RSA NETWITNESS® PLATFORM

PCI Expansion Card Installation Guide

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About this Document

This document is a step by step guide for installing PCI expansion cards in RSA NetWitness Platform Series 4S, Series 5, and Series 6 physical hosts (appliances).

The hardware setup instructions in this document are for hardware only; they do not apply to a specific release of NetWitness Platform software. After completing the hardware setup, please continue setup and configuration of the NetWitness Server physical host as described in the NetWitness Platform online documentation at RSA Link (https://community.rsa.com/docs/DOC-40370).

This document is not a replacement for the original manufacturer's documentation; it contains information specifically for the NetWitness Platform physical hosts.

Note: When viewing a printed guide, be aware that a newer version of the guide may be available online at RSA Link in RSA NetWitness Platform under Hardware Setup Guides: https://community.rsa.com/community/products/netwitness/hardware-setup-guides

Series 4 Host PCI Expansion Card Installation

Expansion cards can be installed in RSA NetWitness Platform physical hosts to add functionality to the system. This topic provides a description of the Expansion Card kit for NetWitness Platform Series 4S, and includes the general procedure for removing and installing expansion cards.

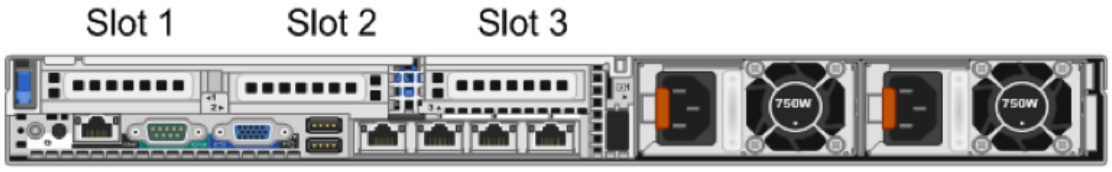
PCI Expansion Card Kit Package Contents

The kit consists of the following:

- One PCI Expansion Card
- ESD Wrist Strap
- Warranty Label

An Emulex kit also includes two fiber channel LC-LC multimode 6M cables.

Rear View of NetWitness Platform Series 4S

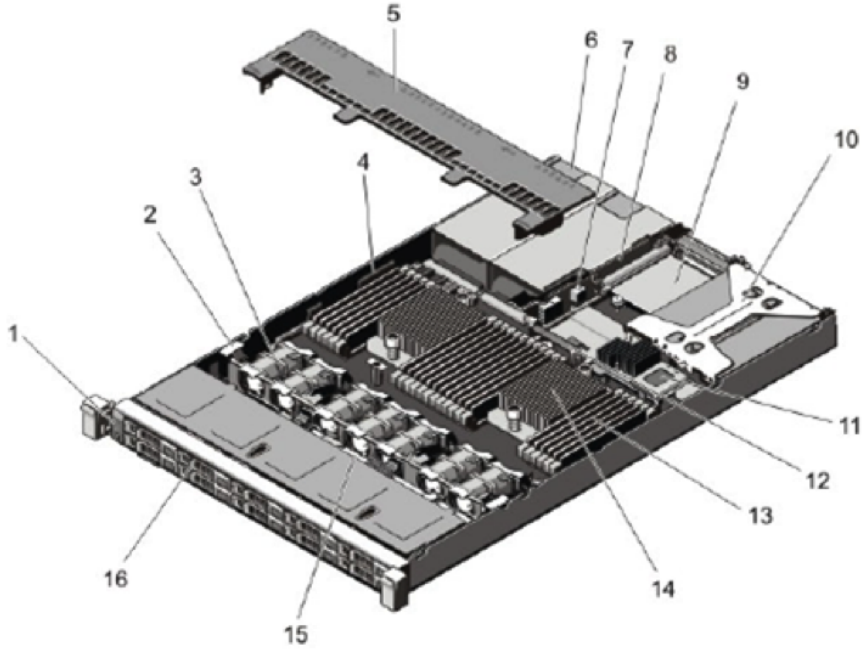


Slot 1 already contains a PERC H810. When adding an Intel NIC card and an Emulex FC card, install the NIC card in slot 2 and the FC card in Slot 3. If only adding one card, install it in Slot 2.

Note: A missing or an unsupported card riser logs an SEL event. It does not prevent your system from powering on and a BIOS POST message or F1/F2 pause is not displayed.

R620 Motherboard

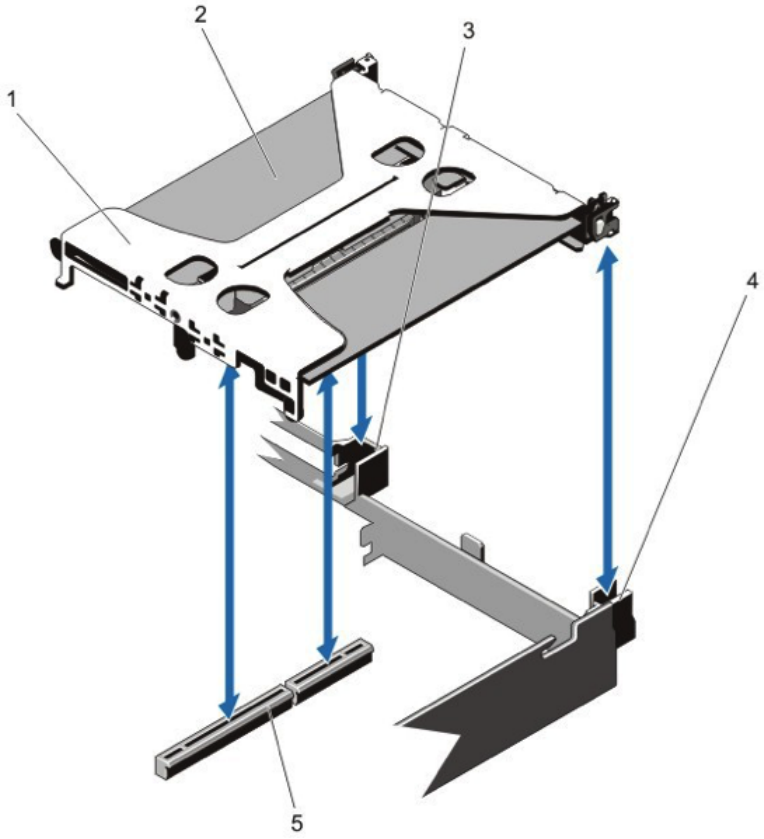
The following figure shows an overview of the motherboard.



Key	Description	Key	Description
1	Control panel	9	Network daughter card
2	Cable securing clip	10	Card 1 Riser
3	Cooling fans (7)	11	Storage controller card
4	Cable securing bracket	12	Network daughter card cooling shroud
5	Cooling shroud	13	DIMMs (24)
6	Power supplies (2)	14	Heat sink for processor 2
7	Chassis intrusion switch	15	Hard-drive backplane
8	Card 3 Riser	16	Hard drives (10)

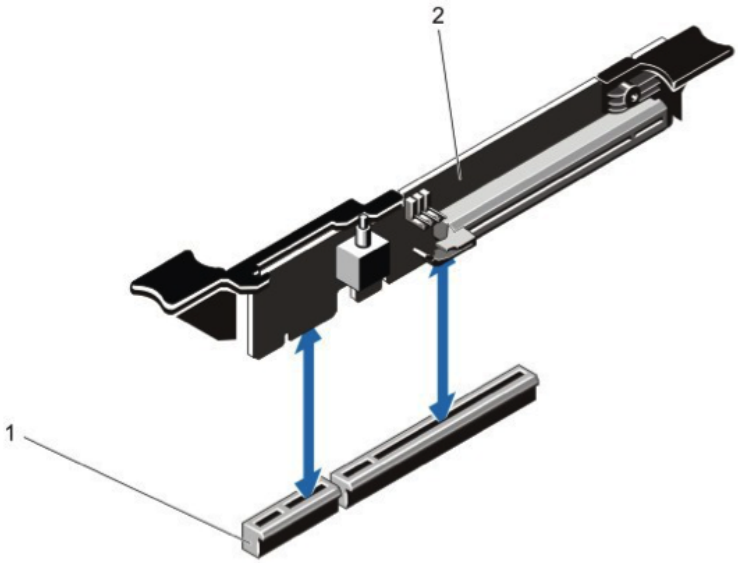
Expansion Card and Risers in the R620

The following figures shows the parts involved when removing or installing expansion cards. There are two different types of card risers.



Key	Description
1	Card 1 Riser
2	Expansion card
3	Riser guide back (right)
4	Riser guide back (left)
5	Expansion card connector

The following figure shows the parts involved when removing or installing the card riser.



Key	Description
1	Expansion card connector
2	Card 3 Riser

Install a PCI Expansion Card in an R620 Host

Caution: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by RSA is not covered by your warranty. Read and follow the safety instructions that came with the product.

Note: As long as the repairs and servicing made are allowed under customer support, your warranty will not be voided.

1. Turn off the system, including any attached peripherals, and disconnect the system from the electrical outlets, any attached peripherals, and any network interface cables.
2. Make sure to protect yourself by wearing an anti-static wrist strap before touching any internal parts. An ESD wrist strap is provided for this purpose.
3. Remove the Warranty label on the server.
4. Open the system.
5. Holding the touch points, lift the card riser from the riser connector on the motherboard.
6. Install the expansion card into the card riser.
7. Align the card riser with the connector and the riser guide pin on the motherboard.
8. Lower the card riser into place until the card riser connector is fully seated in the connector.
9. Close the system.
10. Replace the Warranty label on the server with a new label provided with the PCI card.
11. Reconnect the system to the electrical outlets and turn the system on, including any attached peripherals.

Series 5 Host PCI Expansion Card Installation

Expansion cards can be installed in RSA NetWitness Platform physical hosts to add functionality to the system. This topic provides the general procedure for installing a PCI expansion card into the NetWitness Platform Series 5 hosts. All but one of the Series 5 hosts are based on the Dell PowerEdge R630 chassis. The exception is the Hybrid host, which is based on the Dell PowerEdge R730xd chassis.

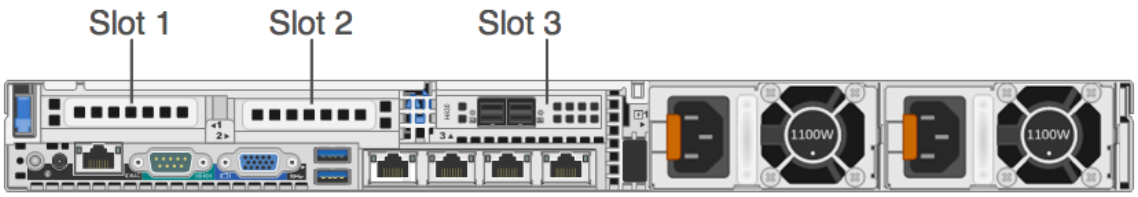
PCI Expansion Card Kit Package Contents

The kit consists of the following:

- One PCI Expansion Card
- ESD Wrist Strap
- Warranty Label

An Emulex kit also includes two fiber channel LC-LC multimode 6M cables.

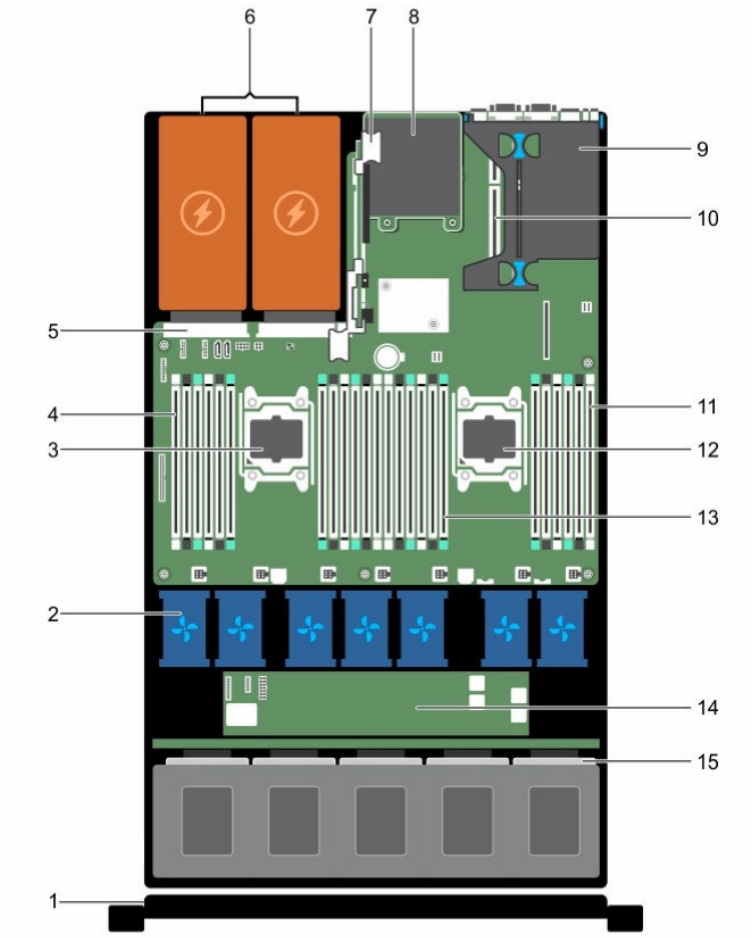
Rear View of Series 5 Hosts (Except Hybrid)



Slot 3 already contains a PERC H830 RAID controller.
When adding an Emulex Fiber Channel (FC) PCI expansion card, install the FC card in slot 2. To install another PERC H830 controller so that you can connect DACs and PowerVaults to the same Series 5 host, install the additional PERC H830 in slot 1. See also PERC Card Firmware Installation.

Note: A missing or an unsupported card riser logs an SEL event. It does not prevent your system from powering on and a BIOS POST message or F1/F2 pause is not displayed.

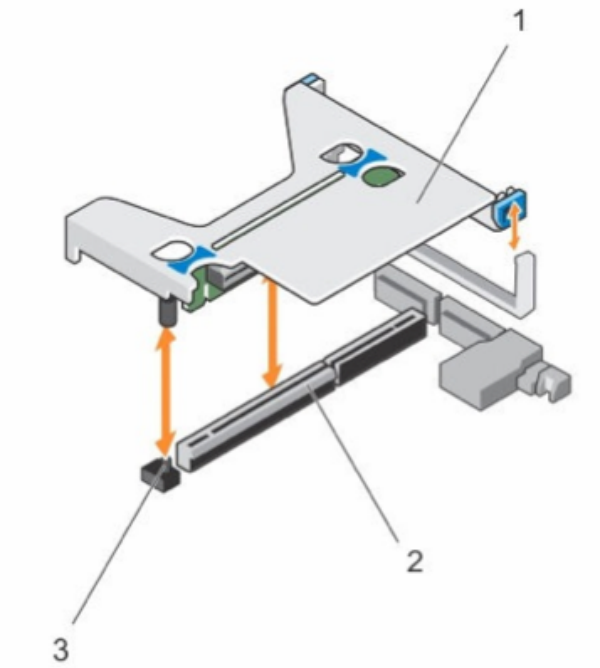
R630 System Board



Key	Description	Key	Description
1	Control panel location	9	Riser card 1
2	Cooling fans (7)	10	Riser card 2
3	Processor 1	11	DIMMs (6)
4	DIMMs (6)	12	Processor 2
5	PSU connector	13	DIMMs (12)
6	Power supply (2)	14	Expander board
7	Riser card 3	15	Hard drive
8	Network daughter card		

Expansion Card Riser in the R630

The following figure shows the parts involved when removing or installing the expansion card riser 1.



Key	Description
1	Expansion-card riser 1
2	Connector
3	Riser guide pin

Install a PCI Expansion Card in an R630 Host

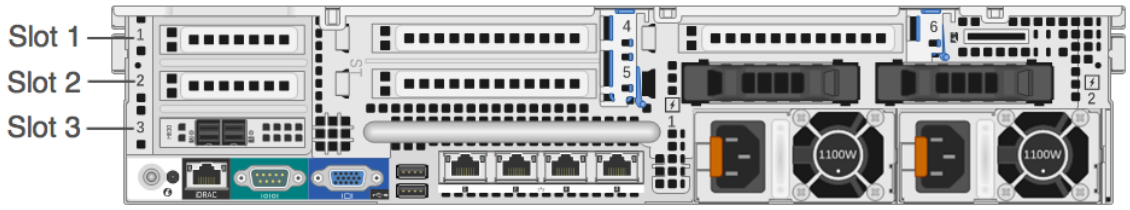
The following procedure shows how to remove and install the expansion-card riser to install a PCI expansion card in a NetWitness Platform Series 5 R630 host. When adding an Emulex Fiber Channel (FC) PCI expansion card for a Storage Area Network (SAN), such as VNX or VNX2, install the FC card in slot 2. To install another PERC H830 controller so that you can connect DACs and PowerVaults to the same Series 5 host, install the additional PERC H830 in slot 1. See also PERC Card Firmware Installation.

Caution: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by RSA is not covered by your warranty. Read and follow the safety instructions that came with the product.

Note: As long as the repairs and servicing made are allowed under customer support, your warranty will not be voided.

1. Turn off the system, including any attached peripherals.
2. Disconnect the system from the electrical outlets, any attached peripherals, and any network interface cables.
3. Make sure to protect yourself by wearing an anti-static wrist strap before touching any internal parts.
   An ESD wrist strap is provided for this purpose.
4. Remove the Warranty label on the server.
5. Open the system.
6. Holding the touch points, lift the expansion-card riser from the riser connector on the system board.
7. Install the PCI expansion card into the appropriate slot of the expansion-card riser.
8. Align the expansion-card riser with the connector and the riser guide pin on the system board.
9. Lower the expansion-card riser into place until the expansion-card riser connector is fully seated in the connector.
10. Close the system.
11. Replace the Warranty label on the server with a new label provided with the PCI card.
12. Reconnect the system to the electrical outlets and any attached peripherals, including any network interface cables.

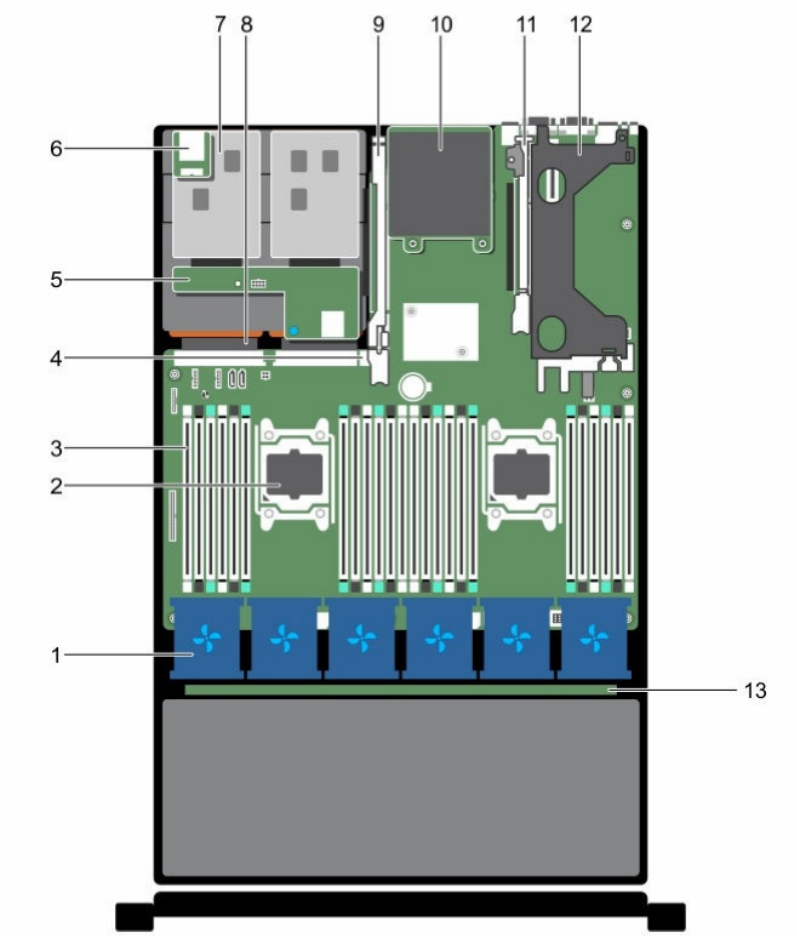
Rear View of Series 5 Hybrid Host



Slot 3 already contains a PERC H830 RAID controller. When adding an Emulex Fiber Channel (FC) PCI expansion card, install the FC card in slot 2. The Series 5 Hybrid does not currently support additional PERC cards for DAC and Powervault mixed mode.

Note: A missing or an unsupported card riser logs an SEL event. It does not prevent your system from powering on and a BIOS POST message or F1/F2 pause is not displayed.

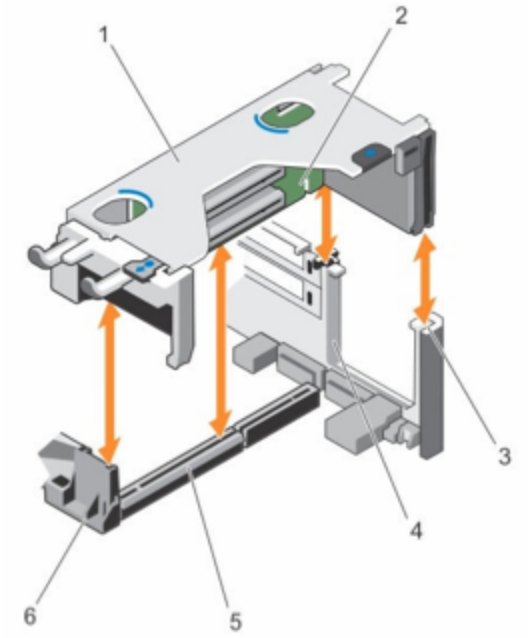
R730xd (Hybrid) System Board



Key	Description	Key	Description
1	Cooling fan in the cooling fan assembly (6)	8	Power supply unit (2)
2	Processor (2)	9	Expansion-card riser 3
3	DIMMs (24)	10	Network daughter card
4	Internal USB port	11	Expansion-card riser 2
5	Hard drive backplane (back)	12	Expansion-card riser 1
6	vFlash media slot	13	Hard drive backplane
7	Hard drive (2) (back)		

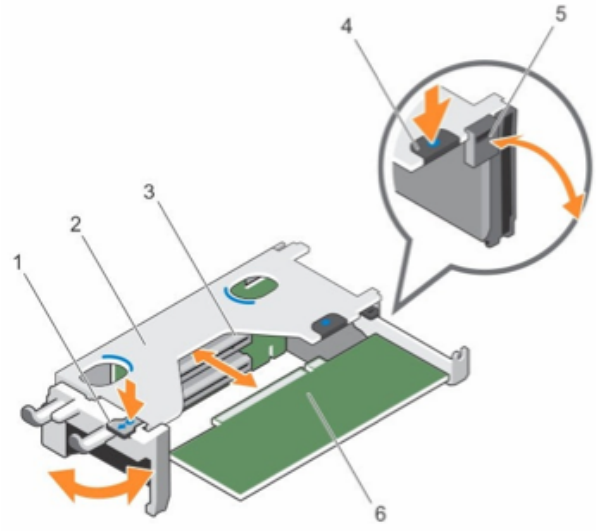
Expansion Card Riser in the R730xd (Hybrid)

The following figures show the parts involved when removing or installing the expansion-card riser 1.



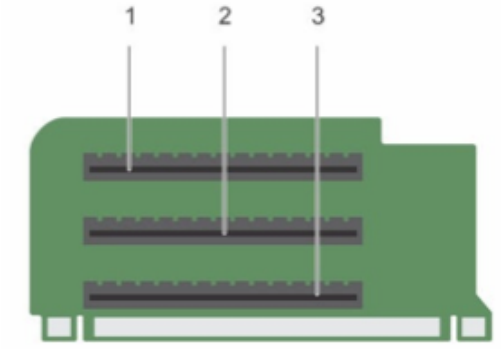
Key	Description	Key	Description
1	Expansion-card riser 1 cage	4	Riser guide-back (left)
2	Expansion-card riser 1	5	Expansion-card riser 1 connector
3	Riser guide-back (right)	6	Riser guide-front

The following figure shows the parts for removing or installing an expansion card from expansion card riser 1.



Key	Description	Key	Description
1	Tab A	4	Tab B
2	Expansion-card riser 1 cage	5	Latch
3	Expansion card connector	6	Expansion card

The following figure shows the connectors on expansion card riser 1.



Key	Description
1	Expansion card slot 1
2	Expansion card slot 2
3	Expansion card slot 3

Install a PCI Expansion Card in an R730xd (Hybrid) Host

The following procedure shows how to remove and install the expansion card riser to install a PCI expansion card in a NetWitness Platform Series 5 R730xd (Hybrid) host. When adding an Emulex Fiber Channel (FC) PCI expansion card for a Storage Area Network (SAN), such as VNX or VNX2, install the FC card in slot 2. The Series 5 Hybrid does not currently support additional PERC cards for DAC and Powervault mixed mode.

Caution: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by RSA is not covered by your warranty. Read and follow the safety instructions that came with the product.

Note: As long as the repairs and servicing made are allowed under customer support, your warranty will not be voided.

1. Turn off the system, including any attached peripherals.
2. Disconnect the system from the electrical outlets, any attached peripherals, and any network interface cables.
3. Make sure to protect yourself by wearing an anti-static wrist strap before touching any internal parts.
   An ESD wrist strap is provided for this purpose.
4. Remove the Warranty label on the server.
5. Open the system.
6. Remove expansion card riser 1.
7. Press tab A and rotate the latch clockwise.
8. Press tab B and rotate the latch down.
9. Remove the metal filler bracket from the appropriate slot.
10. Holding the card by its edges, position the PCI expansion card so that the card-edge connector aligns with the expansion card connector.
11. Insert the card-edge connector firmly into the expansion card connector until the card is fully seated.
12. Close the latches of tab A and tab B.

13. Align the expansion-card riser 1 with the connector and the riser guide pin on the system board.
14. Lower expansion-card riser 1 into place until the expansion-card riser connector is fully seated in the connector.
15. Close the system.
16. Replace the Warranty label on the server with a new label provided with the PCI card.
17. Reconnect the system to the electrical outlets and any attached peripherals, including any network interface cables.

Series 6 Host PCI Expansion Card Installation

Expansion cards can be installed in RSA NetWitness Platform physical hosts to add functionality to the system. This topic provides the general procedure for installing a PCI expansion card into the NetWitness Platform Series 6 hosts. All but one of the Series 6 hosts are based on the Dell PowerEdge R640 chassis. The exception is the Hybrid host, which is based on the Dell PowerEdge R740xd chassis.

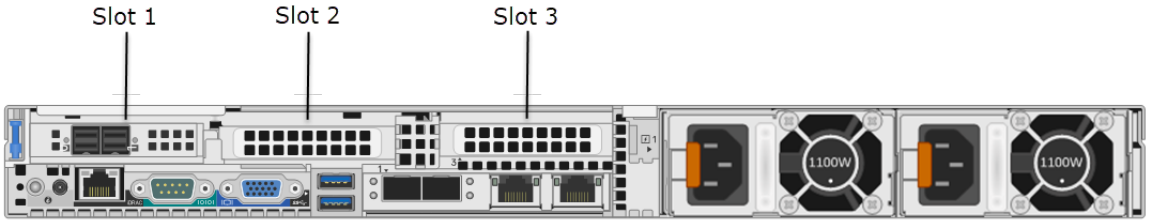
PCI Expansion Card Kit Package Contents

The kit consists of the following:

- One PCI Expansion Card
- ESD Wrist Strap
- Warranty Label

An Emulex kit also includes two fiber channel LC-LC multimode 6M cables.

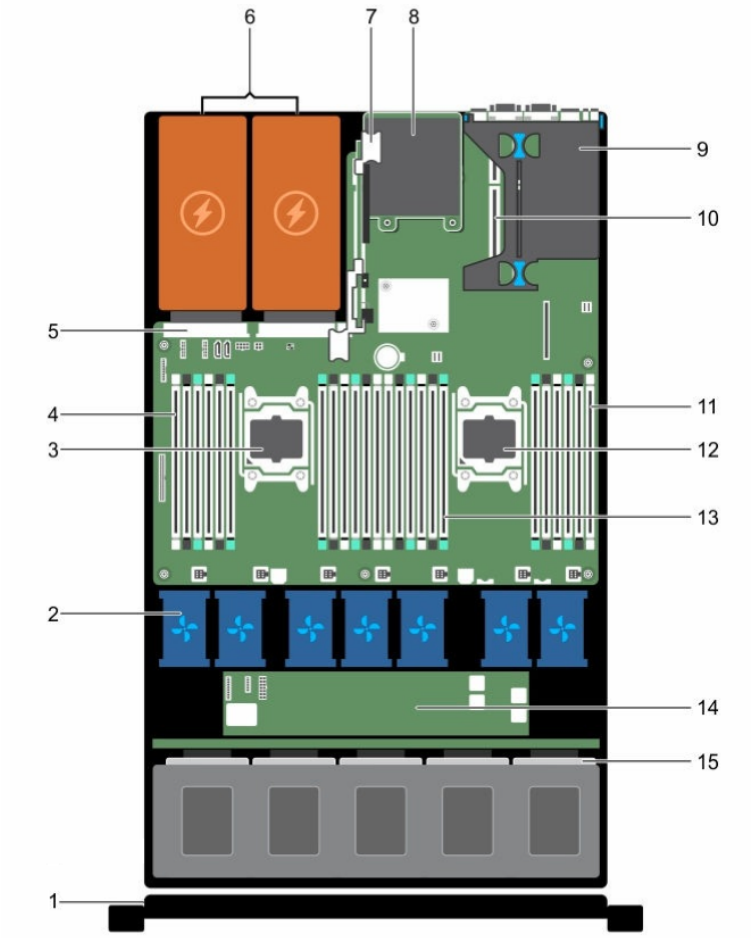
Rear View of Series 6 Hosts (Except Hybrid)



Slot 1 already contains a PERC H840 RAID controller.
When adding an Emulex Fiber Channel (FC) PCI expansion card, install the FC card in Slot 2.
When adding an Intel Ethernet Quad Port (QP) or Intel FC Dual Port (DP) PCI expansion card, install the QP/DP card in Slot 2 or Slot 3.
To install another PERC H840 controller so that you can connect DACs and PowerVaults to the same Series 6 host, install the additional PERC H840 in slot 3. See also PERC Card Firmware Installation.

Note: A missing or an unsupported card riser logs an SEL event. It does not prevent your system from powering on and a BIOS POST message or F1/F2 pause is not displayed.

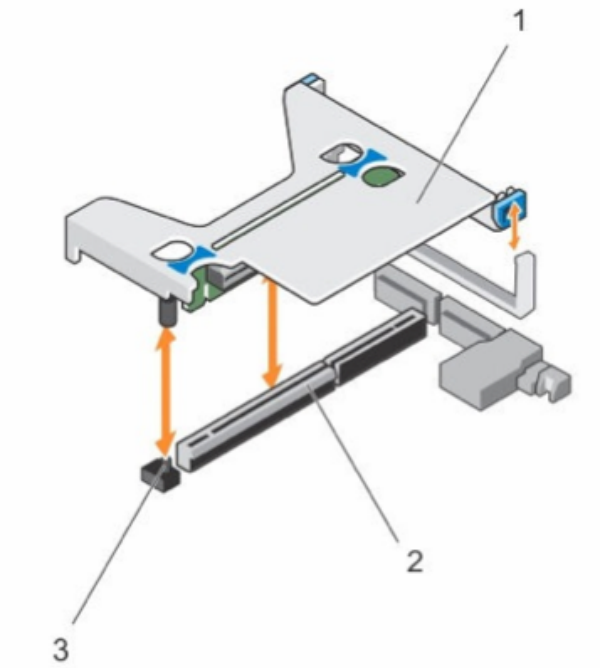
R640 System Board



Key	Description	Key	Description
1	Control panel location	9	Riser card 1
2	Cooling fans (7)	10	Riser card 2
3	Processor 1	11	DIMMs (6)
4	DIMMs (6)	12	Processor 2
5	PSU connector	13	DIMMs (12)
6	Power supply (2)	14	Expander board
7	Riser card 3	15	Hard drive
8	Network daughter card		

Expansion Card Riser in the R640

The following figure shows the parts involved when removing or installing the expansion card riser 1.



Key	Description
1	Expansion-card riser 1
2	Connector
3	Riser guide pin

Install a PCI Expansion Card in an R640 Host

The following procedure shows how to remove and install the expansion-card riser to install a PCI expansion card in a NetWitness Platform Series 6 R640 host. When adding an Emulex Fiber Channel (FC) PCI expansion card for a Storage Area Network (SAN), such as VNX or VNX2, install the FC card in Slot 2. To install another PERC H840 controller so that you can connect DACs and PowerVaults to the same Series 6 host, install the additional PERC H840 in slot 3. See also PERC Card Firmware Installation.

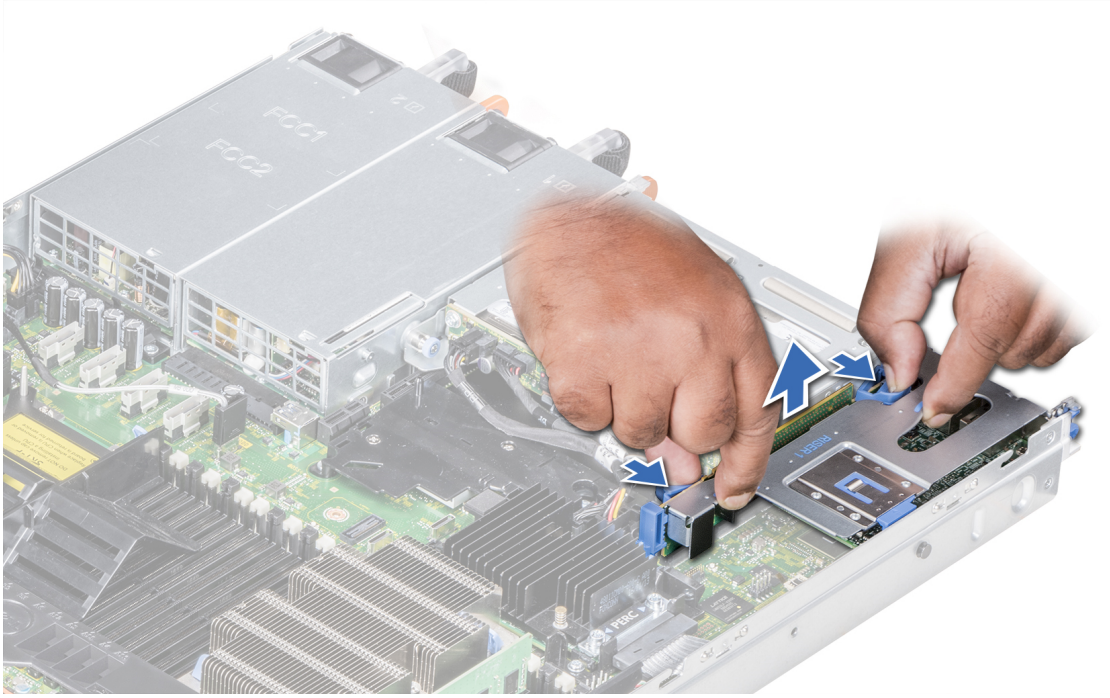
Caution: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by RSA is not covered by your warranty. Read and follow the safety instructions that came with the product.

Note: As long as the repairs and servicing made are allowed under customer support, your warranty will not be voided.

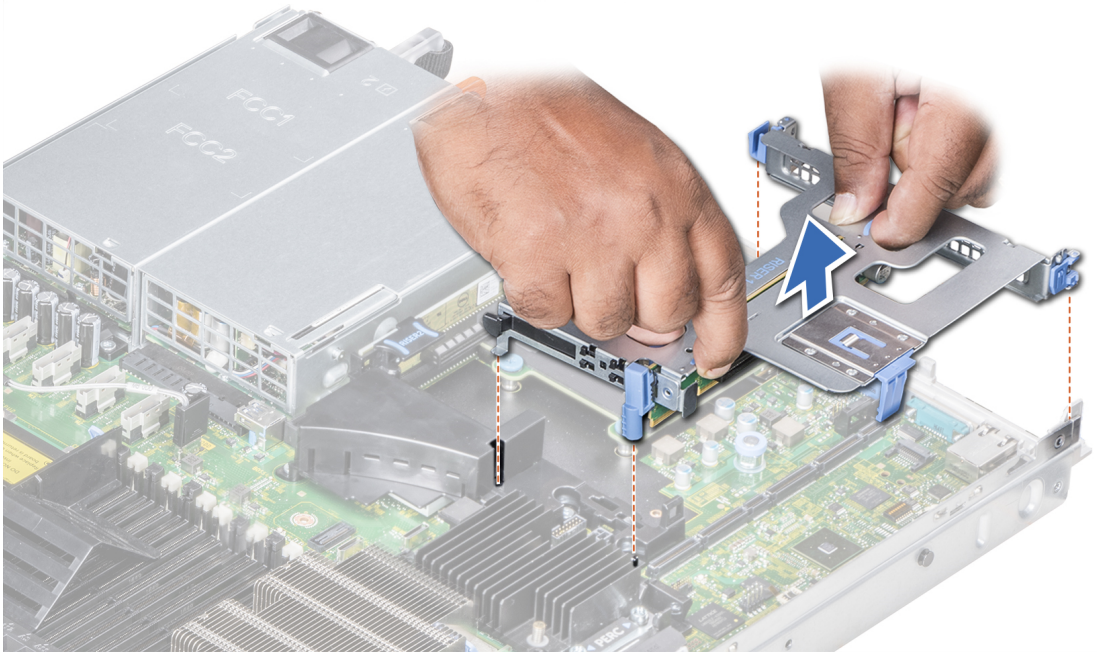
1. Turn off the system, including any attached peripherals.
2. Disconnect the system from the electrical outlets, any attached peripherals, and any network interface cables.
3. Make sure to protect yourself by wearing an anti-static wrist strap before touching any internal parts.

   An ESD wrist strap is provided for this purpose.
4. Remove the Warranty label on the server.
5. Open the system.
6. Holding the touch points, lift the expansion-card riser from the riser connector on the system board.

   The following figure shows the steps for removal of expansion riser 1B.

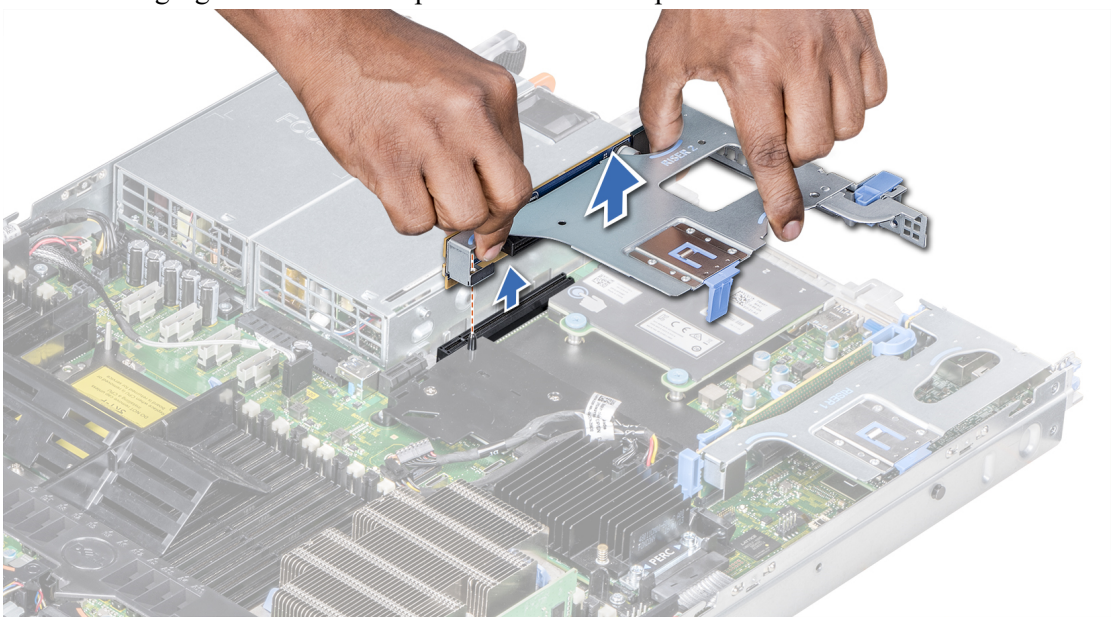


The following figure shows the steps for removal of expansion riser 1A.



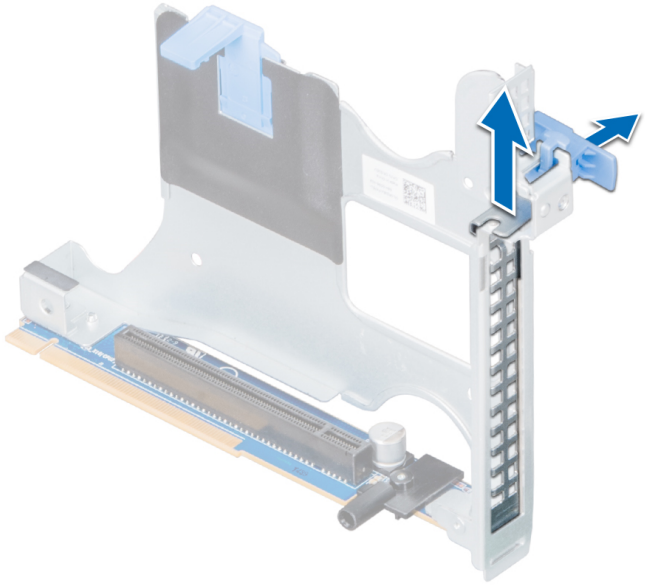
The following figure shows the steps for removal of expansion riser 2A.

The following figure shows the steps for removal of expansion riser 2B.

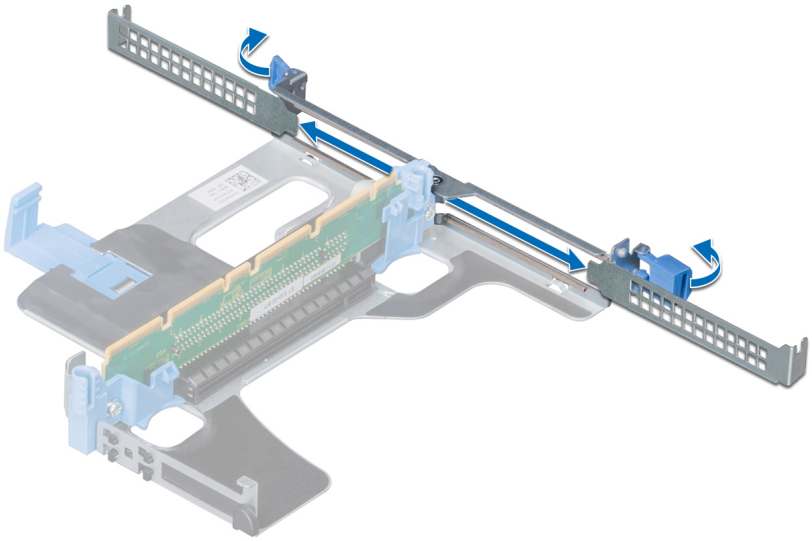


7. If applicable, lift the expansion card latch and remove the filler bracket.

   The following figure shows the steps for removal of the metal filler bracket on Riser 2B.

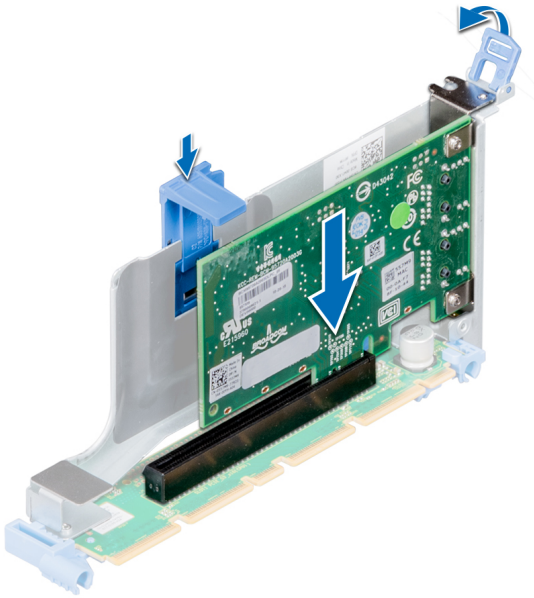


The following figure shows the steps for removal of the metal filler bracket on Riser 1A.

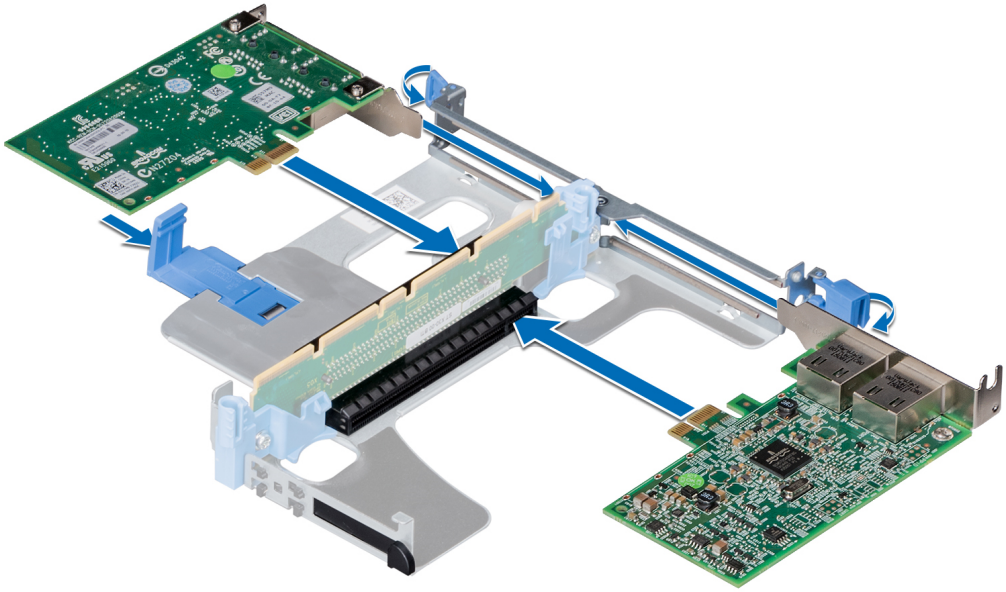


8. Hold the card by its edges, and align the card edge connector with the expansion card connector on the riser.
9. Insert the card edge connector firmly into the expansion card connector until the card is fully seated.
10. Close the expansion card latch.

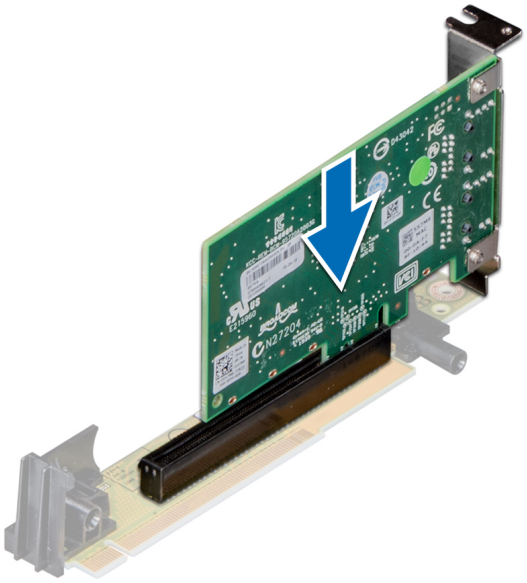
The following figure shows the installation of an expansion card into the expansion riser 1B.



The following figure shows the installation of an expansion card into the expansion riser 1A.

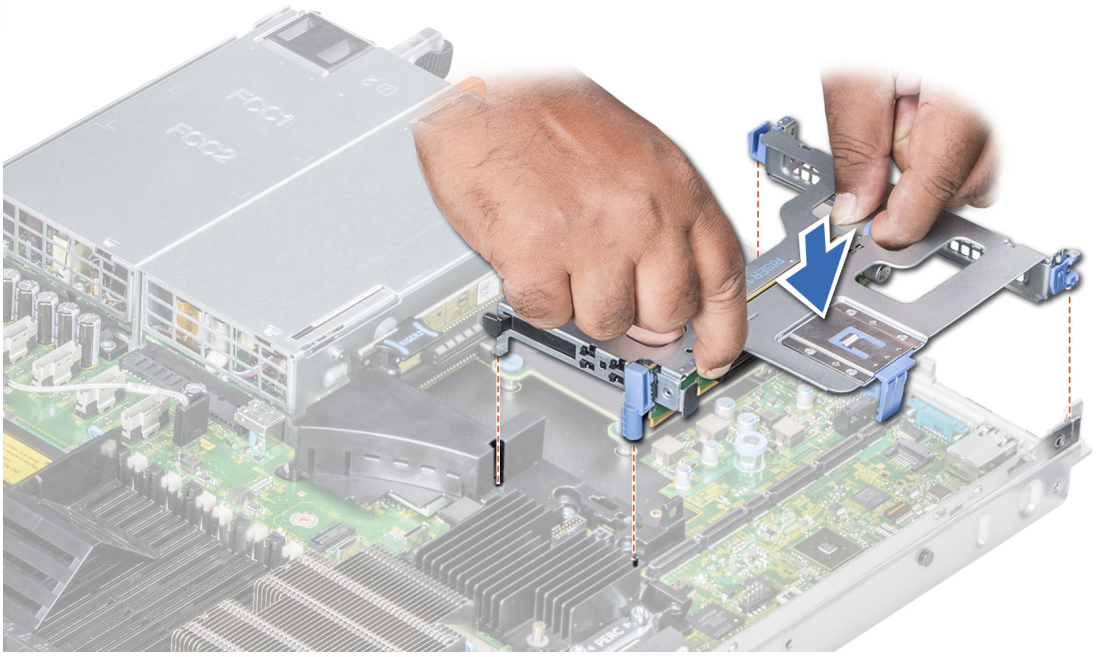


The following figure shows the installation of an expansion card into the expansion riser 2A.

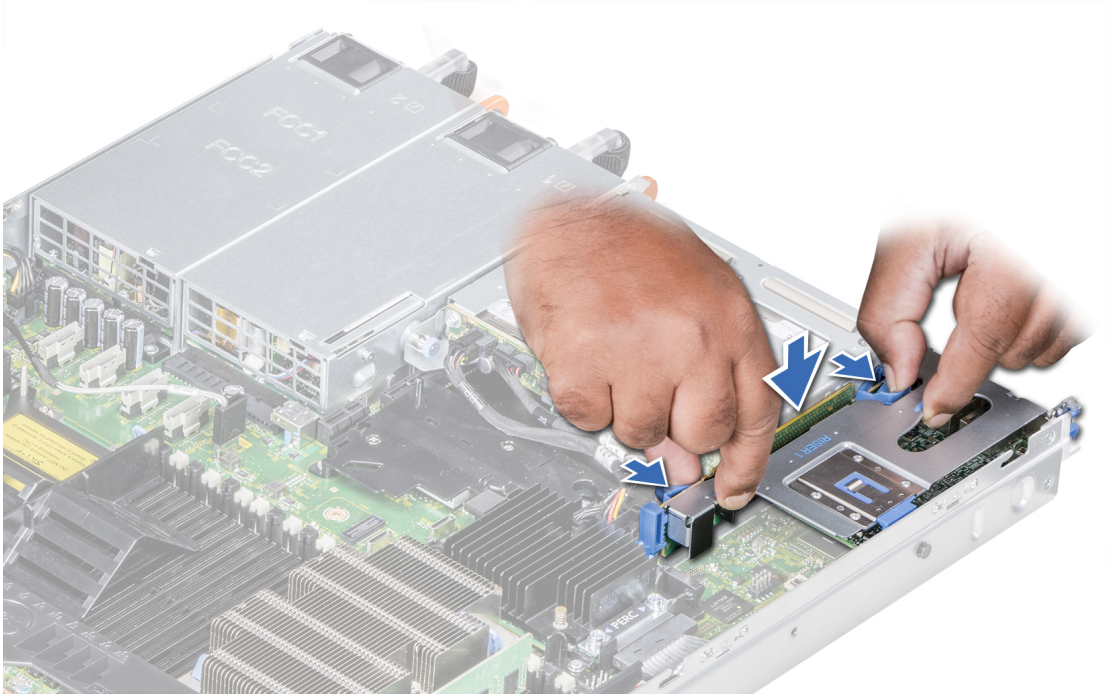


11. Holding the touch points, align the expansion-card riser with the connector and the riser guide pin on the system board.
12. Lower the expansion-card riser into place until the expansion-card riser connector is fully seated in the connector.

The following figure shows the installation of expansion riser 1B.

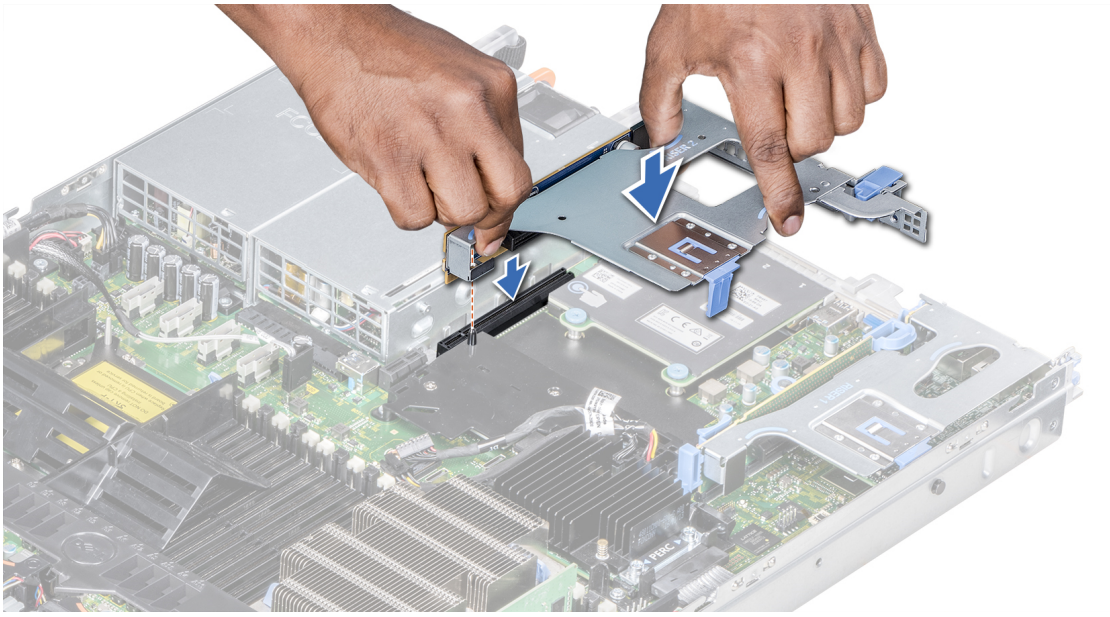


The following figure shows the installation of expansion riser 1A.



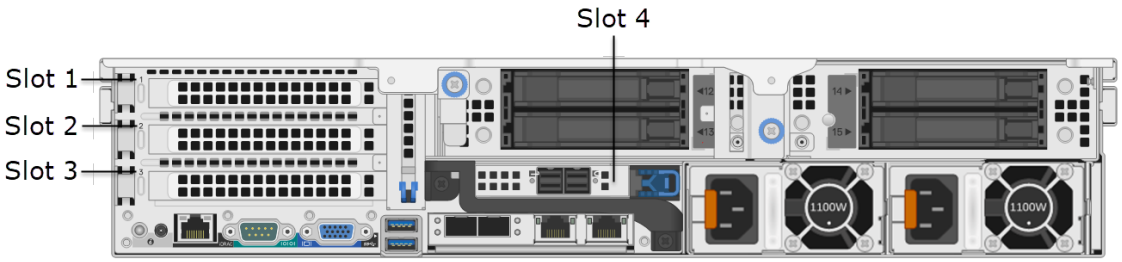
The following figure shows the installation of expansion riser 2A.

The following figure shows the installation of expansion riser 2B.



13. Close the system.
14. Replace the Warranty label on the server with a new label provided with the PCI card.
15. Reconnect the system to the electrical outlets and any attached peripherals, including any network interface cables.

Rear View of Series 6 Hybrid Host

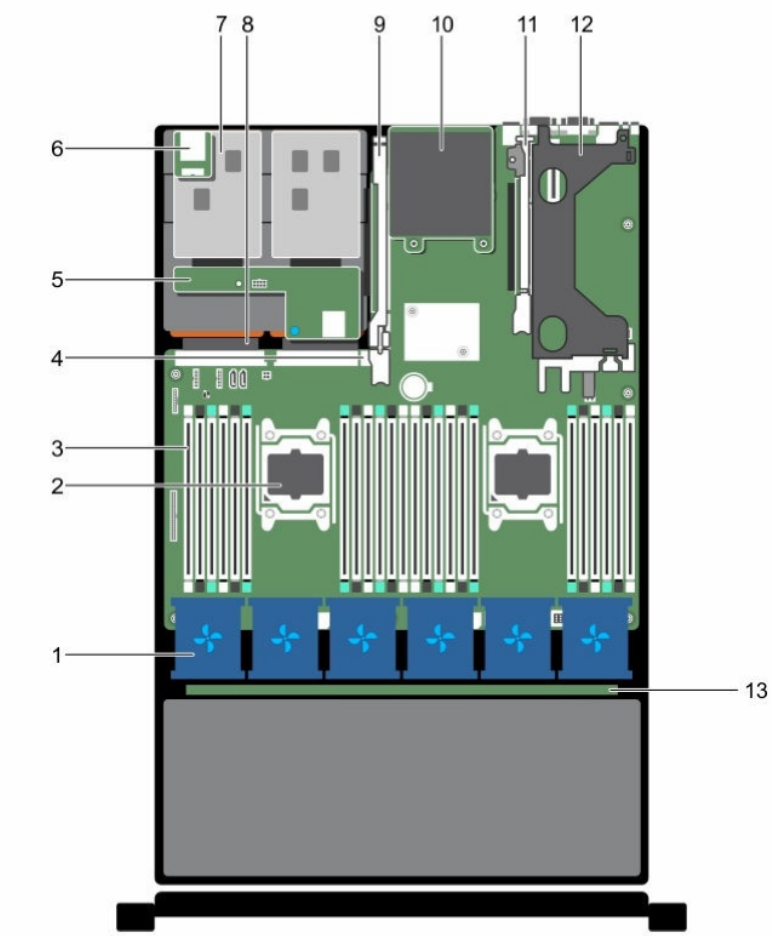


Slot 4 already contains a PERC H840 RAID controller. The PERC H840 card is installed inverted (upside down) in slot 4, which means that port is on the right and port 1 is on the left on the R740xd Hybrid. You must attach cables to the R740xd with the connector's white or blue tab on the bottom.

When adding an Intel FC Dual Port (DP) PCI expansion card, install the DP card in Slot 1.
When adding an Emulex Fiber Channel (FC) PCI expansion card, install the FC card in Slot 2.
When adding an Intel Ethernet Quad Port (QP) PCI expansion card, install the QP card in Slot 3.

Note: A missing or an unsupported card riser logs an SEL event. It does not prevent your system from powering on and a BIOS POST message or F1/F2 pause is not displayed.

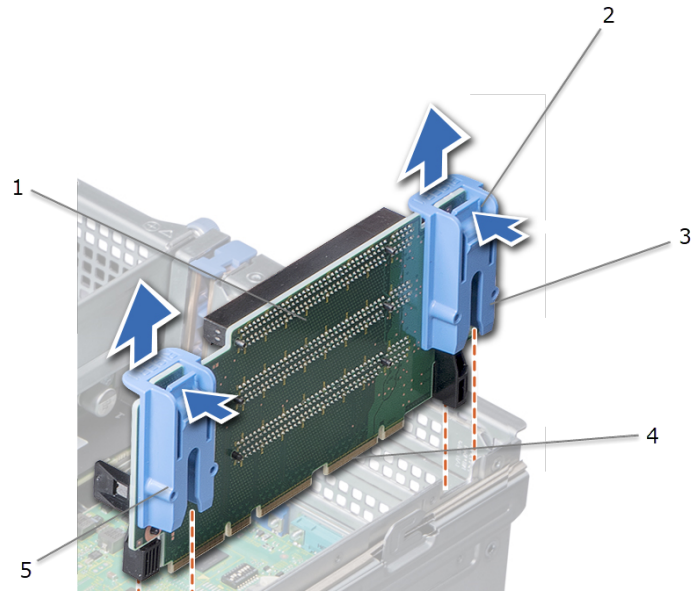
R740xd (Hybrid) System Board



Key	Description	Key	Description
1	Cooling fan in the cooling fan assembly (6)	8	Power supply unit (2)
2	Processor (2)	9	Expansion-card riser 3
3	DIMMs (24)	10	Network daughter card
4	Internal USB port	11	Expansion-card riser 2
5	Hard drive backplane (back)	12	Expansion-card riser 1
6	vFlash media slot	13	Hard drive backplane
7	Hard drive (2) (back)		

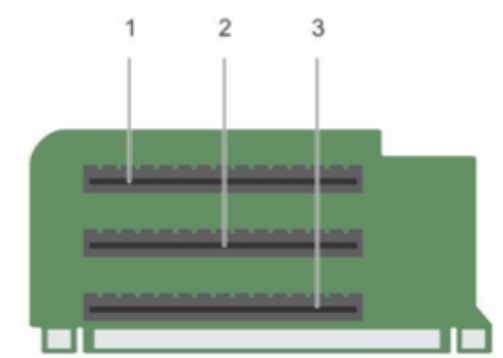
Expansion Card Riser in the R740xd (Hybrid)

The following figure shows the parts involved when removing or installing the expansion-card riser.



Key	Description	Key	Description
1	Expansion-card riser	4	Expansion-card riser connector
2	Riser release latch	5	Riser guide-back (left)
3	Riser guide-back (right)		

The following figure shows the connectors on expansion card riser 1.



Key	Description
1	Expansion card slot 1
2	Expansion card slot 2
3	Expansion card slot 3

Install a PCI Expansion Card in an R740xd (Hybrid) Host

The following procedure shows how to remove and install the expansion card riser to install a PCI expansion card in a NetWitness Platform Series 6 R740xd (Hybrid) host. When adding an Emulex Fiber Channel (FC) PCI expansion card for a Storage Area Network (SAN), such as VNX or VNX2, install the FC card in Slot 2.

Caution: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by RSA is not covered by your warranty. Read and follow the safety instructions that came with the product.

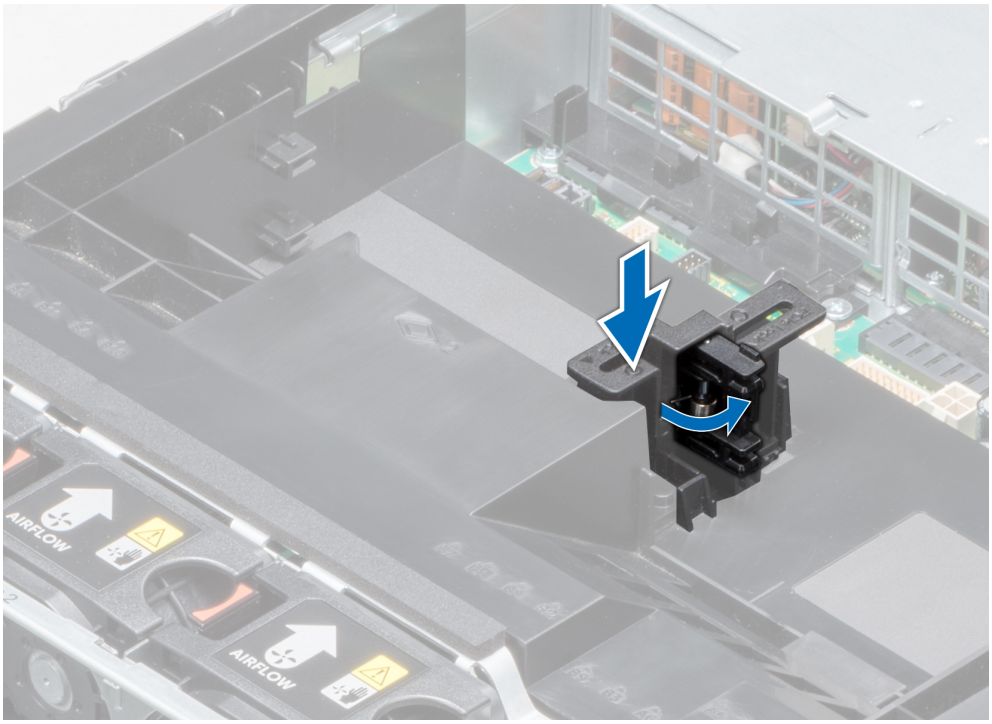
Note: As long as the repairs and servicing made are allowed under customer support, your warranty will not be voided.

1. Turn off the system, including any attached peripherals.
2. Disconnect the system from the electrical outlets, any attached peripherals, and any network interface cables.
3. Make sure to protect yourself by wearing an anti-static wrist strap before touching any internal parts.

   An ESD wrist strap is provided for this purpose.

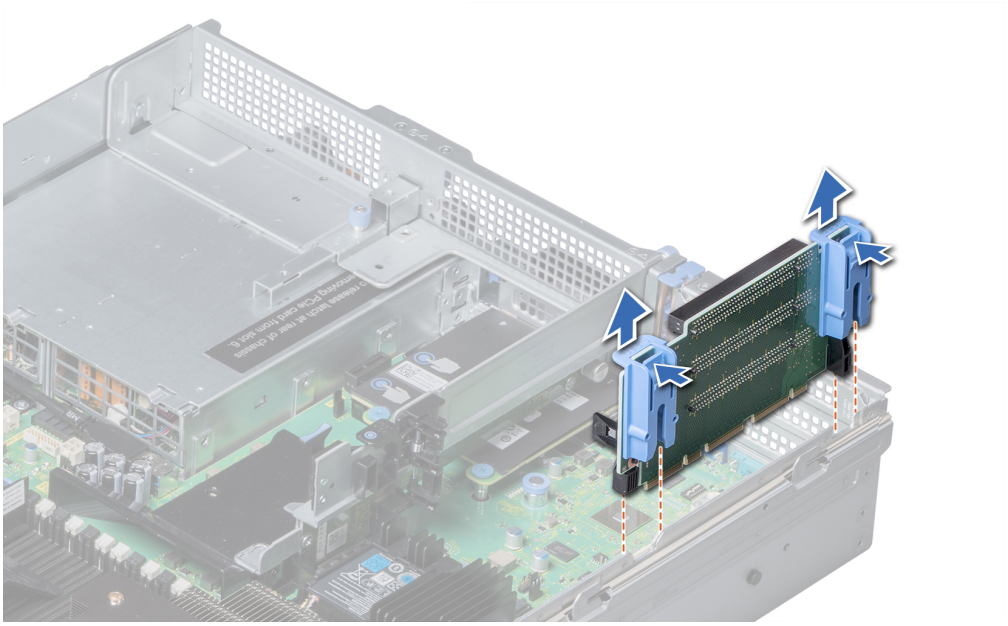
4. Remove the Warranty label on the server.
5. Open the system.
6. For full length PCI cards, open the PCI card holder latch by pressing the release tab.

   The following figure shows the opening of the PCIe card holder latch.



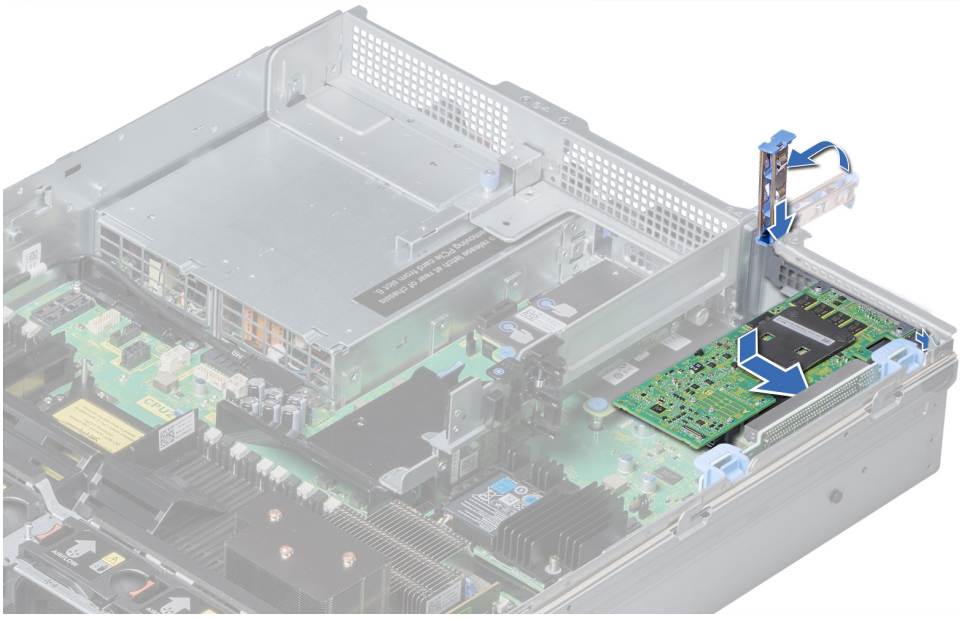
7. (Optional) Press the release latches, and lift the expansion riser 1 from the riser connector on the system board.

The following figure shows the removal of the expansion card riser.



8. Remove the metal filler bracket from the appropriate slot.
9. Holding the card by its edges, position the PCI expansion card so that the card-edge connector aligns with the expansion card connector.
10. Insert the card-edge connector firmly into the expansion card connector until the card is fully seated.

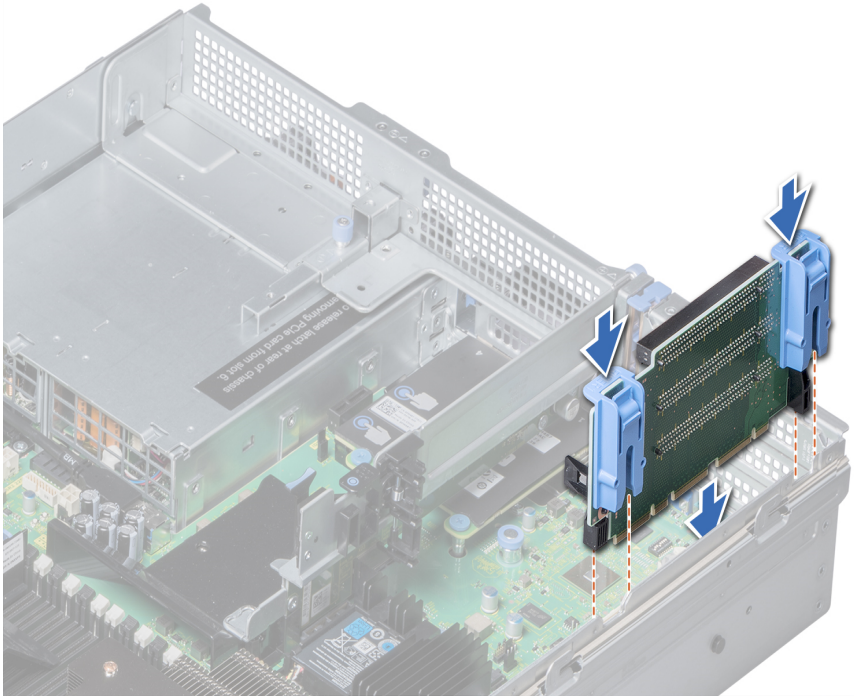
    The following figure shows the installation of the expansion card into the expansion card riser.



11. (Optional) Align the guide rails on the riser with the standoffs on the side of the system.

12. (Optional) Lower the riser into the system until the riser connector engages with the connector on the system board.

    The following figure shows the installation of the expansion card riser.



13. Close the PCIe card holder latch by pushing the latch until it locks.

    The following figure shows the closing of the PCIe card holder latch.

14. Close the system.
15. Replace the Warranty label on the server with a new label provided with the PCI card.
16. Reconnect the system to the electrical outlets and any attached peripherals, including any network interface cables.

PERC Card Firmware Installation

A PERC card is the RAID controller for the storage expansion JBOD, such as a DAC or PowerVault. After installing a PERC Card in your physical host, you must go to the Product Advisory links to get the latest qualified firmware and install it. This ensures that you have the latest qualified code. There are different models of this card, such as PERC H830 and PERC H840.

Identify the PERC Card Model Number

To identify the model number of your PERC card, in the rear of the physical host, look at the face of the card bracket. Since these cards do not share the same firmware code, you need to know the model number to download the correct firmware. The following figure shows a PERC H840 card.

Get the Latest Qualified Firmware and Install It

Download the latest qualified firmware for your PERC card model from the link below and install it.

RSA NetWitness Availability of BIOS & iDRAC Firmware Updates:
https://community.rsa.com/docs/DOC-79266