

Release Notes for Dominion SX Firmware 3.1.5.5.1

Release Notes Version: 2.0 (ECN#3092)
Release Notes Date: June 14, 2008
Effective: Immediately

Applicability:

The 3.1.5 Release is applicable to the Dominion SX.

SX Release 3.1.5 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 web-site. Contact Raritan Customer Support or check the website (<http://www.raritan.com/support>) for updated versions of the SX firmware, release notes, user guide and standalone version of the Raritan Serial Console (RSC):

<http://www.raritan.com/support/firmwareupgrades/dominionsx/>

Dominion SX Overview:

With Raritan's Dominion SX, you'll enjoy secure, 24/7, out-of-band control of your serial devices (routers, switches, firewalls, servers) -- via SSH, Telnet, or browser - no matter where in the world you happen to be. Easy to install, simple to use and highly scalable, the Dominion SX offers you one point of control to manage a wide range of IT components.

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>. Please go to the Support section and click on “Product Documentation” in the left navigation pane, or go directly to:

<http://www.raritan.com/support/productdocumentation>

Scroll down to the “Dominion SX” heading to locate the documentation in PDF format. Future documentation updates will also be provided via Raritan’s website.

Release 3.1.5 Compatibility Information:

1. This version of SX 3.1.5 may not be included in the current compatibility matrix, which is hard coded on CC-SG; although it is fully supported in CC-SG 3.2.1 and 3.2.0. Customers running previous CC-SG Releases (e.g., 2.3, 3.0., 3.1) must upgrade to CC-SG 3.2.1 or 3.2.0.

2. SX devices can be remotely accessed by the following Java-based remote clients:

Remote Client	Description	Version
Raritan Serial Console (RSC)	Java-based client invoked from the browser-based remote user interface or standalone, for serial port connection to target server.	2.1.0

3. SX is verified with the following 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 Professional SP 2	Internet Explorer 6.0 Internet Explorer 7.0 Firefox 2.0.0.3 Firefox 2.0.0.12 Opera 9.25 Mozilla 1.7.8	JRE 1.5.0_6 JRE 1.5.0_14
Windows Vista	Internet Explorer 7.0 Firefox 2.0.0.3	JRE 1.6
FC6	Firefox 1.5.0.12	JRE 1.4.2_15-b02
Suse 10.1	Firefox 1.5.0.3	JRE 1.5.0_08-b03

Note to Vista Users

There may be a problem experienced by some users of Vista's Enterprise (and Business) edition with SX where the SSH window starts and fails to open. This is independent of the SX firmware version and does not require an upgrade of SX firmware to resolve.

This problem seems to stem from the Vista's implementation of TCP auto tuning. Vista's Enterprise (and Business) editions utilize an aggressive scaling factor, which causes issues in packet segmentation which lead to SSH handshake messages being split apart and connection to never complete. The problem with Vista, is what Vista is doing when it sees that the SX cannot support the window



scaling size of 8. Microsoft has described this problem at <http://support.microsoft.com/kb/929868/>. SX cannot support a window scaling of 8 at all because there isn't the memory available to support this level of packet buffering. When this scaling factor is shrunk, or disabled entirely the SSH handshaking completes correctly and the connection can be established.

To perform this on vista run a cmd.exe shell at an elevated admin level and execute the following command:

```
netsh interface tcp set global autotuninglevel=highlyrestricted  
- or -  
netsh interface tcp set global autotuninglevel=disable
```

Dominion SX Release 3.1.5 Overview:

- DHCP client added to the SX and is enabled by default in factory reset. An upgrade does not reset the IP address; it retains whatever configuration is present. (CR#9809)
- Individual Port Access can now be set to shared or private, allowing or disallowing users to connect to the port while another user is utilizing it. The default value is set to **Share**. (CR#10918)
- An installation configuration script, also known as a recorded session, can now be run on the SX using DHCP and an FTP Server using new Command Line Interface (CLI) commands “getconfig”, “runconfig”, and “force” (CR#9665)
- SSH channel was locking up when using the Nano editor (FCR#13295).
- Built-in modem was not resetting when a communication connection was forcibly dropped or improperly terminated (FCR#12875).
- Disallow directory listings of the DSX itself (FCR#11696).
- Disable HTTP trace as it's not necessary for SX operations (FCR#11547).
- Modified the network driver to zero out the padding data to prevent possible ether-leak (FCR#11516).
- DSX port settings were not persistent when set through Raritan's Command Center – Secure Gateway (CC-SG) (FCR#11468).
- When the SX is under heavy load, or is slowed down by debug messages an initial port connection may fail which was not being retried correctly (FCR#11297/8895).
- When working with Raritan's CommandCenter – NOC, http sessions were being orphaned and not removed unless a user logged into the SX periodically (FCR#10555).
- Serial Settings for 7-bit communication was not being executed properly. (FCR#10553)

- The SX unit was not switching active DPA network port to the newly port values after reboot (FCR#10114).
- User Certificate handling was improved and documented (FCR#10022&10543).
- SNMP Port is now user configurable (FCR#9562).
- When a Raritan power strip is initially connected through the SX and managed by CC-SG, the icon on the CC-SG screen will change to a power strip after approximately one minute as the outlets polled (FCR#9106&11791).
- Default rule added to iptables when system starts up to help prevent users from locking themselves out by changing the default INPUT behavior (FCR#7045):

```
iptables - A INPUT -t filter -j ACCEPT -s 127.0.0.1
```
- There was a slight discrepancy in the send/receive window sizes set in the core network settings compared to the actual IPv4 network settings (FCR#7012).
- To improve performance of heavy transaction periods, the SX internal server application threads are now dynamic. (FCR#5587)
- NTP and Daylight Savings Time conflict resolved. (FCR#2105&13497)

The User Guide, Quick Setup Guide, and Specification Sheet were all refreshed as part of the Release 3.1.5, and include many change requests received from customers including the following:

- Specification Sheet was changed to make clear when the optional rack rails are required with the certain smaller density SX (FCR#12296)
- Instructions for Microsoft Active Directory and SX have been further clarified (FCR#11473)
- Instructions for User Certificates has been enhanced (FCR#10543)
- Details for the web interface of Direct Port Access has been improved (FCR#10359&3357)
- Current internal modem top speed maxes at the Linux limitation of 33,600 bps (FCR#10294)
- Backup and Restore commands have been clarified (FCR#8762)
- Importing LDAP certificates has been refined (FCR#3708)
- Note added to that managing a power strip directly via RSC or CLI is not recommended and will display the raw characters (FCR#9900)

From Previous v.3.x Releases:

- Fully-featured power control for RPC and Dominion PX with outlet associations for servers and networking devices with multiple power feeds – whether these inputs are from one power distribution unit or multiple power distribution unit.
- Localization: the Raritan Serial Console (RSC) supports four languages: English, Chinese, Japanese, and Korean
- Enhancements in SMTP notifications –persistent attempts (automatic retries) to send SMTP notifications and support for mail server authentication.
- Security: enhancements to the firewall – added pre- and post-routing and Static NAT (SNAT) support.
- Enhancement in Security: when the Dial Back option is enabled, the user is not allowed to connect to SX by using direct dial in (non-PPP) feature of hyper terminal or similar dialup applications
- Reliability: CPU Watchdog Timer is added to monitor the health of software. The LED blinking logic is added to indicate activity of serial port, LAN port and operating system heartbeat.

Please contact your local technical support if there are any questions.

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:

- Special notice for customer who is using the modem dial-in function: This version of firmware will DISABLE terminal emulation access via dial-in modem connection. The modem will only support PPP connection type.
- When using Internet Explorer 6.0 or higher, please “Turn-off the Pop-up Blocker” in order to view the user list or other associated applications
- When performing Associations Power Control command, the delay parameter represents the User Specified Delay. It is the minimum time (delay) needed between operations. Experienced Delay is Operational Delay plus User Specified Delay, e.g., Sequence Interval and Power Recycle Interval
- When using NFS, renaming a port (channel) only takes effect in the NFS log when logging is stopped and started again
- The stand alone Raritan Serial Console (RSC) is not supported on MAC OS X.
- Power control is not supported on the last port of the unit. The last port can be used for non-power control target
- Japanese menu support is provided. However, Japanese Encoding for the target communication is not fully supported

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. It's highly recommended to clear up any event logs before upgrade is started to free up space
2. Only Administrators can upgrade the SX.

3. 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.
4. 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.
5. If doing the firmware upgrade over a VPN, ensure that the connection is stable and that no inactivity timeouts have been set.
6. 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.
7. Please make sure the ftp server idle timeout is set to 20 minutes or greater.
8. 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_3.1.5.5.1\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
 - Pre-reboot upgrade time (time required to copy files and extract some files) is 20 minutes
 - Post-reboot file extraction time (time required to extract files (which were copied during upgrade) at boot up time is 40 minutes
 - **DO NOT REBOOT OR POWER CYCLE THE SX!**
 - 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.**

- **When complete, the Dominion SX will reboot and the current session will close.**

11. After the reboot, the unit will be upgraded with new release.
12. Close the existing browser windows.
13. 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.
14. 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.

SX 3.1.5 Release Notes, Revision 2.0

June 14, 2008

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