Product Specification

24-Port 10/100/1000Mbps with 4 shared SFP Managed Gigabit Switch
With Redundant DC Power

WGSW-24040R

Version 1.0

Change History:

Revision:	Date:	Author:	Change List
Version 1.0	2008/8/14	Kent Kang	Initial Release

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Reviewed By:	Tom Shih	**Approved By:**	Tom Shih

1. PRODUCT DESCRIPTION

High-Performance / Cost-effective / Telecom class Gigabit solution for Enterprise backbone and Data Center Networking

The PLANET WGSW-24040 is a L2/L4 Full Managed Gigabit Switch. Since Gigabit network interface had become the basic equipment and requirement of Enterprise and Network Servers, with 48Gbps switching fabric, the WGSW-24040 can handle extremely large amounts of data in a secure topology linking to a backbone or high capacity servers. The powerful QoS and Network Security features make WGSW-24040 to meets the needs of effective data traffic control for both Campus and Enterprise, such VoIP, video streaming and multicast application.

High Performance

The WGSW-24040 provides 24 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 48Gbps, which greatly simplifies the tasks of upgrading the LAN for catering to increase bandwidth demands.

Robust Layer 2 Features

The WGSW-24040 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-24040 provides 802.1Q Tagged VLAN, the VLAN groups allowed on the WGSW-24040 will be maximally up to 4k. Via supporting port aggregation, the WGSW-24040 allows the operation of a high-speed trunk combining multiple ports, up to eight groups of maximum to 8-ports for trunking, and it supports fail-over as well.

Excellent Traffic Control

PLANET WGSW-24040 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.

Efficient Management

For efficient management, the WGSW-24040 Managed Ethernet Switch is equipped with console, WEB and SNMP management interfaces. With its built-in Web-based management, the PLANET WGSW-24040 offers an easy-to-use, platform-independent management and configuration facility. The PLANET WGSW-24040 supports standard Simple Network Management Protocol (SNMP) and can be managed via any standard-based management software. For text-based management, the WGSW-24040 can also be accessed via Telnet and the console port.

Powerful Security

PLANET WGSW-24040 offers comprehensive Access Control List (ACL) for enforcing security to the edge. Its protection mechanisms also comprise of port-based 802.1x user and device authentication. The port-security is effective in limit the

numbers of clients pass through, so that network administrators can now construct highly secured corporate networks with time and effort considerably less than before.

Flexibility and Extension solution

The 4 mini-GBIC slots 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). They are well suited for using within the enterprise data centers and distributions.

AC / DC Power Redundant to ensure continuous operation

The WGSW-24040R is equipped with one 100~240V AC power supply unit and one DC -48V power supply unit, it provides redundant power supply installation. A redundant power system is also provided to enhance the reliability with either 100~240V AC power supply unit or DC -48V power supply unit.

The continuous power systems are specifically designed to handle the demands of high tech facilities requiring the highest power integrity available.

2. PRODUCT FEATURES

- **Physical Port**
  - ☐ 24-Port 10/100/1000Base-T Gigabit Ethernet RJ-45
  - ☐ 4 mini-GBIC/SFP slots, shared with Port-21 to Port-24
  - ☐ Console interface for Switch basic management and setup
- **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.
  - ☐ Auto-MDI/MDI-X detection for each RJ-45 port
  - ☐ Prevents packet loss with back pressure (Half-Duplex) and IEEE 802.3x PAUSE frame flow control (Full-Duplex)
  - ☐ High performance of Store-and-Forward architecture, broadcast storm control and runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
  - ☐ 8K MAC address table, automatic source address learning and ageing
  - ☐ 1392Kbytes embedded memory for packet buffers
  - ☐ Support VLAN
    - IEEE 802.1Q Tagged VLAN
    - Up to 4041 VLANs groups, out of 4041 VLAN IDs
    - Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
    - Private VLAN Edge (PVE)
  - ☐ Support Spanning Tree Protocol
    - STP, IEEE 802.1d (Spanning Tree Protocol)
    - RSTP, IEEE 802.1w (Rapid Spanning Tree Protocol)

- ☐ Support Link Aggregation
  - 802.3ad Link Aggregation Control Protocol (LACP)
  - Cisco ether-channel (Static Trunk)
  - Maximum 8 trunk groups, up to 8 ports per trunk group
  - Up to 16Gbps bandwidth(Duplex Mode)
- ☐ Provide Port Mirror (many-to-1)
- ☐ Port Mirroring to monitor the incoming or outgoing traffic on a particular port

➢ **Quality of Service**

- ☐ 4 priority queues on all switch ports.
- ☐ Supports for strict priority and weighted round robin (WRR) CoS policies
- ☐ Ingress Shaper and Egress Rate Limit per port bandwidth control
- ☐ Traffic-policing policies on the switch port

➢ **Multicast**

- ☐ Supports IGMP Snooping v1, v2 and v3
- ☐ Querier mode support

➢ **Security**

- ☐ IEEE 802.1x Port-Based / MAC-Based network access authentication
- ☐ IP-Based Access Control List (ACL)
- ☐ MAC-Based Access Control List
- ☐ Port Security

➢ **Management**

- ☐ WEB-based, Telnet, Console Command Line management
- ☐ Accesses through SNMPv1, v2c and v3 security set and get requests.
- ☐ Built-in Trivial File Transfer Protocol (TFTP) client
- ☐ BOOTP and DHCP for IP address assignment
- ☐ Firmware upload/download via HTTP / TFTP
- ☐ SNTP (Simple Network Time Protocol)
- ☐ LLDP Protocol

➢ **Redundant Power System**

- ☐ 100~240V AC / 48V DC Dual power redundant
- ☐ Active-active redundant power failure protection
- ☐ Backup of catastrophic power failure on one supply

3. PRODUCT SPECIFICATION

3.1 MAIN COMPONENT

Switch ASIC:	VITESSE VSC7405	X1
Giga PHY:	VITESSE VSC8358	X2
Combo PHY:	VITESSE VSC8558	X1
CPU:	ARM926EJ (integrated with VSC7405)	x 1
Flash:	MX29LV128DBT2C (16Mbytes)	x 1
DDR RAM:	Elpida D5116ADTA (64Mbytes / 512Mbits)	x 1
SRAM	IDT71V124SA15TYG (128Kbytes / 1Mbits)	
Open frame power supply	12V / 2.5A	X1

3.2 FUNCTION SPECIFICATION

Product	**WGSW-24040** 24-Port 10/100/1000Mbps with 4 Gigabit TP / SFP Managed Ethernet Switch
Hardware Specification	
Copper Ports	24 10/ 100/1000Base-T RJ-45 Auto-MDI/MDI-X ports
SFP/mini-GBIC Slots	4 SFP interfaces, shared with Port-21 to Port-24
Switch Processing Scheme	Store-and-Forward
Switch Fabric	48Gbps / non-blocking
Address Table	8K entries
Share data Buffer	1392 kilobytes
Flow Control	IEEE 802.3x Pause Frame for Full-Duplex Back pressure for Half-Duplex
Jumbo Frame	10Kbytes
Layer 2 function	
System Configuration	Console, Telnet, Web Browser, SNMPv1, v2c and v3
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 Status	Display each port's speed duplex mode, link status, Flow control status. Auto negotiation status, trunk status.

VLAN	802.1Q Tagged Based VLAN ,up to 4K VLAN groups Q-in-Q Private VLAN
Port trunking	IEEE 802.3ad LACP / Static Trunk Support 8 groups of 8-Port trunk support
QoS	Traffic classification based, Strict priority and WRR 4-level priority for switching - Port Number - 802.1p priority - DS/TOS field in IP Packet
IGMP Snooping	IGMP (v1/v2) Snooping, up to 8K multicast Groups IGMP Querier mode support
Access Control List	IP-Based ACL / MAC-Based ACL Up to 256 entries
SNMP MIBs	RFC-1213 MIB-II IF-MIB RFC-1493 Bridge MIB RFC-1643 Ethernet MIB RFC-2863 Interface MIB RFC-2665 Ether-Like MIB RFC-2819 RMON MIB (Group 1) RFC-2737 Entity MIB RFC-2618 RADIUS Client MIB RFC-2933 IGMP-STD-MIB () RFC3411 SNMP-Frameworks-MIB IEEE802.1X PAE LLDP MAU-MIB
Standards Conformance	
Regulation Compliance	FCC Part 15 Class A, CE
Standards Compliance	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX/100BASE-FX 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 802.1p Class of service IEEE 802.1Q VLAN Tagging IEEE 802.1x Port Authentication Network Control IEEE 802.1ab LLDP

3.3 PHYSICAL SPECIFICATIONS:

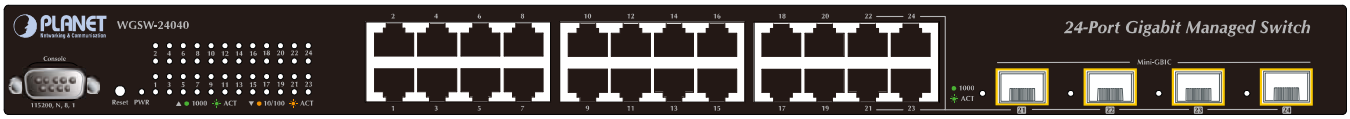
Dimensions:

440 x 200 x 44.5mm (W x D x H), 1U height

Weight:

3.3 KG

■ **Front Panel:**



■ **Rear Panel:**

■ **LED definition**

System

LED	Color	Function
PWR	**Green**	Lights to indicate that the Switch has power.

Per 10/100/1000Mbps port

LED	Color	Function
1000 LNK/ACT	**Green**	**Lights** to indicate the port is running in **1000Mbps** speed and successfully established. **Blink**: indicate that the switch is actively sending or receiving data over that port.
10/100 LNK/ACT	**Orange**	**Lights** to indicate the port is running in **100Mbps** or **10Mbps** speed. **Blink**: indicate that the switch is actively sending or receiving data over that port.

Per 1000Base-SX/LX SFP interfaces

LED	Color	Function
LNK	**Green**	**Lights** to indicate the link through that port is successfully established.

3.4 ENVIRONMENTAL SPECIFICATION

Operating:

Temperature:	0°C ~ 50 degree C
Relative Humidity:	5% ~ 95% (non-condensing)

Storage:

Temperature:	-40°C ~ 70 degree C
Relative Humidity:	5% ~ 95% (non-condensing)

3.5 ELECTRICAL SPECIFICATION

AC / DC dual power supplies :	Supports Power Redundant
AC Power Input Voltage:	100 ~ 240VAC, 50 / 60Hz, Auto-sensing.
DC Power Input Voltage:	-48V DC @ 0.5A
	Range: 30V~60V
Power Consumption(System on):	110V AC: 22.2 Watts / 75.7 BTU
	220V AC : 23Watts / 78.43 BTU
Power Consumption(Full Load):	110V AC : 29.3 Watts / 100 BTU
	220V AC: 30.2 Watts / 102.98 BTU

3.6 REGULATORY COMPLIANCE

FCC Class A, CE.

3.7 REALIABILITY

MTBF > 50,000 hrs @ 25 Degree C

3.8 BASIC PACKAGING

■ WGSW-24040	X1
■ User's manual	X1
■ Quick Installation Guide	X1
■ Power Cord	X1
■ RS232 cable	X1
■ Rubber fee	X4
■ Two rack-mounting brackets with attachment screws	X2

3.9 PACKING DIMENSION

Dimension:	520mm (W) x 450mm (D) x 90mm (H)
Weight:	5.6 KG (Gross Weight)TBD KG (Gross Weight)
	5 pcs in one carton