Layer 3 Multiple Gigabit + 4-Port 10G SFP+ Stackable Managed Switch

Powerful 10Gbps and Layer 3 Routing Solution for Enterprise Backbone and Data Center Networking

PLANET SGS-6341 series is a **Layer 3 Stackable Managed Gigabit Switch that provides high-density performance, Layer 3 static routing, RIP (Routing Information Protocol)** and **OSPF (Open Shortest Path First)**. With **10Gbps** uplink interfaces and **switch stacking** capability, the SGS-6341 series can handle extremely large amounts of data in a secure topology linking to an enterprise backbone or high-capacity servers. The powerful multicast routing and network security features make the SGS-6341 series perform effective data traffic control for ISP and enterprise VoIP, video streaming, and multicast applications.

The hardware specifications of these models are shown below:

Models	10/100/1000T Copper	100/1000X SFP	1000/10G SFP+	PoE Ports	Power Input
SGS-6341-24T4X	24	--	4	--	AC
SGS-6341-24P4X	24	4 (combo)	4	24	AC
SGS-6341-16S8C4XR	8 (combo)	24	4	--	AC + DC
SGS-6341-48T4X	48	--	4	--	AC

High Performance 10Gbps Ethernet Capacity

The four SFP+ ports built in the SGS-6341 series boasts a high-performance switch architecture that is capable of providing non-blocking switch fabric and wire-speed throughput as high as up to 80Gbps, which greatly simplifies the tasks of upgrading the LAN for catering to increasing bandwidth demands. Each of the SFP+ ports supports **Dual-Speed**, **10GBASE-SR/LR** or **1000BASE-SX/LX**, meaning the administrator now can flexibly choose the suitable SFP/SFP+ transceiver according to the transmission distance or the transmission speed required to extend the network efficiently.

Stacking Features

- **IP Stacking**
  - Connects with stack member via Gigabit TP, SFP and 10G SFP+ interfaces
  - Single IP address management, supporting up to 24 IP units stacked together
- **Hardware Stacking**
  - Virtualized multiple SGS-6341 series stacked into one logical facility
  - Connects with stack members via assigned 10G SFP+ interfaces
  - Single IP address stack management, supporting up to 4 hardware units stacked together
  - Stacking architecture supports redundant Ring mode

IP Routing Features

- IP routing protocol supports **RIPv1/v2**, **RIPng**, **OSPFv2/v3**, **BGP4/4+**
- Routing interface provides per VLAN routing mode
- **VRRPv1/v3** protocol for redundant routing deployment
- Supports route redistribution
- Supports hardware-based wire-speed VLAN routing

Multicast Routing Features

- Supports **PIM-DM** (Protocol Independent Multicast – Dense Mode) and **PIM-SM** (Protocol Independent Multicast – Sparse Mode) and **PIM-SSM** (Protocol Independent Multicast – Source Specific Multicast)
- Supports **DVMRP** (Distance Vector Multicast Routing Protocol)
- Supports IGMP v1/v2/v3 and MLD v1/v2

Layer 2 Features

- High performance Store-and-Forward architecture, broadcast storm control, port loopback detection
- 16K MAC address table, automatic source address learning and aging
- Supports VLAN
  - IEEE 802.1Q tag-based VLAN
  - GVRP for dynamic VLAN management
  - Provider Bridging (VLAN Q-in-Q, IEEE 802.1ad) supported
  - Private VLAN Edge (PVE) supported
  - GVRP protocol for Management VLAN
  - Protocol-based VLAN

Central IP Stacking Management

Positioned as the distribution or aggregation layer switch for large networks, the SGS-6341 series supports IP stacking function that helps network managers to easily configure up to 24 switches in the same series via one single IP address instead of connecting and setting each unit one by one. The IP Stacking technology groups PLANET SGS-6341 switch series together to enable centralized management through a single unit, regardless of physical location or switch type, as long as they are connected to the same local network.

IP Stacking
Up to 24 units with SGS-6341 Series
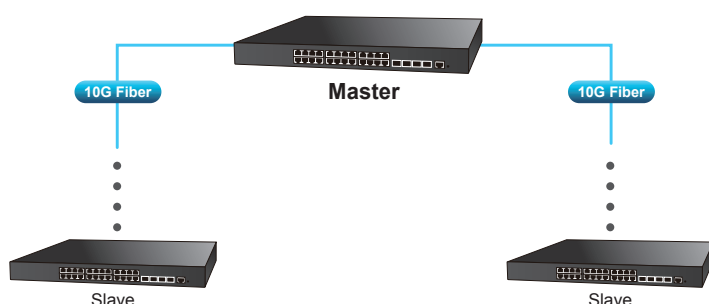
High Reliability Hardware Stacking

Two of the 10G SFP+ ports can be configured to connect several SGS-6341 series for building a virtually logical facility. The SGS-6341 series gives the enterprises, service providers and telecoms flexible control over port density, uplinks and switch stack performance. The SGS-6341 series can connect as a ring for redundancy and ensures that data integrity is retained even if one switch in the stack fails. You can even hot-swap switches without disrupting the network, which greatly simplifies the tasks of upgrading the LAN for catering to increasing bandwidth demands.

Hardware Stacking
Up to 4 units with SGS-6341 Series
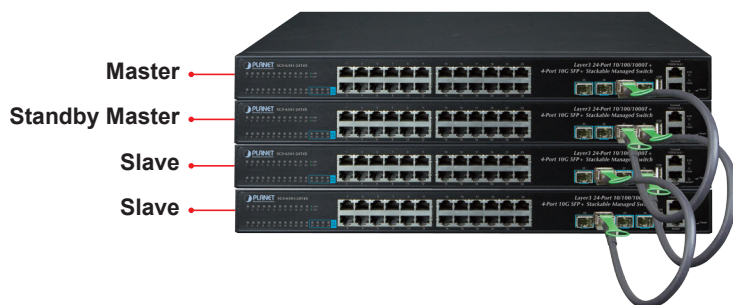
Redundant Ring, Fast Recovery for Critical Network Applications

The SGS-6341 series supports redundant ring technology and features strong, rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced ITU-T **G.8032 ERPS** (Ethernet Ring Protection Switching) technology and Spanning Tree Protocol (802.1s MSTP) into customer's network to enhance system reliability and uptime in harsh environments. In a certain simple Ring network, the recovery time could be less than 50ms to quickly bring the network back to normal operation.

– MAC-based VLAN
– IP subnet VLAN
• Supports Link Aggregation
  – Maximum 128 trunk groups, up to 8 ports per trunk group
  – IEEE 802.3ad LACP (Link Aggregation Control Protocol)
  – Cisco ether-channel (static trunk)
• Supports Spanning Tree Protocol
  – STP, IEEE 802.1D (Classic Spanning Tree Protocol)
  – RSTP, IEEE 802.1w (Rapid Spanning Tree Protocol)
  – MSTP, IEEE 802.1s (Multiple Spanning Tree Protocol, spanning tree by VLAN)
  – Supports BPDU & root guard
• Port mirroring to monitor the incoming or outgoing traffic on a particular port (many to many)
• Provides port mirror (many-to-1)
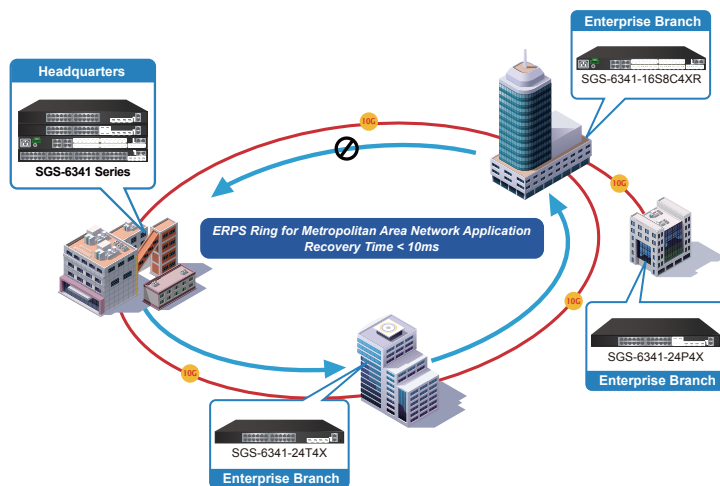• Supports G.8032 ERPS (Ethernet Ring Protection Switching)

Quality of Service

• 8 priority queues on all switch ports
• Support for strict priority and WRR (Weighted Round Robin) CoS policies
• Traffic classification
  – IEEE 802.1p CoS/ToS
  – IPv4/IPv6 DSCP
  – Port-based WRR
• Strict priority and WRR CoS policies

Multicast

• Supports IPv4 IGMP snooping v1, v2 and v3; IPv6 MLD v1 and v2 snooping
• Querier mode support
• Supports Multicast VLAN Register (MVR)

Security

• IEEE 802.1x port-based network access authentication
• MAC-based network access authentication
• Built-in RADIUS client to cooperate with the RADIUS servers for IPv4 and IPv6
• TACACS+ login users access authentication
• IP-based Access Control List (ACL)
• MAC-based Access Control List
• Supports DHCP snooping
• Supports ARP inspection
• **IP Source Guard** prevents IP spoofing attacks
• **Dynamic ARP Inspection** discards ARP packets with invalid MAC address to IP address binding

Enterprise Branch
SGS-6341-16S8C4XR

Headquarters
SGS-6341 Series

ERPS Ring for Metropolitan Area Network Application Recovery Time < 10ms

SGS-6341-24P4X
Enterprise Branch

SGS-6341-24T4X
Enterprise Branch

Layer 3 Routing Support

The SGS-6341 series enables the administrator to conveniently boost network efficiency by configuring Layer 3 static routing manually, the RIP (Routing Information Protocol) or OSPF (Open Shortest Path First) settings automatically.

► The RIP can employ the hop count as a routing metric and prevent routing loops by implementing a limit on the number of hops allowed in a path from the source to a destination.

► The OSPF is an interior dynamic routing protocol for autonomous system based on link state. The protocol creates a database for link state by exchanging link states among Layer 3 switches, and then uses the Shortest Path First algorithm to generate a route table based on that database.

Strong Multicast

The SGS-6341 series supports abundant multicast features. In Layer 2, it features IPv4 IGMPv1/v2/v3 snooping and IPv6 MLD v1/v2 snooping. In Layer 3 multicast protocols, it features IGMPv1/v2/v3 and DVMRP. With Multicast VLAN Register (MVR), multicast receiver/sender control and illegal multicast source detect functions which make the SGS-6341 series great for any robust networking.

Full IPv6 Support

The SGS-6341 series provides **IPv6 management** and enterprise-level secure features such as **SSH**, **ACL**, **WRR** and **RADIUS** authentication. It thus helps the enterprises to step in the IPv6 era with the lowest investment. In addition, you don't need to replace the network facilities when the IPv6 FTTx edge network is built.

Robust Layer 2 Features

The SGS-6341 series can be programmed for basic switch management functions such as port speed configuration, port aggregation, VLAN, Multiple Spanning Tree Protocol, bandwidth control and IGMP snooping. This switch provides 802.1Q tagged VLAN, Q-in-Q, voice VLAN and GVRP Protocol functions. By supporting port aggregation, the SGS-6341 series allows the operation of a high-speed trunk combined with multiple ports. It enables up to 16 groups for trunking with a maximum of 8 ports for each group.

L2/L4
Managed Switch

L2/L4
Managed Switch
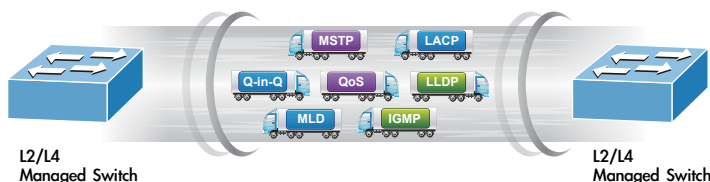
Management

- Management IP for IPv4 and IPv6
- Switch Management Interface
  - Console/Telnet Command Line Interface
  - Web switch management
  - SNMP v1, v2c, and v3 switch management
  - SSH/SSL secure access
- BOOTP and DHCP for IP address assignment
- Firmware upload/download via TFTP or HTTP Protocol for IPv4 and IPv6
- SNTP (Simple Network Time Protocol) for IPv4 and IPv6
- User privilege levels control
- Syslog server for IPv4 and IPv6
- Supports DDM
- Four RMON groups 1, 2, 3, 9 (history, statistics, alarms and events)
- Supports sFlow
- Supports ULDP
- Supports ULPP (Uplink Protection Protocol)
- Supports ULSM (Uplink State Monitor protocol)
- Supports LLDP/LLDP MED
- Supports DHCP Option82, Option37/38
- Supports ping, trace route function for IPv4 and IPv6

Power over Ethernet (SGS-6341-24P4X)

- Complies with IEEE 802.3at Power over Ethernet Plus, end-span PSE
- Up to 24 ports of IEEE 802.3af/802.3at devices powered
- Supports PoE power up to 30 watts for each PoE port
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100 meters
- PoE management
  - Total PoE power budget control
  - Per port PoE function enable/disable
  - PoE port power feeding priority
  - Per PoE port power limitation
  - PD classification detection
  - PoE schedule

Redundant Power System (SGS-6341-16S8C4XR)

- 100~240V AC / 11-13V DC Dual power redundant
- Active-active redundant power failure protection
- Backup of catastrophic power failure on one supply