

## Quidway® S5600 Series Switch

Quidway S5600 series switches are innovative switches that powered by Intelligent Resilient Framework. The innovative highlights of S5600 Series switches are high stacking bandwidth up to 96G, high-density GE ports, 10GE uplink, and hot-swappable power suppliers. Quidway S5624P/S5648P can be upgraded to S5624P-PWR/S5648P-PWR by replacing the power suppliers. This product series represents the next generation desktop switches. Quidway S5600 series switches can be used in access layer of Gigabit Ethernet network or in aggregation layer with high availability as well as scalability.

Quidway S5600 series switches include 5 models namely S5624P, S5624P-PWR, S5648P, S5648P-PWR and S5624F.



**Quidway S5624P/S5624P-PWR**



**Quidway S5648P/S5648P-PWR**



**Quidway S5624F**

Quidway S5624P/S5624P-PWR have 24 Ethernet 10/100/1000 Base-T ports, 4 1000BASE-X SFP (combo), 2 dedicated stacking ports and one expansion slot. Quidway S5648P/S5648P-PWR have 48 Ethernet 10/100/1000Base-T ports, 4 1000BASE-X SFP (combo), 2 dedicated stacking ports and one expansion slot. Quidway S5624F has 24 Ethernet 1000Base-X SFP ports, 4 10/100/1000Base-T ports (combo), 2 dedicated stacking ports and one expansion slot. S5600-PWR model supports PoE, which transmit power over Ethernet to endpoint-devices. The combo ports in S5600 are combo of 10/100/1000BASE-T and 1000BASE-X.

## Product specifications

- **Innovative IRF technology**

Quidway S5600 Series adopts an innovative technology, Intelligent Resilient Framework, so bandwidth can be expanded and upgraded smoothly. With IRF technology, S5600 series switches can be stacked up to 8 units, forming a distributed switching fabric with up to 96G stacking bandwidth between any two units. From the management and configuration perspective, the distributed switches act as one switching device and run as one logical entity, while from a performance perspective, each switch in the IRF framework can make local forwarding decision in layer2 and layer3, the unit in the fabric can backup each other.

Generally speaking, IRF features the advantages like reliability, scalability and manageability which meet customer demands.

- **New wire-speed ,multi-layer switch**

Quidway S5600 series switches have 192G or 240G switching capacity and 65.47Mpps or 101.18Mpps throughput. Quidway S5600 series switches offer L2/L3 wire-speed switching capacity. The product series supports maximum 448GE or 384GE+16\*10GE, offers 10GE uplink speed, satisfies the most demanding. The hardware supports L3 wire-speed switching, and is able to identify and process the traffic flows from L4-L7. With independent packet filters, all ports distinguish different flows and forward them with corresponding priority.

- **PoE supply feature**

Quidway S5600 series supply PoE function for endpoint devices, providing power over copper Ethernet cable to endpoint (such as IP phone, WLAN AP). As IEEE802.3af compliant PSE (Power Sourcing Equipment), Quidway S5600 PWR series can provides 300W PoE power supply without external PoE power suppliers. With RPS1000A, S5600 PWR can ensure every 10/100/1000 port 15.4W of power. With PoE and Voice Vlan technology, S5600 can provide an ideal solution for a converged voice and data network.

- **Flexible security control policies**

Based on the longest-prefix matching routing policy, this function can prevent the attack of some virus or worm, such as Code Red and Worm Blaster.

S5600 series switches support centralized MAC and 802.1X



authentication. It verifies users' legality when they access the network. In addition, S5600 can prevent unauthorized access the network by binding IP, MAC and port in any combination. S5600 series switches can support dynamic Vlan assignment which allows identity-based security policy regardless of where the user is connected.

S5600 series switches support Disconnect Unauthorized Device (DUD) authentication. The switch filters out all the traffic of a connected device once it detects the device is unauthorized. S5600 series switches support SSH.

- **High reliability**

Quidway S5600 switches are IRF enabled. With IRF, there will be redundancy in the stacking fabric not only in the control plane but also in the data plane. There is no single point of failure in a fabric.

Quidway S5600 supports STP/RSTP, and Multi-Vlan based MSTP, which greatly improves the reliability of the whole networks.

Quidway S5600 series switches support VRRP and can build a VRRP backup group with other VRRP supported L3 switches.

Quidway S5600 supports up to 4 ECMP (Equal Cost Multi-path Protocol) routing, which can be used for load balance and routing redundancy.

Power supply can be AC or RPS DC to meet different customers' demands. Power module can be hot-swappable.

- **Abundant QoS policies**

Quidway S5600 supports L2 to L7 flow classification. The rules can be based on source/destination MAC address, source/destination IP address, TCP/UDP ports and protocols. S5600 series switches can support 100 flows rule per port.

Quidway S5600 series switches support flexible queue scheduling algorithms, which can be defined based on port and queue at the same time. Strict Priority (SP), Weighted Round Robin (WRR), SP + WRR can be configured for queue scheduling. Congestion avoidance algorithm can support 8 queues.

Quidway S5600 series switches support Committed Access Rate (CAR) which has a granularity of 64Kbps for GE port, and 1Mbps for 10GE port.

- **Diverse management mode**

Quidway S5600 series switches support Simple Network Management Protocol (SNMP). The SNMPv1/v2c/v3 are all supported. They can be



## Quidway S5600 Series Switch

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managed by general network management platform such as OpenView, and Quidview network management system. In addition, Command Line Interface (CLI), Web network management and telnet are supported.



**Product Feature**

Port configuration	S5624P	S5624P-PWR	S5648P	S5648P-PWR	S5624F
Fixed port	24 10/100/1000Base-T ports, 4 1000BASE-X SFP (Combo) ports, and 2 dedicate high speed stacking ports		48 10/100/1000Base-T, 4 1000BASE-X SFP (Combo) ports, and 2 dedicate high speed stacking ports		24 1000Base-X SFP ports, 4 10/100/1000BASE-T(Combo) , and 2 dedicate high speed stacking ports
Expansion slot	1	1	1	1	1
Expansion module	(1) 8 ports 1000Base-X SFP module (2) 1 port Xenpak 10GE Module (3) 2 ports XFP 10GE module				
MTBF (Years)	32.30	32.30	23.99	23.99	23.89
MTTR (hours)	<2	<2	<2	<2	<2
<b>Performance</b>	Switch capacity: 192Gbps Throughput: 65.47Mpps		Switch capacity: 240Gbps Throughput: 101.18Mpps		Switch capacity: 192Gbps Throughput: 65.47Mpps
<b>Layer 2 feature</b>					
Flash	16M	16M	16M	16M	16M
Vlan	4k Vlan (IEEE802.1Q) Voice Vlan Port-based Vlan				
Link aggregation	Link aggregation through command lines Dynamic link aggregation through LACP Link aggregation across switches Up to eight GE or four 10GE ports in each aggregation group Up to 32 aggregation groups(each aggregation port must be of the same speed)				
Mirroring	Many-to-one port mirroring (multiple monitored ports to one monitor port) Traffic mirroring				
MAC address table	Address self-learning IEEE 802.1D standard Up to 16K MAC addresses				
STP/RSTP/MSTP	STP RSTP MSTP				
POE	No	Yes	No	Yes	No



## Quidway S5600 Series Switch

Flow control	IEEE 802.3x (full duplex) Back-pressure based flow control (half duplex)
IRF	Up to 8 units in one stacking group Up to 448GE or 384GE and 16 10GE in one stacking group Stacking bandwidth :96Gbps
<b>Layer 3 feature</b>	
IP routing	Static RIPv1/v2 OSPF 4 ECMP(Equal Cost Multi-Path)
IP Routing Table	16K
Multicast	256 multicast groups IGMP IGMP Snooping PIM-DM PIM-SM
Network Protocol	DHCP Relay NTP ARP VRRP
<b>Management</b>	CLI Telnet Console SNMPv1/v2c/v3 RMON1/2/3/9 groups of MIBs Huawei Quidview NMS Web-based management System logging Hierarchical alarming
Quality of service (QoS)/ Access control list (ACL)	Committed Access Rate (CAR), GE port with granularity of 64 Kbps and 10GE port with the granularity of 1 Mbps Eight output queues on each port Three scheduling algorithms per port and scheduling algorithms can be: strict priority (SP), weighted round robin (WRR) or SP + WRR



		<p>Remapping 802.1p or DSCP preference values of packets</p> <p>Packet filter from layers 2 to layer 4</p> <p>Time-based QoS</p> <p>Profile-based QoS</p>			
<b>Security</b>		<p>Hierarchical user management and password protection</p> <p>IEEE 802.1x authentication</p> <p>Disconnect Unauthorized Device (DUD) authentication</p> <p>SSH1.5</p> <p>Denial of Service (DoS) attack prevention</p> <p>MAC address authentication</p> <p>Portal authentication</p> <p>Packet filtering</p> <p>Port isolation</p>			
<b>Hardware configuration</b>					
Outline dimension		440 mm × 43.6 mm × 420mm (17.32 in. × 1.72 in. × 16.54 in.)			
Weight		<table border="1"> <tr> <td>&lt;7.5Kg</td> <td>&lt;8Kg</td> <td>&lt;7.5Kg</td> </tr> </table>	<7.5Kg	<8Kg	<7.5Kg
<7.5Kg	<8Kg	<7.5Kg			
Power supply	Power module	<p>PSL130-AD: 130 W system output, AC/RPS DC input</p> <p>PSL480-AD24P: 180 W system output + 300 W PoE output with 24 ports, AC/RPS DC input</p> <p>PSL180-AD: 180 W system output, AC/RPS DC input</p> <p>PSL480-AD48P: 180 W system output + 300 PoE output with 48 ports, AC/RPS DC input</p>			
	Input voltage	<p>AC:</p> <p>Rated voltage: 100V to 240V, 50 Hz to 60Hz</p> <p>Maximum tolerance:90V to 264V, ; 50 Hz to 60Hz</p> <p>DC:</p> <p>Rated voltage: -48V to -60V</p> <p>Maximum tolerance: -36V to -72V</p>			
	Input DC voltage of PoE power module	<p>The S5624P-PWR/S5648P-PWR must use the external PoE PSU recommended by Huawei-3Com as its DC input, but not the -48VDC power supply generally available in the equipment room. Otherwise, the device may be damaged.</p> <p>DC input of the PoE power module:</p> <p>Rated voltage: - 53.5 V</p> <p>Max voltage range: - 52 to - 55 V</p>			



## Quidway S5600 Series Switch

	RPS power	Supported				
Maximum power consumption		170W	540W	230 W	600W	170W
Operating temperature		0°C to 45°C				
Operating humidity (non-condensing)		10% to 90%				

## Industry standards support

### ● Ethernet Protocol

- IEEE802.3 10BASE-T Ethernet
- IEEE802.3u 100BASE-TX Fast Ethernet
- IEEE802.1Q Virtual bridged Local Area Network (VLAN)
- IEEE 802.1P QoS
- IEEE 802.1D Bridging
- IEEE802.3x full duplex / flow control
- IEEE802.3p four levels of priority
- IEEE 802.1w Rapid Reconfiguration( Spanning Tree )
- IEEE802.1D Spanning Tree
- IEEE802.1S MSTP
- IEEE 802.1X Port-based authentication

### ● Administration Protocol

- RFC 1812 (IPv4)
- RFC 826 (ARP)
- RFC 959 (FTP)
- RFC 783 (TFTP)
- RFC 768 (UDP)
- RFC 791 (IP)
- RFC 792 (ICMP)
- RFC 793 (TCP)
- RFC 2622 (Routing policy)
- RFC 2474 (Diffserv)

- RFC 2131 (DHCP)
- RFC 1058 (RIPv1)
- RFC1723 (RIPv2)
- RFC 2328 (OSPF v2)
- RFC 2370 (OSPF Opaque LSA Option)
- RFC 1587 (OSPF NSSA option)
- RFC 1765 (OSPF Database Overflow)
- RFC 2362 (PIM-SM)
- RFC 1112 (IGMPv1)
- RFC 2236 (IGMPv2)
- RFC 2138 (Radius Authentication)
- RFC 2139 (Radius Accounting)
- RFC 2267 (Network Ingress Filtering)
- RFC 1157 (SNMP)
- RFC 1902 (SNMPv2)
- RFC2574 (SNMPv3)
- RFC2575 (SNMP)

## Order information

### S5600 series host configurations

BOM	Name	Description
0235A126	LS-S5624P-OVS	S5624P Ethernet switch with 24 10/100/1000 BASE-T ports and 4 1000 BASE-X SFP slots (Combo) (AC 110/220V, RPS DC -48V)
0235A127	LS-S5624P-PWR-OVS	S5624P-PWR Ethernet Switch with 24 10/100/1000 BASE-T ports and 4 1000 BASE-X SFP slots (Combo) with(AC 110/220V, RPS DC -48V)
0235A124	LS-S5648P-OVS	S5648P Ethernet switch with 48 10/100/1000 BASE-T ports and 4 1000 BASE-X SFP slots (combo) (AC 110/220V, RPS DC -48V)
0235A125	LS-S5648P-PWR-OVS	S5648P-PWR Ethernet Switch with 48 10/100/1000 BASE-T ports and 4 1000 BASE-X SFP slots (Combo) (AC 110/220V, RPS DC -48V)
0235A147	LS-S5624F-OVS	S5624F Ethernet Switch with 24 1000 BASE-X SFP and 4 10/100/1000 BASE-T ports (AC 110/220V, RPS DC -48V)



### S5600 optional interface card module

BOM	Name	Description
0231A098	LSHM1XK1P	S5600 1-port 10GE XENPAK interface card, Xenpak Req
0231A100	LSHM1GP8P	S5600 8-port 1000 BASE-X SFP interface card, SFP Req
0231A099	LSHM1XP2P	S5600 2-port 10GE XFP interface card, XFP Req

### S5600 optional power module

BOM	Name	Description
0231A373	PSL130-AD-H	Quidway S5624P-130W standard power module
0231A374	PSL180-AD-H	Quidway S5648P-180W standard power module
0231A375	PSL480-AD24P-H	Quidway S5624P-PWR-24 ports PoE power module
0231A376	PSL480-AD48P-H	Quidway S5648P-PWR-48 ports PoE power module

### S5600 optical module

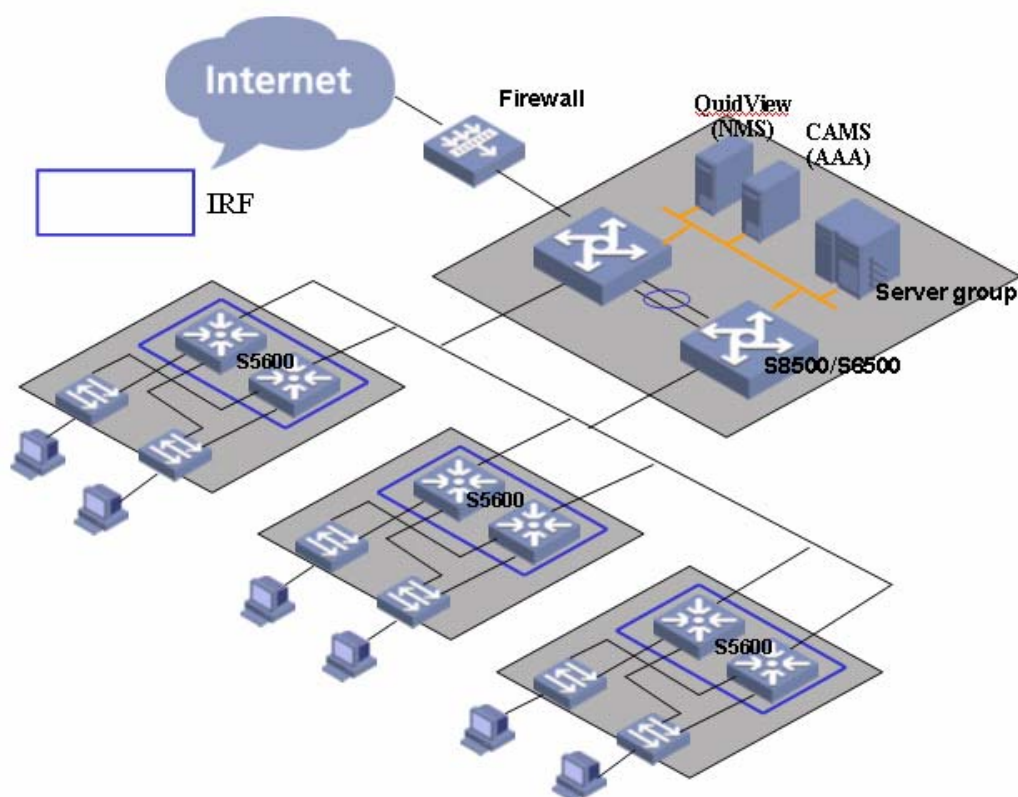
BOM	Name	Description
0231A562	SFP-GE-SX-MM850-A	SFP multi mode optical module(850nm, 550m,LC)
0231A563	SFP-GE-LX-SM1310-A	SFP single mode optical module(1310nm,10km,LC)
02312170	SFP-GE-LH40-SM1310	SFP single mode optical module(1310nm, 40km, LC)
02312172	SFP-GE-LH40-SM1550	SFP single mode optical module(1550nm, 40km, LC)
02312173	SFP-GE-LH70-SM1550	SFP single mode optical module(1550nm, 70km, LC)
0231A085	SFP-GE-T	SFP 1000Base-T electrical interface module
0231A363	XENPAK-LX-MM850	10GBASE-SR-MM-850nm-300M-XENPAK-SC
0231A323	XENPAK-LX-SM1310	10GBASE-LR-SM-1310nm-10KM-XENPAK-SC/PC
0231A324	XENPAK-LH40-SM1550	10GBASE-ER-SM-1550nm-40KM-XENPAK-SC
0231A494	XFP-10GE-MM850	10GBASE-SR-MM-850nm-330M-XFP-LC
0231A438	XFP-10GE-SM1310	10GBASE-LR-SM-1310nm-10KM-XFP-LC

### S5600 Stack cable

BOM	Name	Description
0231A404	CAB-F1STK-50cm	Quidway S5600 stack cable-50cm
0231A405	CAB-F1STK-120cm	Quidway S5600 stack cable-120cm

## Typical Application

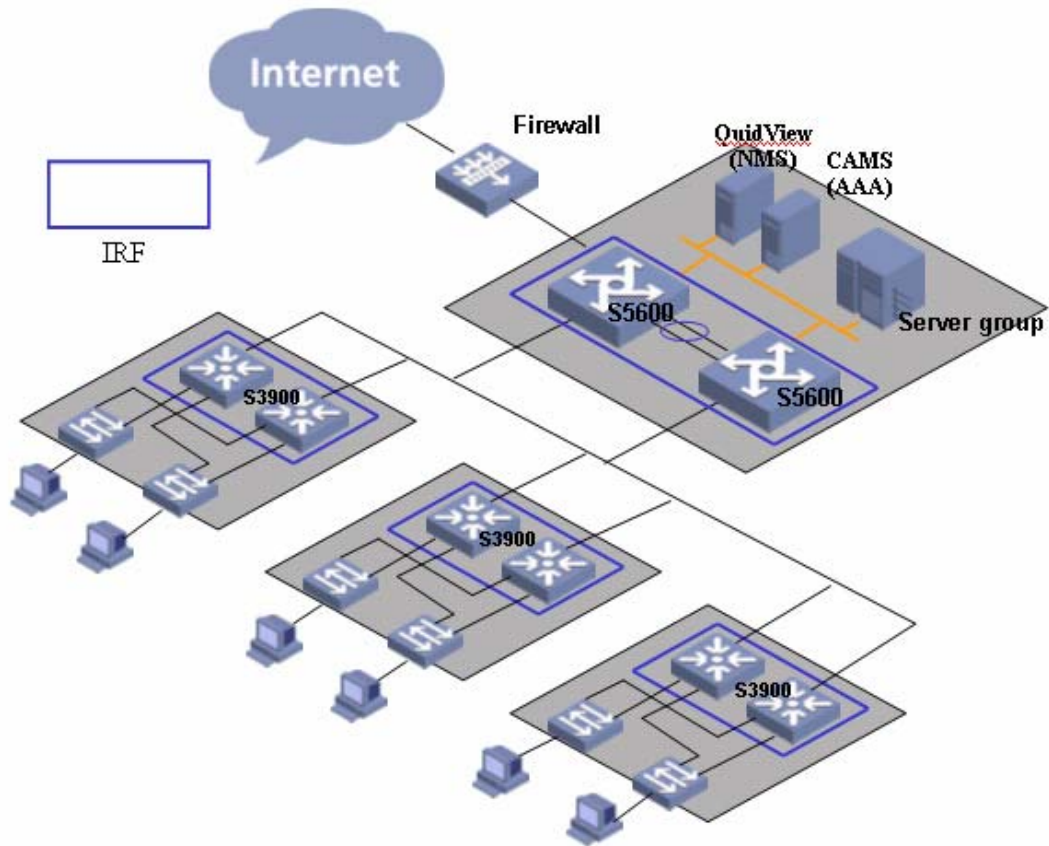
### 1、Application in the convergent layer of large enterprise/campus network



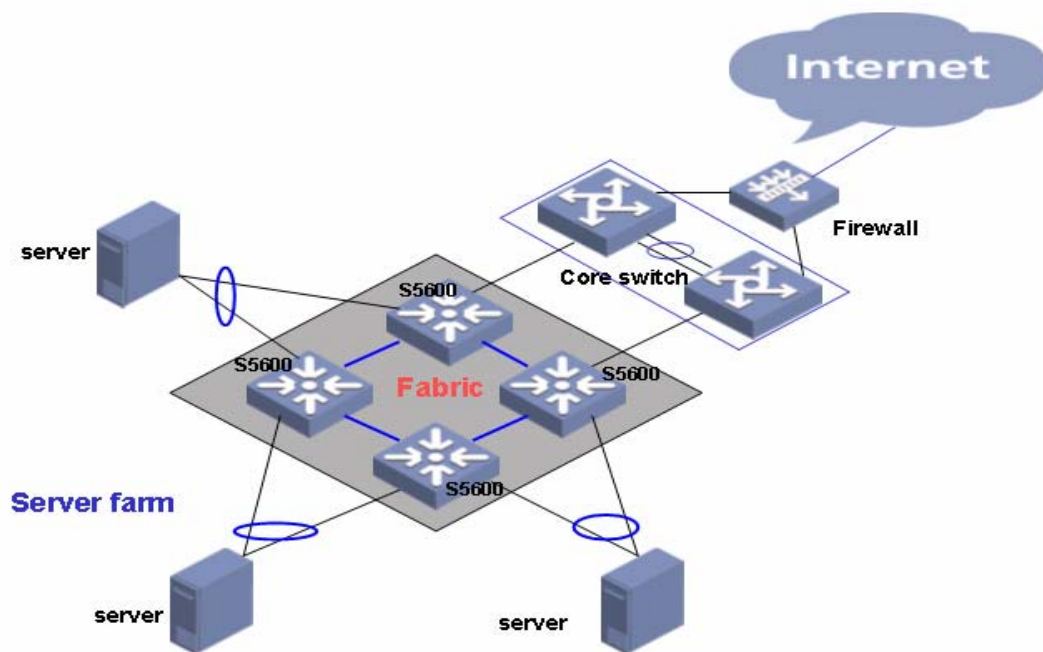
In a large enterprise or campus network, the S5600 series are located at the convergent layer. They are downlinked to layer 2 switches, such as S3000 series, and uplinked to a high-performance core layer switch through the 10GE or GE aggregation. These switches together provide a network-wide intranet solution that covers 10 gigabit-to-backbone and 100 Mbps-to-desktop.

### 2、Application in the core layer of small and midsize enterprise network

S5600 series can serve as backbone switches in small and midsize enterprise networks. They are uplinked to the headquarters or other branches through routers. They can smoothly enlarge capacity with the IRF technology.



### 3、Application in the Datacenter



Based on high-density GE ports, Quidway S5600 series can serve as core switches which connect the servers group in the datacenter. They can provide wire-speed GE connection for the servers, and can provide 10GE uplink to core layer. With IRF technology, S5600 can expand port capacity and switch capacity smoothly for further upgrading.