the IP Address of a KX or swapping in a new KX, sufficient time must be allowed for the KX IP and MAC Addresses to be known throughout the Layer 2 and Layer 3 networks.

Servers

QUESTION	ANSWER
Does Dominion KX depend on a Windows server to operate?	<p>Absolutely not. Because you depend on your KVM infrastructure to always be available in any scenario whatsoever (as you will likely need to use your KVM infrastructure to fix problems), Dominion KX is designed to be completely independent from any external server.</p> <p>For example, should your data center come under attack from a malicious Windows worm or virus, you will need to use your KVM solution to resolve the situation. Therefore, it is imperative that your KVM solution, in turn, must not rely on these same Windows servers (or any server, for that matter) to be operational in order for the KVM solution to function.</p> <p>To this end, Dominion KX is completely independent. Even if you choose to configure your Dominion KX to authenticate against an Active Directory server – if that Active Directory server becomes unavailable, Dominion KX’s own authentication will be activated and fully functional.</p>
Do I need to install a Web server such as Microsoft Internet Information Services (IIS) in order to utilize Dominion KX’s Web browser capability?	No. Dominion KX is a completely self-sufficient appliance. After assigning an IP address to Dominion KX, it is ready to use – with Web browser and authentication capabilities completely built-in.
What software do I have to install in order to access Dominion KX from a particular workstation?	None. Dominion KX can be accessed completely via a Web browser. (Although an optional installed client is provided on Raritan’s Web site (www.raritan.com) for the purpose of accessing Dominion KX via modem.) A Java-based client is now available for non-Windows users.
What should I do to prepare a server for connection to Dominion KX?	Servers connected to Dominion KX do not require any software agents to be installed, because Dominion KX connects directly via hardware to servers’ keyboard, video, and mouse ports. In order to provide users with the best mouse synchronization during remote connections.
What comes in the Dominion KX box?	(a) Dominion KX unit; (b) Quick Setup Guide; (c) standard 19" rack mount brackets; (d) User manual CD-ROM; (e) Network cable; (f) Crossover cable; (g) Localized AC Line Cord; (h) Warrantee certificate and other documentation.

Installation

QUESTION	ANSWER
Besides the unit itself, what do I need to order from Raritan to install Dominion KX?	For each server that you wish to connect to Dominion KX, you will require a Dominion computer interface module (DCIM), a very small dongle that connects directly to the keyboard, video, and mouse ports of your server.
What kind of Cat5 cabling should be used in my installation?	Dominion KX can use any standard UTP (twisted pair) cabling, whether Cat5, Cat5e, or Cat6. Often in our manuals and marketing literature, Raritan will simply say “Cat5” cabling for short. In actuality, any brand UTP cable will suffice for Dominion KX.
What types of servers can be connected to Dominion KX?	Dominion KX is completely vendor independent. Any server with a standards-compliant keyboard, video, and mouse ports can be connected.
How do I connect servers to Dominion KX?	For each server that you wish to connect to Dominion KX, you will require a Dominion computer interface module (DCIM), a very small dongle that connects directly to the keyboard, video, and mouse ports of your server. Then, connect each dongle to Dominion KX using standard UTP (twisted pair) cable such as Cat5, Cat5e, or Cat6.
How far can my servers be from Dominion KX?	Servers can be up to 150 feet (45 m) away from Dominion KX (please see table in Appendix A: Specifications for additional information).
Some operating systems “lock up” if you disconnect a keyboard or mouse during operation. What prevents servers connected to Dominion KX from “locking up” when users switch away from them?	Each Dominion computer interface module (DCIM) dongle acts as a virtual keyboard and mouse to the server to which it is connected. This technology is called KME (keyboard/mouse emulation). Raritan’s KME technology is data center grade, battle-tested, and far more reliable than that found in lower end KVM switches: it incorporates more than 15-years of experience, has been deployed to millions of servers worldwide.
Are there any agents that must be installed on servers connected to Dominion KX?	Servers connected to Dominion KX do not require any software agents to be installed, because Dominion KX connects directly via hardware to servers’ keyboard, video, and mouse ports.
How many servers can be connected to each Dominion KX unit?	Dominion KX models range, offering up to 32 server ports per 1U sized unit and 64 server ports in a 2U sized unit; this is the industry’s highest digital KVM switch port density.
What happens if I disconnect a server from Dominion KX and reconnect it to another Dominion KX unit, or connect it to a different port on the same Dominion KX unit?	Dominion KX will automatically update the server port names when servers are moved from port to port. Furthermore, this automatic update does not just affect the local access port, but it propagates to all remote clients and the optional CC-SG management appliance.

QUESTION	ANSWER
<p>How do I connect a serially controlled (RS-232) device to Dominion KX, such as a Cisco router/switch or a headless Sun server?</p>	<p>If you only have a few serially-controlled devices, you may connect them to Dominion KX using Raritan's serial computer interface module (CIM), Raritan AUATC.</p> <p>However, if you have four or more serially controlled devices, we recommend the use of Raritan's Dominion SX model line of secure console servers. For multiple serial devices, Dominion SX offers more functionality at a better price point than Dominion KX, while being just as easy to use, configure and manage, and can be completely integrated with your Dominion Series deployment. In particular, many UNIX and networking administrators appreciate the ability to directly SSH to a Dominion SX unit (which Dominion KX, a digital KVM switch, does not offer).</p>

Local Port

QUESTION	ANSWER
Can I access my servers directly from the rack?	Yes, at the rack Dominion KX functions just like a traditional KVM switch – allowing you to control up to 64 servers using a single keyboard, mouse, and monitor.
When I am using the local port, do I prevent other users from accessing servers remotely?	No. The Dominion KX local port has a completely independent access path to the servers. This means a user can access servers locally at the rack – without compromising the number of users that access the rack remotely at the same time.
Can I use a USB keyboard or mouse at the local port?	Yes. Dominion KX offers both PS/2 and USB keyboard and mouse ports on the local rack. Note that the USB ports are USB v1.1, and support keyboards and mice only – not USB devices such as scanners or printers.
How do I select between servers while using the local port? Is there an On-Screen Display (OSD)?	Yes. Dominion KX’s local access port displays an on-screen display interface that presents a list of all servers connected to the Dominion KX unit. Users interact with this convenient on-screen display interface to select a connected server.
How do I ensure that only authorized users can access servers from the local port?	<p>Dominion KX offers the very best local port authentication scheme available on the market: users attempting to use the local port must pass the same level of authentication as those accessing remotely. This means that:</p> <p>If you have configured Dominion KX to interact with an external RADIUS, LDAP, or Active Directory server, users attempting to access the local port will authenticate against the same server.</p> <p>If the external authentication servers are unavailable, Dominion KX fails-over to its own internal authentication database.</p> <p>Dominion KX has its own standalone authentication, enabling instant on out-of-the-box installation.</p>
If I use the local port to change the name of a connect server, does this change propagate to remote access clients as well? Does it propagate to the optional CC-SG appliance?	Yes. The local port presentation is identical and completely in sync with remote access clients, as well as Raritan’s optional CC-SG management appliance. To be clear, if you change the name of a server via the Dominion KX on-screen display, this updates all remote clients and external management servers in real-time.
If I use Dominion KX’s remote administration tools to change the name of a connected server, does that change propagate to the local port OSD as well?	Yes, if you change the name of a server remotely, or via Raritan’s optional CC-SG management appliance, this update immediately affects Dominion KX’s on-screen display.

Power Control

QUESTION	ANSWER
<p>What type of power control capabilities does Dominion KX offer?</p>	<p>Because Dominion KX enables you to remotely manage servers; it also incorporates the critical functionality of hard power control to servers. Instead of using a third-party tool for power control (likely with lower security and fail-safe capabilities as Dominion KX), you can use Dominion KX's fully integrated remote power control.</p> <p>When remotely connected to an appropriately configured Dominion KX, simply select the power control options to hard reboot a hung server. Note that a hard reboot provides the physical equivalent of unplugging the server from the AC power line, and re-inserting the plug.</p>
<p>Does Dominion KX support servers with multiple power supplies? What if each power supply is connected to a different power strip?</p>	<p>Yes. Dominion KX can be easily configured to support multiple power supplies connected to multiple power strips. Up to eight (8) powerstrips can be connected to a KX device. Four power supplies can be connected per target server to multiple power strips.</p>
<p>Does remote power control require any special server configuration?</p>	<p>Some servers ship with default BIOS settings such that the server does not restart after losing and regaining power. See your server user manual for more details.</p>
<p>What type of power strips does Dominion KX support?</p>	<p>Dominion KX can support any serially controlled power strips supplied by any vendor, by using our Serial (RS-232) computer interface module.</p> <p>However, to take advantage of Dominion KX's integrated power control user interface, and more importantly, integrated security, you must use Raritan's power strips ("remote power control units"). These power strips come in many outlet, connector, and amp variations – simply order any Raritan power strip whose part number ends in the "-PK" designation.</p>

Scalability

QUESTION	ANSWER
<p>How do I connect multiple Dominion KX devices together into one solution?</p>	<p>Multiple Dominion KX units do not need to be physically connected together. Instead, each Dominion KX unit connects to the network, and they automatically work together as a single solution:</p> <p>If you deploy Raritan's optional CC-SG management appliance, CC-SG acts as a single access point for remote access and management. CC-SG offers a significant set of convenient tools, such as consolidated configuration, consolidated firmware update, and a single authentication and authorization database.</p> <p>In addition, CC-SG enables sophisticated server sorting, permissions, and access functionality – for instance, you can create an attribute called “Operating System”, and in one step enable only the Active Directory group “SYSADMINS” to access those servers whose “Operating System” attribute is set to “Windows.” Please refer to the CC-SG FAQ sheet on Raritan's Website for additional information: http://www.raritan.com/support/sup_faq.aspx#CC</p> <p>If you do not take advantage of Raritan's optional CC-SG management appliance, multiple Dominion KX units still interoperate and scale automatically: The Raritan Remote Client automatically discovers the Dominion KX units in your subnet. You can access Dominion KX units outside the subnet via a user-created profile.</p>
<p>Can I connect an existing analog KVM switch to Dominion KX?</p>	<p>Yes. You can connect your analog KVM switch to one of Dominion KX's server ports. Simply use a PS/2 Computer Interface Module (CIM), and attach it to the user ports of your existing analog KVM switch. Please note that analog KVM switches vary in their specifications and Raritan cannot guarantee the interoperability of any particular third-party analog KVM switch. Contact Raritan technical support for further information. Raritan's Paragon and Paragon II analog switches are IP enabled by the IP-Reach family of remote access products.</p>

Computer Interface Modules (CIMs)

QUESTION	ANSWER
Can I use Computer Interface Modules (CIMs) from Raritan's analog matrix KVM switch, Paragon, with Dominion KX?	Yes. Certain Paragon computer interface modules (CIMs) may work with Dominion KX (please check the Raritan web site for the latest list of certified CIMs). However, because Paragon CIMs cost more than Dominion KX CIMs (as they incorporate technology for video transmission of up to 1000 feet [300 meters]), it is not generally advisable to purchase Paragon CIMs for use with Dominion KX. Also note that when connected to Dominion KX, Paragon CIMs transmit video at a distance of 50 feet [15 meters], the same as Dominion KX CIMs – not at 1000 feet [300 meters], as they do when connected to Paragon.
Can I use Z-Series "daisy-chaining" Computer Interface Modules (CIMs) with Dominion KX?	At the present time, Raritan's Z-Series "daisy-chaining" computer interface modules do not work with Dominion KX. This capability will be incorporated in future releases – requiring only a firmware upgrade.
Can I use Dominion KX Computer Interface Modules (CIMs) with Raritan's analog matrix KVM switch, Paragon?	No. Dominion KX computer interface modules (CIMs) transmit video at ranges of 50 to 150 feet (15 – 45 m) and thus do not work with Paragon, which requires CIMs that transmit video at a range of 1000 feet (300 meters). To ensure that all Raritan's customers experience the very best quality video available in the industry – a consistent Raritan characteristic – Dominion Series CIMs do not interoperate with Paragon.

Security

QUESTION	ANSWER
What kind of encryption does Dominion KX use?	Dominion KX utilizes industry-standard (and extremely secure) 128-bit RC4 encryption, both in its SSL communications as well as its own data stream. Literally no data is transmitted between remote clients and Dominion KX that is not completely secured by encryption.
Does Dominion KX allow encryption of video data? Or does it only encrypt keyboard and mouse data?	Unlike competing solutions, which only encrypt keyboard and mouse data, Dominion KX does not compromise your security - it allows encryption of keyboard, mouse and video data.
How does Dominion KX integrate with external authentication servers such as Active Directory, RADIUS, or LDAP?	Through a very simple configuration, Dominion KX can be set to forward all authentication requests to an external server such as LDAP, Active Directory, or RADIUS. For each authenticated user, Dominion KX receives from the authentication server the user group to which that user belongs. Dominion KX then determines the user's access permissions depending on what user group to which he belongs.
How are usernames and passwords stored?	Should you use Dominion KX's internal authentication capabilities, all sensitive information such as usernames and passwords are stored in a hashed format. Literally no one, including Raritan technical support or Product Engineering departments, can retrieve those usernames and passwords.

Manageability

QUESTION	ANSWER
Can Dominion KX be remotely managed and configured via web browser?	<p>Yes. Dominion KX can be completely configured remotely via Web browser. Note that this does require that your workstation have Java Runtime Environment 1.4.2 installed.</p> <p>Besides the initial setting of Dominion KX's IP address, everything about the solution can be completely set up over the network. (In fact, using a crossover Ethernet cable and Dominion KX's default IP address, you can even configure even the initial settings configured via Web browser.)</p>
Can I backup and restore Dominion KX's configuration?	<p>Yes, Dominion KX's device and user configurations can be completely backed up for later restoration in the event of a catastrophe. More commonly, this functionality is also very useful for configuring multiple Dominion KX units if you have not deployed Raritan's CC-SG centralized management appliance. You can back up the user configuration and restore it on remaining units.</p> <p>Dominion KX's backup and restore functionality can be utilized remotely over the network; in fact, via a Web browser.</p>
What auditing or logging does Dominion KX offer?	<p>For complete accountability, Dominion KX logs all major user events with a date and time stamp. For instance, reported events include (but are not limited to): user login, user logout, user access of a particular server, unsuccessful login, configuration changes, etc</p>
Can Dominion KX integrate with syslog?	<p>Yes, for your convenience, in addition to Dominion KX's own internal logging capabilities, Dominion KX can also send the following logged events to a centralized syslog server:</p> <ul style="list-style-type: none"> • Network • Admin • Error • Text • System
Can Dominion KX's internal clock be synchronized with a timeserver?	<p>Yes, Dominion KX supports the industry-standard NTP protocol for synchronization with either your corporate timeserver, or with any public time server [assuming that outbound NTP requests are allowed through your corporate firewall].</p>
Does the power supply used by Dominion KX automatically detect voltage settings?	<p>Yes, Dominion KX's power supply can be used in any AC voltage ranges from 100-240 volts, at 50-60 Hz.</p>

Miscellaneous

QUESTION	ANSWER
What is Dominion KX's default IP address?	192.168.0.192
What is Dominion KX's default username and password?	For the highest level of security, Raritan highly recommends that users reconfigure their Dominion KX default administrative username and password of (admin/raritan [all lower case]) as soon as the unit is connected to the network.
I changed and subsequently forgot Dominion KX's administrative password; can you retrieve it for me?	KX Release 1.3 contains a local reset feature that can be used to factory reset the device, which will reset the administrative password on the device. Alternately, the KX can be configured to reset the administrative password.
Is 24/7 Technical Support available for Dominion KX?	<p>Yes, Raritan offers an extended warranty that that provides 24/7 support; please contact Raritan for additional information. During office hours, please contact your local Raritan Technical Support office.</p> <p>U.S./Canada/Latin America Phone: (800) 724-8090 or 732-764-8886 Fax: (732) 764-8887 tech@raritan.com</p> <p>Europe Phone: (31) 10-284-4040 Fax: (31) 10-284-4049 tech.europe@raritan.com</p> <p>Japan Phone: (81) 3-5833-6360 Fax: (81) 03-5833-6336 sales.japan@raritan.com</p> <p>Rest of World Phone: (886) 2-8919-1333 Fax: (886) 2-8919-1338 sales.asia@raritan.com</p>

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