

UNCLASSIFIED

**IDENTIFICATION OF VOLATILE
AND NON-VOLATILE STORAGE
AND
SANITIZATION OF SYSTEM
COMPONENTS**

**JUNIPER NETWORKS
SRX-SERIES
SRX100B/H**

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1 INTRODUCTION

1.1 Purpose

The purpose of this document is to provide direction to identify volatile and non-volatile storages and remove non-volatile (NV) storage from the Juniper Networks' Secure Services Gateway SRX100 security platform.

1.2 Scope

This document only addresses the SRX100 security platform. While other platforms offered by Juniper Networks may contain similar hardware components, this document only applies to the SRX100. Furthermore, this document only provides direction for the identification and removal of NV storage components. It does not address destruction procedures for those components. As all of the NV storage components used in the SRX Series product family are commercial off-the-shelf (COTS) components, directions for destruction of those components are left to the governing Department, Agency, or Office.

2 EQUIPMENT OVERVIEW

2.1 Identification of Chassis

The SRX100 is a desktop security appliance with 8 fixed 10/100 Mbps Ethernet ports, one rear facing DC Jack for +12V power. The chassis is standalone with system motherboard, one front-facing Universal Serial Bus (USB) interface, internal NAND flash chip, Boot flash chip, IDEEPROM and Renesas chips, which are soldered on the system motherboard. The volatile and non-volatile memories can not be accessed without removing the top cover of the chassis and these are soldered to the motherboard except the USB storage devices. Users are not advised to remove these storage devices unless they want to scrap the system. If the user wants to remove them, the user has to de-solder these chips.

The following picture shows the front view of the SRX100 model:



Figure 2-1: SRX100 Chassis front view

2.2 Description of Components

The following major components are installed in the SRX100 chassis.

2.2.1 System Motherboard

The System Motherboard is the printed circuit board located inside the chassis. The NAND flash, NOR Flash, IDEEPROM, Renesas and DRAM Chips are soldered to the motherboard (refer to the figure below). The SRX100 has the following non-volatile memory devices:

- Anti-counterfeit security chip's internal EEPROM – stores the signature of the security chip. No user data is stored here.
- EEPROM– only used to store FRU identification data. No user data is stored here.
- Boot flash for Processor– stores the boot loader image for the Processor, no user data.
- NAND flash stores the JUNOS image and user data
- CPLD internal flash - stores CPLD image, no user data is stored.

In addition, the SRX100 has one USB port, into which the user can install an external USB disk device to store core dumps, system configuration, software images, etc. The system does not store any user data onto storage device attached to this port.

All other components of the SRX100 are volatile, so they do not store any information after power is lost, following are the volatile memory present on SRX100:

- DDR2 memory– stores User data here
- Processor Internal Cache memory and registers– stores operational data here

No other sub-components on the motherboard contain any storage elements, either volatile or non-volatile

2.2.2 External Power Supply Adapter

The SRX100 uses the external power supply Adapter and Adapter contains no storage elements, either volatile or non-volatile.

3 POWER DOWN AND REMOVAL OF NON-VOLATILE STORAGE

In order to ensure that no data remains resident on an SRX100 platform in volatile memory, power must be removed from the system to clear all volatile storage.

3.1 System Power Down

The SRX100 should be powered down gracefully if time exists to do so. To perform a graceful power down of an SRX platform, complete the following steps:

1. Execute the “request system power-off” command from the command line. Wait for positive feedback that the shutdown is complete. If connected via the console, you will see the message “The operating system has halted. Please press any key to reboot.” If connected via Telnet or SSH, your session will be disconnected before the SRX completes the power down process. You can verify via the console or observe the LED’s on the front of the chassis. If monitoring the LED’s, ensure the Power LED is off (not solid on or flashing).
2. The user can power off the system via pressing and releasing the power button on front panel. This shuts down the system gracefully.
3. The user can power off the system by pressing the power button in front panel for 10sec, system will shut down immediately. You can verify via observing the Power LED. Please ensure the power LED is off.
4. Unplug the External power adapter cable from the SRX100 system.
5. The user can also shut down the system by removing AC supply to the External Power supply Adapter.

An emergency power down of a JUNOS system can be performed by omitting step 1 and 2, simply performing step 3, 4, and 5 in the process above. Note that an emergency power down could possibly corrupt the operating system and configurations stored on the NAND Flash. Once the system has been powered down, all volatile storage is clear.

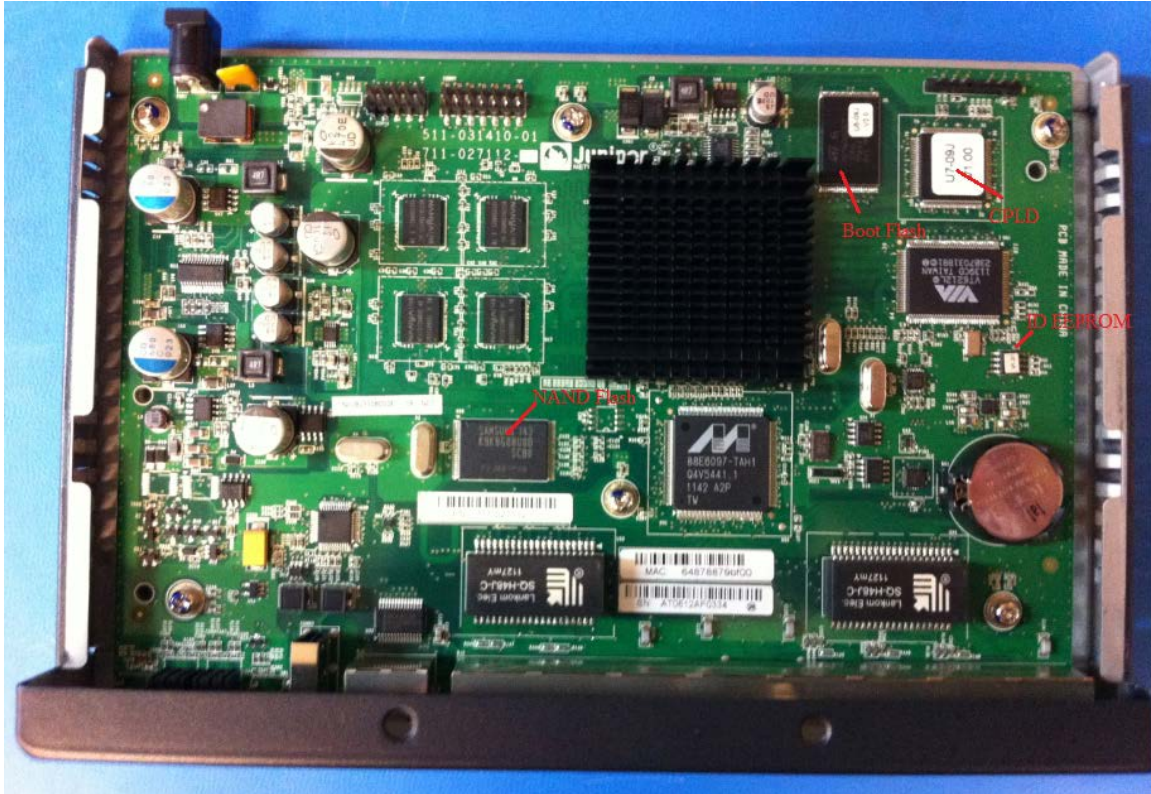


Figure 3-1: Identification of non-volatile storage devices

3.2 Removal of USB Storage from the Chassis

There is a USB interface on the front of the SRX100 chassis, it is located directly to the left of the Console port. With the unit powered off, gently pull any attached media device away from the SRX100 chassis to remove it.

This completes the sanitization process for the SRX100.

4 ENCRYPTION KEYS

The Encryption Keys are stored in DRAM, when system is running, and will be lost after the system is powered off.