Lenovo RackSwitch G8052
Product Guide

The Lenovo RackSwitch™ G8052 (as shown in the following figure) is a top-of-rack data center switch that delivers unmatched line-rate Layer 2/3 performance at an attractive price. It has 48x 10/100/1000BASE-T RJ-45 ports and four 10 Gigabit Ethernet SFP+ ports (it also supports 1 GbE SFP transceivers), and includes hot-swap redundant power supplies and fans as standard, which minimizes your configuration requirements. Unlike most rack equipment that cools from side-to-side, the G8052 has rear-to-front or front-to-rear airflow that matches server airflow.

Figure 1. Lenovo RackSwitch G8052

Did you know?

The RackSwitch G8052 is designed with line-rate throughput and low latency of less than 2 microseconds.

The RackSwitch G8052 includes redundant and hot-swappable power supplies and fans.

The RackSwitch G8052 is designed specifically for the data center environment with server-matching airflow, high-availability hardware and software features, rich Layer 2/3 functionality, and ease of management.

The RackSwitch G8052 is SDN ready with its OpenFlow support. With OpenFlow, you can easily create user-controlled virtual networks, optimize performance dynamically, and minimize complexity when it is used with an OpenFlow controller.

The RackSwitch G8052 is also cloud ready with its VMready® switch-resident software that helps reduce the complexity of configuring and managing virtual machines throughout the network, making it VM-aware.

The RackSwitch G8052 supports stacking for up to eight switches by using a single switch image and configuration file that shares one IP address and one management interface for simplified management.

Networking Operating System software features deliver seamless, standards-based integration into upstream switches.

Key features

The RackSwitch G8052 switch is considered particularly suited for the following customers:

- Customers who want to use GbE in their infrastructure (servers and networking)
- Customers who are implementing a virtualized environment and require multiple GbE ports
- Customers who require investment protection for 10 GbE ports
- Customers who want to reduce total cost of ownership (TCO) and improve performance while maintaining high levels of availability and security
- Customers who want to avoid or minimize oversubscription, which can result in congestion and loss of performance
- Customers wanting to simplify management by stacking up to eight switches and managing them as a single entity
- Customers who want to implement a converged infrastructure with NAS or iSCSI

The switch offers the following key features and benefits:

- High performance
  The RackSwitch G8052 provides up to 176 Gbps throughput and supports four SFP+ 10 Gb uplink ports for a low oversubscription ratio and a low latency of 1.8 microseconds.

- Lower power and better cooling
  The RackSwitch G8052 typically uses only 130 W of power, a fraction of the power consumption of most competitive offerings. The G8052's rear-to-front or front-to-rear cooling design reduces data center air conditioning costs by matching airflow to the server's configuration in the rack. Variable speed fans assist in automatically reducing power usage.

- VM-aware network virtualization
  VMready software on the switch simplifies configuration and improves security in virtualized environments. VMready automatically detects VM movement between physical servers and instantly reconfigures each VM's network policies across VLANs to keep the network up and running without interrupting traffic or affecting performance. VMready works with all leading hypervisors, such as VMware, Citrix Xen, Red Hat KVM, and Microsoft Hyper-V.

- Layer 3 functionality
  The RackSwitch G8052 includes Layer 3 functionality, which provides security and performance benefits and the full range of Layer 3 static and dynamic routing protocols, including Open Shortest Path First (OSPF) and Border Gateway Protocol (BGP) for enterprise customers at no extra cost.

- Stacking support
  Supports up to eight switches that use a single switch image and configuration file that shares one IP address and one management interface for simplified management.

- Fault tolerance
  These switches learn alternative routes automatically and perform faster convergence if there is a link, switch, or power failure. The switch uses proven technologies, such as L2 trunk failover, advanced VLAN-based failover, VRRP, Hot Links, IGMP V3 snooping, and OSPF.

- OpenFlow enabled
  The RackSwitch G8052 offers benefits of OpenFlow. OpenFlow is the open application programming interface (API) that enables the network administrator to easily configure and manage virtual networks that control traffic on a "per-flow" basis. It creates multiple independent virtual networks and related policies without dealing with the complexities of the underlying physical network and protocols. The G8052 can be used with any industry compliant OpenFlow controller.

- Seamless interoperability
  RackSwitch switches interoperate seamlessly with other vendors' upstream switches.

- Transparent networking capability
  With a simple configuration change to Easy Connect Mode, the RackSwitch G8052 becomes a transparent network device that is invisible to the core and eliminates network administration concerns of Spanning Tree Protocol configuration and interoperability and VLAN assignments and avoids any possible loops. By emulating a host NIC to the data center core, it accelerates the provisioning of VMs by eliminating the need to configure the typical access switch parameters.

Components and connectors

The front panel of the RackSwitch G8052 is shown in the following figure.

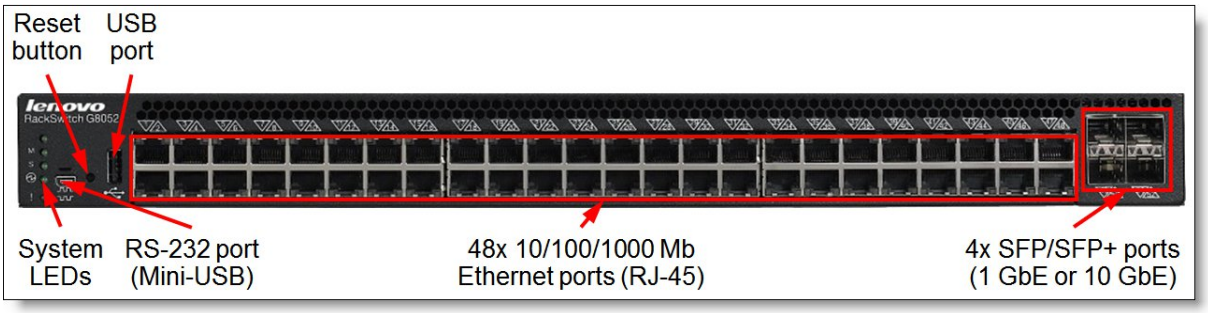

Figure 2. Front panel of the RackSwitch G8052

The front panel of the G8052 features the following components:

- LEDs that display the status of the switch and the network.
- One Mini-USB RS-232 console port that provides another means to configure the switch module.
- One USB port for mass storage devices.
- A total of 48 1000BASE-T Ethernet ports for 10/100/1000 Mbps connections.
- Four SFP+ ports to attach SFP/SFP+ transceivers for 1 Gb or 10 Gb connections or DAC cables for 10 Gb Ethernet connections.

The rear panel of the RackSwitch G8052 is shown in the following figure.

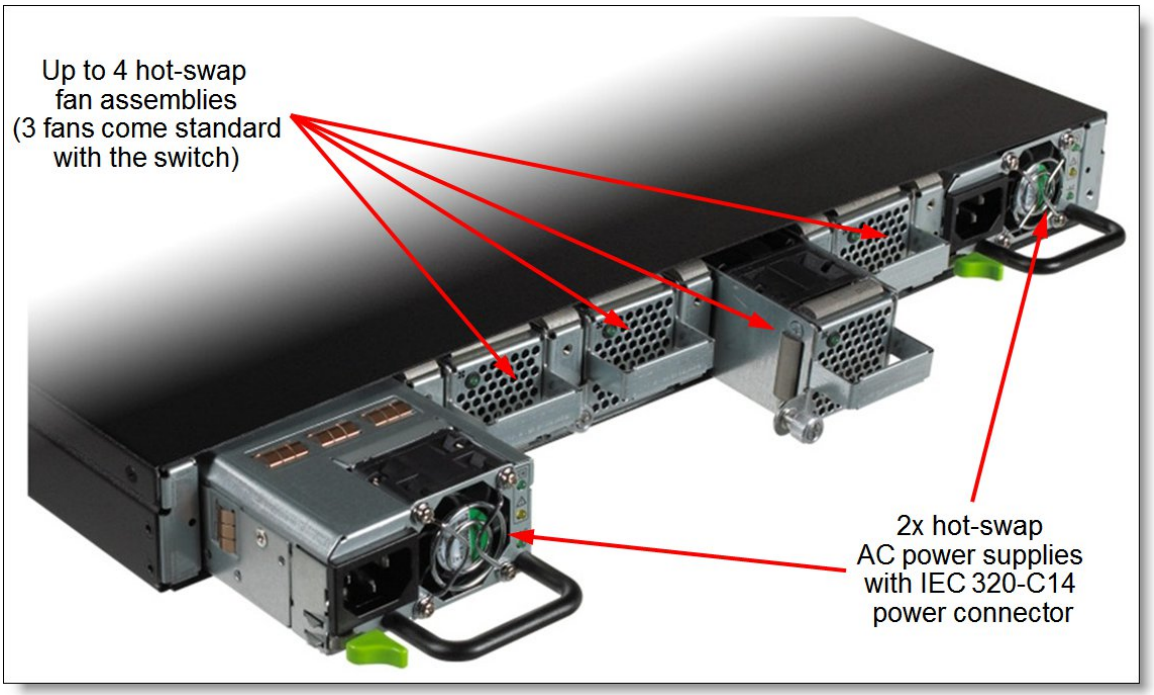

Figure 3. Rear panel of the RackSwitch G8052

The rear panel of the G8052 features the following components:

- Two redundant hot-swap AC power supplies (IEC 320-C14 power connector)
- Up to four hot-swap fan assemblies (three fans come standard with the switch and provide N+1 redundancy)

System specifications

The following table lists the RackSwitch G8052 system specifications.

Table 1. System specifications

Attribute	Specification
Form factor	1U rack mount
Ports	• 48x Gigabit Ethernet (GbE) RJ-45 fixed ports • 4x SFP/SFP+ ports
SFP/SFP+ media types	10 Gb Ethernet SFP+: • 10 GbE short-range (SR) SFP+ transceivers • 1/10 GbE SX/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 (AOCs) • 10 GbE SFP+ direct attach copper (DAC) cables 1 Gb Ethernet SFP: • 1 GbE short-wavelength (SX) SFP transceivers • 1 GbE long-wavelength (LX) SFP transceivers • 1 GbE RJ-45 SFP transceivers
Port speeds	• 1 GbE RJ-45 fixed ports: 10/100/1000 Mbps autosensing • 10 GbE SFP+ transceivers, DAC cables and AOCs: 10 Gbps • 1 GbE SFP transceivers: 1 Gbps
Switching method	Cut-through.
Data traffic types	Unicast, multicast, broadcast.
Software features	Lenovo Networking OS: Layer 2 switching, Layer 3 switching, virtual local area networks (VLANs), VLAN tagging, spanning tree protocol (STP), link aggregation (trunk) groups (LAGs), virtual LAGs (vLAGs), Hot Links, Layer 2 failover, quality of service (QoS), stacking, Edge Virtual Bridging (EVB), VMready, OpenFlow, IPv4/IPv6 management, IPv4/IPv6 routing, IPv4 virtual router redundancy protocol (VRRP), IPv4 policy-based routing (PBR).
Performance	Non-blocking architecture with wire-speed forwarding of traffic: • Up to 176 Gbps aggregated throughput • As low as 1.8 microseconds switching latency • Up to 132 Million packets per second (Mpps) • Up to 12,288-byte jumbo frames • Receive buffer size: 4 MB
Scalability	• MAC address forwarding database entries: 32,000 • VLANs: 4,095 (2,048 active VLANs) • Per VLAN Rapid Spanning Tree (PVRST) instances: 128 • Multiple STP (MSTP) instances: 32 • Link aggregation groups: 52 • Ports in a link aggregation group: 8

Attribute	Specification
Cooling	Three 2+1 redundant hot-swap fans. Optional additional fan for 2+2 redundancy. Rear (non-port side) to front (port side) or front to rear airflow.
Power supply	Two load-sharing, redundant hot-swap 450 W AC (100 - 240 V) power supplies (1x IEC 320-C14 connector on each power supply).
Hot-swap parts	SFP/SFP+ transceivers, SFP+ DAC cables, power supplies, fans.
Management ports	1x RS-232 port (Mini-USB); 1x USB port (for additional firmware, log, and configuration files storage).
Management interfaces	Industry standard command line interface (isCLI); SNMP v1 and v3; Netconf (XML). Optional Lenovo XClarity for discovery, inventory, monitoring and events.
Security features	Secure Shell (SSH); Secure Copy (SCP); Secure FTP (sFTP); user level security; Role-based Access Control (RBAC); LDAP/LDAPS, RADIUS, and TACACS+ authentication; access control lists (ACLs); port-based network access control (IEEE 802.1x).
Hardware warranty	Three-year Customer Replaceable Unit limited warranty with 9x5 Next Business Day Parts Delivered. Optional warranty service upgrades are available through Lenovo: onsite service, 24x7 coverage, 2-hour or 4-hour response time, 1-year or 2-year post-warranty extensions, Premier support, and basic installation services.
Software maintenance	Three-year software support and subscription is included in the base warranty. Optional 1-year and 2-year warranty extensions include software support and subscription.
Mean Time Between Failures	190,860 hours with ambient operating temperature of 40° C
Dimensions	Height: 44 mm (1.7 in.); width: 439 mm (17.3 in.); depth: 445 mm (17.5 in.)
Weight	10.5 kg (23.1 lb).

Models

The following table lists the G8052 switch models.

Table 2. G8052 switch models

Description	Part number	Machine Type-Model	Feature code
Lenovo RackSwitch G8052 (Rear to Front)	7159G52	7159-HC1	ASY2
Lenovo RackSwitch G8052 (Front to Rear)	715952F	7159-HC2	ASY1

The part number for the G8052 switch includes the following items:

- One Lenovo RackSwitch G8052 with two power supplies and three fan assemblies (rear-to-front airflow or front-to-rear airflow)
- Generic Rack Mount Kit (2-post)
- Console Cable Kit:
  - RJ-45 (plug) to RJ-45 (plug) serial cable (1 m)
  - Mini-USB to RJ-45 (jack) adapter cable (0.2 m) with retention clip
  - DB-9 to RJ-45 (jack) adapter
- Documentation package

Configuration notes:

- Power cables are not included and must be ordered together with the switch (see "Power supplies and cables" for details).
- SFP/SFP+ transceivers and cables are not included and should be ordered together with the switch, if required (see "Transceivers and cables" for details).

Transceivers and cables

With the flexibility of the G8052 switch, customers can choose the following connectivity technologies:

- For 1 GbE links, customers can use RJ-45 UTP cables up to 100 meters. Customers that need longer distances can use the 1000BASE-SX transceivers in the SFP/SFP+ ports, which can drive distances up to 220 meters with 62.5 µ multi-mode fiber (OM1) and up to 550 meters with 50 µ multi-mode fiber (OM2), or the 1000BASE-LX transceivers that support distances up to 10 kilometers with single-mode fiber (1310 nm).
- For 10 GbE links (supported on SFP+ ports), customers can use direct-attached copper (DAC) SFP+ cables for in-rack cabling for distances up to 7 meters or SFP+ active optical cables (AOCs) for distances up to 20 meters. These cables have SFP+ connectors on each end and 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 transceiver can support distances up to 300 meters over OM3 multimode fiber or up to 400 meters over OM4 multimode fiber. The 10GBASE-LR transceivers can support distances up to 10 kilometers on single mode fiber.

  For extended distances, the 10GBASE-ER transceivers can support distances up to 40 kilometers on single mode fiber.

The supported cables and transceivers are listed in the following table.

Table 3. Supported SFP/SFP+ transceivers and DAC cables

Description	Part number	Feature code	Maximum quantity
SFP transceivers - 1 GbE			
Lenovo 1000BASE-T (RJ-45) SFP Transceiver (no 10/100 Mbps support)	00FE333	A5DL	4
Lenovo 1000BASE-SX SFP Transceiver	81Y1622	3269	4
Lenovo 1000BASE-LX SFP Transceiver	90Y9424	A1PN	4
UTP Category 5E cables for 1 GbE RJ-45 ports: fixed ports, SFP transceivers			
0.6m Green Cat5e Cable	40K5563	3796	52
1.5m Blue Cat5e Cable	40K8785	3802	52
1.5m Green Cat5e Cable	40K5643	3797	52
3m Blue Cat5e Cable	40K5581	3803	52
3m Green Cat5e Cable	40K5793	3798	52
3m Yellow Cat5e Cable	40K8957	3793	52
10m Blue Cat5e Cable	40K8927	3804	52
10m Green Cat5e Cable	40K5794	3799	52
25m Blue Cat5e Cable	40K8930	3805	52
25m Green Cat5e Cable	40K8869	3800	52
SFP+ transceivers - 10 GbE			
Lenovo Dual Rate 1/10Gb SX/SR SFP+ Transceiver	00MY034	ATTJ	4*
Lenovo 10Gb SFP+ SR Transceiver (10GBASE-SR)	46C3447	5053	4
Lenovo 10Gb SFP+ LR Transceiver (10GBASE-LR)	90Y9412	A1PM	4
Lenovo 10GBASE-LR SFP+ Transceiver	00FE331	B0RJ	4
Lenovo 10Gb SFP+ ER Transceiver (10GBASE-ER)	90Y9415	A1PP	4
Lenovo 10GBASE-T SFP+ Transceiver	7G17A03130	AVV1	4

Description	Part number	Feature code	Maximum quantity
Optical cables for 1 GbE SFP SX and 10 GbE SFP+ SR transceivers			
Lenovo 0.5m LC-LC OM3 MMF Cable	00MN499	ASR5	4
Lenovo 1m LC-LC OM3 MMF Cable	00MN502	ASR6	4
Lenovo 3m LC-LC OM3 MMF Cable	00MN505	ASR7	4
Lenovo 5m LC-LC OM3 MMF Cable	00MN508	ASR8	4
Lenovo 10m LC-LC OM3 MMF Cable	00MN511	ASR9	4
Lenovo 15m LC-LC OM3 MMF Cable	00MN514	ASRA	4
Lenovo 25m LC-LC OM3 MMF Cable	00MN517	ASRB	4
Lenovo 30m LC-LC OM3 MMF Cable	00MN520	ASRC	4
UTP Category 6 cables for RJ-45 ports: 1 GbE fixed ports, 1 GbE SFP and 10 GbE SFP+ transceivers			
10m Cat6 Blue Cable	90Y3721	A1MU	52
10m Cat6 Green Cable	90Y3718	A1MT	52
10m Cat6 Yellow Cable	90Y3715	A1MS	52
25m Cat6 Blue Cable	90Y3730	A1MX	52
25m Cat6 Green Cable	90Y3727	A1MW	52
25m Cat6 Yellow Cable	90Y3724	A1MV	52
SFP+ active optical cables - 10 GbE			
Lenovo 1m SFP+ to SFP+ Active Optical Cable	00YL634	ATYX	4
Lenovo 3m SFP+ to SFP+ Active Optical Cable	00YL637	ATYY	4
Lenovo 5m SFP+ to SFP+ Active Optical Cable	00YL640	ATYZ	4
Lenovo 7m SFP+ to SFP+ Active Optical Cable	00YL643	ATZ0	4
Lenovo 15m SFP+ to SFP+ Active Optical Cable	00YL646	ATZ1	4
Lenovo 20m SFP+ to SFP+ Active Optical Cable	00YL649	ATZ2	4
SFP+ passive direct-attach cables - 10 GbE			
Lenovo 0.5m Passive SFP+ DAC Cable	00D6288	A3RG	4
Lenovo 1m Passive SFP+ DAC Cable	90Y9427	A1PH	4
Lenovo 1.5m Passive SFP+ DAC Cable	00AY764	A51N	4
Lenovo 2m Passive SFP+ DAC Cable	00AY765	A51P	4
Lenovo 3m Passive SFP+ DAC Cable	90Y9430	A1PJ	4
Lenovo 5m Passive SFP+ DAC Cable	90Y9433	A1PK	4
Lenovo 7m Passive SFP+ DAC Cable	00D6151	A3RH	4
SFP+ active direct-attach cables - 10 GbE			
Lenovo 1m Active DAC SFP+ Cable	00VX111	AT2R	4
Lenovo 3m Active DAC SFP+ Cable	00VX114	AT2S	4
Lenovo 5m Active DAC SFP+ Cable	00VX117	AT2T	4
Spare console cables			
Console Cable Kit Spare (RJ45/DB9)	90Y9462	A2MG	1

* Supports 10 Gbps only when used with the G8052.

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

Table 4. G8052 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 cable up to 10 km	LC
10Gb ER SFP+ (90Y9415)	10GBASE-ER	1310 nm single-mode fiber cable up to 40 km	LC
10Gb RJ-45 SFP+ (7G17A03130)	10GBASE-T	Up to 25 m with UTP Category 6 cables supplied by Lenovo (see Table 3); UTP Category 6a or 7 cables up to 30 m	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+
1 Gb Ethernet			
RJ-45 ports (fixed)	1000BASE-T	Up to 25 m with UTP Category 5E or 6 cables supplied by Lenovo (see Table 3); UTP Category 5, 5E, or 6 up to 100 m	RJ-45
1Gb RJ-45 SFP (00FE333)	1000BASE-T	Up to 25 m with UTP Category 5E or 6 cables supplied by Lenovo (see Table 3); UTP Category 5, 5E, or 6 up to 100 m	RJ-45
1Gb SX SFP (81Y1622)	1000BASE-SX	Up to 30 m with fiber optic cables supplied by Lenovo (see Table 3); 850 nm multimode fiber optic cable 50 µ (OM2) up to 550 m or 62.5 µ (OM1) up to 220 m	LC
1Gb LX SFP (90Y9424)	1000BASE-LX	1310 nm single-mode fiber cable up to 10 km	LC
Management ports			
RS-232 serial console port	RS-232	DB-9/RJ-45-to-Mini-USB (comes with the switch)	Mini-USB

Software features

Note: The features and specifications that are listed in this section are based on Networking OS 8.4.

The G8052 switch has the following software features:

- Scalability and performance:
  - Media access control (MAC) address learning with automatic updates
  - Static and LACP (IEEE 802.3ad) link aggregation
  - Broadcast/multicast storm control
  - IGMP snooping for limit flooding of IP multicast traffic
  - IGMP filtering to control multicast traffic for hosts participating in multicast groups
  - Configurable traffic distribution schemes over trunk links based on source or destination IP or MAC addresses, or both
  - Fast port forwarding for rapid STP convergence
- Availability and redundancy:
  - IEEE 802.1D STP for providing L2 redundancy
  - IEEE 802.1s Multiple STP (MSTP) for topology optimization
  - IEEE 802.1w Rapid STP (RSTP) (provides rapid STP convergence for critical delay-sensitive traffic, such as voice or video)
  - Per-VLAN Rapid STP (PVRST) enhancements

    - Layer 2 Trunk Failover to support active/standby configurations of network adapter teaming on servers
    - Hot Links provides basic link redundancy with fast recovery for network topologies that require Spanning Tree to be turned off
- VLAN support:
    - Port-based and protocol-based VLANs
    - Up to 4094 VLANs supported per switch (2048 active VLANs), with VLAN numbers 1 - 4094
    - 802.1Q VLAN tagging support on all ports
    - Ingress VLAN tagging support to tunnel packets through a public domain without altering the original 802.1Q tagging information
    - 802.1x with dynamic guest VLAN assignment
    - Private VLANs support as defined in RFC 5517
- OpenFlow 1.0 and 1.3.1 support
- Virtualization:
    - Virtual link aggregation groups (vLAGs)
        - Two switches (vLAG peers) act as a single virtual entity for a multi-port aggregation
        - vLAG Peer Gateway for improved usage of the inter-switch link between the vLAG peers
        - Two-tier vLAGs with VRRP enables active/active VRRP support to reduce routing latency
    - Supports 802.1Qbg Edge Virtual Bridging (EVB) which is an emerging IEEE standard for allowing networks to become virtual machine (VM)-aware:
        - Virtual Ethernet Bridging (VEB) and Virtual Ethernet Port Aggregator (VEPA) are mechanisms for switching between VMs on the same hypervisor.
        - Edge Control Protocol (ECP) is a transport protocol that operates between two peers over an IEEE 802 LAN providing reliable, in-order delivery of upper layer protocol data units.
        - Virtual Station Interface (VSI) Discovery and Configuration Protocol (VDP) allows centralized configuration of network policies that persist with the VM, independent of its location.
        - EVB Type-Length-Value (TLV) is used to discover and configure VEPA, ECP, and VDP.
    - VMready support:
        - Up to 1,024 virtual entities (VEs)
        - Automatic VE discovery
        - Up to 1,024 local or distributed VM groups for VEs
        - NMotion® feature for automatic network configuration migration
- Stacking: Up to eight switches in a stack; single IP management
- Security:
    - VLAN-, MAC-, and IP-based access control lists (ACLs)
    - 802.1x port-based authentication
    - Multiple user IDs and passwords
    - User access control
    - Radius, TACACS+ and LDAP/LDAPS authentication and authorization
    - NIST 800-131A Encryption
    - Selectable encryption protocol
    - Secure Input/Output Module (SIOM) policy: Secure and Legacy modes
- Quality of Service (QoS):
    - Support for IEEE 802.1p, IP ToS/DSCP, and ACL-based (MAC/IP source and destination addresses, VLANs) traffic classification and processing
    - Traffic shaping and re-marking based on defined policies
    - Eight priority queues per port for processing qualified traffic
    - Weighted random early detection with explicit congestion notification (WRED/ECN)
    - Control plane protection (CoPP)
    - IPv4/IPv6 ACL metering

- IP v4 Layer 3 functions:
  - Host management
  - IP forwarding
  - IP filtering with ACLs, up to 640 IPv4 ACLs supported
  - VRRP for router redundancy
  - Support for up to 128 static routes
  - Routing protocol support (RIP v1, RIP v2, OSPF v2, BGP)
  - Support for policy-based routing (PBR)
  - Support for DHCP Relay
  - Support for IGMP snooping and IGMP relay
  - Support for Protocol Independent Multicast (PIM) in Sparse Mode (PIM-SM) and Dense Mode (PIM-DM)
- IP v6 Layer 3 functions:
  - IPv6 host management
  - IPv6 forwarding
  - Up to 128 static routes
  - Support for OSPF v3 routing protocol
  - IPv6 filtering with ACLs, up to 128 IPv6 ACLs supported
- Manageability:
  - Industry-standard command line interface (isCLI)
  - Simple Network Management Protocol (SNMP V1 and V3)
  - Telnet interface for CLI
  - Secure Shell (SSH) v1 and v2 for CLI
  - Secure Copy (SCP) for uploading and downloading the switch configuration via secure channels
  - Service Location Protocol (SLP)
  - Link Layer Discovery Protocol (LLDP) for discovering network devices
  - Serial interface for CLI
  - Scriptable CLI
  - Dual software images
  - Firmware image update via TFTP, FTP, Secure FTP (sFTP), or USB storage
  - Network Time Protocol (NTP) for switch clock synchronization
  - Netconf (XML)
  - Lenovo XClarity (optional) for discovery, inventory, monitoring and events
- Monitoring:
  - Switch LEDs for port status and switch module status indication
  - Remote Monitoring (RMON) agent to collect statistics and proactively monitor switch performance
  - Port mirroring for analyzing network traffic passing through the switch
  - Change tracking and remote logging with the syslog feature
  - Support for sFlow agent for monitoring traffic in data networks (separate sFlow analyzer required elsewhere)

The following features are not supported with IPv6:

- Bootstrap Protocol (BOOTP) and DHCP
- Stacking
- RADIUS, TACACS+ and LDAP
- VMware Virtual Center (vCenter) for VMready
- Routing Information Protocol (RIP)
- Border Gateway Protocol (BGP)
- Virtual Router Redundancy Protocol (VRRP)
- Protocol Independent Multicast (PIM)
- sFlow

The following features are not supported with Stacking (for a full list of features, see the Networking OS Application Guide):

- IGMP Relay
- IPv6
- Policy-based routing
- Routing protocols (RIP, OSPF, BGP)
- sFlow
- Virtual Router Redundancy Protocol (VRRP)

Ethernet standards

The G8052 switch supports the following Ethernet standards:

- IEEE 802.1D Spanning Tree Protocol (STP)
- IEEE 802.1s Multiple STP (MSTP)
- IEEE 802.1w Rapid STP (RSTP)
- IEEE 802.1p Class of Service (CoS) prioritization
- IEEE 802.1Q Tagged VLAN (frame tagging on all ports when VLANs are enabled)
- IEEE 802.1x port-based authentication
- IEEE 802.3 10BASE-T Ethernet
- IEEE 802.3u 100BASE-TX Fast Ethernet
- IEEE 802.3ab 1000BASE-T copper twisted-pair Gigabit Ethernet
- IEEE 802.3z 1000BASE-SX short range fiber optics Gigabit Ethernet
- IEEE 802.3z 1000BASE-LX long range fiber optics Gigabit Ethernet
- IEEE 802.3ad Link Aggregation Control Protocol
- IEEE 802.3x Full-duplex Flow Control
- 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
- 10GSFP+Cu SFP+ Direct Attach copper

Cooling

The G8052 switch supports up to four hot-swap fan assemblies (three fan assemblies come standard with the switch, which provide N+1 cooling redundancy; if N+2 cooling redundancy is required, another fan assembly can be ordered). Spare fan assemblies can be ordered, if required (see the following table). Each option contains one hot-swap fan assembly (rear-to front or front-to-rear).

Table 5. Fan assembly spare options

Description	Part number	Feature code
Rear to front airflow (7159-HC1)		
Lenovo RackSwitch Hot-Swap, Rear-to-Front Fan Assembly	00D6071	A54K
Front to rear airflow (7159-HC2)		
Lenovo RackSwitch Hot-Swap, Front-to-Rear Fan Assembly	00D6073	A54J

Power supplies and cables

The G8052 switch supports up to two load-sharing, 450 W AC hot-swap redundant power supplies (two power supplies come standard with the switch). Spare power supplies can be ordered, if required (see the following table). Each option contains one hot-swap power supply (rear-to-front or front-to-rear).

Table 6. Power supply spare options

Description	Part number	Feature code
Rear to front airflow (7159-HC1)		
Lenovo RackSwitch Hot-Swap, Rear-to-Front 450W Power Supply	49Y7938	A2MH
Front to rear airflow (7159-HC2)		
Lenovo RackSwitch Hot-Swap, Front-to-Rear 450W Power Supply	49Y7937	A2MJ

The G8052 switch ships standard without any AC 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 7. 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	None*	6568
2.8m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable	None*	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
Country-specific 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
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
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

* Available for factory-built custom configurations and solutions only.

Rack installation

The G8052 switch includes a 2-post rack mount kit.

For 4-post rack installations, the G8052 switch supports the optional adjustable 19-inch, 4-post rail kit and the air inlet duct (optional for the 4-post rail kit; supported only with the models with rear to front airflow).

When the G8052 switch (front to rear airflow) is installed in the Intelligent Cluster Rack (Machine Type 1410) or Enterprise Rack (Machine Type 9363) as a part of a NeXtScale System solution, the recessed 19-inch 4-post rail kit and the switch seal kit are required. The seal kit includes enough switch seals for six switches.

The following table lists rack installation options for the G8052 switches with rear to front and front to rear airflow.

Table 8. Rack installation options

Description	Part number	Feature code
Rear to front airflow (7159-HC1)		
Lenovo RackSwitch Adjustable 19" 4 Post Rail Kit	00D6185	A3KP
Air Inlet Duct for 442 mm RackSwitch	00D6061	A3KR
Front to rear airflow (7159-HC2)		
Lenovo RackSwitch Adjustable 19" 4 Post Rail Kit	00D6185	A3KP
Lenovo RackSwitch Recessed 19" 4 Post Rail Kit	00CG089	A51M
Switch Seal Kit	00Y3001	A4WX

Physical specifications

The G8052 switch features the following approximate dimensions and weight:

- Height: 44 mm (1.7 in.)
- Width: 440 mm (17.3 in.)
- Depth: 445 mm (17.5 in.)
- Weight: 10.5 kg (23.1 lb)

Operating environment

The G8052 switch is supported in the following operating environment:

- Temperature: 0 - 40 ºC (32 - 104 ºF).
- Relative humidity: Non-condensing, 10 - 90%
- Altitude: up to 3,050 m (10,000 feet)
- Acoustic noise: Less than 65 dB
- Airflow: Front-to-rear or rear-to-front cooling
- Electrical input: 50 - 60 Hz, 100 - 240 V AC auto-switching
- Electrical power:
    - Typical: 130 W
    - Maximum: 200 W
- Heat dissipation: 444 BTU/hour (typical)

Warranty and maintenance

The RackSwitch G8052 comes with a 3-year Customer Replaceable Unit (CRU) hardware limited warranty with 9x5 Next Business Day (NBD) Parts Delivered and includes a 3-year software license, which provides entitlement to upgrades over that period. The options that are installed in the switch assume the switch's base warranty and any Lenovo warranty service upgrade for the switch.

Some countries might have different warranty terms and conditions than the standard warranty. This is due to local business practices or laws in the specific country. Local service teams can assist in explaining country-specific terms when needed. Examples of country-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 spares parts.

Also available are Lenovo Services warranty maintenance upgrades and post-warranty maintenance agreements, with a well-defined scope of services, including service hours, response time, term of service, and service agreement terms and conditions.

Lenovo warranty service upgrade offerings are country-specific. Not all warranty service upgrades are available in every country. For information about Lenovo warranty service upgrade offerings that are available in your country or area, refer to the following resources:

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

In general, the following Lenovo warranty service upgrades are available:

- Warranty and maintenance service upgrades:
  - 3, 4, or 5 years of warranty 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 countries)
  - Advanced Service: 24x7 service coverage with 2-hour onsite response or 6-hour committed repair (available only in select countries)
- Premier Support
  Premier Support service offers direct access to Lenovo's most advanced technicians for faster troubleshooting with single point of contact for end-to-end problem resolution and collaborative third-party software support.
- Basic Hardware Installation Services
  Lenovo experts can seamlessly manage the physical installation of your server, storage, or networking hardware. Working at a time convenient for you (business hours or off shift), the technician will unpack and inspect the systems on your 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 your team to focus on other priorities.

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

- Lenovo Statement of Limited Warranty for Data Center Group (DCG) 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

Regulatory compliance

The switch conforms to the following regulations:

- Safety certifications:
  - UL60950-1
  - CAN/CSA 22.2 No.60950-1
  - TUV/GS to EN 60950-1
  - IEC60950-1
  - GB17625.1-2012
  - CNS 14336-1, 2010
- 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
  - EN 300386
  - CE
- Environmental: Reduction of Hazardous Substances (ROHS) 6

Network connectivity

The following table lists the network switches with rear-to-front airflow that are offered by Lenovo that can be used with the RackSwitch G8052 for ThinkSystem and Flex System network connectivity.

Table 9. Network switches (rear-to-front airflow)

Description	Part number
1 Gb Ethernet switches	
Lenovo ThinkSystem NE0152T RackSwitch (Rear to Front)	7Y810011WW
Lenovo ThinkSystem NE0152TO RackSwitch (Rear to Front, ONIE)	7Z320O11WW
Lenovo RackSwitch G7028 (Rear to Front)	7159BAX
Lenovo RackSwitch G7052 (Rear to Front)	7159CAX
10 Gb Ethernet switches	
Lenovo ThinkSystem NE1032 RackSwitch (Rear to Front)	7159A1X
Lenovo ThinkSystem NE1032T RackSwitch (Rear to Front)	7159B1X
Lenovo ThinkSystem NE1072T RackSwitch (Rear to Front)	7159C1X
Lenovo RackSwitch G8124E (Rear to Front)	7159BR6
Lenovo RackSwitch G8272 (Rear to Front)	7159CRW
Lenovo RackSwitch G8296 (Rear to Front)	7159GR6

Description	Part number
25 Gb Ethernet switches (10 GbE connectivity out of an SFP28 port)	
Lenovo ThinkSystem NE2572 RackSwitch (Rear to Front)	7159E1X
Lenovo ThinkSystem NE2572O RackSwitch (Rear to Front, ONIE)	7Z210O21WW
100 Gb Ethernet switches (4x 10 GbE breakout connectivity out of a QSFP28 port)	
Lenovo ThinkSystem NE10032 RackSwitch (Rear to Front)	7159D1X
Lenovo ThinkSystem NE10032O RackSwitch (Rear to Front, ONIE)	7Z210O11WW

The following table lists the network switches with front-to-rear airflow that are offered by Lenovo that can be used with the RackSwitch G8052 for NeXtScale System network connectivity.

Table 10. Network switches (front-to-rear airflow)

Description	Part number
10 Gb Ethernet switches	
Lenovo ThinkSystem NE1032 RackSwitch (Front to Rear)	7159A2X
Lenovo ThinkSystem NE1032T RackSwitch (Front to Rear)	7159B2X
Lenovo ThinkSystem NE1072T RackSwitch (Front to Rear)	7159C2X
Lenovo RackSwitch G8124E (Front to Rear)	7159BF7
Lenovo RackSwitch G8272 (Front to Rear)	7159CFV
Lenovo RackSwitch G8296 (Front to Rear)	7159GF5
25 Gb Ethernet switches (10 GbE connectivity out of an SFP28 port)	
Lenovo ThinkSystem NE2572 RackSwitch (Front to Rear)	7159E2X
100 Gb Ethernet switches (4x 10 GbE breakout connectivity out of a QSFP28 port)	
Lenovo ThinkSystem NE10032 RackSwitch (Front to Rear)	7159D2X

For more information, see the list of Product Guides in the Top-of-rack Switches category:
http://lenovopress.com/servers/options/switches

Storage connectivity

The following table lists the external storage systems that are currently offered by Lenovo that can be used with the RackSwitch G8052 for external NAS or iSCSI SAN storage connectivity.

Table 11. External storage systems: DE Series

Description	Part number	
	Worldwide	Japan
Lenovo ThinkSystem DE Series Storage (iSCSI connectivity)		
Lenovo ThinkSystem DE2000H 10GBASE-T Hybrid Flash Array LFF	7Y70A003WW	7Y701001JP
Lenovo ThinkSystem DE2000H 10GBASE-T Hybrid Flash Array SFF	7Y71A002WW	7Y711005JP
Lenovo ThinkSystem DE2000H iSCSI Hybrid Flash Array LFF	7Y70A004WW	7Y701000JP
Lenovo ThinkSystem DE2000H iSCSI Hybrid Flash Array SFF	7Y71A003WW	7Y711006JP
Lenovo ThinkSystem DE4000H iSCSI Hybrid Flash Array 4U60	7Y77A000WW	7Y771002JP
Lenovo ThinkSystem DE4000H iSCSI Hybrid Flash Array LFF	7Y74A002WW	7Y74A002JP
Lenovo ThinkSystem DE4000H iSCSI Hybrid Flash Array SFF	7Y75A001WW	7Y75A001JP
Lenovo ThinkSystem DE4000F iSCSI All Flash Array SFF	7Y76A002WW	7Y76A002JP

Description	Part number	
	Worldwide	Japan
Lenovo ThinkSystem DE6000H iSCSI Hybrid Flash Array 4U60	7Y80A002WW	7Y801000JP
Lenovo ThinkSystem DE6000H iSCSI Hybrid Flash Array SFF	7Y78A002WW	7Y781000JP
Lenovo ThinkSystem DE6000F iSCSI All Flash Array SFF	7Y79A002WW	7Y79A002JP

Table 12. External storage systems: DM Series

Description	Part number
Lenovo ThinkSystem DM Series Storage (NAS or iSCSI connectivity)	
Lenovo ThinkSystem DM3000H Hybrid Storage Array (2U12 LFF, CTO only)	7Y42CTO1WW
Lenovo ThinkSystem DM3000H 48TB (12x 4TB HDDs) (Universal SFP+)	7Y420001EA*
Lenovo ThinkSystem DM3000H 48TB (12x 4TB HDDs) (10GBASE-T)	7Y420002EA*
Lenovo ThinkSystem DM5000H Hybrid Storage Array (2U24 SFF, CTO only)	7Y57CTO1WW
Lenovo ThinkSystem DM5000H 11.5TB (12x 960GB SSDs) (Universal SFP+)	7Y570001EA*
Lenovo ThinkSystem DM5000H 11.5TB (12x 960GB SSDs) (10GBASE-T)	7Y570002EA*
Lenovo ThinkSystem DM5000H 29TB (24x 1.2TB 10K HDDs) (Universal SFP+)	7Y570003EA*
Lenovo ThinkSystem DM5000H 29TB (24x 1.2TB 10K HDDs) (10GBASE-T)	7Y570004EA*
Lenovo ThinkSystem DM5000F Flash Storage Array (2U24 SFF, CTO only)	7Y41CTO1WW
Lenovo ThinkSystem DM7000H Hybrid Storage Array (3U, CTO only)	7Y56CTO1WW
Lenovo ThinkSystem DM7000F Flash Storage Array (3U, CTO only)	7Y40CTO1WW

* Available only in EMEA.

Table 13. External storage systems: DS Series

Description	Part number		
	Worldwide	Japan	PRC
Lenovo ThinkSystem DS Series Storage (iSCSI connectivity)			
Lenovo ThinkSystem DS2200 LFF FC/iSCSI Dual Controller Unit	4599A31	4599A3J	4599A3C
Lenovo ThinkSystem DS2200 SFF FC/iSCSI Dual Controller Unit	4599A11	4599A1J	4599A1C
Lenovo ThinkSystem DS4200 LFF FC/iSCSI Dual Controller Unit	4617A31	4617A3J	4617A3C
Lenovo ThinkSystem DS4200 SFF FC/iSCSI Dual Controller Unit	4617A11	4617A1J	4617A1C
Lenovo ThinkSystem DS6200 SFF FC/iSCSI Dual Controller Unit	4619A11	4619A1J	4619A1C
DS6200F 12x 400GB 10DWD SSDs, 1x 8Gb FC SFP, 512 Snapshots, Replication	4619A1F	4619J1F	4619C1F
DS6200F 12x 800GB 3DWD SSDs, 1x 8Gb FC SFP, 512 Snapshots, Replication	4619A2F	4619J2F	4619C2F
DS6200F 12x 1.6TB 3DWD SSDs, 1x 8Gb FC SFP, 512 Snapshots, Replication	4619A3F	4619J3F	4619C3F
DS6200F 12x 3.84TB 1DWD SSDs, 1x 8Gb FC SFP, 512 Snapshots, Replication	4619A4F	4619J4F	4619C4F

Table 14. External storage systems: V Series and Storwize for Lenovo

Description	Part number
Lenovo Storage V Series (iSCSI connectivity)	
Lenovo Storage V3700 V2 LFF Control Enclosure	6535C1D
Lenovo Storage V3700 V2 SFF Control Enclosure	6535C2D
Lenovo Storage V3700 V2 XP LFF Control Enclosure	6535C3D
Lenovo Storage V3700 V2 XP SFF Control Enclosure	6535C4D
Lenovo Storage V5030 LFF Control Enclosure 3Yr S&S	6536C12
Lenovo Storage V5030 LFF Control Enclosure 5Yr S&S	6536C32
Lenovo Storage V5030 SFF Control Enclosure 3Yr S&S	6536C22
Lenovo Storage V5030 SFF Control Enclosure 5Yr S&S	6536C42
Lenovo Storage V5030F SFF Control Enclosure 3Yr S&S	6536B1F
Lenovo Storage V5030F SFF Control Enclosure 5Yr S&S	6536B2F
Lenovo Storage V7000 SFF Control Enclosure 3Yr S&S PRC	6538R11^
Lenovo Storage V7000 SFF Control Enclosure 5Yr S&S PRC	6538R21^
Lenovo Storage V7000F SFF Control Enclosure 3Yr S&S PRC	6538R1G^
Lenovo Storage V7000F SFF Control Enclosure 5Yr S&S PRC	6538R2G^
IBM Storwize for Lenovo (iSCSI connectivity)	
IBM Storwize V7000 SFF Control Enclosure, 3YR SWMA	6195C32†
IBM Storwize V7000 SFF Control Enclosure, 3YR SWMA, LA	6195C3L‡
IBM Storwize V7000 SFF Control Enclosure, 5YR SWMA	6195C52†
IBM Storwize V7000 SFF Control Enclosure, 5YR SWMA, LA	6195C5L‡

^ Available only in PRC.
† Available worldwide except Latin America.
‡ Available only in Latin America.

For more information, see the list of Product Guides in the following categories:

- Lenovo DE Series, DM Series, DS Series, and V Series storage:
  http://lenovopress.com/storage/san/lenovo#rt=product-guide
- IBM Storwize for Lenovo storage:
  http://lenovopress.com/storage/san/ibm#rt=product-guide

Rack cabinets

The following table lists the rack cabinets that are offered by Lenovo that can be used in RackSwitch G8052 solutions.

Table 15. Rack cabinets

Description	Part number
25U S2 Standard Rack	93072RX
25U Static S2 Standard Rack	93072PX
42U S2 Standard Rack	93074RX
42U 1100mm Enterprise V2 Dynamic Rack	93634PX
42U 1100mm Enterprise V2 Dynamic Expansion Rack	93634EX
42U 1200mm Deep Dynamic Rack	93604PX
42U 1200mm Deep Static Rack	93614PX
42U Enterprise Rack	93084PX
42U Enterprise Expansion Rack	93084EX

For more information, see the list of Product Guides in the Rack cabinets category:
http://lenovopress.com/servers/options/racks

Power distribution units

The following table lists the power distribution units (PDUs) that are offered by Lenovo that can be used in RackSwitch G8052 solutions.

Table 16. Power distribution units

Description	Part number
0U Basic PDUs	
0U 36 C13/6 C19 24A/200-240V 1 Phase PDU with NEMA L6-30P line cord	00YJ776
0U 36 C13/6 C19 32A/200-240V 1 Phase PDU with IEC60309 332P6 line cord	00YJ777
0U 21 C13/12 C19 32A/200-240V/346-415V 3 Phase PDU with IEC60309 532P6 line cord	00YJ778
0U 21 C13/12 C19 48A/200-240V 3 Phase PDU with IEC60309 460P9 line cord	00YJ779
Switched and Monitored PDUs	
0U 20 C13/4 C19 Switched and Monitored 24A/200-240V/1Ph PDU w/ NEMA L6-30P line cord	00YJ781
0U 20 C13/4 C19 Switched and Monitored 32A/200-240V/1Ph PDU w/ IEC60309 332P6 line cord	00YJ780
0U 18 C13/6 C19 Switched / Monitored 32A/200-240V/346-415V/3Ph PDU w/ IEC60309 532P6 cord	00YJ782
0U 12 C13/12 C19 Switched and Monitored 48A/200-240V/3Ph PDU w/ IEC60309 460P9 line cord	00YJ783
1U 9 C19/3 C13 Switched and Monitored DPI PDU (without line cord)	46M4002
1U 9 C19/3 C13 Switched and Monitored 60A 3Ph PDU with IEC 309 3P+Gnd cord	46M4003
1U 12 C13 Switched and Monitored DPI PDU (without line cord)	46M4004
1U 12 C13 Switched and Monitored 60A 3 Phase PDU with IEC 309 3P+Gnd line cord	46M4005
Ultra Density Enterprise PDUs (9x IEC 320 C13 + 3x IEC 320 C19 outlets)	
Ultra Density Enterprise C19/C13 PDU Module (without line cord)	71762NX
Ultra Density Enterprise C19/C13 PDU 60A/208V/3ph with IEC 309 3P+Gnd line cord	71763NU

Description	Part number
C13 Enterprise PDUs (12x IEC 320 C13 outlets)	
DPI C13 Enterprise PDU+ (without line cord)	39M2816
DPI Single Phase C13 Enterprise PDU (without line cord)	39Y8941
C19 Enterprise PDUs (6x IEC 320 C19 outlets)	
DPI Single Phase C19 Enterprise PDU (without line cord)	39Y8948
DPI 60A 3 Phase C19 Enterprise PDU with IEC 309 3P+G (208 V) fixed line cord	39Y8923
Front-end PDUs (3x IEC 320 C19 outlets)	
DPI 30amp/125V Front-end PDU with NEMA L5-30P line cord	39Y8938
DPI 30amp/250V Front-end PDU with NEMA L6-30P line cord	39Y8939
DPI 32amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8934
DPI 60amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8940
DPI 63amp/250V Front-end PDU with IEC 309 2P+Gnd line cord	39Y8935
Universal PDUs (7x IEC 320 C13 outlets)	
DPI Universal 7 C13 PDU (with 2 m IEC 320-C19 to C20 rack power cord)	00YE443
NEMA PDUs (6x NEMA 5-15R outlets)	
DPI 100-127V PDU with fixed NEMA L5-15P line cord	39Y8905
Line cords for PDUs that ship without a line cord	
DPI 30a Line Cord (NEMA L6-30P)	40K9614
DPI 32a Line Cord (IEC 309 P+N+G)	40K9612
DPI 32a Line Cord (IEC 309 3P+N+G)	40K9611
DPI 60a Cord (IEC 309 2P+G)	40K9615
DPI 63a Cord (IEC 309 P+N+G)	40K9613
DPI Australian/NZ 3112 Line Cord (32A)	40K9617
DPI Korean 8305 Line Cord (30A)	40K9618

For more information, see the list of Product Guides in the Power Distribution Units category:
http://lenovopress.com/servers/options/pdu

Uninterruptible power supply units

The following table lists the uninterruptible power supply (UPS) units that are offered by Lenovo that can be used in RackSwitch G8052 solutions.

Table 17. Uninterruptible power supply units

Description	Part number
Worldwide models	
RT1.5kVA 2U Rack or Tower UPS (100-125VAC) (8x NEMA 5-15R 12A outlets)	55941AX
RT1.5kVA 2U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A outlets)	55941KX
RT2.2kVA 2U Rack or Tower UPS (100-125VAC) (8x NEMA 5-20R 16A outlets)	55942AX
RT2.2kVA 2U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A, 1x IEC 320 C19 16A outlets)	55942KX
RT3kVA 2U Rack or Tower UPS (100-125VAC) (6x NEMA5-20R 16A, 1x NEMA L5-30R 24A outlets)	55943AX
RT3kVA 2U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A, 1x IEC 320 C19 16A outlets)	55943KX
RT5kVA 3U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A, 2x IEC 320 C19 16A outlets)	55945KX
RT6kVA 3U Rack or Tower UPS (200-240VAC) (8x IEC 320 C13 10A, 2x IEC 320 C19 16A outlets)	55946KX
RT8kVA 6U Rack or Tower UPS (200-240VAC) (4x IEC 320-C19 16A outlets)	55948KX
RT11kVA 6U Rack or Tower UPS (200-240VAC) (4x IEC 320-C19 16A outlets)	55949KX
RT8kVA 6U 3:1 Phase Rack or Tower UPS (380-415VAC) (4x IEC 320-C19 16A outlets)	55948PX
RT11kVA 6U 3:1 Phase Rack or Tower UPS (380-415VAC) (4x IEC 320-C19 16A outlets)	55949PX
ASEAN, HTK, INDIA, and PRC models	
ThinkSystem RT3kVA 2U Standard UPS (200-230VAC) (2x C13 10A, 2x GB 10A, 1x C19 16A outlets)	55943KT
ThinkSystem RT3kVA 2U Long Backup UPS (200-230VAC) (2x C13 10A, 2x GB 10A, 1x C19 16A outlets)	55943LT
ThinkSystem RT6kVA 5U UPS (200-230VAC) (2x C13 10A outlets, 1x Terminal Block output)	55946KT
ThinkSystem RT10kVA 5U UPS (200-230VAC) (2x C13 10A outlets, 1x Terminal Block output)	5594XKT

For more information, see the list of Product Guides in the Uninterruptible Power Supply Units category: http://lenovopress.com/servers/options/ups#rt=product-guide

Lenovo Financial Services

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We are dedicated to delivering a positive finance experience for customers like you who want to maximize your purchase power by obtaining the technology you need today, protect against technology obsolescence, and preserve your capital for other uses.

We work with businesses, non-profit organizations, governments and educational institutions to finance their entire technology solution. We focus on making it easy to do business with us. Our highly experienced team of finance professionals operates in a work culture that emphasizes the importance of providing outstanding customer service. Our systems, processes and flexible policies support our goal of providing customers with a positive experience.

We finance your entire solution. Unlike others, we allow you to bundle everything you need from hardware and software to service contracts, installation costs, training fees, and sales tax. If you decide weeks or months later to add to your solution, we can consolidate everything into a single invoice.

Our Premier Client services provide large accounts with special handling services to ensure these complex transactions are serviced properly. As a premier client, you have a dedicated finance specialist who manages your account through its life, from first invoice through asset return or purchase. This specialist develops an in-depth understanding of your invoice and payment requirements. For you, this dedication provides a high-quality, easy, and positive financing experience.

For your region specific offers please ask your Lenovo sales representative or your technology provider about the use of Lenovo Financial Services. For more information, see the following Lenovo website: http://www.lenovofs.com

Related publications and links

For more information about the RackSwitch G8052, see the following publications that are available at the RackSwitch G8052 InfoCenter:
http://systemx.lenovofiles.com/help/topic/com.lenovo.rackswitch.g8052.doc/rs_g8052.html

- *RackSwitch G8052 Installation Guide*
- *RackSwitch G8052 Application Guide*
- *RackSwitch G8052 Industry Standard CLI Command Reference*

For discussions on various Lenovo networking topics, visit the Data Center Networking Community Forum:
http://forums.lenovo.com/t5/Datacenter-Networking/ct-p/nh_eg

Related product families

Product families related to this document are the following:

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

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