FXT Series Installation Guide

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Chapter 1. Introduction

The FXT Series Installation Guide is written for system administrators who need to install and administer FXT series edge filers in an Avere cluster. It assumes that you have a basic knowledge of networked storage, including network access protocols such as the Network File System (NFS) and the Common Internet File System (CIFS).

1.1. Cautions and Warnings

The following highlights are used in this document:

⚠ **WARNING**

A warning indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.

⚠ **CAUTION**

A caution indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.

NOTICE

A notice indicates information considered important, but not related to personal harm or injury.

☞ A note presents commentary, sidelights, or interesting points of information.

1.2. The FXT Series Platform

The FXT Series platform is a server, a *node*, that runs the Avere OS software. Each node in the series contains and uses multiple types of storage media:

DRAM memory	Hard drive data drives (HDDs)	Solid-state data drives (SSDs)	Hybrid (HDD and SSD) data drives
All FXT-series platforms	FXT 2300, FXT 2500, FXT 2550, FXT 3100, FXT 3200, and FXT 3500	FXT 2700, FXT 2750, FXT 4200, FXT 4500, FXT 4800, and FXT 4850	FXT 3800 and FXT 3850

Typically, several nodes work together to provide a cluster called an *edge filer*.

The FXT Series also includes Gigabit Ethernet or 10-Gigabit Ethernet connections for high-bandwidth network connections; NVRAM to protect written data in the event of a power outage or other failure; and redundant power supplies.

1.3. Avere Documentation

In addition to this *FXT Series Installation Guide*, the following documentation is provided for the Avere product:

- *Quick Start Guide* – How to set up and do the initial configuration of an Avere production system.

- *Daily Operations Guide* – How to administer the Avere OS software.

- *Release Notes* – Late-breaking information about the Avere product.

- *Third-Party Licenses Reference* – Licensing information for the third-party software used by the Avere product.

Chapter 2. Product Specifications and Requirements

This section lists the product specifications and requirements for product installation and use.

2.1. Dimensions and Specifications

Table 2.1. Dimensions and specifications for the FXT Series node

Description	Specification
FXT 2300/2500/2700	
Height	3.48 inches (88.4 mm) (EIA Std 2U)
Width (rack ears)	19.00 inches (482.6 mm) (EIA Std 19-inch rack mount)
Width (main enclosure with slide rails)	17.69 inches (449.3 mm)
Depth (rack ears to furthest rear protrusion)	26.25 inches (666.8 mm)
Depth (rack ears to furthest front protrusion, with bezel)	1.63 inches (41.4 mm)
Depth (rack ears to furthest front protrusion, without bezel)	1.13 inches (28.7 mm)
Net weight (FXT 2300/2500)	65 pounds (29.5 kg) (including rails and accessories)
Net weight (FXT 2700)	58 pounds (26.3 kg) (including rails and accessories)
FXT 2550/2750/3100/3200/3500/3800/3850/4200/4500/4800/4850	
Height	3.48 inches (88.4 mm) (EIA Std 2U)
Width (rack ears)	19.00 inches (482.6 mm) (EIA Std 19-inch rack mount)
Width (main enclosure with slide rails)	17.69 inches (449.3 mm)
Depth (rack ears to furthest rear protrusion)	27.75 inches (704.9 mm)
Depth (rack ears to furthest front protrusion, with bezel)	1.69 inches (42.9 mm)
Depth (rack ears to furthest front protrusion, without bezel)	1.63 inches (41.4 mm)
Net weight (FXT 2550)	61 pounds (27.7 kg) (including rails and accessories)
Net weight (FXT 2750)	59 pounds (26.8 kg) (including rails and accessories)
Net weight (FXT 3100)	61 pounds (27.7 kg) (including rails and accessories)
Net weight (FXT 3200)	63 pounds (28.6 kg) (including rails and accessories)
Net weight (FXT 3500)	66 pounds (29.9 kg) (including rails and accessories)
Net weight (FXT 3800 and 3850)	65 pounds (29.5 kg) (including rails and accessories)
Net weight (FXT 4200)	61 pounds (27.7 kg) (including rails and accessories)
Net weight (FXT 4500)	63 pounds (28.6 kg) (including rails and accessories)
Net weight (FXT 4800 and 4850)	62 pounds (28.1 kg) (including rails and accessories)

2.2. Power and Thermal Specifications

Nameplate Ratings*
FXT 2300/2500/2700
100-240 Vac, 60-50Hz, 10-4 A
FXT 2550/2750/3100/3200/3500/3800/3850/4200/4500/4800/4850
100-240 Vac, 60-50Hz, 11-4.4 A

Typcial Power and Thermal Specifications*

	FXT 2300 / 2500	FXT 2700	FXT 2550	FXT 2750	FXT 3100	FXT 3200	FXT 3500	FXT 3800/3850	FXT 4200	FXT 4500	FXT 4800/4850
Voltage (Vac)	100	100	100	100	100	100	100	100	100	100	100
Frequency (Hz)	60	60	60	60	60	60	60	60	60	60	60
Current (A)	5.87	4.91	3.94	3.60	3.60	4.02	4.69	4.60	3.84	4.13	3.59
Apparent Power (VA)	587	491	394	360	360	402	469	460	384	413	361.43
Power Factor	0.99	0.99	0.97	0.96	0.96	0.97	0.97	0.97	0.96	0.97	0.99
Real Power (W)	581	487	383	344	344	392	457	448	367	402	358.13
Thermal Dissipation (BTU/Hr)	1983	1660	1306	1175	1175	1336	1560	1530	1251	1370	1222
Voltage (Vac)	120	120	120	120	120	120	120	120	120	120	120
Frequency (Hz)	60	60	60	60	60	60	60	60	60	60	60
Current (A)	4.85	4.06	3.28	3.01	3.01	3.35	3.92	3.84	3.20	3.45	3.01
Apparent Power (VA)	582	487	394	361	361	403	470	461	384	414	362
Power Factor	0.99	0.99	0.97	0.95	0.95	0.97	0.97	0.97	0.95	0.97	0.985
Real Power (W)	576	482	382	343	343	390	456	447	365	400	357
Thermal Dissipation (BTU/Hr)	1966	1646	1302	1171	1171	1332	1555	1525	1247	1366	1218
Voltage (Vac)	208	208	208	208	208	208	208	208	208	208	208
Frequency (Hz)	60	60	60	60	60	60	60	60	60	60	60
Current (A)	2.81	2.35	1.91	1.74	1.74	1.95	2.27	2.23	1.86	2.00	1.78
Apparent Power (VA)	584	489	397	363	363	405	473	464	387	416	374.33
Power Factor	0.97	0.97	0.95	0.93	0.93	0.95	0.95	0.95	0.93	0.95	0.955
Real Power (W)	567	475	376	338	338	385	449	441	360	395	356.99
Thermal Dissipation (BTU/Hr)	1934	1619	1284	1155	1155	1314	1534	1504	1230	1347	1218
Voltage (Vac)	230	230	230	230	230	230	230	230	230	230	230
Frequency (Hz)	50	50	50	50	50	50	50	50	50	50	50
Current (A)	2.56	2.14	1.73	1.58	1.58	1.76	2.06	2.02	1.68	1.81	1.66
Apparent Power (VA)	589	493	397	364	364	406	474	465	387	417	379
Power Factor	0.97	0.97	0.94	0.93	0.93	0.95	0.95	0.95	0.93	0.94	0.94
Real Power (W)	571	478	375	337	337	384	448	439	359	393	358
Thermal Dissipation (BTU/Hr)	1949	1631	1280	1151	1151	1309	1528	1499	1226	1343	1221
Voltage (Vac)	240	240	240	240	240	240	240	240	240	240	240
Frequency (Hz)	50	50	50	50	50	50	50	50	50	50	50
Current (A)	2.47	2.07	1.66	1.52	1.52	1.69	1.98	1.94	1.61	1.74	1.59
Apparent Power (VA)	593	496	398	364	364	406	474	465	387	417	384
Power Factor	0.96	0.96	0.94	0.93	0.93	0.94	0.94	0.94	0.93	0.94	0.92
Real Power (W)	569	476	375	337	337	383	447	439	359	393	360
Thermal Dissipation (BTU/Hr)	1942	1625	1278	1149	1149	1307	1526	1497	1224	1340	1228

*Note: 1+1 redundant power supplies, both supplying power

2.3. FXT 2x00 Series Nodes: Front and Rear Illustrations
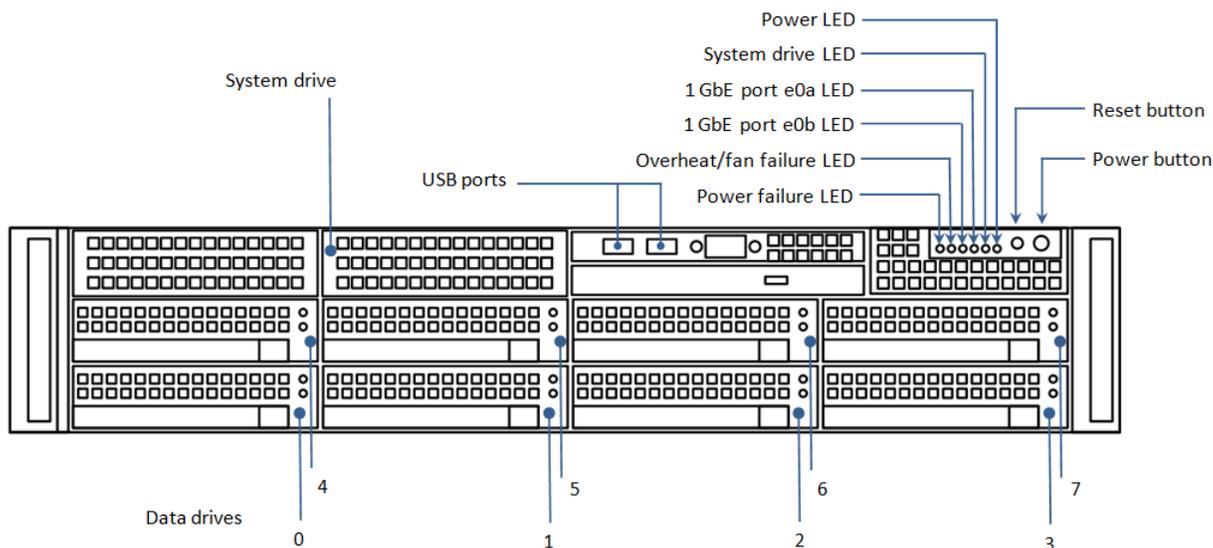
Figure 2.1. Front view of the FXT 2x00 Series node without bezel (all FXT 2x00 Series models)
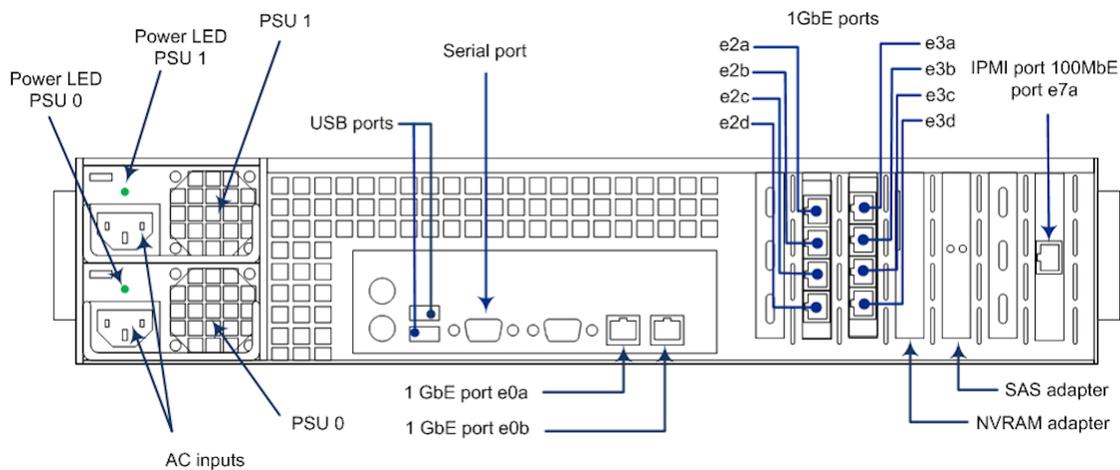
Figure 2.2. Rear view of the FXT 2x00 Series node with 1GbE network adapters
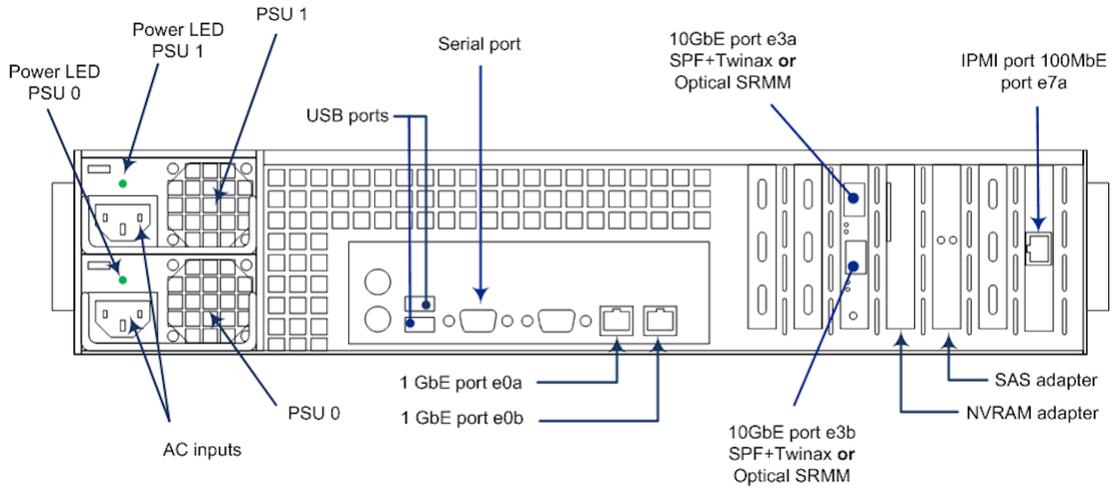
Figure 2.3. Rear view of the FXT 2x00 Series node with 10GbE SFP + Twinax or Optical SRMM network adapters

2.4. FXT 2x50, FXT 3xx0, or FXT 4xx0 Series Nodes: Front and Rear Illustrations

2.4.1. FXT 2550 Front Illustration
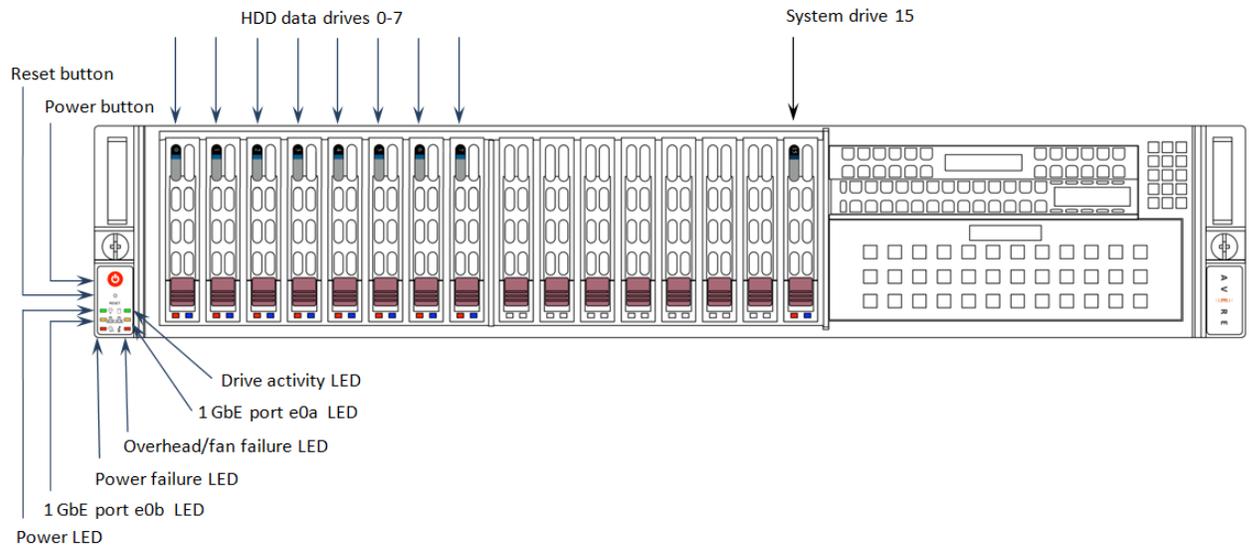
2.4.2. FXT 2750 Front Illustration
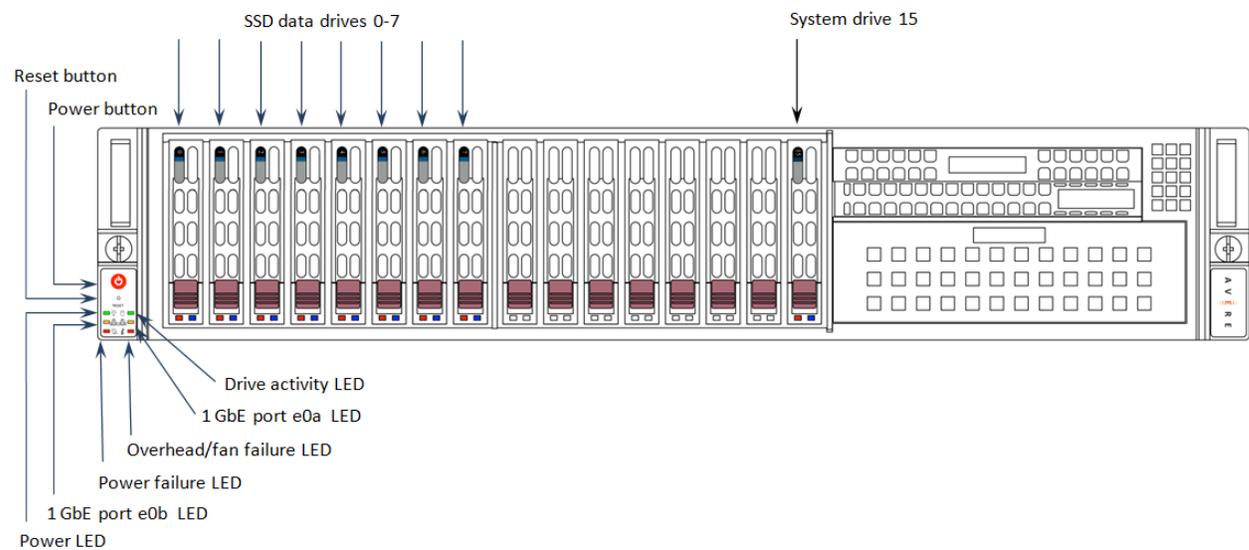
2.4.3. FXT 3100 Front Illustration

HDD Data drives 0-3

System drive 15

Reset button

Power button

Drive activity LED

1 GbE port e0a LED

Informational LED

Power failure LED

1 GbE port e0b LED

Power LED
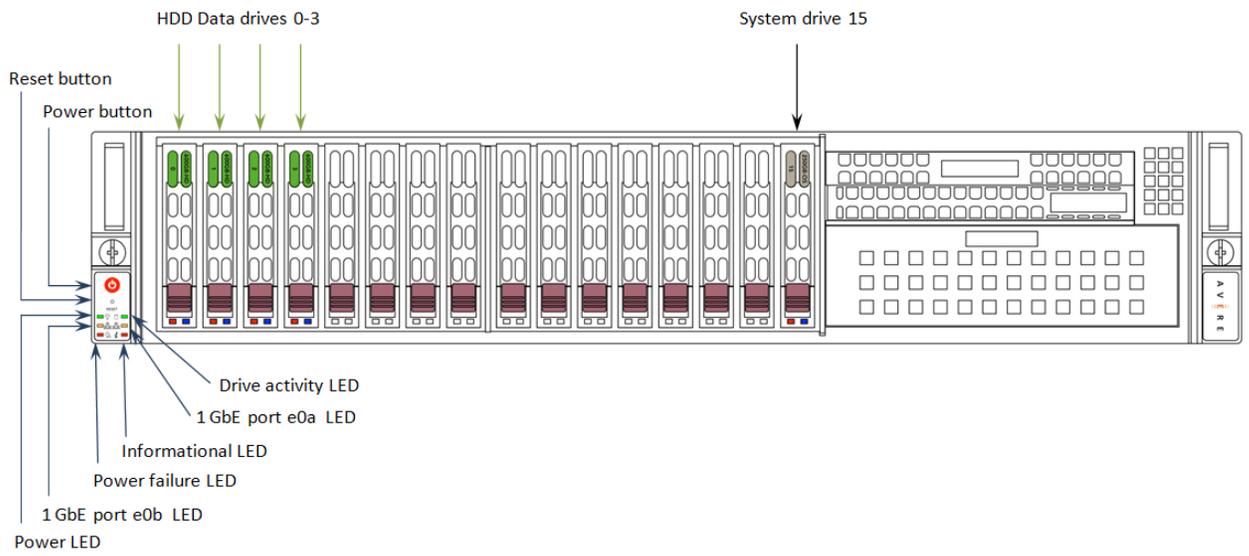
2.4.4. FXT 3200 Front Illustration

HDD data drives 0-7

System drive 15

Reset button

Power button

Drive activity LED

1 GbE port e0a LED

Informational LED

Power failure LED

1 GbE port e0b LED

Power LED
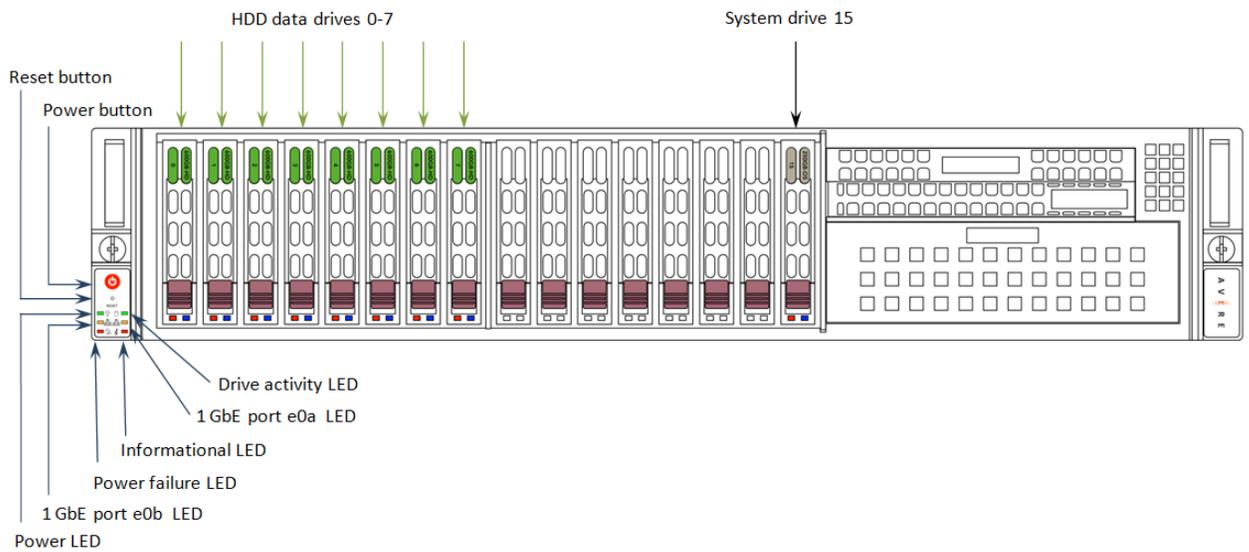
2.4.5. FXT 3500 Front Illustration

HDD Data drives 0-14

System drive 15

Reset button

Power button

Drive activity LED

1 GbE port e0a LED

Informational LED

Power failure LED

1 GbE port e0b LED

Power LED
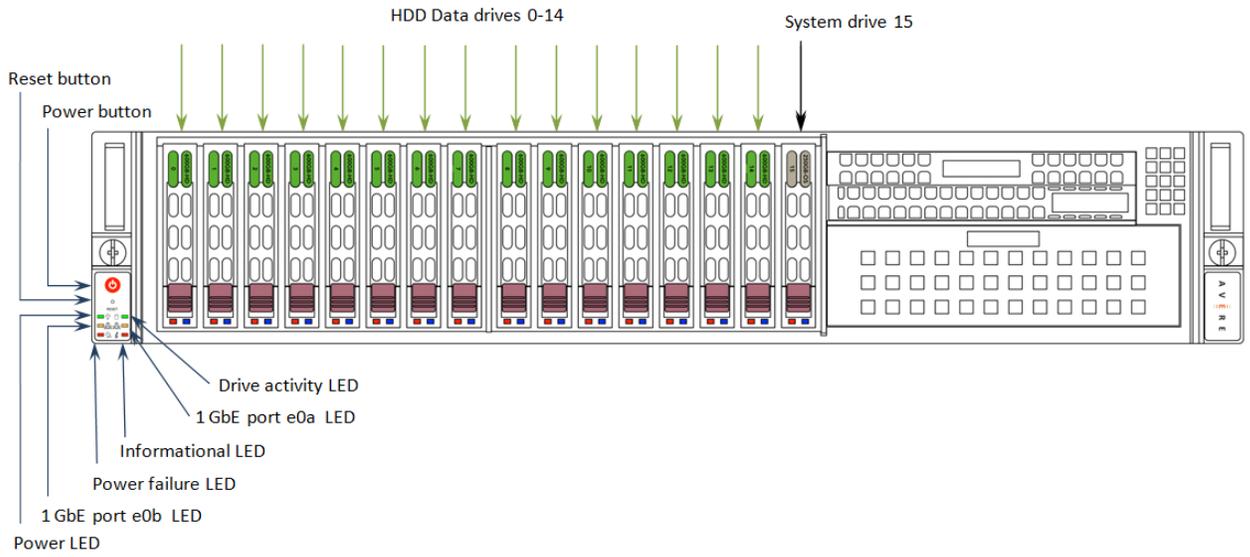
2.4.6. FXT 3800 and 3850 Front Illustrations

SSD data drive 7

SSD data drive 14

HDD data drives 0-6

HDD data drives 8-13

System drive 15

Reset button

Power button

Drive activity LED

1 GbE port e0a LED

Informational LED

Power failure LED

1 GbE port e0b LED

Power LED
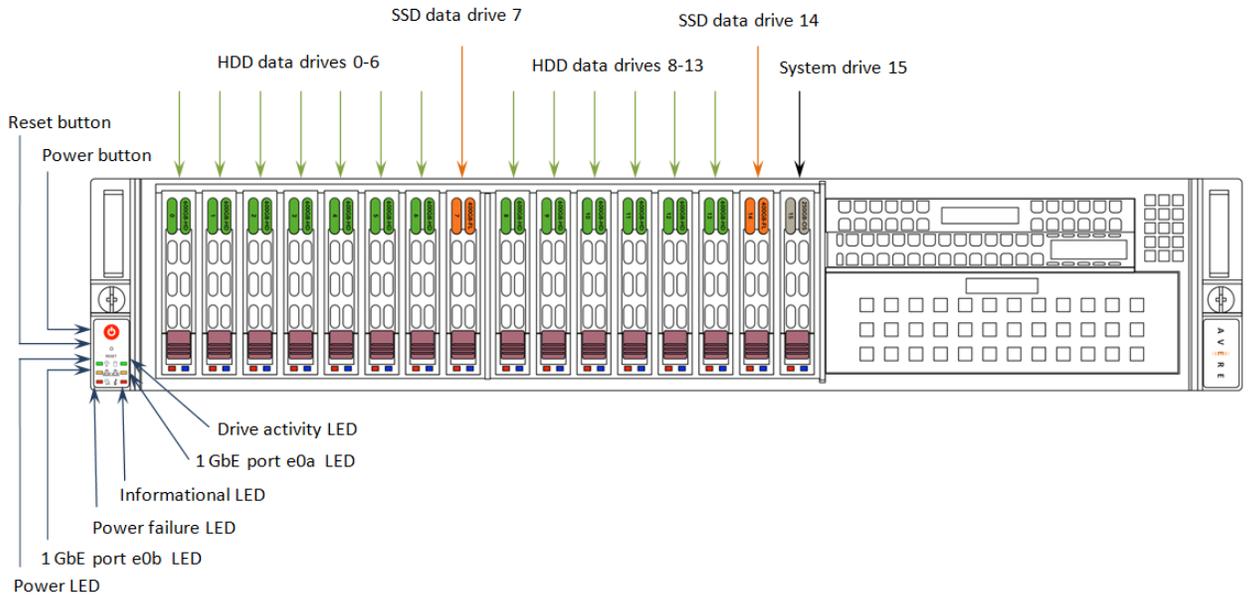
2.4.7. FXT 4200 Front Illustration

SSD data drives 0-7

System drive 15

Reset button

Power button

Drive activity LED

1 GbE port e0a LED

Informational LED

Power failure LED

1 GbE port e0b LED

Power LED
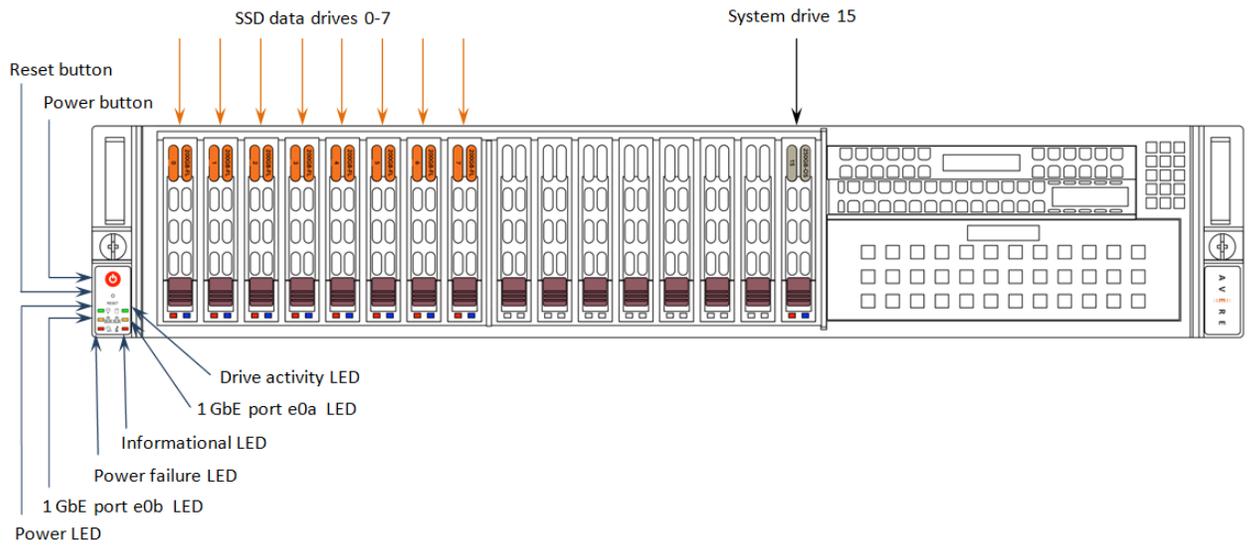
2.4.8. FXT 4500 Front Illustration

SSD data drives 0-14

System drive 15

Reset button

Power button

Drive activity LED

1 GbE port e0a LED

Informational LED

Power failure LED

1 GbE port e0b LED

Power LED
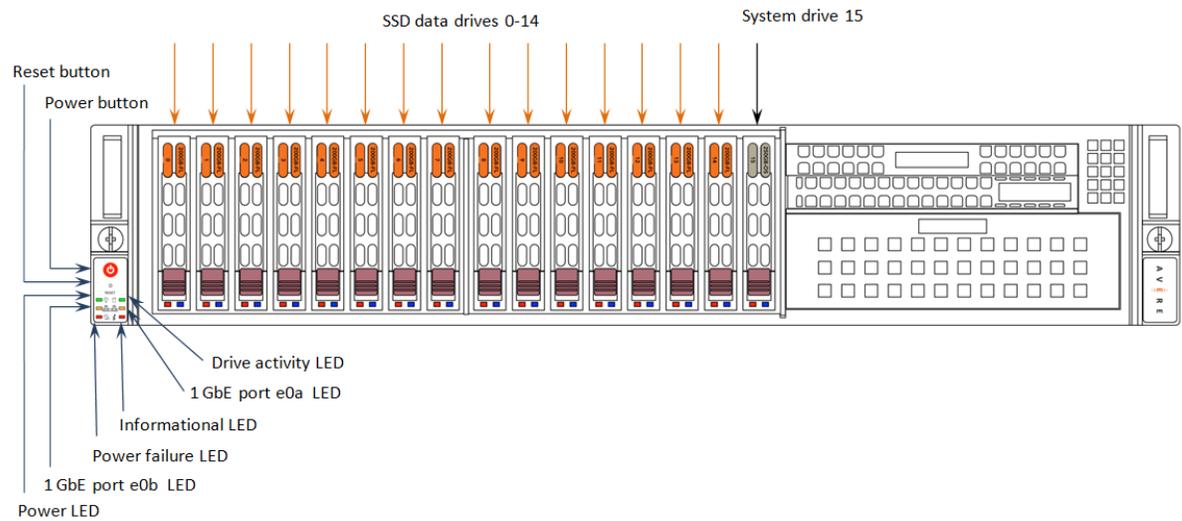
2.4.9. FXT 4800 and 4850 Front Illustrations

SSD data drives 0-5 SSD data drives 8-13 System drive 15

Reset button
Power button

Drive activity LED
1 GbE port e0a LED
Informational LED
Power failure LED
1 GbE port e0b LED
Power LED
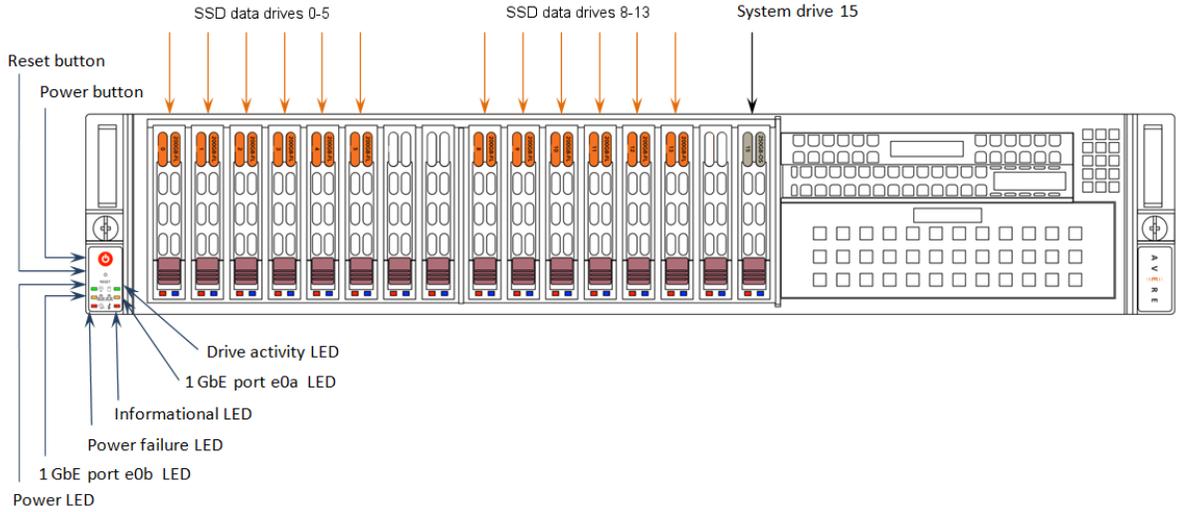
2.4.10. Rear view of the FXT 2x50, FXT 3xx0, and FXT 4xx0 Series models

The NVRAM adapter and PCIe clamp mechanisms may vary.

AC Inputs PSU 0 100Mb IPMI port UID button NVRAM Adapters

PSU 1
PS2 Keyboard port
PS2 Mouse port
USB ports
Serial port
VGA port
1GbE port e0a
1GbE port e0b
10GbE port e1a SFP+Twinax or Optical SRMM
10GbE port e1b SFP+Twinax or Optical SRMM
e6d e6c e6b e6a
1GbE ports
SAS Adapter
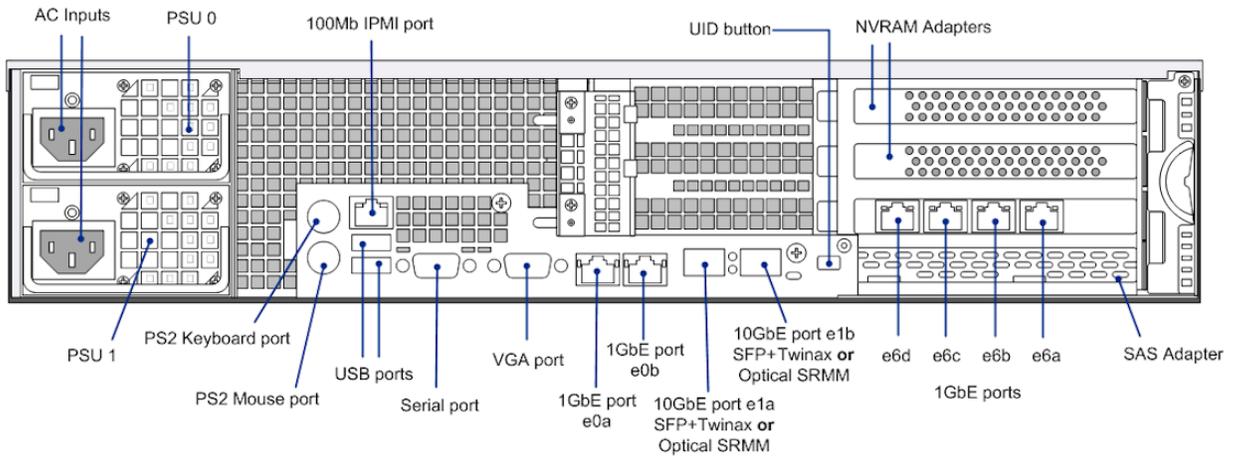
2.5. Environmental Requirements

Table 2.2. Environmental requirements for the FXT Series platform

Description	Specification
Operating temperature	10° to 35° C (50° to 95° F), sea level
Non-operating temperature	-40° to 70° C (-40° to 158° F)
Operating relative humidity	8% to 90% (noncondensing)
Non-operating relative humidity	5% to 95% (noncondensing)
Operating elevation	0 to 3,048 m (0 to 10,000 ft.) Ambient temperature is specified at sea level. For altitudes above sea level, derate 1.0° C per 305 m, or 1.8° F per 1,000 ft., above sea level. The maximum derated altitude is 3,050 m or 10,000 ft.
Non-operating elevation	0 to 12,192 m (0 to 40,000 ft.)

Chapter 3. Precautions for Product Use

This section discusses considerations you must take before installing and using FXT Series edge filers.

3.1. Unpacking and Handling FXT Equipment

To prevent damage to the edge filer or components, carefully unpack and handle the FXT Series edge filer and components.

Inspect the boxes the edge filer or component was shipped in and note whether there is any damage. If the shipment shows evidence of damage, file a damage claim with the carrier that delivered it.

3.1.1. No User-Serviceable Parts

⚠ **WARNING**

There are no user-serviceable parts in an FXT Series edge filer. All servicing of FXT Series edge filers must be performed by trained personnel. Refer to the *FXT Series Field Service Guide* for more information.

3.1.2. Restricted Access

⚠ **WARNING**

The FXT Series edge filer nodes must be installed in a restricted-access location. A restricted-access location is defined as a location that can be accessed only by use of a tool, lock and key, or other means of security and is controlled by the authority responsible for the location. Anyone entering the restricted-access location, or installing or replacing modules in an FXT Series node, must be trained in the potential hazards associated with the FXT Series node, including but not limited to exposure to hazardous energy levels when the cover is removed, when modules have been removed, or when modules are being replaced.

3.1.3. Preventing Condensation

NOTICE

Condensation can occur when exposing a colder product to a warmer and/or more-humid environment.

If an item has been moved from an environment that is colder and less humid than the current installation and operating environment, allow it to reach the same temperature as the current environment before unpacking it, and before installing it or powering it on.

If you notice condensation on any part of the item, Avere Systems recommends a minimum of 24 hours for it to acclimate before installation and use.

3.2. Electrical Considerations

This section lists guidelines for safe electrical handling of the FXT Series edge filer node.

3.2.1. Electrical Code Compliance

⚠ **WARNING**

To avoid the possibility of an electrical shock hazard, the electrical installation of an FXT Series edge filer and its associated rack(s) and power distribution units (*PDUs*) must comply with all applicable local, state, and national electrical codes and regulations. Contact a qualified electrician if you are unsure about proper electrical installation.

3.2.2. Earth Grounding

⚠ **WARNING**

- The building site, rack, and PDU electrical receptacles powering the FXT Series edge filer must be properly grounded during the lifetime of the installation.

- The earth-ground connection for the rack must be designed and installed specifically for the rack, and must not rely solely on unintentional grounding connections made through FXT Series nodes and other equipment installed into the rack.

- The Avere FXT Series node has been approved only for use with TN-type earth grounding systems. It has not been approved for use with IT-type earth grounding systems. Do not connect the node to any non-TN type of earth grounding system.

- To avoid the possibility of an electrical shock hazard, the FXT Series edge filer must be properly connected to earth ground during the lifetime of the installation. The edge filer receives its earth ground connection through the AC power cords. To ensure the integrity of the ground connection, observe the following guidelines:
  ◦ Use only power cords with a grounding plug.
  ◦ Inspect the ground pins of each power cord before initial use.
  ◦ Never remove or disable the grounding pin on a power cord or use an adapter that might affect the integrity of the ground connection.

3.2.3. AC Mains Disconnect

⚠ WARNING

- The AC power cords serve as AC mains disconnect for the FXT Series edge filer and therefore must remain readily accessible during the lifetime of the installation.

- The FXT Series edge filer is provided with multiple power cords, and has a power-on/standby-type power switch. This switch does not function as an AC mains disconnect. To disconnect all power for maintenance or an electrical emergency, remove *all* power cords.

3.2.4. Power Supply Replacement

⚠ WARNING

The power supply units for FXT Series nodes have detachable power cords. Disconnect the power cord at the power supply unit before removing it from the node. When installing a power supply unit, insert the unit into the node before connecting the power cord.

NOTICE

When running on a single power supply unit, the node has an increased probability of losing all power as a result of the single unit failing. Always replace a failed power supply unit as soon as possible after failure

3.2.5. Hazardous Energy Levels

⚠ WARNING

- To avoid potential injury, remove all chains, rings, watches, and other metal jewelry before performing maintenance on powered-on equipment. Burns and other injuries can be caused by the flow of current through a metallic object if the metallic object comes in contact with powered circuits.

- When replacing externally accessible components while power is applied to the node, *never* reach into the empty space created by the removed components, because hazardous energy levels may be present.

3.3. Racked FXT Series Nodes

⚠ **WARNING**

To avoid the potential of serious injury and equipment damage, observe the following precautions before installing nodes into racks or before removing them from racks:

- Ensure that the node's weight is fully supported by two people at all times while it is being installed into or removed from a rack.

- The rack installation must be designed to remain stable while supporting the full weight of the installed equipment in its maximum extended position.

- Follow the rack manufacturer's recommendations and use the appropriate load calculator if available when designing and installing rack systems.

- Contact the rack manufacturer or an engineering consultant if you require assistance determining the stability of the rack for its intended purpose.

- For single-rack installations, specify and install stability options such as ballast kits, bolt-down kits, and extensible or permanent stabilizing mechanisms.

- In multiple-rack installations, specify and install a multirack tie-kit option. If the multirack tie kit is not sufficient to guarantee stability, then install ballast kits, bolt-down kits, and extensible or permanent stabilizing mechanisms.

- Unless the rack installation is designed otherwise, extend only one piece of equipment from the rack at a time.

- Install the first piece of equipment into the bottom of the rack, with future equipment installed above that.

- For installing multiple pieces of equipment at the same time, first install the heavier equipment at the bottom, then install the lighter equipment sequentially above that.

3.4. General Precautions

Observe the following precautions to prevent injury to yourself and damage to the FXT Series edge filer:

3.4.1. Service Area Clearance

⚠ **WARNING**

To permit service personnel to perform maintenance procedures on the FXT Series edge filer, a minimum of 24 inches of clearance must be provided in front of and behind the immediate area being serviced.

3.4.2. California Perchlorate Warning

⚠ **WARNING**

This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

The following notice is provided in accordance with California Code of Regulations Title 22, Division 4.5 Chapter 33. Best Management Practices for Perchlorate Materials. This product includes a lithium manganese dioxide battery that contains a perchlorate substance.

Perchlorate Material – special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate.

3.4.3. Two-Person Lift

⚠ **CAUTION**

Each node weighs between 58 and 66 pounds (26.3 and 29.9 kilograms) and requires at least two people to lift and handle. When lifting a node, handle it in such a way that the weight is evenly distributed and stabilized. Be sure to comply with any personal lifting limits that may be in effect for your locale.

3.4.4. Battery Replacement

⚠ **CAUTION**

DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISPOSE OF USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

ATTENTION. IL Y A RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACÉE PAR UNE BATTERIE DE TYPE INCORRECT. MATTRE AU REBUT LES BATTERIES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS.

The motherboard battery maintains clock and CMOS settings when the node is without power for any reason. Contact Avere Global Services if you suspect that the motherboard battery needs to be replaced.

First generation NVRAM adapters contain lithium-ion batteries. The NVRAM I adapters and batteries are not field-replaceable or user-serviceable. The NVRAM I adapter must be replaced as a complete assembly

by trained service personnel only. Do not attempt to replace or remove the NVRAM I adapter or the batteries on the adapter.

3.5. Laser Radiation

NOTICE

CLASS 1 LASER PRODUCT

FXT Series nodes that contain optical networking ports may emit invisible laser radiation from those ports. When no fiber-optic cable is connected, do not stare into the open apertures. In addition, install protective covers over any optical ports that will not have a cable connected.

Some models of the FXT Series node are equipped with a DVD-ROM drive. If you have a FXT Series node with a DVD-ROM drive, to prevent direct exposure to the laser beam and potentially hazardous radiation exposure, do not attempt to disassemble the drive, defeat its safety interlocks, or use the drive in any unconventional way.

3.6. Thermal Considerations

NOTICE

- FXT Series nodes use front-to-back cooling airflow. If the FXT Series node is installed in a rack, the installer is responsible for ensuring that adequate airflow is available through the rack to effectively cool the node.

- Environmental ambient temperature requirements apply to the area immediately around the node. For a node installed into an enclosed rack or a rack with perforated doors, the ambient temperature requirement applies to the area inside the rack or door, immediately around the node.

- Operating the FXT Series node in a rack with open EIA U spaces can cause unintended airflow paths and associated temperature inconsistencies. To maintain proper airflow and temperatures, cover all open rack spaces with blank panels.

- Ensure that the node cover is in place when the node is operating to assure proper airflow and cooling. Thermal damage to the system can occur if this practice is not strictly followed.

- Do not remove disk drives or power supply units unless a replacement component is immediately available. If you remove a replaceable component, replace it immediately after removing the original component to ensure proper airflow and cooling. Damage to the system can occur if this practice is not strictly followed.

3.7. Electrostatic Discharge (ESD) Precautions

NOTICE

An ESD event occurs when two objects with different electrical charges come into contact with each other. Electronic devices can be severely damaged by ESD.

When handling electronic modules such as disk drives, printed circuit boards (PCBs), and power supplies, observe the following basic ESD precautions to prevent damage.

- If possible, perform any maintenance at an approved ESD-safe workstation.

- Do not unpack or install electronic modules without using a properly grounded wrist or heel strap.

- Keep all electronic modules such as power supplies, PCBs, and disk drives in their original ESD-protective packaging until you are ready to install them.

- Handle all electronic modules carefully. Do not touch connectors, contacts, or components leads.

- Ensure that electronic modules do not come into contact with insulators such as clothing and plastics.

Chapter 4. Installing an FXT Series Edge Filer Node into a Rack

This chapter provides safety notices, instructions, and guidelines for installing the FXT Series node into a rack of the appropriate type, by using the provided rack rails.

To avoid the potential of serious injury and equipment damage caused by rack tip-over, the equipment rack installation must be properly designed and installed.

⚠️ **WARNING**

To avoid injury and equipment damage, observe the electrical and other cautions warnings listed at Chapter 3, *Precautions for Product Use* on page 13 when installing FXT Series nodes.

NOTICE

These instructions are for installing an Avere FXT Series node into a typical server rack. Every effort has been made to supply the most accurate instructions possible. However, rack designs can vary greatly from manufacturer to manufacturer, and from model to model from the same manufacturer. Because Avere Systems cannot anticipate every known rack design, the installer assumes the following responsibilities:

1. The installer must determine if the instructions provided are applicable to the installer's specific rack manufacturer and model.

2. The installer must determine whether or not the instructions provided will result in a safe rack installation when applied to his or her specific rack manufacturer and model.

If there is any doubt to the applicability or safety regarding the provided instructions, do not proceed and immediately contact Avere technical support, the rack manufacturer, or both for assistance.

In addition to the information provided by Avere Systems, also refer to the installation and safety instructions that came with the rack unit you are using. If there is any conflicting information, do not proceed and immediately contact Avere Systems technical support, the rack manufacturer, or both for assistance.

The rack-mounting kit provided with an FXT Series node works with square-hole non-threaded racks.

4.1. Square-Hole Non-Threaded Rack Installation

The rack-mounting kit provided with the FXT Series node includes two rail assemblies, one left-hand and one right-hand. Each assembly includes an inner fixed rail that attaches to the node and an outer adjustable rail that attaches to your rack.

Two rail assemblies of different lengths, regular length and short length, are available for the Avere FXT Series edge filer. Both rail lengths are adjustable to cover a specific range of rack depths.

The regular (sometimes called "long")-length rail assemblies fit a square-hole non-threaded rack that measures a minimum of 27.00 inches (686 mm) and a maximum of 36.88 inches (937 mm) for the inside dimension between the front and rear rack uprights. The regular-length rail assembly fits the majority of typically deployed server and storage racks, and is shipped by default unless the short-length rail is specified at the time of order placement.

The short-length rail assemblies fit a square-hole non-threaded rack that measures a minimum of 19.56 inches (497 mm) and a maximum of 27.19 inches (691 mm) for the inside dimension between the front and rear rack

uprights. The short-length rail is shipped in place of the regular length rail only if specified at the time of order placement.

If you have received the incorrect length rail assembly for your rack, contact Avere Global Services.

4.1.1. Required Tools

You need the following tools to install an FXT Series node into a rack:

- #2 Phillips-head screwdriver for attaching rails to the node and rack. Screws are provided with the rail kit.

- A marker, grease pencil, or similar marking implement to mark the holes on the rack to which the rack rails are attached.

- If your rack is not premarked with rack-unit (U) measurements, a measuring tape to determine which holes on the rack to use for rack-rail attachments.

4.1.2. Attaching Inner Rails to the Node

➤ To attach the inner rack rail components to an FXT Series node:

1. Locate the rail assemblies in the FXT Series node carton and remove them from their packaging. The rail assemblies are labeled "L" for the left-hand assembly and "R" for the right-hand assembly. Be careful not to mix the left-hand rails with the right-hand rails. The left-hand assembly goes on the left side of the node as you face the front of the node; the right-hand assembly goes on the right side of the node as you face the front of the node.

2. For each assembly, separate the inner and outer rack rails as follows:

   a. Extend the rail assembly by pulling the inner rail away from the outer rail.

   b. Disconnect the inner rail from the outer rail by pressing the quick-release tab.

   c. Pull the inner rail fully apart from the outer rail.

   d. Set the outer rail aside for later use.

3. Install each inner rail on the node as follows:

   a. Place the inner rail on the appropriate side of the node, aligning the hooks on the node with the holes in the rail. Ensure that the flattest surface of the inner rail is flush against the side of the node.

   b. Firmly push the rail toward the front of the node, locking the hooks on the node into the holes on the rail. Verify that all hooks are through all holes and that the countersunk holes at the rear of the rail line up with the threaded holes in the node's side.

   c. Affix the rail to the node by using one flat-head screw on the second countersunk hole from the rear of the node.

4.1.3. Attaching Outer Rails to the Rack

➤ To attach the outer rails to the rack:

1. Determine which end of the rack is the front. Henceforth, any directional indication is in reference to the front of the rack.

   ☞ The front of the node is mounted to the front of the rack, and the node slides in and out on the rails from the front.

2. Determine and mark the proper left-front, left-rear, right-front, and right-rear rack flange square-hole pairs for the desired vertical location of the node's sides.

3. Locate the left or right rail outer section and position it on the corresponding side of the rack.

4. Position the rail so the extensible mechanism of the rail extends toward the front.

5. While maintaining the position described previously in Step 4 on page 23, locate the side of the rail that receives the inner portion of the chassis rail. Position the rail so that side faces the interior equipment area of the rack.

6. Locate the narrow front face of the rail with the two black spring-loaded locks and two hooks. If the previous steps were performed correctly, the hooks face downward. If they are not facing downward, do not proceed without first correcting the error.

7. Position the narrow front face of the rail behind the front square-hole rack flange so the two black spring-loaded locks are in contact with the material immediately above each desired square hole as determined in Step 2 on page 23.

8. Push the rail towards the front of the rack so the two black spring-loaded locks retract into the rail and the two hooks protrude through the two square holes.

9. While maintaining pressure on the rail, push the rail down until the two rail hooks engage the bottom edge of the two square holes and the two black spring-loaded locks snap through the same two square holes that the hooks have engaged. Ensure that the two black spring-loaded locks keep the hooks from disengaging, effectively locking the rail to the rack flange. Pull upward on the rail to verify that the hooks cannot be disengaged from the square holes.

10. Extend the rear portion of the rail toward the rear of therack.

11. Position the narrow rear face of the rail behind the rear square-hole rack flange so the two black spring-loaded locks are in contact with the material immediately above each desired square hole as determined in Step 2 on page 23.

12. Push the rail towards the rear of the rack so the two black spring-loaded locks retract into the rail and the two hooks protrude through the two square holes.

13. While maintaining pressure on the rail, push the rail down until the two rail hooks engage the bottom edge of the two square holes and the two black spring-loaded locks snap through the same two square holes that the hooks have engaged. Ensure that the two black spring-loaded locks keep the hooks from disengaging, effectively locking the rail to the rack flange. Pull upward on the rail to verify that the hooks cannot be disengaged from the square holes.

14. Locate the eight (8) flat-head countersunk screws and the eight (8) conical washers. Insert a screw through a washer with the narrow end of the screw's countersink and the narrow end of the conical washer facing the same direction. Install the screw through the square hole in the rack that is aligned with the uppermost threaded hole in front of the left rail assembly. Insert another screw through a washer, and install the screw through the square hole in the rack that is aligned with the lowermost threaded hole in front of the left rail assembly. Using the six (6) remaining screws and six (6) conical washers, repeat the steps for the left-rear, right-front and right-rear rail assemblies.

    If the screws are installed in the correct holes, one empty threaded hole remains between the two screws at the front and rear of each rail assembly. The front threaded holes are for securing the node after it is installed.

4.2. Placing the Node into the Rack

⚠ **WARNING**

- The node weighs between 50 and 65 pounds and requires at least two people to lift and handle. When lifting the node, handle it in such a way that the weight is evenly distributed and stabilized. Follow national or regional safety standards when lifting or repositioning the node.

- To prevent serious injury, equipment damage, or both from a falling node, ensure that the node's weight is fully supported at all times while installing an node into a rack. Verify the completion of all of the steps and checks of the following section before removing ancillary support.

➤ To install the node into a rack:

1. Pull the extensible mechanism and ball-bearing shuttle of the outer rack rails fully outward until they can move no further, so that they protrude from the front of the rack.

2. Verify that the extended mechanisms and ball-bearing shuttles are locked into place in the outward position so they do not move when you install the node.

3. Align the inner rails on the node with the outer rails on the rack.

4. Begin sliding the inner rails into the outer rails, maintaining equal pressure on both sides.

5. Verify that the node's inner rails are completely and properly engaged with the outer rack rails and that the node slides smoothly.

6. Continue to slide the node into the rack until the safety latches on the inner rails engage with the outer rails. Each latch emits a click when it engages.

7. Verify that the safety latches operate properly by pulling the node forward and making sure it stops in its fully extended position. The inner rails must not disengage from the outer rails.

8. Verify that the rack and rail installation can safely sustain the node's weight with the node in the extended position.

9. Slide the node into its final position in the rack.

10. Perform one of the following steps depending on your model of FXT Series node:

    - To secure an FXT 2x00 Series node to the rack, locate the two long round-head screws. Insert the screws through the left and right flanges of the node and into the threaded holes in the left and right rail assemblies, then fully tighten.

    - To secure an FXT 2x50 Series, FXT 3xx0 Series, or FXT 4xx0 Series node to the rack, locate the two pre-attached captive screws on the left and right flanges of the node. Thread the captive screws into the threaded holes in the left and right rail assemblies, then fully tighten.

4.3. Installing and Removing the Front Bezel

This section provides instructions for installing the FXT Series node's front bezel. Installation of the bezel is optional. If you are not powering on your node immediately after installation, it is recommended that you do not install the bezel until after the node is powered on.

➤ To install the front bezel:

1. Locate the front bezel in the accessory kit provided in the FXT Series node's carton.

2. Position the bezel with the decorative face outward and the latch to the right.

3. While holding the right side of the bezel away from the node, insert the two pins on the left side of the bezel into the two holes located on the left-side handle of the node.

4. Press the bezel's latch to the left to retract the two locking pins on the right side of the bezel.

5. Position the the right side of the bezel so the entire bezel is flush with the node's front panel.

6. Press the latch firmly to the right until the two locking pins on the latch engage the two holes in the right-side handle of the node. If the pins do not engage fully, adjust the the location of the bezel slightly and press the bezel firmly against the node.

7. Pull on the bezel to ensure that it is properly attached.

8. If desired, lock the bezel by using the key provided in the accessory kit.

If you need to remove the front bezel, see the first steps in the procedure listed in Section 6.2, "Powering On the FXT Series Node" on page 29.

Chapter 5. Making Network Connections to the FXT Series Edge Filer

This section describes the network connections required for a FXT Series edge filer. For information on configuring the cluster with the network information described in this section, see the *Daily Operations Guide* or the *Quick Start Guide*.

> ## NOTICE

The PS2 Mouse, PS2 Keyboard, USB, VGA and Serial ports are designated and compliance-tested only for locally attached devices. To maintain compliance, use shielded cables with maximum cable lengths of 3m (9.8 feet) when connecting to these ports.

5.1. IP Address Requirements

Each FXT Series node requires the following IP addresses:

- One IP address for the management interface

- One or more IP addresses for cluster connections (a minimum of one per cluster node)

- One or more IP addresses to which NFS clients can connect (client-facing addresses)

5.2. Physical Connections

Depending on the model, network ports on a FXT Series node include the following:

- Two onboard 1GbE ports

- One or both of the following network adapter configurations:
  ◦ Two quad-port 1GbE adapters
  ◦ One dual-port 10GbE adapter

5.3. Connecting Network Cables

Connect the FXT Series node to your network by using the appropriate network cables as follows:

- If your network uses 10/100/1000Base-T connections, use Category 5e or better Ethernet cables to connect the FXT Series edge filer node to the network.

- If your network uses 10GbE connections, use the appropriate cables (copper or optical, using adapters as required) to connect the FXT Series node to the network.

  If your network uses 10GbE connections, you do not need to connect the onboard 1GbE ports to the network.

5.4. Connecting to the Serial Port

For diagnostic purposes as directed by Avere Global Services, you might need to connect a terminal to a node's serial port to access the console.

➤ To attach the console:

1. Locate the serial (COM1) port on the rear of the appropriate FXT Seriesnode, as shown in Section 2.3, "FXT 2x00 Series Nodes: Front and Rear Illustrations" on page 5 or Section 2.4.10, "Rear view of the FXT 2x50, FXT 3xx0, and FXT 4xx0 Series models" on page 11.

   ☞ The serial port on the front of the FXT 2x00 Series node is the COM2 port. You cannot access the console by using this port.

2. Use a null modem cable to connect the COM1 serial port to a terminal configured for ANSI-115200-8N1.

3. Log in to the console and perform additional steps as directed by Avere Global Services.

Chapter 6. Connecting Power to the FXT Series Edge Filer

This section describes the power connections required for an FXT Series edge filer.

6.1. Connecting Power Cables

⚠️ **WARNING**

Review and verify the precautions and warnings in Chapter 3, *Precautions for Product Use* on page 13 before connecting the edge filer to a power source.

➢ To connect power cables to an FXT Series edge filer node:

1. Locate the AC power cords in the accessory kit that came in the node's carton. If you received the incorrect type of power cords, contact Avere Global Services.

2. Ensure that both power supply units (PSUs) are fully seated in the node.

3. Attach an AC power cord to each PSU AC inlet on the node.

4. Attach the plug of each AC power cord to a power receptacle of the appropriate voltage and capacity.

☞ To take full advantage of PSU redundancy, it is recommended that you attach the AC power cords to different power branch circuits.

6.2. Powering On the FXT Series Node

➢ To power on the FXT Series node:

1. If required, unlock the node's front bezel by using the key provided in the accessory kit.

☞ Only the FXT 2x00 Series node requires you to remove the front bezel to access the power button. The power button on the FXT 2x50 Series, FXT 3xx0 Series, and FXT 4xx0 Series nodes is accessible regardless of the bezel installation.

2. Remove the bezel by pressing the latch on the right-hand side of the bezel to the left and gently pulling the bezel, right to left, from the node.

3. Press the power button.

The "Power" LED is illuminated green when power is being supplied normally to the node.

4. If necessary replace the front bezel as follows:

   a. Position the bezel with the decorative face outward and the latch to the right.

   b. While holding the right side of the bezel away from the node, insert the two pins on the left side of the bezel into the two holes located on the left-side handle of the node.

   c. Press the bezel latch to the left to retract the two locking pins on the right side of the bezel.

   d. Position the right side of the bezel so the entire bezel is flush with the node's front panel.

   e. Press the latch firmly to the right until the locking pins on the latch engage the two holes in the right-side handle of the node. If the pins do not engage fully, adjust the location of the bezel slightly and press the bezel firmly against the node.

   f. Pull on the bezel to ensure that it is properly attached.

g.   If desired, lock the bezel by using the key provided in the accessory kit.

6.3. Powering Off an FXT Series Edge Filer Node

⚠ **WARNING**

In an electrical emergency, disconnect all power from the node by removing all power cords or by operating the emergency power disconnect mechanism installed for the node.

➤   To power off the FXT Series node:

1.   Log in to the Avere Control Panel.

2.   Click the **Settings** tab, then click **FXT Nodes** under **Cluster Configuration** to go to the FXT Nodes page.

3.   Locate the node that you want to power off from the listing of nodes and click the **Power down** button.

4.   Wait a few moments for the node to shut down.

NOTICE

Except when instructed by Avere Global Services, do not use the physical Power or Reset buttons on the front of the FXT Series node to power off the node. Doing so can potentially result in lost or corrupted data.

Chapter 7. Monitoring the FXT Series Edge Filer

This section discusses the monitoring requirements for the FXT Series edge filer.

7.1. Monitoring System Health

For general system monitoring, view the Avere Control Panel's Dashboard as described in the *Daily Operations Guide*.

7.2. LEDs for the FXT 2x00 Series

This section describes the meanings of the LEDs on the FXT 2x00 Series; node. See Section 2.3, "FXT 2x00 Series Nodes: Front and Rear Illustrations" on page 5 for the locations of LEDs.

FXT 2x00 Series LEDs			
LED name	**State**	**Meaning**	**Action (if applicable)**
Front Panel			
Power LED	Green	Power is being supplied to the node's power supply units.	N/A
	Unlit	Power is not being supplied to the node's power supply units.	To power on the system, press the Power button.
Drive activity LED	Blinking amber	System drive is being accessed.	N/A
NIC1 LED	Blinking green	Ethernet port e0a is active.	N/A
NIC2 LED	Blinking green	Ethernet port e0b is active.	N/A
Overheat/fan fail LED	Unlit	Cooling system is working properly.	N/A
	Blinking red	Fan failure.	Check for a failed fan. If needed, replace it as described in Chapter 6, *Replacing a Fan* of the *FXT Series Field Service Guide*.
	Solid red	System temperature is too high.	Check ambient room temperature and correct if too high. Otherwise, contact Avere Global Services for assistance. One possible cause is obstruction of airflow by cables inside the node.
Power fail LED	Unlit	Both power supply units are working correctly.	N/A
	Solid red	A power supply unit has failed. The other power supply unit will continue to supply power to the node, but redundancy is lost.	Check for a failed power supply. If needed, replace it as described in Chapter 4, *Replacing Power Supply Units* of the *FXT Series Field Service Guide*.

FXT 2x00 Series LEDs

LED name	State	Meaning	Action (if applicable)
Data drive, upper LED	Blinking green	Drive is being accessed.	N/A
	Solid green	Disk is initializing and has a pending access request.	Contact Avere Global Services if the drive does not start normal activity, indicated by a blinking LED, after several minutes.
Data drive, lower LED	Red	Drive failure.	Check for a failed drive. If needed, replace it as described in Chapter 5, *Replacing Drives* of the *FXT Series Field Service Guide*.
Rear Panel			
Power Supply Unit LED	Green	The FXT Series node is powered on and the power supply unit is operating normally.	N/A
	Amber	Power is being supplied to the power supply unit but the FXT Series node is powered off.	To power on the system, press the Power button.
	Unlit	Power is not being supplied to the power supply unit.	Attach power cords and verify that power is available from the power source.
IPMI lower LED	Green	IPMI port is connected.	N/A
IPMI (100MbE e7a) upper LED	Blinking amber	Activity on IPMI port.	N/A
1GbE e0a or e0b left-hand LED	Amber	Port is connected.	N/A
1GbE e0a or e0b right-hand LED	Blinking green	Activity on port.	N/A
10GbE upper LED	Blinking green	Activity on port e1a	N/A
10GbE lower LED	Blinking green	Activity on port e1b	N/A
1GbE e2a-e2d/e3a-e3d lower LED	Amber	Port is connected.	N/A
1GbE e2a-e2d/e3a-e3d right-hand LED	Blinking green	Activity on port.	N/A

7.3. LEDs for the FXT 2x50, 3xx0, and 4xx0 Series

This section describes the meanings of the LEDs on the FXT 2x50 Series, FXT 3xx0 Series, and FXT 4xx0 Series nodes. See Section 2.3, "FXT 2x00 Series Nodes: Front and Rear Illustrations" on page 5 for the locations of LEDs.

FXT 2x50, FXT 3xx0, and FXT 4xx0 Series LEDs			
LED name	**State**	**Meaning**	**Action (if applicable)**
Front Panel			
Power LED	Green	Power is being supplied to the node's power supply units.	N/A
	Unlit	Power is not being supplied to the node's power supply units.	To power on the system, press the Power button.
Drive activity LED	Blinking amber	• Activity on one or more data drives in slots 0 - 7. (All FXT Series) • Activity on slot 15 (system drive) (FXT 2x50 Series only)	N/A
NIC1 LED	Blinking green	Ethernet port e0a is active.	N/A
NIC2 LED	Blinking green	Ethernet port e0b is active.	N/A
Informational LED (Overheat/fan fail LED on FXT 2x50 series)	Unlit	Cooling system is working properly.	N/A
	Blinking red, once per second	Fan failure.	Check for a failed fan. If needed, replace it as described in Chapter 6, *Replacing a Fan* of the *FXT Series Field Service Guide*.
	Blinking red, once every four seconds (not on FXT 2x50 series)	Power failure.	Check for a failed power supply unit. If needed, replace it as described in Chapter 4, *Replacing Power Supply Units* of the *FXT Series Field Service Guide*.
	Solid red	System temperature is too high.	Check ambient room temperature and correct if too high. Otherwise, contact Avere Global Services for assistance.
	Solid blue (not on FXT 2x50 series)	UID has been activated locally.	Use this LED to locate the server in a rack mount environment.
	Blinking blue (not on FXT 2x50 series)	UID has been activated from a remote location.	Use this LED to locate the server in a rack mount environment.

FXT 2x50, FXT 3xx0, and FXT 4xx0 Series LEDs			
LED name	**State**	**Meaning**	**Action (if applicable)**
Power fail LED	Unlit	Both power supply units are working correctly.	N/A

FXT 2x50, FXT 3xx0, and FXT 4xx0 Series LEDs

LED name	State	Meaning	Action (if applicable)
	Solid red	A power supply unit has failed. The other power supply unit will continue to supply power to the node, but redundancy is lost.	Check for a failed power supply. If needed, replace it as described in Chapter 4, *Replacing Power Supply Units* of the *FXT Series Field Service Guide*.
Data or System drive, right-hand LED	Unlit	Drive inactivity (SATA drives only)	N/A
	Blinking blue	Drive is being accessed (SAS or SATA drives)	N/A
	Solid blue	• SAS drives – drive is either idle or being accessed • SATA drives – drive is being accessed	N/A
Data or system drive, left-hand LED	Red	Drive failure.	Check for a failed drive. If needed, replace it as described in Chapter 5, *Replacing Drives* of the *FXT Series Field Service Guide*.
Rear Panel			
Power Supply Unit LED	Green	The FXT Series node is powered on and the power supply unit is operating normally.	N/A
	Amber	Power is being supplied to the power supply unit but the FXT Series node is powered off.	To power on the system, press the Power button.
	Unlit	Power is not being supplied to the power supply unit.	Attach power cords and verify that power is available from the power source.
IPMI left-hand LED	Green	IPMI port is connected.	N/A
IPMI right-hand LED	Blinking amber	Activity on IPMI port.	N/A
1GbE e0a or e0b, left-hand LED	Amber	Port is connected.	N/A
1GbE e0a or e0b, right-hand LED	Blinking green	Activity on port.	N/A
10GbE upper LED	Blinking green	Activity on port e1a	N/A
10GbE lower LED	Blinking green	Activity on port e1b	N/A

FXT 2x50, FXT 3xx0, and FXT 4xx0 Series LEDs			
LED name	**State**	**Meaning**	**Action (if applicable)**
1GbE e6a-e6d left-hand LED	Amber	Port is connected at 1GbE.	N/A
	Green	Port is connected at 100MbE.	If connectivity speed is lower than expected, check network connections and infrastructure.
	Not illuminated	Port is connected at 10MbE.	If connectivity speed is lower than expected, check network connections and infrastructure.
	Blinking orange	Identity problem on the port.	Contact Avere Global Services if the condition does not clear itself.
1GbE e6a-e6d right-hand LED	Blinking green	Activity on port.	N/A
	Solid green	Link established on port but no activity is occurring.	N/A
	Not illuminated	No link.	Check network connections and infrastructure.

Appendix A. Regulatory Information for the FXT 2x00 Series Node

This section provides regulatory information for the FXT 2x00 Series node.

A.1. Safety

Table A.1. Electrical safety

Country/Locale	Directive/Test Standard(s)	Regulatory Marks
USA	UL 60950-1, First Edition, April 1, 2003	cULus
Canada	CAN/CSA-C22.2 No. 60950-1-03, First Edition, April 1, 2003	cULus
European Community	2006/95/EC Low Voltage Directive (LVD) EN 60950-1:2001 +A11:2004	–

A.2. EMC

Table A.2. Electromagnetic compatibility

Country/Locale	Directive/Test Standard(s)	Regulatory Marks
Emissions		
USA	FCC 47CFR Part 2 and Part 15, Class A ANSI C63.4-2003	Verified Class A Limit
Canada	ICES-003, Issue 4, February 2004 CAN/CSA-CEI/IEC CISPR 22:02, Class A	Verified Class A Limit
European Community	2004/108/EC Electromagnetic Compatibility (EMC) Directive EN 55022:2006 +A1:2007 Class A EN 61000-3-2:2006 EN 61000-3-3:2008	–
Immunity		
European Community	2004/108/EC Electromagnetic Compatibility (EMC) Directive EN 55024:1998 +A1:2001 +A2:2003	–

A.2.1. USA FCC Notice and Caution

NOTICE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

NOTICE

Changes or modifications not expressly approved by Avere Systems could void the user's authority to operate the equipment.

A.2.2. Canadian Notice (Avis Canadien)

This Class A digital apparatus complies with Canadian ICES-003.

Cet appereil numérique de la classe A est conforme à la norme NMB-003 du Canada.

A.3. Environmental

Table A.3. Environmental compliance

Country/Locale	Directive/Regulation/Test Standard(s)	Regulatory Marks
European Community	2002/96/EC, Waste Electrical and Electronic Equipment (WEEE Directive)	Crossed-out wheeled bin
European Community	2002/95/EC, Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS Directive)	None required
European Community	1907/2006, Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Directive)	None required
European Community	2006/66/EC, Batteries and accumulators and waste batteries and accumulators (Battery Directive)	None required
European Community	94/62/EC, Packaging and packaging waste (Packaging Directive)	None required

For more information on any of these issues, including end of life collection and recycling of WEEE, hazardous substances and exemptions under RoHS, substances of very high concern under REACH, and battery removal instructions, please see the Avere Systems website at www.averesystems.com.

Appendix B. Regulatory Information for the FXT 2x50 Series Node

This section provides regulatory information for the FXT 2x50 Series node.

B.1. Safety

Table B.1. Electrical safety

Country/Locale	Directive/Test Standard(s)	Regulatory Marks
USA	UL 60950-1, Second Edition, March 2007	cCSAus
Canada	CAN/CSA-C22.2 No. 60950-1-07, Second Edition, March 2007	cCSAus
European Community	2006/95/EC Low Voltage Directive (LVD) EN 60950-1:2006+A11:2009	

B.2. EMC

Table B.2. Electromagnetic compatibility

Country/Locale	Directive/Test Standard(s)	Regulatory Marks
Emissions		
USA	FCC 47CFR Part 2 and Part 15, Class A ANSI C63.4-2003	Verified Class A Limit
Canada	ICES-003, Issue 4, February 2004 CAN/CSA-CEI/IEC CISPR 22:02, Class A	Verified Class A Limit
European Community	2004/108/EC Electromagnetic Compatibility (EMC) Directive EN 55022:2006 +A1:2007 Class A EN 61000-3-2:2006 +A1:2009+A2:2009 EN 61000-3-3:2008	
Immunity		
European Community	2004/108/EC Electromagnetic Compatibility (EMC) Directive EN 55024:1998 +A1:2001 +A2:2003	

B.3. USA FCC Notice and Caution

NOTICE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

NOTICE

Changes or modifications not expressly approved by Avere Systems could void the user's authority to operate the equipment.

B.4. Environmental

Table B.3. Environmental compliance

Country/Locale	Directive/Regulation/Test Standard(s)	Regulatory Marks
European Community	2002/96/EC, Waste Electrical and Electronic Equipment (WEEE Directive)	Crossed-out wheeled bin
European Community	2002/95/EC, Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS Directive)	None required
European Community	1907/2006, Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Directive)	None required
European Community	2006/66/EC, Batteries and accumulators and waste batteries and accumulators (Battery Directive)	None required
European Community	94/62/EC, Packaging and packaging waste (Packaging Directive)	None required

For more information on any of these issues, including end of life collection and recycling of WEEE, hazardous substances and exemptions under RoHS, substances of very high concern under REACH, and battery removal instructions, please see the Avere Systems website at www.averesystems.com.

Appendix C. Regulatory Information for the FXT 3xx0 and FXT 4xx0 Series Nodes

This section provides regulatory information for the FXT 3xx0 and FXT 4xx0 Series nodes.

C.1. Safety

Table C.1. Electrical safety

Country/Locale	Directive/Test Standard(s)	Regulatory Marks
USA	UL 60950-1, Second Edition, March 2007	cCSAus
Canada	CAN/CSA-C22.2 No. 60950-1-07, Second Edition, March 2007	cCSAus
European Community	2006/95/EC Low Voltage Directive (LVD) EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011	CE Marking
International	IEC 60950-1:2005 +A1:2009, CB Scheme with all Group and National Deviations	N/A

C.2. EMC

Table C.2. Electromagnetic compatibility

Country/Locale	Directive/Test Standard(s)	Regulatory Marks
Emissions		
USA	FCC 47CFR Part 2 and Part 15, Class A ANSI C63.4-2009	Verified Class A Limit
Canada	ICES-003, Issue 5, August 2012 CAN/CSA-CEI/IEC CISPR 22:02, Class A	Verified Class A Limit
European Community	2004/108/EC Electromagnetic Compatibility (EMC) Directive EN 55022:2010 EN 61000-3-2:2006 +A1:2009 +A2:2009 EN 61000-3-3:2008	CE Marking
Japan	VCCI V-3 / 2012.04	VCCI Class A Notice
Immunity		
European Community	2004/108/EC Electromagnetic Compatibility (EMC) Directive EN 55024:2010	CE Marking

C.2.1. USA FCC Notice and Caution

NOTICE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction

manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

NOTICE

Changes or modifications not expressly approved by Avere Systems could void the user's authority to operate the equipment.

C.2.2. Canadian Notice (Avis Canadien)

This Class A digital apparatus complies with Canadian ICES-003.

Cet appereil numérique de la classe A est conforme à la norme NMB-003 du Canada.

C.2.3. Japanese Notice

This is a Class A product.

In a domestic environment, this product may cause radio interference, in which case the user may be required to take corrective actions.

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。　　　　　ＶＣＣＩ－Ａ

C.3. Environmental

Table C.3. Environmental compliance

Country/Locale	Directive/Regulation/Test Standard(s)	Regulatory Marks
European Community	2002/96/EC, Waste Electrical and Electronic Equipment (WEEE Directive)	Crossed-out wheeled bin
European Community	2011/65/EC, Restriction of the use of certain hazardous substances in electrical and electronic equipment (Recast RoHS Directive)	CE Marking
European Community	1907/2006, Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Directive)	None required
European Community	2006/66/EC, Batteries and accumulators and waste batteries and accumulators (Battery Directive)	None required
European Community	94/62/EC, Packaging and packaging waste (Packaging Directive)	None required

For more information on any of these issues, including end of life collection and recycling of WEEE, hazardous substances and exemptions under RoHS, substances of very high concern under REACH, and battery removal instructions, please see the Avere Systems website at www.averesystems.com.

C.4. EC Declaration of Conformity

Manufacturer

Avere Systems, Inc.
910 River Avenue
Pittsburgh, PA 15212
USA

Product Information

Model Number(s):	FXT 3100, FXT 3200, FXT 3500, FXT 3800, FXT 3850, FXT 4200, FXT 4500, FXT 4800, FXT 4850
Description:	NAS Appliance
Options:	All

Applicable Directives

Low Voltage Directive:	2006/95/EC
EMC Directive:	2004/108/EC
RoHS Directive:	2011/65/EU

Applicable Standards

EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011	Information Technology Equipment—Safety—Part 1: General Requirements
EN 55022:2010 Class A	Information Technology Equipment—Radio Disturbance Characteristics—Limits and Methods of Measurement
EN 61000-3-2:2006 +A1:2009 +A2:2009	Information Technology Equipment—Harmonics Characteristics
EN 61000-3-3:2008	Information Technology Equipment—Flicker Characteristics
EN 55024:2010	Information Technology Equipment—Immunity Characteristics—Limits and Methods of Measurement
EN 50581:2012	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

We the undersigned hereby declare under our sole responsibility that the products specified above conform to the applicable directives and standards also specified above.

EC Declaration of Conformity issued by:

Avere Systems, Inc.

Authorized Signature:

Thomas Hicks, Director, Systems Engineering

Date of Issue and First CE Marking

30 October 2011 (Revised 08-Apr-2014)

Document part number

0402-004-0291, Rev E

Appendix D. Preparing a Node for Return to Avere Systems

In some circumstances – for example, in the event of hardware failure or the end of an evaluation – it can be necessary to return an FXT Series node to Avere Systems. To ship an FXT Series node safely, its NVRAM batteries must be powered down along with all other power sources. Perform these procedures only at the direction of Avere Global Services.

➤ To shut down a node's NVRAM batteries and power it down:

1. Attach a serial console to the node's serial port as described in Section 5.4, "Connecting to the Serial Port" on page 28.

2. Log in to the node with the username **maintenance** and the cluster's administrative password.

    ☞ If the node has been unjoined from its cluster, the administrative password is reset to the default. Contact Avere Global Services if you need the default password.

3. The console displays the maintenance menu:

```
You have logged into the AvereOS maintenance menu.  If you are configuring a
cluster for the first time, use menu item 1 to configure a network port, and
then access https://ip/fxt to complete the cluster configuration.


Node nodename running AvereOS_version

Maintenance Menu

1.    Configure network parameters before cluster join
2.    Modify cluster management network parameters
3.    Configure node by using a remote armconfig XML file
4.    Reboot node
5.    Power down node
6.    Disable NVRAM batteries
7.    Install new software packages


Enter menu item number or type "exit" to log out:
```

4. Enter **6**.

5. The menu prompts you for verification; enter **y** to confirm:

```
THIS OPERATION WILL DISABLE NVRAM BATTERIES, WHICH CAN RESULT IN DATA LOSS

Are you sure? [yn]:  y
Disabling NVRAM batteries
NVRAM batteries disabled
```

6. The maintenance menu is redisplayed. Enter **5** to power down the node:

```
Node nodename running AvereOS_version

Maintenance Menu

1.    Configure network parameters before cluster join
2.    Modify cluster management network parameters
3.    Configure node by using a remote armconfig XML file
4.    Reboot node
5.    Power down node
6.    Disable NVRAM batteries
7.    Install new software packages


Enter menu item number or type "exit" to log out: 5
```

7. The node powers down. The power-down process can take from 60 to 120 seconds to complete.

NOTICE

Do not power the node back on after it shuts down; doing so reenables the NVRAM batteries. If you power the node back on, you must repeat this entire procedure, including disabling the NVRAM batteries, before disconnecting the node and returning it to Avere Systems.

8. Disconnect all power and network connections from the FXT Series node, and remove it from its rack.

9. Return the node to Avere Systems as directed by your Avere Systems representative.

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