Lenovo ThinkSystem NE2572O RackSwitch
Product Guide (withdrawn product)

The Lenovo ThinkSystem NE2572O RackSwitch is designed for big data, cloud, and enterprise workloads in the data center, and it provides 10 Gb/25 Gb Ethernet connectivity with 40 Gb/100 Gb Ethernet upstream links. The switch delivers line-rate, low-latency, and high-bandwidth switching, while providing high availability for business sensitive traffic with the hot-swap redundant power supplies and fans.

The NE2572O RackSwitch has 48x SFP28/SFP+ ports that support 10 GbE SFP+ and 25 GbE SFP28 optical transceivers, active optical cables (AOCs), and direct attach copper (DAC) cables. The switch also offers 6x QSFP28/QSFP+ ports that support 40 GbE QSFP+ and 100 GbE QSFP28 optical transceivers, active optical cables (AOCs), and direct attach copper (DAC) cables. The QSFP28/QSFP+ ports can also be split out into two 50 GbE (for 100 GbE QSFP28), or four 10 GbE (for 40 GbE QSFP+) or 25 GbE (for 100 GbE QSFP28) connections by using breakout cables.

The NE2572O RackSwitch is shown in the following figure.

Figure 1. Lenovo ThinkSystem NE2572O RackSwitch

Did you know?

With exceptional port density and flexibility with break-out cables, the NE2572O RackSwitch can support up to 72x 10 GbE / 25 GbE Ethernet connections or a mix of 10 GbE / 25 GbE server and storage connections with 40 GbE or 100 GbE upstream network connections in a 1U rack form factor.

The NE2572O RackSwitch includes the Open Network Install Environment (ONIE) which is an open, standards-based boot code that provides a deployment environment for loading certified ONIE networking operating systems onto networking devices.

Key features

The NE2572O RackSwitch provides a simple and open network infrastructure designed to scale for your business needs. Its intelligent, cloud-scale performance delivers a software-defined Ethernet solution that is simple to manage and easy to deploy using common management tools. The switch is based on industry standards for better data center interoperability, and it enables support of network virtualization, automation, and orchestration applications for tight integration into the data center ecosystem.

The NE2572O RackSwitch is considered particularly suited for the following environments:

- Open networking architectures that are based on the certified ONIE networking operating systems, such as Cumulus Linux.
- Mixed 10 GbE and 25 GbE server and storage connectivity with 40 GbE and 100 GbE upstream aggregation
- Data center interconnect fabric for accelerated, low-latency communications across clustered applications
- Cloud and virtualization solutions
- Web-scale and hyperconverged solutions

The NE2572O RackSwitch offers the following features and benefits:

- High performance
  The 10 Gb/25 Gb Ethernet NE2572O RackSwitch with 40 Gb/100 Gb Ethernet uplinks provides a combination of low latency and non-blocking line-rate switching.

- Lower power and better cooling
  The rear-to-front cooling design of the NE2572O RackSwitch reduces data center air conditioning costs by having airflow match the servers in the rack cabinet. In addition, variable speed fans help reduce power consumption.

- Fault tolerance
  The NE2572O RackSwitch offers redundant hot-swap hardware components to provide availability for network communications across business-critical applications.

- Open Network Install Environment (ONIE)
  The NE2572O RackSwitch provides an open install environment for networking devices without operating systems. ONIE enables a network switch ecosystem for end users to choose among different Network Operating Systems by discovering NOS installer images and loading them onto the switch.

- Seamless interoperability
  Based on industry standards, the NE2572O RackSwitch interoperates seamlessly with other vendors' switches.

Components and connectors

The following figure shows the front (port-side) panel of the NE2572O RackSwitch.
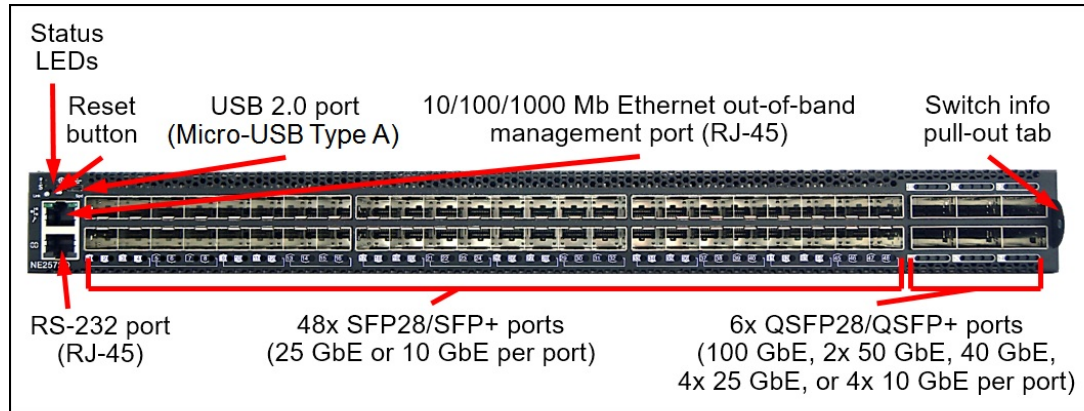

Figure 2. Front panel of the NE2572O RackSwitch

The front panel of the NE2572O RackSwitch includes the following components:

- 48x SFP28/SFP+ ports to attach SFP28/SFP+ transceivers, DAC cables, and AOCs for 25 Gb or 10 Gb Ethernet connections.
- 6x QSFP28/QSFP+ ports to attach QSFP28/QSFP+ transceivers, DAC cables, and AOCs for 100 Gb or 40 Gb Ethernet connections or breakout cables for 2x 50 Gb or 4x 25 Gb Ethernet connections out of a 100 GbE port, or 4x 10 GbE connections out of a 40 GbE port.
- One RJ-45 10/100/1000 Mb Ethernet port for out-of-band management.
- One RJ-45 RS-232 console port that provides another means to configure the switch.
- One Micro-USB Type A port for mass storage devices.
- LEDs that display the status of the switch and the network.
- Reset button.
- Switch information pull-out tab.

The following figure shows the rear (non-port-side) panel of the NE2572O RackSwitch.
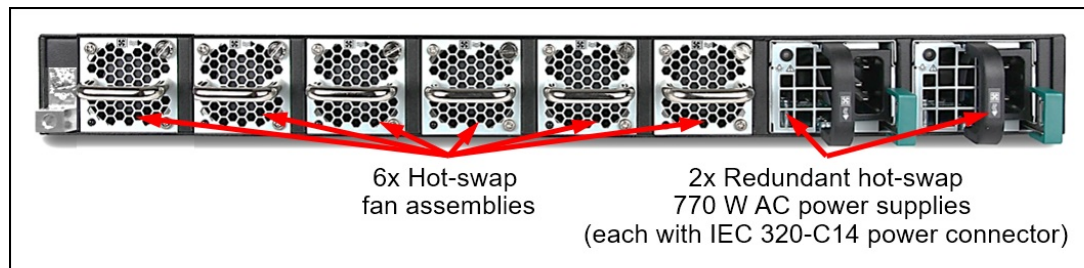

Figure 3. Rear panel of the NE2572O RackSwitch

The rear panel of the NE2572O RackSwitch includes the following components:

- Two redundant hot-swap 770 W AC power supplies (each with the IEC 320-C14 power connector).
- Six N+1 redundant hot-swap fan assemblies.

System specifications

The following table lists the NE2572O RackSwitch system hardware specifications.

Table 1. NE2572O RackSwitch system hardware specifications

Attribute	Specification
Form factor	1U rack mount
Ports	• 48x SFP28/SFP+ ports • 6x QSFP28/QSFP+ ports
Media types	10 Gb Ethernet SFP+: • 10 GbE short-range (SR) SFP+ transceivers • 10 GbE long-range (LR) SFP+ transceivers • 10 GbE extended-range (ER) SFP+ transceivers • 10 GbE RJ-45 SFP+ transceivers • 10 GbE SFP+ active optical cables • 10 GbE SFP+ DAC cables 25 Gb Ethernet SFP28: • 25 GbE SR SFP28 transceivers • 25 GbE SFP28 active optical cables • 25 GbE SFP28 DAC cables 40 Gb Ethernet QSFP+: • 40 GbE SR QSFP+ bi-directional (BiDi) transceivers • 40 GbE short-range (SR4/iSR4/eSR4) QSFP+ transceivers • 40 GbE long-range (LR4) QSFP+ transceivers • 40 GbE QSFP+ to QSFP+ active optical cables • 40 GbE QSFP+ to 4x 10 GbE SFP+ active optical breakout cables • 40 GbE QSFP+ to QSFP+ DAC cables • 40 GbE QSFP+ to 4x 10 GbE SFP+ DAC breakout cables 100 Gb Ethernet QSFP28: • 100 GbE short-range (SR4) QSFP28 transceivers • 100 GbE long-range (LR4) QSFP28 transceivers • 100 GbE QSFP28 to QSFP28 active optical cables • 100 GbE QSFP28 to 4x 25 GbE SFP28 active optical breakout cables • 100 GbE QSFP28 to QSFP28 DAC cables • 100 GbE QSFP28 to 4x 25 GbE SFP28 DAC breakout cables • 100 GbE QSFP28 to 2x 50 GbE QSFP28 DAC breakout cables (not supplied by Lenovo)
Port speeds	• 10 GbE SFP+ transceivers, DAC cables, and AOCs: 10 Gbps • 25 GbE SFP28 transceivers, DAC cables, and AOCs: 25 Gbps • 40 GbE QSFP+ SR BiDi/SR4/LR4 transceivers: 40 GbE • 40 GbE QSFP+ iSR4/eSR4 transceivers, DAC cables, and AOCs: 40 GbE or 4x 10 GbE • 100 GbE QSFP28 DAC cables: 100 Gbps, 2x 50 [2x 25] Gbps, or 4x 25 Gbps • 100 GbE QSFP28 SR4 transceivers and AOCs: 100 Gbps or 4x 25 Gbps • 100 GbE QSFP28 LR4 transceivers: 100 GbE
Performance	Non-blocking architecture with wire-speed forwarding of traffic: • 100% line-rate performance • Up to 3.6 Tbps aggregated throughput • Up to 2679 Million packets per second (Mpps) (64-byte packets)
Cooling	Six N+1 redundant hot-swap fans. Rear (non-port side) to front (port side) airflow.

Attribute	Specification
Power supply	Two load-sharing, redundant hot-swap 770 W AC (100 - 240 V) Platinum power supplies (each power supply has an IEC 320-C14 connector).
Hot-swap parts	SFP28/SFP+/QSFP28/QSFP+ transceivers, DAC cables, and AOCs; power supplies; fans.
Management ports	1x 10/100/1000 Mb Ethernet port (RJ-45); 1x RS-232 port (RJ-45); 1x USB 2.0 port (Micro-USB Type A; for additional firmware, log, and configuration files storage).
Security features	Trusted Platform Module (TPM) 1.2.
Hardware warranty	Three-year Customer Replaceable Unit (CRU) limited warranty with 9x5 coverage and Next Business Day (NBD) parts delivered.
Service and support	Optional service upgrades are available through Lenovo Services: 9x5 coverage with NBD onsite response, 24x7 coverage with 2-hour or 4-hour onsite response, 6-hour or 24-hour committed service repair (select areas), up to 5 years of warranty coverage, 1-year or 2-year post-warranty extensions, Premier support, and Basic Hardware Installation Services.
Mean Time Between Failures	242 685 hours MTBF.
Dimensions	Height: 44 mm (1.7 in.); width: 441 mm (17.3 in.); depth: 487 mm (19.2 in.)
Weight	11.4 kg (25.1 lb).

Models

Product availability: The ThinkSystem NE2572O RackSwitch is withdrawn and no longer available for ordering.

The following table lists the NE2572O RackSwitch models.

Table 2. NE2572O RackSwitch models

Description	Part number	Machine Type/Model	Feature code
Lenovo ThinkSystem NE2572O RackSwitch (Rear to Front, ONIE)	7Z210O21WW	7Z21CTO2WW	B4PN

The part numbers for the NE2572O RackSwitch models include the following items:

- One NE2572O RackSwitch with two power supplies and six fan assemblies
- Generic Rack Mount Kit (2-post)
- Cable Kit that includes the following items:
    - DB-9 (plug) to RJ-45 (plug) serial console cable
    - Micro-USB Type A (plug) to USB Type A (jack) data cable
- *Electronic Publications Flyer*

Configuration notes:

- Power cables are not included and must be ordered together with the switch (see Power supplies and cables for details).

- Transceivers and cables are not included and should be ordered for the switch (see Transceivers and cables for details).

Transceivers and cables

With the flexibility of the NE2572O RackSwitch, customers can choose the following connectivity technologies:

- For 10 GbE links, customers can use SFP28 ports with 10 GbE SFP+ direct-attached copper (DAC) cables for distances up to 7 meters or 10 GbE SFP+ active optical cables (AOCs) for distances up to 20 meters. The AOCs and DAC cables have SFP+ connectors on each end, and they do not need separate transceivers. For distances up to 30 meters, the 10GBASE-T SFP+ transceiver can be used with Category 6a or 7 RJ-45 UTP cables.

  For longer distances, the 10GBASE-SR SFP+ transceivers can be used for up to 300 meters on OM3 or up to 400 meters on OM4 multimode fiber optic (MMF) cables. The 10GBASE-LR SFP+ transceivers can support distances up to 10 kilometers on single mode fiber optic (SMF) cables. For extended distances, the 10GBASE-ER SFP+ transceivers can support up to 40 kilometers on SMF cables.

  To increase the number of available 10 GbE ports, customers can split out four 10 GbE ports for each QSFP28 port by using QSFP+ to 4x SFP+ DAC or active optical breakout cables for distances up to 5 meters. The 40GBASE-iSR4 QSFP+ transceivers can be used for distances up to 100 meters on OM3 or up to 150 meters on OM4 MMF MPO-to-LC breakout cables. For longer distances, the 40GBASE-eSR4 transceivers can be used for up to 300 meters on OM3 or up to 400 meters on OM4 MMF MPO-to-LC breakout cables.

- For 25 GbE links, customers can use SFP28 ports with 25 GbE SFP28 DAC cables for distances up to 5 meters or 25 GbE SFP28 active optical cables (AOCs) for distances up to 20 meters. The AOCs and DAC cables have SFP28 connectors on each end, and they do not need separate transceivers.

  To increase the number of available 25 GbE ports, customers can split out four 25 GbE ports for each QSFP28 port by using QSFP28 to 4x SFP28 DAC breakout cables for distances up to 5 meters or active optical breakout cables for distances up to 20 meters. For longer distances, the 100GBASE-SR4 QSFP28 transceivers can be used for up to 70 meters on OM3 or up to 100 meters on OM4 MMF MPO-to-LC breakout cables.

- For 40 GbE links, customers can use QSFP28 ports with QSFP+ to QSFP+ DAC cables for distances up to 7 meters or QSFP+ to QSFP+ active optical cables for distances up to 20 meters. These DAC cables and AOCs have QSFP+ connectors on each end, and they do not need separate transceivers.

  For longer distances, customers can use the 40GBASE QSFP+ bi-directional transceivers or 40GBASE-SR4/iSR4 QSFP+ transceivers for distances up to 100 meters on OM3 or up to 150 meters on OM4 MMF cables. The 40GBASE-eSR4 QSFP+ transceiver can be used for distances up to 300 meters on OM3 or up to 400 meters on OM4 MMF cables. The 40GBASE-LR4 QSFP+ transceiver can be used for distances up to 10 kilometers on SMF cables.

- For 50 GbE links, customers can split out two 50 GbE ports for each QSFP28 port by using the QSFP28-2xQSFP28 DAC breakout cables (not supplied by Lenovo).

- For 100 GbE links, customers can use QSFP28 ports with QSFP28 DAC cables for distances up to 5 meters or QSFP28 active optical cables for distances up to 20 meters. These DAC cables and AOCs have QSFP28 connectors on each end, and they do not need separate transceivers.

  For longer distances, the 100GBASE-SR4 QSFP28 transceivers support distances up to 70 meters on OM3 or up to 100 meters on OM4 MMF cables. The 100GBASE-LR4 QSFP28 transceiver can be used for distances up to 10 kilometers on SMF LC cables.

The following table lists the supported cables and transceivers.

Table 3. Transceivers and cables

Description	Part number	Feature code	Maximum quantity supported
SFP+ transceivers - 10 GbE			

Description	Part number	Feature code	Maximum quantity supported
Lenovo Dual Rate 1/10Gb SX/SR SFP+ Transceiver (no 1 Gb support)	00MY034	ATTJ	48
Lenovo 10Gb SFP+ SR Transceiver (10GBASE-SR)	46C3447	5053	48
Lenovo 10Gb SFP+ LR Transceiver (10GBASE-LR)	90Y9412	A1PM	48
Lenovo 10GBASE-LR SFP+ Transceiver	00FE331	B0RJ	48
Lenovo 10Gb SFP+ ER Transceiver (10GBASE-ER)	90Y9415	A1PP	48
Lenovo 10GBASE-T SFP+ Transceiver	7G17A03130	AVV1	48
OM3 optical cables for 10 GbE SR SFP+, 25 GbE SR SFP28, and 40 GbE SR QSFP+ BiDi transceivers			
Lenovo 0.5m LC-LC OM3 MMF Cable	00MN499	ASR5	54
Lenovo 1m LC-LC OM3 MMF Cable	00MN502	ASR6	54
Lenovo 3m LC-LC OM3 MMF Cable	00MN505	ASR7	54
Lenovo 5m LC-LC OM3 MMF Cable	00MN508	ASR8	54
Lenovo 10m LC-LC OM3 MMF Cable	00MN511	ASR9	54
Lenovo 15m LC-LC OM3 MMF Cable	00MN514	ASRA	54
Lenovo 25m LC-LC OM3 MMF Cable	00MN517	ASRB	54
Lenovo 30m LC-LC OM3 MMF Cable	00MN520	ASRC	54
OM4 optical cables for 10 GbE SR SFP+, 25 GbE SR SFP28, and 40 GbE SR QSFP+ BiDi transceivers			
Lenovo 0.5m LC-LC OM4 MMF Cable	4Z57A10845	B2P9	54
Lenovo 1m LC-LC OM4 MMF Cable	4Z57A10846	B2PA	54
Lenovo 3m LC-LC OM4 MMF Cable	4Z57A10847	B2PB	54
Lenovo 5m LC-LC OM4 MMF Cable	4Z57A10848	B2PC	54
Lenovo 10m LC-LC OM4 MMF Cable	4Z57A10849	B2PD	54
Lenovo 15m LC-LC OM4 MMF Cable	4Z57A10850	B2PE	54
Lenovo 25m LC-LC OM4 MMF Cable	4Z57A10851	B2PF	54
Lenovo 30m LC-LC OM4 MMF Cable	4Z57A10852	B2PG	54
SFP+ active optical cables - 10 GbE			
Lenovo 1m SFP+ to SFP+ Active Optical Cable	00YL634	ATYX	48
Lenovo 3m SFP+ to SFP+ Active Optical Cable	00YL637	ATYY	48
Lenovo 5m SFP+ to SFP+ Active Optical Cable	00YL640	ATYZ	48
Lenovo 7m SFP+ to SFP+ Active Optical Cable	00YL643	ATZ0	48
Lenovo 15m SFP+ to SFP+ Active Optical Cable	00YL646	ATZ1	48
Lenovo 20m SFP+ to SFP+ Active Optical Cable	00YL649	ATZ2	48
SFP+ passive direct-attach copper cables - 10 GbE			
Lenovo 0.5m Passive SFP+ DAC Cable	00D6288	A3RG	48
Lenovo 1m Passive SFP+ DAC Cable	90Y9427	A1PH	48
Lenovo 1.5m Passive SFP+ DAC Cable	00AY764	A51N	48
Lenovo 2m Passive SFP+ DAC Cable	00AY765	A51P	48
Lenovo 3m Passive SFP+ DAC Cable	90Y9430	A1PJ	48
Lenovo 5m Passive SFP+ DAC Cable	90Y9433	A1PK	48
Lenovo 7m Passive SFP+ DAC Cable	00D6151	A3RH	48
SFP+ active direct-attach copper cables - 10 GbE			

Description	Part number	Feature code	Maximum quantity supported
Lenovo 1m Active DAC SFP+ Cable	00VX111	AT2R	48
Lenovo 3m Active DAC SFP+ Cable	00VX114	AT2S	48
Lenovo 5m Active DAC SFP+ Cable	00VX117	AT2T	48
SFP28 transceivers - 25 GbE			
Lenovo 25GBASE-SR SFP28 Transceiver	7G17A03537	AV1B	48
SFP28 active optical cables - 25 GbE			
Lenovo 3m 25G SFP28 Active Optical Cable	7Z57A03541	AV1F	48
Lenovo 5m 25G SFP28 Active Optical Cable	7Z57A03542	AV1G	48
Lenovo 10m 25G SFP28 Active Optical Cable	7Z57A03543	AV1H	48
Lenovo 15m 25G SFP28 Active Optical Cable	7Z57A03544	AV1J	48
Lenovo 20m 25G SFP28 Active Optical Cable	7Z57A03545	AV1K	48
SFP28 passive direct-attach copper cables - 25 GbE			
Lenovo 1m Passive 25G SFP28 DAC Cable	7Z57A03557	AV1W	48
Lenovo 3m Passive 25G SFP28 DAC Cable	7Z57A03558	AV1X	48
Lenovo 5m Passive 25G SFP28 DAC Cable	7Z57A03559	AV1Y	48
QSFP+ transceivers - 40 GbE			
Lenovo 40GBASE QSFP+ Bi-Directional Transceiver	00YL631	ATYW	6
Lenovo 40GBASE-SR4 QSFP+ Transceiver	49Y7884	A1DR	6
Lenovo 40GBASE-iSR4 QSFP+ Transceiver	00D9865	ASTM	6
Lenovo 40GBASE-eSR4 QSFP+ Transceiver	00FE325	A5U9	6
Lenovo 40GBASE-LR4 QSFP+ Transceiver	00D6222	A3NY	6
Optical cables for 40 GbE QSFP+ SR4/iSR4/eSR4 transceivers			
Lenovo 10m QSFP+ MPO-MPO OM3 MMF Cable	00VX003	AT2U	6
Lenovo 30m QSFP+ MPO-MPO OM3 MMF Cable	00VX005	AT2V	6
Optical breakout cables for 40 GbE QSFP+ iSR4/eSR4 transceivers			
Lenovo 1m MPO-4xLC OM3 MMF Breakout Cable	00FM412	A5UA	6
Lenovo 3m MPO-4xLC OM3 MMF Breakout Cable	00FM413	A5UB	6
Lenovo 5m MPO-4xLC OM3 MMF Breakout Cable	00FM414	A5UC	6
QSFP+ active optical cables - 40 GbE			
Lenovo 3m QSFP+ to QSFP+ Active Optical Cable	00YL652	ATZ3	6
Lenovo 5m QSFP+ to QSFP+ Active Optical Cable	00YL655	ATZ4	6
Lenovo 7m QSFP+ to QSFP+ Active Optical Cable	00YL658	ATZ5	6
Lenovo 15m QSFP+ to QSFP+ Active Optical Cable	00YL661	ATZ6	6
Lenovo 20m QSFP+ to QSFP+ Active Optical Cable	00YL664	ATZ7	6
QSFP+ active optical breakout cables - 40 GbE to 4x10 GbE			
Lenovo 1m QSFP+ to 4xSFP+ Active Optical Cable	00YL667	ATZ8	6
Lenovo 3m QSFP+ to 4xSFP+ Active Optical Cable	00YL670	ATZ9	6
Lenovo 5m QSFP+ to 4xSFP+ Active Optical Cable	00YL673	ATZA	6
QSFP+ passive direct-attach copper cables - 40 GbE			
Lenovo 1m Passive QSFP+ DAC Cable	49Y7890	A1DP	6

Description	Part number	Feature code	Maximum quantity supported
Lenovo 3m Passive QSFP+ DAC Cable	49Y7891	A1DQ	6
Lenovo 5m Passive QSFP+ DAC Cable	00D5810	A2X8	6
Lenovo 7m Passive QSFP+ DAC Cable	00D5813	A2X9	6
QSFP+ passive copper breakout cables - 40 GbE to 4x 10 GbE			
Lenovo 1m Passive QSFP+ to SFP+ Breakout DAC Cable	49Y7886	A1DL	6
Lenovo 3m Passive QSFP+ to SFP+ Breakout DAC Cable	49Y7887	A1DM	6
Lenovo 5m Passive QSFP+ to SFP+ Breakout DAC Cable	49Y7888	A1DN	6
QSFP28 transceivers - 100 GbE			
Lenovo 100GBASE-SR4 QSFP28 Transceiver	7G17A03539	AV1D	6
Lenovo 100GBASE-LR4 QSFP28 Transceiver	7G17A03540	AV1E	6
Optical cables for 100 GbE QSFP28 SR4 transceivers			
Lenovo 5m MPO-MPO OM4 MMF Cable	7Z57A03567	AV25	6
Lenovo 7m MPO-MPO OM4 MMF Cable	7Z57A03568	AV26	6
Lenovo 10m MPO-MPO OM4 MMF Cable	7Z57A03569	AV27	6
Lenovo 15m MPO-MPO OM4 MMF Cable	7Z57A03570	AV28	6
Lenovo 20m MPO-MPO OM4 MMF Cable	7Z57A03571	AV29	6
Lenovo 30m MPO-MPO OM4 MMF Cable	7Z57A03572	AV2A	6
Optical breakout cables for 100 GbE QSFP28 SR4 transceivers			
Lenovo 1m MPO-4xLC Breakout OM4 MMF Cable	7Z57A03573	AV2B	6
Lenovo 3m MPO-4xLC Breakout OM4 MMF Cable	7Z57A03574	AV2C	6
Lenovo 5m MPO-4xLC Breakout OM4 MMF Cable	7Z57A03575	AV2D	6
QSFP28 active optical cables - 100 GbE			
Lenovo 3m 100G QSFP28 Active Optical Cable	7Z57A03546	AV1L	6
Lenovo 5m 100G QSFP28 Active Optical Cable	7Z57A03547	AV1M	6
Lenovo 10m 100G QSFP28 Active Optical Cable	7Z57A03548	AV1N	6
Lenovo 15m 100G QSFP28 Active Optical Cable	7Z57A03549	AV1P	6
Lenovo 20m 100G QSFP28 Active Optical Cable	7Z57A03550	AV1Q	6
QSFP28 active optical breakout cables - 100 GbE to 4x 25 GbE			
Lenovo 3m 100G to 4x25G Breakout Active Optical Cable	7Z57A03551	AV1R	6
Lenovo 5m 100G to 4x25G Breakout Active Optical Cable	7Z57A03552	AV1S	6
Lenovo 10m 100G to 4x25G Breakout Active Optical Cable	7Z57A03553	AV1T	6
Lenovo 15m 100G to 4x25G Breakout Active Optical Cable	7Z57A03554	AV1U	6
Lenovo 20m 100G to 4x25G Breakout Active Optical Cable	7Z57A03555	AV1V	6
QSFP28 direct attach copper cables - 100 GbE			
Lenovo 1m Passive 100G QSFP28 DAC Cable	7Z57A03561	AV1Z	6
Lenovo 3m Passive 100G QSFP28 DAC Cable	7Z57A03562	AV20	6
Lenovo 5m Passive 100G QSFP28 DAC Cable	7Z57A03563	AV21	6
QSFP28 direct attach copper breakout cables - 100 GbE			
Lenovo 1m 100G QSFP28 to 4x25G SFP28 Breakout DAC Cable	7Z57A03564	AV22	6
Lenovo 3m 100G QSFP28 to 4x25G SFP28 Breakout DAC Cable	7Z57A03565	AV23	6

Description	Part number	Feature code	Maximum quantity supported
Lenovo 5m 100G QSFP28 to 4x25G SFP28 Breakout DAC Cable	7Z57A03566	AV24	6

The network cables that can be used with the switch are listed in the following table.

Table 4. NE2572O RackSwitch network cabling requirements

Transceiver	Standard	Cable	Connector
10 Gb Ethernet			
10Gb SR SFP+ (46C3447) 1/10Gb SFP+ (00MY034)	10GBASE-SR	Up to 30 m with fiber optic cables supplied by Lenovo (see Table 3); up to 300 m with OM3 or up to 400 m with OM4 multimode fiber optic cables	LC
10Gb LR SFP+ (90Y9412, 00FE331)	10GBASE-LR	1310 nm single-mode fiber optic cable up to 10 km	LC
10Gb ER SFP+ (90Y9415)	10GBASE-ER	1310 nm single-mode fiber optic cable up to 40 km	LC
10Gb RJ-45 SFP+ (7G17A03130)	10GBASE-T	UTP Category 6a or 7 up to 30 meters	RJ-45
Active optical cable	10GBASE-SR	SFP+ active optical cables up to 20 m (see Table 3)	SFP+
Direct attach copper cable	10GSFP+Cu	SFP+ DAC cables up to 7 m (see Table 3)	SFP+
25 Gb Ethernet			
25Gb SR SFP28 (7G17A03537)	25GBASE-SR	Up to 30 m with fiber optic cables supplied by Lenovo (see Table 3); up to 70 m with OM3 or up to 100 m with OM4 multimode fiber optic cables	LC
Active optical cable	25GBASE-SR	SFP28 active optical cables up to 20 m (see Table 3)	SFP28
Direct attach copper cable	25GBASE-CR	SFP28 DAC cables up to 5 m (see Table 3)	SFP28
40 Gb Ethernet			
40Gb SR QSFP+ BiDi (00YL631)	40GBASE-SR BiDi	Up to 30 m with fiber optic cables supplied by Lenovo (see Table 3); up to 100 m with OM3 or up to 150 m with OM4 multimode fiber optic cables	LC
40Gb SR4 QSFP+ (49Y7884)	40GBASE-SR4	Up to 30 m with MPO-MPO fiber optic cables supplied by Lenovo (see Table 3); up to 100 m with OM3 or up to 150 m with OM4 multimode fiber optic cables	MPO
40Gb iSR4 QSFP+ (00D9865)	40GBASE-SR4	Up to 30 m with MPO-MPO fiber optic cables or up to 5 m with MPO-4xLC breakout cables supplied by Lenovo (see Table 3); up to 100 m with OM3 or up to 150 m with OM4 multimode fiber optic cables	MPO
40Gb eSR4 QSFP+ (00FE325)	40GBASE-SR4	Up to 30 m with MPO-MPO fiber optic cables or up to 5 m with MPO-4xLC breakout cables supplied by Lenovo (see Table 3); up to 300 m with OM3 or up to 400 m with OM4 multimode fiber optic cables	MPO
40Gb LR4 QSFP+ (00D6222)	40GBASE-LR4	1310 nm single-mode fiber optic cable up to 10 km	LC
Active optical cable	40GBASE-SR4	QSFP+ to QSFP+ active optical cables up to 20 m; QSFP+ to 4x SFP+ active optical break-out cables up to 5 m for 4x 10 GbE SFP+ connections out of a 40 GbE port (see Table 3)	QSFP+

Transceiver	Standard	Cable	Connector
Direct attach copper cable	40GBASE-CR4	QSFP+ to QSFP+ DAC cables up to 7 m; QSFP+ to 4x SFP+ DAC break-out cables up to 5 m for 4x 10 GbE SFP+ connections out of a 40 GbE port (see Table 3)	QSFP+
50 Gb (2x 25 Gb) Ethernet			
Direct attach copper cable	25G/50G Eth. Consortium	QSFP28 to 2x QSFP28 DAC breakout cables (not supplied by Lenovo)	QSFP28
100 Gb Ethernet			
100Gb SR4 QSFP28 (7G17A03539)	100GBASE-SR4	Up to 30 m with MPO-MPO fiber optic cables or up to 5 m with MPO-4xLC breakout cables supplied by Lenovo (see Table 3); up to 70 m with OM3 or up to 100 m with OM4 multimode fiber optic cables	MPO
100Gb LR4 QSFP28 (7G17A03540)	100GBASE-LR4	1310 nm single-mode fiber optic cable up to 10 km	LC
Active optical cable	100GBASE-SR4	QSFP28 to QSFP28 active optical cables up to 20 m; QSFP28 to 4x SFP28 active optical breakout cables up to 20 m for 4x 25 GbE connections out of a 100 GbE port (see Table 3)	QSFP28
Direct attach copper cable	100GBASE-CR4	QSFP28 to QSFP28 DAC cables up to 5 m; QSFP28 to 4x SFP28 DAC breakout cables up to 5 m for 4x 25 GbE connections out of a 100 GbE port (see Table 3)	QSFP28
Management ports			
1 GbE port	1000BASE-T	UTP Category 5, 5E, and 6 up to 100 meters	RJ-45
RJ-45 serial port	RS-232	DB-9 to RJ-45 cable (comes with the switch)	RJ-45
Micro-USB port	USB 2.0	Micro-USB (Type A) to USB (Type A) cable (comes with the switch)	Micro-USB (Type A)

Software

The NE2572O RackSwitch includes the Open Network Install Environment (ONIE) which is a small Linux-based operating system that provides an open install environment for networking devices without operating systems. ONIE enables a network switch ecosystem for end users to choose among different Network Operating Systems by discovering NOS installer images and loading them onto the switch.

The following operating systems are certified for the NE2572O RackSwitch:

- Cumulus Linux

Configuration note: For SFP+/SFP28 ports, Cumulus Linux supports 10 GbE links on the ports 9 through 48 only (the ports 1 through 8 do not support 10 GbE links with Cumulus Linux).

The following table lists ordering information for the Cumulus software license and support options.

Table 5. Cumulus software license and support options

Description	Part number	Feature code
Cumulus Linux for Leaf Nodes		
Cumulus Linux for Leaf Nodes (10G, 25G) w/1Yr Cumulus Support	7S0D0001WW	B3DH
Cumulus Linux for Leaf Nodes (10G, 25G) w/3Yr Cumulus Support	7S0D0002WW	B3DJ
Cumulus Linux for Leaf Nodes (10G, 25G) w/5Yr Cumulus Support	7S0D0003WW	B3DK

Description	Part number	Feature code
Cumulus NetQ		
Cumulus NetQ (10G and greater) w/1Yr Subscription Unlimited Hosts	7S0D000NWW	S1PZ
Cumulus NetQ (10G and greater) w/3Yr Subscription Unlimited Hosts	7S0D000PWW	S1Q0
Cumulus NetQ (10G and greater) w/5Yr Subscription Unlimited Hosts	7S0D000QWW	S1Q1
Cumulus Host Packs		
Cumulus Host Pack w/1Yr Cumulus Support	7S0D000AWW	B3DS
Cumulus Host Pack w/3Yr Cumulus Support	7S0D000BWW	B3DT
Cumulus Host Pack w/5Yr Cumulus Support	7S0D000CWW	B3DU

Software support: Lenovo does not provide support for third-party software that is certified with the switch. Customers should contact a third-party software vendor directly to submit a software support request, and the software vendor will own the software-related problem resolution until closure.

Ethernet standards

The NE2572O RackSwitch supports the following Ethernet standards:

- IEEE 802.1Q VLAN tagging
- IEEE 802.3 10BASE-T Ethernet (Ethernet management port only)
- IEEE 802.3ab 1000BASE-T copper twisted pair Gigabit Ethernet (Ethernet management port only)
- IEEE 802.3ae 10GBASE-SR short range fiber optics 10 Gb Ethernet
- IEEE 802.3ae 10GBASE-LR long range fiber optics 10 Gb Ethernet
- IEEE 802.3ae 10GBASE-ER extended range fiber optics 10 Gb Ethernet
- IEEE 802.3an 10GBASE-T copper twisted pair 10 Gb Ethernet
- IEEE 802.3ba 40GBASE-SR4 short range fiber optics 40 Gb Ethernet
- IEEE 802.3ba 40GBASE-CR4 copper 40 Gb Ethernet
- IEEE 802.3ba 100GBASE-LR4 long range fiber optics 100 Gb Ethernet
- IEEE 802.3bj 100GBASE-CR4 copper 100 Gb Ethernet
- IEEE 802.3bm 100GBASE-SR4 short range fiber optics 100 Gb Ethernet
- IEEE 802.3by 25GBASE-CR copper 25 Gb Ethernet
- IEEE 802.3by 25GBASE-SR short range fiber optics 25 Gb Ethernet
- IEEE 802.3u 100BASE-TX Fast Ethernet (Ethernet management port only)
- SFF-8431 10 Gb SFP+ Direct attach copper cable
- 25G/50G Ethernet Consortium

Cooling

The NE2572O RackSwitch ships with six variable speed, hot-swap fan assemblies that provide N+1 cooling redundancy.

Power supplies and cables

The NE2572O RackSwitch supports up to two load-sharing, redundant hot-swap 770 W AC Platinum power supplies (two power supplies come standard with the switch).

The NE2572O RackSwitch ships without any power cables. The part numbers and feature codes to order the power cables (two power cables are required per switch) are listed in the following table.

Table 6. AC power cable options

Description	Part number	Feature code
Rack power cables		
1.5m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	39Y7937	6201
1.8m, 10A/100-250V, 2xC13PM to IEC 320-C14 Rack Power Cable	43V6034	6568
2.8m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	4L67A08366	6311
2.8m, 10A/100-250V, C13 to IEC 320-C20 Rack Power Cable	39Y7938	6204
4.3m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	39Y7932	6263
Line cords		
Argentina 10A/250V C13 to IRAM 2073 2.8m line cord	39Y7930	6222
Australia/NZ 10A/250V C13 to AS/NZ 3112 2.8m line cord	39Y7924	6211
Brazil 10A/125V C13 to NBR 6147 2.8m line cord	39Y7929	6223
China 10A/250V C13 to GB 2099.1 2.8m line cord	39Y7928	6210
Denmark 10A/250V C13 to DK2-5a 2.8m line cord	39Y7918	6213
European 10A/230V C13 to CEE7-VII 2.8m line cord	39Y7917	6212
India 10A/250V C13 to IS 6538 2.8m line cord	39Y7927	6269
Israel 10A/250V C13 to SI 32 2.8m line cord	39Y7920	6218
Italy 10A/250V C13 to CEI 23-16 2.8m line cord	39Y7921	6217
Japan 12A/125V C13 to JIS C-8303 2.8m line cord	46M2593	A1RE
Korea 12A/250V C13 to KETI 2.8m line cord	39Y7925	6219
South Africa 10A/250V C13 to SABS 164 2.8m line cord	39Y7922	6214
Switzerland 10A/250V C13 to SEV 1011-S24507 2.8m line cord	39Y7919	6216
Taiwan 10A/250V C13 to CNS 10917-3 2.8m line cord	00CG265	A53E
Taiwan 15A/125V C13 to CNS 10917-3 2.8m line cord	00CG267	A53F
United Kingdom 10A/250V C13 to BS 1363/A 2.8m line cord	39Y7923	6215
United States 10A/125V C13 to NEMA 5-15P 4.3m line cord	39Y7931	6207
United States 10A/250V C13 to NEMA 6-15P 2.8m line cord	46M2592	A1RF

Rack installation

The NE2572O RackSwitch ships with the 2-post rack mount kit. For 4-post rack installations, the NE2572O RackSwitch supports the optional adjustable 19-inch, 4-post rail kit and the air inlet duct (optional for the 4-post rail kit).

The following table lists rack installation options for the NE2572O RackSwitch switches with rear to front and front to rear airflow.

Table 7. Rack installation options

Description	Part number	Feature code
Lenovo RackSwitch Adjustable 19" 4 Post Rail Kit	00D6185	A3KP
Air Inlet Duct for 487 mm RackSwitch	00FM507	ASTN

Physical specifications

The NE2572O RackSwitch has the following physical specifications:

- Height: 44 mm (1.7 in.)
- Width: 441 mm (17.3 in.)
- Depth: 487 mm (19.2 in.)
- Maximum weight: 11.4 kg (25.1 lb)

Operating environment

The NE2572O RackSwitch is supported in the following operating environment:

- Temperature: 0 - 40 ºC (32 - 104 ºF).
- Relative humidity: 10 - 90% (non-condensing)
- Altitude: Up to 2000 m (6,561 feet)
- Acoustic noise: Less than 90 dB
- Airflow: Rear-to-front cooling with variable speed fans for reduced power draw
- Electrical input: 50 / 60 Hz, 100 - 240 V AC auto-switching
- Power consumption (maximum): 500 W
- Heat dissipation (maximum): 1706 BTU/hour

Warranty and support

The NE2572O RackSwitch comes with a 3-year Customer Replaceable Unit (CRU) hardware limited warranty with 9x5 Next Business Day (NBD) parts delivered. The hardware options that are installed in the switch assume the switch's base warranty and any Lenovo warranty service upgrade for the switch.

Software support: Lenovo does not provide support for third-party software that is certified with the switch. Customers should contact a third-party software vendor directly to submit a software support request, and the software vendor will own the software-related problem resolution until closure.

Lenovo's additional support services provide a sophisticated, unified support structure for a customer's data center, with an experience consistently ranked number one in customer satisfaction worldwide.

The following Lenovo support services are available:

- **Premier Support** provides a Lenovo-owned customer experience and delivers direct access to technicians skilled in hardware, software, and advanced troubleshooting, in addition to the following capabilities:
    - Direct technician-to-technician access through a dedicated phone line.
    - 24x7x365 remote support.
    - Single point of contact service.
    - End to end case management.
    - 3rd Party collaborative software support.
    - Online case tools and live chat support.
    - On-demand remote system analysis.
- **Warranty Upgrades (Preconfigured Support)** are available to meet the on-site response time targets that match the criticality of customer's systems:
    - 3, 4, or 5 years of service coverage.
    - 1-year or 2-year post-warranty extensions.
    - **Foundation Service:** 9x5 service coverage with next business day onsite response.
    - **Essential Service:** 24x7 service coverage with 4-hour onsite response or 24-hour committed repair (available only in select regions).
    - **Advanced Service:** 24x7 service coverage with 2-hour onsite response or 6-hour committed repair (available only in select regions).

- **Managed Services**
  Lenovo Managed Services provide continuous 24x7 remote monitoring (plus 24x7 call center availability) and proactive management of a customer's data center using state of the art tools, systems, and practices by a team of highly skilled and experienced Lenovo services professionals.

  Quarterly reviews check error logs, verify firmware and operating system device driver levels, and software as needed. Lenovo will also maintain records of latest patches, critical updates, and firmware levels, to ensure customer's systems are providing business value through optimized performance.

- **Technical Account Management (TAM)**
  A Lenovo Technical Account Manager helps customers optimize operations of their data centers based on a deep understanding of customer's business. Customers gain direct access to a Lenovo TAM, who serves as their single point of contact to expedite service requests, provide status updates, and furnish reports to track incidents over time. Also, a TAM helps proactively make service recommendations and manage service relationship with Lenovo to make certain that customer's needs are met.

- **Health Check**
  Having a trusted partner who can perform regular and detailed health checks is central to maintaining efficiency and ensuring that customer systems and business are always running at their best. Health Check supports Lenovo-branded server, storage, and networking devices, as well as select Lenovo-supported products from other vendors that are sold by Lenovo or a Lenovo-Authorized Reseller.

Some regions might have different warranty terms and conditions than the standard warranty. This is due to local business practices or laws in the specific region. Local service teams can assist in explaining region-specific terms when needed. Examples of region-specific warranty terms are second or longer business day parts delivery or parts-only base warranty.

If warranty terms and conditions include onsite labor for repair or replacement of parts, Lenovo will dispatch a service technician to the customer site to perform the replacement. Onsite labor under base warranty is limited to labor for replacement of parts that have been determined to be field-replaceable units (FRUs). Parts that are determined to be customer-replaceable units (CRUs) do not include onsite labor under base warranty.

If warranty terms include parts-only base warranty, Lenovo is responsible for delivering only replacement parts that are under base warranty (including FRUs) that will be sent to a requested location for self-service. Parts-only service does not include a service technician being dispatched onsite. Parts must be changed at customer's own cost and labor and defective parts must be returned following the instructions supplied with the spare parts.

Lenovo support services are region-specific. Not all support services are available in every region. For information about Lenovo support services that are available in a specific region, refer to the following resources:

- Service part numbers in Data Center Solution Configurator (DCSC):
  http://dcsc.lenovo.com/#/services
- Lenovo Services Availability Locator
  https://lenovolocator.com/

For service definitions, region-specific details, and service limitations, refer to the following documents:

- Lenovo Statement of Limited Warranty for Infrastructure Solutions Group (ISG) Servers and System Storage
  http://pcsupport.lenovo.com/us/en/solutions/ht503310
- Lenovo Data Center Services Agreement
  http://support.lenovo.com/us/en/solutions/ht116628

Services

Lenovo Services is a dedicated partner to customer success. Lenovo's goal for customers is to reduce capital outlays, mitigate IT risks, and accelerate time to productivity.

Here is a more in-depth look at what Lenovo can do for their customers:

- **Asset Recovery Services**
  Asset Recovery Services (ARS) helps customers recover the maximum value from their end-of-life equipment in a cost-effective and secure way. On top of simplifying the transition from old to new equipment, ARS mitigates environmental and data security risks associated with data center equipment disposal. Lenovo ARS is a cash-back solution for equipment based on its remaining market value, yielding maximum value from aging assets and lowering total cost of ownership for customers. For more information, see the ARS page, http://lenovopress.com/lp1266.

- **Assessment Services**
  An assessment helps solve customer IT challenges through an onsite, multi-day session with a Lenovo technology expert. Lenovo performs a tools-based assessment which provides a comprehensive and thorough review of a company's environment and technology systems. In addition to the technology-based functional requirements, the consultant also discusses and records the non-functional business requirements, challenges, and constraints. Assessments help organizations, no matter how large or small, get a better return on their IT investment and overcome challenges in the ever-changing technology landscape.

- **Design Services**
  Professional Services consultants perform infrastructure design and implementation planning to support customer's strategy. The high-level architectures provided by the assessment service are turned into low level designs and wiring diagrams, which are reviewed and approved prior to implementation. The implementation plan will demonstrate an outcome-based proposal to provide business capabilities through infrastructure with a risk-mitigated project plan.

- **Basic Hardware Installation**
  Lenovo experts can seamlessly manage the physical installation of customer's server, storage, or networking hardware. Working at a time convenient for the customer (business hours or off shift), the technician will unpack and inspect the systems on customer site, install options, mount in a rack cabinet, connect to power and network, check and update firmware to the latest levels, verify operation, and dispose of the packaging, allowing customers to focus on other priorities.

- **Deployment Services**
  When investing in new IT infrastructures, customers need to ensure that their business will see quick time to value with little to no disruption. Lenovo deployments are designed by development and engineering teams who know Lenovo products and solutions better than anyone else, and Lenovo technicians own the process from delivery to completion. Lenovo will conduct remote preparation and planning, configure and integrate systems, validate systems, verify and update appliance firmware, train on administrative tasks, and provide post-deployment documentation. Customer's IT teams leverage Lenovo skills to enable IT staff to transform with higher level roles and tasks.

- **Integration, Migration, and Expansion Services**
  Integration, Migration, and Expansion Services allow to move existing physical and virtual workloads easily, or to determine technical requirements to support increased workloads while maximizing performance. These services include tuning, validation, and documenting ongoing run processes, and they leverage migration assessment planning documents to perform necessary migrations.

Some service options may not be available in every region. For more information about Lenovo service offerings that are available in a specific region, contact a local Lenovo sales representative or business partner.

Regulatory compliance

The NE2572O RackSwitch conforms to the following regulations:

- Argentina IEC60950-1
- AS/NZS CISPR 22, Class A
- Canada ICES-003, Issue 4, Class A
- CE Mark (EN55022 Class A, EN60950-1, EN55024, EN61000-3-2, and EN61000-3-3)
- China CCC GB4943, GB9254 Class A, GB17625.1
- CISPR 22, Class A
- CSA C22.2 No. 60950-1
- FCC: Verified to comply with Part 15 of the FCC Rules, Class A
- IEC 60950-1 (CB Certificate and CB Test Report)
- Japan VCCI, Class A
- Korea KN22, Class A; KN24
- NOM-019
- Russia/GOST ME01, IEC-60950-1, GOST R 51318.22, 51318.24, 51317.3.2, and 51317.3.3
- Taiwan BSMI CNS13438, Class A; CNS14336-1
- TUV-GS (EN60950-1/IEC60950-1, EK1-ITB2000)
- UL/IEC 60950-1
- Reduction of Hazardous Substances (ROHS)

Related publications and links

For more information about the NE2572O RackSwitch, see the following resources:

- Lenovo RackSwitch InfoCenter
  http://systemx.lenovofiles.com/help/topic/com.lenovo.systemx.common.nav.doc/overview_rack_switches.html
    - *Lenovo ThinkSystem NE2572O RackSwitch Installation Guide*
    - *Lenovo ThinkSystem NE2572O ONIE User Guide*

- Lenovo Data Center Support:
  http://datacentersupport.lenovo.com

- Cumulus Linux User Guide
  http://docs.cumulusnetworks.com/display/DOCS/Cumulus+Linux+User+Guide

Related product families

Product families related to this document are the following:

- 25 Gb Ethernet Connectivity
- Top-of-Rack Switches

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