Release Notes for Dominion SX Firmware 3.1.6

Release Notes Version: 4.0

Release Notes Date: December 4, 2008

Effective: Immediately

Applicability:

The 3.1.6 Release is applicable to the Dominion SX.

SX Release 3.1.6 is **not** applicable to the Intel-based Dominion SX Models SX16 or SX32 that have Serial Numbers starting with WAA, WAB, SX, WP, or WQ. These two models also can be identified from the back panel by the absence of the RESET pin hole.

If the SX unit's firmware is less than v.2.5.x, please do **not** apply this firmware. Contact Raritan Technical support for assistance.

Release Status:

General Availability

Expiration Date of Content:

This document will be obsolete when the next generally available release is posted on the Raritan website. Contact Raritan Customer Support or check the website http://www.raritan.com/support/Dominion-SX/ for updated versions of the SX firmware, release notes, user guide and standalone version of the Raritan Serial Console (RSC).

Dominion SX Documentation:

The following additional documentation is available for the Dominion SX:

- **Dominion SX User Guide** – user guide to the SX's local and remote browser based user interfaces and also for general SX usage.
- **Dominion SX Quick Setup Guide** –reference for the quick setup of the SX.

The Dominion SX documentation is contained on the CDROM included in the Dominion SX package and on the Raritan Website http://www.raritan.com/support/Dominion-SX/. Future documentation updates will also be provided via Raritan's website.

Release 3.1.6 Compatibility Information:

- Dominion SX 3.1.6 may not be included in the current compatibility matrix of CC-SG, although it is fully supported in CC-SG 4.0 and 3.2.1.

- Dominion SX 3.1.6 is compatible with the Raritan Serial Console (RSC), a Java client launched from the browser-based user interface or standalone from the desktop.
- Dominion SX 3.1.6 is verified with the following client Operating Systems and applications. We recommend utilizing these versions for optimum performance with your SX.

Operating System	Browser	JRE
Windows 2000 SP4	Internet Explorer 6.0 Mozilla 1.7.8	JRE 1.5.0_11
Windows XP Home Edition SP3	Internet Explorer 7.0 Firefox 3.0.3	JRE 1.5.0_14 JRE 1.6.0_07
Windows XP Professional x64 Edition SP2	Internet Explorer 6.0 Firefox 3.0.3	JRE 1.6.0_07
Windows Server 2003 Standard Edition SP2	Internet Explorer 7.0 Firefox 3.0.3	JRE 1.6.0_07
Windows Server 2003 Enterprise Edition SP1	Internet Explorer 7.0 Firefox 3.0.1	JRE 1.6.0_05
Windows Vista Business x64	Internet Explorer 8.0 Firefox 2.0.0.15	JRE 1.6.0_07
Windows Vista Ultimate	Internet Explorer 8.0 Firefox 3.0.1	JRE 1.6.0_07
Windows Server 2008 x64	Internet Explorer 8.0 Firefox 3.0.3	JRE 1.6.0_07
Fedora Core 6	Firefox 3.0.3	JRE 1.6.0_05
Suse Linux 10.1	Firefox 1.5.0.3	JRE 1.6.0_03

Dominion SX Release 3.1.6 Overview:

- In addition to PPP connections, a new feature has been introduced that allows users to establish non-PPP connections through the modem, referred to as the 'Console' mode. In Console mode, users can use simple terminal emulation programs such as Hyperterminal, to dial-into the Dominion SX through modem. Please use the following table to determine if you will be impacted by this feature after the upgrade. In 'All' mode, Dominion SX allows connections in Terminal Access mode, only when PPP signals are not detected.

Before Upgrade		After Upgrade	
Modem	**PPP Dialback**	**Modem**	**Modem Mode**
Disabled	Disabled	Disabled	All
Enabled	Disabled	Enabled	All
Enabled	Enabled	Enabled	PPP Only with Dialback enabled

- SSH access from Windows Vista clients succeeds. A new option 'Fixed TCP Window' has been introduced under Configuration > Services to make this possible. Please note that some other Operating Systems may require TCP window scaling for successful SSH connections, in which case, the 'Fixed TCP Window' option needs to be disabled.
- In addition to the existing NFS feature, a new feature has been introduced that allows port data to be logged to a syslog server
- Raritan Serial Console has been updated and the new 3.0 version vastly improves internationalization support
- Dominion SX reliably fails over to local authentication if and only if a configured remote authentication server is unreachable
- Important security updates to address various vulnerabilities listed in the Common Vulnerabilities and Exposures (CVE)
- Passwords containing parentheses are accepted during modem access as well
- Improved reliability on backup and restore operations
- Multiple users can reliably connect to the same DSX port through CC-SG

- Firewall enhanced to accept UDP and multiport rules
- CLI enhancement to allow 'quit' command to exit port sessions
- Enhancement to let Dominion SX report its identity to remote authentication servers
- Dominion SX reports its uptime
- Dominion SX SNMP MIB updated and passed level 5 validation

If Upgrading From v.2.5.x:

- The port used for SX application is now **changed from TCP port 51000** (or other user- specified high-numbered port) **to TCP port 5000**. This port is also renamed as the CSC port.
- The Discovery port used for CommandCenter communications is not changed, and remains at UDP port 5000. CommandCenter Secure Gateway 3.1.1 is required for release compatibility.
- User groups are now supported, so users can now be put into groups that are function-based, rather than user based.
- To accommodate the many new features, the TCL interpreter has been removed.
- The factory default inactivity timeout has been changed to 10 minutes (from 5 minutes).

Known Limitations:

- Dominion SX units that cannot obtain an IP address through DHCP or configured with static IP addresses may not perform configuration backup successfully. Workaround is to issue the following command from the local terminal port, SSH or Telnet: 'admin > Config > Log > eventlogfile style wrap'. This command needs to be executed only once and all subsequent backup operations will be successful.
- The new Raritan Serial Console version 3.0, part of this release requires the 'History Buffer Size' setting in Emulator/ Settings menu of RSC to be less than 8192 before the upgrade. Higher values will prevent the Raritan Serial Console from opening successfully after the upgrade.
- When generating CSR through CLI, the parameters cannot have spaces. Workaround is to use the GUI to generate CSR if spaces are needed in any of the parameters.
- Dominion SX does not use encrypted private keys. So if the SX is not used to generate the certificate signing request, encryption need to be removed from the external certificate's private key. The command "openssl rsa -in server.key -out server2.key" removes the encryption from server.key and provide server2.key, which is the unencrypted private key suitable for use with Dominion SX. Encrypted private keys are used to prevent the web server being started by unauthorized users. Since DSX does not allow users to access the web server directly, an encrypted private key is not required and does not compromise security.

Important Notes and Information:

The minimum configuration requirements for the Raritan Serial Console are:

- CPU speed of 1.0 GHz
- RAM of 512 Mbytes.
- When changing certain key administrative settings (IP Address, IP Gateway etc.), you must re-boot the SX for the new parameter(s) to take effect.

- The Administrator should warn all users when a re-boot is necessary.
- The Administrator should change the necessary parameters and then perform a re-boot for the settings to take effect.

Upgrade Prerequisites:

If you have any questions, or do not meet the pre-requisites listed below, please stop and contact Raritan Technical Support for further instructions. Please read the entire instructions before proceeding with the upgrade.

1. The new Raritan Serial Console version 3.0, part of this release requires the 'History Buffer Size' setting in Emulator/ Settings menu of RSC to be less than 8192 before the upgrade. Higher values will prevent the Raritan Serial Console from opening successfully.
2. It is highly recommended to clear up any event logs before upgrade is started to free up space
3. Only Administrators can upgrade the SX.
4. There should not be any active users using the Dominion SX; this means that no users, other than the Administrator performing the update, are logged into the unit.
5. The software upgrades are written to flash memory, and this takes time to complete. Please do not power-off the unit, or disconnect the Ethernet connection while the upgrade is going on.
6. If doing the firmware upgrade over a VPN, ensure that the connection is stable and that no inactivity timeouts have been set.
7. If operating through a router/firewall, the FTP port (TCP port 21) may be blocked and the upgrade may not be possible; in this case, a local FTP server is necessary to upgrade the Dominion SX unit.
8. Please make sure the ftp server idle timeout is set to 20 minutes or greater.
9. If you are running an FTP server on a Windows PC to upgrade the Dominion SX unit, please read the following additional notes:
   a. Disable the Windows Firewall before doing the upgrade, or else the upgrade will fail.
   b. If you are using VPN software (like Cisco's VPN client), it may also have a built-in firewall that blocks FTP access to the Windows PC. By default when the Cisco VPN client is loaded (it may or may not be in use), the firewall is running automatically, so it has to be disabled to allow the Dominion SX to access the FTP server on the Windows PC.
   c. Additional operating system security settings, and optional software, may also prevent an FTP server on the Windows PC from being accessed from the Dominion SX unit.
   d. On a heavily loaded Windows PC (with lots of applications running), connection timeouts to the FTP server may cause the upgrade to be aborted; it is best to close all applications except the FTP server to complete the upgrade.

Upgrade WARNING

Important: During an upgrade procedure, do not attempt to access any unit features or functions, including, but not limited to, Reset and Exit. Interrupting the upgrade procedure can cause memory corruption and render the unit non-functional. Such an action may void your warranty or service contract, and in such a case unit repair/replacement costs may be solely the responsibility of the user.

Upgrade Preparation

1. Download the upgrades file(s) onto a local FTP server.
2. Unzip the files.
3. Locate and select the DIRECTORY where the unzipped SX firmware is located on the FTP server.
4. Obtain the IP address of the FTP server.
5. Obtain the File Path to the upgrade file(s). A file-name is not necessary, just the right path to the directory containing the upgrade files. For example, C:\Documents and

Settings\SX30\UpgradePack_2.5.6_3.1.6\Pack1of1

6. Obtain a user account (Optional) if "anonymous" access to the FTP server is not supported.
7. Close any remote or local SX sessions to all devices connected to the Dominion SX unit – servers, power strips, and serial devices.
8. Close all open Raritan Console windows.

Note: Many upgrades can be performed "anonymous" from the FTP server and the default settings of this screen are for an anonymous upgrade. However, some FTP servers require a user name and password. If this is the case, the administrator can uncheck the "Anonymous" box and enter the correct user name and password for the FTP server.

Upgrade Instructions:

Note: For best results, the SX device should be re-booted before the firmware upgrade is applied. This will ensure that no users are logged in and/or no sessions are active.

1. In Internet Explorer (or other supported browser), type in the IP address of your Dominion SX unit, and login as an Administrator
2. Click the Maintenance menu
3. Click the Firmware Upgrade section in the Maintenance menu.
4. Type the IP Address in the IP address field, usually is the FTP server IP address
5. Type your Login name in the Login field.
6. Type your Password in the Password field.
7. Type the File Path in the File Path field.
8. Click Upgrade.
9. The firmware upgrade may take up to 60 minutes per SX
    a. Pre-reboot upgrade time (time required to copy files and extract some files) is 20 minutes
    b. Post-reboot file extraction time (time required to extract files (which were copied during upgrade) at boot up time is 40 minutes
    c. **DO NOT REBOOT OR POWER CYCLE THE SX!**
    d. Once the upgrade is initiated, the status bar will indicate the progress of the upgrade and a pop-up window will notify the user once the upgrade procedure is complete. **The progress bar may pause for a long period at certain points; this is normal.**
    e. **When complete, the Dominion SX will reboot and the current session will close.**

10. After the reboot, the unit will be upgraded with new release.
11. Close the existing browser windows.
12. Open a new browser session, type in the IP Address of the Dominion SX unit, and login to verify that the upgrade was a success.
13. If you have any questions about compatibility with previous versions of Dominion SX software or CommandCenter Secure-Gateway, please contact Raritan Technical Support.

Note: The Firmware Upgrade feature allows you to upgrade the Dominion SX unit's firmware to a newer version. These upgrades preserve user-defined settings. You do not need re-configure the unit after the upgrade is complete.

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