



ThinkSystem SR675 V3 System Configuration Guide



Machine Type: 7D9Q and 7D9R

Note

Before using this information and the product it supports, be sure to read and understand the safety information and the safety instructions, which are available at:

https://pubs.lenovo.com/safety_documentation/

In addition, be sure that you are familiar with the terms and conditions of the Lenovo warranty for your server, which can be found at:

<http://datacentersupport.lenovo.com/warrantylookup>

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Safety

Before installing this product, read the Safety Information.

قبل تركيب هذا المنتج، يجب قراءة الملاحظات الأمنية

Antes de instalar este produto, leia as Informações de Segurança.

在安装本产品之前，请仔细阅读 Safety Information（安全信息）。

安裝本產品之前，請先閱讀「安全資訊」。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας (safety information).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

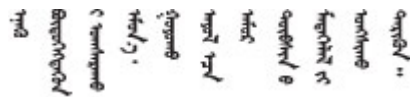
A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.



Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по технике безопасности.

Pred inštaláciou tohto zariadenia si pečítajte Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto, lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

ཐོན་ཐབས་འདི་བདེ་སྤྱད་མ་བྱས་གོང་། སྐྱོར་གྱི་ཡིད་གཟབ་
བྱ་འདྲ་མིན་ཡིད་པའི་འོད་མེར་བལྟ་དགོས།

Bu ürünü kurmadan önce güvenlik bilgilerini okuyun.

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canjbinj soengq cungj vahgangj ancien siusik.

Safety inspection checklist

Use the information in this section to identify potentially unsafe conditions with your server. As each machine was designed and built, required safety items were installed to protect users and service technicians from injury.

Note: The product is not suitable for use at visual display workplaces according to §2 of the Workplace Regulations.

Note: The set-up of the server is made in the server room only.

CAUTION:

This equipment must be installed or serviced by trained personnel, as defined by the NEC, IEC 62368-1 & IEC 60950-1, the standard for Safety of Electronic Equipment within the Field of Audio/Video, Information Technology and Communication Technology. Lenovo assumes you are qualified in the servicing of equipment and trained in recognizing hazards energy levels in products. Access to the equipment is by the use of a tool, lock and key, or other means of security, and is controlled by the authority responsible for the location.

Important: Electrical grounding of the server is required for operator safety and correct system function. Proper grounding of the electrical outlet can be verified by a certified electrician.

Use the following checklist to verify that there are no potentially unsafe conditions:

1. Make sure that the power is off and the power cord is disconnected.
2. Check the power cord.
 - Make sure that the third-wire ground connector is in good condition. Use a meter to measure third-wire ground continuity for 0.1 ohm or less between the external ground pin and the frame ground.
 - Make sure that the power cord is the correct type.

To view the power cords that are available for the server:

- a. Go to:

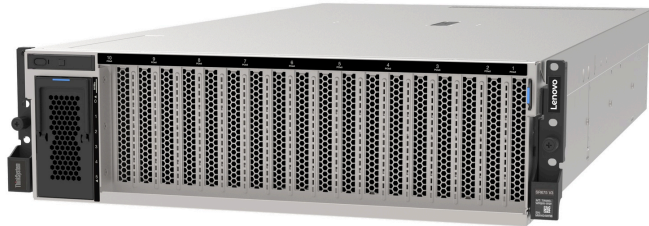
<http://dcsc.lenovo.com/#/>

- b. Click **Preconfigured Model** or **Configure to order**.
 - c. Enter the machine type and model for your server to display the configurator page.
 - d. Click **Power → Power Cables** to see all line cords.
- Make sure that the insulation is not frayed or worn.
3. Check for any obvious non-Lenovo alterations. Use good judgment as to the safety of any non-Lenovo alterations.
4. Check inside the server for any obvious unsafe conditions, such as metal filings, contamination, water or other liquid, or signs of fire or smoke damage.
5. Check for worn, frayed, or pinched cables.
6. Make sure that the power-supply cover fasteners (screws or rivets) have not been removed or tampered with.

Chapter 1. Introduction

The ThinkSystem SR675 V3 server (Types 7D9Q and 7D9R) is a 3U [rack server](#) designed for high-volume network transaction processing. This high-performance, multi-core server is ideally suited for networking environments that require superior microprocessor performance, input/output (I/O) flexibility, and high manageability.

Figure 1. ThinkSystem SR675 V3 — 8-DW GPU Model



Features

Performance, ease of use, reliability, and expansion capabilities were key considerations in the design of your server. These design features make it possible for you to customize the system hardware to meet your needs today and provide flexible expansion capabilities for the future.

Your server implements the following features and technologies:

- **Features on Demand**

If a Features on Demand feature is integrated in the server or in an optional device that is installed in the server, you can purchase an activation key to activate the feature. For information about Features on Demand, see:

<https://fod.lenovo.com/lkms>

- **Lenovo XClarity Controller (XCC)**

The Lenovo XClarity Controller is the common management controller for Lenovo ThinkSystem server hardware. The Lenovo XClarity Controller consolidates multiple management functions in a single chip on the system I/O board. Some of the features that are unique to the Lenovo XClarity Controller are enhanced performance, higher-resolution remote video, and expanded security options.

The server supports Lenovo XClarity Controller 2 (XCC2). For additional information about Lenovo XClarity Controller 2 (XCC2), refer to <https://pubs.lenovo.com/lxcc-overview/>.

- **UEFI-compliant server firmware**

Lenovo ThinkSystem firmware is Unified Extensible Firmware Interface (UEFI) compliant. UEFI replaces BIOS and defines a standard interface between the operating system, platform firmware, and external devices.

Lenovo ThinkSystem servers are capable of booting UEFI-compliant operating systems, BIOS-based operating systems, and BIOS-based adapters as well as UEFI-compliant adapters.

Note: The server does not support Disk Operating System (DOS).

- **Large system-memory capacity**

The server supports registered DIMMs (RDIMMs) with error correcting code (ECC) and 3DS RDIMM. For more information about the specific types and maximum amount of memory, see [“Technical specifications” on page 4](#).

- **Integrated Trusted Platform Module (TPM)**

This integrated security chip performs cryptographic functions and stores private and public secure keys. It provides the hardware support for the Trusted Computing Group (TCG) specification. You can download the software to support the TCG specification.

Note: For customers in People’s Republic of China, integrated TPM is not supported. However, customers in the People’s Republic of China can install a Trusted Cryptographic Module (TCM) adapter or a Lenovo-qualified TPM adapter (sometimes called a daughter card).

- **Large data-storage capacity and hot-swap capability**

With the hot-swap feature, you can add, remove, or replace hard disk drives without turning off the server.

Storage capacity is different depending on server model. See [“Technical specifications” on page 4](#) for more information.

- The 4-DW GPU Model supports up to eight 2.5-inch hot-swap SAS/SATA/NVMe drives.
- The 8-DW GPU Model supports up to six EDSFF E1.S 5.9mm hot-swap drives or up to four EDSFF E3.S 1T hot-swap drives.
- The SXM5 GPU Model supports up to four 2.5-inch hot-swap NVMe drives or up to four EDSFF E3.S 1T hot-swap drives.

- **Lightpath Diagnostics**

Lightpath Diagnostics provides LEDs to help you diagnose problems. For more information about the Lightpath Diagnostics, see [“System LEDs and diagnostics display” on page 43](#).

- **Mobile access to Lenovo Service Information website**

The server provides a QR code on the system service label, which is on the cover of the server, that you can scan using a QR code reader and scanner with a mobile device to get quick access to the Lenovo Service Information website. The Lenovo Service Information website provides additional information for parts installation, replacement videos, and error codes for server support.

- **Active Energy Manager**

Lenovo XClarity Energy Manager is a power and temperature management solution for data centers. You can monitor and manage the power consumption and temperature of Converged, NeXtScale, System x, and ThinkServer servers, and improve energy efficiency using Lenovo XClarity Energy Manager.

- **Redundant networking connection**

The Lenovo XClarity Controller provides failover capability to a redundant Ethernet connection with the applicable application installed. If a problem occurs with the primary Ethernet connection, all Ethernet traffic that is associated with the primary connection is automatically switched to the optional redundant Ethernet connection. If the applicable device drivers are installed, this switching occurs without data loss and without user intervention.

- **Redundant cooling**

The redundant cooling by the fans in the server enables continued operation if one of the fans fails.

- **ThinkSystem RAID support**

The ThinkSystem RAID adapter provides hardware redundant array of independent disks (RAID) support to create configurations, supporting RAID levels 0, 1, 10, 5, 50, 6, and 60.

Tech Tips

Lenovo continually updates the support website with the latest tips and techniques that you can use to solve issues that your server might encounter. These Tech Tips (also called retain tips or service bulletins) provide procedures to work around issues or solve problems related to the operation of your server.

To find the Tech Tips available for your server:

1. Go to <http://datacentersupport.lenovo.com> and navigate to the support page for your server.
2. Click on **How To's** from the navigation pane.
3. Click **Article Type → Solution** from the drop-down menu.

Follow the on-screen instructions to choose the category for the problem that you are having.

Security advisories

Lenovo is committed to developing products and services that adhere to the highest security standards in order to protect our customers and their data. When potential vulnerabilities are reported, it is the responsibility of the Lenovo Product Security Incident Response Team (PSIRT) to investigate and provide information to our customers so they may put mitigation plans in place as we work toward providing solutions.

The list of current advisories is available at the following site:

https://datacentersupport.lenovo.com/product_security/home

Specifications

Summary of the features and specifications of the server. Depending on the model, some features might not be available, or some specifications might not apply.

Refer to the below table for specifications categories and the content of each category.

Specification category	Technical specifications	Mechanical specifications	Environmental specifications
Content	• Processor • Memory • M.2 Drive • Storage expansion • Expansion slots • Graphics processing units (GPU) • Integrated functions and I/O connectors • Network • Rear button • RAID adapter • Host bus adapter • System fan • Electrical input • Minimal configuration for debugging • Operating systems	• Dimension • Weight	• Acoustical noise emissions • Ambient temperature management • Environmental

Technical specifications

Summary of the technical specifications of server. Depending on the model, some features might not be available, or some specifications might not apply.

Processor
• Up to two AMD® EPYC™ 9004 or 9005 series processors • Scalable up to 128 cores per socket, 256 cores in total • Designed for LGA 6096 (SP5) socket • Supports three x16 xGMI links up to 32 GT/s • Supports TDP up to 400W For a list of supported processors, see: https://serverproven.lenovo.com.

Memory

See “Memory module installation rules and order” in *User Guide* or *Hardware Maintenance Guide* for detailed information about memory configuration and setup.

- Slots: 12 DIMM slots per processor, 24 DIMM slots in total
- Capacity
 - With one processor installed:
 - Minimum: 16 GB
 - Maximum: 1.5 TB
 - With two processors installed:
 - Minimum: 32 GB
 - Maximum: 3 TB
- Memory module types:
 - TruDDR5 4800MHz RDIMM: 16 GB (1Rx8), 32 GB (2Rx8), 48 GB (2Rx8), and 64 GB (2Rx4)
 - TruDDR5 4800MHz 10x4 RDIMM: 96 GB (2Rx4)
 - TruDDR5 5600MHz RDIMM: 128 GB (2Rx4)
 - TruDDR5 6400MHz RDIMM: 16 GB (1Rx8), 32 GB (2Rx8), and 128 GB (2Rx4)
 - TruDDR5 6400MHz 10x4 RDIMM: 64 GB (2Rx4) and 96 GB (2Rx4)
 - TruDDR5 4800MHz Value RDIMM: 64 GB (2Rx4)
 - TruDDR5 4800MHz 3DS RDIMM: 128 GB (4Rx4)
- Maximum speed:
 - 4800/5600 MHz DIMMs: 4800 MT/s
 - 6400 MHz DIMMs: 6000 MT/s

For a list of supported memory modules, see <https://serverproven.lenovo.com>.

M.2 Drive

The server support the following M.2 drive capacity:

- 960 GB
- 1.92 TB

The following form factors are supported:

- 42 mm (2242)
- 60 mm (2260)
- 80 mm (2280)
- 110 mm (22110)

For a list of supported M.2 drives, see <https://serverproven.lenovo.com>.

Storage expansion

The 4-DW GPU Model supports the following storage configuration:

- Up to eight 2.5-inch hot-swap SAS/SATA/NVMe drives

The 8-DW GPU Model supports one of the following storage configurations:

- Up to six E1.S 5.9mm hot-swap drives
- Up to four E3.S 1T hot-swap drives

The SXM5 GPU Model supports one of the following storage configurations:

- Up to four 2.5-inch hot-swap NVMe drives
- Up to four E3.S 1T hot-swap drives

Note: To support Tri-mode with U.3 NVMe drives, **U.3 x1 mode** must be enabled for the selected drive slots on the backplane through the XCC Web GUI. Otherwise, the U.3 NVMe drives cannot be detected. For more information, see “U.3 NVMe drive can be detected in NVMe connection, but cannot be detected in Tri-mode” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

For a list of supported drives, see <https://serverproven.lenovo.com>.

Expansion slots

- Up to fourteen PCIe slots (depending on the server model):
 - Slot 1-2:
 - PCIe x16, FH/FL (4-DW GPU Model and 8-DW GPU Model)
 - PCIe x16, FH/HL (SXM5 GPU Model)
 - Slot 3-10: PCIe x16 400W, FH/FL
 - Slot 15-16: PCIe x16 75W, FH/HL
 - Slot 20-21: PCIe x16 75W, FH/HL

Note: PCIe slot 3-10 may operate at x8 link width when direct GPU distribution boards are installed in the 8-DW GPU Model.

- One OCP slot:
 - Slot 27

Graphics processing unit (GPU)

The 4-DW GPU Model supports one of the following GPU configurations:

- Up to eight PCIe x16, single-wide, FH/FL GPUs with TDP up to 150W
- Up to eight PCIe x16, double-wide, FH/FL GPUs with TDP up to 600W (with 9005 series processors installed)

The 8-DW GPU Model supports one of the following GPU configurations:

- Up to eight PCIe x16, single-wide, FH/FL GPUs with TDP up to 150W
- Up to eight PCIe x16, double-wide, FH/FL GPUs with TDP up to 600W (with 9005 series processors installed)

The SXM5 GPU Model supports one of the following GPU configurations:

- NVIDIA HGX H100 4-GPU
- NVIDIA HGX H200 4-GPU

For a list of supported GPUs, see <https://serverproven.lenovo.com>.

Integrated functions and I/O connectors

- Lenovo XClarity Controller (XCC), which provides service processor control and monitoring functions, video controller, and remote keyboard, video, mouse, and remote drive capabilities.
 - The server supports Lenovo XClarity Controller 2 (XCC2). For additional information about Lenovo XClarity Controller 2 (XCC2), refer to <https://pubs.lenovo.com/lxcc-overview/>.
- Front connectors:
 - One USB 3.2 Gen 1 connector (optional)
 - One USB 2.0 connector with XCC system management function (optional)
 - One VGA connector (optional)
 - One external diagnostics connector (optional)
- Rear connectors:
 - A group of two or four Ethernet connectors on the OCP 3.0 module (optional)
 - One XClarity Controller network connector (RJ-45 Ethernet connector)
 - Three USB 3.2 Gen1 connectors
 - One VGA connector
 - One serial port (optional)

Network

- One OCP module, which provides two or four Ethernet connectors for network support
- One OSFP port card with either two 400Gb or two 800Gb OSFP ports, connecting to four ConnectX-7 chip sets on the CX-7 mezz board (SXM5 GPU Model only)

Rear button

NMI button

RAID adapter

- Hardware RAID 0, 1, 10
 - ThinkSystem RAID 540-8i PCIe Gen4 12Gb Adapter
- Hardware RAID 0, 1, 10, 5
 - ThinkSystem RAID 5350-8i PCIe 12Gb Adapter
- Hardware RAID 0, 1, 10, 5, 50, 6, 60
 - ThinkSystem RAID 940-8i 4GB Flash PCIe Gen4 12Gb Adapter
 - ThinkSystem RAID 940-8i 4GB Flash PCIe Gen4 12Gb Adapter for U.3 (Tri-Mode support)
 - ThinkSystem RAID 940-8i 8GB Flash PCIe Gen4 12Gb Adapter
 - ThinkSystem RAID 940-8i 8GB Flash PCIe Gen4 12Gb Adapter for U.3 (Tri-Mode support)
 - ThinkSystem RAID 940-16i 8GB Flash PCIe Gen4 12Gb Adapter for U.2
 - ThinkSystem RAID 940-8e 4GB Flash PCIe Gen4 12Gb Adapter
- Hardware RAID 0, 1, 10, 5, 50, 6, 60, 1 Triple, 10 Triple
 - ThinkSystem RAID 9350-8i 2GB Flash PCIe 12Gb Adapter
 - ThinkSystem RAID 9450-8i 4GB Flash PCIe Gen4 24Gb Adapter
 - ThinkSystem RAID 9450-32i 8GB Flash PCIe Gen4 24Gb Adapter

For more information about the RAID/HBA adapters, see [Lenovo ThinkSystem RAID Adapter and HBA Reference](#).

Host bus adapter

- ThinkSystem 440-8i SAS/SATA PCIe Gen4 12Gb HBA
- ThinkSystem 440-8e SAS/SATA PCIe Gen4 12Gb HBA
- ThinkSystem 440-16e SAS/SATA PCIe Gen4 12Gb HBA
- ThinkSystem 4350-8i SAS/SATA 12Gb HBA

For more information about the RAID/HBA adapters, see [Lenovo ThinkSystem RAID Adapter and HBA Reference](#).

System fan

Five 80 mm x 80 mm x 56 mm dual-rotor fans

Electrical input

The server supports N+N, N+0, N+1 policies with OVS always ON.

Following is the list of supported types:

- 1800-watt Platinum, input voltage 230 Vac
- 1800-watt Titanium, input voltage 230 Vac
- 2400-watt Platinum, input voltage 230 Vac
- 2600-watt Titanium, input voltage 230 Vac

Important: Power supplies and redundant power supplies in the server must be with the same power rating, wattage or level.

Minimal configuration for debugging

- One processor in socket 1
- One DRAM memory module in slots 6
- Two power supply units in bay 1 and 2
- One boot drive, M.2, 2.5-inch, EDSFF E1.S 5.9mm drive, or E3.S 1T drive and RAID adapter if configured. (If OS is needed by debugging)
- Five system fans
- One OCP module with required cable (if network is required)

Operating systems

Supported and certified operating systems:

- Microsoft Windows Server
- VMware ESXi
- Red Hat Enterprise Linux
- SUSE Linux Enterprise Server
- Canonical Ubuntu

References:

- Complete list of available operating systems: <https://lenovopress.lenovo.com/osig>.
- OS deployment instructions, see “Deploy the operating system” on page 84.

Mechanical specifications

Summary of the mechanical specifications of server. Depending on the model, some features might not be available, or some specifications might not apply.

Dimension
3 U server • Height: 131 mm (5.16 inches) • Width (with EIA flange): 482 mm (18.97 inches) • Depth: 891.6 mm (35.10 inches)
Weight
• The 4-DW GPU Model weights approximately 37.8 kg (83.3 lbs.), depending on the configuration. • The 8-DW GPU Model weights approximately 42.4 kg (93.5 lbs.), depending on the configuration. • The SXM5 GPU Model weights approximately 42 kg (92.6 lbs.), depending on the configuration.

Environmental specifications

Summary of the environmental specifications of server. Depending on the model, some features might not be available, or some specifications might not apply.

Acoustical noise emissions

The server has the following acoustic noise emissions declaration:

- Sound power level (L_{WAd})
 - Idling:
 - GPU Typical: 7.8 Bel
 - GPU Max: 8.0 Bel
 - SXM5: 7.8 Bel
 - Operating:
 - GPU Typical: 8.4 Bel
 - GPU Max: 8.6 Bel
 - SXM5: 9.0 Bel
- Sound pressure level (L_{pAm}):
 - Idling:
 - GPU Typical: 62.5 dBA
 - GPU Max: 63.2 dBA
 - SXM5: 62.5 dBA
 - Operating:
 - GPU Typical: 68.3 dBA
 - GPU Max: 71.3 dBA
 - SXM5: 74.8 dBA

Notes:

- These sound levels were measured in controlled acoustical environments according to procedures specified by ISO7779 and are reported in accordance with ISO 9296.
- The declared acoustic sound levels are based on the specified configurations, which may change depending on configuration/conditions.
 - GPU Typical: two 360W processors, four or eight NVIDIA A100 80 GB GPU adapters, twelve 32 GB RDIMMs (2Rx8), two 2.5-inch NVMe SSDs or two E1.S 5.9mm NVMe SSDs, one ThinkSystem Broadcom 57504 10/25GbE SFP28 4-Port OCP Ethernet Adapter, one 1P NDR (NVIDIA ConnectX-7 card)
 - GPU Max: two 360W processors, four NVIDIA H100 80 GB GPU adapters, twenty-four 128 GB 3DS RDIMMs, eight 2.5-inch NVMe SSDs or six E1.S 5.9mm NVMe SSDs, one ThinkSystem Broadcom 57508 100GbE QSFP56 2-Port OCP Ethernet Adapter, six 1P NDR (NVIDIA ConnectX-7 card)
 - SXM5: two 360W processors, one set of NVIDIA HGX H100 80GB 700W 4-GPU Board, twenty-four 128 GB 3DS RDIMMs, four E3.S 1T NVMe SSDs, one ThinkSystem Broadcom 57508 100GbE QSFP56 2-Port OCP Ethernet Adapter, six 1P NDR (NVIDIA ConnectX-7 card)
- Government regulations (such as those prescribed by OSHA or European Community Directives) may govern noise level exposure in the workplace and may apply to you and your server installation. The actual sound pressure levels in your installation depend upon a variety of factors, including the number of racks in the installation; the size, materials, and configuration of the room; the noise levels from other equipment; the room ambient temperature, and employee's location in relation to the equipment. Further, compliance with such government regulations depends on a variety of additional factors, including the duration of employees' exposure and whether employees wear hearing protection. Lenovo recommends that you consult with qualified experts in this field to determine whether you are in compliance with the applicable regulations.

Ambient temperature management

Adjust ambient temperature when specific components are installed:

- Keep ambient temperature to 30°C or lower when one or more of the following components are installed.
 - NVIDIA L40 PCIe GPU
 - NVIDIA L40S/H100/H800 PCIe GPU, except that AMD EPYC 9174F processor is installed
 - NVIDIA H100 NVL PCIe GPU, except that one of the following processors is installed
 - AMD EPYC 9174F processor
 - AMD EPYC 9184X processor
 - AMD EPYC 9754 processor
 - NVIDIA HGX H100 80GB 700W 4-GPU Board, except that AMD EPYC 9174F processor is installed
 - NVIDIA ConnectX-7 dual-port NDR200 or single-port NDR400 with Active Optical Cable installed in the PCIe slot 15, 16, 20, or 21
 - Samsung 128 GB DDR5 RDIMMs
- Keep ambient temperature to 25°C or lower when the following components are installed:
 - NVIDIA L40S/H100/H800 PCIe GPU with AMD EPYC 9174F processor installed
 - NVIDIA H100 NVL PCIe GPU with one of the following processors installed
 - AMD EPYC 9174F processor
 - AMD EPYC 9184X processor
 - AMD EPYC 9754 processor
 - NVIDIA HGX H100 80GB 700W 4-GPU Board with AMD EPYC 9174F processor installed

Environment

Depending on hardware configurations, ThinkSystem SR675 V3 complies with ASHRAE Class H1, A2 specifications with certain thermal restrictions. System performance may be impacted when operating temperature is out of permitted conditions.

- Air temperature:
 - Operating
 - ASHRAE Class H1: 5°C to 25°C (41°F to 77°F); the maximum ambient temperature decreases by 1°C for every 500 m (1640 ft) increase in altitude above 900 m (2,953 ft).
 - ASHRAE Class A2: 10°C to 35°C (50°F to 95°F); the maximum ambient temperature decreases by 1°C for every 300 m (984 ft) increase in altitude above 900 m (2,953 ft).
 - Server off: 5°C to 45°C (41°F to 113°F)
 - Shipment/storage: -20°C to 60°C (-4°F to 140°F)
- Maximum altitude: 3,050 m (10,000 ft)
- Relative Humidity (non-condensing):
 - Operating
 - ASHRAE Class H1: 8% to 80%; maximum dew point: 17°C (62.6°F)
 - ASHRAE Class A2: 8% to 80%; maximum dew point: 21°C (70°F)
 - Shipment/storage: 8% to 90%
- Particulate contamination

Attention: Airborne particulates and reactive gases acting alone or in combination with other environmental factors such as humidity or temperature might pose a risk to the server. For information about the limits for particulates and gases, see [“Particulate contamination” on page 12](#).

Note: The server is designed for standard data center environment and recommended to be placed in industrial data center.

Particulate contamination

Attention: Airborne particulates (including metal flakes or particles) and reactive gases acting alone or in combination with other environmental factors such as humidity or temperature might pose a risk to the device that is described in this document.

Risks that are posed by the presence of excessive particulate levels or concentrations of harmful gases include damage that might cause the device to malfunction or cease functioning altogether. This specification sets forth limits for particulates and gases that are intended to avoid such damage. The limits must not be viewed or used as definitive limits, because numerous other factors, such as temperature or moisture content of the air, can influence the impact of particulates or environmental corrosives and gaseous contaminant transfer. In the absence of specific limits that are set forth in this document, you must implement practices that maintain particulate and gas levels that are consistent with the protection of human health and safety. If Lenovo determines that the levels of particulates or gases in your environment have caused damage to the device, Lenovo may condition provision of repair or replacement of devices or parts on implementation of appropriate remedial measures to mitigate such environmental contamination. Implementation of such remedial measures is a customer responsibility.

Table 1. Limits for particulates and gases

Contaminant	Limits
Reactive gases	Severity level G1 as per ANSI/ISA 71.04-1985¹: • The copper reactivity level shall be less than 200 Angstroms per month ($\text{\AA}/\text{month} \approx 0.0035 \mu\text{g}/\text{cm}^2\text{-hour weight gain}$).² • The silver reactivity level shall be less than 200 Angstroms per month ($\text{\AA}/\text{month} \approx 0.0035 \mu\text{g}/\text{cm}^2\text{-hour weight gain}$).³ • The reactive monitoring of gaseous corrosivity must be conducted approximately 5 cm (2 in.) in front of the rack on the air inlet side at one-quarter and three-quarter frame height off the floor or where the air velocity is much higher.
Airborne particulates	Data centers must meet the cleanliness level of ISO 14644-1 class 8. For data centers without airside economizer, the ISO 14644-1 class 8 cleanliness might be met by choosing one of the following filtration methods: • The room air might be continuously filtered with MERV 8 filters. • Air entering a data center might be filtered with MERV 11 or preferably MERV 13 filters. For data centers with airside economizers, the choice of filters to achieve ISO class 8 cleanliness depends on the specific conditions present at that data center. • The deliquescent relative humidity of the particulate contamination should be more than 60% RH.⁴ • Data centers must be free of zinc whiskers.⁵
¹ ANSI/ISA-71.04-1985. <i>Environmental conditions for process measurement and control systems: Airborne contaminants</i>. Instrument Society of America, Research Triangle Park, North Carolina, U.S.A. ² The derivation of the equivalence between the rate of copper corrosion growth in the thickness of the corrosion product in $\text{\AA}/\text{month}$ and the rate of weight gain assumes that Cu_2S and Cu_2O grow in equal proportions. ³ The derivation of the equivalence between the rate of silver corrosion growth in the thickness of the corrosion product in $\text{\AA}/\text{month}$ and the rate of weight gain assumes that Ag_2S is the only corrosion product. ⁴ The deliquescent relative humidity of particulate contamination is the relative humidity at which the dust absorbs enough water to become wet and promote ionic conduction. ⁵ Surface debris is randomly collected from 10 areas of the data center on a 1.5 cm diameter disk of sticky electrically conductive tape on a metal stub. If examination of the sticky tape in a scanning electron microscope reveals no zinc whiskers, the data center is considered free of zinc whiskers.	

Management options

The XClarity portfolio and other system management options described in this section are available to help you manage the servers more conveniently and efficiently.

Overview

Options	Description
Lenovo XClarity Controller	Baseboard management controller (BMC) Consolidates the service processor functionality, Super I/O, video controller, and remote presence capabilities into a single chip on the server system board (system board assembly). Interface • CLI application • Web GUI interface • Mobile application • Redfish API Usage and downloads https://pubs.lenovo.com/lxcc-overview/
Lenovo XCC Logger Utility	Application that reports the XCC events to local OS system log. Interface • CLI application Usage and downloads • https://pubs.lenovo.com/lxcc-logger-linux/ • https://pubs.lenovo.com/lxcc-logger-windows/
Lenovo XClarity Administrator	Centralized interface for multi-server management. Interface • Web GUI interface • Mobile application • REST API Usage and downloads https://pubs.lenovo.com/lxca/
Lenovo XClarity Essentials toolset	Portable and light toolset for server configuration, data collection, and firmware updates. Suitable both for single-server or multi-server management contexts. Interface • OneCLI: CLI application • Bootable Media Creator: CLI application, GUI application • UpdateXpress: GUI application Usage and downloads https://pubs.lenovo.com/lxce-overview/

Options	Description
Lenovo XClarity Provisioning Manager	UEFI-based embedded GUI tool on a single server that can simplify management tasks. Interface • Web interface (BMC remote access) • GUI application Usage and downloads https://pubs.lenovo.com/lxpm-overview/ Important: Lenovo XClarity Provisioning Manager (LXPM) supported version varies by product. All versions of Lenovo XClarity Provisioning Manager are referred to as Lenovo XClarity Provisioning Manager and LXPM in this document, unless specified otherwise. To see the LXPM version supported by your server, go to https://pubs.lenovo.com/lxpm-overview/.
Lenovo XClarity Integrator	Series of applications that integrate the management and monitoring functionalities of the Lenovo physical servers with the software used in a certain deployment infrastructure, such as VMware vCenter, Microsoft Admin Center, or Microsoft System Center while delivering additional workload resiliency. Interface • GUI application Usage and downloads https://pubs.lenovo.com/lxci-overview/
Lenovo XClarity Energy Manager	Application that can manage and monitor server power and temperature. Interface • Web GUI Interface Usage and downloads https://datacentersupport.lenovo.com/solutions/Invo-lxem
Lenovo Capacity Planner	Application that supports power consumption planning for a server or rack. Interface • Web GUI Interface Usage and downloads https://datacentersupport.lenovo.com/solutions/Invo-lcp

Functions

Options		Functions							
		Multi-system mgmt	OS deployment	System configuration	Firmware updates ¹	Event-s/alert monitoring	Inventory/ logs	Pow-er mgmt	Power planning
Lenovo XClarity Controller				√	√ ²	√	√ ⁴		
Lenovo XCC Logger Utility						√			
Lenovo XClarity Administrator		√	√	√	√ ²	√	√ ⁴		
Lenovo XClarity Essentials toolset	OneCLI	√		√	√ ²	√	√		
	Bootable Media Creator			√	√ ²		√ ⁴		
	UpdateXpress			√	√ ²				
Lenovo XClarity Provisioning Manager			√	√	√ ³		√ ⁵		
Lenovo XClarity Integrator		√		√	√	√	√	√ ⁶	
Lenovo XClarity Energy Manager		√				√		√	
Lenovo Capacity Planner									√ ⁷

Notes:

1. Most options can be updated through the Lenovo tools. Some options, such as GPU firmware or Omni-Path firmware require the use of supplier tools.
2. The server UEFI settings for option ROM must be set to **Auto** or **UEFI** to update firmware using Lenovo XClarity Administrator, Lenovo XClarity Essentials, or Lenovo XClarity Controller.
3. Firmware updates are limited to Lenovo XClarity Provisioning Manager, Lenovo XClarity Controller, and UEFI updates only. Firmware updates for optional devices, such as adapters, are not supported.
4. The server UEFI settings for option ROM must be set to **Auto** or **UEFI** for detailed adapter card information, such as model name and firmware levels, to be displayed in Lenovo XClarity Administrator, Lenovo XClarity Controller, or Lenovo XClarity Essentials.
5. Limited inventory.
6. Power management function is supported only by Lenovo XClarity Integrator for VMware vCenter.
7. It is highly recommended that you check the power summary data for your server using Lenovo Capacity Planner before purchasing any new parts.

Chapter 2. Server components

This section contains information about each of the components associated with the server.

Front view

The illustrations in this section provide information about the front view of the server.

The ThinkSystem SR675 V3 front view varies by model. Refer to the front view specific to each model to identify the components.

- [“The 4-DW GPU Model front view” on page 17](#)
- [“The 8-DW GPU Model front view” on page 18](#)
- [“The SXM5 GPU Model front view” on page 21](#)

The 4-DW GPU Model front view

This section contains information about the controls, LEDs, and connectors on the front of the 4-DW GPU Model server.

Note: The illustration in this section show the location of certain parts. Some parts may not be supported at the same time within certain configuration(s).

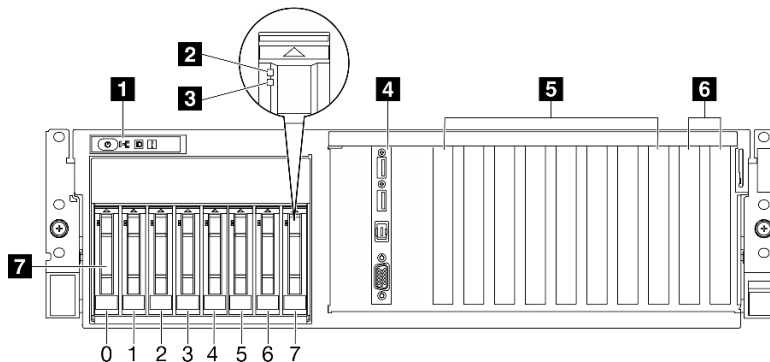


Figure 2. Front view of the 4-DW GPU Model

Table 2. Components on the front view of the 4-DW GPU Model

1 Front operator panel	5 PCIe slot 3-6
2 Drive activity LED (green)	6 PCIe slot 1-2
3 Drive status LED (yellow)	7 2.5-inch hot-swap drive bays (0 to 7)
4 Front I/O module	

1 Front operator panel

For more information about the front operator panel, see [“Front operator panel LEDs” on page 44](#).

2 Drive activity LED (green)

Each hot-swap drive comes with an activity LED. When this LED is flashing, it indicates that the drive is in use.

3 Drive status LED (yellow)

The drive status LED indicates the following status:

- The LED is lit: the drive has failed.
- The LED is flashing slowly (once per second): the drive is being rebuilt.
- The LED is flashing rapidly (three times per second): the drive is being identified.

4 Front I/O module

For more information about the front I/O module, see [“Front I/O module” on page 37](#).

5 PCIe slot 3-6

Install PCIe adapters, particularly GPUs to these slots. These PCIe slots support the following configuration:

- PCIe Gen5 x16, FH/FL

6 PCIe slot 1-2

Install PCIe adapters, particularly network adapters to these slots. These PCIe slots support the following configuration:

- PCIe Gen5 x16, FH/FL

Note: PCIe solid fillers must be installed in slots 1 and 2 if no PCIe adapter is installed in those slots.

7 2.5-inch hot-swap drive bays (0 to 7)

Install 2.5-inch drives to these bays. See “Install a 2.5- inch hot-swap drive” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

The 8-DW GPU Model front view

This section contains information about the controls, LEDs, and connectors on the front of the 8-DW GPU Model server.

Note: The illustrations in this section show the location of certain parts. Some parts may not be supported at the same time within certain configuration(s).

The 8-DW GPU Model offers two storage configurations, up to six EDSFF E1.S 5.9mm drives or up to four EDSFF E3.S 1T drives. Refer to the following sections for front view identification of each configuration:

- [“Front view with 6x E1.S 5.9mm drives” on page 19](#)
- [“Front view with 4x E3.S 1T drives” on page 20](#)

Front view with 6x E1.S 5.9mm drives

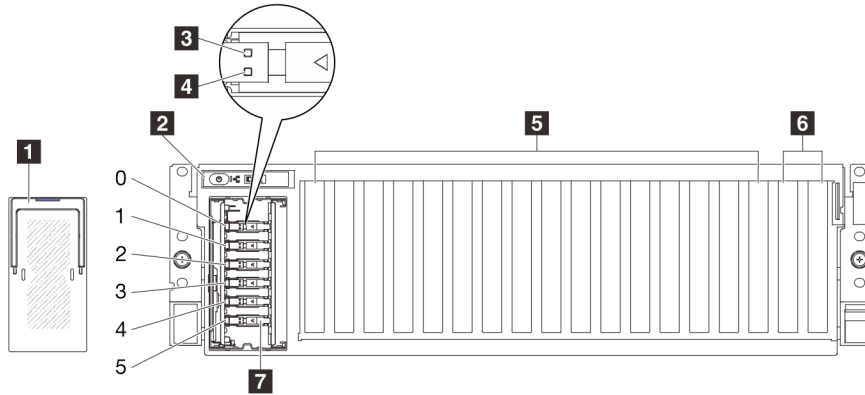


Figure 3. Front view with 6x E1.S 5.9mm drives

Table 3. Components on the front view with 6x E1.S 5.9mm drives

1 EDSFF drive cage cover	5 PCIe slot 3-10
2 Front operator panel	6 PCIe Slot 1-2
3 Drive activity LED (green)	7 E1.S 5.9mm hot-swap drive bays (0 to 5)
4 Drive status LED (yellow)	

1 EDSFF drive cage cover

The 8-DW GPU Model servers should always operate with the EDSFF drive cage cover installed to the chassis.

2 Front operator panel

For more information about the front operator panel, see [“Front operator panel LEDs” on page 44](#).

3 Drive activity LED (green)

Each hot-swap drive comes with an activity LED. When this LED is flashing, it indicates that the drive is in use.

4 Drive status LED (yellow)

The drive status LED indicates the following status:

- The LED is lit: the drive has failed.
- The LED is flashing slowly (once per second): the drive is being rebuilt.
- The LED is flashing rapidly (three times per second): the drive is being identified.

5 PCIe slot 3-10

Install PCIe adapters, particularly GPUs to these slots. These PCIe slots support the following configuration:

- PCIe Gen5 x16, FH/FL

Note: PCIe slot 3-10 may operate at x8 link width when the direct GPU distribution boards are installed in the system.

6 PCIe slot 1-2

Install PCIe adapters, particularly network adapters to these slots. These PCIe slots support the following configuration:

- PCIe Gen5 x16, FH/FL

Note: PCIe solid fillers must be installed in slots 1 and 2 if no PCIe adapter is installed in those slots.

7 E1.S 5.9mm hot-swap drive bays (0 to 5)

Install E1.S 5.9mm hot-swap drives to these bays. See “Install an E1.S/E3.S hot-swap drive” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

Front view with 4x E3.S 1T drives

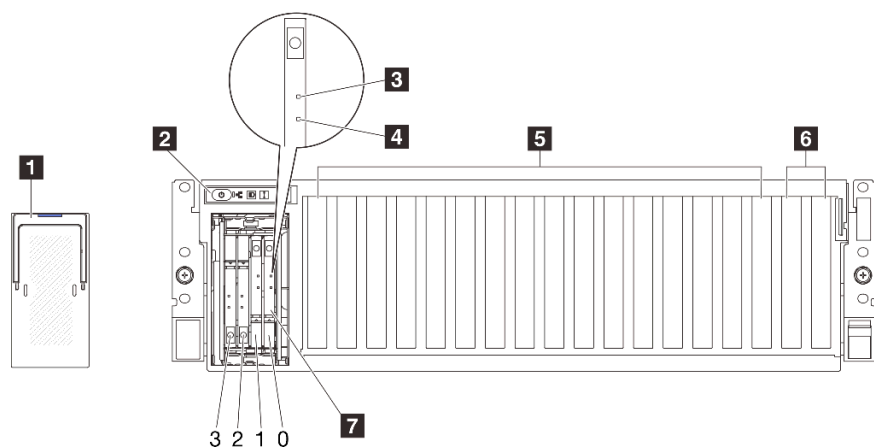


Figure 4. Front view with 4x E3.S 1T drives

Table 4. Components on the front view with 4x E3.S 1T drives

1 EDSFF drive cage cover	5 PCIe slot 3-10
2 Front operator panel	6 PCIe Slot 1-2
3 Drive activity LED (green)	7 E3.S 1T hot-swap drive bays (0 to 3)
4 Drive status LED (yellow)	

1 EDSFF drive cage cover

The 8-DW GPU Model servers should always operate with the EDSFF drive cage cover installed to the chassis.

2 Front operator panel

For more information about the front operator panel, see [“Front operator panel LEDs” on page 44](#).

3 Drive activity LED (green)

Each hot-swap drive comes with an activity LED. When this LED is flashing, it indicates that the drive is in use.

4 Drive status LED (yellow)

The drive status LED indicates the following status:

- The LED is lit: the drive has failed.
- The LED is flashing slowly (once per second): the drive is being rebuilt.
- The LED is flashing rapidly (three times per second): the drive is being identified.

5 PCIe slot 3-10

Install PCIe adapters, particularly GPUs to these slots. These PCIe slots support the following configuration:

- PCIe Gen5 x16, FH/FL

Note: PCIe slot 3-10 may operate at x8 link width when the direct GPU distribution boards are installed in the system.

6 PCIe slot 1-2

Install PCIe adapters, particularly network adapters to these slots. These PCIe slots support the following configuration:

- PCIe Gen5 x16, FH/FL

Note: PCIe solid fillers must be installed in slots 1 and 2 if no PCIe adapter is installed in those slots.

7 E3.S 1T hot-swap drive bays (0 to 3)

Install E3.S 1T hot-swap drives to these bays. See “Install an E1.S/E3.S hot-swap drive” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

The SXM5 GPU Model front view

This section contains information about the controls, LEDs, and connectors on the front of the SXM5 GPU Model server.

Note: The illustrations in this section show the location of certain parts. Some parts may not be supported at the same time within certain configuration(s).

Refer to the following sections for front view identification of each configuration:

- [“Front view with 4x 2.5-inch drives and SXM5 PCIe switch board” on page 22](#)
- [“Front view with 4x 2.5-inch drives and CX-7 mezz board” on page 23](#)
- [“Front view with 4x E3.S 1T drives and SXM5 PCIe switch board” on page 25](#)
- [“Front view with 4x E3.S 1T drives and CX-7 mezz board” on page 27](#)

Front view with 4x 2.5-inch drives and SXM5 PCIe switch board

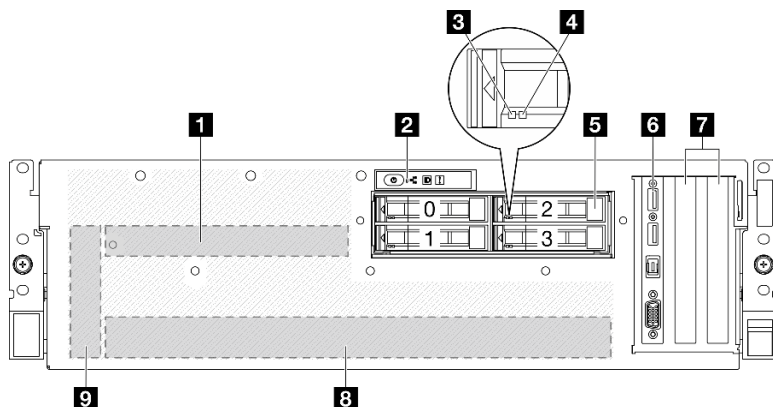


Figure 5. Front view with 4x 2.5-inch drives and SXM5 PCIe switch board

Table 5. Components on the front view with 4x 2.5-inch drives and SXM5 PCIe switch board

1 SXM5 PCIe switch board	6 Front I/O module
2 Front operator panel	7 PCIe Slot 1-2
3 Drive activity LED (green)	8 GPU-L2A assembly
4 Drive status LED (yellow)	9 Interposer card
5 2.5-inch hot-swap drive bays (0 to 3)	

1 SXM5 PCIe switch board

Install the SXM5 PCIe switch board in this space. See “Install the SXM5 PCIe switch board” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

2 Front operator panel

For more information about the front operator panel, see [“Front operator panel LEDs” on page 44](#).

3 Drive activity LED (green)

Each hot-swap drive comes with an activity LED. When this LED is flashing, it indicates that the drive is in use.

4 Drive status LED (yellow)

The drive status LED indicates the following status:

- The LED is lit: the drive has failed.
- The LED is flashing slowly (once per second): the drive is being rebuilt.
- The LED is flashing rapidly (three times per second): the drive is being identified.

5 2.5-inch hot-swap drive bays (0 to 3)

Install 2.5-inch drives to these bays. See “Install a 2.5- inch hot-swap drive” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

6 Front I/O module

For more information about the front I/O module, see [“Front I/O module” on page 37](#).

7 PCIe Slot 1-2

Install PCIe adapters, particularly network adapters to these slots. These PCIe slots support the following configuration:

- PCIe Gen5 x16, FH/HL

8 GPU-L2A assembly

Install the GPU-L2A assembly in this space. A GPU-L2A assembly consists of the Lenovo Neptune® liquid-to-air (L2A) hybrid cooling module and the SXM5 GPU board which contains one set of NVIDIA HGX H100 80GB 700W 4-GPU Board. See “Install the Lenovo Neptune liquid-to-air (L2A) hybrid cooling module” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

9 Interposer card

Install the interposer card in this space. See “Install the interposer card” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

Front view with 4x 2.5-inch drives and CX-7 mezz board

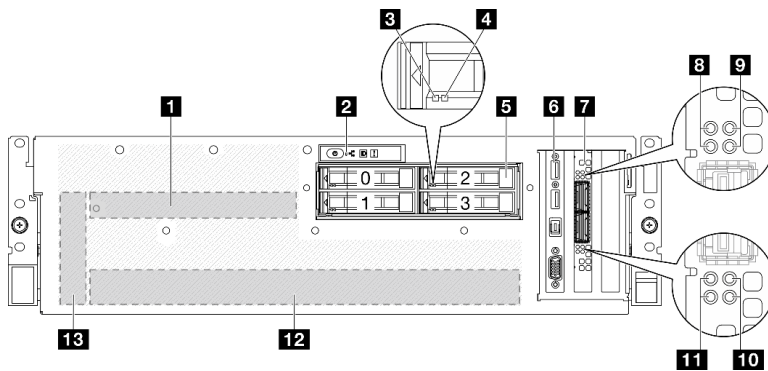


Figure 6. Front view with 4x 2.5-inch drives and CX-7 mezz board

Table 6. Components on the front view with 4x 2.5-inch drives and CX-7 mezz board

1 CX-7 mezz board	8 CX-7 mezz board link status LED (yellow)
2 Front operator panel	9 CX-7 mezz board link activity LED (green)
3 Drive activity LED (green)	10 CX-7 mezz board link activity LED (green)
4 Drive status LED (yellow)	11 CX-7 mezz board link status LED (yellow)
5 2.5-inch hot-swap drive bays (0 to 3)	12 GPU-L2A assembly
6 Front I/O module	13 Interposer card
7 OSFP port card	

1 CX-7 mezz board

Install the CX-7 mezz board in this space. See “Install the CX-7 carrier board and CX-7 mezz board” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

2 Front operator panel

For more information about the front operator panel, see [“Front operator panel LEDs” on page 44](#).

3 Drive activity LED (green)

Each hot-swap drive comes with an activity LED. When this LED is flashing, it indicates that the drive is in use.

4 Drive status LED (yellow)

The drive status LED indicates the following status:

- The LED is lit: the drive has failed.
- The LED is flashing slowly (once per second): the drive is being rebuilt.
- The LED is flashing rapidly (three times per second): the drive is being identified.

5 2.5-inch hot-swap drive bays (0 to 3)

Install 2.5-inch drives to these bays. See “Install a 2.5- inch hot-swap drive” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

6 Front I/O module

For more information about the front I/O module, see [“Front I/O module” on page 37](#).

7 OSFP port card

Install the OSFP port card in this space. See “Install the OSFP port card” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

8/11 CX-7 mezz board link status LED (yellow)

Use these yellow LEDs to distinguish the link status of the four ConnectX-7 chip sets on the CX-7 mezz board.

- For one-processor configuration: from top to bottom, these LEDs represent ConnectX-7 chip sets 0, 1, 2, and 3.
- For two-processor configuration: from top to bottom, these LEDs represent ConnectX-7 chip sets 0, 1, 2, and 3.

Off: The network is disconnected from switch.

Blinking (1 Hz): The beacon command is used to locate the OSFP port card.

Blinking (4 Hz): An error has occurred to the link. The error can be from I²C or overcurrent.

On: A physical network link is detected.

Note: Using command to light up locating LED is available when transceiver or cable is attached to the OSFP port.

9/10 CX-7 mezz board link activity LED (green)

Use these green LEDs to distinguish the link activity of the four ConnectX-7 chip sets on the CX-7 mezz board.

- For one-processor configuration: from top to bottom, these LEDs represent ConnectX-7 chip sets 0, 1, 2, and 3.
- For two-processor configuration: from top to bottom, these LEDs represent ConnectX-7 chip sets 0, 1, 2, and 3.

- Off:** The network is disconnected from switch.
- Blinking:** The network link is connected and active.
- On:** The network link is connected with no active traffic.

12 GPU-L2A assembly

Install the GPU-L2A assembly in this space. A GPU-L2A assembly consists of the Lenovo Neptune® liquid-to-air (L2A) hybrid cooling module and the SXM5 GPU board which contains one set of NVIDIA HGX H100 80GB 700W 4-GPU Board. See “Install the Lenovo Neptune liquid-to-air (L2A) hybrid cooling module” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

13 Interposer card

Install the interposer card in this space. See “Install the interposer card” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

Front view with 4x E3.S 1T drives and SXM5 PCIe switch board

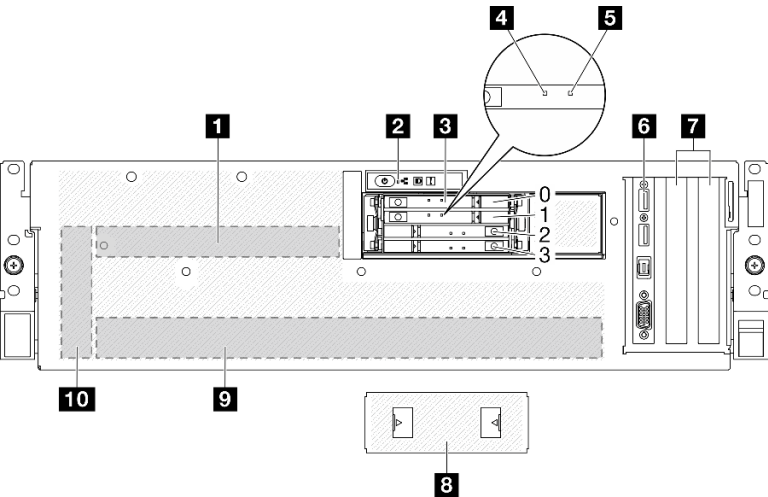


Figure 7. Front view with 4x E3.S 1T drives and SXM5 PCIe switch board

Table 7. Components on the front view with 4x E3.S 1T drives and SXM5 PCIe switch board

1 SXM5 PCIe switch board	6 Front I/O module
2 Front operator panel	7 PCIe Slot 1-2
3 E3.S 1T hot-swap drive bays (0 to 3)	8 E3.S drive cage cover
4 Drive activity LED (green)	9 GPU-L2A assembly
5 Drive status LED (yellow)	10 Interposer card

1 SXM5 PCIe switch board

Install the SXM5 PCIe switch board in this space. See “Install the SXM5 PCIe switch board” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

2 Front operator panel

For more information about the front operator panel, see [“Front operator panel LEDs” on page 44](#).

3 E3.S 1T hot-swap drive bays (0 to 3)

Install E3.S 1T drives to these bays. See “Install an E3.S hot-swap drive” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

4 Drive activity LED (green)

Each hot-swap drive comes with an activity LED. When this LED is flashing, it indicates that the drive is in use.

5 Drive status LED (yellow)

The drive status LED indicates the following status:

- The LED is lit: the drive has failed.
- The LED is flashing slowly (once per second): the drive is being rebuilt.
- The LED is flashing rapidly (three times per second): the drive is being identified.

6 Front I/O module

For more information about the front I/O module, see [“Front I/O module” on page 37](#).

7 PCIe Slot 1-2

Install PCIe adapters, particularly network adapters to these slots. These PCIe slots support the following configuration:

- PCIe Gen5 x16, FH/HL

8 E3.S drive cage cover

The SXM5 GPU Model with 4x E3.S 1T drives should always operate with the E3.S drive cage cover installed to the chassis.

9 GPU-L2A assembly

Install the GPU-L2A assembly in this space. A GPU-L2A assembly consists of the Lenovo Neptune® liquid-to-air (L2A) hybrid cooling module and the SXM5 GPU board which contains one set of NVIDIA HGX H100 80GB 700W 4-GPU Board. See “Install the Lenovo Neptune liquid-to-air (L2A) hybrid cooling module” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

10 Interposer card

Install the interposer card in this space. See “Install the interposer card” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

Front view with 4x E3.S 1T drives and CX-7 mezz board

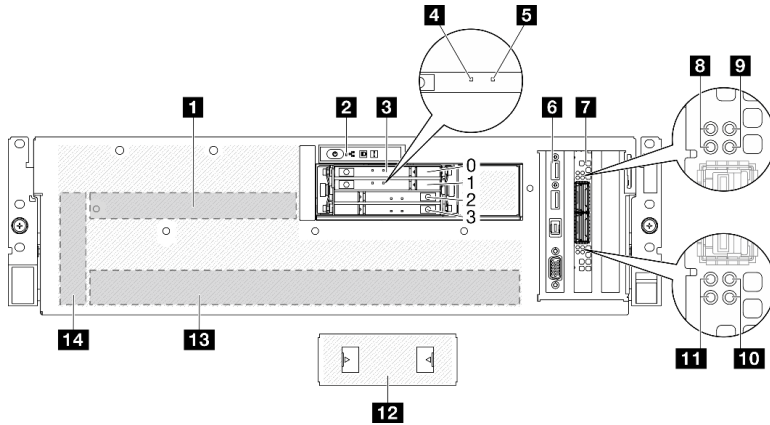


Figure 8. Front view with 4x E3.S 1T drives and CX-7 mezz board

Table 8. Components on the front view with 4x E3.S 1T drives and CX-7 mezz board

1 CX-7 mezz board	8 CX-7 mezz board link status LED (yellow)
2 Front operator panel	9 CX-7 mezz board link activity LED (green)
3 E3.S 1T hot-swap drive bays (0 to 3)	10 CX-7 mezz board link activity LED (green)
4 Drive activity LED (green)	11 CX-7 mezz board link status LED (yellow)
5 Drive status LED (yellow)	12 E3.S drive cage cover
6 Front I/O module	13 GPU-L2A assembly
7 OSFP port card	14 Interposer card

1 CX-7 mezz board

Install the CX-7 mezz board in this space. See “Install the CX-7 carrier board and CX-7 mezz board” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

2 Front operator panel

For more information about the front operator panel, see [“Front operator panel LEDs” on page 44](#).

3 E3.S 1T hot-swap drive bays (0 to 3)

Install E3.S 1T drives to these bays. See “Install an E3.S hot-swap drive” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

4 Drive activity LED (green)

Each hot-swap drive comes with an activity LED. When this LED is flashing, it indicates that the drive is in use.

5 Drive status LED (yellow)

The drive status LED indicates the following status:

- The LED is lit: the drive has failed.
- The LED is flashing slowly (once per second): the drive is being rebuilt.

- The LED is flashing rapidly (three times per second): the drive is being identified.

6 Front I/O module

For more information about the front I/O module, see [“Front I/O module” on page 37](#).

7 OSFP port card

Install the OSFP port card in this space. See “Install the OSFP port card” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

8/11 CX-7 mezz board link status LED (yellow)

Use these yellow LEDs to distinguish the link status of the four ConnectX-7 chip sets on the CX-7 mezz board.

- For one-processor configuration: from top to bottom, these LEDs represent ConnectX-7 chip sets 0, 1, 2, and 3.
- For two-processor configuration: from top to bottom, these LEDs represent ConnectX-7 chip sets 0, 1, 2, and 3.

Off: The network is disconnected from switch.

Blinking (1 Hz): The beacon command is used to locate the OSFP port card.

Blinking (4 Hz): An error has occurred to the link. The error can be from I²C or overcurrent.

On: A physical network link is detected.

Note: Using command to light up locating LED is available when transceiver or cable is attached to the OSFP port.

9/10 CX-7 mezz board link activity LED (green)

Use these green LEDs to distinguish the link activity of the four ConnectX-7 chip sets on the CX-7 mezz board.

- For one-processor configuration: from top to bottom, these LEDs represent ConnectX-7 chip sets 0, 1, 2, and 3.
- For two-processor configuration: from top to bottom, these LEDs represent ConnectX-7 chip sets 0, 1, 2, and 3.

Off: The network is disconnected from switch.

Blinking: The network link is connected and active.

On: The network link is connected with no active traffic.

12 E3.S drive cage cover

The SXM5 GPU Model with 4x E3.S 1T drives should always operate with the E3.S drive cage cover installed to the chassis.

13 GPU-L2A assembly

Install the GPU-L2A assembly in this space. A GPU-L2A assembly consists of the Lenovo Neptune[®] liquid-to-air (L2A) hybrid cooling module and the SXM5 GPU board which contains one set of NVIDIA HGX H100 80GB 700W 4-GPU Board. See “Install the Lenovo Neptune liquid-to-air (L2A) hybrid cooling module” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

14 Interposer card

Install the interposer card in this space. See “Install the interposer card” in *ThinkSystem SR675 V3 User Guide* or *Hardware Maintenance Guide* for more information.

Rear view

The rear of the server provides access to several components, including the power supplies, PCIe adapters, serial port, and Ethernet port.

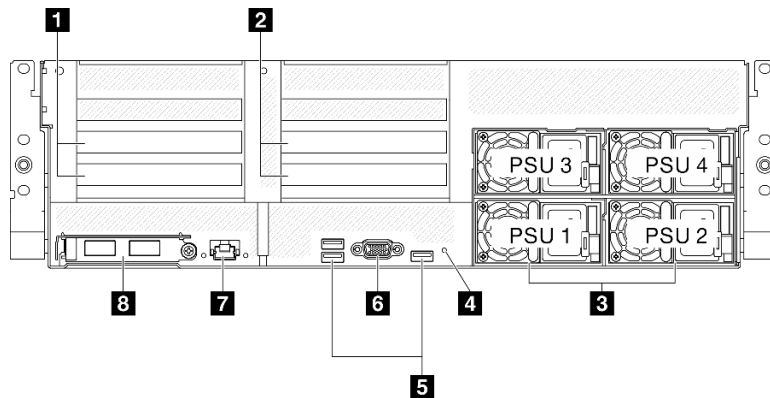


Figure 9. Rear view

Table 9. Components on the rear view

1 PCIe riser 1 (PCIe slot 15-16)	5 USB 3.2 Gen 1 (5 Gbps) connectors (total of three connectors)
2 PCIe riser 2 (PCIe slot 20-21)	6 VGA connector
3 Power supply units	7 XCC system management port (1 GB RJ-45)
4 NMI button	8 OCP module (slot 27)

1 PCIe riser 1 (PCIe slot 15-16)

Install PCIe adapters to the PCIe riser. These PCIe slots support the following configuration:

- PCIe x16 75W, FH/HL

2 PCIe riser 2 (PCIe slot 20-21)

Install PCIe adapters to the PCIe riser. These PCIe slots support the following configuration:

- PCIe x16 75W, FH/HL

3 Power supply units

Install power supply units to these bays, connect them to power cords. Make sure the power cords are connected properly. Following are the power supplies supported by this system:

- 1800-watt Platinum, input voltage 230 Vac
- 1800-watt Titanium, input voltage 230 Vac
- 2400-watt Platinum, input voltage 230 Vac
- 2600-watt Titanium, input voltage 230 Vac

Each hot-swap power supply has three status LEDs:

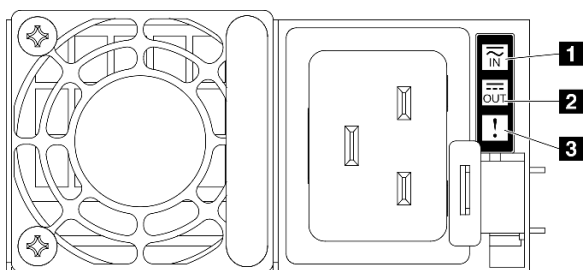


Figure 10. Power supply LEDs

LED	Description
1 Input status	The input status LED can be in one of the following states: - Off: The power supply is disconnected from the AC power source - Green: The power supply is connected to the AC power source.
2 Output status	The output status LED can be in one of the following states: - Off: The server is powered off, or the power supply is not working properly. If the server is powered on but the output status LED is off, replace the power supply. - Green: The server is on and the power supply is working normally.
3 Fault LED	- Off: The power supply is working normally - Amber: The power supply has failed. To resolve the issue, replace the power supply.

4 NMI button

Press this button to force a nonmaskable interrupt to the processor. You might have to use a pen or the end of a straightened paper clip to press the button. You can also use it to force a blue-screen memory dump. Use this button only when you are directed to do so by Lenovo Support.

5 USB 3.2 Gen 1 (5 Gbps) connectors

There are three USB 3.2 Gen 1 (5 Gbps) connectors on the rear of the server. Connect a USB device, such as a mouse, keyboard, or other devices, to either of these connectors.

6 VGA connector

Connect a monitor to this connector.

7 XCC system management port (1 GB RJ-45)

The server has a 1 GB RJ-45 connector dedicated to Lenovo XClarity Controller (XCC) functions. Through the system management port, you can access the Lenovo XClarity Controller directly by connecting your laptop to the management port using an Ethernet cable. Make sure that you modify the IP settings on the laptop so that it is on the same network as the server default settings. A dedicated management network provides additional security by physically separating the management network traffic from the production network.

See the following for more information:

- [“Set the network connection for the Lenovo XClarity Controller” on page 77](#)
- [“XCC system management port LEDs” on page 53](#)

Note: In addition to the standard 1000 Mbps data transfer rate, the XCC system management port also supports 10 Mbps, 100 Mbps speeds.

8 OCP module (slot 27)

The system may support a 2-port or a 4-port OCP module for network connections. Port numbering are shown in the illustrations below.



Figure 11. Port numbering — 2-port OCP module

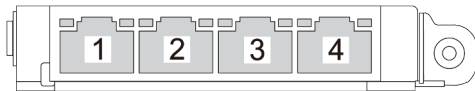


Figure 12. Port numbering — 4-port OCP 3.0 module

Top view

The illustrations in this section provide information about the top view of the server.

The ThinkSystem SR675 V3 top view varies by model. Refer to the top view specific to each model to identify the components.

- [“The 4-DW GPU Model top view” on page 31](#)
- [“The 8-DW GPU Model top view” on page 32](#)
- [“The SXM5 GPU Model top view” on page 33](#)

The 4-DW GPU Model top view

This section contains information on the top view of the 4-DW GPU Model server.

Note: The illustration in this section show the location of certain parts. Some parts may not be supported at the same time within certain configuration(s).

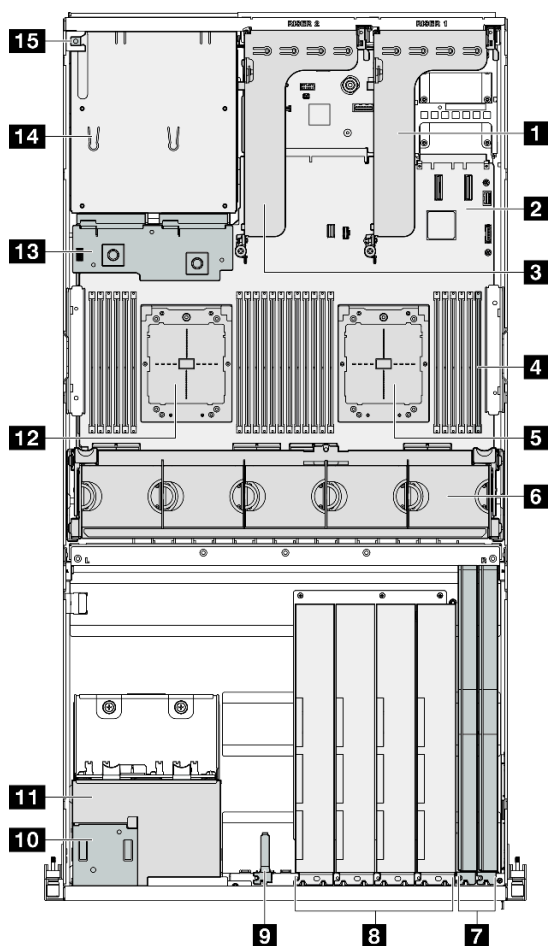


Figure 13. Top view of the 4-DW GPU Model

Table 10. Components on the top view of the 4-DW GPU Model

1 PCIe riser 1	9 Front I/O module
2 System board assembly	10 Front operator panel
3 PCIe riser 2	11 2.5-inch drive cage assembly
4 Memory modules	12 Processor 2
5 Processor 1	13 Power distribution board
6 Fan cage and fans	14 Power supply bays
7 Network adapters	15 Intrusion switch
8 GPU adapters	

The 8-DW GPU Model top view

This section contains information on the top view of the 8-DW GPU Model server.

Note: The illustration in this section show the location of certain parts. Some parts may not be supported at the same time within certain configuration(s).

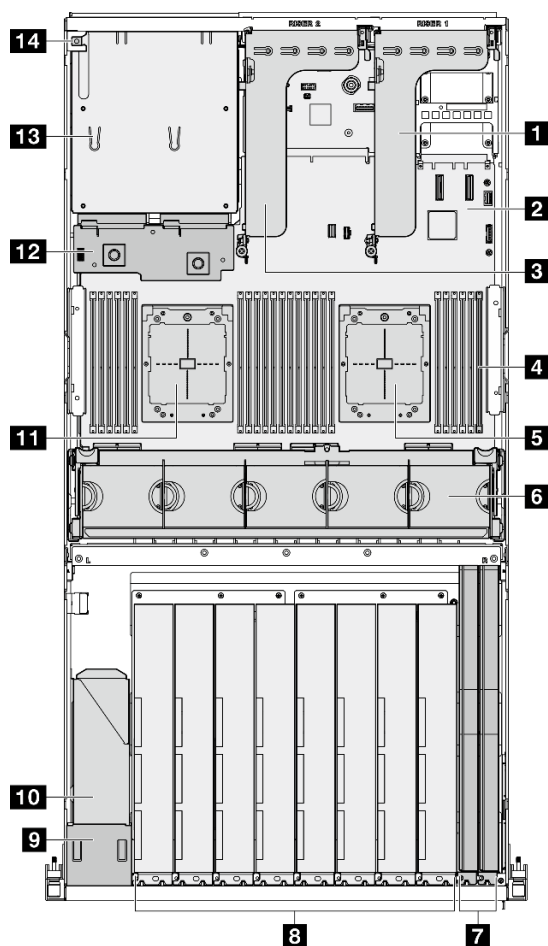


Figure 14. Top view of the 8-DW GPU Model

Table 11. Components on the top view of the 8-DW GPU Model

1 PCIe riser 1	8 GPU adapters
2 System board assembly	9 Front operator panel
3 PCIe riser 2	10 EDSFF drive cage assembly
4 Memory modules	11 Processor 2
5 Processor 1	12 Power distribution board
6 Fan cage and fans	13 Power supply bays
7 Network adapters	14 Intrusion switch

The SXM5 GPU Model top view

This section contains information on the top view of the SXM5 GPU Model server.

Note: The illustrations in this section show the location of certain parts. Some parts may not be supported at the same time within certain configuration(s).

Refer to the following sections for top view identification of each configuration:

- [“Top view with 4x 2.5-inch drives and SXM5 PCIe switch board” on page 34](#)

- “Top view with 4x 2.5-inch drives and CX-7 mezz board” on page 35
- “Top view with 4x E3.S 1T drives and SXM5 PCIe switch board” on page 36
- “Top view with 4x E3.S 1T drives and CX-7 mezz board” on page 37

Top view with 4x 2.5-inch drives and SXM5 PCIe switch board

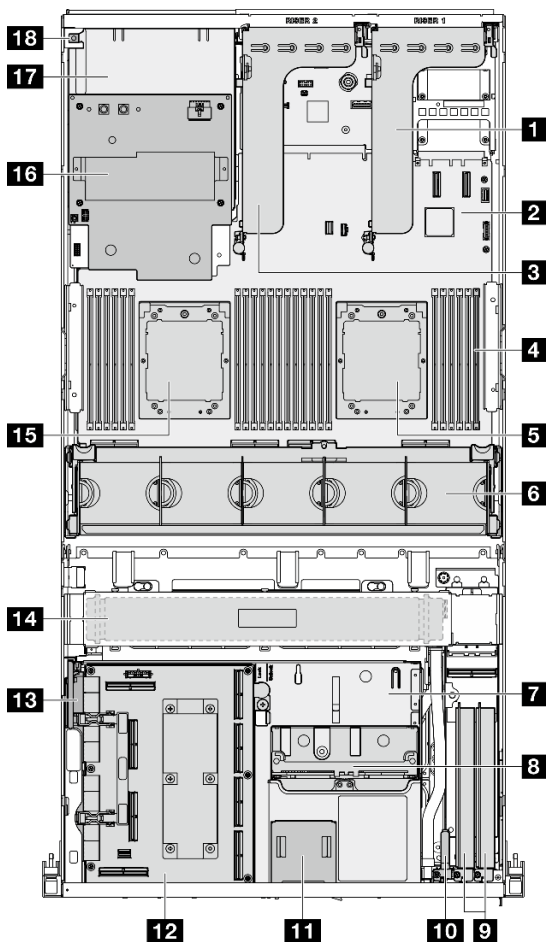


Figure 15. Top view with 4x 2.5-inch drives and SXM5 PCIe switch board

Table 12. Components on the top view with 4x 2.5-inch drives and SXM5 PCIe switch board

1 PCIe riser 1	10 Front I/O module
2 System board assembly	11 Front operator panel
3 PCIe riser 2	12 SXM5 PCIe switch board
4 Memory modules	13 Interposer card
5 Processor 1	14 Radiator
6 Fan cage and fans	15 Processor 2
7 Front drive tray	16 SXM5 GPU power distribution board
8 2.5-inch drive cage assembly	17 Power supply bays
9 Network adapters	18 Intrusion switch

Top view with 4x 2.5-inch drives and CX-7 mezz board

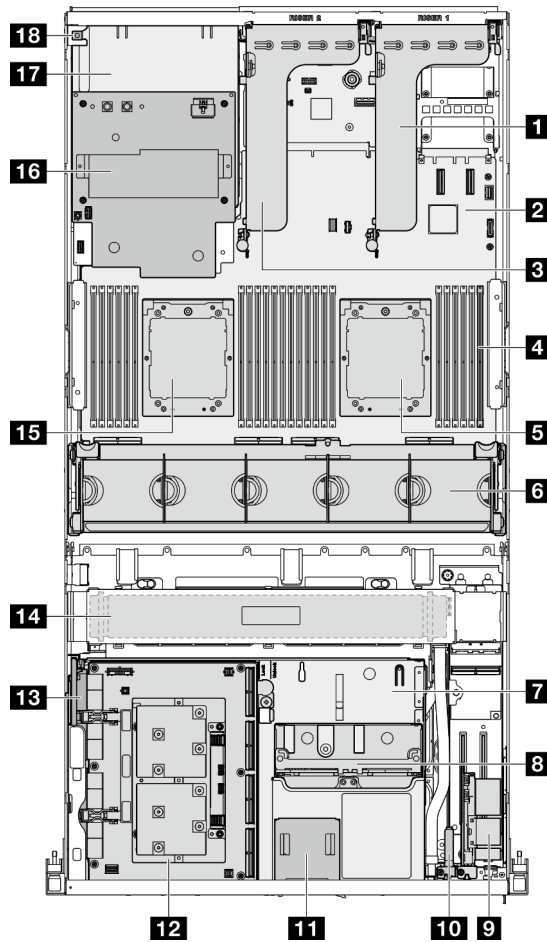


Figure 16. Top view with 4x 2.5-inch drives and CX-7 mezz board

Table 13. Components on the top view with 4x 2.5-inch drives and CX-7 mezz board

1 PCIe riser 1	10 Front I/O module
2 System board assembly	11 Front operator panel
3 PCIe riser 2	12 CX-7 mezz board
4 Memory modules	13 Interposer card
5 Processor 1	14 Radiator
6 Fan cage and fans	15 Processor 2
7 Front drive tray	16 SXM5 GPU power distribution board
8 2.5-inch drive cage assembly	17 Power supply bays
9 OSFP port card	18 Intrusion switch

Top view with 4x E3.S 1T drives and SXM5 PCIe switch board

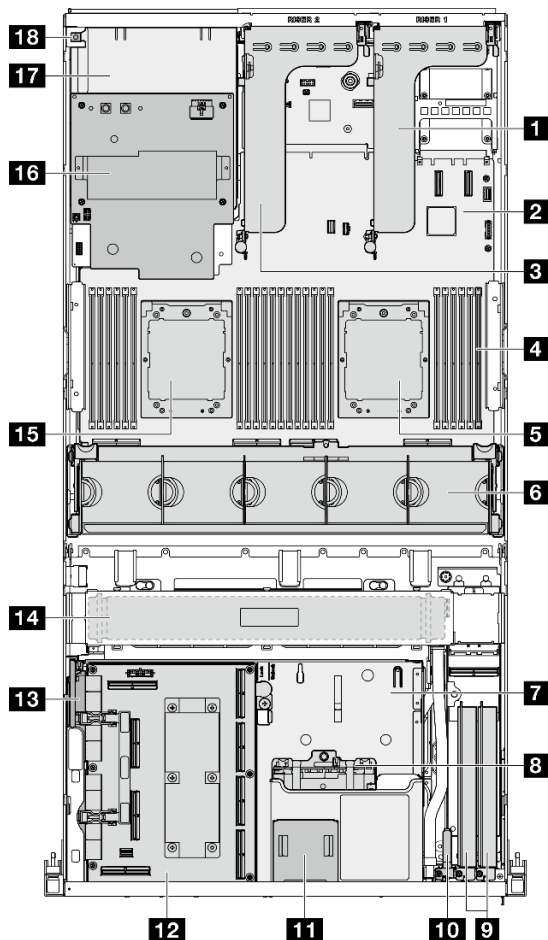


Figure 17. Top view with 4x E3.S 1T drives and SXM5 PCIe switch board

Table 14. Components on the top view with 4x E3.S 1T drives and SXM5 PCIe switch board

1 PCIe riser 1	10 Front I/O module
2 System board assembly	11 Front operator panel
3 PCIe riser 2	12 SXM5 PCIe switch board
4 Memory modules	13 Interposer card
5 Processor 1	14 Radiator
6 Fan cage and fans	15 Processor 2
7 Front drive tray	16 SXM5 GPU power distribution board
8 E3.S drive cage assembly	17 Power supply bays
9 Network adapters	18 Intrusion switch

Top view with 4x E3.S 1T drives and CX-7 mezz board

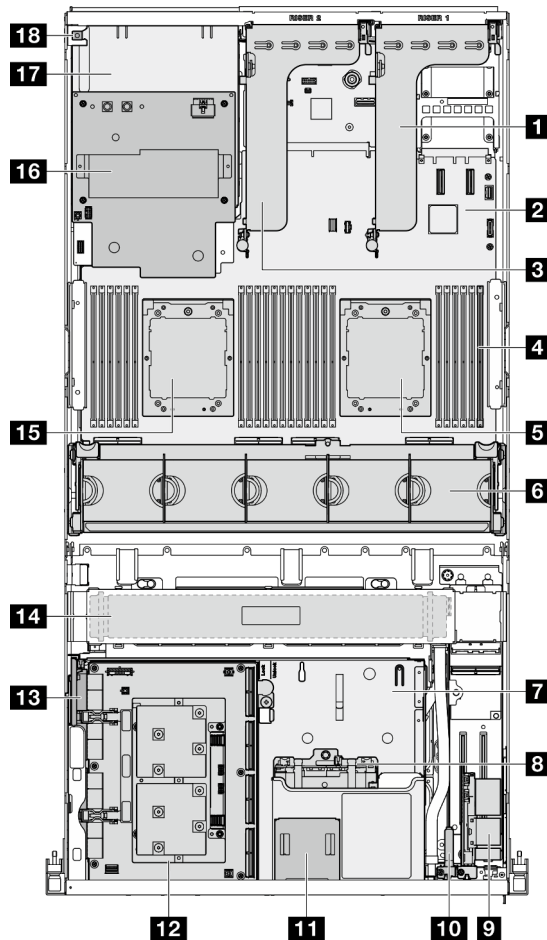


Figure 18. Top view with 4x E3.S 1T drives and CX-7 mezz board

Table 15. Components on the top view with 4x E3.S 1T drives and CX-7 mezz board

1 PCIe riser 1	10 Front I/O module
2 System board assembly	11 Front operator panel
3 PCIe riser 2	12 CX-7 mezz board
4 Memory modules	13 Interposer card
5 Processor 1	14 Radiator
6 Fan cage and fans	15 Processor 2
7 Front drive tray	16 SXM5 GPU power distribution board
8 E3.S drive cage assembly	17 Power supply bays
9 OSFP port card	18 Intrusion switch

Front I/O module

The front I/O module of the server provides controls, connectors, and LEDs. The front I/O module varies by model.

The following illustration shows the front I/O module for different server models. To locate the front I/O module, see [Chapter 2 “Server components” on page 17](#).

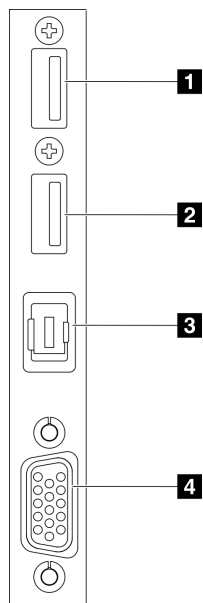


Figure 19. Front I/O module

Table 16. Components on the front I/O module

1 USB 2.0 connector with Lenovo XClarity Controller management	3 External diagnostics connector
2 USB 3.2 Gen 1 (5 Gbps) connector	4 VGA connector

1 USB 2.0 connector with Lenovo XClarity Controller management

Connect a USB 2.0 device, such as a mouse, keyboard, or other devices, to this connector.

Note: This is the only USB port that supports USB automation update of the firmware and RoT security module.

Connection to Lenovo XClarity Controller is primarily intended for users with a mobile device running the Lenovo XClarity Controller mobile application. When a mobile device is connected to this USB port, an Ethernet over USB connection is established between the mobile application running on the device and the Lenovo XClarity Controller.

Select **Network** in **BMC Configuration** to view or modify settings.

Four types of settings are available:

- **Host only mode**

In this mode, the USB port is always solely connected to the server.

- **BMC only mode**

In this mode, the USB port is always solely connected to Lenovo XClarity Controller.

- **Shared mode: owned by BMC**

In this mode, connection to the USB port is shared by the server and Lenovo XClarity Controller, while the port is switched to Lenovo XClarity Controller.

- **Shared mode: owned by host**

In this mode, connection to the USB port is shared by the server and Lenovo XClarity Controller, while the port is switched to the server.

2 USB 3.2 Gen 1 (5 Gbps) connector

The USB 3.2 Gen 1 (5 Gbps) connector can be used to attach a USB-compatible device, such as a USB keyboard, USB mouse, or USB storage device.

3 External diagnostics connector

Connect the external diagnostics handset here. See [“External diagnostics handset” on page 53](#) for more details.

4 VGA connector

Connect a monitor to this connector.

System-board-assembly layout

The illustrations in this section provide information about the connectors, switches, and jumpers that are available on the system board assembly.

The following illustration shows the layout of the system board assembly which contains the firmware and RoT security module, system I/O board, and processor board.

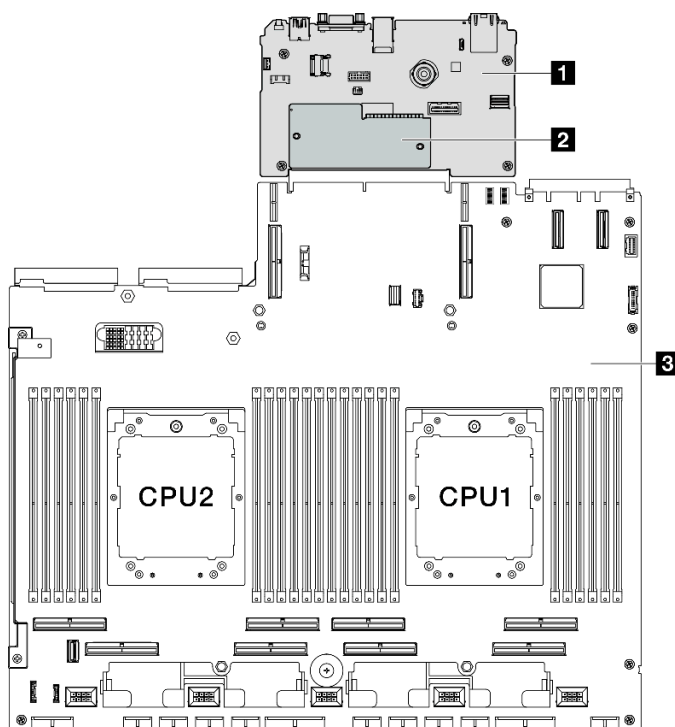


Figure 20. System-board-assembly layout

1 System I/O board	2 Firmware and RoT security module	3 Processor board
---------------------------	---	--------------------------

For more information about the LEDs that are available on the system board assembly, see [“System-board-assembly LEDs” on page 49](#).

System-board-assembly connectors

The following illustration shows the internal connectors on the system board assembly.

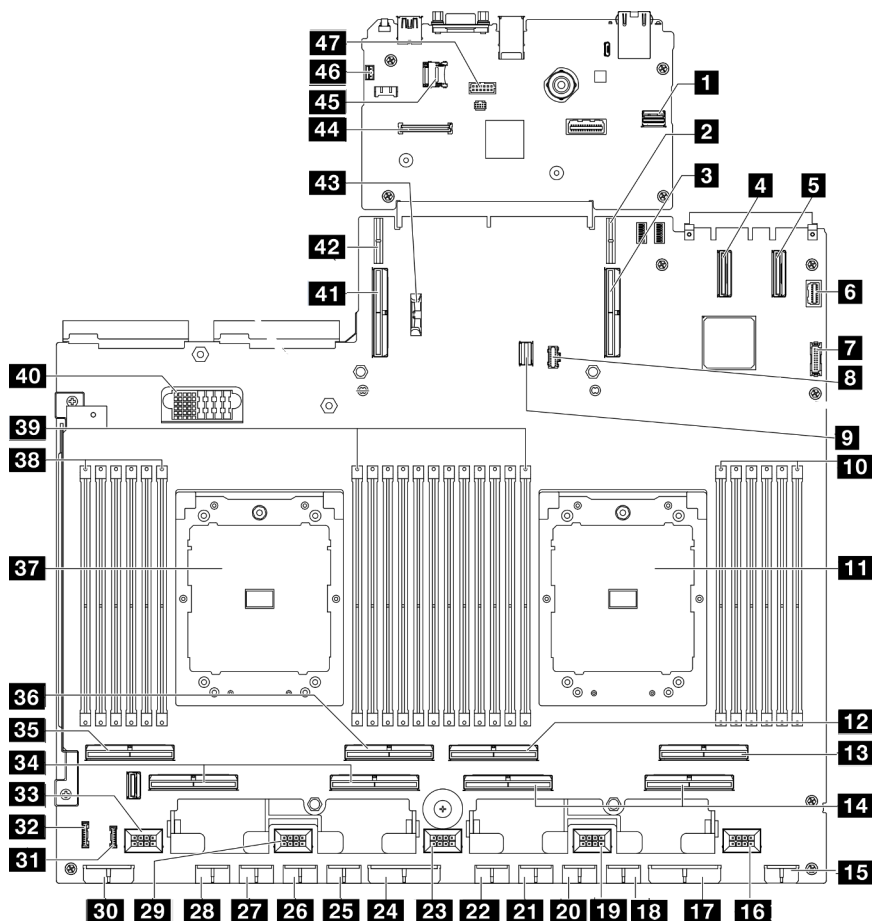


Figure 21. System-board-assembly connectors

Table 17. System-board-assembly connectors

1 Front SXM5 GPU management PCIe connector	25 GPU 5 power connector
2 PCIe riser 1 power connector	26 GPU 6 power connector
3 PCIe connector 9 / PCIe riser 1 connector	27 GPU 7 power connector
4 PCIe connector 12	28 GPU 8 power connector
5 PCIe connector 11	29 Fan 4 connector
6 Front VGA connector	30 Backplane power connector
7 Front USB connector	31 LCD connector
8 M.2 power connector	32 Front operator panel connector
9 M.2 signal connector	33 Fan 5 connector
10 Memory module slot 1-6 (right to left)	34 PCIe connector 5, 7 (right to left)

Table 17. System-board-assembly connectors (continued)

11 Processor 1	35 PCIe 8 connector
12 PCIe connector 4	36 PCIe 6 connector
13 PCIe connector 2	37 Processor 2
14 PCIe connector 1, 3 (right to left)	38 Memory module slot 19-24 (right to left)
15 Front riser power connector	39 Memory module slot 7-18 (right to left)
16 Fan 1 connector	40 Power distribution board connector
17 PCIe distribution board power connector	41 PCIe connector 10 / PCIe riser 2 connector
18 GPU 1 power connector	42 PCIe riser 2 power connector
19 Fan 2 connector	43 3V battery (CR2032)
20 GPU 2 power connector	44 Firmware and RoT security module connector
21 GPU 3 power connector	45 MicroSD socket
22 GPU 4 power connector	46 Intrusion switch connector
23 Fan 3 connector	47 Serial port connector
24 PCIe distribution board power connector	

System-board-assembly switches

The following illustration shows the location of the switches, jumpers, and buttons on the system board assembly.

Note: If there is a clear protective sticker on the top of the switch blocks, you must remove and discard it to access the switches.

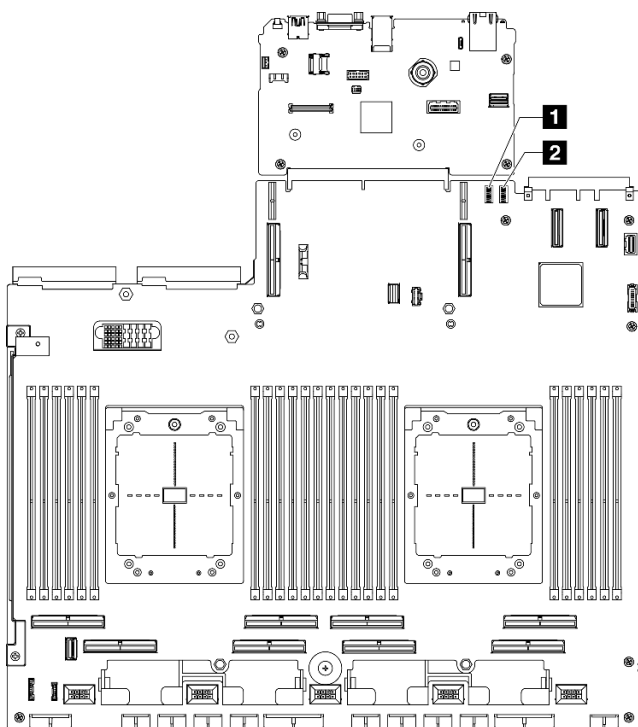


Figure 22. System-board-assembly switches

Table 18. System-board-assembly switches

1 Switch block 6 (SW6)	2 Switch block 5 (SW5)
-------------------------------	-------------------------------

Important:

- Before you change any switch settings or move any jumpers, turn off the server; then, disconnect all power cords and external cables. Review the following information:
 - https://pubs.lenovo.com/safety_documentation/
 - “Installation Guidelines”, “Handling static sensitive devices”, and “Power off the server ” in *User Guide* or *Hardware Maintenance Guide*.
- Any system-board-assembly switch or jumper block that is not shown in the illustrations in this document are reserved.

Switch block 6 (SW6)

The following table describes the functions of the switch block 6 (SW6) on the system board assembly.

Table 19. Switch block 6 (SW6) description

Switch number	Default position	Description
1	Off	Reserved
2	Off	Reserved
3	Off	Reserved
4	Off	Reserved
5	Off	Reserved
6	Off	Reserved

Table 19. Switch block 6 (SW6) description (continued)

Switch number	Default position	Description
7	Off	Reserved
8	Off	Reserved

Switch block 5 (SW5)

The following table describes the functions of the switch block 5 (SW5) on the system board assembly.

Table 20. Switch block 5 (SW5) description

Switch number	Default position	Description
1	Off	Changing this switch to the On position forces the XCC processor into reset.
2	Off	Changing this switch to the On position forces the real time clock to reset.
3	Off	Changing this switch to the On position provides one time Power-On password bypass.
4	Off	Changing this switch to the On position forces FPGA into reset.
5	Off	Reserved
6	Off	Reserved
7	Off	Reserved
8	Off	Reserved

System LEDs and diagnostics display

See the following section for information on available system LEDs and diagnostics display.

For more information, refer to [“Troubleshooting by system LEDs and diagnostics display” on page 43](#).

Troubleshooting by system LEDs and diagnostics display

See the following section for information on available system LEDs and diagnostics display.

Drive LEDs

This topic provides information on drive LEDs.

The following table describes the problems that are indicated by drive activity LED and drive status LED.

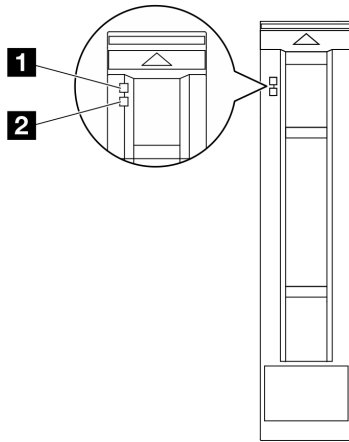


Figure 23. 2.5-inch drive LEDs

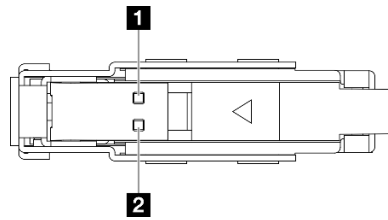


Figure 24. E1.S drive LEDs

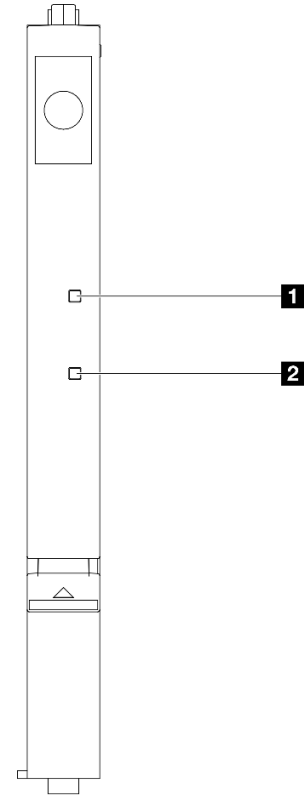


Figure 25. E3.S drive LEDs

Figure 26. Drive LEDs

Table 21. Drive LEDs

LED	Description
1 Drive activity LED (green)	Each hot-swap drive comes with an activity LED. When this LED is flashing, it indicates that the drive is in use.
2 Drive status LED (yellow)	The drive status LED indicates the following status: - The LED is lit: the drive has failed. - The LED is flashing slowly (once per second): the drive is being rebuilt. - The LED is flashing rapidly (three times per second): the drive is being identified.

Front operator panel LEDs

This section contains information about the front operator panel LEDs.

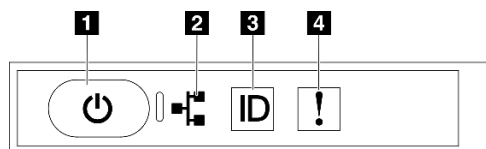


Figure 27. Front operator panel LEDs

Table 22. Front operator panel LEDs

1 Power button and power LED (green)	3 System ID button/LED (blue)
2 Network Activity LED (green)	4 System Error LED (yellow)

1 Power button and power LED (green)

Press this button to turn the server on and off manually. The states of the power LED are as follows:

Status	Color	Description
Off	None	Power is not present, or the power supply has failed.
Fast blinking (about four flashes per second)	Green	- The server is off, but the XClarity Controller is initializing, and the server is not ready to be powered on. - System-board-assembly power has failed.
Slow blinking (about one flash per second)	Green	The server is off and is ready to be powered on (standby state).
Solid on	Green	The server is on and running.

2 Network Activity LED (green)

The network activity LED helps you identify the network connectivity and activity.

Status	Color	Description
On	Green	The server is connected to a network.
Blinking	Green	The network is connected and active.
Off	None	The server is disconnected from the network.

3 System ID button/LED (blue)

Use this system ID button and the blue system ID LED to visually locate the server. Each time you press the system ID button, the state of the system ID LED changes. The LED can be changed to on, blinking, or off. You can also use the Lenovo XClarity Controller or a remote management program to change the state of the system ID LED to assist in visually locating the server among other servers.

4 System Error LED (yellow)

The system error LED helps you to determine if there are any system errors.

Status	Color	Description	Action
On	Yellow	An error has been detected on the server. Causes might include one or more of the following errors: • The temperature of the server reached the non-critical temperature threshold. • The voltage of the server reached the non-critical voltage threshold. • A fan has been detected to be running at low speed. • The power supply has a critical error. • The power supply is not connected to the power.	Check the Event log to determine the exact cause of the error.
Off	None	The server is off or the server is on and is working correctly.	None.

OSFP port card LEDs

This topic provides information on OSFP port card LEDs.

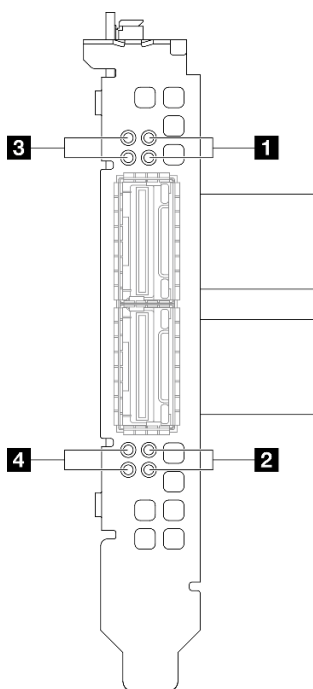


Figure 28. OSFP port card LEDs

Table 23. OSFP port card LEDs

LED	Description	Action
1/2	CX-7 mezz board link activity LED (green)	Use these green LEDs to distinguish the link activity of the four ConnectX-7 chip sets on the CX-7 mezz board. - For one-processor configuration: from top to bottom, these LEDs represent ConnectX-7 chip sets 0, 1, 2, and 3. - For two-processor configuration: from top to bottom, these LEDs represent ConnectX-7 chip sets 0, 1, 2, and 3. Off: The network is disconnected from switch. Blinking: The network link is connected and active. On: The network link is connected with no active traffic.
3/4	CX-7 mezz board link status LED (yellow)	Use these yellow LEDs to distinguish the link status of the four ConnectX-7 chip sets on the CX-7 mezz board. - For one-processor configuration: from top to bottom, these LEDs represent ConnectX-7 chip sets 0, 1, 2, and 3. - For two-processor configuration: from top to bottom, these LEDs represent ConnectX-7 chip sets 0, 1, 2, and 3. Off: The network is disconnected from switch. Blinking (1 Hz): The beacon command is used to locate the OSFP port card. Blinking (4 Hz): An error has occurred to the link. The error can be from I²C or overcurrent. On: A physical network link is detected. Note: Using command to light up locating LED is available when transceiver or cable is attached to the OSFP port.

Power supply LEDs

This topic provides information about various power supply LED status and corresponding action suggestions.

The following minimal configuration is required for the server to start:

- One processor in socket 1
- One DRAM memory module in slots 6
- Two power supply units in bay 1 and 2
- One boot drive, M.2, 2.5-inch, EDSFF E1.S 5.9mm drive, or E3.S 1T drive and RAID adapter if configured. (If OS is needed by debugging)
- Five system fans
- One OCP module with required cable (if network is required)

The following table describes the problems that are indicated by various combinations of the power-supply LEDs and the power-on LED and suggested actions to correct the detected problems.

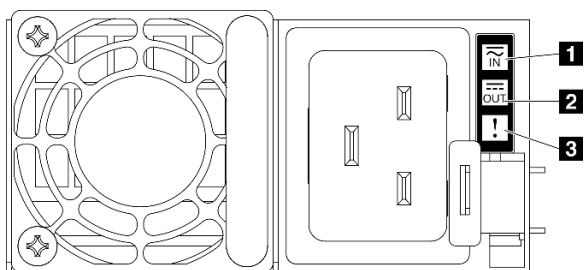


Figure 29. Power supply LEDs

Table 24. Power supply LEDs

LED	Description
1 Input status	The input status LED can be in one of the following states: - Off: The power supply is disconnected from the AC power source. - Green: The power supply is connected to the AC power source.
2 Output status	The output status LED can be in one of the following states: - Off: The server is powered off, or the power supply is not working properly. If the server is powered on but the output status LED is off, replace the power supply. - Green: The server is on and the power supply is working normally.
3 Fault LED	- Off: The power supply is working normally - Amber: The power supply may have failed. Dump the FFDC log from the system and contact Lenovo back end support team for PSU data log reviewing.

Rear system LEDs

This topic provides information on system LEDs on the rear of the server.

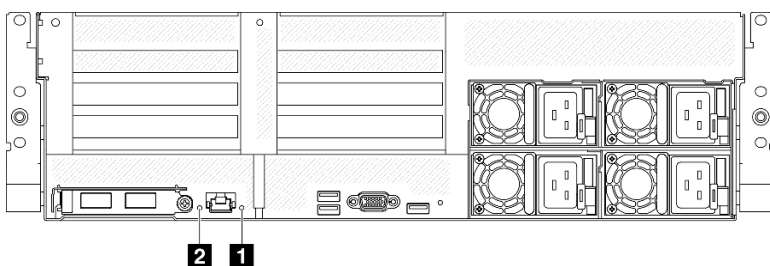


Figure 30. System LEDs on the rear view

Table 25. System LEDs on the rear view

LED	Description and actions
1 System error LED (yellow)	LED on: an error has occurred. Complete the following steps: 1. Check the identification LED and check log LED and follow the instructions. 2. Check the Lenovo XClarity Controller event log and the system error log for information about the error. 3. Save the log if necessary, and clear the log afterwards.
2 Identification LED (blue)	This LED is used as a presence detection LED. You can use Lenovo XClarity Controller to light this LED remotely. Use this LED to locate the server among other servers visually.

System-board-assembly LEDs

The following illustrations show the light-emitting diodes (LEDs) on the system board assembly.

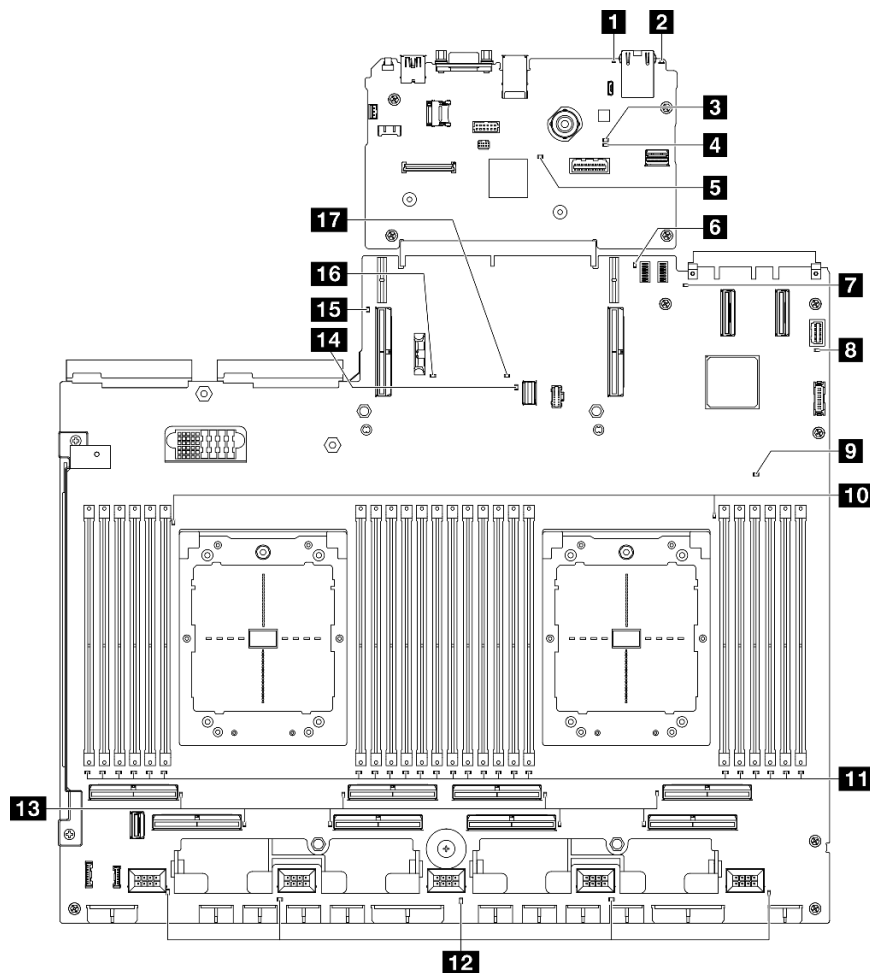


Figure 31. System-board-assembly LEDs

Table 26. System-board-assembly LEDs

LED	Description and actions
1 System error LED (yellow)	LED on: an error has occurred. Complete the following steps: 1. Check the identification LED and check log LED and follow the instructions. 2. Check the Lenovo XClarity Controller event log and the system error log for information about the error. 3. Save the log if necessary, and clear the log afterwards.
2 Identification LED (blue)	This LED is used as a presence detection LED. You can use Lenovo XClarity Controller to light this LED remotely. Use this LED to locate the server among other servers visually.
3 BMC status LED (green)	The states of the BMC status LED are as follows: • LED on: The BMC is alive. • LED off: The BMC is not ready or not alive. The LED is in this state when the server is first connected to AC power. It does not turn on until the SSP (Synchronous Serial Port) is ready.
4 BMC heartbeat LED (green)	The BMC heartbeat LED helps you identify the BMC status. • LED on: The BMC is not alive. • LED Blinking: The BMC is alive. • LED off: The BMC is not alive.
5 SSP heartbeat LED (green)	The states of the SSP (Synchronous Serial Port) heartbeat LED are as follows: • LED on: The SSP is synchronized and ready. • LED off: The serial port interface is not synchronized yet.
6 Rear PCIe riser 1 error LED (yellow)	LED on: an error has occurred to the rear PCIe riser 1.
7 OCP error LED (yellow)	LED on: an error has occurred to the OCP slot the LED represents. Complete the following steps: 1. Make sure the PCIe cable is connected to the appropriate downstream PCIe slot 15-16 or PCIe connector 1-12. 2. Make sure both ends of the cable are securely seated in the PCIe slots. 3. Replace the cable. 4. (trained technician only) replace the system board assembly. See "System board assembly replacement (trained technician only)" in <i>ThinkSystem SR675 V3 User Guide</i> or <i>ThinkSystem SR675 V3 Hardware Maintenance Guide</i>.

Table 26. System-board-assembly LEDs (continued)

LED	Description and actions
8 System power LED (green)	The states of the power LED are as follows: • Off: No power supply is properly installed, or the LED itself has failed. • Flashing rapidly (four times per second): The server is turned off and is not ready to be turned on. The power-control button is disabled. This will last approximately 5 to 10 seconds. • Flashing slowly (once per second): The server is turned off and is ready to be turned on. You can press the power-control button to turn on the server. • Lit: The server is turned on.
9 FPGA heartbeat LED (yellow)	This LED indicates power-on and power-off sequencing. • LED blinking: The system is functioning properly, and no action is necessary. • LED not blinking: (trained technician only) replace the system board assembly. See “System board assembly replacement (trained technician only)” in <i>ThinkSystem SR675 V3 User Guide</i> or <i>ThinkSystem SR675 V3 Hardware Maintenance Guide</i>.
10 Processor error LEDs (yellow)	LED on: an error has occurred to the processor the LED represents.
11 DIMM error LEDs (yellow)	LED on: an error has occurred to the DIMM the LED represents.
12 Fan error LEDs (yellow)	LED on: an error has occurred to the fan the LED represents.
13 PCIe connector error LEDs (yellow)	LED on: an error has occurred to the PCIe connector the LED represents. Complete the following steps: 1. Make sure the cable is connected to the appropriate downstream PCIe riser, drive backplane, or OCP adapter. 2. Make sure both ends of the cable are securely seated in the PCIe slots. 3. Replace the cable. 4. (trained technician only) replace the system board assembly. See “System board replacement (trained technician only)” in <i>ThinkSystem SR675 V3 User Guide</i> or <i>ThinkSystem SR675 V3 Hardware Maintenance Guide</i>.
14 M.2 error LED (yellow)	LED on: an error has occurred to the M.2.
15 Rear PCIe riser 2 error LED (yellow)	LED on: an error has occurred to the rear PCIe riser 2.
16 CMOS battery error LED (yellow)	The system CMOS battery is not installed or is not working.
17 System board assembly error LED (yellow)	LED on: an error has occurred to the system board assembly. Complete the following steps: 1. Check the Lenovo XClarity Controller event log and the system error log for information about the error. 2. Save the log if necessary, and clear the log afterward.

LEDs on the firmware and RoT security module

This topic provides information on LEDs of the ThinkSystem V3 Firmware and Root of Trust Security Module (firmware and RoT security module)

The following table describes the problems that are indicated by LEDs on the firmware and RoT security module.

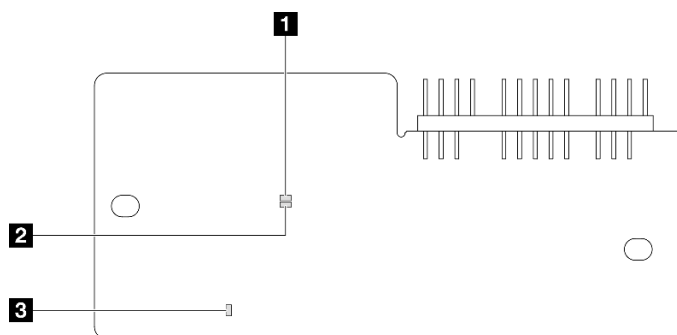


Figure 32. LEDs on the firmware and RoT security module

1 AP0 LED (Green)	2 AP1 LED (Green)	3 Fatal Error LED (Amber)
--------------------------	--------------------------	----------------------------------

Table 27. LEDs description

Scenario	AP0 LED	AP1 LED	Fatal Error LED	FPGA heart-beat LED	XCC heart-beat LED	Actions
RoT security module fatal firmware failure	Off	Off	On	N/A	N/A	Replace the firmware and RoT security module.
	Blink	N/A	On	N/A	N/A	Replace the firmware and RoT security module.
No system power (FPGA heartbeat LED off)	Off	Off	Off	Off	Off	If the AC power is on, but the system board assembly does not have power, then: 1. Check the power supply unit (PSU) or power interposer board (PIB) if any. If the PSU or PIB has any error, replace it. 2. If the PSU or PIB is good, do the following: a. Replace the system I/O board. b. Replace the processor board.
XCC firmware recoverable error	Blink	N/A	Off	N/A	N/A	Information only. No action is required.
XCC firmware is recovered from error	Blink	N/A	Off	N/A	N/A	Information only. No action is required.
UEFI firmware authentication failure	N/A	Blink	Off	N/A	N/A	Information only. No action is required.

Table 27. LEDs description (continued)

Scenario	AP0 LED	AP1 LED	Fatal Error LED	FPGA heart-beat LED	XCC heart-beat LED	Actions
UEFI firmware is recovered from authentication failure	N/A	On	Off	N/A	N/A	Information only. No action is required.
System is OK (FPGA heartbeat LED is On)	On	On	Off	On	Blink (1 Hz)	Information only. No action is required.

XCC system management port LEDs

This topic provides information on LEDs of XCC system management port.

The following table describes the problems that are indicated by LEDs on XCC system management port.

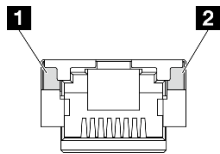


Figure 33. XCC system management port LEDs

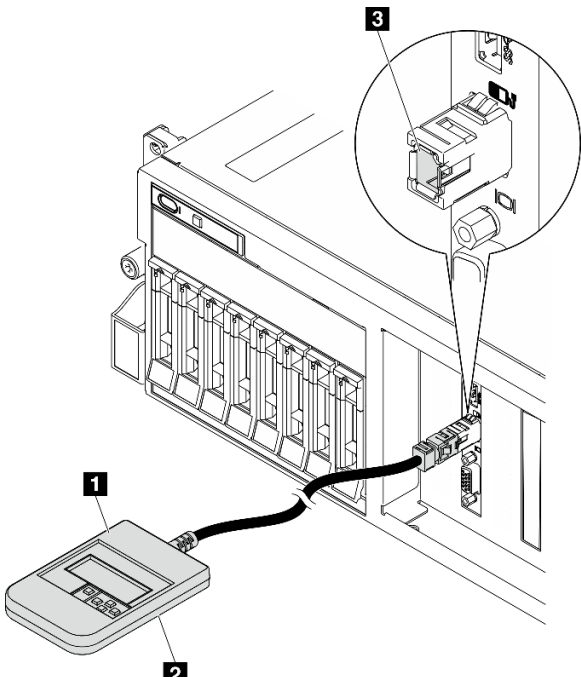
Table 28. XCC system management port LEDs

LED	Description
1 XCC system management port (1GB RJ-45) Ethernet port link LED	Use this green LED to distinguish the network connectivity status: - Off: The network link is disconnected. - Green: The network link is established.
2 XCC system management port (1 GB RJ-45) Ethernet port activity LED	Use this green LED to distinguish the network activity status: - Off: The server is disconnected from a LAN. - Green: The network is connected and active.

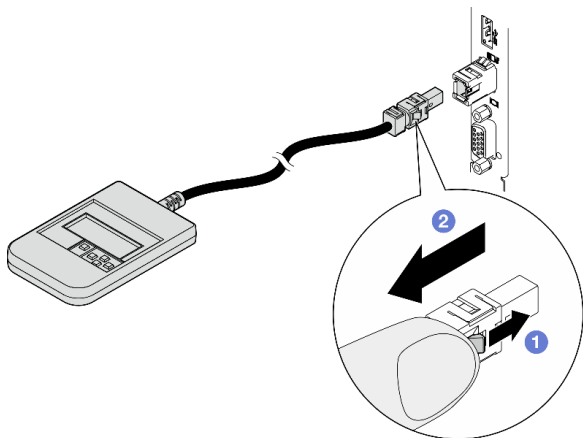
External diagnostics handset

The external diagnostics handset is an external device that is connected to the server with a cable, and it allows quick access to system information such as errors, system status, firmware, network, and health information.

Location of the external diagnostics handset

Location	Callouts
The external diagnostics handset is connected to the server with an external cable. 	1 External diagnostics handset
	2 Magnetic bottom With this component, the diagnostic handset can be attached to the top or side of the rack with hands spared for service tasks.
	3 External diagnostics connector This connector is located on the front of the server, and is used to connect an external diagnostics handset.

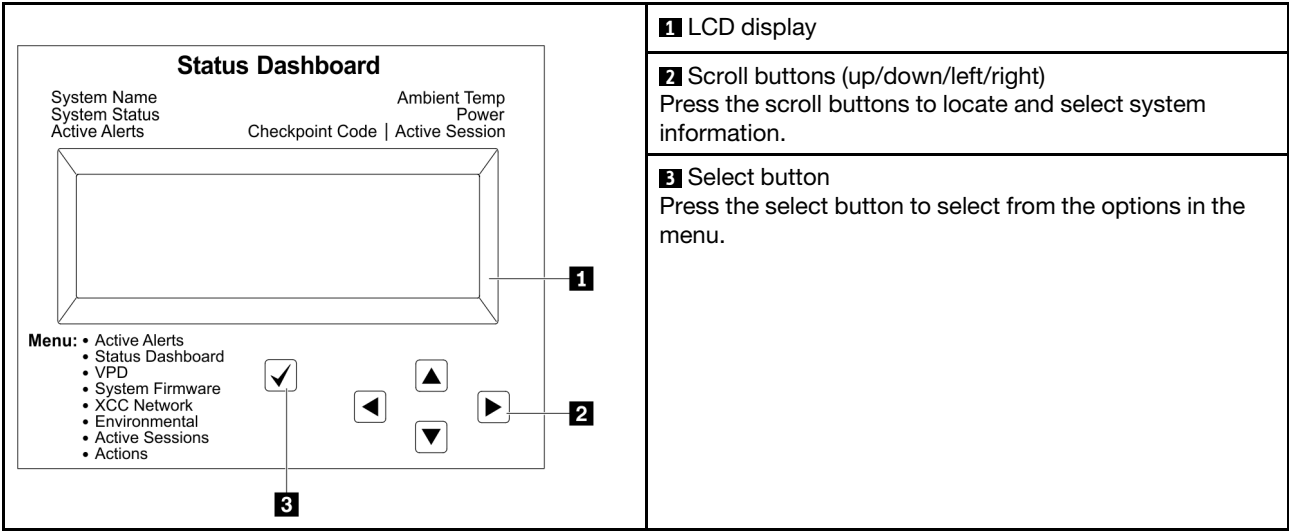
Note: When unplugging the external diagnostics handset, see the following instructions:



- 1** Press the plastic clip on the plug forward.
- 2** Hold the clip and remove the cable from the connector.

Display panel overview

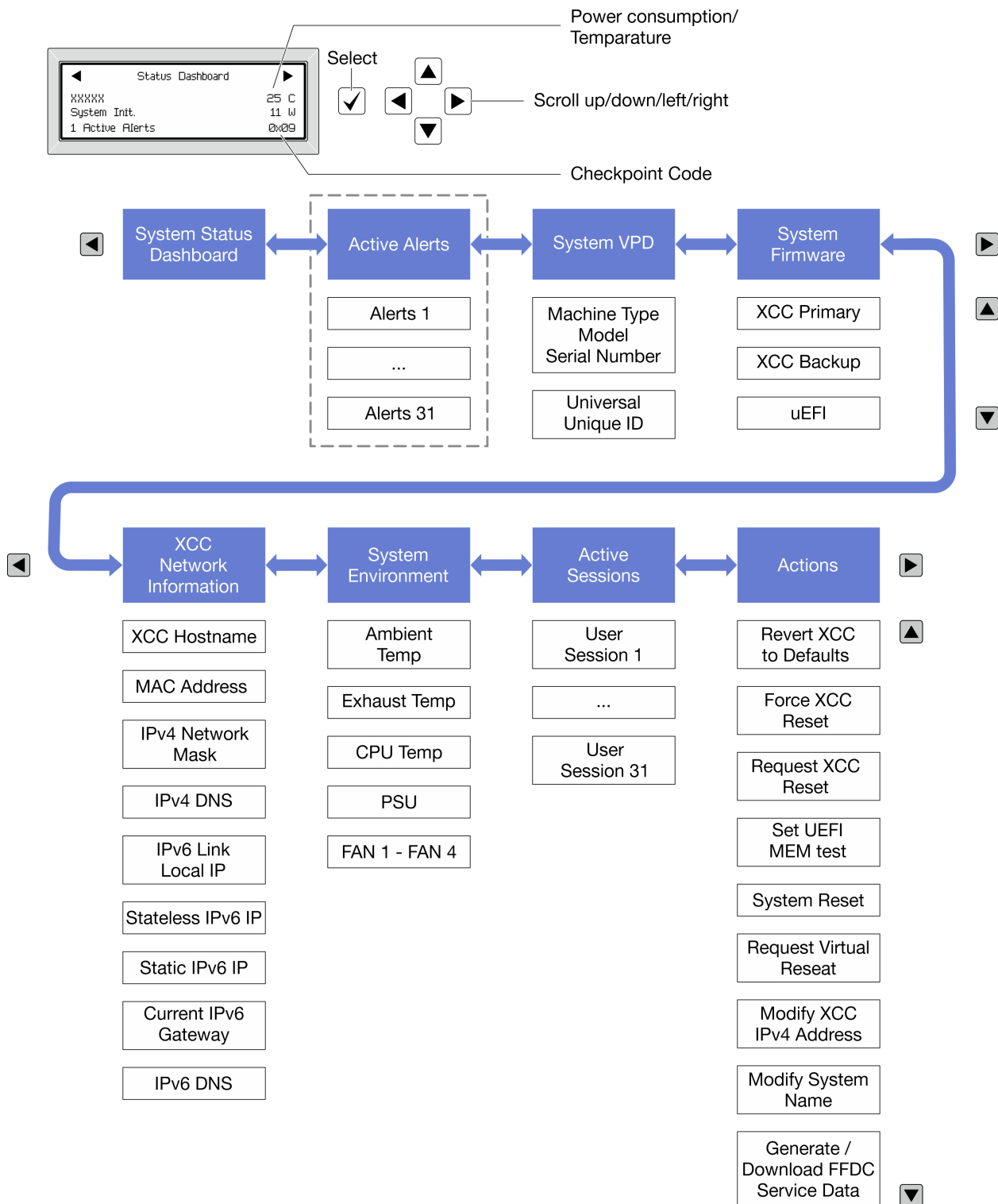
The diagnostics device consists of an LCD display and 5 navigation buttons.



Option flow diagram

The LCD panel displays various system information. Navigate through the options with the scroll keys.

Depending on the model, the options and entries on the LCD display might be different.

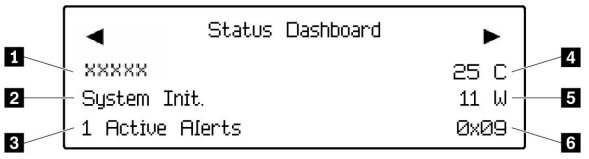


Full menu list

Following is the list of available options. Switch between an option and the subordinate information entries with the select button, and switch among options or information entries with the scroll buttons.

Depending on the model, the options and entries on the LCD display might be different.

Home Menu (System Status Dashboard)

Home Menu	Example
1 System name 2 System status 3 Active alert quantity 4 Temperature 5 Power consumption 6 Checkpoint code	 The screenshot shows a 'Status Dashboard' with the following information: 'xxxxxx' (1), 'System Init.' (2), '1 Active Alerts' (3), '25 C' (4), '11 W' (5), and '0x09' (6).

Active Alerts

Sub Menu	Example
Home screen: Active error quantity Note: The “Active Alerts” menu displays only the quantity of active errors. If no errors occur, the “Active Alerts” menu will not be available during navigation.	1 Active Alerts
Details screen: • Error message ID (Type: Error/Warning/Information) • Occurrence time • Possible sources of the error	Active Alerts: 1 Press ▼ to view alert details FQXSPPU009N(Error) 04/07/2020 02:37:39 PM CPU 1 Status: Configuration Error

System VPD Information

Sub Menu	Example
• Machine type and serial number • Universal Unique ID (UUID)	Machine Type: xxxx Serial Num: xxxxxx Universal Unique ID: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

System Firmware

Sub Menu	Example
XCC Primary - Firmware level (status) - Build ID - Version number - Release date	XCC Primary (Active) Build: DVI399T Version: 4.07 Date: 2020-04-07
XCC Backup - Firmware level (status) - Build ID - Version number - Release date	XCC Backup (Active) Build: D8BT05I Version: 1.00 Date: 2019-12-30
UEFI - Firmware level (status) - Build ID - Version number - Release date	UEFI (Inactive) Build: D0E101P Version: 1.00 Date: 2019-12-26

XCC Network Information

Sub Menu	Example
- XCC hostname - MAC address - IPv4 Network Mask - IPv4 DNS - IPv6 Link Local IP - Stateless IPv6 IP - Static IPv6 IP - Current IPv6 Gateway - IPv6 DNS Note: Only the MAC address that is currently in use is displayed (extension or shared).	XCC Network Information XCC Hostname: XCC-xxxx-SN MAC Address: xx:xx:xx:xx:xx:xx IPv4 IP: xx.xx.xx.xx IPv4 Network Mask: x.x.x.x IPv4 Default Gateway: x.x.x.x

System Environmental Information

Sub Menu	Example
• Ambient temperature • Exhaust temperature • CPU temperature • PSU status • Spinning speed of fans by RPM	Ambient Temp: 24 C Exhaust Temp: 30 C CPU1 Temp: 50 C PSU1: Vin= 213 w Inlet= 26 C FAN1 Front: 21000 RPM FAN2 Front: 21000 RPM FAN3 Front: 21000 RPM FAN4 Front: 21000 RPM

Active Sessions

Sub Menu	Example
Quantity of active sessions	Active User Sessions: 1

Actions

Sub Menu	Example
Several quick actions are available: • Revert XCC to Defaults • Force XCC Reset • Request XCC Reset • Set UEFI Memory Test • Request Virtual Reseat • Modify XCC Static IPv4 Address/Net mask/Gateway • Modify System Name • Generate/Download FFDC Service Data	Request XCC Reset? This will request the BMC to reboot itself. Hold √ for 3 seconds

Chapter 3. Parts list

Use the parts list to identify each of the components that are available for your server.

The ThinkSystem SR675 V3 parts list varies by model. Refer to the parts list specific to each model to identify the components.

- “The 4-DW GPU Model parts list” on page 61
- “The 8-DW GPU Model parts list” on page 64
- “The SXM5 GPU Model parts list” on page 67

The 4-DW GPU Model parts list

Identify each of the components that is available for your server with the parts list.

For more information about ordering parts:

1. Go to <http://datacentersupport.lenovo.com> and navigate to the support page for your server.
2. Click **Parts**.
3. Enter the serial number to view a listing of parts for your server.

It is highly recommended that you check the power summary data for your server using Lenovo Capacity Planner before purchasing any new parts.

Note: Depending on the model, your server might look slightly different from the illustration.

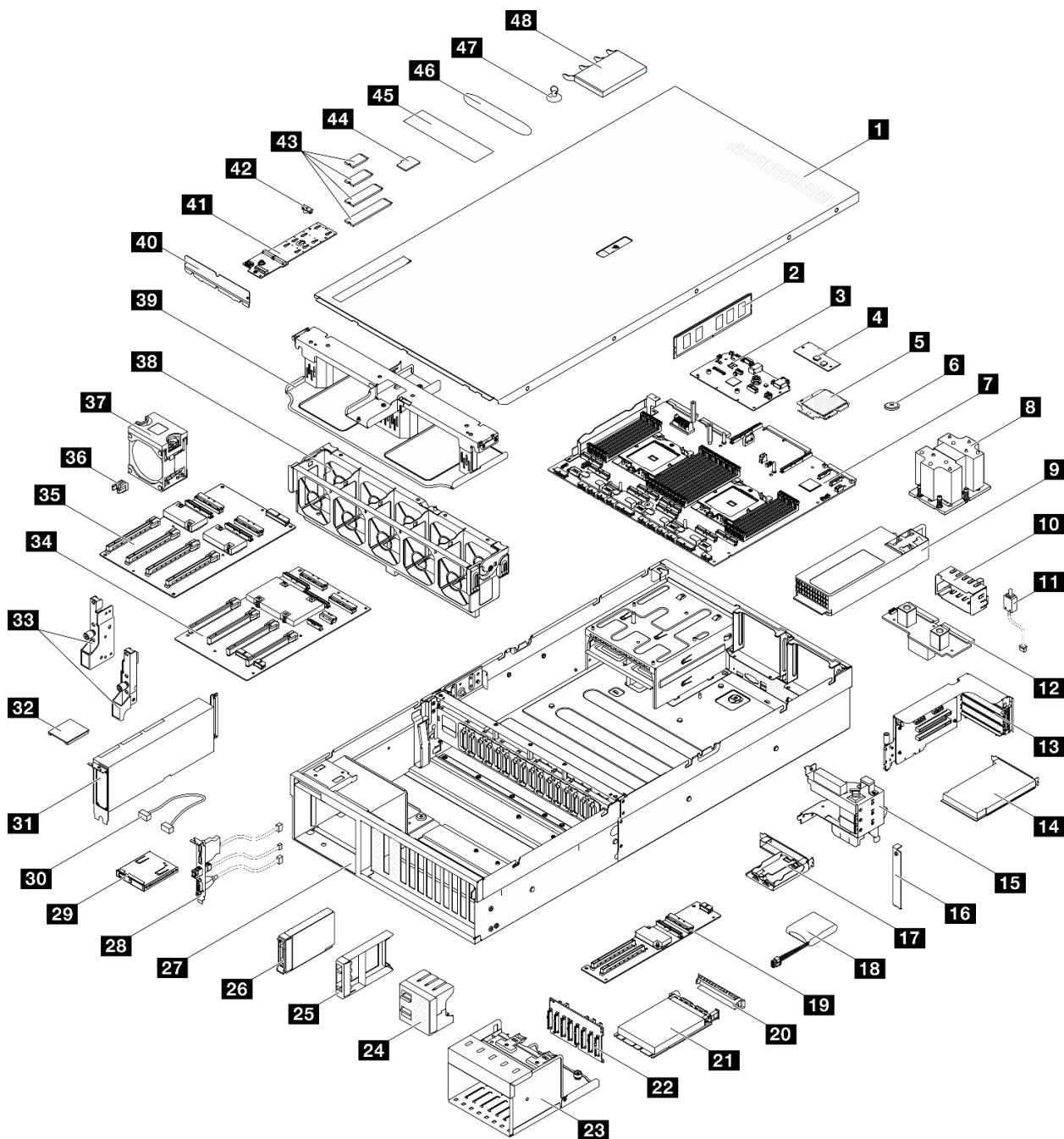


Figure 34. Server components of the 4-DW GPU Model

The parts listed in the following table are identified as one of the following:

- **T1:** Tier 1 customer replaceable unit (CRU). Replacement of Tier 1 CRUs is your responsibility. If Lenovo installs a Tier 1 CRU at your request with no service agreement, you will be charged for the installation.
- **T2:** Tier 2 customer replaceable unit (CRU). You may install a Tier 2 CRU yourself or request Lenovo to install it, at no additional charge, under the type of warranty service that is designated for your server.
- **F:** Field replaceable unit (FRU). FRUs must be installed only by trained service technicians.
- **C:** Consumable and Structural parts. Purchase and replacement of consumable and structural parts (components, such as a filler or bezel) is your responsibility. If Lenovo acquires or installs a structural component at your request, you will be charged for the service.

Table 29. Parts list of the 4-DW GPU Model

Index	Description	Type
For more information about ordering parts: 1. Go to http://datacentersupport.lenovo.com and navigate to the support page for your server. 2. Click Parts. 3. Enter the serial number to view a listing of parts for your server.		
1	Top cover	T1
2	Memory module	T1
3	System I/O board	F
4	Firmware and RoT security module	F
5	Processor	F
6	CMOS battery (CR2032)	C
7	Processor board	F
8	Processor heat sink	F
9	Power supply unit	T1
10	Power supply unit filler	C
11	Intrusion switch	T1
12	Power distribution board	T2
13	PCIe riser	T2
14	PCIe adapter	T1
15	PCIe adapter retention bracket	T1
16	PCIe riser air flow control	T1
17	Flash power module holder	C
18	Flash power module	T1
19	Front I/O expansion board	T2
20	OCP module filler	C
21	OCP module	T1
22	2.5-inch drive backplane	T1
23	2.5-inch drive cage	C
24	4x1 2.5-inch drive filler	C
25	1x1 2.5-inch drive filler	C
26	2.5-inch hot-swap drive	T1
27	Chassis	F
28	Front I/O module	T1
29	Front operator panel	T1
30	Cable	T1
31	GPU adapter	T1

Table 29. Parts list of the 4-DW GPU Model (continued)

Index	Description	Type
32	GPU adapter link bridge	T2
33	Mounting ears	T1
34	Switched GPU distribution board	F
35	Direct GPU distribution board	F
36	PCIe slot reinforcement	F
37	Fan	T1
38	Fan cage	T1
39	Air baffle	T1
40	Thermal air flow rear baffle	C
41	M.2 drive backplane	T1
42	M.2 drive retainer	C
43	M.2 drive	T1
44	MicroSD card	T1
45	Top cover air flow control	T1
46	Spudger	T1
47	Suction cup	C
48	NVIDIA bridge removal tool	T1

The 8-DW GPU Model parts list

Identify each of the components that is available for your server with the parts list.

For more information about ordering parts:

1. Go to <http://datacentersupport.lenovo.com> and navigate to the support page for your server.
2. Click **Parts**.
3. Enter the serial number to view a listing of parts for your server.

It is highly recommended that you check the power summary data for your server using Lenovo Capacity Planner before purchasing any new parts.

Note: Depending on the model, your server might look slightly different from the illustration.

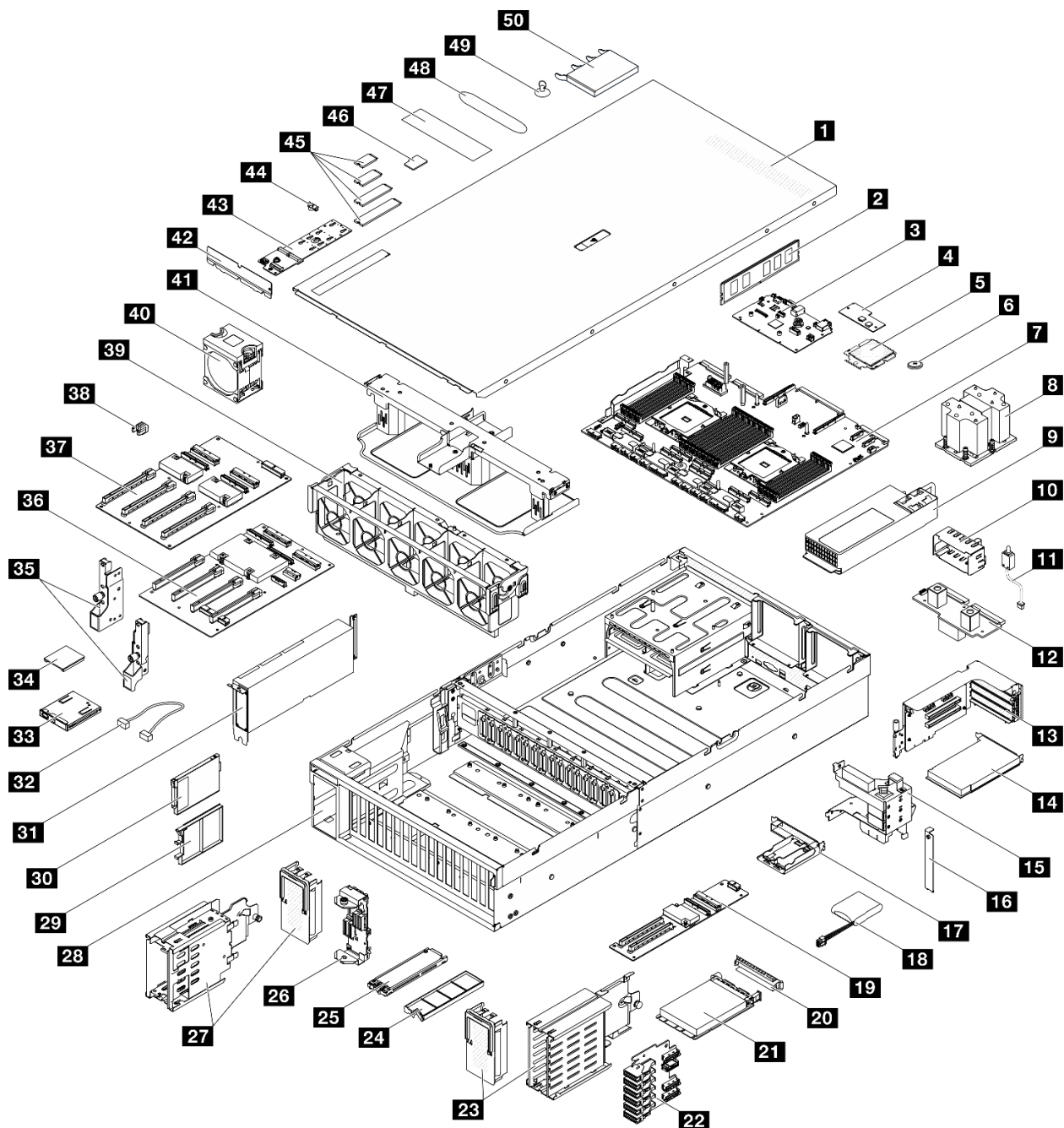


Figure 35. Server components of the 8-DW GPU Model

The parts listed in the following table are identified as one of the following:

- **T1:** Tier 1 customer replaceable unit (CRU). Replacement of Tier 1 CRUs is your responsibility. If Lenovo installs a Tier 1 CRU at your request with no service agreement, you will be charged for the installation.
- **T2:** Tier 2 customer replaceable unit (CRU). You may install a Tier 2 CRU yourself or request Lenovo to install it, at no additional charge, under the type of warranty service that is designated for your server.
- **F:** Field replaceable unit (FRU). FRUs must be installed only by trained service technicians.
- **C:** Consumable and Structural parts. Purchase and replacement of consumable and structural parts (components, such as a filler or bezel) is your responsibility. If Lenovo acquires or installs a structural component at your request, you will be charged for the service.

Table 30. Parts list of the 8-DW GPU Model

Index	Description	Type
For more information about ordering parts: 1. Go to http://datacentersupport.lenovo.com and navigate to the support page for your server. 2. Click Parts . 3. Enter the serial number to view a listing of parts for your server.		
1	Top cover	T1
2	Memory module	T1
3	System I/O board	F
4	Firmware and RoT security module	F
5	Processor	F
6	CMOS battery (CR2032)	C
7	Processor board	F
8	Processor heat sink	F
9	Power supply unit	T1
10	Power supply unit filler	C
11	Intrusion switch	T1
12	Power distribution board	T2
13	PCIe riser	T2
14	PCIe adapter	T1
15	PCIe adapter retention bracket	T1
16	PCIe riser air flow control	T1
17	Flash power module holder	C
18	Flash power module	T1
19	Front I/O expansion board	T2
20	OCP module filler	C
21	OCP module	T1
22	E1.S drive backplane	T1
23	E1.S drive cage (with cage cover)	T1
24	E1.S drive filler	C
25	E1.S hot-swap drive	T1
26	E3.S drive backplane module	T1
27	E3.S drive cage (with cage cover)	T1
28	Chassis	F
29	E3.S drive filler	C
30	E3.S hot-swap drive	T1
31	GPU adapter	T1

Table 30. Parts list of the 8-DW GPU Model (continued)

Index	Description	Type
32	Cable	T1
33	Front operator panel	T1
34	GPU adapter link bridge	T2
35	Mounting ears	T1
36	Switched GPU distribution board	F
37	Direct GPU distribution board	F
38	PCIe slot reinforcement	F
39	Fan cage	T1
40	Fan	T1
41	Air baffle	T1
42	Thermal air flow rear baffle	C
43	M.2 drive backplane	T1
44	M.2 drive retainer	C
45	M.2 drive	T1
46	MicroSD card	T1
47	Top cover air flow control	T1
48	Spudger	T1
49	Suction cup	C
50	NVIDIA bridge removal tool	T1

The SXM5 GPU Model parts list

Identify each of the components that is available for your server with the parts list.

For more information about ordering parts:

1. Go to <http://datacentersupport.lenovo.com> and navigate to the support page for your server.
2. Click **Parts**.
3. Enter the serial number to view a listing of parts for your server.

It is highly recommended that you check the power summary data for your server using Lenovo Capacity Planner before purchasing any new parts.

Note: Depending on the model, your server might look slightly different from the illustration.

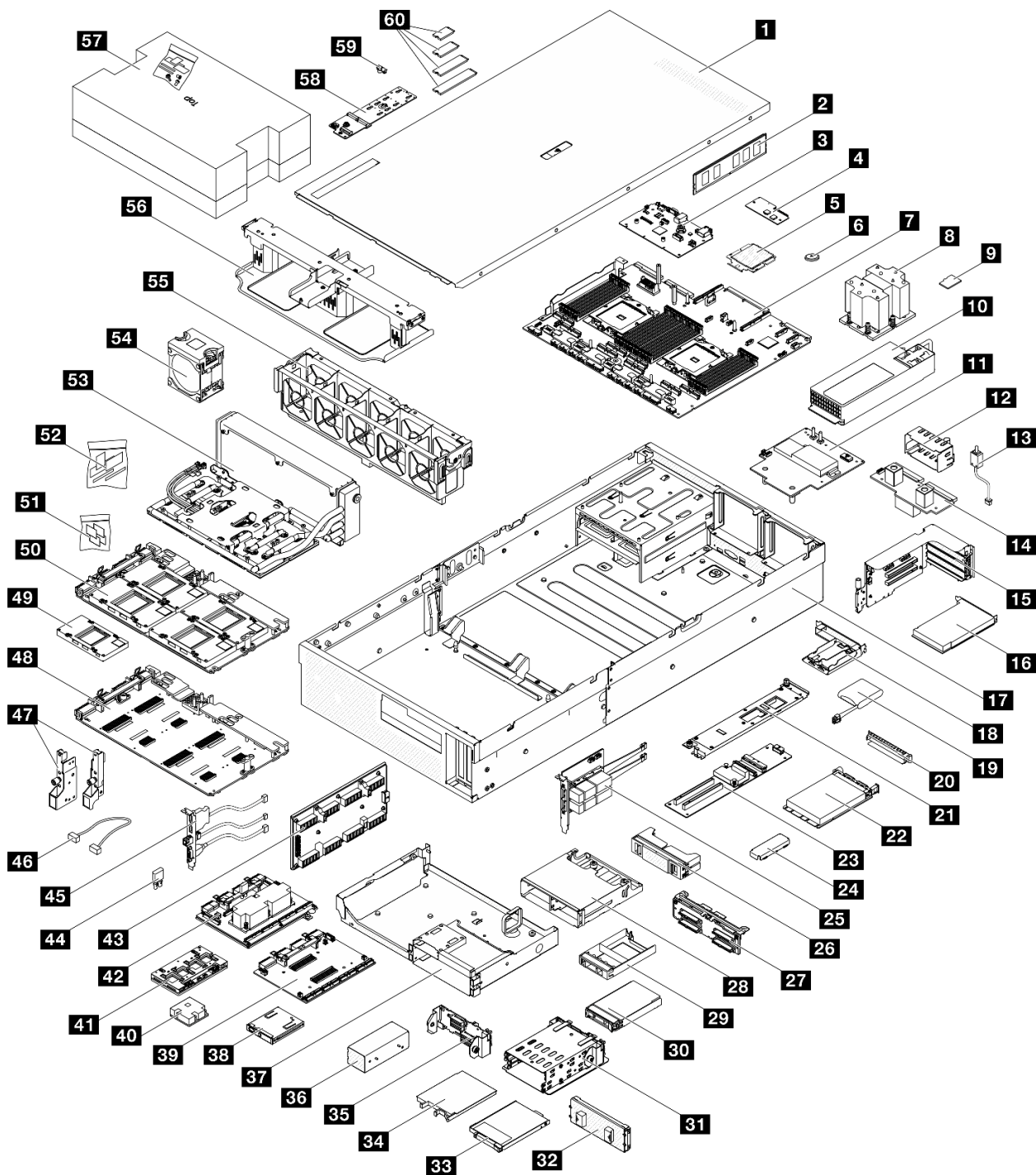


Figure 36. Server components of the SXM5 GPU Model

The parts listed in the following table are identified as one of the following:

- **T1:** Tier 1 customer replaceable unit (CRU). Replacement of Tier 1 CRUs is your responsibility. If Lenovo installs a Tier 1 CRU at your request with no service agreement, you will be charged for the installation.
- **T2:** Tier 2 customer replaceable unit (CRU). You may install a Tier 2 CRU yourself or request Lenovo to install it, at no additional charge, under the type of warranty service that is designated for your server.
- **F:** Field replaceable unit (FRU). FRUs must be installed only by trained service technicians.

- **C:** Consumable and Structural parts. Purchase and replacement of consumable and structural parts (components, such as a filler or bezel) is your responsibility. If Lenovo acquires or installs a structural component at your request, you will be charged for the service.

Table 31. Parts list of the SXM5 GPU Model

Index	Description	Type
For more information about ordering parts: 1. Go to http://datacentersupport.lenovo.com and navigate to the support page for your server. 2. Click Parts. 3. Enter the serial number to view a listing of parts for your server.		
1	Top cover	T1
2	Memory module	T1
3	System I/O board	F
4	Firmware and RoT security module	F
5	Processor	F
6	CMOS battery (CR2032)	C
7	Processor board	F
8	Processor heat sink	F
9	MicroSD card	T1
10	Power supply unit	T1
11	SXM5 GPU power distribution board	F
12	Power supply unit filler	C
13	Intrusion switch	T1
14	Power distribution board	T2
15	PCIe riser	T2
16	PCIe adapter	T1
17	Chassis	F
18	Flash power module holder	C
19	Flash power module	T1
20	OCP module filler	C
21	Front I/O expansion board carrier	T1
22	OCP module	T1
23	Front I/O expansion board	T2
24	SXM5 GPU board assembly retention bracket	T1
25	OSFP port card	T2
26	2x2 2.5-inch drive filler	C
27	2.5-inch drive backplane module	T1
28	2.5-inch drive cage	T1
29	1x1 2.5-inch drive filler	C

Table 31. Parts list of the SXM5 GPU Model (continued)

Index	Description	Type
30	2.5-inch hot-swap drive	T1
31	E3.S drive cage	T1
32	E3.S drive cage cover	T1
33	E3.S drive filler	C
34	E3.S hot-swap drive	T1
35	E3.S drive backplane module	T1
36	E3.S drive cage filler	C
37	Front drive tray	T1
38	Front operator panel	T1
39	CX-7 carrier board	F
40	CX-7 heat sink	F
41	CX-7 mezz board	F
42	SXM5 PCIe switch board	F
43	Interposer card	F
44	Rubber pad	F
45	Front I/O module	T1
46	Cable	T1
47	Mounting ears	T1
48	SXM5 GPU board	F
49	SXM5 GPU	F
50	SXM5 GPU board assembly	F
51	SXM5 PCM Kit	F
52	Putty pad kit	F
53	Lenovo Neptune liquid-to-air (L2A) hybrid cooling module	F
54	Fan	T1
55	Fan cage	T1
56	Air baffle	T1
57	SR675 V3 water loop service kit	F
58	M.2 drive backplane	T1
59	M.2 drive retainer	C
60	M.2 drive	T1

Power cords

Several power cords are available, depending on the country and region where the server is installed.

To view the power cords that are available for the server:

1. Go to:

<http://dcsc.lenovo.com/#/>

2. Click **Preconfigured Model** or **Configure to order**.

3. Enter the machine type and model for your server to display the configurator page.

4. Click **Power** → **Power Cables** to see all line cords.

Notes:

- For your safety, a power cord with a grounded attachment plug is provided to use with this product. To avoid electrical shock, always use the power cord and plug with a properly grounded outlet.
- Power cords for this product that are used in the United States and Canada are listed by Underwriter's Laboratories (UL) and certified by the Canadian Standards Association (CSA).
- For units intended to be operated at 115 volts: Use a UL-listed and CSA-certified cord set consisting of a minimum 18 AWG, Type SVT or SJT, three-conductor cord, a maximum of 15 feet in length and a parallel blade, grounding-type attachment plug rated 15 amperes, 125 volts.
- For units intended to be operated at 230 volts (U.S. use): Use a UL-listed and CSA-certified cord set consisting of a minimum 18 AWG, Type SVT or SJT, three-conductor cord, a maximum of 15 feet in length and a tandem blade, grounding-type attachment plug rated 15 amperes, 250 volts.
- For units intended to be operated at 230 volts (outside the U.S.): Use a cord set with a grounding-type attachment plug. The cord set should have the appropriate safety approvals for the country in which the equipment will be installed.
- Power cords for a specific country or region are usually available only in that country or region.

Chapter 4. Unboxing and setup

Information in this section assists you on unboxing and setting up the server. When unboxing the server, check if the items in the package are correct, and learn where to find information of server serial number and Lenovo XClarity Controller access. Make sure to follow the instructions in [“Server setup checklist” on page 75](#) when setting up the server.

Server package contents

When you receive your server, verify that the shipment contains everything that you expected to receive.

The server package includes the following items:

- Server
- Rail installation kit*. Installation guide is provided in the package.
- Material box, including items such as power cords*, accessory kit, and printed documents.

Notes:

- Some of the items listed are available on select models only.
- Items marked with asterisk(*) are optional.

If any item is missing or damaged, contact your place of purchase. Ensure that you retain your proof of purchase and packing material. They might be required to receive warranty service.

Identify the server and access the Lenovo XClarity Controller

This section contains instruction on how to identify your server and where to find the Lenovo XClarity Controller access information.

Identifying your server

When you contact Lenovo for help, the machine type, model, and serial number information help support technicians to identify your server and provide faster service.

The illustration below shows the location of the ID label which contains the model number, machine type, and serial number of the server. You can also add other system information labels to the front of the server in the customer label spaces.

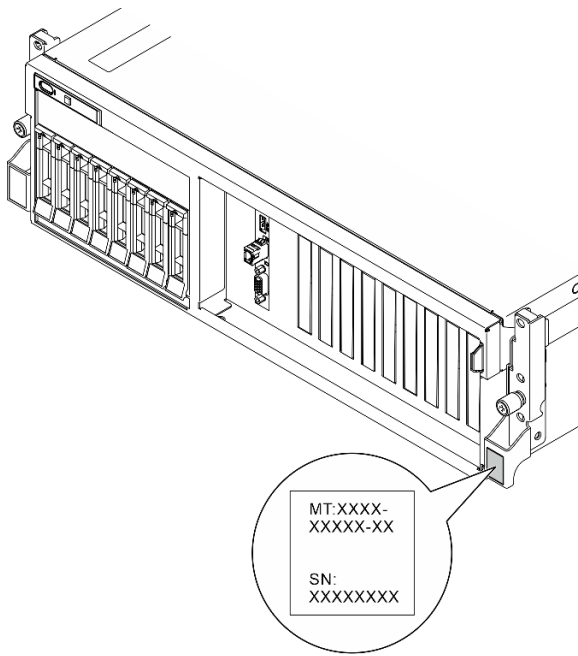


Figure 37. Location of the ID label

Lenovo XClarity Controller network access label

In addition, the Lenovo XClarity Controller network access label is attached to the pull-out information tab located near the upper right corner in the front of the chassis, with MAC address accessible with a pull.

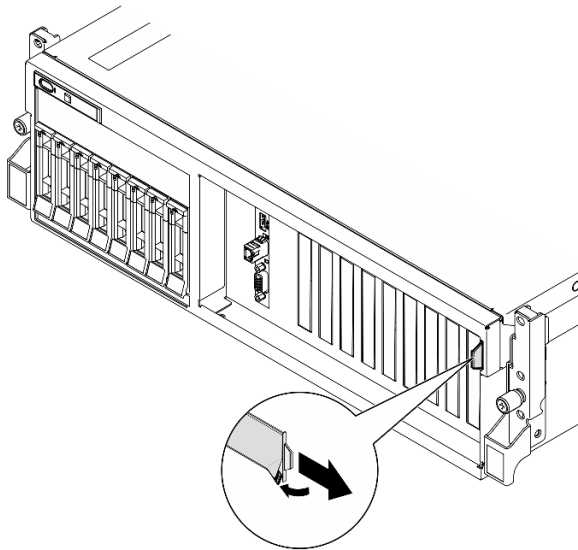


Figure 38. Lenovo XClarity Controller network access label on the pull-out information tab

Service Label and QR code

On the inside surface of the top cover, there is a quick response (QR) code that provides mobile access to service information. You can scan the QR code with a mobile device using a QR code reader application and get quick access to the Service Information web page. The Service Information web page provides additional information for parts installation and replacement videos, and error codes for solution support.

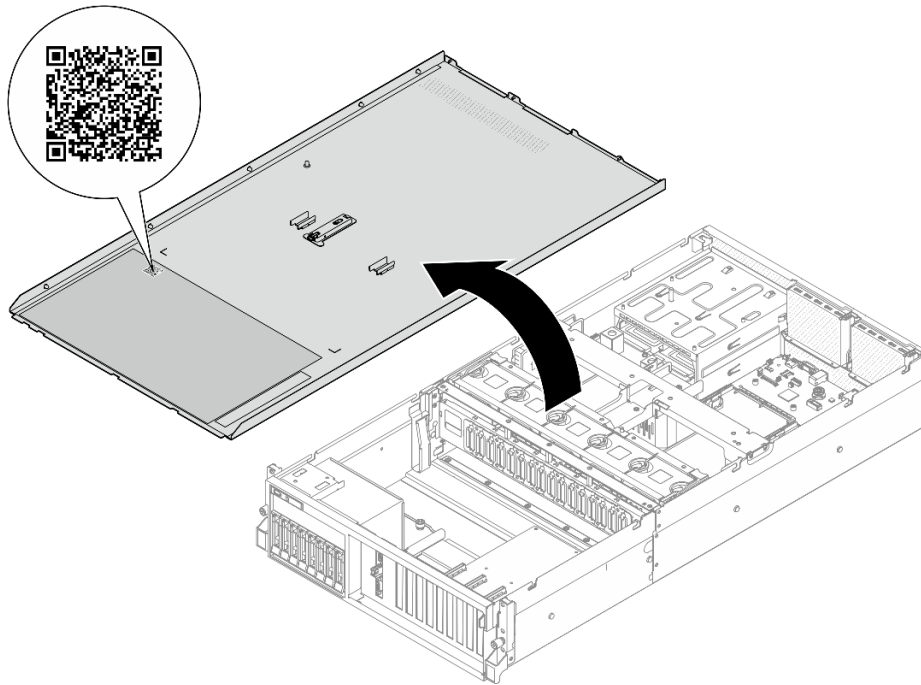


Figure 39. Service Label and QR code

Server setup checklist

Use the server setup checklist to ensure that you have performed all tasks that are required to set up your server.

The server setup procedure varies depending on the configuration of the server when it was delivered. In some cases, the server is fully configured and you just need to connect the server to the network and an AC power source, and then you can power on the server. In other cases, the server needs to have hardware options installed, requires hardware and firmware configuration, and requires an operating system to be installed.

The following steps describe the general procedure for setting up a server.

Setup the server hardware

Complete the following procedures to setup the server hardware.

1. Unpack the server package. See [“Server package contents” on page 73](#).
2. Install any required hardware or server options. See the related topics in “Hardware replacement procedures” in *User Guide* or *Hardware Maintenance Guide*.
3. If necessary, install the rail to a standard rack cabinet. Follow the instruction in *Rail Installation Guide* that comes with the rail installation kit.
4. If necessary, install the server into a standard rack cabinet. See “Install the server to rack” in *User Guide* or *Hardware Maintenance Guide*.
5. Connect all external cables to the server. See [Chapter 2 “Server components” on page 17](#) for connectors locations.

Typically, you will need to connect the following cables:

- Connect server to the power source
- Connect server to the data network

- Connect the server to the storage device
 - Connect the server to the management network
6. Power on the server.

Power button location and power LED are specified in:

- [Chapter 2 “Server components” on page 17](#)
- [“Troubleshooting by system LEDs and diagnostics display” on page 43](#)

The server can be turned on (power LED on) in any of the following ways:

- You can press the power button.
- The server can restart automatically after a power interruption.
- The server can respond to remote power-on requests sent to the Lenovo XClarity Controller.

Note: You can access the management processor interface to configure the system without powering on the server. Whenever the server is connected to power, the management processor interface is available. For details about accessing the management server processor, see “Opening and Using the XClarity Controller Web Interface” section in the XCC documentation compatible with your server at <https://pubs.lenovo.com/lxcc-overview/>.

7. Validate the server. Make sure that the power LED, Ethernet connector LED, and network LED are lit with green light, which means the server hardware was set up successfully.

See [“System LEDs and diagnostics display” on page 43](#) for more information on the LED indications.

Configure the system

Complete the following procedures to configure the system. For detailed instructions, refer to [Chapter 5 “System configuration” on page 77](#).

1. Set the network connection for the Lenovo XClarity Controller to the management network.
2. Update the firmware for the server, if necessary.
3. Configure the firmware for the server.

The following information is available for RAID configuration:

- <https://lenovopress.lenovo.com/lp0578-lenovo-raid-introduction>
- <https://lenovopress.lenovo.com/lp0579-lenovo-raid-management-tools-and-resources>

4. Install the operating system.
5. Back up the server configuration.
6. Install the applications and programs for which the server is intended to be used.

Chapter 5. System configuration

Complete these procedures to configure your system.

Set the network connection for the Lenovo XClarity Controller

Before you can access the Lenovo XClarity Controller over your network, you need to specify how Lenovo XClarity Controller will connect to the network. Depending on how the network connection is implemented, you might need to specify a static IP address as well.

The following methods are available to set the network connection for the Lenovo XClarity Controller if you are not using DHCP:

- If a monitor is attached to the server, you can use Lenovo XClarity Provisioning Manager to set the network connection.

Complete the following steps to connect the Lenovo XClarity Controller to the network using the Lenovo XClarity Provisioning Manager.

1. Start the server.
2. Press the key specified in the on-screen instructions to display the Lenovo XClarity Provisioning Manager interface. (For more information, see the “Startup” section in the LXPM documentation compatible with your server at <https://pubs.lenovo.com/lxpm-overview/>.)
3. Go to **LXPM → UEFI Setup → BMC Settings** to specify how the Lenovo XClarity Controller will connect to the network.
 - If you choose a static IP connection, make sure that you specify an IPv4 or IPv6 address that is available on the network.
 - If you choose a DHCP connection, make sure that the MAC address for the server has been configured in the DHCP server.
4. Click **OK** to apply the setting and wait for two to three minutes.
5. Use an IPv4 or IPv6 address to connect Lenovo XClarity Controller.

Important: The Lenovo XClarity Controller is set initially with a user name of USERID and password of PASSW0RD (with a zero, not the letter O). This default user setting has Supervisor access. It is required to change this user name and password during your initial configuration for enhanced security.

- If no monitor is attached to the server, you can set the network connection through the Lenovo XClarity Controller interface. Connect an Ethernet cable from your laptop to XCC system management port on your server. For the location of the XCC system management port, see [Chapter 2 “Server components” on page 17](#).

Note: Make sure that you modify the IP settings on the laptop so that it is on the same network as the server default settings.

The default IPv4 address and the IPv6 Link Local Address (LLA) is provided on the Lenovo XClarity Controller Network Access label that is affixed to the Pull Out Information Tab. See [“Identify the server and access the Lenovo XClarity Controller” on page 73](#).

- If you are using the Lenovo XClarity Administrator Mobile app from a mobile device, you can connect to the Lenovo XClarity Controller through the Lenovo XClarity Controller USB connector on the server. For the location of the Lenovo XClarity Controller USB connector, see [Chapter 2 “Server components” on page 17](#).

Note: The Lenovo XClarity Controller USB connector mode must be set to manage the Lenovo XClarity Controller (instead of normal USB mode). To switch from normal mode to Lenovo XClarity Controller management mode, hold the ID button on the server for at least 3 seconds until its LED flashes slowly (once every couple of seconds). See [Chapter 2 “Server components” on page 17](#) for the location of the ID button.

To connect using the Lenovo XClarity Administrator Mobile app:

1. Connect the USB cable of your mobile device to the Lenovo XClarity Controller USB connector on the server.
2. On your mobile device, enable USB tethering.
3. On your mobile device, launch the Lenovo XClarity Administrator mobile app.
4. If automatic discovery is disabled, click **Discovery** on the USB Discovery page to connect to the Lenovo XClarity Controller.

For more information about using the Lenovo XClarity Administrator Mobile app, see:

https://pubs.lenovo.com/lxca/lxca_usemobileapp

Set USB port for Lenovo XClarity Controller connection

Before you can access the Lenovo XClarity Controller through the USB port, you need to configure the USB port for Lenovo XClarity Controller connection.

Server support

To see if your server supports accessing Lenovo XClarity Controller through the USB port, check one of the following:

- Refer to [Chapter 2 “Server components” on page 17](#).



- If there is a wrench icon on the USB port of your server, you can set the management USB port to connect to Lenovo XClarity Controller. It is also the only USB port that supports USB automation update of the system I/O board (or firmware and RoT security module).

Setting the USB port for Lenovo XClarity Controller connection

You can switch the USB port between normal and Lenovo XClarity Controller management operation by performing one of the following steps.

- Hold the ID button for at least 3 seconds until its LED flashes slowly (once every couple of seconds). See [Chapter 2 “Server components” on page 17](#) for ID button location.
- From the Lenovo XClarity Controller management controller CLI, run the `usbfp` command. For information about using the Lenovo XClarity Controller CLI, see the “Command-line interface” section in the XCC documentation compatible with your server at <https://pubs.lenovo.com/lxcc-overview/>.
- From the Lenovo XClarity Controller management controller web interface, click **BMC Configuration → Network → USB Management Port Assignment**. For information about Lenovo XClarity Controller web interface functions, see the “Description of XClarity Controller functions on web interface” section in the XCC documentation compatible with your server at <https://pubs.lenovo.com/lxcc-overview/>.

Checking USB port current setting

You can also check the current setting of the USB port using the Lenovo XClarity Controller management controller CLI (`usbfp` command) or the Lenovo XClarity Controller management controller web interface (**BMC Configuration → Network → USB Management Port Assignment**). See the “Command-line

interface” and “Description of XClarity Controller functions on web interface” sections in the XCC documentation compatible with your server at <https://pubs.lenovo.com/lxcc-overview/>.

Update the firmware

Several options are available to update the firmware for the server.

You can use the tools listed here to update the most current firmware for your server and the devices that are installed in the server.

- Best practices related to updating firmware is available at the following site:
 - <https://lenovopress.lenovo.com/lp0656-lenovo-thinksystem-firmware-and-driver-update-best-practices>
- The latest firmware can be found at the following site:
 - <https://datacentersupport.lenovo.com/tw/en/products/servers/thinksystem/sr675v3/7d9q/downloads/driver-list/>
- You can subscribe to product notification to stay up to date on firmware updates:
 - <https://datacentersupport.lenovo.com/solutions/ht509500>

Update Bundles (Service Packs)

Lenovo typically releases firmware in bundles called Update Bundles (Service Packs). To ensure that all of the firmware updates are compatible, you should update all firmware at the same time. If you are updating firmware for both the Lenovo XClarity Controller and UEFI, update the firmware for Lenovo XClarity Controller first.

Update method terminology

- **In-band update.** The installation or update is performed using a tool or application within an operating system that is executing on the server’s core CPU.
- **Out-of-band update.** The installation or update is performed by the Lenovo XClarity Controller collecting the update and then directing the update to the target subsystem or device. Out-of-band updates have no dependency on an operating system executing on the core CPU. However, most out-of-band operations do require the server to be in the S0 (Working) power state.
- **On-Target update.** The installation or update is initiated from an installed operating system executing on the target server itself.
- **Off-Target update.** The installation or update is initiated from a computing device interacting directly with the server’s Lenovo XClarity Controller.
- **Update Bundles (Service Packs).** Update Bundles (Service Packs) are bundled updates designed and tested to provide the interdependent level of functionality, performance, and compatibility. Update Bundles (Service Packs) are server machine-type specific and are built (with firmware and device driver updates) to support specific Windows Server, Red Hat Enterprise Linux (RHEL) and SUSE Linux Enterprise Server (SLES) operating system distributions. Machine-type-specific firmware-only Update Bundles (Service Packs) are also available.

Firmware updating tools

See the following table to determine the best Lenovo tool to use for installing and setting up the firmware:

Tool	Update Methods Supported	Core System Firmware Updates	I/O Devices Firmware Updates	Drive Firmware Updates	Graphical user interface	Command line interface	Supports Update Bundles (Service Packs)
Lenovo XClarity Provisioning Manager (LXPM)	In-band ² On-Target	✓			✓		
Lenovo XClarity Controller (XCC)	In-band ⁴ Out-of-band Off-Target	✓	Selected I/O devices	✓ ³	✓		✓
Lenovo XClarity Essentials OneCLI (OneCLI)	In-band Out-of-band On-Target Off-Target	✓	All I/O devices	✓ ³		✓	✓
Lenovo XClarity Essentials UpdateXpress (LXCE)	In-band Out-of-band On-Target Off-Target	✓	All I/O devices		✓		✓
Lenovo XClarity Essentials Bootable Media Creator (BoMC)	In-band Out-of-band Off-Target	✓	All I/O devices		✓ (BoMC application)	✓ (BoMC application)	✓
Lenovo XClarity Administrator (LXCA)	In-band ¹ Out-of-band ² Off-Target	✓	All I/O devices	✓	✓		✓
Lenovo XClarity Integrator (LXCI) for VMware vCenter	Out-of-band Off-Target	✓	Selected I/O devices		✓		

Tool	Update Methods Supported	Core System Firmware Updates	I/O Devices Firmware Updates	Drive Firmware Updates	Graphical user interface	Command line interface	Supports Update Bundles (Service Packs)
Lenovo XClarity Integrator (LXCI) for Microsoft Windows Admin Center	In-band Out-of-band On-Target Off-Target	✓	All I/O devices		✓		✓

Notes:

1. For I/O firmware updates.
2. For BMC and UEFI firmware updates.
3. Drive firmware update is only supported by the tools and methods below:
 - XCC Bare Metal Update (BMU): In-band, and requires system reboot.
 - Lenovo XClarity Essentials OneCLI:
 - For OneCLI version earlier than 5.0.0:
 - For drives supported by ThinkSystem V2 and V3 products (legacy drives): In-band, and does not require system reboot.
 - For drives supported only by ThinkSystem V3 products (new drives): Staging to XCC and complete the update with XCC BMU (In-band, and requires system reboot.).
 - For OneCLI 5.0.0 and later versions: In-band, and does not require system reboot.
4. Bare Metal Update (BMU) only.

- **Lenovo XClarity Provisioning Manager**

From Lenovo XClarity Provisioning Manager, you can update the Lenovo XClarity Controller firmware, the UEFI firmware, and the Lenovo XClarity Provisioning Manager software.

Note: By default, the Lenovo XClarity Provisioning Manager Graphical User Interface is displayed when you start the server and press the key specified in the on-screen instructions. If you have changed that default to be the text-based system setup, you can bring up the Graphical User Interface from the text-based system setup interface.

For additional information about using Lenovo XClarity Provisioning Manager to update firmware, see:

“Firmware Update” section in the LXPM documentation compatible with your server at <https://pubs.lenovo.com/lxpm-overview/>

- **Lenovo XClarity Controller**

If you need to install a specific update, you can use the Lenovo XClarity Controller interface for a specific server.

Notes:

- To perform an in-band update through Windows or Linux, the operating system driver must be installed and the Ethernet-over-USB (sometimes called LAN over USB) interface must be enabled.

For additional information about configuring Ethernet over USB, see:

“Configuring Ethernet over USB” section in the XCC documentation version compatible with your server at <https://pubs.lenovo.com/lxcc-overview/>

- If you update firmware through the Lenovo XClarity Controller, make sure that you have downloaded and installed the latest device drivers for the operating system that is running on the server.

For additional information about using Lenovo XClarity Controller to update firmware, see:

“Updating Server Firmware” section in the XCC documentation compatible with your server at <https://pubs.lenovo.com/lxcc-overview/>

- **Lenovo XClarity Essentials OneCLI**

Lenovo XClarity Essentials OneCLI is a collection of command line applications that can be used to manage Lenovo servers. Its update application can be used to update firmware and device drivers for your servers. The update can be performed within the host operating system of the server (in-band) or remotely through the BMC of the server (out-of-band).

For additional information about using Lenovo XClarity Essentials OneCLI to update firmware, see:

https://pubs.lenovo.com/lxce-onecli/onecli_c_update

- **Lenovo XClarity Essentials UpdateXpress**

Lenovo XClarity Essentials UpdateXpress provides most of OneCLI update functions through a graphical user interface (GUI). It can be used to acquire and deploy Update Bundles (Service Packs) update packages and individual updates. Update Bundles (Service Packs) contain firmware and device driver updates for Microsoft Windows and for Linux.

You can obtain Lenovo XClarity Essentials UpdateXpress from the following location:

<https://datacentersupport.lenovo.com/solutions/Invo-xpress>

- **Lenovo XClarity Essentials Bootable Media Creator**

You can use Lenovo XClarity Essentials Bootable Media Creator to create bootable media that is suitable for firmware updates, VPD updates, inventory and FFDC collection, advanced system configuration, FoD Keys management, secure erase, RAID configuration, and diagnostics on supported servers.

You can obtain Lenovo XClarity Essentials BoMC from the following location:

<https://datacentersupport.lenovo.com/solutions/Invo-bomc>

- **Lenovo XClarity Administrator**

If you are managing multiple servers using the Lenovo XClarity Administrator, you can update firmware for all managed servers through that interface. Firmware management is simplified by assigning firmware-compliance policies to managed endpoints. When you create and assign a compliance policy to managed endpoints, Lenovo XClarity Administrator monitors changes to the inventory for those endpoints and flags any endpoints that are out of compliance.

For additional information about using Lenovo XClarity Administrator to update firmware, see:

https://pubs.lenovo.com/lxca/update_fw

- **Lenovo XClarity Integrator offerings**

Lenovo XClarity Integrator offerings can integrate management features of Lenovo XClarity Administrator and your server with software used in a certain deployment infrastructure, such as VMware vCenter, Microsoft Admin Center, or Microsoft System Center.

For additional information about using Lenovo XClarity Integrator to update firmware, see:

<https://pubs.lenovo.com/lxci-overview/>

Configure the firmware

Several options are available to install and set up the firmware for the server.

Note: UEFI **Legacy Mode** is not supported by ThinkSystem V4 products.

- **Lenovo XClarity Provisioning Manager (LXPM)**

From Lenovo XClarity Provisioning Manager, you can configure the UEFI settings for your server.

Notes: The Lenovo XClarity Provisioning Manager provides a Graphical User Interface to configure a server. The text-based interface to system configuration (the Setup Utility) is also available. From Lenovo XClarity Provisioning Manager, you can choose to restart the server and access the text-based interface. In addition, you can choose to make the text-based interface the default interface that is displayed when you start LXPM. To do this, go to **Lenovo XClarity Provisioning Manager → UEFI Setup → System Settings → <F1>Start Control → Text Setup**. To start the server with Graphic User Interface, select **Auto** or **Tool Suite**.

See the following documentations for more information:

- Search for the LXPM documentation version compatible with your server at <https://pubs.lenovo.com/lxpm-overview/>
- *UEFI User Guide* at <https://pubs.lenovo.com/uefi-overview/>

- **Lenovo XClarity Essentials OneCLI**

You can use the config application and commands to view the current system configuration settings and make changes to Lenovo XClarity Controller and UEFI. The saved configuration information can be used to replicate or restore other systems.

For information about configuring the server using Lenovo XClarity Essentials OneCLI, see:

https://pubs.lenovo.com/lxce-onecli/onecli_c_settings_info_commands

- **Lenovo XClarity Administrator**

You can quickly provision and pre-provision all of your servers using a consistent configuration. Configuration settings (such as local storage, I/O adapters, boot settings, firmware, ports, and Lenovo XClarity Controller and UEFI settings) are saved as a server pattern that can be applied to one or more managed servers. When the server patterns are updated, the changes are automatically deployed to the applied servers.

Specific details about configuring the server using Lenovo XClarity Administrator are available at:

https://pubs.lenovo.com/lxca/server_configuring

- **Lenovo XClarity Controller**

You can configure the management processor for the server through the Lenovo XClarity Controller Web interface, the command-line interface, or Redfish API.

For information about configuring the server using Lenovo XClarity Controller, see:

“Configuring the Server” section in the XCC documentation compatible with your server at <https://pubs.lenovo.com/lxcc-overview/>

Memory module configuration

Memory performance depends on several variables, such as memory mode, memory speed, memory ranks, memory population and processor.

Information about optimizing memory performance and configuring memory is available at the Lenovo Press website:

<https://lenovopress.lenovo.com/servers/options/memory>

In addition, you can take advantage of a memory configurator, which is available at the following site:

https://dcsc.lenovo.com/#/memory_configuration

RAID configuration

Using a Redundant Array of Independent Disks (RAID) to store data remains one of the most common and cost-efficient methods to increase server's storage performance, availability, and capacity.

RAID increases performance by allowing multiple drives to process I/O requests simultaneously. RAID can also prevent data loss in case of a drive failure by reconstructing (or rebuilding) the missing data from the failed drive using the data from the remaining drives.

RAID array (also known as RAID drive group) is a group of multiple physical drives that uses a certain common method to distribute data across the drives. A virtual drive (also known as virtual disk or logical drive) is a partition in the drive group that is made up of contiguous data segments on the drives. Virtual drive is presented up to the host operating system as a physical disk that can be partitioned to create OS logical drives or volumes.

An introduction to RAID is available at the following Lenovo Press website:

<https://lenovopress.lenovo.com/lp0578-lenovo-raid-introduction>

Detailed information about RAID management tools and resources is available at the following Lenovo Press website:

<https://lenovopress.lenovo.com/lp0579-lenovo-raid-management-tools-and-resources>

Deploy the operating system

Several options are available to deploy an operating system on the server.

Available operating systems

- Microsoft Windows Server
- VMware ESXi
- Red Hat Enterprise Linux
- SUSE Linux Enterprise Server
- Canonical Ubuntu

Complete list of available operating systems: <https://lenovopress.lenovo.com/osig>.

Tool-based deployment

- **Multi-server**

Available tools:

- Lenovo XClarity Administrator

https://pubs.lenovo.com/lxca/compute_node_image_deployment

- Lenovo XClarity Essentials OneCLI

https://pubs.lenovo.com/lxce-onecli/onecli_r_uxspi_proxy_tool

- **Single-server**

Available tools:

- Lenovo XClarity Provisioning Manager
“OS Installation” section in the LXPM documentation compatible with your server at <https://pubs.lenovo.com/lxpm-overview/>
- Lenovo XClarity Essentials OneCLI
https://pubs.lenovo.com/lxce-onecli/onecli_r_uxspi_proxy_tool

Manual deployment

If you cannot access the above tools, follow the instructions below, download the corresponding OS *Installation Guide*, and deploy the operating system manually by referring to the guide.

1. Go to <https://datacentersupport.lenovo.com/solutions/server-os>.
2. Select an operating system from the navigation pane and click **Resources**.
3. Locate the “OS Install Guides” area and click the installation instructions. Then, follow the instructions to complete the operation system deployment task.

Back up the server configuration

After setting up the server or making changes to the configuration, it is a good practice to make a complete backup of the server configuration.

Make sure that you create backups for the following server components:

- **Management processor**

You can back up the management processor configuration through the Lenovo XClarity Controller interface. For details about backing up the management processor configuration, see:

“Backing up the BMC configuration” section in the XCC documentation compatible with your server at <https://pubs.lenovo.com/lxcc-overview/>.

Alternatively, you can use the `save` command from Lenovo XClarity Essentials OneCLI to create a backup of all configuration settings. For more information about the `save` command, see:

https://pubs.lenovo.com/lxce-onecli/onecli_r_save_command

- **Operating system**

Use your backup methods to back up the operating system and user data for the server.

Appendix A. Getting help and technical assistance

If you need help, service, or technical assistance or just want more information about Lenovo products, you will find a wide variety of sources available from Lenovo to assist you.

On the World Wide Web, up-to-date information about Lenovo systems, optional devices, services, and support are available at:

<http://datacentersupport.lenovo.com>

Note: IBM is Lenovo's preferred service provider for ThinkSystem.

Before you call

Before you call, there are several steps that you can take to try and solve the problem yourself. If you decide that you do need to call for assistance, gather the information that will be needed by the service technician to more quickly resolve your problem.

Attempt to resolve the problem yourself

You can solve many problems without outside assistance by following the troubleshooting procedures that Lenovo provides in the online help or in the Lenovo product documentation. The online help also describes the diagnostic tests that you can perform. The documentation for most systems, operating systems, and programs contains troubleshooting procedures and explanations of error messages and error codes. If you suspect a software problem, see the documentation for the operating system or program.

You can find the product documentation for your ThinkSystem products at the following location:

<https://pubs.lenovo.com/>

You can take these steps to try to solve the problem yourself:

- Check all cables to make sure that they are connected.
- Check the power switches to make sure that the system and any optional devices are turned on.
- Check for updated software, firmware, and operating-system device drivers for your Lenovo product. (See the following links) The Lenovo Warranty terms and conditions state that you, the owner of the Lenovo product, are responsible for maintaining and updating all software and firmware for the product (unless it is covered by an additional maintenance contract). Your service technician will request that you upgrade your software and firmware if the problem has a documented solution within a software upgrade.
 - Drivers and software downloads
 - <https://datacentersupport.lenovo.com/tw/en/products/servers/thinksystem/sr675v3/7d9q/downloads/driver-list/>
 - Operating system support center
 - <https://datacentersupport.lenovo.com/solutions/server-os>
 - Operating system installing instructions
 - <https://pubs.lenovo.com/thinksystem#os-installation>
- If you have installed new hardware or software in your environment, check <https://serverproven.lenovo.com> to make sure that the hardware and software are supported by your product.
- Refer to “Problem Determination” in *User Guide* or *Hardware Maintenance Guide* for instructions on isolating and solving issues.

- Go to <http://datacentersupport.lenovo.com> and check for information to help you solve the problem.

To find the Tech Tips available for your server:

1. Go to <http://datacentersupport.lenovo.com> and navigate to the support page for your server.
2. Click on **How To's** from the navigation pane.
3. Click **Article Type → Solution** from the drop-down menu.

Follow the on-screen instructions to choose the category for the problem that you are having.

- Check Lenovo Data Center Forum at https://forums.lenovo.com/t5/Datacenter-Systems/ct-p/sv_eg to see if someone else has encountered a similar problem.

Gathering information needed to call Support

If you require warranty service for your Lenovo product, the service technicians will be able to assist you more efficiently if you prepare the appropriate information before you call. You can also go to <http://datacentersupport.lenovo.com/warrantylookup> for more information about your product warranty.

Gather the following information to provide to the service technician. This data will help the service technician quickly provide a solution to your problem and ensure that you receive the level of service for which you might have contracted.

- Hardware and Software Maintenance agreement contract numbers, if applicable
- Machine type number (Lenovo 4-digit machine identifier). Machine type number can be found on the ID label, see “[Identify the server and access the Lenovo XClarity Controller](#)” on page 73.
- Model number
- Serial number
- Current system UEFI and firmware levels
- Other pertinent information such as error messages and logs

As an alternative to calling Lenovo Support, you can go to <https://support.lenovo.com/servicerequest> to submit an Electronic Service Request. Submitting an Electronic Service Request will start the process of determining a solution to your problem by making the pertinent information available to the service technicians. The Lenovo service technicians can start working on your solution as soon as you have completed and submitted an Electronic Service Request.

Collecting service data

To clearly identify the root cause of a server issue or at the request of Lenovo Support, you might need collect service data that can be used for further analysis. Service data includes information such as event logs and hardware inventory.

Service data can be collected through the following tools:

- **Lenovo XClarity Provisioning Manager**

Use the Collect Service Data function of Lenovo XClarity Provisioning Manager to collect system service data. You can collect existing system log data or run a new diagnostic to collect new data.

- **Lenovo XClarity Controller**

You can use the Lenovo XClarity Controller web interface or the CLI to collect service data for the server. The file can be saved and sent to Lenovo Support.

- For more information about using the web interface to collect service data, see the “Backing up the BMC configuration” section in the XCC documentation compatible with your server at <https://pubs.lenovo.com/lxcc-overview/>.

- For more information about using the CLI to collect service data, see the “XCC `ffdc` command” section in the XCC documentation compatible with your server at <https://pubs.lenovo.com/lxcc-overview/>.

- **Lenovo XClarity Administrator**

Lenovo XClarity Administrator can be set up to collect and send diagnostic files automatically to Lenovo Support when certain serviceable events occur in Lenovo XClarity Administrator and the managed endpoints. You can choose to send diagnostic files to Lenovo Support using Call Home or to another service provider using SFTP. You can also manually collect diagnostic files, open a problem record, and send diagnostic files to the Lenovo Support.

You can find more information about setting up automatic problem notification within the Lenovo XClarity Administrator at https://pubs.lenovo.com/lxca/admin_setupcallhome.

- **Lenovo XClarity Essentials OneCLI**

Lenovo XClarity Essentials OneCLI has inventory application to collect service data. It can run both in-band and out-of-band. When running in-band within the host operating system on the server, OneCLI can collect information about the operating system, such as the operating system event log, in addition to the hardware service data.

To obtain service data, you can run the `getinfor` command. For more information about running the `getinfor`, see https://pubs.lenovo.com/lxce-onecli/onecli_r_getinfor_command.

Contacting Support

You can contact Support to obtain help for your issue.

You can receive hardware service through a Lenovo Authorized Service Provider. To locate a service provider authorized by Lenovo to provide warranty service, go to <https://datacentersupport.lenovo.com/serviceprovider> and use filter searching for different countries. For Lenovo support telephone numbers, see <https://datacentersupport.lenovo.com/supportphonenumberlist> for your region support details.

Appendix B. Documents and supports

This section provides handy documents, driver and firmware downloads, and support resources.

Documents download

This section provides introduction and download link for handy documents.

Documents

Download the following product documentations at:

https://pubs.lenovo.com/sr675-v3/pdf_files.html

- **Rail Installation Guides**
 - Rail installation in a rack
- **User Guide**
 - Complete overview, system configuration, hardware components replacing, and troubleshooting.

Selected chapters from *User Guide*:

 - **System Configuration Guide** : Server overview, components identification, system LEDs and diagnostics display, product unboxing, setting up and configuring the server.
 - **Hardware Maintenance Guide** : Installing hardware components, cable routing, and troubleshooting.
- **Messages and Codes Reference**
 - XClarity Controller, LXPM, and uEFI events
- **UEFI Manual**
 - UEFI setting introduction

Support websites

This section provides driver and firmware downloads and support resources.

Support and downloads

- Drivers and Software download website for ThinkSystem SR675 V3
 - <https://datacentersupport.lenovo.com/tw/en/products/servers/thinksystem/sr675v3/7d9q/downloads/driver-list/>
- Lenovo Data Center Forum
 - https://forums.lenovo.com/t5/Datacenter-Systems/ct-p/sv_eg
- Lenovo Data Center Support for ThinkSystem SR675 V3
 - <https://datacentersupport.lenovo.com/products/servers/thinksystem/sr675v3/7d9q>
- Lenovo License Information Documents
 - <https://datacentersupport.lenovo.com/documents/Invo-eula>
- Lenovo Press website (Product Guides/Datasheets/White papers)
 - <https://lenovopress.lenovo.com/>

- Lenovo Privacy Statement
 - <https://www.lenovo.com/privacy>
- Lenovo Product Security Advisories
 - https://datacentersupport.lenovo.com/product_security/home
- Lenovo Product Warranty Plans
 - <http://datacentersupport.lenovo.com/warrantylookup>
- Lenovo Server Operating Systems Support Center website
 - <https://datacentersupport.lenovo.com/solutions/server-os>
- Lenovo ServerProven website (Options compatibility lookup)
 - <https://serverproven.lenovo.com>
- Operating System Installation Instructions
 - <https://pubs.lenovo.com/thinksystem#os-installation>
- Submit an eTicket (service request)
 - <https://support.lenovo.com/servicerequest>
- Subscribe to Lenovo Data Center Group product notifications (Stay up to date on firmware updates)
 - <https://datacentersupport.lenovo.com/solutions/ht509500>

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Important notes

Processor speed indicates the internal clock speed of the processor; other factors also affect application performance.

CD or DVD drive speed is the variable read rate. Actual speeds vary and are often less than the possible maximum.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for 1 024 bytes, MB stands for 1 048 576 bytes, and GB stands for 1 073 741 824 bytes.

When referring to hard disk drive capacity or communications volume, MB stands for 1 000 000 bytes, and GB stands for 1 000 000 000 bytes. Total user-accessible capacity can vary depending on operating environments.

Maximum internal hard disk drive capacities assume the replacement of any standard hard disk drives and population of all hard-disk-drive bays with the largest currently supported drives that are available from Lenovo.

Maximum memory might require replacement of the standard memory with an optional memory module.

Each solid-state memory cell has an intrinsic, finite number of write cycles that the cell can incur. Therefore, a solid-state device has a maximum number of write cycles that it can be subjected to, expressed as total bytes written (TBW). A device that has exceeded this limit might fail to respond to system-generated commands or might be incapable of being written to. Lenovo is not responsible for replacement of a device that has exceeded its maximum guaranteed number of program/erase cycles, as documented in the Official Published Specifications for the device.

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Some software might differ from its retail version (if available) and might not include user manuals or all program functionality.

Electronic emission notices

When you attach a monitor to the equipment, you must use the designated monitor cable and any interference suppression devices that are supplied with the monitor.

Additional electronic emissions notices are available at:

Taiwan BSMI RoHS declaration

單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr ⁶⁺)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
機架	○	○	○	○	○	○
外部蓋板	○	○	○	○	○	○
機械組合併	—	○	○	○	○	○
空氣傳動設備	—	○	○	○	○	○
冷卻組合併	—	○	○	○	○	○
內存模組	—	○	○	○	○	○
處理器模組	—	○	○	○	○	○
電纜組合併	—	○	○	○	○	○
電源供應器	—	○	○	○	○	○
儲備設備	—	○	○	○	○	○
印刷電路板	—	○	○	○	○	○
備考1. “超出0.1 wt %”及“超出0.01 wt %”係指限用物質之百分比含量超出百分比含量基準值。 Note1 : “exceeding 0.1wt%” and “exceeding 0.01 wt%” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition. 備考2. “○”係指該項限用物質之百分比含量未超出百分比含量基準值。 Note2 : “○”indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence. 備考3. “—”係指該項限用物質為排除項目。 Note3 : The “-” indicates that the restricted substance corresponds to the exemption.						

Taiwan Region import and export contact information

Contacts are available for Taiwan Region import and export information.

委製商/進口商名稱: 台灣聯想環球科技股份有限公司
 進口商地址: 台北市南港區三重路 66 號 8 樓
 進口商電話: 0800-000-702

