CHAPTER 1 Replacing Steelhead CX8055 Components

This chapter describes how to replace hardware components in the Steelhead CX8055 appliances. It includes the following sections:

- *"Before You Begin" on page 5*
- *"Opening the Bezel" on page 6*
- *"Removing the Chassis Cover" on page 6*
- *"Replacing Disk Drives" on page 8*
- *"Replacing Power Supply Units" on page 11*
- *"Replacing Memory Modules" on page 12*
- *"Replacing Fans" on page 18*

Before You Begin

You need the following tools and equipment to replace appliance components:

- You must use approved components for the appliance to function properly. If you install unapproved components, the appliance will not start. To order appliance components, contact Riverbed Support at https://support.riverbed.com.

- You must wear a grounded ESD anti-static strap to protect the hardware against electrostatic discharge when you replace components. Make sure that the strap makes skin contact prior to handling equipment.

- Riverbed recommends you use the magnetic Phillips screwdriver enclosed with your shipment to remove screws in the appliance. The magnetic screwdriver ensures screws are not dropped into the appliance.

Opening the Bezel

To release the bezel, press the tabs on each side of the bezel and pull toward you. The bezel remains attached to the appliance on hinges.

Figure 1-1. Opening the Bezel
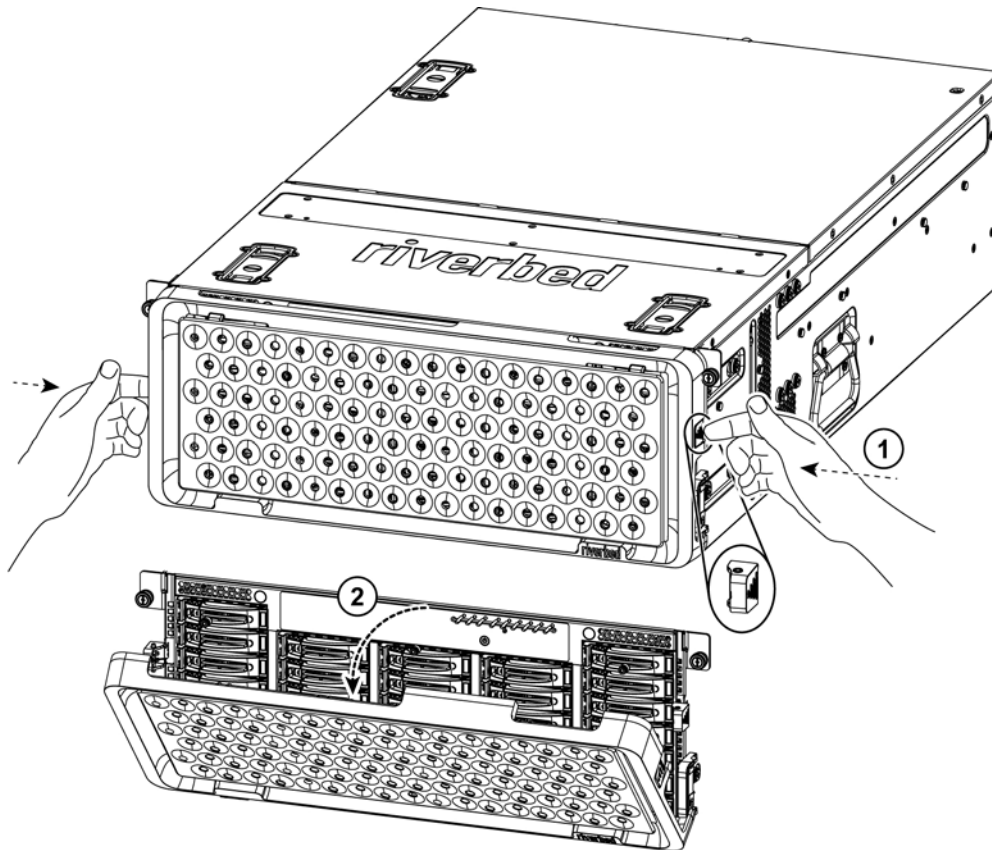
Removing the Chassis Cover

The CX8055 appliance has a front cover over the fans and a rear cover over other appliance components such as memory and network cards.

To remove the rear chassis cover on CX8055 appliances

1. Unscrew the locking screw on the back of the chassis.

2. Unlock the latch on the cover.

   Insert the coin or screwdriver into the slot on the latch and turn clockwise.
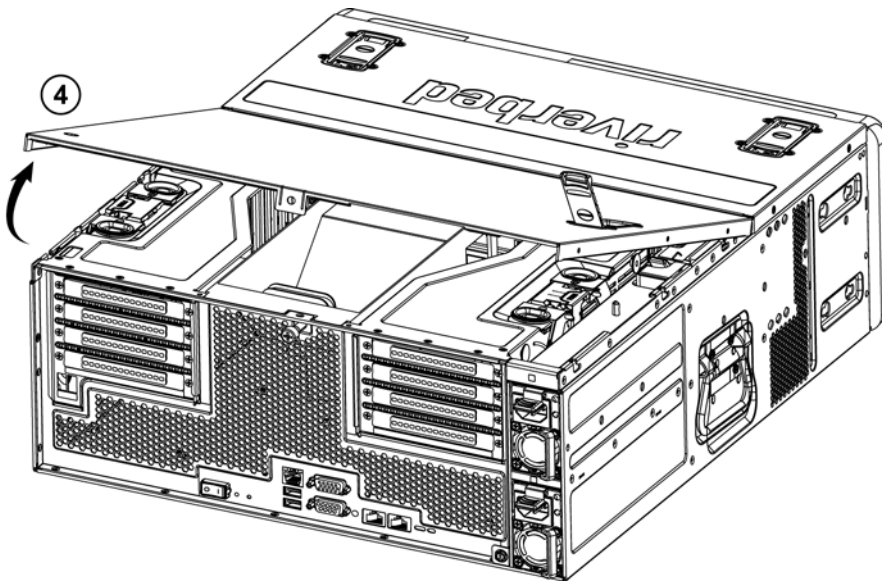
3. Lift the latch.

Figure 1-2. Unlocking the Rear Chassis Cover
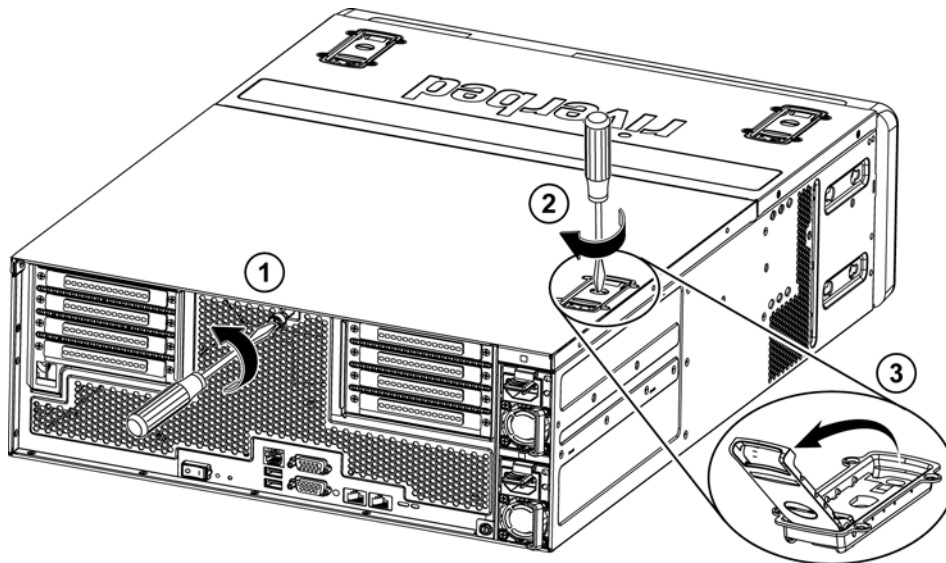
4. Remove the back cover.

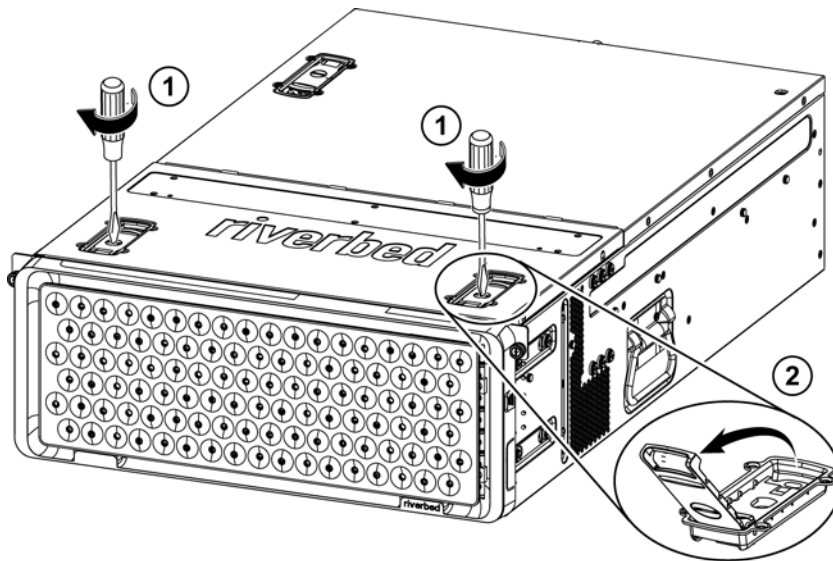Figure 1-3. Removing the Rear Chassis Cover

To remove the front chassis cover on CX8055 appliances

1. Unlock both latches on the front cover.

Insert the coin or screwdriver into the slot on each latch and turn clockwise.
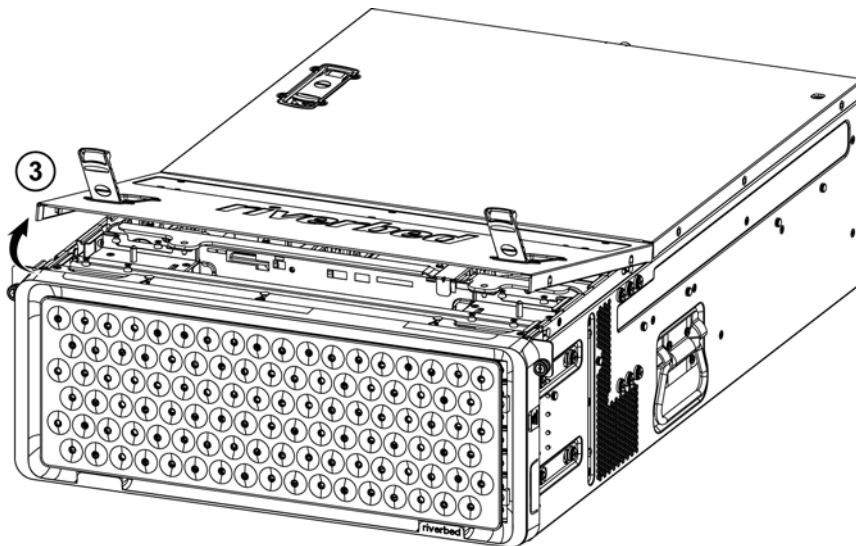
2. Lift both latches at the same time.

The front cover slides forward slightly.

Figure 1-4. Unlocking the Front Chassis Cover

3. Lift off the cover.

Figure 1-5. Removing the Front Chassis Cover

Replacing Disk Drives

CX8055 appliances are equipped with replaceable, hot-swappable disk drives. The drives are stored in drive trays, typically with two drives in each tray. When you need to replace a drive, you replace the entire drive tray.

You must use approved disk drives in this appliance. To order disk drives, contact Riverbed Support at https://support.riverbed.com.

⚠ **Caution:** Use caution when you remove or replace components; they can become hot to the touch.

To replace a disk drive tray in the CX8055 appliances
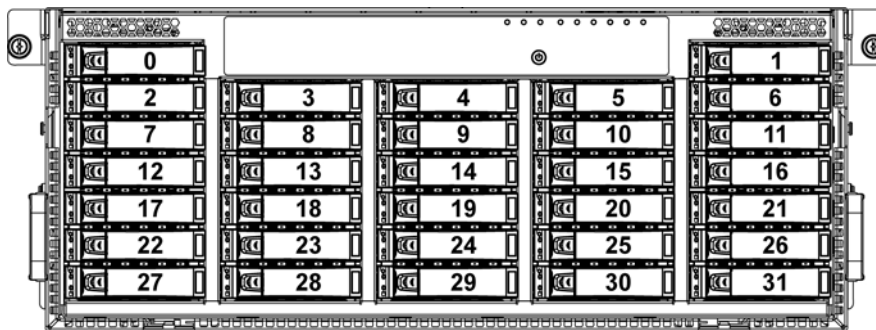
1. Open the bezel.

   See "Opening the Bezel" on page 6.

2. Identify the faulty disk drive.

   The Alarm Status page in the Management Console identifies the faulty disk drive and the disk drive LED is orange for failed drives.

   The drive trays are numbered in ascending order, from the upper-left corner to the lower-right corner.

**Figure 1-6. CX8055 Disk Drive Tray Numbers**

Drive trays 0 and 1 contain 600 GB SSDs for the operating system in the lower disk position.

Drive trays 2 through 26 contain 160 GB SSDs in both lower and upper drives for the datastore.

Drive trays 27 through 31 contain 500 GB HDDs in the lower drive to provide inexpensive storage, potentially used for a mini-Shark appliance.

3. Press the orange release button to the left and pull the drive handle toward you to release the disk drive.

Figure 1-7. Releasing the Disk Drive
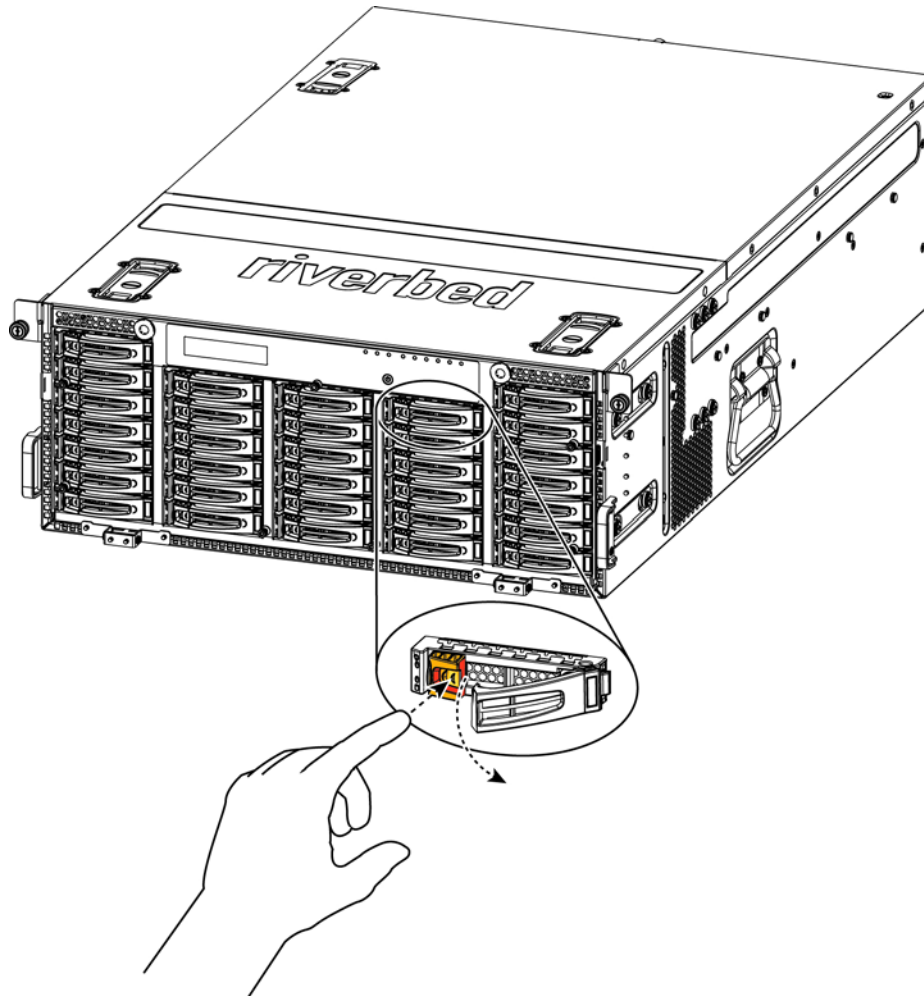
4. Slide the faulty disk drive out of the slot.

Make sure you remove the correct drive.

5. Open the new disk-drive handle by pressing the orange release button.

6. Slide in the new disk drive until it mates with the back connectors in the chassis.

The disk drive LED lights blue when connected.

7. Press in the disk-drive handle to close.

The new disk drive automatically runs through a self-test. The disk drive automatically begins proper operation with the other disk drives. You do not need to set up or configure the new disk drive.

Replacing Power Supply Units

The CX8055 appliances are equipped with replaceable, hot-swappable power supply units.

⚠️ **Caution:** Use gloves when replacing the power supply units; they can become hot to the touch.

To replace power supply units in CX8055 appliances

1. Locate the defective power supply unit and remove the power cord.

   On the appliance, examine the LED indicator behind the power supply. A green LED indicates normal activity; a red LED indicates a failed power supply.

2. Pull out the black handle.

3. Press the orange release tab toward the black handle, and pull the power supply unit toward you.
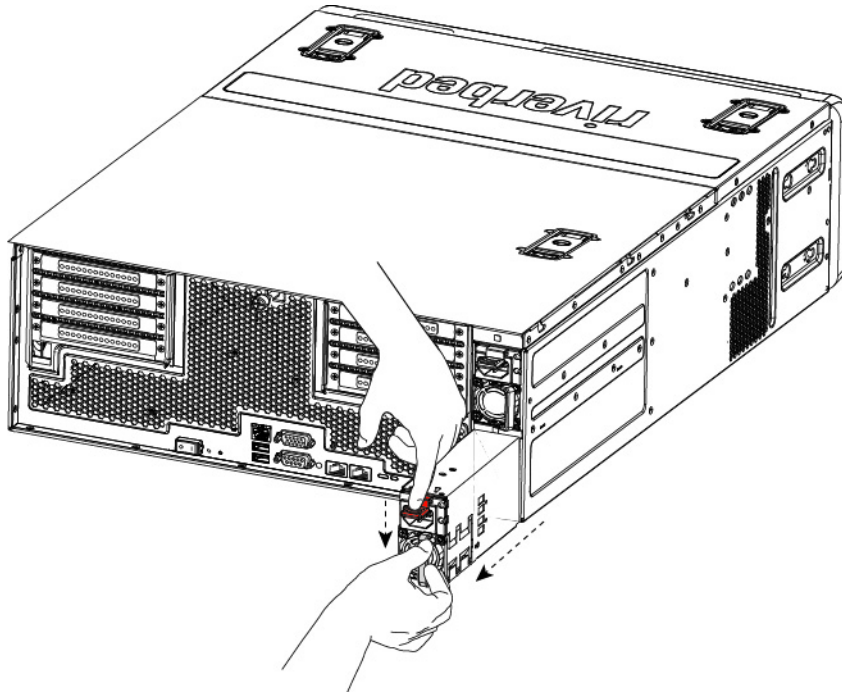
Figure 1-8. Release the Power Supply Units from CX8055 Appliances
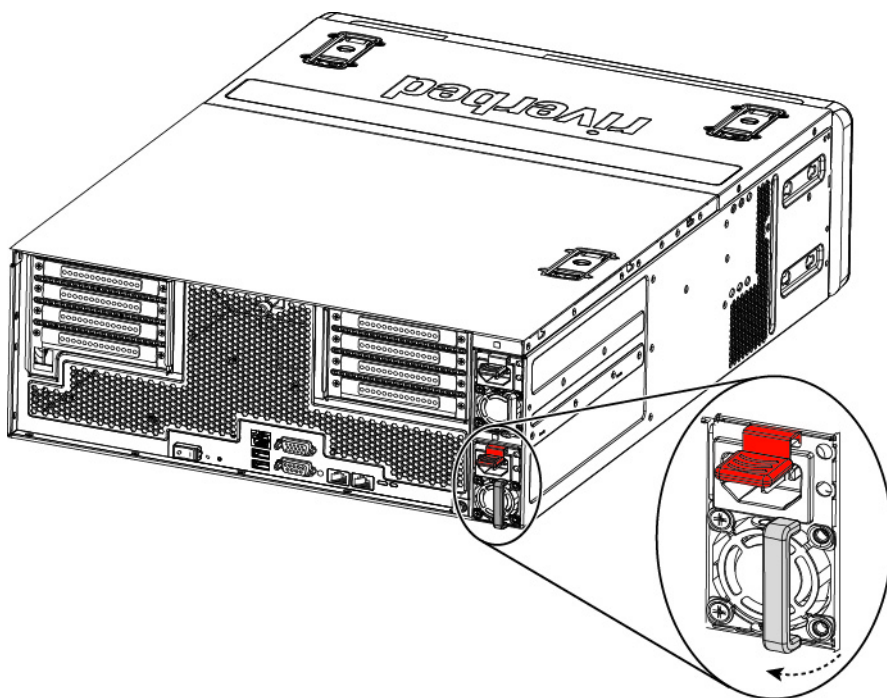
Power Supply 0 (PS0) is on the top and Power Supply 1 (PS1) is on the bottom.

4. Pull the power supply unit out of the chassis.

Figure 1-9. Remove the Power Supply Units from CX8055 Appliances

⚠️ **Caution:** Put the defective power supply unit aside; wait until it cools down before touching it.

5. Slide in the new power supply unit into the chassis. When connected, the orange release latch clicks into place.

6. Plug the AC power cord into the new power supply unit.

Replacing Memory Modules

This section describes how to replace memory modules in the CX8055 appliances.

This diagram illustrates memory module slot locations in these appliances.

**Figure 1-10. CX8055 Memory Module Slot Locations**
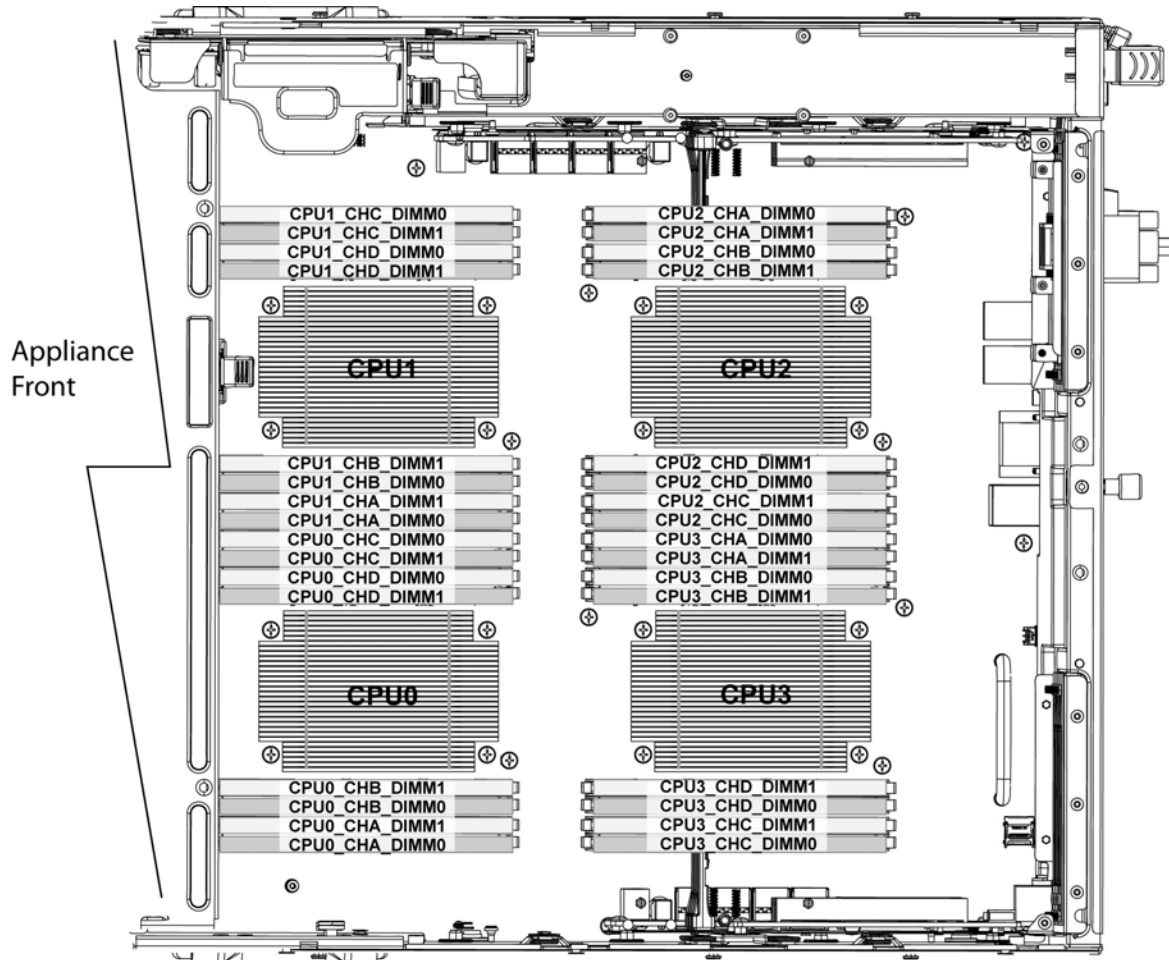
CX8055 appliances have different memory configuration based on their model type: CX8055M models have half of their memory slots filled and CX8055H appliances have all of their memory slots filled.

To replace memory modules in the CX8055 appliances

1. Power down the appliance.

2. Open the rear chassis cover.

   See *"Removing the Chassis Cover" on page 6*.

3. Remove the two PCIe enclosures.

For each enclosure, push down on the orange release button.
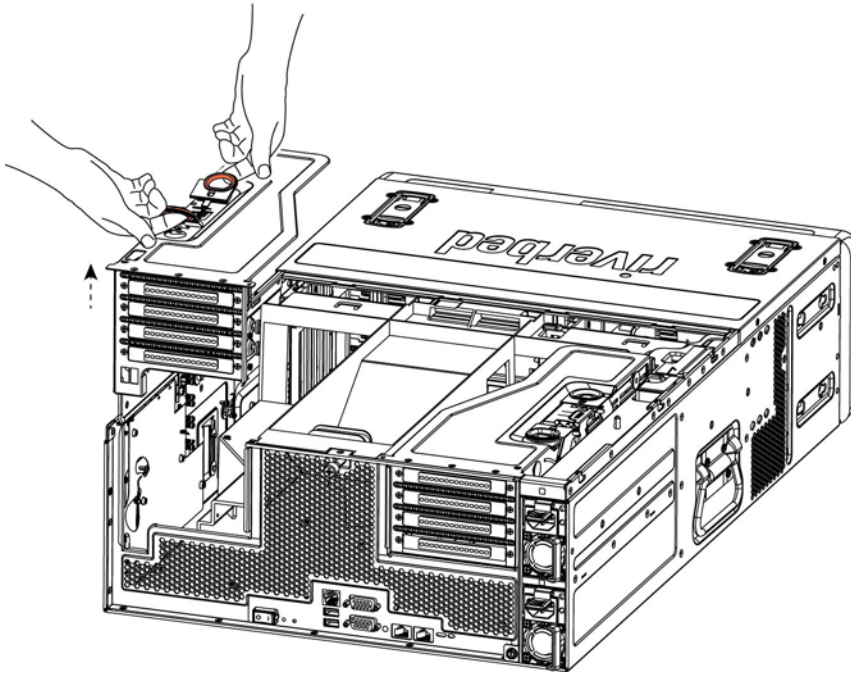
Figure 1-11. Release the PCIe Enclosure Tabs
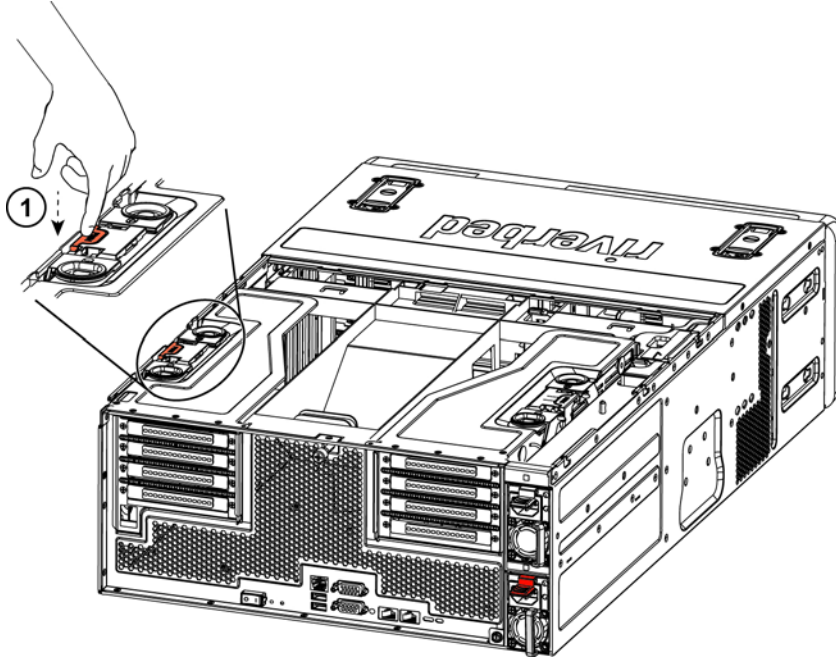
The tabs with the enclosure holes rise.
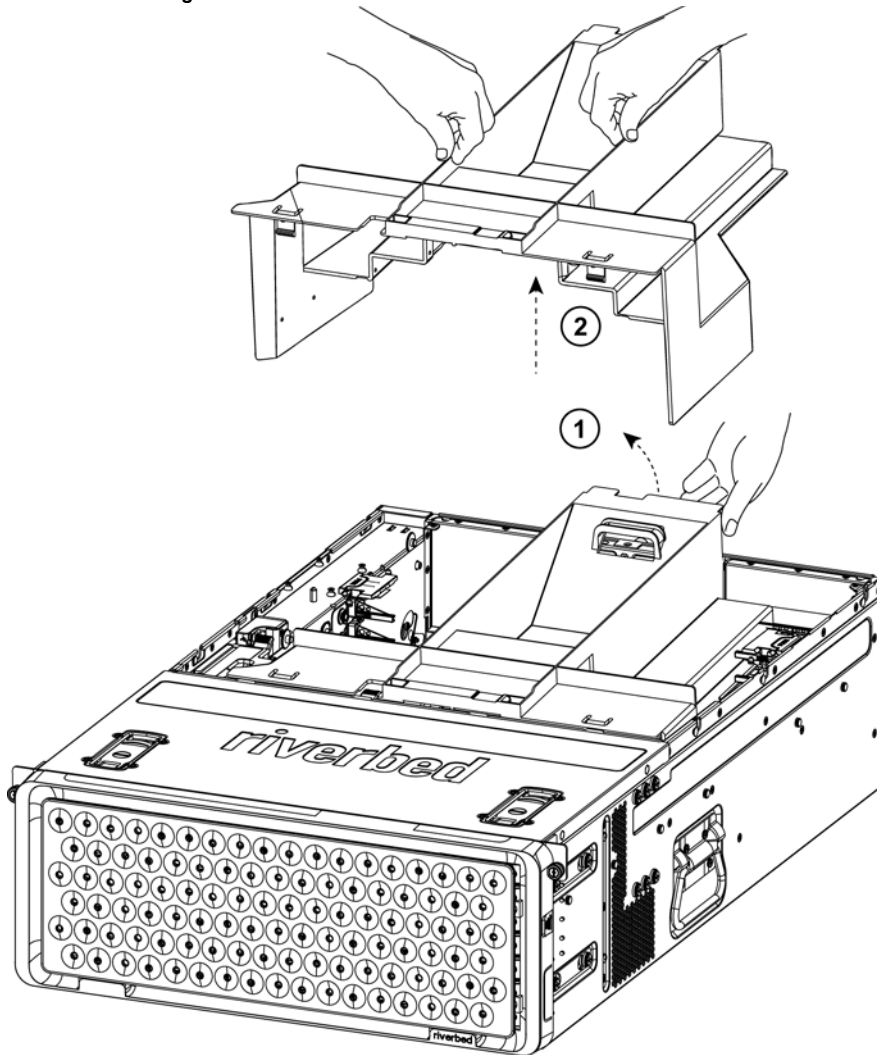
Figure 1-12. PCIe Enclosure Tabs

4. Place your fingers in the enclosure holes and lift straight up.

Figure 1-13. Removing the PCIe Enclosures from the Chassis

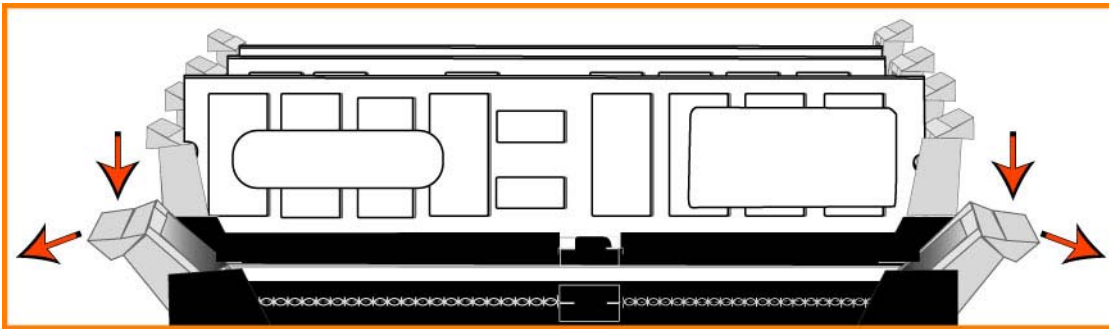**5.** Remove the air duct to access the memory module slots.

Figure 1-14. Removing Air Duct

Caution: Lift the air duct straight up to avoid damaging any components of the appliance.
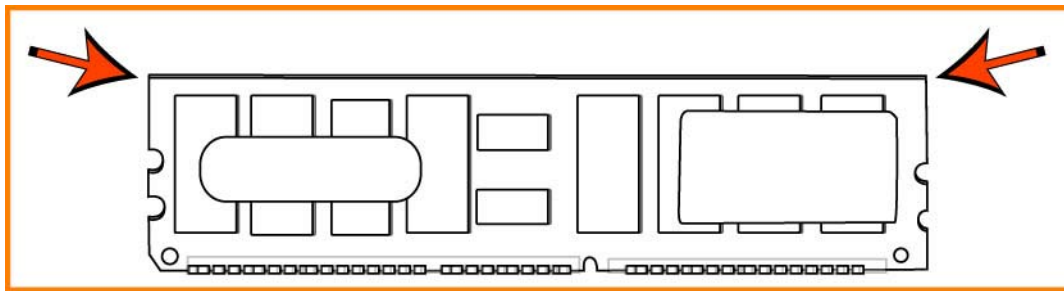
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6. Press the ejector tabs on the memory module slot down and outward and gently pull the memory module out of the slot.

Figure 1-15. Accessing the Memory Modules

7. Hold the memory module on the outside edges to prevent damage to the module.

Figure 1-16. Proper Handling of the Memory Module

8. Remove the existing memory module and replace it with an approved memory module of the same size. When adding memory, always place the memory in the black slots first.

Important: Replacing the existing memory module with a module of a different size causes the system to fail. You must use approved memory modules. Contact Riverbed Support at https://support.riverbed.com to obtain the correct memory modules.

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9. Align the memory-module edge connector with the slot alignment keys and insert it into the slot.

The module slot has two alignment keys which let you install the module in only one direction.

Figure 1-17. Inserting the Memory Modules into the Connector Slot and Securing
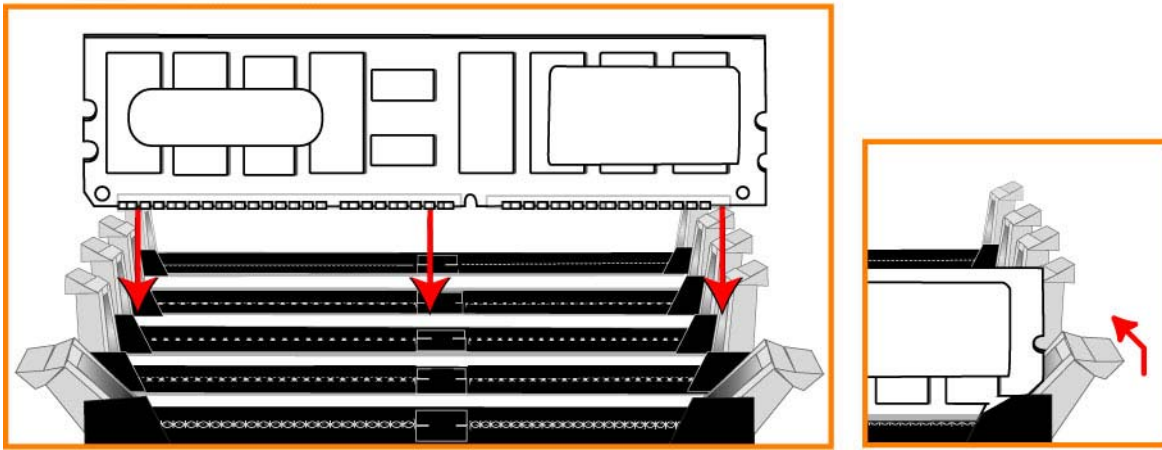
10. Press down on the memory module with your thumbs while pulling up on the ejectors with your index fingers to lock the module into the slot.

11. Ensure that all ejector tabs are in the upright locked position.

12. Repeat Step 6 through Step 11 of this procedure to install the remaining memory modules.

13. Replace the air duct.

14. Replace the PCIe enclosures.

15. Replace the chassis cover.

16. Plug in the power cords and the peripherals.

17. Power on the appliance.

Replacing Fans

The CX8055 appliances are equipped with six hot-swappable fans at the front of the chassis. This section describes how to replace these fans.

Important: The CX8055 appliance only recognizes approved fans. To order fans, contact Riverbed Support at https://support.riverbed.com.
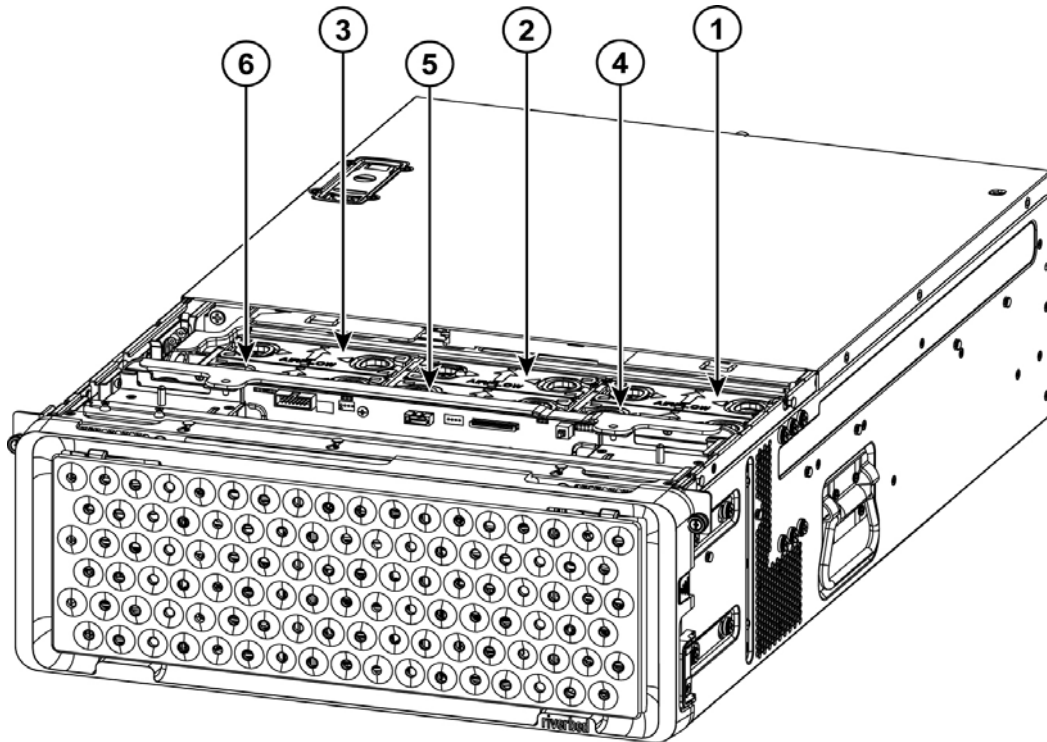
To replace the fans in the CX8055 appliances

1. Remove the front chassis cover.

   See "Removing the Chassis Cover" on page 6.

2. Identify the faulty fan.

Each fan has a LED to indicate its status: a green LED indicates normal operation; a red LED indicates a failed fan.
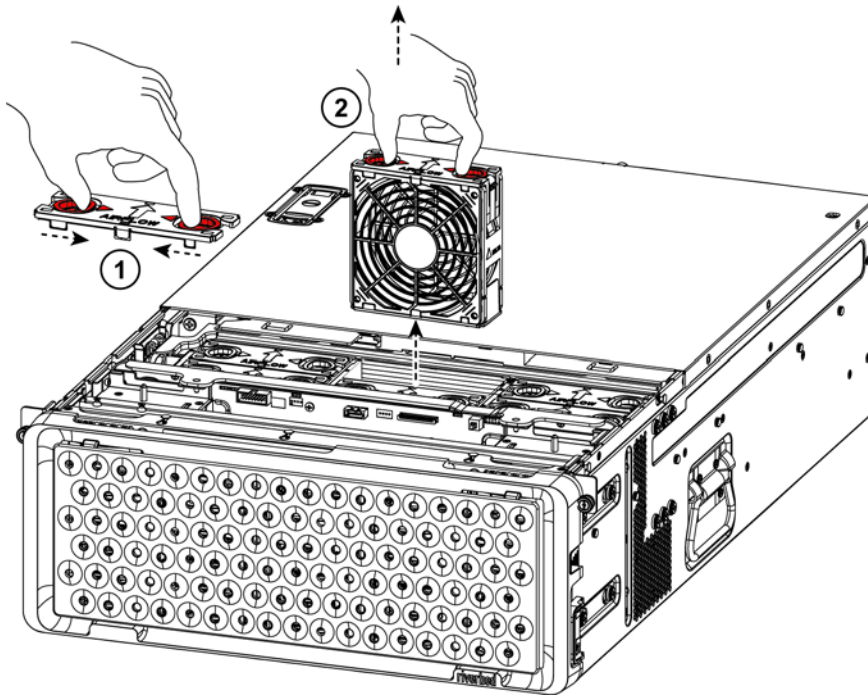
The appliance has 6 fans.

Figure 1-18. CX8055 Fan Layout with Fan ID Numbers

3. Position your fingers in the holes on the top of the fan, push inwards, and pull the fan from the chassis.

Figure 1-19. Removing the Fan in a CX8055 Appliance

4. Insert the replacement fan into the slot and connect it with the chassis.

The fan plugs directly into the motherboard.

5. Replace the chassis cover.

Note: If the IPMI alarm triggers when you open the chassis cover, run the **clear hardware error-log** command in the CLI to clear the alarm. For details, see the *Riverbed Command-Line Interface Reference Manual*.