

Lenovo RackSwitch G8272 offers forty-eight 10 GbE and six 40 GbE ports in a 1U footprint

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At a glance

The Lenovo® RackSwitch G8272 (7159) is a low-cost, enterprise-class 10/40 Gb Ethernet solution made specifically for the data center. Features and functions include:

- 1U switch
- Forty-eight SFP+ ports with 1/10 Gb support
- Six QSFP+ ports with 10/40 Gb support
- Dual hot-swappable power supplies for redundancy
- Server-like airflow; front-to-rear or rear-to-front airflow
- VXLAN and OpenFlow support
- Rich Layer 2/Layer 3 software feature set with Lenovo Networking Operating System
- Average port-to-port latency of 0.6 microseconds
- Cut-through architecture, wire-speed
- Three-year hardware and software warranty

Overview

The Lenovo RackSwitch G8272 is an enterprise-class 10 Gb Ethernet switch designed for the data center. The Lenovo RackSwitch G8272 offers forty-eight 10 Gb Ethernet SFP+ ports in addition to six 40 Gb Ethernet QSFP+ ports, which provide clients with the ability to easily transition to 40 Gb Ethernet. Lenovo RackSwitch G8272 provides low power consumption with only 123 watts and is available with rear-to-front or front-to-rear airflow.

The G8272 is perfect for modern cloud deployments supporting many value added features including unified fabric port (UFP) to help improve performance and availability when using virtual NICs. UFP allows an SFP+ 10GbE port to be carved into as many as four virtual ports with the throughput speed of each port controlled by the switch.

The G8272 supports OpenFlow which helps easily create software defined virtual networks (SDN) and enables a remote controller to modify the behavior of network devices. The G8272 supports VXLAN in hardware for network virtualization through overlays, helping deliver faster reliable on demand capabilities.

The G8272 takes advantage of economics and performance of lossless Ethernet which can significantly improve performance, reliability, and predictability. The G8272 can help your data center evolve to a higher level by helping you to

consolidate server and storage networks into a single fabric. Converged enhanced Ethernet can help deliver value for your iSCSI, NAS, and FCoE enterprise storage environments. You can achieve lower costs, simplify management, attain higher performance, improve bandwidth utilization, and gain the flexibility your business needs.

Planned availability date

April 30, 2015

Description

Lenovo RackSwitch G8272 product benefits

This RackSwitch G8272 provides a low-cost, low-power, Gigabit Ethernet connectivity solution for data centers. The benefits of the RackSwitch G8272 include:

- Support for forty-eight 10 Gb Ethernet SFP+ ports and six 40 Gb Ethernet QSFP+ ports at a very attractive price
- Low power consumption of 123 watts contributing to lower overall TCO
- Front-to-rear or rear-to-front airflow, model dependent, which allows for flexible mounting of the switch in a server rack or datacom rack and provides significant savings in cooling costs
- Dual hot-swappable power supplies for redundancy
- Rich Layer 2/Layer 3 software set
- Lenovo standard 3-year hardware and software warranty
- Four hot-swappable fans for efficient cooling

Performance

- Full line-rate Ethernet traffic performance
- 1.44 Tbps switching architecture
- 0.6 microseconds average port-to-port latency

Features

Interfaces

- Forty-eight 10 Gb Ethernet SFP+ ports
- Six 40 Gb Ethernet QSFP+ ports
- 17.3 inches wide, 19.2 inches deep, 1U high rack mount
- One RS232 serial console port
- One USB 2.0 port and one RJ-45 10/100/1 G Ethernet management port

7159 RackSwitch G8272 with either front-to-rear or rear-to-front airflow:

- Dual hot-swappable power supplies to provide redundancy
- Four hot-swappable fans
- Rack mount
- Cable set

Product number

Description	Machine		Feature	SEO	Part number
	type	Model			
Air Inlet Duct for 487 mm RackSwitch	3331	HC1	ASTN	00FM507	00FM507
Lenovo RackSwitch Hot-swap, Rear-to-Front Fan Assembly	3331	HC1	ASRG	00FM441	00FM441
Lenovo RackSwitch Hot-swap, Front-to-Rear Fan Assembly	3331	HC1	ASRF	00FM440	00FM440
Lenovo RackSwitch Hot-Swap, Rear-to-Front 460W Power Supply	3331	HC1	ASRJ	00FM443	00FM443
Lenovo RackSwitch Hot-Swap, Front-to-Rear 460W Power Supply	3331	HC1	ASRH	00FM442	00FM442

The following are newly announced features on the specified models of the Lenovo xSeries 7159 machine type:

Description	MT	Model	Feature
Lenovo RackSwitch G8272 (Front-to-rear)	7159	HCV	
Lenovo RackSwitch G8272 (Rear-to-front)	7159	HCW	
EMEA Long Leadtime Configurations	7159	HCV HCW	1763
Hungary CHW plant 9SH	7159	HCV HCW	1764
Guad CHW plant 9KQ	7159	HCV HCW	1765
ISTC CHW 9K2	7159	HCV HCW	1766
RTP CHW 9NR	7159	HCV HCW	1767
Offload Manufacturing to Guadalajara HVEC	7159	HCV HCW	1768
Offload Manufacturing to RTP HVEC	7159	HCV HCW	1769
Offload Manufacturing to ISTC	7159	HCV HCW	1770
Capacity Scheduling Service	7159	HCV HCW	1772
Custom SLA Scheduling Service	7159	HCV HCW	1796
IBM SFP SX Transceiver	7159	HCV HCW	3269
IBM SFP+ SR Transceiver	7159	HCV HCW	5053
1.5m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	7159	HCV HCW	6201
2.8m, 10A/100-250V, C13 to IEC 320-C20 Rack Power Cable	7159	HCV HCW	6204
Line cord - 4.3M, 10A/125V, C13 to NEMA 5-15P (US)	7159	HCV HCW	6207
4.3m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	7159	HCV HCW	6263
2.8m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	7159	HCV HCW	6311
1.8m, 10A/100-250V, 2xC13PM to IEC 320-C14 Rack Power Cable	7159	HCV HCW	6568
Customer Solution Center Services	7159	HCV HCW	7831
Consolidate Shipment	7159	HCV HCW	8031

TAA Compliant Order	7159	HCV	8067
		HCW	
Ship Uninstalled (Safety)	7159	HCV	8972
		HCW	
1m IBM QSFP+ DAC Break Out Cable	7159	HCV	A1DL
		HCW	
3m IBM QSFP+ DAC Break Out Cable	7159	HCV	A1DM
		HCW	
5m IBM QSFP+ DAC Break Out Cable	7159	HCV	A1DN
		HCW	
1m IBM QSFP+-to-QSFP+ cable	7159	HCV	A1DP
		HCW	
3m IBM QSFP+-to-QSFP+ cable	7159	HCV	A1DQ
		HCW	
IBM QSFP+ 40GBASE-SR4 Transceiver	7159	HCV	A1DR
		HCW	
1m LC-LC Fiber Cable (networking)	7159	HCV	A1DS
		HCW	
5m LC-LC Fiber Cable (networking)	7159	HCV	A1DT
		HCW	
25m LC-LC Fiber Cable (networking)	7159	HCV	A1DU
		HCW	
10m IBM QSFP+ MTP Optical cable	7159	HCV	A1MM
		HCW	
30m IBM QSFP+ MTP Optical cable	7159	HCV	A1MN
		HCW	
1m IBM Passive DAC SFP+ Cable	7159	HCV	A1PH
		HCW	
3m IBM Passive DAC SFP+ Cable	7159	HCV	A1PJ
		HCW	
5m IBM Passive DAC SFP+ Cable	7159	HCV	A1PK
		HCW	
IBM SFP+ LR Transceiver	7159	HCV	A1PM
		HCW	
IBM SFP LX Transceiver	7159	HCV	A1PN
		HCW	
IBM SFP+ ER Transceiver	7159	HCV	A1PP
		HCW	
Japan 10A/100V C13 to JIS C-8303 2.8m line cord	7159	HCV	A1RE
		HCW	
10A/250V C13 to NEMA 6-15P 2.8m line cord	7159	HCV	A1RF
		HCW	
1m IBM Active DAC SFP+ Cable	7159	HCV	A25A
		HCW	
3m IBM Active DAC SFP+ Cable	7159	HCV	A25B
		HCW	
5m IBM Active DAC SFP+ Cable	7159	HCV	A25C
		HCW	
Console Cable Kit Spare	7159	HCV	A2MG
		HCW	
5m IBM QSFP+ to QSFP+ Cable	7159	HCV	A2X8
		HCW	
7m IBM QSFP+ to QSFP+ Cable	7159	HCV	A2X9
		HCW	
IBM System Networking Adjustable 19" 4 Post Rail Kit	7159	HCV	A3KP
		HCW	
IBM QSFP+ 40GBASE-LR4 Transceiver	7159	HCV	A3NY
		HCW	
0.5m IBM Passive DAC SFP+ Cable	7159	HCV	A3RG
		HCW	
7m IBM Passive DAC SFP+ Cable	7159	HCV	A3RH
		HCW	
IBM System Networking Recessed 19" 4 Post Rail Kit	7159	HCV	A51M
1.5m IBM Passive DAC SFP+ Cable	7159	HCV	A51N
		HCW	
2m IBM Passive DAC SFP+ Cable	7159	HCV	A51P
		HCW	
IBM SFP 1000Base-T (RJ-45) Transceiver	7159	HCV	A5DL
		HCW	
IBM QSFP+ 40GBASE-iesR4 Optical Transceiver	7159	HCV	A5U9
		HCW	
1m IBM MTP-4xLC OM3 MMF Breakout Cable	7159	HCV	A5UA
		HCW	

3m IBM MTP-4xLC OM3 MMF Breakout Cable	7159	HCV	A5UB
		HCW	
5m IBM MTP-4xLC OM3 MMF Breakout Cable	7159	HCV	A5UC
		HCW	
Lenovo RackSwitch G8272 (Rear to Front)	7159	HCW	ASRD
Lenovo RackSwitch G8272 (Front to Rear)	7159	HCV	ASRE
Lenovo QSFP+ 40GBASE-iSR4 Transceiver	7159	HCV	ASTM
		HCW	

Description	MT	Model	Feature
Lenovo RackSwitch G8272 (Front-to-rear)	7159	HCV	
Lenovo RackSwitch G8272 (Rear-to-front)	7159	HCW	
Lenovo RackSwitch Hot-swap, Front-to-Rear Fan Assembly	7159	HCV	ASRF
Lenovo RackSwitch Hot-swap, Rear-to-Front Fan Assembly	7159	HCW	ASRG
Lenovo RackSwitch Hot-Swap, Front-to-Rear 460W Power Supply	7159	HCV	ASRH
Lenovo RackSwitch Hot-Swap, Rear-to-Front 460W Power Supply	7159	HCW	ASRJ
Air Inlet Duct for 487 mm RackSwitch	7159	HCW	ASTN

The following are features already announced for the 3331 machine type:

Description	MT	Model	Feature
Lenovo RackSwitch Hot-swap, Front-to-Rear Fan Assembly	3331	HC1	ASRF
Lenovo RackSwitch Hot-swap, Rear-to-Front Fan Assembly	3331	HC1	ASRG
Lenovo RackSwitch Hot-Swap, Front-to-Rear 460W Power Supply	3331	HC1	ASRH
Lenovo RackSwitch Hot-Swap, Rear-to-Front 460W Power Supply	3331	HC1	ASRJ
Air Inlet Duct for 487 mm RackSwitch	3331	HC1	ASTN

Description	Part number
Lenovo RackSwitch G8272 (Rear-to-front)	7159CRW
Lenovo RackSwitch G8272 (Front-to-rear)	7159CFV

Publications

None.

Services

Global Technology Services®

Lenovo services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure to be an on-demand business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for Lenovo and many non-Lenovo offerings. Lenovo is your one-stop shop for IT support needs.

For details on available services, contact your Lenovo representative.

For details on available Lenovo Business Continuity and Recovery Services, contact your Lenovo representative.

Technical information

Specified operating environment

Physical specifications

Dimensions

- Height: 1.72 in. (4.37 cm); 1RU
- Width: 17.3 in. (44.0 cm)
- Depth: 19.2 in. (48.7 cm)
- Weight: 20 lb (9.1 kg)

LEDs

- System LEDs to indicate system status

Airflow

- Front-to-rear or rear-to-front cooling, model dependent

Power

- Typical power = 123 W
- Maximum power = 240 W

Operating environment

- Operating temperature: 32°F to 104°F (0°C to 40°C)
- Operating temperature (fan failure): 32°F to 95°F (0°C to 35°C)
- Storage temperature: -40°F to 167°F (-40°C to 75°C)
- Operating altitude: Up to 6,000 ft (1,800 m)
- Non-operating altitude: Up to 40,000 ft (12,190 m)
- Relative humidity operating: 10% to 90% (noncondensing)
- Relative humidity nonoperating: 10% to 90% (noncondensing)

Acoustic noise

- Acoustic noise (sound pressure): Less than 72dB
- Acoustic noise (sound power): Less than 83dB

Standards

Safety certifications and standards

- UL60950-1
- CAN/CSA 22.2 No.60950-1
- TUV GS to EN 60950-1
- IEC60950-1, all country deviations
- CNS 14336-1
- Argentina Smark to IEC60950-1
- GB4943.1-2011
- EAC
- NOM-019

Electromagnetic compatibility certifications

- FCC 47CFR Part 15 Class A
- EN 55022 Class A
- ICES-003 Class A
- VCCI Class A
- AS/NZS CISPR 22 Class A
- CISPR 22 Class A
- EN 55024
- KC Class A
- CE

Japan energy saving standard

G8272 is compliant to Japan Energy Saving Law.

Product and type name

- G8272

Category name - Category A (with management, SNMP, and IP filtering functions)

Line speed for a port during measurement and the number of ports per line speed

- G8272: 10 Gbps x 48 port + 40 Gbps x 6 port

Maximum effective transmission speed at a frame length of 1,518 bytes

- G8272: 720 Gbps

Maximum switching bandwidth

- G8272: 1.44 Tbps

Maximum supply capability achieved by Power® over Ethernet (limited to Switches with the Power over Ethernet function)

- G8272 does not support PoE.

Energy efficiency ratio

- G8272: 0.2 watt/Gbps (lower than standard energy efficiency ratio = 1.63 watt/Gbps)

(g) Manufacturer's name or designation

- China (Alpha Networks, Inc.)

Homologation

This product may not be certified in your country for connection by any means whatsoever to interfaces of public telecommunications networks nor to be used in a public services network. Further certification may be required by law prior to making any such connection. Please contact Lenovo for information.

Compatibility

The Lenovo RackSwitch G8272 is designed to support network connectivity for servers:

- Lenovo ThinkServers
- Lenovo System x servers

In addition 40 Gb connectivity is possible from:

- Lenovo BladeCenter Chassis
- Lenovo Flex System Chassis

Planning information

Customer responsibilities

Upgrades: Customers must apply upgrades to any software images.

Cable orders

None.

Security, auditability, and control

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

Terms and conditions

Products - terms and conditions

To obtain copies of the Lenovo Statement of Limited Warranty, contact your reseller or Lenovo.

Warranty period

- Lenovo RackSwitch G8272 - Three years
- Optional features - One year

A Lenovo part or feature installed during the initial installation of a Lenovo machine is subject to a full warranty effective on the date of installation of the machine. A Lenovo part or feature that replaces a previously installed part or feature assumes the remainder of the warranty period for the replaced part or feature. A Lenovo part or feature added to a machine without replacing a previously installed part or feature is subject to a full warranty effective on its date of installation. Unless specified otherwise, the warranty period, type of warranty service, and service level of a part or feature are the same as those for the machine in which it is installed.

The following has been designated as consumables or supply items and is, therefore, not covered by this warranty:

- None

Warranty service

If required, Lenovo provides repair or exchange service, depending on the type of warranty service specified below for the machine. Lenovo will attempt to resolve your problem over the telephone or electronically by access to a Lenovo website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with Lenovo. You must follow the problem determination and resolution procedures that Lenovo specifies. Service levels are response-time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations. Additional charges may apply outside Lenovo's normal service area. Contact your local representative or your reseller for country- and location-specific information.

The type of service is Customer Replaceable Unit (for example, keyboard, mouse, speaker, memory, or hard disk drive) Service and On-site Service.

Customer Replaceable Unit (CRU) Service

Lenovo provides a replacement CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from Lenovo at any time on your request. A CRU is designated as being either a Tier 1 (mandatory) or a Tier 2 (optional) CRU. Installation of Tier 1 CRUs, as specified in this announcement, is your responsibility. If Lenovo installs a Tier 1 CRU at your request, you will be charged for the installation. You may install a Tier 2 CRU yourself or request Lenovo to install it, at no additional charge, under the type of warranty service designated for your Machine.

Based upon availability, a CRU will be shipped for next business day (NBD) delivery. Lenovo specifies in the materials shipped with a replacement CRU whether a defective CRU must be returned to Lenovo. When return is required, return instructions and a container are shipped with the replacement CRU, and you may be charged for the replacement CRU if Lenovo does not receive the defective CRU within 15 days of your receipt of the replacement.

The following parts or features have been designated as Tier 1 CRUs:

- RackSwitch unit
- Transceiver
- Cables and Serial Cable Kit

International Warranty Service

International Warranty Service (IWS) is available in selected countries or regions.

The warranty service type and the service level provided in the servicing country may be different from that provided in the country in which the machine was purchased.

Under IWS, warranty service will be provided with the prevailing warranty service type and service level available for the IWS-eligible machine type in the servicing country, and the warranty period observed will be that of the country in which the machine was purchased.

To determine the eligibility of your machine and to view a list of countries where service is available, visit

<http://www.lenovo.com/>

Licensing

Programs included with this product are licensed under the terms and conditions of the License Agreements that are shipped with the system.

Warranty service upgrades

Lenovo hourly service rate classification

One

General terms and conditions

Field-installable features

Yes

Model conversions

No

Machine installation

Customer setup. Customers are responsible for installation according to the instructions Lenovo provides with the machine.

Graduated program license charges apply

No

Licensed Internal Code and Licensed Machine Code

This product does not contain Licensed Internal Code or Licensed Machine Code.

Educational allowance

None

Prices

For additional information and current prices, contact your local Lenovo representative.

Lenovo Global Financing

Lenovo Global Financing offers competitive financing to credit-qualified customers to assist them in acquiring IT solutions. Offerings include financing for IT acquisition, including hardware, software, and services, from both Lenovo and other manufacturers or vendors. Offerings (for all customer segments: small, medium, and large enterprise), rates, terms, and availability can vary by country. Contact your local Lenovo Global Financing organization or visit

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<http://www.lenovoFS.com>

AP distribution

Country/Region	Announce	Announce date
AP IOT		
ASEAN *	Yes	04/07/2015
India/South Asia **	Yes	04/07/2015
Australia	Yes	04/07/2015
People's Republic of China	Yes	04/07/2015
Hong Kong S.A.R of the PRC	Yes	04/07/2015
Macao S.A.R of the PRC	Yes	04/07/2015
Taiwan	Yes	04/07/2015
South Korea	Yes	04/07/2015
New Zealand	Yes	04/07/2015
Japan IOT		
Japan	Yes	04/07/2015

* Brunei Darussalam, Indonesia, Cambodia, Lao People's Democratic Republic, Malaysia, Philippines, Singapore, Thailand, and Vietnam

** Bangladesh, Bhutan, India, Sri Lanka, Maldives, Nepal, and Afghanistan

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