



# Dominion<sup>®</sup> SX

Raritan Serial Client User Guide

Release 1.1

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# Preface

This **Raritan Serial Client (RSC) User Guide** contains the same RSC information that is in the latest **Dominion SX User Guide**. This guide provides the following RSC information:

- Raritan Serial Client Launch
  - Requirements for Java
  - Interface
- Standalone Raritan Serial Client Installation and Launch
  - Setting Operating System Variables
  - Installing RSC on Windows and Sun Solaris

## Audience

The primary audiences for this guide are infrastructure administrators and installers who are responsible for installing and setting up devices such as secure console servers. Other interested audiences are operators and observers.

## Conventions

This guide uses the following conventions:

EXAMPLE	DESCRIPTION
<code>/usr/local/java</code>	Monospaced text indicates file names, paths, directories, or screen text.
<b>Enter</b>	Menu items, Keywords and Keyboard keys are bolded.
<code>&lt;ip address&gt;</code>	Monospaced, italicized text indicates where the user would substitute a value in a command.

## Acronyms

This guide uses the following acronyms:

ACRONYM	MEANING
*RSC	Raritan Serial Client – the name of the product Raritan Serial Console – the name on the Raritan Serial (Console) window.
SSL	Secure Sockets Layer Protocol
VPN	Virtual Private Network

---

*\*Note: Raritan Serial Client is the name of the product. Raritan Serial Console is the name on the product software.*

---

## Notices

This guide uses the following notices.

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**Important: cautionary information that warns of possible affects on the users, corruption risks, and actions that may affect warranty and service coverage.**

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*Note: general information that is supplemental to the text.*

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# Chapter 1: Raritan Serial Client

Use the following steps to launch the Raritan Serial Client (RSC).

1. Select the **Port Access** tab.

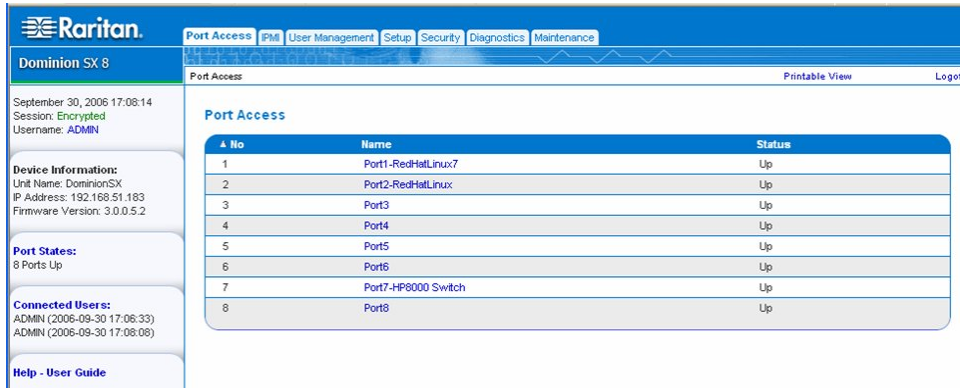


Figure 1 Port Access Screen

2. Click on the **Name** of the port you want to access for the RSC, for example, Port1 or Port2.

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**Note:** A Security popup screen appears only if you used *https* to connect to the RSC.

---

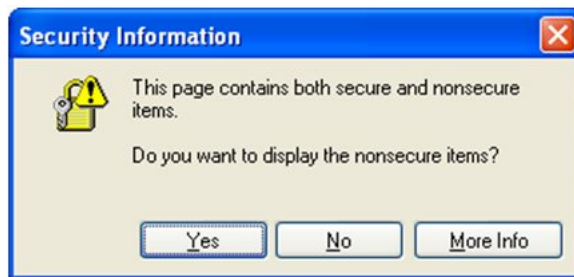


Figure 2 Security Information Screen

3. Click **Yes**. A **Warning – Security** popup screen appears.



Figure 3 Sample of a Warning Security Screen

4. Click **Yes** to access the Raritan Serial Client from the Port Screen.

---

**Note:** *If you click **Always**, you will not receive the security screen for future access.*

---

The Raritan Serial Console window appears. Refer to the Raritan Serial Client Interface section in this chapter.

## Raritan Serial Client Requirements for Java

The Raritan Serial Client (RSC) requires a minimum 1 GHz PC with 512 MB RAM. Java must be installed to access targets (managed devices) before you can use the RSC.

### Java Runtime Environment (JRE)

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Raritan recommends using the most current Java Runtime Environment (JRE) version but RSC will function with **JRE version 1.4.2\_05 or later**. (With the exception of **JRE version 1.5.0\_02**) Depending on your operating system and browser, it is possible that you need to adjust some JRE configurations to prevent problems with the system's memory.

---

**Note:** *Raritan does not support JRE version 1.5.0\_02 for use with the RSC.*

---

JRE provides configuration instructions with the JRE download. Determine the JRE version on your system by going to the Java Web page at:

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

---

**IMPORTANT:** When launching RSC from a browser, Raritan highly recommends that Java Applet Caching be disabled and that you perform the following steps to make sure that Java does not create problems for the system's memory.

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### Java Applets and Memory Considerations

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Usually, a browser based RSC does not need to make any changes to the Runtime parameters for Java Applets. Do the following if you notice any "Out of Memory" errors happening when executing RSC via a web browser:

- Change the **Runtime** settings for Java Applets.
- Use the following links to find out how to use Runtime settings in the Java Control Panel.

<http://java.sun.com/j2se/1.5.0/docs/guide/deployment/deployment-guide/jcp.html>

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[http://java.sun.com/j2se/1.4.2/docs/guide/plugin/developer\\_guide/control\\_panel.html](http://java.sun.com/j2se/1.4.2/docs/guide/plugin/developer_guide/control_panel.html)

To increase the heap settings so that more RSC applets can be launched to access multiple Dominion SX targets:

1. Launch the Java Control Panel, which is located in the:
  - **Advanced Tab** in JRE 1.4.x
  - **Java Tab** in JRE 1.5
2. Locate **Java Runtime Settings**.

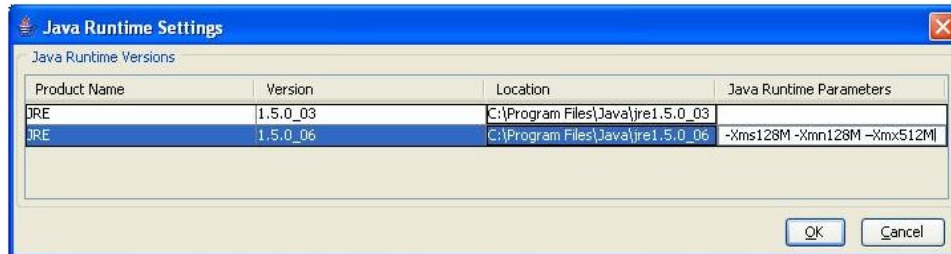


Figure 4 Java Runtime Settings

3. Insert the values of the Java Runtime Parameters using the syntax in the following table, which contains the non-standard options.

Table 1 Java Runtime Parameters

VALUES -SYNTAX	DESCRIPTION	DEFAULT / COMMENTS
-Xms<Size> in bytes	Sets the initial size of the Java heap.	<b>2097152 (2MB)</b> <ul style="list-style-type: none"> <li>The <code>-server</code> flag increases the default size to 32M.</li> <li>The values must be a multiple of, and greater than, 1024 bytes (1KB).</li> <li>Append the letter “m” or “M” to indicate megabytes and “k” or “K” to indicate kilobytes.</li> </ul>
-Xmn<Size> in bytes	Sets the initial Java heap size for the Eden generation.	<b>640K</b> <ul style="list-style-type: none"> <li>The <code>-server</code> flag increases the default size to 2M.</li> <li><b>Append the letter “m” or “M” to indicate megabytes and “k” or “K” to indicate kilobytes.</b></li> </ul>
-Xmx<Size> in bytes	Sets the maximum size to which the Java heap can grow.	<b>64M</b> <ul style="list-style-type: none"> <li>The <code>-server</code> flag increases the default size to 128M.</li> <li>The maximum heap limit is approximately 2 GB (2048MB).</li> <li>Append the letter “m” or “M” to indicate megabytes and “k” or “K” to indicate kilobytes.</li> </ul>

**Command Example:**

`-Xms128M -Xmn128M -Xmx512M`

Refer to the following links for additional information and for all the non-standard options:g

<http://java.sun.com/j2se/1.4.2/docs/tooldocs/windows/java.html>

<http://java.sun.com/docs/hotspot/VMOptions.html>

## Raritan Serial Client Interface

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**Important:** The Raritan Serial Client (Console) Screen usually **opens in a separate window in back of the Port Screen**. With some versions of Java on Windows, the screen opens in front of the Port Screen.

---

Minimize the **Port Access** screen to access the Raritan Serial Console screen. The RSC contains drop-down menus that provide the user with the ability to:

- Modify emulation settings such as fonts and window size.
- Manage the history of the session.
- Request Write Access to the port.
- Get a Write Lock on the port.
- Send a Break signal (used for Solaris servers).
- Get a list of users connected to this port.
- Edit text in the window.
- Manage client workstation-based logging of data from the target device.
- Send Keystroke (combinations).
- Send Text files.
- Send power commands to a Power Distribution Unit (PDU).
- Chat among other users on the same port.
- Get help.

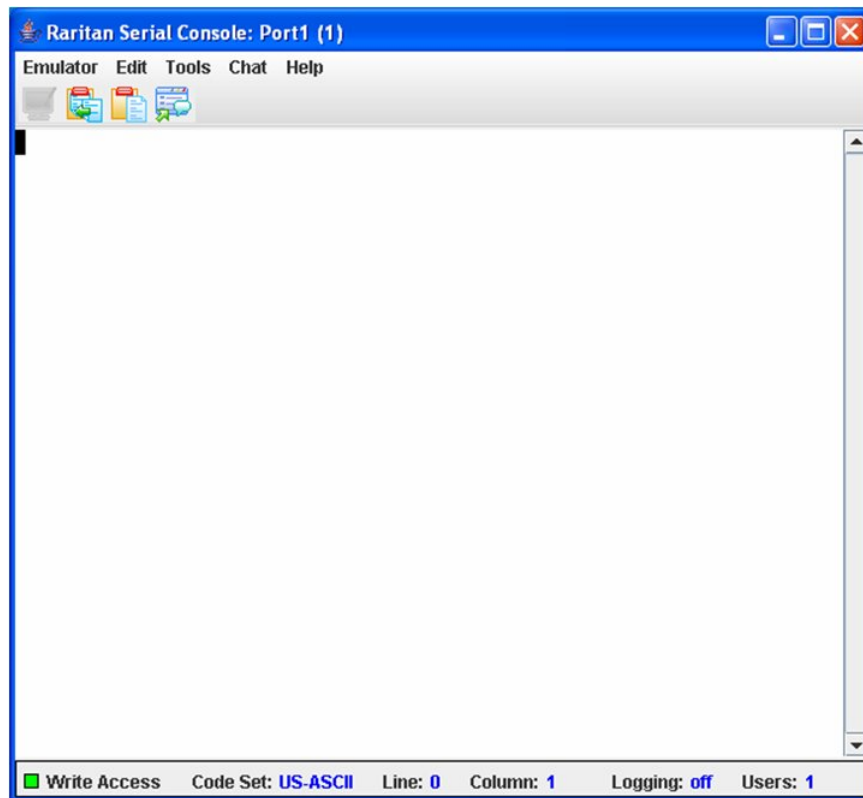


Figure 5 Raritan Serial Client Window

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## Emulator

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1. Change the default user Idle Timeout setting before launching the RSC for the first time or it will timeout in 10 minutes and display a host termination message. See the Security section of the Dominion SX User Guide for changing the Idle Timeout setting..
2. Click on the **Emulator** drop-down menu to display a list of topics.

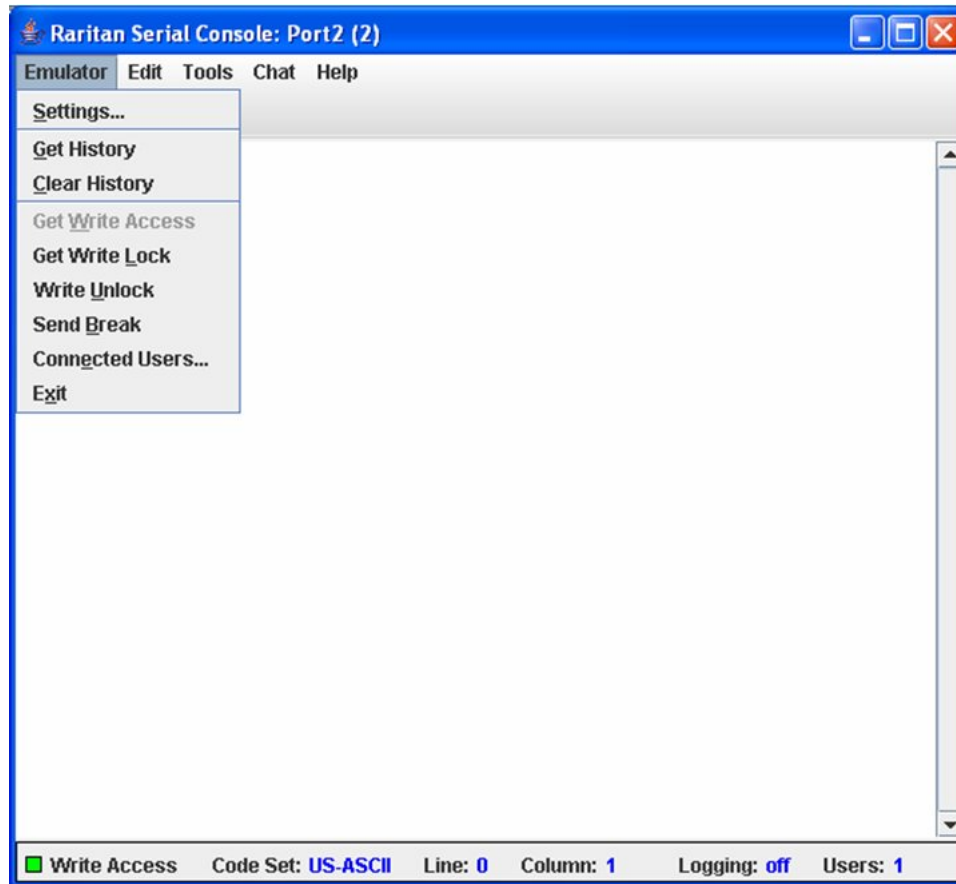


Figure 6 Emulator Drop-Down Menu

---

**IMPORTANT:** You must change the default user Idle Timeout setting on the Dominion SX GUI before you begin using the RSC or it will timeout in 10 minutes and display a host termination message. See the Security chapter of the Dominion SX User Guide for changing the Idle Timeout setting.

---

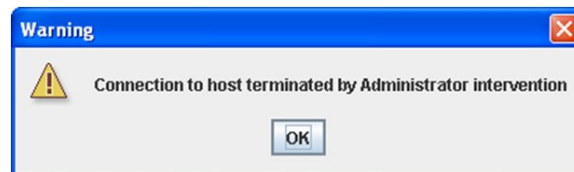


Figure 7 Connection Terminated Warning

3. Change the default **Idletimeout** setting and then launch the RSC.

---

*Note:* If the RSC **Idletimeout** expires, the Dominion SX **Idletimeout** period begins.

---

## Settings

*Note: Terminal emulation settings are set with the port by an Administrator using the **Setup->Port Configuration** menu.*

1. On the **Emulator** menu, click **Settings**. The Settings screen displays the **General** tab with the default settings.

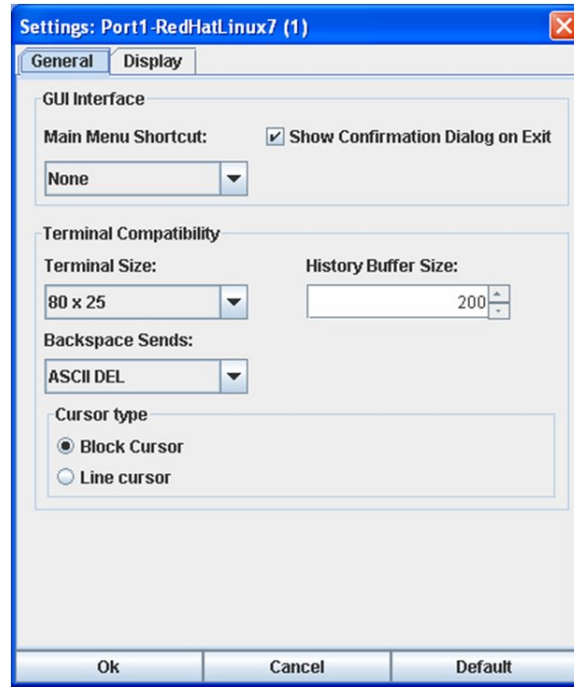


Figure 8 General Settings Window

2. Accept the **Main Menu Shortcut:** default of **None** or choose one of the following from the **Main Menu Shortcut:** drop-down menu.
  - F10
  - Alt
3. Accept the **Show Confirmation Dialog on Exit** default or uncheck it.
4. Accept the **Terminal Size:** default or choose a size from the **Terminal Size:** drop-down menu.
5. Accept the **Backspace Sends:** default of **ASCII DEL** or choose **Control-H** from the **Backspace Sends:** drop-down menu.
6. Accept the **History Buffer Size:** default of **200** or use the arrows to change the buffer size.
7. Accept the **Cursor type:** default of **Block Cursor:** or select **Line Cursor**.
8. Click **Ok**.

---

## Display Settings

1. Return to the **Emulator** menu, select **Settings** and then click the **Display** tab.

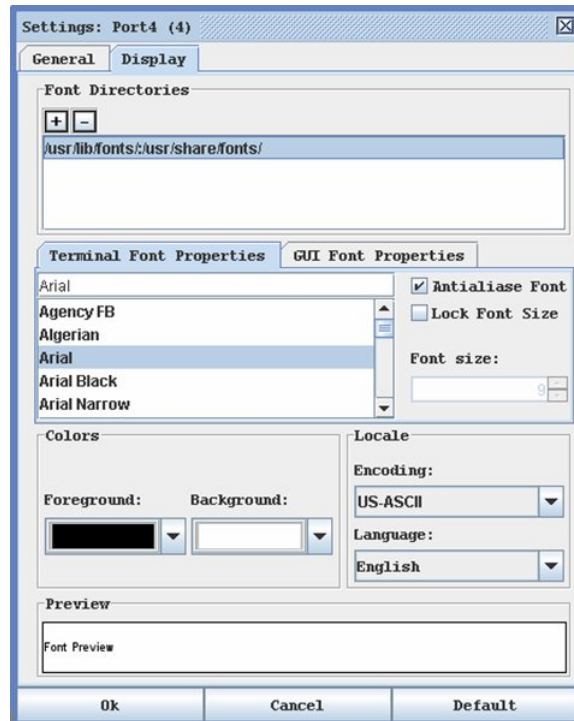


Figure 9 Display Settings Window

2. Click **Default** to accept the **Default** settings. Then click **Ok** to close the Display Settings window; however, if you want to change the settings, perform the following steps:
3. Accept the **Terminal Font Properties** default of **Arial** or choose a font from the **Terminal Font Properties** scrolling list.
4. Accept the **Antialias Font** default or uncheck it.
5. If you want to change the size of the font, check the **Lock Font Size** box and choose a font size from the **Font size:** drop-down menu.



- Click on the **GUI Font Properties** tab and accept the default of Monospaced or choose a font from the **GUI Font Properties** scrolling list.

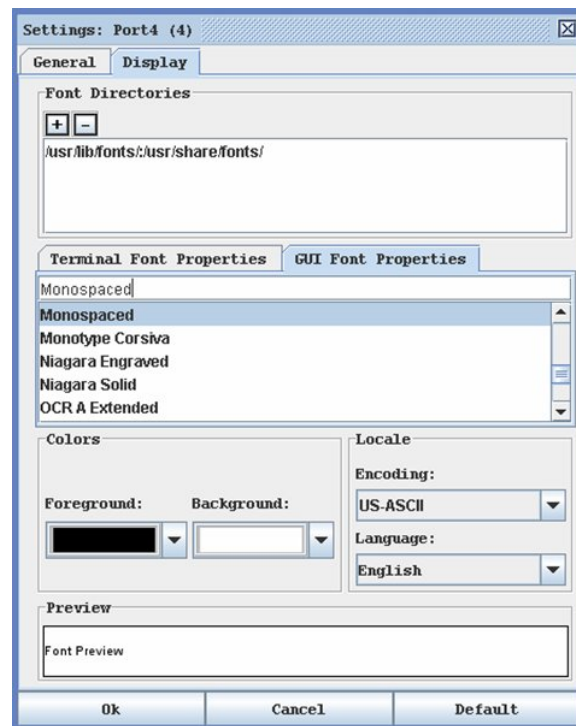


Figure 10 Display Settings: GUI Font Properties

- Choose the following from their drop-down menus:
  - Foreground** Color
  - Background** Color
- Choose one of the following from the **Encoding** drop-down menu:
  - US-ASCII
  - ISO-8859-1
  - ISO-8859-15
  - UTF-8
- Choose one of the following from the **Language** drop-down menu:
  - English
  - Bulgarian
  - Japanese
  - Korean
  - Chinese
- Click **Ok** to close the Display Settings window. If you changed the **Language** setting, the RSC changes to that language when the Display Settings window is closed.

---

## Get History

History information can be useful when debugging, troubleshooting, or administering a target device. The **Get History** feature:

- Allows you to view the recent history of console sessions by displaying the console messages to and from the target device.
- Displays up to 256 KB (64KB only on models with 64MB SDRAM; 256KB available on 128MB SDRAM Models) of recent console message history. This allows a user to see target device events over time.

When the size limit is reached, the text will wrap, overwriting the oldest data with the newest.

---

**Notes:** Verify the memory on your unit from the **Maintenance->Configuration** menu.

*History data is displayed only to the user who requested the history.*

---

To view the Session History, click **Get History** on the **Emulator** menu.

## Clear History

To clear the history, click **Clear History** on the **Emulator** menu.

## Get Write Access

Only Administrators and Observers can get write access. The user with Write Access can send commands to the target device. Write Access can be transferred among users working in the Raritan Serial Client via the Get Write Access command.

To enable Write Access, click **Get Write Access** on the **Emulator** menu.

- You now have Write Access to the target device.
- When another user assumes Write Access from you,
  - The RSC displays a red block before **Write Access** in the status bar.
  - A message alerting the user who currently has Write Access appears to tell that user that another user has taken over access to the console.

## Get Write Lock

1. To get write lock, click **Get Write Lock** on the **Emulator** menu.
2. If the Get Write Lock is not available, a request rejected message appears:



Figure 11 Get Write Lock Rejected

## Write Unlock

To get Write Unlock, click **Write Unlock** on the **Emulator** menu.

## Send Break

Some target systems such as Sun Solaris servers require the transmission of a null character (Break) to generate the **OK** prompt. This is equivalent to issuing a STOP-A from the Sun keyboard.

- Only users with Administrator privileges can send a break.
- Users who are Operator or Observers cannot send a break.

To send an intentional “break” to a Sun Solaris server:

1. Verify that you have Write Access. If not, follow the instructions in the previous section to obtain write access.
2. Click **Send Break** on the **Emulator** menu.  
A **Send Break Ack** (Acknowledgement) pop-up appears.
3. Click **OK**.



Figure 12 Send Break Ack

## Connected Users

The **Connected Users** command allows you to view a list of other users who are currently connected on the same port.

1. Click **Connected Users** to view the connected users on the **Emulator** menu.

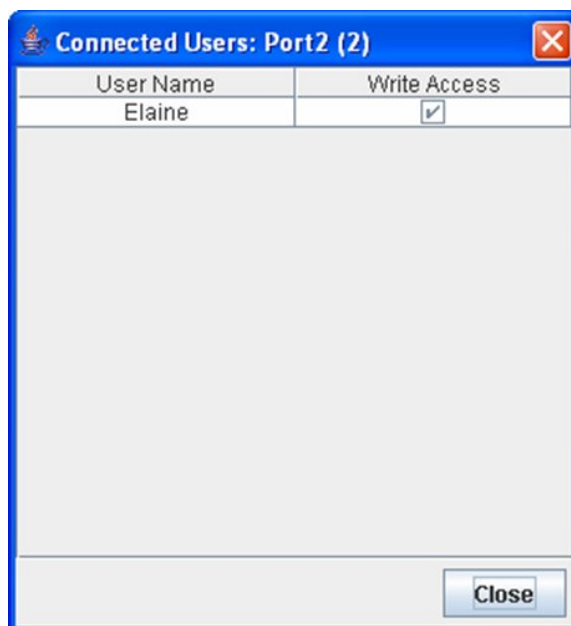


Figure 13 Connected Users Window

A check mark appears in the **Write Access** column after the name of the User who has Write Access to the console.

2. Click **Close** to close the Connected Users window.

---

## Exit

1. Click **Exit** on the **Emulator** menu to close the Raritan Serial Console.  
The Exit Confirmation screen appears.



Figure 14 Exit Confirmation

2. Click **Yes**.

---

## Edit

Use the **Copy**, **Paste**, and **Select All** text commands to relocate and/or re-use important text.

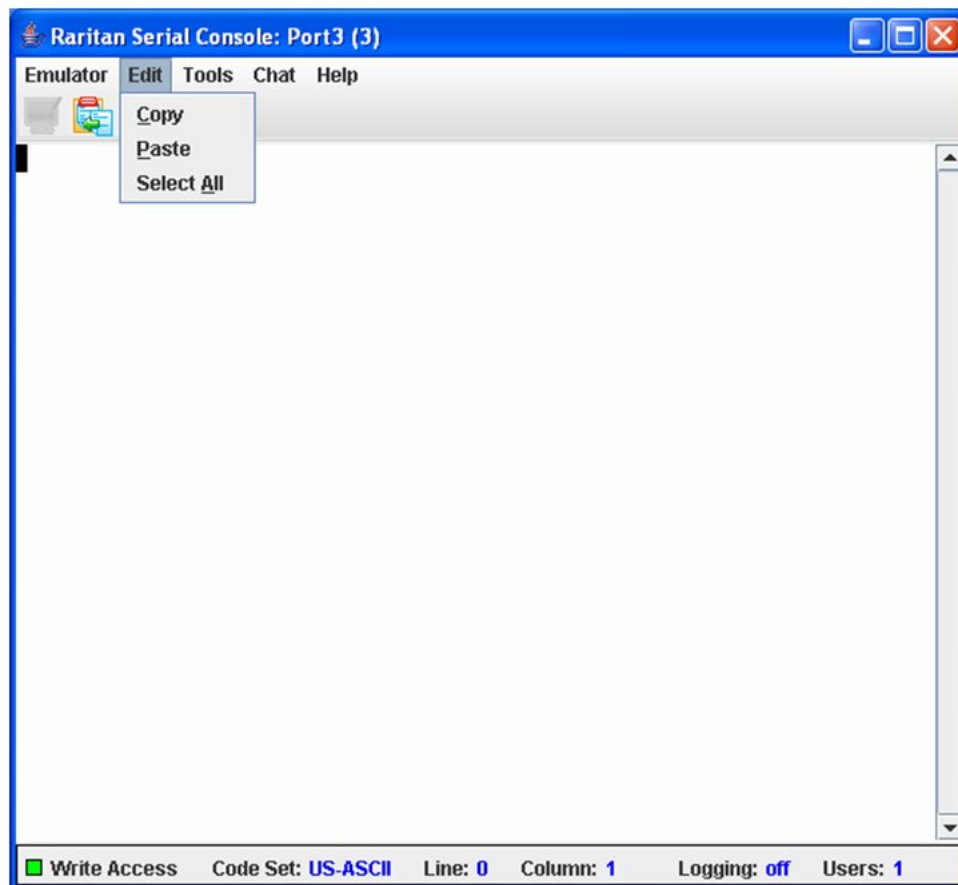


Figure 15 Edit Commands - Copy, Paste, and Select All Text

### Copy and Paste All Text:

1. Click **Select All** on the **Edit** menu.
2. Click **Copy** on the **Edit** menu.
3. Position the cursor at the location where you want to paste the text.
4. Click once to make that location active.
5. Click **Paste** on the **Edit** menu.

*Note: Here are keyboard shortcuts that you can use to highlight, copy, and paste all or partial lines of text:*

- Click and drag your mouse over the text you wish to copy.
- Press CTRL and tap the C key to copy.
- Position the cursor where you want to paste the text and click in that location to make it active.
- Press CTRL and tap the V key to paste.

The text copy limit in Raritan Serial Client is 9999 lines. This is configured from the RSC GUI in the **Emulator->Settings->History Buffer** menu.

## Tools

1. Click on the **Tools** drop-down menu to display a list of topics.

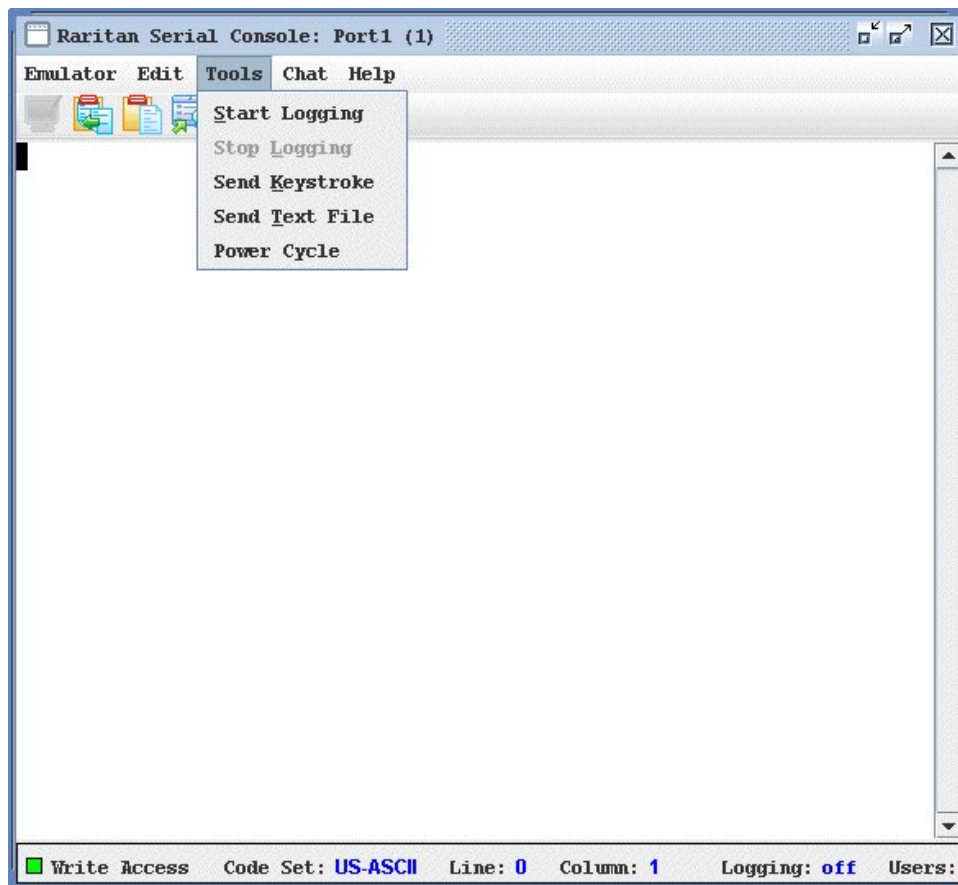


Figure 16 Tools Menu

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## Start Logging

The Start Logging function allows you to collect raw console data from the target device and save it to a file in your computer. When you start the RSC, the Logging indicator on the status bar indicates whether logging is **on** or **off**.

1. On the **Tools** menu, click **Start Logging**.
2. Choose an existing file or provide a new file name in the **Save RSC Log** dialog box.
  - When an existing file is selected for logging, data gets appended to the contents.
  - Providing a new file name results in new file being created.

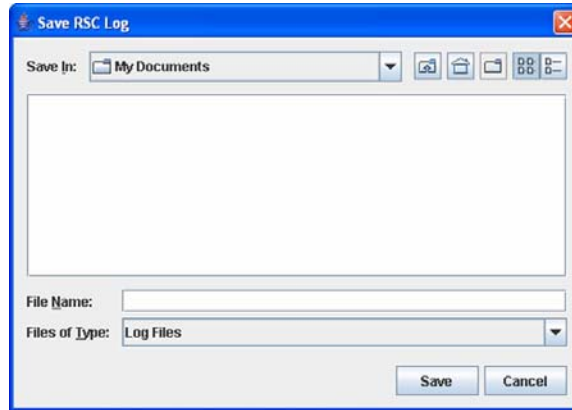


Figure 17 Start Logging Command Window

3. Click **Save** after selecting or creating a file.

## Stop Logging

On the **Tools** menu, click **Stop Logging**. The logging stops.

## Send Keystroke

1. On the **Tools** menu, click **Send Keystroke**.  
A **Send Keystroke** screen appears:

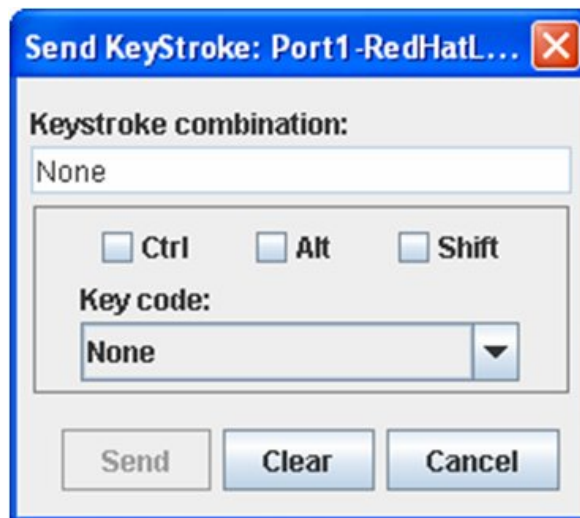


Figure 18 Send Keystroke

2. Enter the keystroke combinations that you want and select a Key Code name from the drop-down menu.
3. Send the keystroke combinations.

## Send Text File

1. On the **Tools** menu, click **Send Text File**.

A **Send Text File** screen appears:

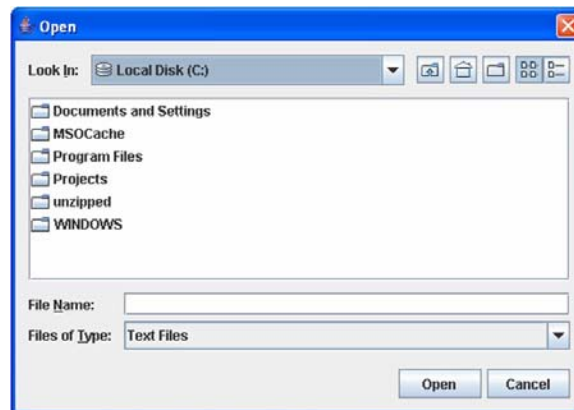


Figure 19 Send Text File

2. **Open** the directory of the Text file.
3. Click on or enter the **File Name** of the Text file.
4. Click **Open**.
  - As soon as you click the **Open** dialog box, it sends whatever file you selected directly to the port.
  - If there is a loopback plug inserted, you see the file displayed.
  - If there is currently no target connected, then nothing will be visible on the screen.

## Power Cycle

The **Power Cycle** function lets you power on or off the device that is connected to the associated outlet on a Power Distribution Unit (PDU). For example, if a router is connected to one of the outlets on the PDU, you can toggle on or off the router's power.

You need to configure the association of the outlets to the target port of the Dominion SX before you can use the **Power Cycle** feature. Go to the **Power Control** tab on the Dominion SX GUI to configure the outlets. If you have not done this, the system displays a message stating that the target is not associated with a power outlet.

1. Select **Power Cycle** to turn the device (router) off or on. A prompt appears displaying the current status of the outlet(s). You can turn the device off or on depending on its current status.
2. If you select **No**, the system returns you to the RSC screen.
3. If you select **Yes**, the system sends the power command to either turn on or off the outlets associated to this Dominion SX port.

If you receive a:

- "Hardware error" message, this means that the PDU command failed.
- "Software error" message, this means that another user is controlling the power outlet. The power control command cannot be sent.

---

## Chat

---

When using browser access over SSL, an interactive chat feature called **Chat** provides you and other users on the same port to communicate. You can conduct an online dialog for training or collaborative diagnostic activities. The maximum length of a chat message is 300 characters.

***Note:** When a chat is initiated, a chat window appears on the monitors of all SSL users logged on to the port. If a user is logged into a port multiple times, chat messages will not be shown to the same user.*

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### To use Chat:

1. Click **Chat** on the **Chat** menu.

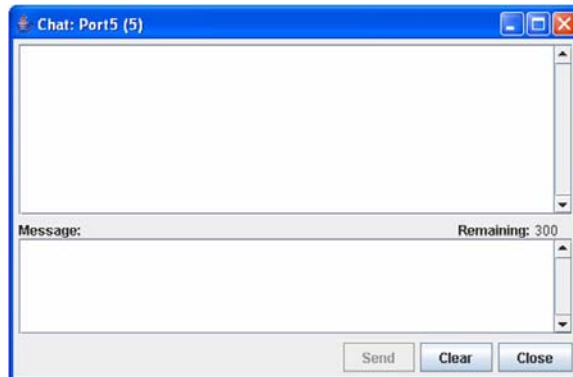


Figure 20 SecureChat Command and User Chat Window

2. Type a message in the **Message** text field.
3. Click **Send** or press **ENTER** to send the message.
4. Click **Clear** to delete the typed text, or click **Close** to exit and close the Message window.

## Help

---

Help Topics include on-line assistance for operating the Raritan Serial Console, and release information about Raritan Serial Console.

### Help Topics

#### To Access Help Topics:

1. Click **Help Topics** on the **Help** menu.



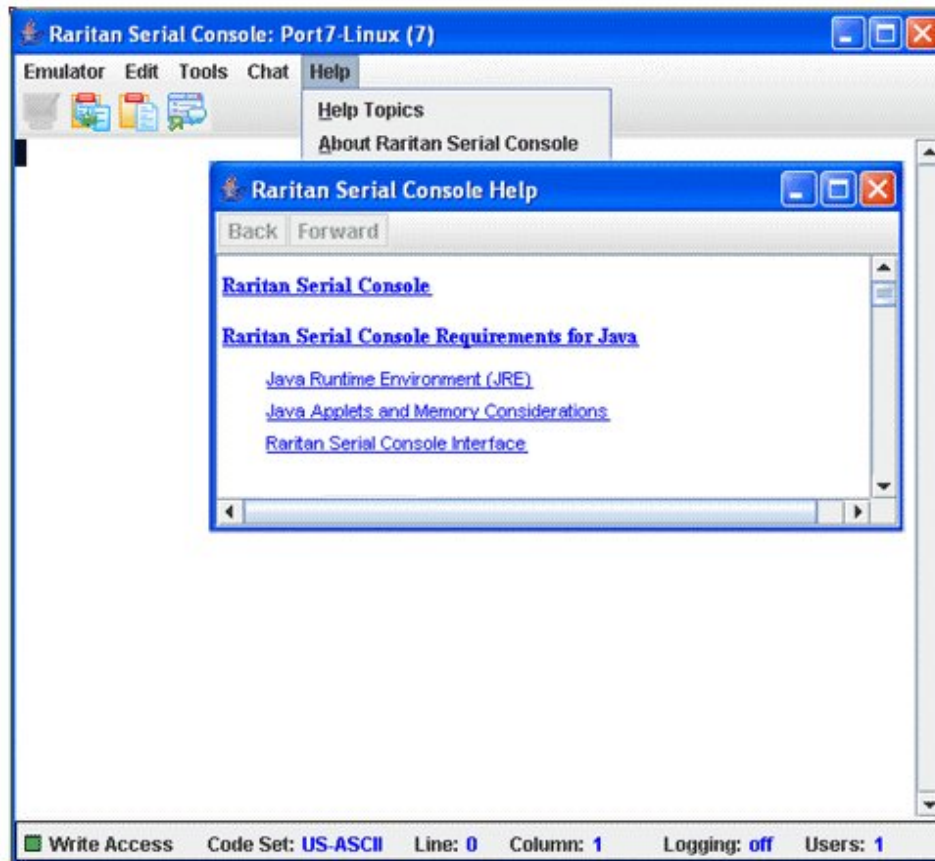


Figure 21 Help Window with Sample Help Topics

2. Use the navigation bar on the right side of **Table of Contents** window to scroll to the topic you need or click on the links.
3. Close this window when you are finished.

---

## About Raritan Serial Console

The **About Raritan Serial Console** window displays the copyright and version information (name and revision number) of the console terminal emulation software. When contacting Raritan for technical support or when performing a software upgrade, you may be asked for this information.

### To Access 'About' Information:

1. Click **About Raritan Serial Console** on the Help menu.

An **About Raritan Serial Console** message appears on top of the Raritan Serial Console drop-down menu:



*Figure 22 Sample of the About Raritan Serial Console Window*

2. Click **OK** to close the About Raritan Serial Console window.

## Chapter 2: Standalone Raritan Serial Client

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*Note:* You can download the Standalone Raritan Serial Client from the Raritan support Web site: <http://www.raritan.com/support>

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The standalone Raritan Serial Client (RSC) is used to make direct connections to the target without going through the Dominion SX GUI application. The user specifies the Dominion SX address and the port number (target) and then is connected.

The steps in this section install the standalone Raritan Serial Client (RSC).

### Standalone Raritan Serial Client Requirements

The following requirements must be met to support the Raritan Serial Console:

- Java Virtual Machine installed – Raritan recommends using the most current Java Runtime Environment (JRE) version but the Raritan Serial Client (RSC) will function with **JRE version 1.4.2\_05 or later**. Your system may require configuration adjustments depending on the operating system and browser. The JRE provides configuration instructions with the JRE download. Browse to the page at <http://www.java.com/en/download/help/testvm.xml> to determine the JRE version currently installed on your system.

If you do not have a compatible version of the JRE, go to <http://www.java.com> and click the **Download Now** button.

---

*Note:* Raritan does not support JRE version 1.5.0\_02 for use with the RSC.

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- Minimum 1 GHz PC with 512 MB RAM.
- Ensure that Java can be started from the command line. To do this, environment variables must be configured. Make a note of the exact path where Java was installed. (The path information will be used later.)

### Setting Windows OS Variables

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1. Open the **Start** menu and go to **Settings**.
2. Open the **Control Panel** and choose **System**.

3. Go to **Advanced** and open **Environment Variables**.

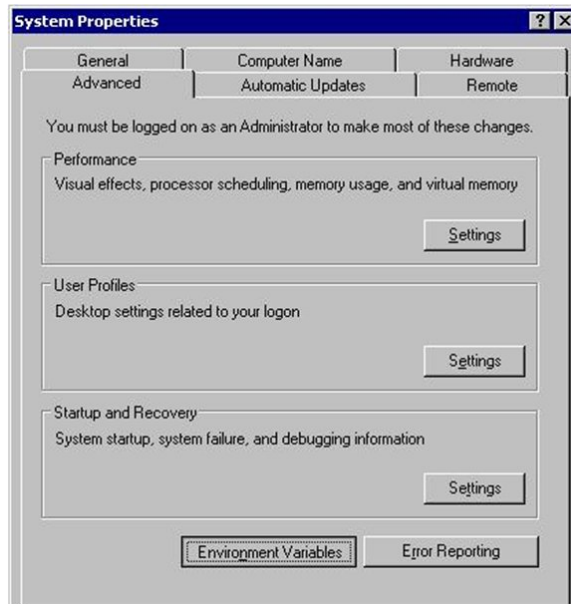


Figure 23 Windows OS: System Properties

4. In the System variables section, click **New**.
5. In the **New System Variable** dialog, add **JAVA\_HOME** to the **Variable** name block and the path you wrote down earlier in the Variable value block.
6. Click **OK**.

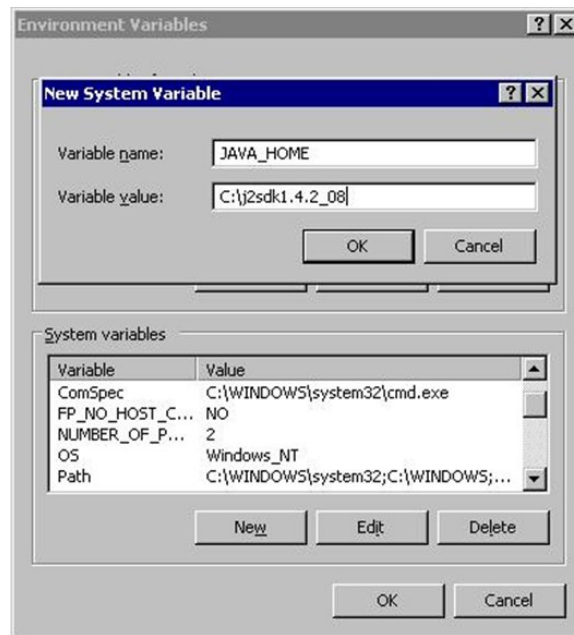


Figure 24 Windows OS: New System Variable

7. Select the **PATH** variable and click **Edit**.
8. Add **%JAVA\_HOME%\bin** to the end of the current Variable value. Ensure a semicolon (**;**) separates the new value from the last value in the string.
9. Click **OK**.

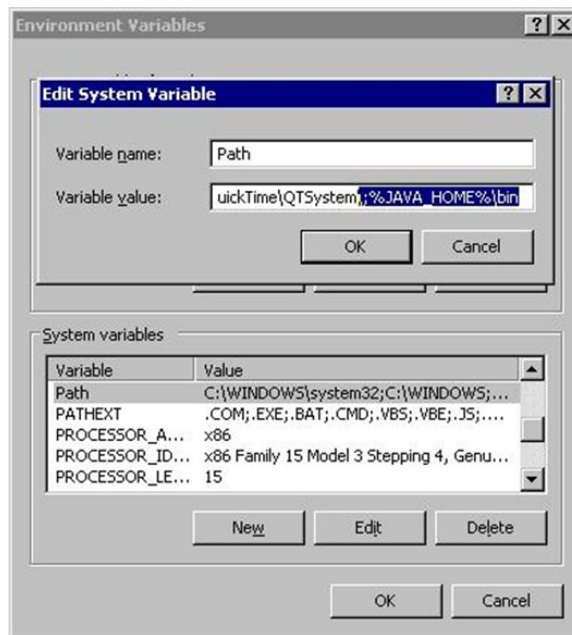


Figure 25 Windows OS: Edit System Variable

10. Select the CLASSPATH variable and click **Edit**.  
Ensure the CLASSPATH Variable value is configured properly; that is, its value must have a period(.) in it. If, for any reason, there is no CLASSPATH variable defined, create one.

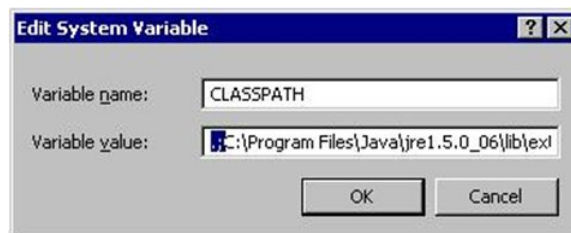


Figure 26 Windows OS: CLASSPATH Variable

## Setting Linux OS Variables

If you want to set Java for this user only, open and edit **.profile** file located in the `/home/Username` folder.

If you want to set Java for all users, open **.profile** file in your `/etc` folder

1. Find the line where you set your PATH.  
Example: `export PATH=$PATH:/home/username/somefolder`
2. Before that line you must set your JAVA\_HOME and then modify your PATH to include it.  
To achieve this, add the following lines:  
`export JAVA_HOME=/home/username/j2sdk1.4.2/`  
`export PATH=$PATH:$JAVA_HOME/bin`
3. Save the file and you are finished.


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## Setting UNIX OS Variables

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Perform the following steps to check the latest JRE Version on Sun Solaris.

1. Launch a terminal window on the Sun Solaris desktop.
2. Type **java -version** in the command line and press **ENTER**. The currently-installed version of Java Runtime Environment (JRE) appears.
  - If your path variable is not set to where the java binaries have been installed, you may not be able to see the JRE version.
  - To set your path: Assuming JRE 1.4.2\_05 is installed in /usr/local/java: you must set your PATH variable.
  - To set path for bash shell:  
export PATH=\$PATH:/usr/local/java/j2re1.4.2\_05/bin.
  - To set path for tcsh or csh:  
set PATH = (\$PATH /usr/local/java/j2re1.4.2\_05/bin).
  - These commands can either be typed at the terminal each time you log in, or you can add them to your .bashrc for bash shell or .cshrc for csh or tcsh so that each time you log in, the PATH is already set. See your shell documentation if you encounter problems.



```
# java -version
java version "1.4.2_05"
Java(TM) 2 Runtime Environment, Standard Edition (build 1.4.2_05-b04)
Java HotSpot(TM) Client VM (build 1.4.2_05-b04, mixed mode)
#
```

Figure 27 Check JRE Version in Sun Solaris

3. If the JRE is version **1.4.2\_05** or later, but not version 1.5.0\_02 , proceed with the RSC installation. If the version is older, go to the Sun Web site at: <http://java.sun.com/products/> to download the latest Runtime Environment.

## Installing Standalone RSC for Windows

You must have administrative privileges to install RSC.

1. Log on to a Windows machine.
2. Download, or copy from a known location, the **RSC-installer.jar** installation file.
3. Double-click on the executable file to start the installer program. The splash screen appears.

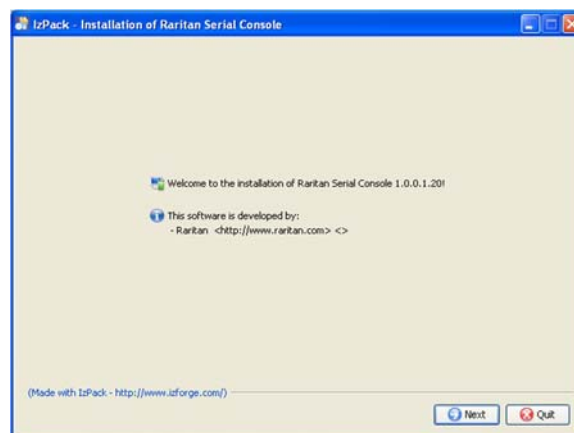


Figure 28 Windows Splash Screen

4. Click **Next**. The installation path screen appears.



Figure 29 RSC Windows Installation Path

5. Change the path, if desired.
6. Click **Next**. The installation progress screen appears.

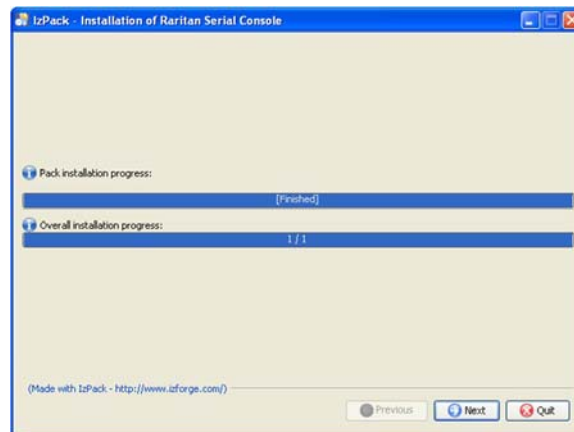


Figure 30 RSC Windows Install Progress Screen

7. Click **Next**. The Windows shortcut screen appears.

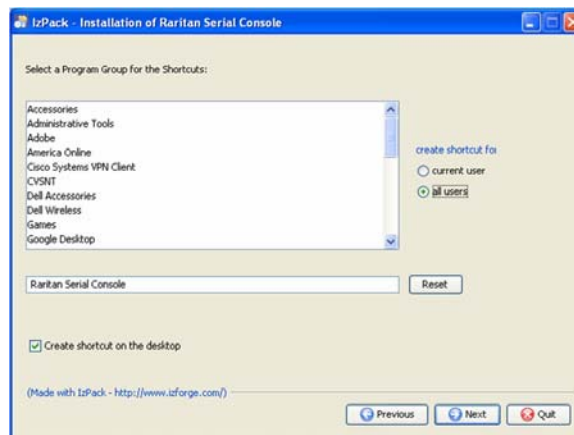


Figure 31 RSC Windows Shortcut Screen

8. Specify the desired **Program Group for the Shortcut**.

9. Click **Next**. The installation finished screen appears.

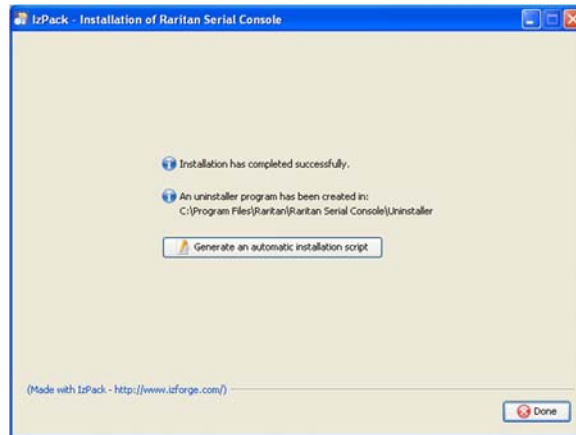


Figure 32 RSC Windows Installation Completed Screen

10. Click **Done**.

## Launching RSC on Windows Systems

1. Double-click on the **shortcut** or use **Start Programs** to launch the standalone RSC. The **Raritan Serial Console Login** connection properties window appears.

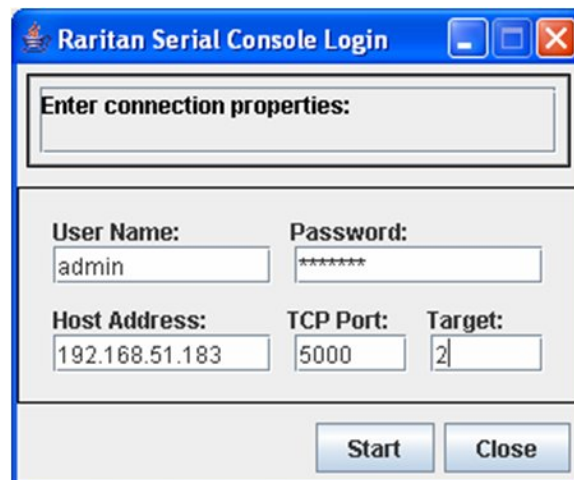


Figure 33 Standalone RSC Login Screen



2. Enter the Dominion SX IP address, account information, and the desired target (port).
3. Click **Start**. The RSC opens with a connection to the port.

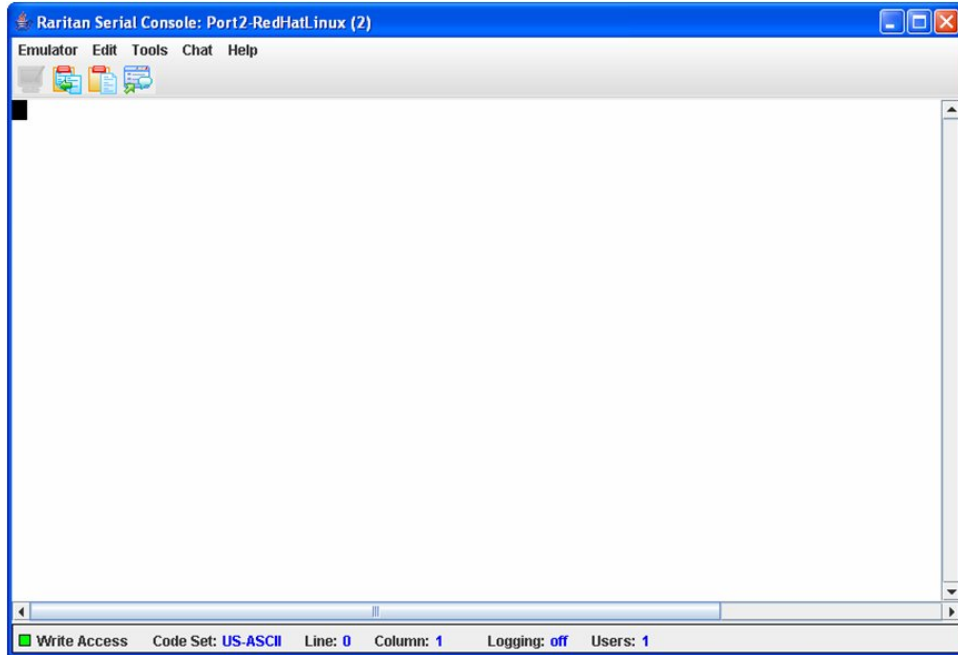


Figure 34 Standalone RSC Connected to Port Window

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## Installing RSC for Sun Solaris

You must have administrative privileges to install RSC.

1. Log on to your Sun Solaris machine.
2. Download, or copy from a known location, the **RSC-installer.jar** installation file.
3. Open a terminal window and change to the directory where the installer is saved.
4. Type **java -jar RSC-installer.jar** and press **ENTER** to run the installer.
5. Click **Next** after the initial screen loads.

The **Set Installation Path** screen appears.

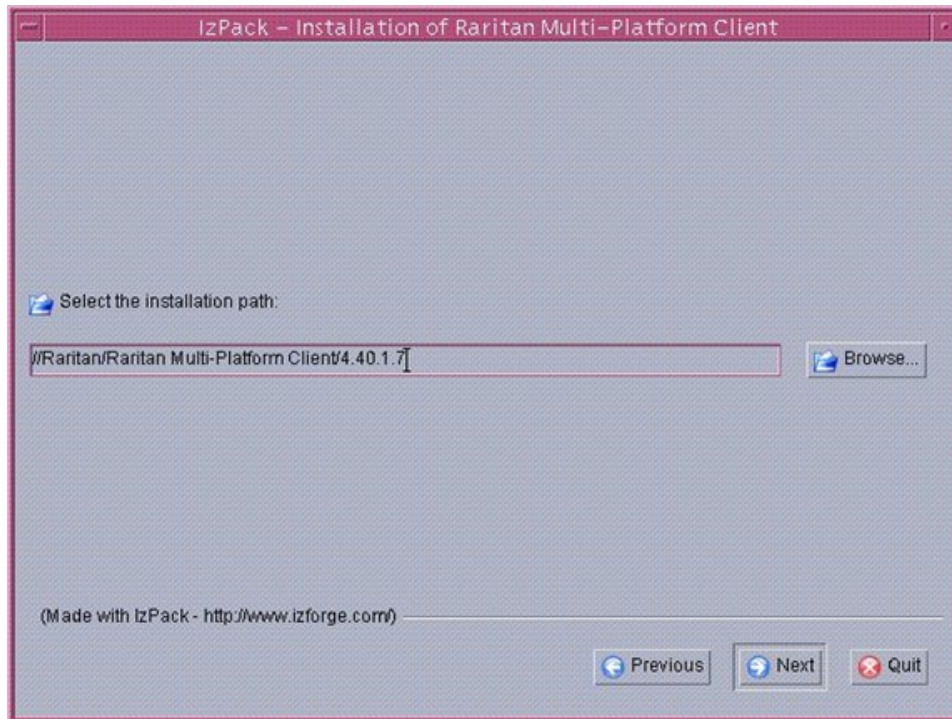


Figure 35 Set Installation Path

1. Select the directory where you want to install RSC and click **Next**.
2. Click **Browse** to navigate to a non-default directory.
3. Click **Next** when the installation is complete.
4. Click **Next** again. The installation is complete. The final screen indicates where you will find an uninstaller program, and allows the option of generating an automatic installation script.
5. Click **Done** to close the Installation window.

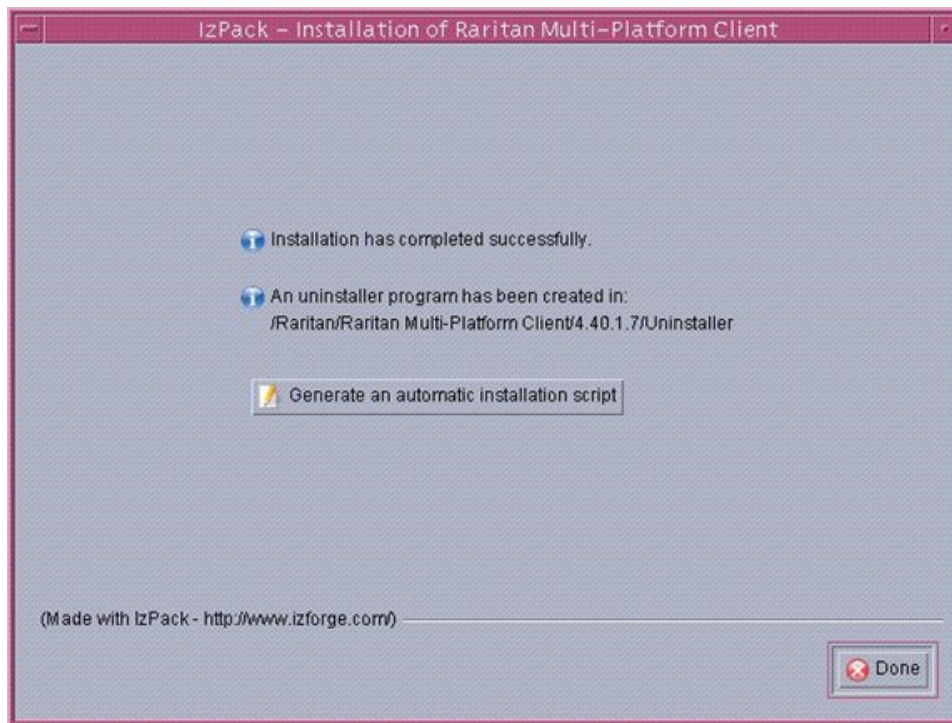


Figure 36 Final Installation Screen

## Launching RSC on Sun Solaris

1. Open a terminal window and change to the directory where you installed the RSC.
2. Type **./start.sh** and press **ENTER** to launch RSC.
3. Double-click on the desired device to establish a connection.
4. Type your **Username** and **Password**.
5. Click **OK** to log on.

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