

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

**JUNIPER NETWORKS  
QFX10008 and QFX10016 Switches**

**REVISION 1.0**

**April 30, 2018**

## 1 INTRODUCTION

### 1.1 Purpose

The purpose of this document is to provide direction to identify and remove all non-volatile (NV) storage from the Juniper Networks QFX10008 and QFX10016 switching platforms.

### 1.2 Scope

This document only addresses the QFX10008 and QFX10016 switching platforms. While other platforms offered by Juniper Networks may contain similar hardware components, this document only applies to these devices. 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 QFX10008 and QFX10016 platforms are commercial off-the-shelf (COTS) components, directions for destruction of those components are left to the governing Department, Agency, or Office.

## 2 NVRAM DEVICES IN QFX10008/QFX10016 SYSTEMS

The QFX10008/QFX10016 system components include the following Non-Volatile memory components.

### 1. ID Serial PROM for all System Components.

All QFX10008/QFX10016 FRUs, the QFX10008 chassis, the QFX10016 chassis, all PSUs, and all pluggable optical transceivers include one or more serial EPROM components. These are used to store FRU identification information such as CLEI codes, Juniper part numbers, and FRU serial numbers. These components are programmed at the factory, and are never modified after that. *These do not store any customer related information.* JunOS does not support writing to or modifying the contents of these PROMs.

### 2. Other Serial EEPROMs on all FRUs.

All QFX10008/QFX10016 FRUs contain multiple Serial EEPROM memory components on every Board. These serve multiple purposes, including storage for basic boot code such as BIOS or UBOOT, storage for device initialization firmware for basic connectivity devices such as NIC and PCIe switches, storage for FPGA images, storage for clock driver parameters, storage for memory parameters, and storage for DC-DC converter initialization parameters. These parts are programmed at the factory. *None of these parts store any customer related information, or any*

*system configuration information.* JunOS supports modifying the contents of this component when a new firmware is released for customer use.

### **3. SSDs on RE FRUs**

The QFX10000-RE FRU includes one on-board SSD (NAND-Flash based Solid-State Device) component, and one slot for a 2.5" SSD disk. *The on-board SSD is used to store the image of JunOS, as well as customer configuration information. It is also used to store failure log for traceability. The SSD FRU, when present, can also be used for logging purpose, and is used to store customer specific data, including system configuration. Both these SSDs must be removed and destroyed to ensure complete elimination of customer-specific information.*

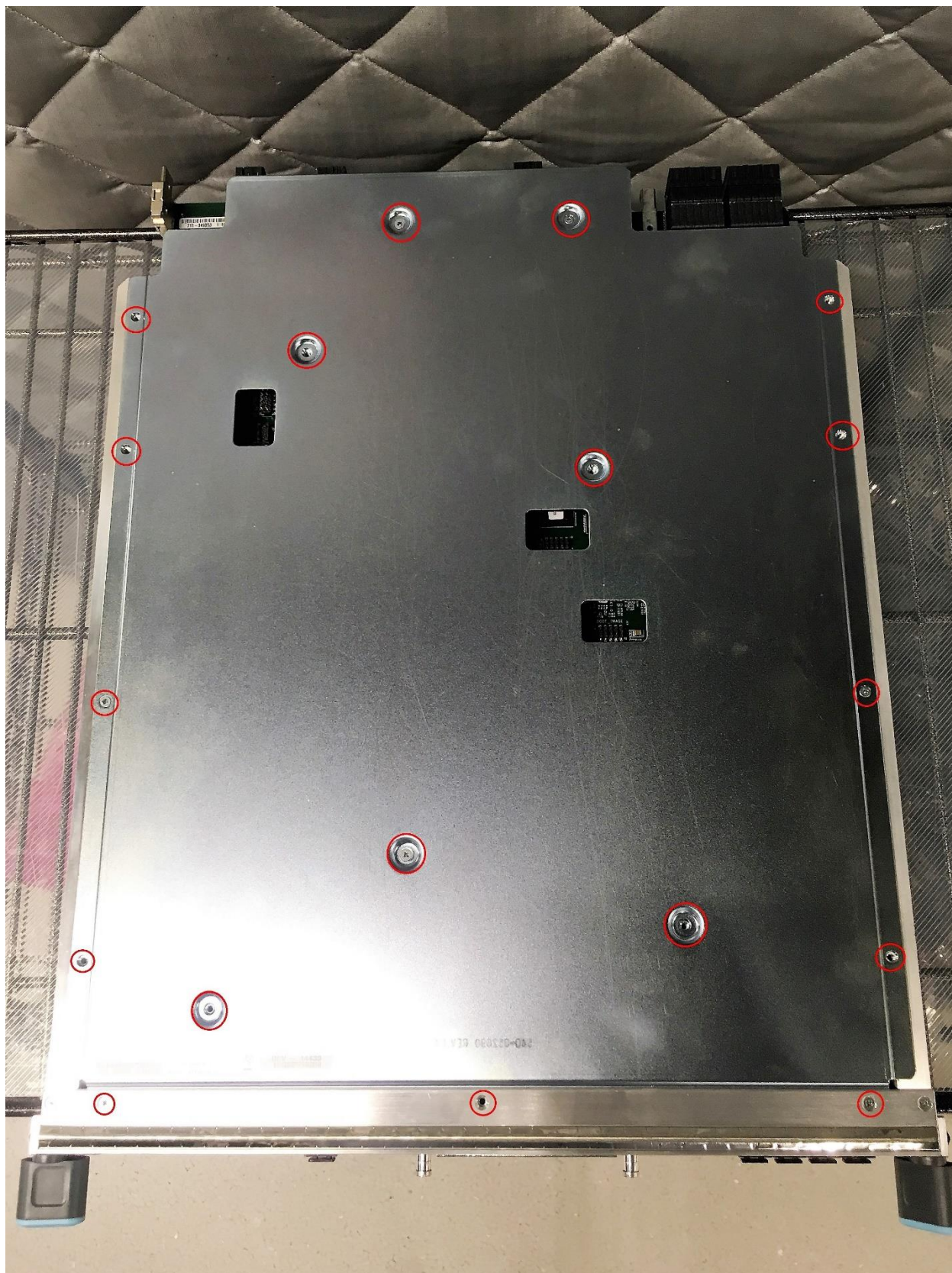
## **3 REMOVAL OF SSDs ON QFX10000-RE**

On-board SSD and the SSD FRU on QFX10000-RE are the *only* components in a QFX10008/QFX10016 system that store customer-specific information such as system configuration. In order to ensure that no user data or system configuration information resides in the system, the system must be powered down, and *all* SSDs must be removed from the system. If the system includes primary and redundant RE FRUs, the SSDs on both the cards must be extracted to ensure complete data removal. This section describes how to remove the SSD components from a QFX10000-RE.

### **3.1 Removal of On-Board SSD from QFX10000-RE**

QFX10000-RE FRU, which plugs into either QFX10008 or QFX10016 system, contains ONE on-board SSD module. Follow these steps to remove the SSD from the FRU. Please be aware that removing this SSD makes the QFX10000-RE FRU completely unusable.

1. Before removing the SSD, ensure that J-TAC and appropriate Juniper account team has been notified of your intention.
2. Power-down the system containing the QFX10000-RE FRU.
3. Remove QFX10000-RE FRU from the system and place it on a flat surface, face up, with cut-outs visible on the top metal plate, as shown in the first picture below.
4. Using a #2 screw-driver, remove 18 screws showed in the following picture with red circles. Please note that there are two screws at two corners on the front side of the board that *should not be removed*.



5. Remove the metallic top cover by pulling it out towards the rear, away from the faceplate, and lifting it.

6. Locate the SSD module close to the center of the board, on the right side, as shown in the following picture, marked with yellow rectangle.



7. Using a #2 screwdriver, remove the white-colored plastic screw close to the on the right edge of the SSD module. When this screw is completely removed, the right edge of the SSD module will rise from the original position, and the SSD module will look as shown in the following picture.



8. Take the SSD out from its connector, pulling it to the right side. When the SSD is removed, the board will look as shown below:



9. Destroy the SSD.

### 3.2 Removal of SSD FRU from QFX10000-RE

1. For instructions on how to remove the FRU SSD accessible on the front panel of QFX10000-RE, follow the instructions at:

[https://www.juniper.net/documentation/en\\_US/release-independent/junos/topics/task/installation/ssd-qfx10000-removing.html](https://www.juniper.net/documentation/en_US/release-independent/junos/topics/task/installation/ssd-qfx10000-removing.html)

2. Destroy the SSD removed from the system.