TrueNAS® Z SERIES NODE SATADOM REPLACEMENT KIT

August 2017 Edition

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Z SERIES SATADOM REPLACEMENT KIT

This kit includes two mirrored SATADOMs with one USB power connector.

INTRODUCTION

This guide shows how to replace the mirrored SATADOMs on a TrueNAS Z Series Unified Storage Array. Each node in the array uses a mirrored boot device configured across two SATADOMs. The SATADOMs included in this kit are pre-installed with the operating system version and configuration specified when the kit was ordered. For more information about this kit, contact support@iXsystems.com.

PREPARATION

A Philips screwdriver is needed for internal screws. When screws are removed, place them in a safe place and keep them sorted to make replacement easier during reassembly.

NON-HA SYSTEMS WITHOUT FAILOVER

Shut down the TrueNAS array and disconnect both power cables. Make note of where the network cables are connected and unplug them.

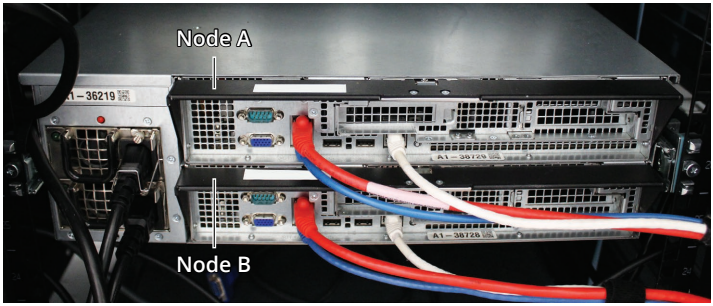
HA SYSTEMS WITH FAILOVER

An HA system with failover has both an active and passive node. For redundancy purposes, the passive node is on standby and ready to take over if the active node fails or shuts down.

Before replacing the SATADOMs on an active node, a failover must be forced by a shut down before physically removing the node. A failover is not necessary when replacing the SATADOMs on a passive node as it is not in use.

DETERMINE THE ACTIVE NODE

Physically identify each node. Node A is in the top node bay and Node B is directly below it.



Use one of these methods to determine which node is the active node.

1. Use the TrueNAS GUI. The icon to the right of the HA Enabled icon will indicate if that node is Active or Standby.

2. Connect to the node through IPMI, SSH, or a keyboard and monitor directly attached to the node. When connecting to the node directly, enter 9 in the Console Setup boot menu to access the Shell. Once connected, run the **`hactl status`** command to see if the status of the node is active or passive.

Finally, use the **`zpool status freenas-boot`** command to verify the health of the SATADOMs. The node that returns any errors has the SATADOMs that should be replaced.

Before replacing the SATADOMs, use the **`dmidecode -t1`** command to retrieve the serial number of the node. Record this serial number.

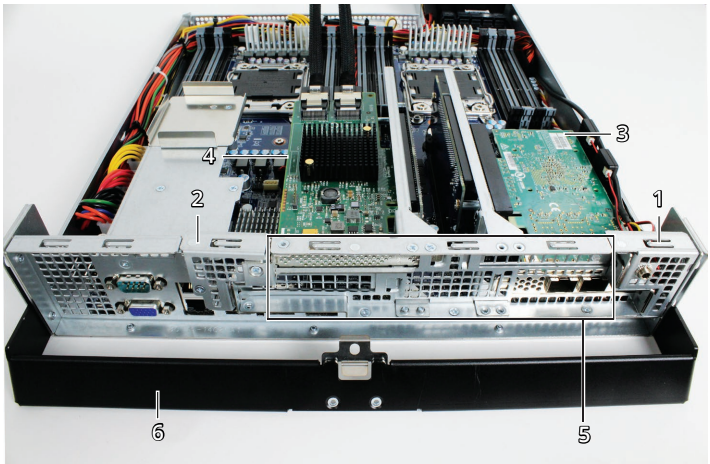
INITIATE FAILOVER

Shut down the active node and wait 60 seconds for the failover to the standby node to complete.

Note: No failover is necessary when replacing the SATADOMs on a standby node. Just shut down the node.

After the node is completely powered off, note where the network cables are connected to that node and unplug them. The node is now prepared for the SATADOMs to be replaced.

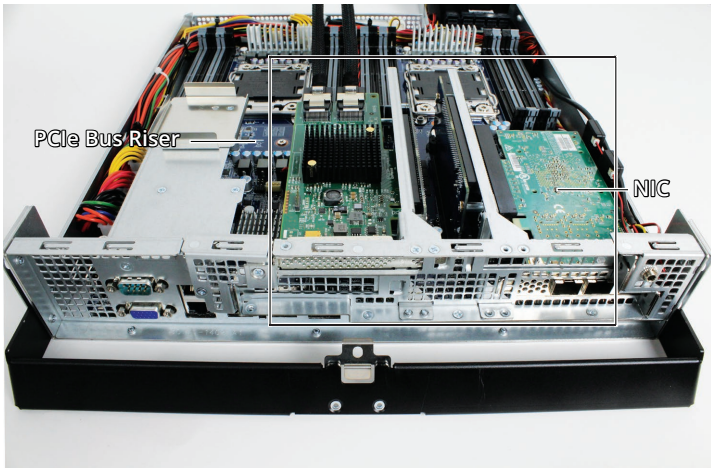
PARTS LOCATION



1 Right Slot Cover Retainer
2 Left Slot Cover Retainer
3 Network Interface Card
4 Host Bus Adapter (Reserved)
5 PCIe Bus Riser Front Plate
6 Handle

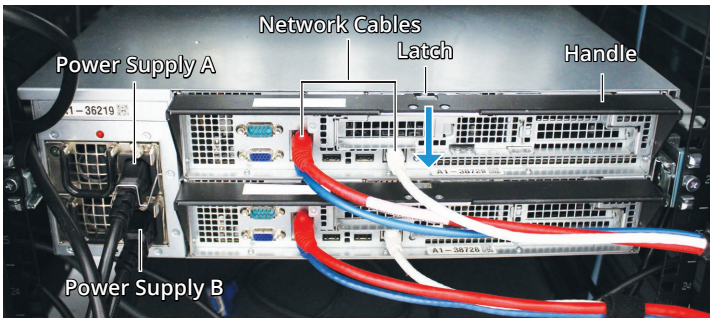
The standard node configuration generally includes one Network Interface Card (NIC) and one Internal Host Bus Adapter which are both attached to the PCIe Bus Riser. In this configuration, the network interface card blocks access to the SATADOM boot device.

Note: the standard node configuration varies by customer.



NODE REMOVAL

On the rear of the TrueNAS array, remove the network cables. Press the metal latch until the node handle unlocks. Pull the handle down until the node releases from the node bay.



Grip the handle and pull to remove the node completely. Gently lift the node and place it on an antistatic surface.

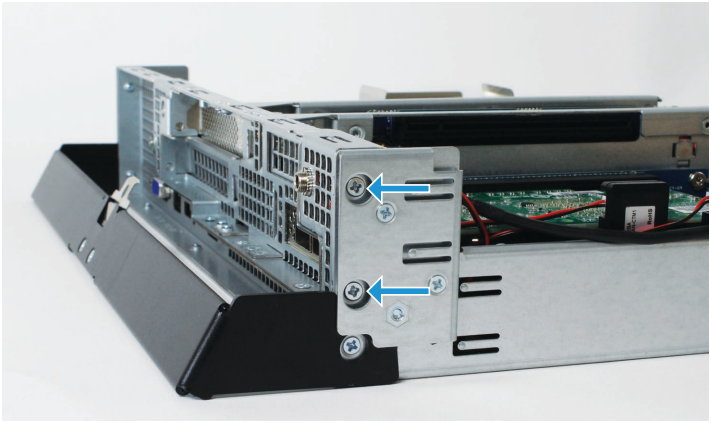
PART I: REMOVAL OF NODE COMPONENTS

PCIE BUS RISER REMOVAL

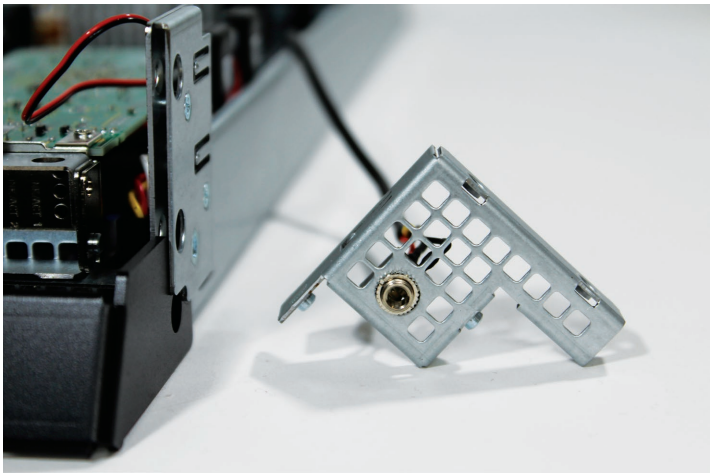
Note: Removal of the PCIe Bus Riser is not required when the Network Interface Card is not blocking access to the SATADOMs. If the node does not have a Network Interface Card installed, skip to the SATADOM AND USB HEADER INSTALLATION section on page 13. When a network interface card is installed in the node, it and the PCIe Bus Riser must be removed to access the SATADOM boot device.

SLOT COVER RETAINERS REMOVAL

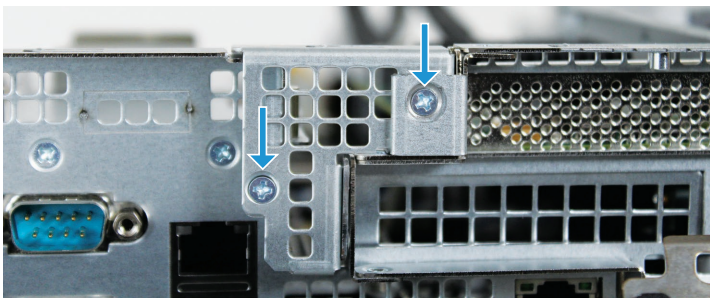
Remove the two slot cover retainer screws and slot cover retainer from the right side of the chassis.



Place the slot cover retainer next to the node with the wires still attached. Save the screws.

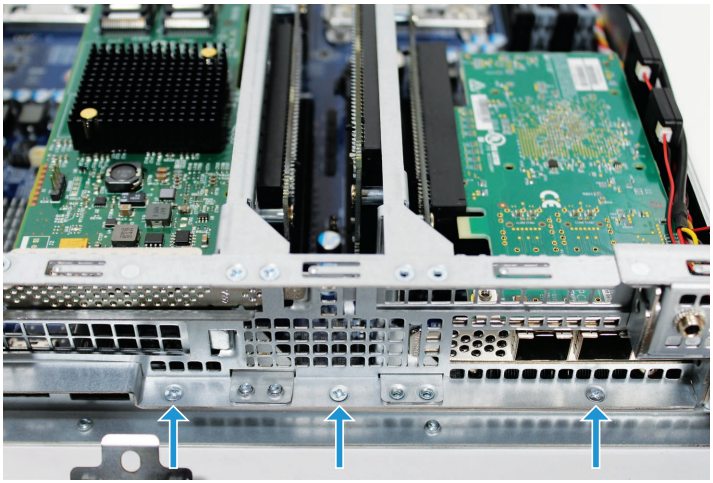


Remove the two screws to detach the left slot cover retainer. Set retainer and screws aside for use later.

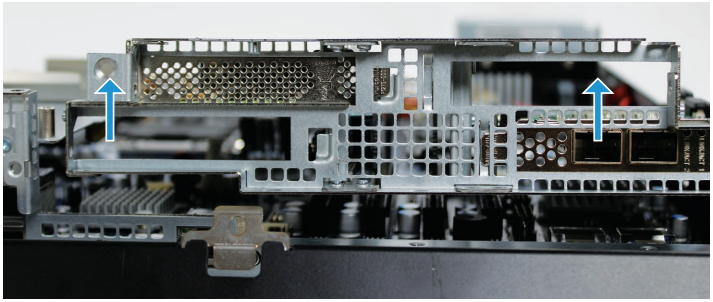


PCIE BUS RISER REMOVAL

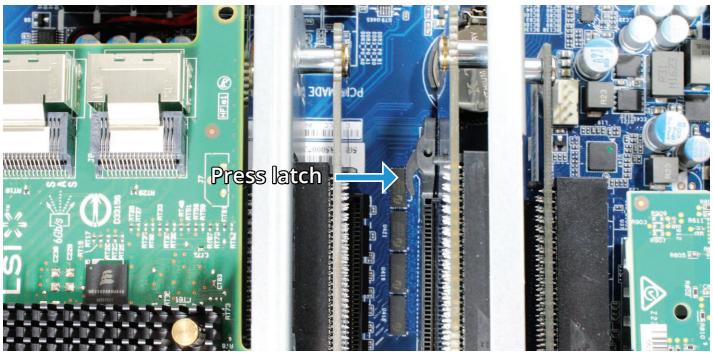
Remove the 3 PCIe Bus Riser Front Plate screws.



Place thumbs on the top corners of the Front Plate and push upward to partially release the PCIe Bus Riser from the motherboard.

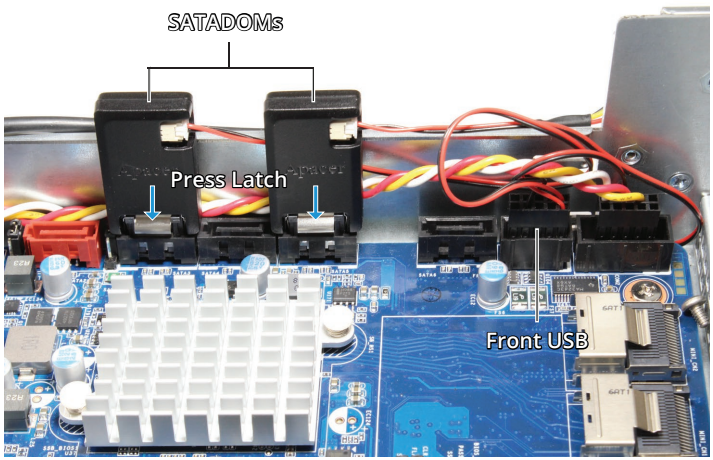


Locate the PCIe Bus Riser release latch. Press on the release latch while lifting the PCIe Bus Riser to remove it completely.



SATADOM AND USB HEADER REMOVAL

The SATADOMs are plugged into the ***SATA_3*** and ***SATA_5*** slots on the motherboard. Remove each SATADOM individually by depressing the metal latch while gently pulling upward.

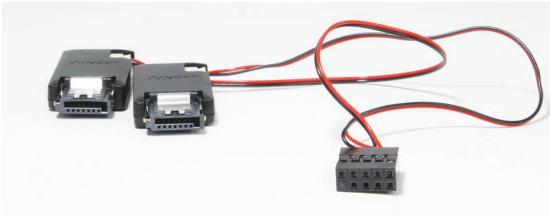


Both SATADOMs are powered from one cable attached to the ***Front_USB*** header on the motherboard. Use thumb and index finger to grip the USB power connector and gently pull upward to disconnect.

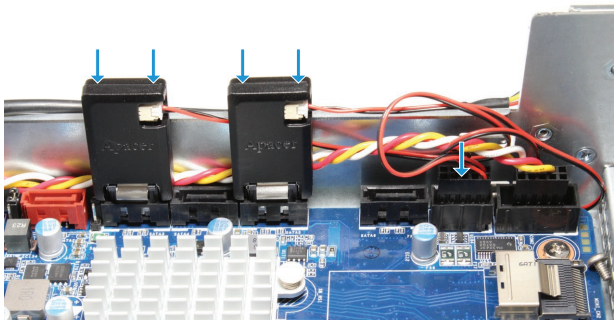
PART II: INSTALLATION OF COMPONENTS

SATADOM AND USB HEADER INSTALLATION

The SATADOM connectors have an L-shaped key and only fit into the motherboard connector one way.



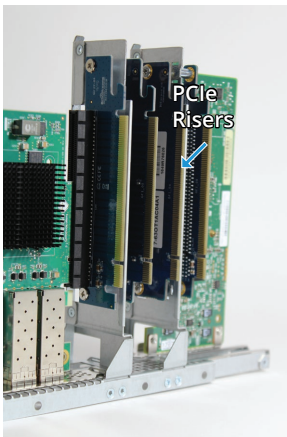
Align the SATADOMs with the ***SATA_3*** and ***SATA_5*** slots on the motherboard. Press down until each connector clicks into place. The USB header connector is connected to the ***Front_USB*** header on the motherboard. Make sure the red wires are on the right-hand side of the connector, line up the pins with the connector, and gently press down until the connector is fully seated.

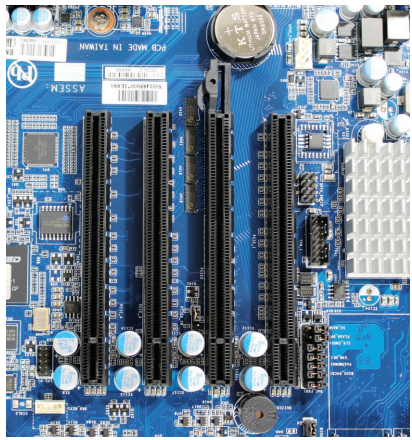


PCIE BUS RISER INSTALLATION

Skip to to the NODE INSTALLATION section on page 18 unless the PCIe Bus Riser was removed.

The PCIe Bus Riser has four PCIe Risers that are installed in the ***PCIE_1***, ***PCIE_2***, ***PCIE_3***, and ***PCIE_4*** slots on the motherboard.

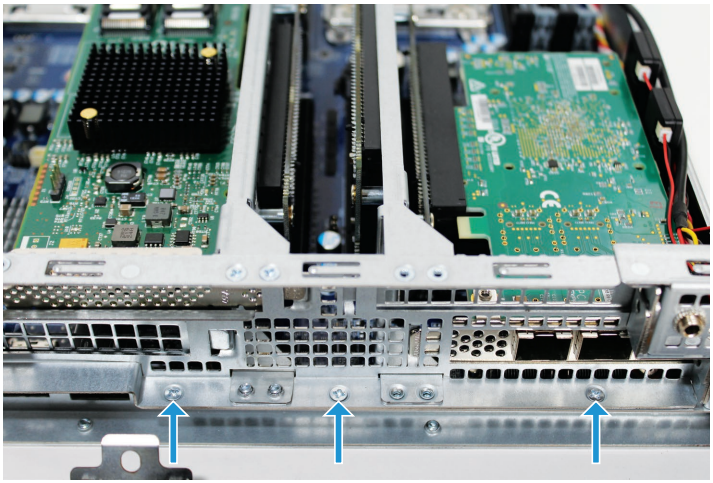




Align the four edge connectors with the PCIe slots on the motherboard. Press down evenly on the PCIe Bus Riser until the edge connectors click into place and are firmly seated.

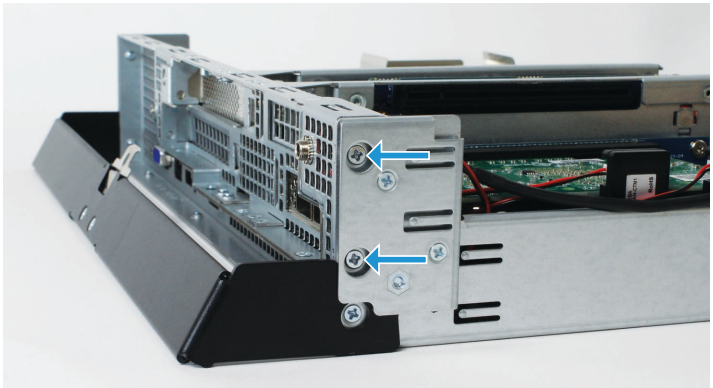
FRONT PLATE SCREW INSTALLATION

Replace the three Front Plate screws to secure the PCIe Bus Riser back in place.

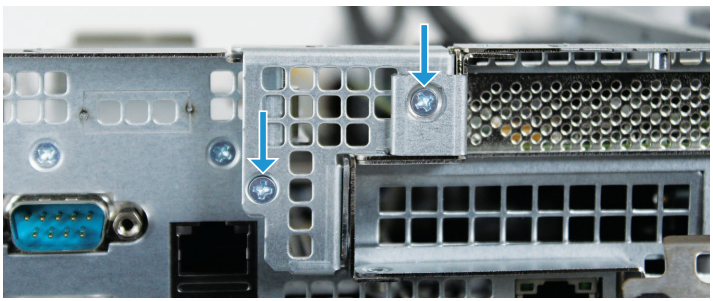


INSTALL SLOT COVER RETAINERS

On the right side of the node, replace the first slot cover retainer and the two screws removed earlier.

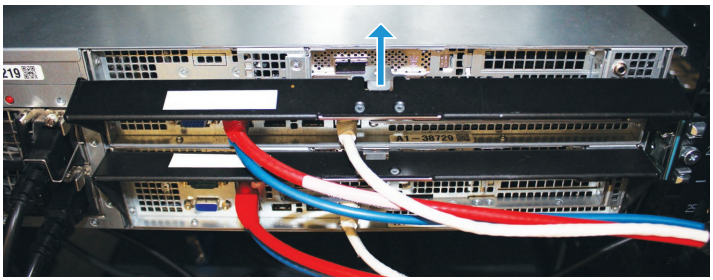


Replace the second slot cover retainer and the two screws.



NODE INSTALLATION

Lift the node to align it with the node bay and slide it into place. Push the handle up toward the latch until the handle and node lock into place.



Reconnect the network cables to the node. On a single-node non-HA system, also plug in the power cable and power on the system.

The SATADOM replacement for this node is complete. The system is now active. Contact support@ iXsystems.com with further questions about this kit.

ADDITIONAL RESOURCES

TrueNAS User Guide:
https://support.ixsystems.com/truenasguide/truenas.html