PLANET Networking & Communication

ACTIVATING IP POWER

8-Port 10/100Mbps + 2 Gigabit TP/SFP Combo L2 / L4 Managed Stackable Switch

SGSD-1022

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Presentation Outline

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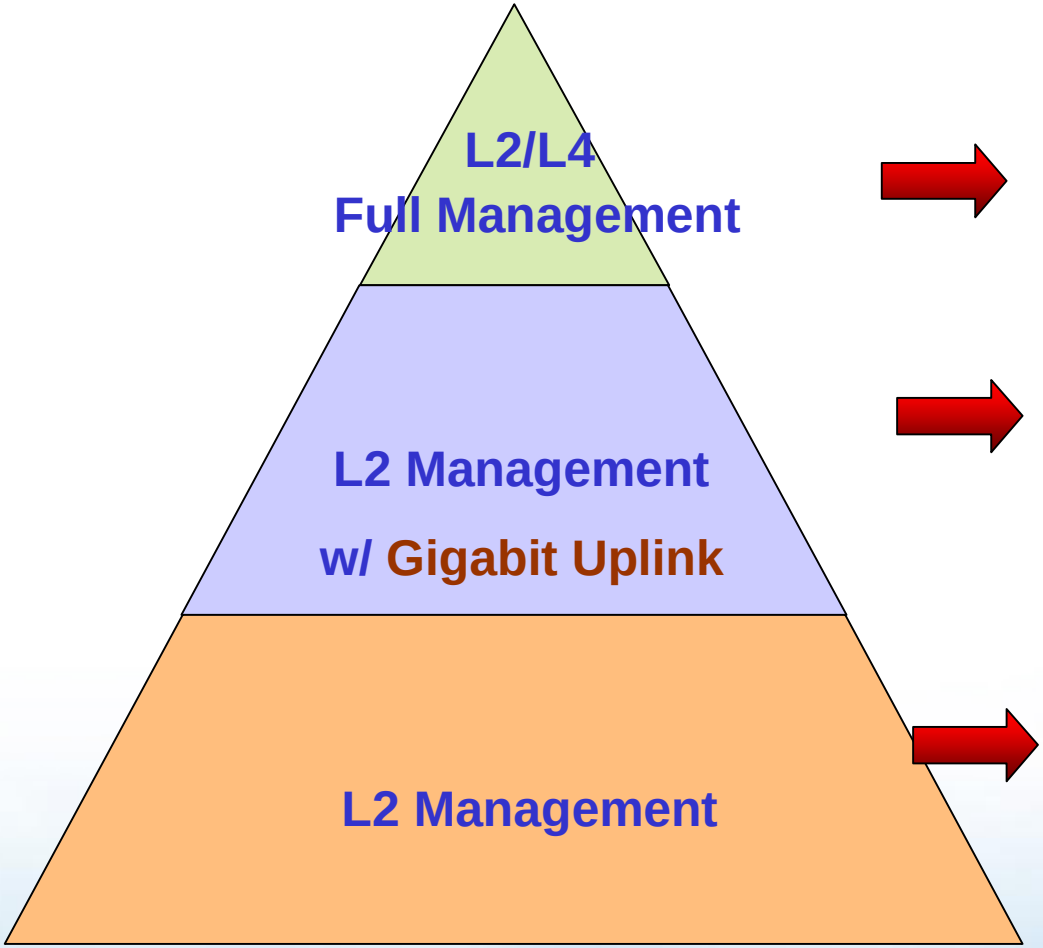
- **Product Overview**
- **Product Benefits**
- **Product Features**
- **Application**
- **Comparison**

Product Overview

u Position

SNMP v3

SSH / SSL



SGSD-1022

WGSD-910

WGSD-1022C

WSD-800

Web

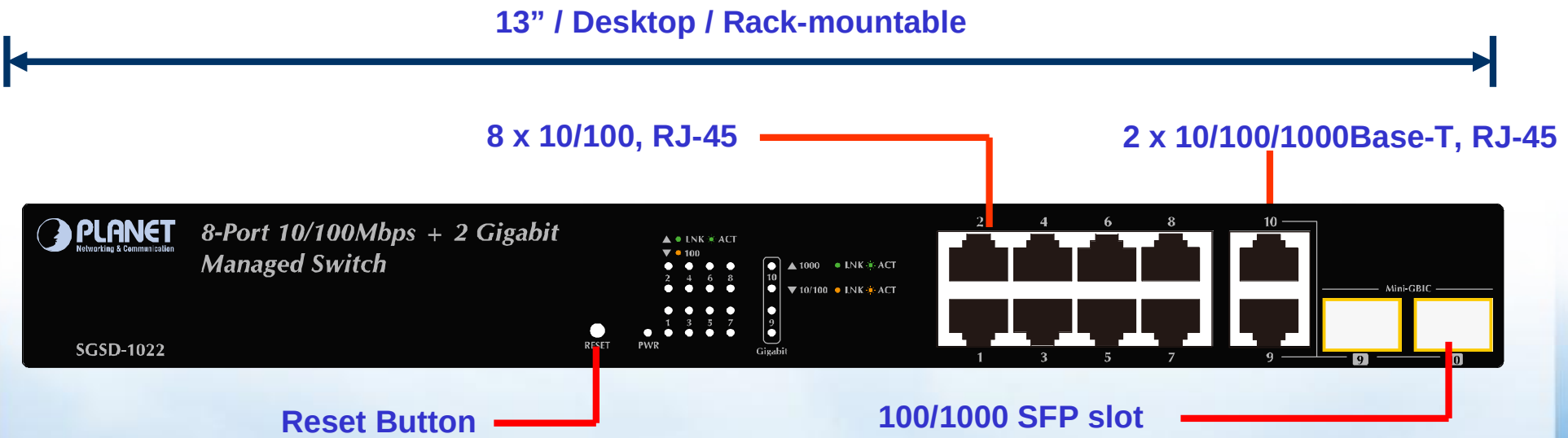
Telnet / Console

SNMPv1/v2c / RMON

Product Overview

u Front Panel of SGSD-1022

- ü **8-Port 10/100Mbps Base TX Ports**
  - **Auto-MDI/MDI-X**
  - **Auto Negotiation**
- ü **2-Port for 10/100/1000Mbps Gigabit Ports, Auto-MDI, Auto Negotiation**
- ü **2 for 3.3VDC mini-GBIC/SFP slots**
- § **One Reset button**



u Rear Panel of SGSD-1022

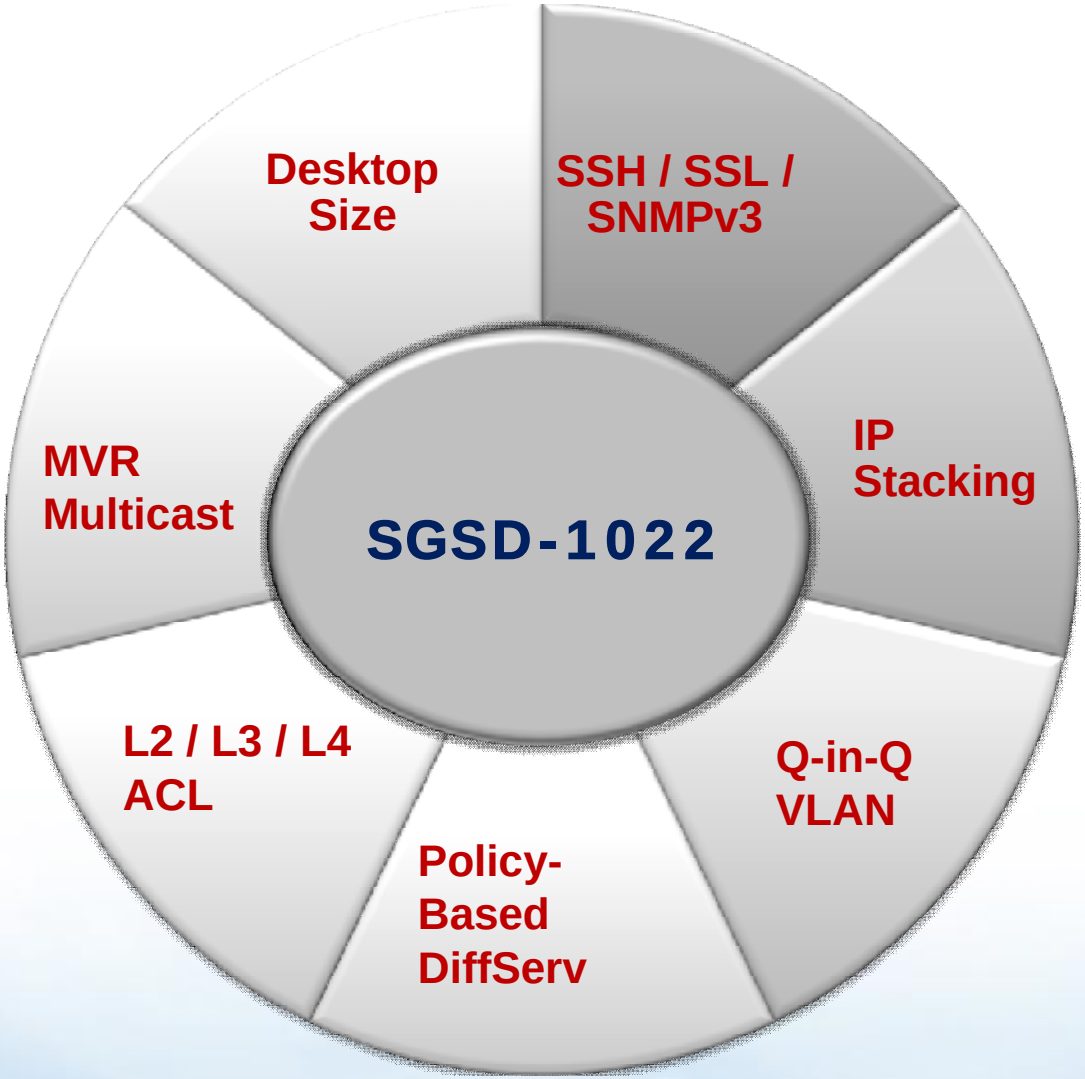
- ü 100~240V AC, universal Power Supply
- ü One Power Switch
- ü RS-232 console Interface

Key Benefits

- Full-Functioned Layer 2 / Layer 4 Managed Switch
- Desktop Size, Rack-Mountable, Easy Installation in space limited environment
- FAN Less, Noise Free, Low temperature design
- Efficient IP Stacking Management
- Robust Layer 2 Features
- Excellent Layer 2 / 3 /4 Traffic Control
- Powerful Layer 2 / 3 / 4 Security
- MAN (Metro Area Network) access capability
- Flexibility and Extension solution

Product Features

ACTIVATING IP POWER



Product Features

- **Hardware**
  - **SGSD-1022**
    - 8-Port 10/100Mbps Interface
    - 2-Port 10/100/1000Mbps Gigabit Interface
    - 2 SFP slots, flexible for Gigabit and Fast Ethernet Fiber-optic network extension
      - SFP type auto detection, plug and play
      - 1000Base-SX/LX :Maximum 120 kilometers (MGB-L120)
      - 100Base-FX: Maximum 60 kilometres (MFB-F60)

Product Features

Management

- IP Stacking management, up to 36 units
- SSH / SSL / SNMPv3 secure management
- LLDP (Link Layer Discovery Protocol)
- RMON 1, 2, 3, and 9

MAN (Metro Area Network) access ability

- Q-in-Q Tunneling
- Multicast VLAN Registration (MVR)
- Multiple Spanning Tree (MSTP)
- 100Base-FX, 1000Base-SX/LX Fiber link capability

Product Features

u Security

n Network Access Control

- ü 802.1X Port-Based / MAC-Based authentication
- ü Web Authentication
- ü Port Security

n Authentication

- ü Local profile
- ü RADIUS / TACACS+

n Access Control List

- ü IP-Based ACL
- ü MAC-Based ACL

n Management Source IP Filter

Product Features

- **Quality of Service**
  - **Policy-Based DiffServ**
  - **Voice Traffic QoS**
  - **Traffic Classification**
    - ü **802.1p CoS**
    - ü **IP TOS/DSCP/Precedence**
    - ü **IP TCP/UDP port number**

- **VLAN**
  - **IEEE 802.1Q VLAN**
  - **Protocol VLAN**
  - **Private VLAN**
  - **GVRP**

Product Features

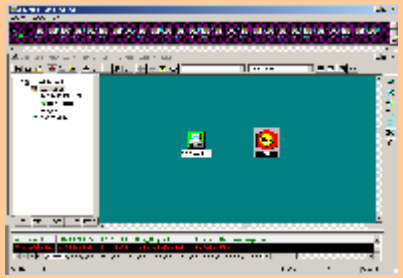
u Full Management

Telnet - CLI

SSH - Secure CLI

Console - CLI

SNMP v3 – Secure SNMP



SNMP v1/v2c

HTTP WEB Management

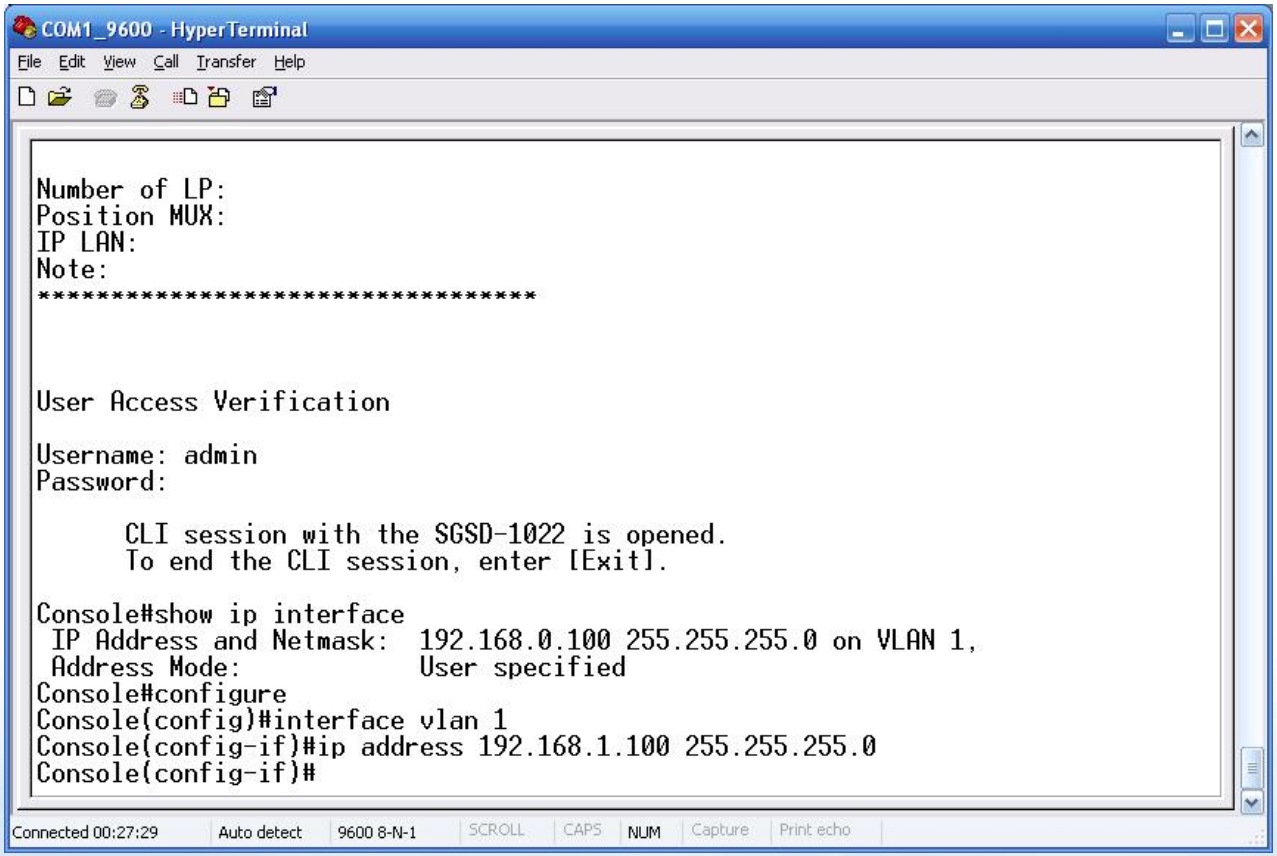
SSL - Secure HTTP

Product Features

u Full Featured Command Line Managements

ü CLI for Telnet/Console

ü Secure access via SSH

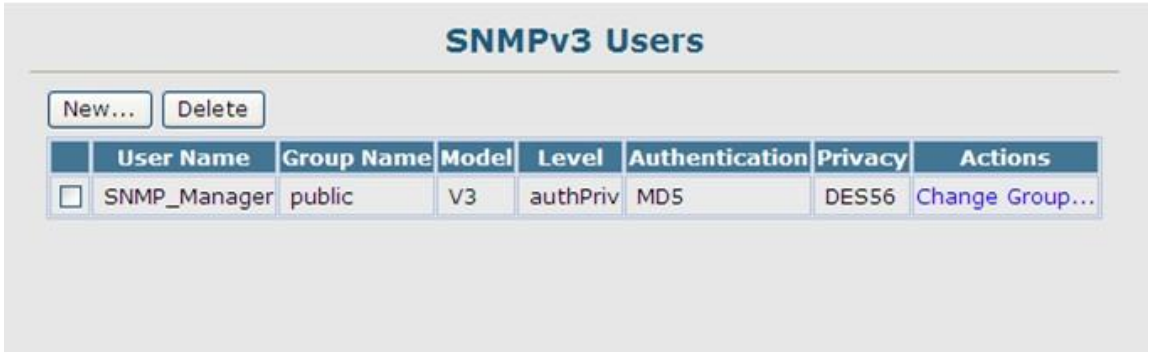


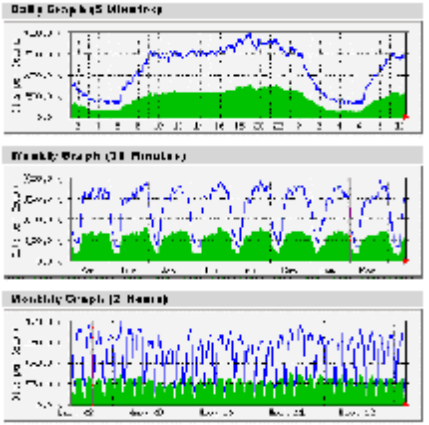
Product Features

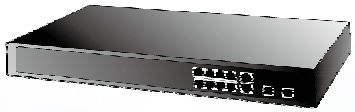
- **Friendly Web User Interface**
  - ü **SSL, secured access**
  - ü **“Help” page for online study**

Product Features

- **Simple Network Management Protocol**
  - ü **SNMPv3 secure access**
  - ü **RMON 1,2,3 and 9**

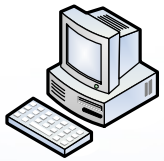






SGSD-1022
SNMP Agent

MD5 encryption



SNMP Software

RMON Groups 1, 2, 3, 9 ...cs, history, alarm, events)

Product Features

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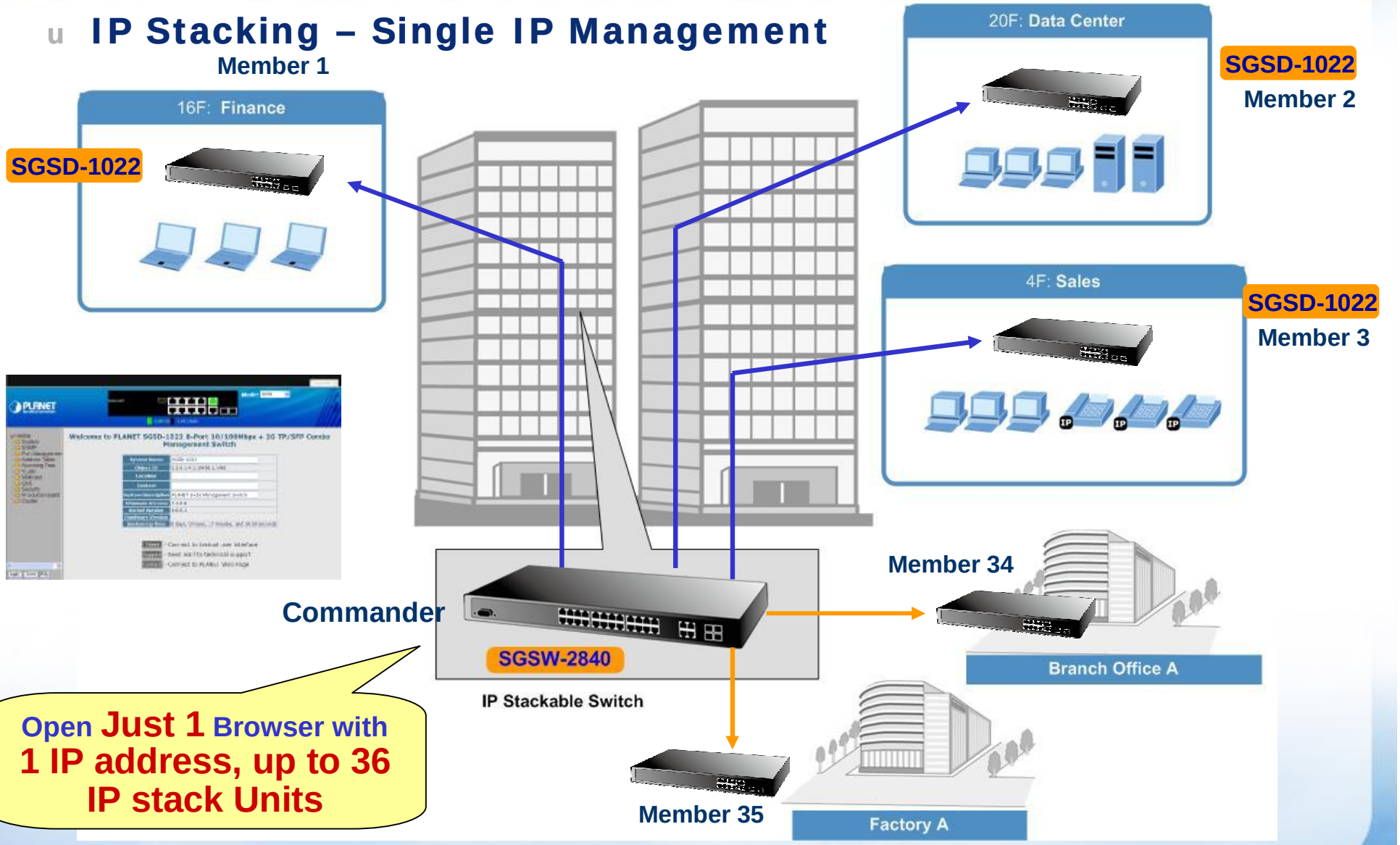
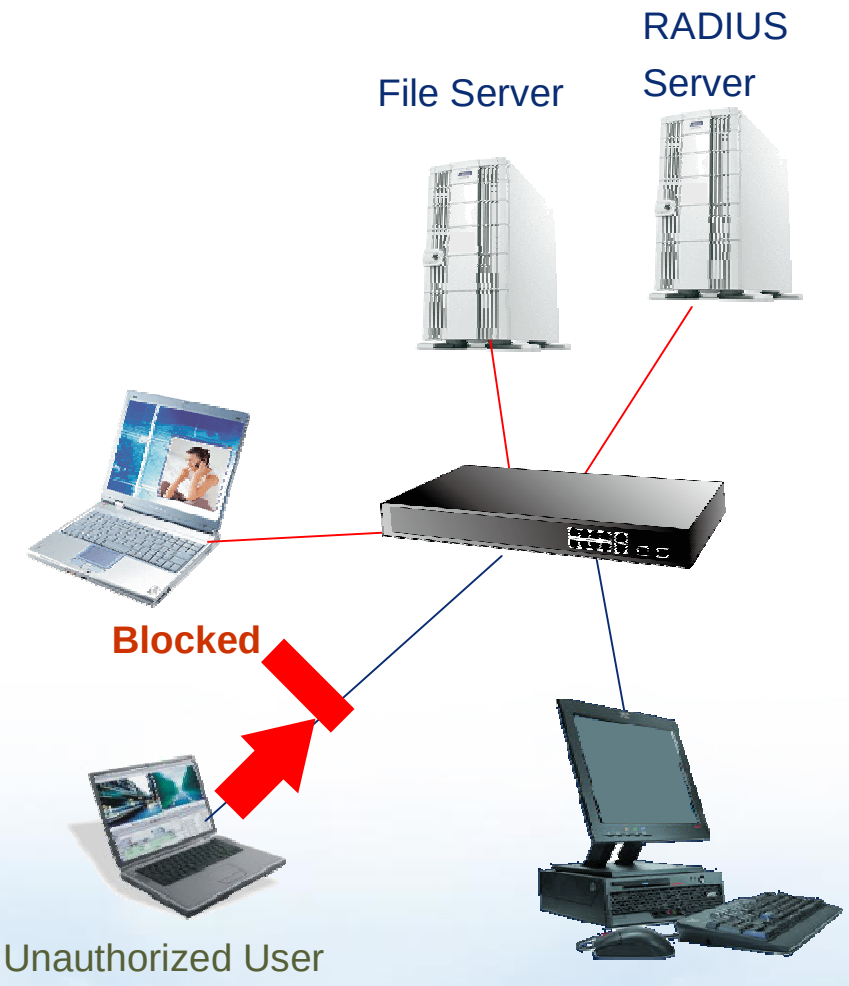
u IP Stacking – Single IP Management



Open Just 1 Browser with
1 IP address, up to 36
IP stack Units

Product Features

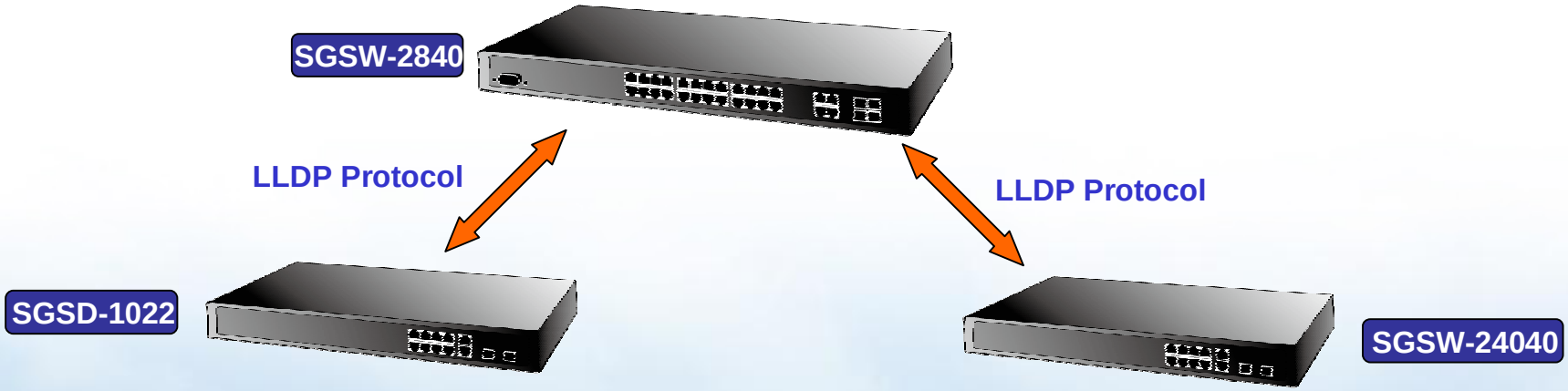
- **Active Security**
  - ü 802.1x Port-Based
  - ü MAC-Based
  - ü RADIUS, TACACS+
  - ü SSH
  - ü SSL
- **Logging**
  - ü SNMP trap
  - ü SysLog
  - ü SMTP alarm
  - ü System event log



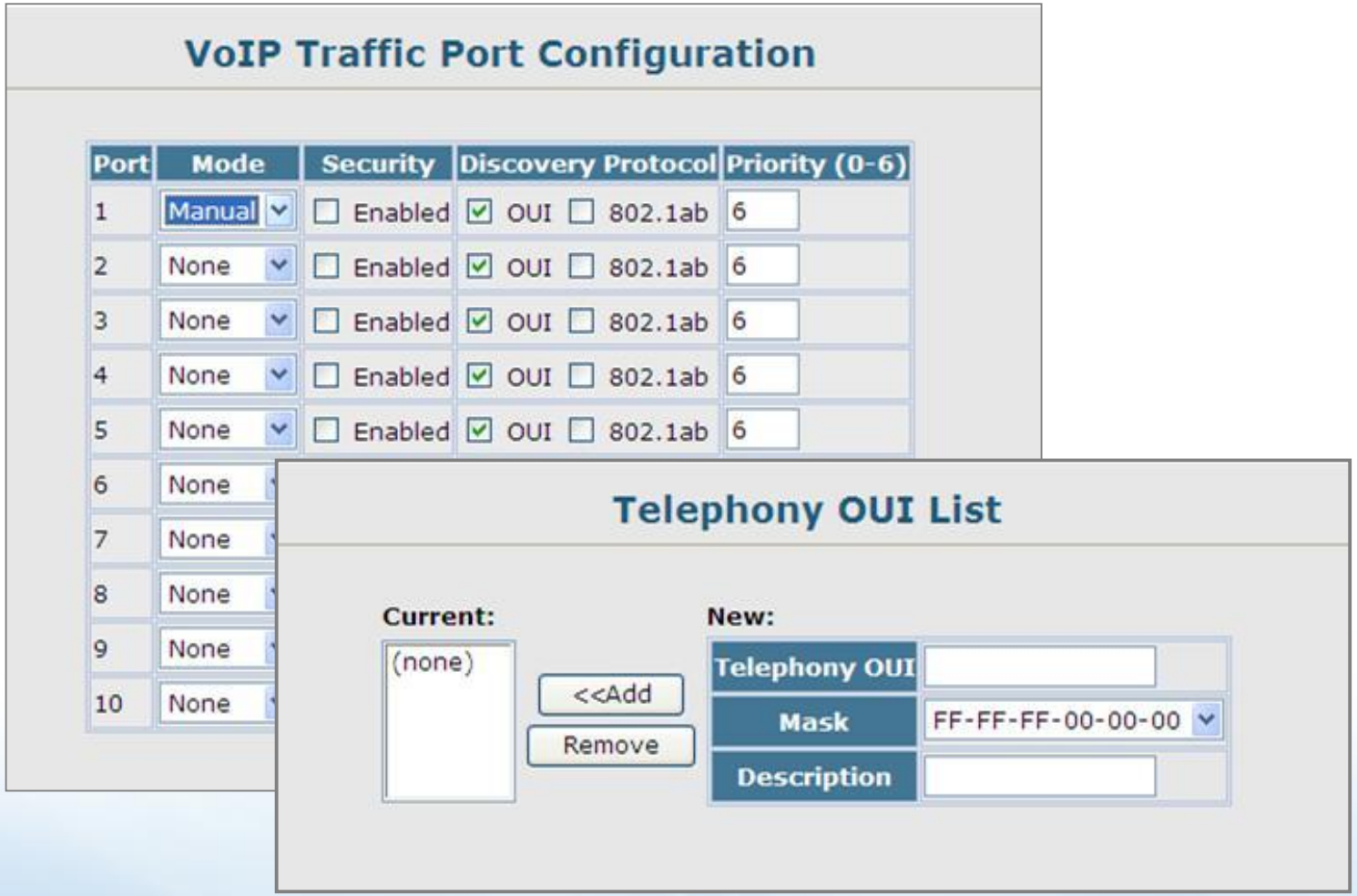
u LLDP - Link Layer Discovery Protocol

LLDP Port Remote Device Information

Local Port	Chassis ID	Port ID	Port Name	System Name
10	00-30-4F-24-04-A1	37-34-00-00-00-00	Sid #4, Port #2	SGSW-24040
12	00-30-4F-10-22-F1	00-30-4F-10-22-F2	Ethernet Port on unit 1, port 1	SGSW-2840

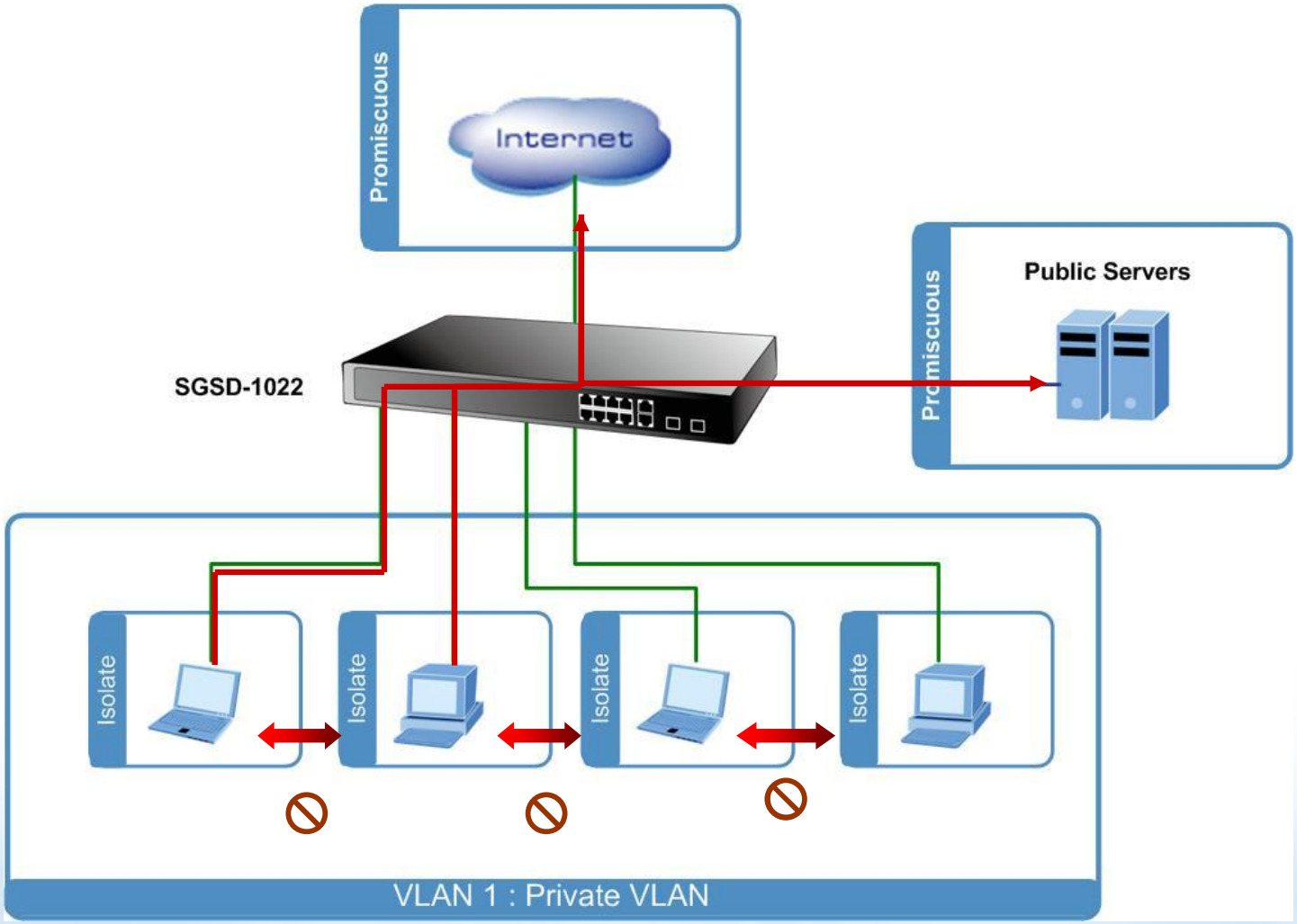


u VoIP Traffic Control



Product Features

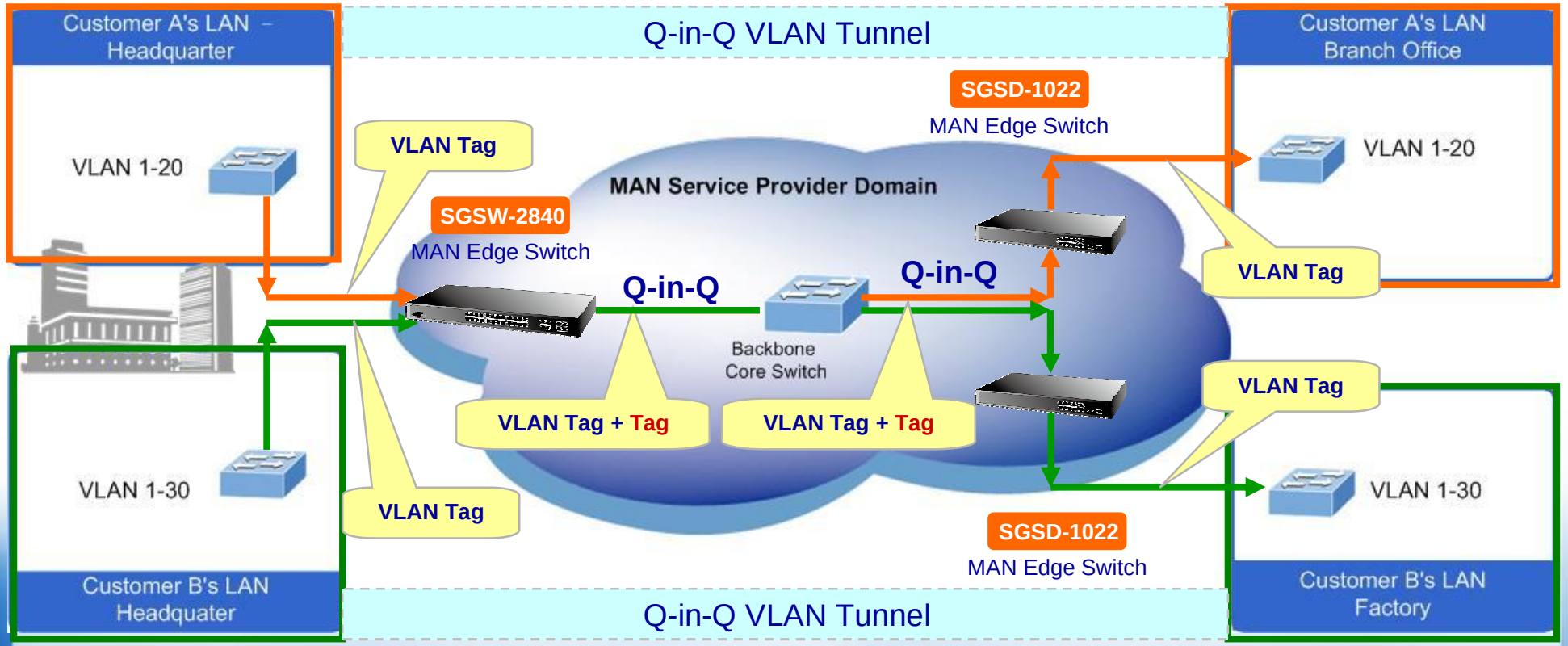
- **Private VLAN – isolates edge ports to ensure privacy**



Product Features

u Q-in-Q VLAN Tunnel

n QinQ is designed for service providers carrying traffic for multiple customers across their networks. It is used to maintain customer-specific VLAN and Layer 2 protocol configurations even when different customers use the same internal VLAN IDs.



Applications

u Product Positioning

n Enterprise / SMB / Campus Department Switch

- ü **8-Port**, 5.6Gbps switching fabric can easily provide a local, high bandwidth, Fast Ethernet networkfor **backbone** of your department.
- ü With the **2 SFP** modules, the switch provides the uplinkto the backbone network through Gigabit Ethernet LX/SX SFP modules
- ü **Traffic Classification** giving optimal performance to real-time applications such as voice and video
- ü RADIUS / **TACACS+** user authentication for secure wireless access
- ü **L2 / L3 / L4 Access Control List** for enforcing security to the edge

Applications

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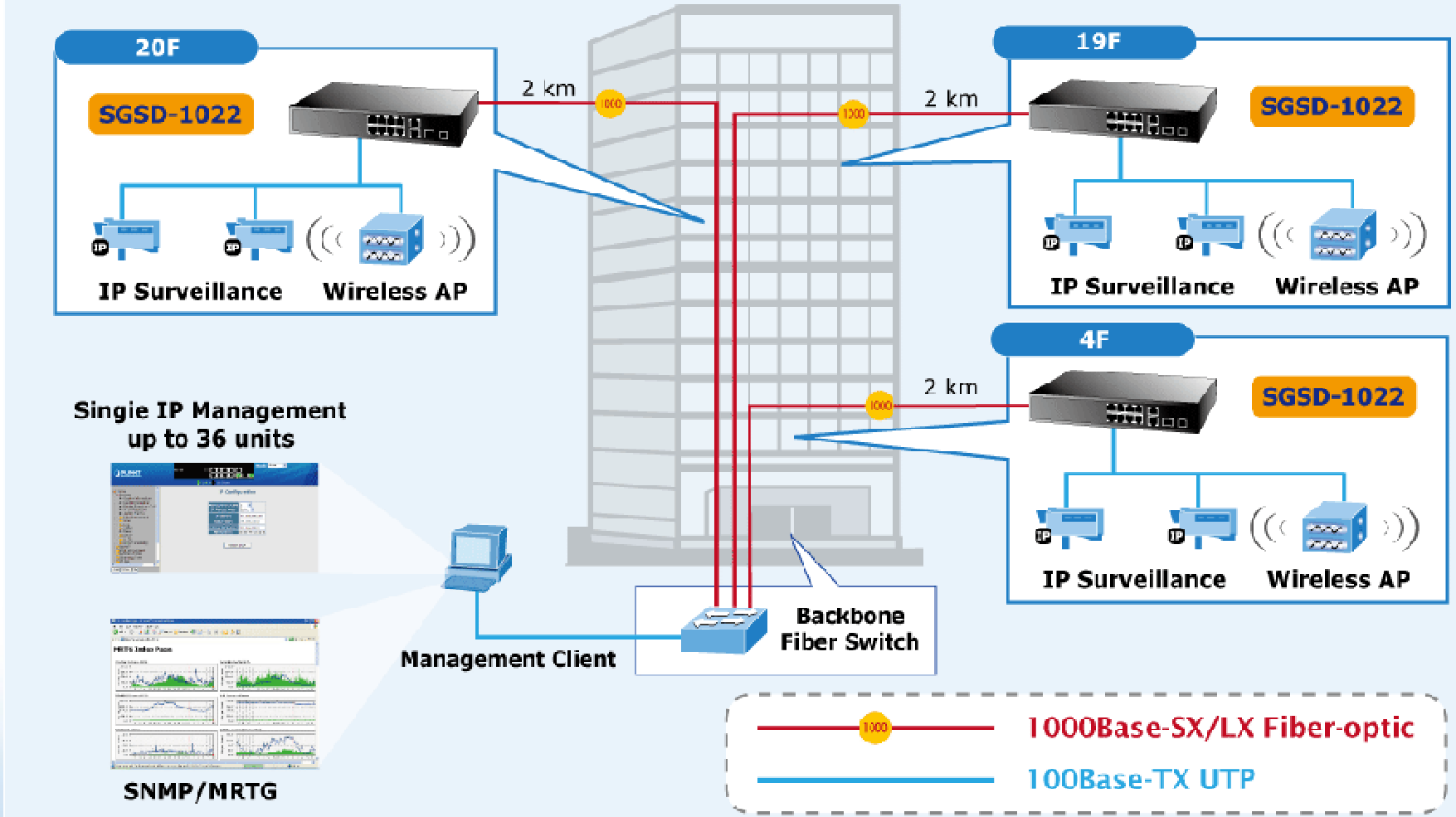
IP Surveillance/Wireless Access Point Deployment



Applications

u Product Positioning

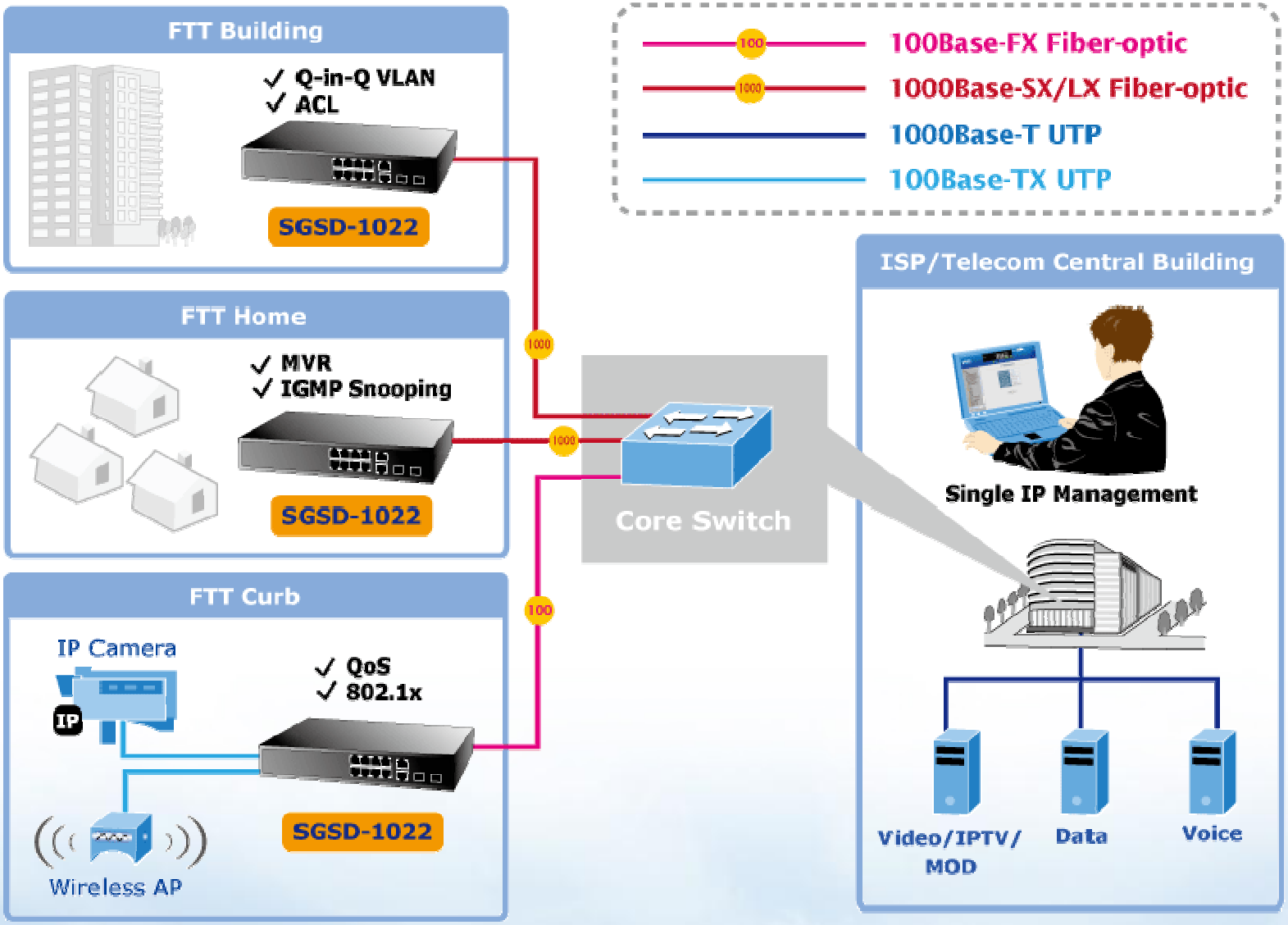
n FTTX / MAN Edge Switch

To build a network solution of FTTH (Fiber to the Home), FTTC (Fiber to the Curb) for ISPs or FTTB (Fiber to the Building) for enterprises, the various distances of SFP (Small-form Factor Pluggable) and Bidi (WDM) transceivers are optional for customers.

- ü **With the mini-GBIC 1000Base-SX/LX SFP (Small-Form Factor Pluggable) interface, the deploy distance of SGSD-1022 can be extended from 550 meters (Multi-mode fiber) up to above 10/50/70/120 kilometers (Single-mode fiber).**
- ü **For security and applications, the 8 copper ports can be configured with VLAN settings and connected to different units, offices, houses and departments.**
- ü **MVR controls access to a single network-wide VLAN most commonly used for transmitting multicast traffic (such as television channels or video-on-demand) across a service provider's network**
- ü **Q-in-Q for service providers carrying traffic for multiple customers across their networks**
- ü **MSTP providing Layer 2 load sharing on redundant links**
- ü **100Base-FX / 1000Base-SX/LX Fiber optical link capability**
- ü **SNMPv3 and RMON Groups, the SNMPv3 security structure consists of security models, with each model having it's own security levels.**
- ü **SSH / SSL / SNMPv3 Secure management**

Applications

ACTIVATING IP POWER



Product Comparison - Competitor

ACTIVATING IP POWER

		PLANET	Linksys	D-Link / ZyXEL	3COM
Model name		SGSD-1022	SRW208G	DES-3010GA ES-2108G	3CR16708
Feature		Full Managed	Full Managed	Full Managed	Full Managed
Interface					
10/100Base-TX		8	8	8	8
10/100/1000Base-T		2	1	1	1
SFP / mini-GBIC		2 (Combo)	1 (Combo)	1	-*
Console		DB9 / RS-232	DB9 / RS-232	DB9 / RS-232	RJ-45 / RS-232
Layer 2 Features					
Switch Fabric		5.6Gbps	3.6Gbps	5.6Gbps	3.6Gbps
Jumbo Frame		9K	-	-	-
Bandwidth Control		In / Out	In / Out	In / Out	In / Out
Link Aggregation	Static	5 Trunks / 8 Ports	4 Trunks / 4 Ports	6 Trunks / 8 Ports	5 Trunks / 8 Ports
	LACP	12 Trunks / 8 Ports	4 Trunks / 4 Ports	6 Trunks / 8 Ports	12 Trunks / 8 Ports
VLAN	802.1Q	YES	YES	YES	YES
	Portocol-Based	YES	YES	NO	NO
	Q-in-Q	YES	NO	NO	NO
	GVRP	YES	YES	YES	NO
	Private VLAN	YES	YES	YES	NO
Active VLAN (1q/port)		256 / -	256 / -	256 / -	60 / -
Spanning Tree		802.1d/1w/1s	802.1d/1w/1s	802.1d/1w/1s	802.1d/1w
IGMP Snooping		V1,V2, V3*	V1,V2	V1,V2	V1,V2
IGMP Query mode		YES	NO	NO	YES
MVR		YES	NO	NO	NO

Product Comparison - Competitor

ACTIVATING IP POWER

		PLANET	Linksys	D-Link / ZyXEL	3COM
Model name		SGSD-1022	SRW208G	DES-3010GA ES-2108G	3CR16708
QoS					
QoS	802.1p	YES / 4 queue	YES / 4 queue	YES / 4 queue	YES / 4 queue
	IP TOS /DSCP	TOS	YES	YES	802.1p to DSCP
	Strict / WRR	YES / YES	YES / YES	YES / YES	YES / YES
Policy-Base DiffServ		Yes	Yes	NO	NO
Security					
Auth.	802.1x Port Based	V	V	V	V
	MAC Based	V	-	V	NO
ACL		L2 / L3 / L4	L2 / L3 / L4	L2 / L3 / L4	NO
Port Security		V	V	V	NO
IP / MAC Security		Static MAC / Binding / Ip Filter	MAC Filtering	IP-MAC Port Binding	MAC Filter
SSH / SSL		V / V	V / V	V / V	V / V
RADIUS		V	V	V	V
TACACS+		V	-	V	NO
Management					
Management & Configuration		WEB, Telnet, Console	WEB, Telnet, Console	WEB, Telnet, Console	WEB, Telnet
SNMP	V1, V2c	V	V	V	V
	V3	V	V	V	V
	Trap	V	V	V	V
	RMON	4 Groups	4 Groups	4 Groups	4 Groups
Log		System log / Syslog	System log / Syslog	System Log, Syslog	System Log, Syslog
Other Management		SNTP, SMTP, LLDP	SNTP	SNTP, SMTP	SNTP, SMTP, LLDP
Stack ability		IP Stack, up to 36 units SGSD-1022P, SGSW-2840, SGSW-2840P	-	iStacking (ZyXEL)	NO
Power		Internal Power 100~240V AC	External 12VDC	Internal Power 100~240V AC	External 12VDC
Dimension		13"	12"	12"	9"

Product Comparison - PLANET

ACTIVATING IP POWER

Model name		SGSD-1022	WGSD-1022	WGSD-1022C
Feature		Full Managed	Full Managed	Managed
Interface				
10/100Base-TX		8	8	8
10/100/1000Base-T		2	2	2
SFP / mini-GBIC		2 (Combo / 1000Base-X / 100Base-FX)	2 (Combo)	2 (Combo)
Console		DB9/RS-232	DB9/RS-232	DB9/RS-232
Layer 2 Features				
Link Aggregation	Static	5 Trunks / 8 Ports	8 Trunks / 8 Ports	4 Trunks / 8 Ports
	LACP	12 Trunks / 8 Ports	8 Trunks / 8 Ports	NO
VLAN	802.1Q	YES	YES	YES
	Port-Based	NO	NO	YES
	GVRP	YES	YES	NO
	Q-in-Q	YES	NO	NO
	Protocol VLAN	YES	YES	NO
	Private VLAN	YES	YES	NO
Active VLAN (1q/port)		256 / '--	256 / -	256 / 9
Spanning Tree		802.1d/1w/1s	802.1d/1w/1s	802.1d/1w
IGMP Snooping		V1, V2	V1, V2	V1, V2
IGMP Query mode		YES	NO	NO
MVR		YES	NO	NO
QoS				
QoS	802.1p	YES / 4 queue	YES / 4 queue	YES / 4 queue
	Port-Based	YES	YES	Yes
	DSCP	YES	YES	TOS
	L4 Protocol	YES	YES	NO
	Strict / WRR	YES / YES	YES / YES	YES / YES
	VoIP Traffic	YES	NO	NO
Policy-Base DiffServ		YES (Layer 2/3/4)	YES (Layer 2/3/4)	NO

Product Comparison - PLANET

ACTIVATING IP POWER

Model name		SGSD-1022	WGSD-1022	WGSD-1022C
Security				
802.1X(Port Based)		YES	YES	YES
ACL IP / MAC		YES / YES	YES / NO	NO / NO
Port Security		YES	YES	
MAC Security		MAC Authentication / Static MAC / Binding	MAC Lock	Static MAC / Binding
IP Security		IP Filter / IP Source Guard	IP Filter	NO
SSH / SSL		YES / YES	YES / YES	NO / NO
TACACS+		YES	YES	NO
WEB Authentication		YES	NO	NO
Management				
Mgt. and Conf.		WEB, Telnet, Console,	WEB, Telnet, Console	WEB, Telnet, Console
SNMP	V1, V2c	YES	YES	YES
	V3	YES	YES	NO
	Trap	YES	YES	YES
	RMON	4 Groups	4 Groups	4 Groups*
Stack ability		IP Stack SGSD-1022, SGSD-1022P(TBD), SGSW-2840, SGSW-2840P	NO	IP Stack WSD-800, WGSD-910, WSW-2401A, WGSW-2840, WGSW-5240
Power		Internal Power 100~240V AC	External 12V DC / 1.5A	Internal Power 100~240V AC
Remark		System Log, SNTP, SMTP, UPNP, LLDP, DHCP Snooping, Dual Image	System Log, SNTP	* Layer 2 Managed
		Jumbo Frame		

u Available Modules:

n Gigabit SFP

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

Appendix

- **Available Modules:**
  - **100Base-FX SFP**
    - **MFB-FX SFP-Port 100Base-FX Transceiver (1310nm) -2km**
    - **MFB-F20 SFP-Port 100Base-FX Transceiver (1310nm) – 20km**
    - **MFB-F60 SFP-Port 100Base-FX Transceiver (1310nm) – 60km**
    - **MFB-FA20 SFP-Port 100Base-BX Transceiver (WDM,TX:1310nm) -20km**
    - **MFB-FB20 SFP-Port 100Base-BX Transceiver (WDM,TX:1550nm) -20km**

Appendix

u Related Products:

n PLANET L2/L4 IP Stackable Security Switch

- ü **SGSD-1022P** **8+2G Managed Stackable PoE Switch**
- ü **SGSW-2840** **24+4G Managed Stackable Switch**
- ü **SGSW-2840P** **24+4G Managed Stackable PoE Switch**
- ü **SGSW-2840P4** 24+4G Managed Stackable **PoE** Switch / 380Watts

Appendix Sales Target

ACTIVATING IP POWER

- **Target Markets**
  - Tender Market
  - Government / Campus
  - Enterprise / SMB Secure Office
  - Hotel / Internet cafe
  - ISP / Telecom / Service Provider
  - System Integrator

- **Target Customers**
  - Robust features but small size for space limited environments
  - Who need powerful security switch
  - Who need full management and security features, such SSH and SSL

Activating IP Power