50-Port 10/100/1000Mbps with 4 Shared SFP Managed Gigabit Switch

IPv4/IPv6 Management / High-Density / Cost-effective / Telecom class Gigabit solution for Enterprise backbone and Data Center Networking

The PLANET WGSW-50040 is a Layer 2 managed Gigabit Switch that provides high density performance and is rack mountable. With 100Gbps switching fabric, the WGSW-50040 can handle extremely large amounts of data in a secure topology linking to an enterprise backbone or high capacity servers. The powerful QoS and Network Security features make WGSW-50040 to perform effective data traffic control for ISP and Enterprise VoIP, video streaming and multicast applications.

Abundant IPv6 Support

The WGSW-50040 provides **IPv6 management** and enterprise level secure features such as **SSH**, **ACL**, **QoS** and **RADIUS** authentication besides the IPv4 protocol supported. Supporting IPv6 management features and also backward compatible with IPv4, the WGSW-50040 helps the enterprises to step in the IPv6 era with the lowest investment but not need to replace the network facilities while the ISP construct the IPv6 FTTx edge network.

High Performance

The WGSW-50040 provides 50 10/100/1000Mbps Gigabit Ethernet ports with 4 shared Gigabit SFP slots. It boasts a high performance switch architecture that is capable of providing non-blocking switch fabric and wire-speed throughput as high as 100Gbps, which greatly simplifies the tasks of upgrading the LAN for catering to increasing bandwidth demands.

Robust Layer 2 Features

The WGSW-50040 can be programmed for basic Switch management functions such as Port speed configuration, Port aggregation, VLAN, Spanning Tree protocol, QoS, bandwidth control and IGMP Snooping. The WGSW-50040 provides 802.1Q Tagged VLAN, Q-in-Q, voice VLAN and GVRP protocol. The VLAN groups allowed on the WGSW-50040 will be maximally up to 256. By supporting port aggregation, the WGSW-50040 allows the operation of a high-speed trunk combining multiple ports. It enables up to 8 groups of maximum 8-ports for trunking.

Excellent Traffic Control

PLANET WGSW-50040 is loaded with powerful traffic management and QoS features to enhance services offered by telecoms. The functionality includes QoS features such as wire-speed Layer 4 traffic classifiers and bandwidth limiting that are particular useful for multi-tenant unit, multi business unit, Telco, or Network Service Provide applications. It also empowers the enterprises to take full advantages of the limited network resources and guarantees the best performance at VoIP and Video conferencing transmission.

Powerful Security

The WGSW-50040 supports ACL policies comprehensively. The traffic can be classified by source/destination IP addresses, source/destination MAC addresses, IP protocols, TCP/UDP, IP precedence, time ranges and ToS. Moreover, various policies can be conducted to forward the traffic. The WGSW-50040 also provides IEEE802.1x port based access authentication, which can be deployed with RADIUS, to ensure the port level security and block illegal users.

Efficient Management

The WGSW-50040 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. For efficient management, the WGSW-50040 Managed Ethernet Switch is equipped with console, WEB and SNMP management interfaces. With its built-in Web-based management interface, the PLANET WGSW-50040 offers an easy-to-use, platform-independent management and configuration facility. The WGSW-50040 supports standard Simple Network Management Protocol (SNMP) and can be managed via any standard-based management software. For text-based management, WGSW-500400 can be accessed via Telnet and the console port. Moreover, the WGSW-50040 offers secure remote management by supporting SSH connection which encrypts the packet content at each session.

Flexibility and Extension solution

The four mini-GBIC slots built in the WGSW-50040 are compatible with 1000Base-SX/LX and WDM SFP (Small Factor Pluggable) fiber-optic modules. The distance can be extended from 550 meters (Multi-Mode fiber) up to above 10/50/70/120 kilometers (Single-Mode fiber or WDM fiber). It is well suited for applications within the enterprise data centers and distributions.

KEY FEATURES

PHYSICAL PORT

- 50-Port 10/100/1000Base-T Gigabit Ethernet RJ-45

- 4 mini-GBIC/SFP slots, shared with Port-45 to Port-48

- RJ-45 to DB9 console interface for Switch basic management and setup

IP STACKING

- Connects with stack member via both Gigabit TP/SFP interface

- Single IP address management, supports up to 24 units stacking together

- Stacking architecture supports Chain and Ring mode

LAYER 2 FEATURES

- Complies with the IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z Gigabit Ethernet standard

- Supports Auto-negotiation and Half-Duplex / Full-Duplex modes for all 10Base-T/100Base-TX and 1000Base-T ports.

- Supports 1000Base-SX/LX for all SFP interface.

- Auto-MDI/MDI-X detection on each RJ-45 port

- Prevents packet loss Flow Control:
  - IEEE 802.3x PAUSE Frame flow control for Full-Duplex mode
  - Back-Pressure Flow Control in Half-Duplex mode
- High performance Store and Forward architecture, broadcast storm control, port loopback detect

- 8K MAC address table, automatic source address learning and ageing

- Support VLAN
  - IEEE 802.1Q Tag-based VLAN
  - GVRP for dynamic VLAN Management
  - Up to 4K VLANs groups, out of 4041 VLAN IDs
  - Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
  - Private VLAN Edge (PVE) supported
  - GVRP protocol for Management VLAN
- Support Link Aggregation
  - Maximum 8 trunk groups, up to 8 ports per trunk group
  - IEEE 802.3ad LACP (Link Aggregation Control Protocol)
  - Cisco ether-channel (Static Trunk)
- 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 & port guard

- Port Mirroring to monitor the incoming or outgoing traffic on a particular port (many to many)

- Provides Port Mirror (many-to-1)

QUALITY OF SERVICE

- 8 priority queues on all switch ports

- Supports for strict priority and Weighted Round Robin (WRR) CoS policies

- Traffic classification:
  - IEEE 802.1p CoS / ToS
  - IPv4 / IPv6 DSCP
  - Port-Based QoS
- Strict priority and Weighted Round Robin (WRR) CoS policies

MULTICAST

- Support IGMP Snooping v1,v2 and v3, MLD v1 and v2 snooping

- Querier mode support

SECURITY

- IEEE 802.1x Port-Based network access authentication

- MAC-Based network access authentication

- Build-in RADIUS client to co-operate 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

MANAGEMENT

- Switch Management Interface
  - Console / Telnet Command Line Interface
  - Web switch management
  - SNMP v1, v2c, and v3 switch management
  - SSH secure access
- BOOTP and DHCP for IP address assignment

- Support DHCP relay function

- 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

- Four RMON groups 1, 2, 3, 9 (history, statistics, alarms, and events)

- Supports Ping, Trace route function for IPv4 and IPv6
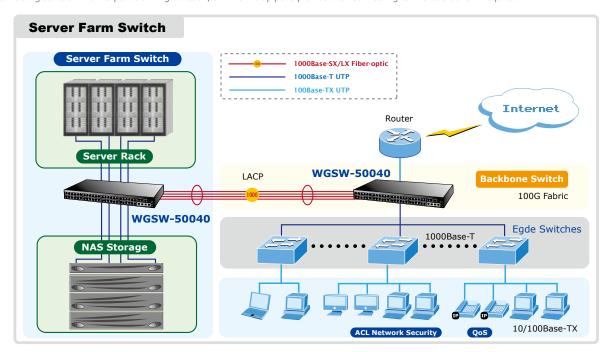
- Management IP for IPv4 and IPv6

Data Sheet

APPLICATIONS

Backbone Switch

With up to 100Gbps non-blocking switch fabric and 50 high density ports design, the WGSW-50040 can easily provide the high bandwidth required for both now and future. It can easily offer a local, high bandwidth, and Gigabit Ethernet network for backbone of enterprises or Telecoms. With the four SFP ports, the WGSW-50040 provides the uplink to the edge network through Gigabit Ethernet LX/SX SFP modules.

Server Farm Switch

The WGSW-50040 provides up to 50 Gigabit Ethernet ports for Enterprises and Network servers. It is ideal to be used as a server farm switch connecting servers. With its port trunking function, an 8 GB fat pipe is provided for connecting to the backbone if required.

Department Security and QoS Switch

With the security, Multicast IGMP Snooping and QoS features, the WGSW-50040 improves the network efficiency and protects the network clients. With the four SFP ports, the WGSW-50040 provides the uplink to the backbone network through Gigabit Ethernet LX/SX SFP modules.

SPECIFICATION

Product	50-Port 10/100/1000Mbps with 4 Shared SFP Managed Gigabit Switch
Model	WGSW-50040
Hardware Specification	
Copper Ports	50 10/ 100/1000Base-T RJ-45 Auto-MDI/MDI-X ports
SFP / mini-GBIC Slots	4 1000Base-SX/LX SFP interfaces, shared with Port-45 to Port-48
Switch Architecture	Store-and-Forward
Switch Fabric	100Gbps / non-blocking
Switch Throughput	74.4Mpps
Address Table	8K MAC address table with Auto learning function
Share Data Buffer	0.5Mbytes
VLAN Table	4K
ACL Table	1K
Port Queues	8
Flow Control	Back pressure for Half-Duplex IEEE 802.3x Pause Frame for Full-Duplex
Jumbo Frame	9K
LED	System: PWR, SYS Ports: TP Port:10/100/1000 Link/Act SFP Slot: On/Off
Dimension (W x D x H)	440 x 230 x 44 mm, 1U height
Weight	3215g
Power Consumption	80 Watts / 272.8 BTU (Maximum)
Power Requirement	AC 100~240V, 50/60Hz
Management Function	
System Configuration	Console, Telnet, SSH, Web Browser, SNMPv1, v2c and v3
Management	Supports the unite for IPv4 / IPv6 HTTP Supports the user IP security inspection for IPv4 / IPv6 SNMP Supports MIB and TRAP Supports IPv4 / IPv6 FTP/TFTP Supports IPv4 / IPv6 NTP Supports RMOM 1, 2, 3, 9 four group Supports the RADIUS authentication for IPv4 / IPv6 telnet user name and password Supports IPv4 / IPv6 SSH The right configuration for users to adopt radius server's shell management Supports CLI, Console (RS-232), Telnet Supports SNMPv1 / v2c / v3 Supports Security IP safety net management function avoid unlawful landing at nonrestrictive area Support Syslog server for IPv4 and IPv6 Supports TACACS+
Layer2 Function	
Port Configuration	Port disable/enable. Auto-negotiation 10/100/1000Mbps full and half duplex mode selection. Flow Control disable / enable. Bandwidth control on each port Port Loopback detect
Port Status	Display each port's speed duplex mode, link status, Flow control status. Auto negotiation status.
VLAN	802.1Q Tagged Based VLAN, up to 4K VLAN groups Q-in-Q GVRP for VLAN Management Private VLAN Edge (PVE) supported
Bandwidth Control	TX / RX / Both
Link Aggregation	IEEE 802.3ad LACP / Static Trunk Supports 8 groups of 8-Port trunk

QoS	8 priority queues on all switch ports
	Supports for strict priority and weighted round robin (WRR) CoS policies
	Traffic classification:
	  - IEEE 802.1p CoS / ToS
	  - IPv4 / IPv6 DSCP
	  - Port-Based QoS
	Strict priority and Weighted Round Robin (WRR) CoS policies

Data Sheet

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IGMP Snooping	IGMP (v1/v2/v3) Snooping, IGMP Querier mode
Multicast	IGMP v1/ v2 / v3 Snooping IGMP Querier mode support MLD v1 / v2, MLD v1 / v2 Snooping
Access Control List	Support Standard and Expanded ACL IP-Based ACL / MAC-Based ACL Time-Based ACL Up to 512 entries
Security	Support MAC + port binding IPv4 / IPv6 + MAC + port binding IPv4 / IPv6 + port binding Support MAC filter ARP Scanning Prevention
Authentication	IEEE 802.1x Port-Based network access control AAA Authentication: TACACS+ and IPv4/IPv6 over RADIUS
SNMP MIBs	RFC-1213 MIB-II RFC-1215 Internet Engineering Task Force RFC-1271 RMON RFC-1354 IP-Forwarding MIB RFC-1493 Bridge MIB RFC-1643 Ether-like MIB RFC-1907 SNMP v2 RFC-2011 IP/ICMP MIB RFC-2012 TCP MIB RFC-2013 UDP MIB RFC-2096 IP forward MIB RFC-2233 if MIB RFC-2452 TCP6 MIB RFC-2454 UDP6 MIB RFC-2465 IPv6 MIB RFC-2466 ICMP6 MIB RFC-2573 SnmpV3 notify RFC-2574 SNMPV3 vacm RFC-2674 Bridge MIB Extensions (IEEE802.1Q MIB) RFC-2674 Bridge MIB Extensions (IEEE802.1P MIB)

Standard Conformance

Regulation Compliance	FCC Part 15 Class A, CE
Standards Compliance	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3z Gigabit SX/LX IEEE 802.3ab Gigabit 1000T IEEE 802.3x Flow Control and Back pressure IEEE 802.3ad Port trunk with LACP IEEE 802.1D Spanning tree protocol IEEE 802.1w Rapid spanning tree protocol IEEE 802.1s Multiple spanning tree protocol IEEE 802.1p Class of service IEEE 802.1Q VLAN Tagging IEEE 802.1x Port Authentication Network Control

Layer2 Function

Operating	Temperature:　　　0 ~ 50 Degree C Relative Humidity:　5 ~ 90% (non-condensing)
Storage	Temperature:　　　-10 ~ 70 Degree C Relative Humidity:　5 ~ 90% (non-condensing)

ORDERING INFORMATION

WGSW-50040	50-Port 10/100/1000Mbps with 4 Shared SFP Managed Gigabit Switch

AVAILABLE MODULES FOR WGSW-50040

MGB-GT	SFP-Port 1000Base-T Module
MGB-SX	SFP-Port 1000Base-SX mini-GBIC module-550m
MGB-LX	SFP-Port 1000Base-LX mini-GBIC module-10km
MGB-L30	SFP-Port 1000Base-LX mini-GBIC module-30km
MGB-L50	SFP-Port 1000Base-LX mini-GBIC module-50km
MGB-L70	SFP-Port 1000Base-LX mini-GBIC module-70km
MGB-L120	SFP-Port 1000Base-LX mini-GBIC module-120km
MGB-LA10	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module-10km
MGB-LB10	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module-10km
MGB-LA20	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module-20km
MGB-LB20	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module-20km
MGB-LA40	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module-40km
MGB-LB40	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module-40km

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