PLANET Networking & Communication

Pioneer of IP Innovation

16/24-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch

GS-4210-16T2S / GS-4210-24T2S

IPv6 Management | SSL | 802.1Q VLAN | 802.1X | IPv6/IPv4 ACL/QoS | Fan Less

www.planet.com.tw

Outlines

- Product Overview
- Product Benefits
- Product Features
- Applications
- Appendix

PLANET
Networking & Communication

Pioneer of IP Innovation

Product Overview

www.planet.com.tw

Product Overview

The PLANET Layer 2/2+ *Managed* Gigabit Ethernet Switch Family

L2+ Managed

L2/L4 Managed

Web Smart

WGSW-24040
24-port 10/100/1000
w/ 4G Combo

GS-4210-16T2S
16-port 10/100 /1000+ 2G

GS-4210-24T2S
24-port 10/100 /1000+ 2G

WGSW-28040
24-port 10/100/1000
+ 4G Combo

SGSW-24040
24-port 10/100/1000
w/ 4G Combo, Stackable

GSW-1602SF
16-port 10/100/1000 w/ 2G Combo

GSW-2404SF
24-port 10/100/1000 w/ 4G Combo

16-Port

24-Port

Product Overview

GS-4210-16T2S Front Panel

16 10/100/1000Mbps Ports, Auto-MDI / MDI-X, Auto Negotiation

Port 17 & 18

One RESET button on front panel for default settings

Power and Per Port LNK/ACT LED Indication

RJ45 Console Port

Product Overview

GS-4210-24T2S Front Panel

24 10/100/1000Mbps Ports, Auto-MDI / MDI-X, Auto Negotiation

Port 25 & 26

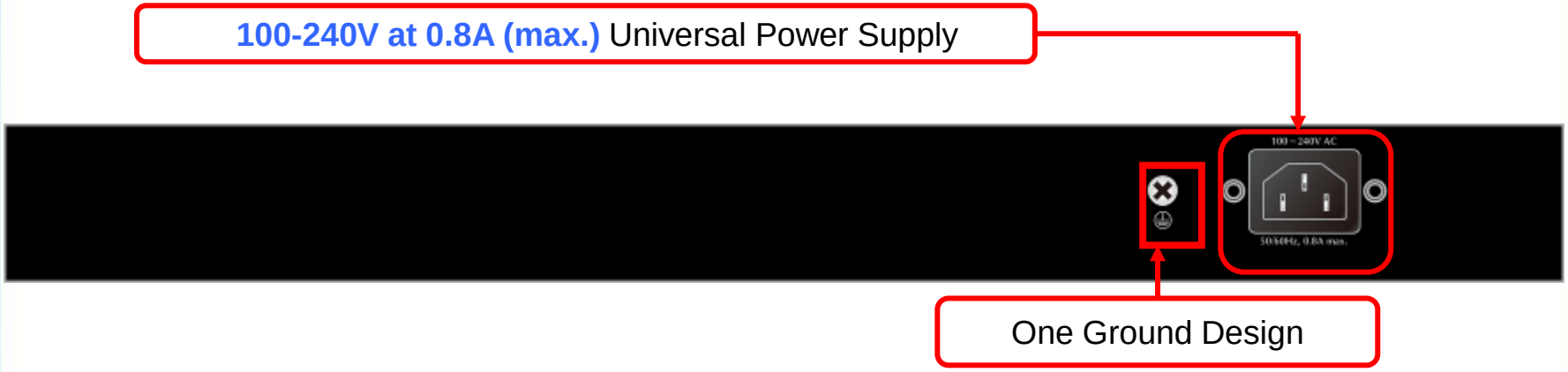
One RESET button on front panel for default settings

Power and Per Port LNK/ACT LED Indication

RJ45 Console Port

Product Overview

GS-4210-16T2S / GS-4210-24T2S Rear Panel



PLANET Networking & Communication

Pioneer of IP Innovation

Product Benefits

www.planet.com.tw

Powerfully Managed at Lower Total Cost

- ✓ IPv6 Management – Next Generation IP Protocol
- ✓ 16 /24-Port 10/100/1000 – Total Gigabit Solution
- ✓ Robust Layer 2 Features – Easy to Use and Configure
- ✓ Two Dual Speed SFP Slots – Flexible Extension
- ✓ Fanless Design – Operate Stably and Quietly

Product Benefits

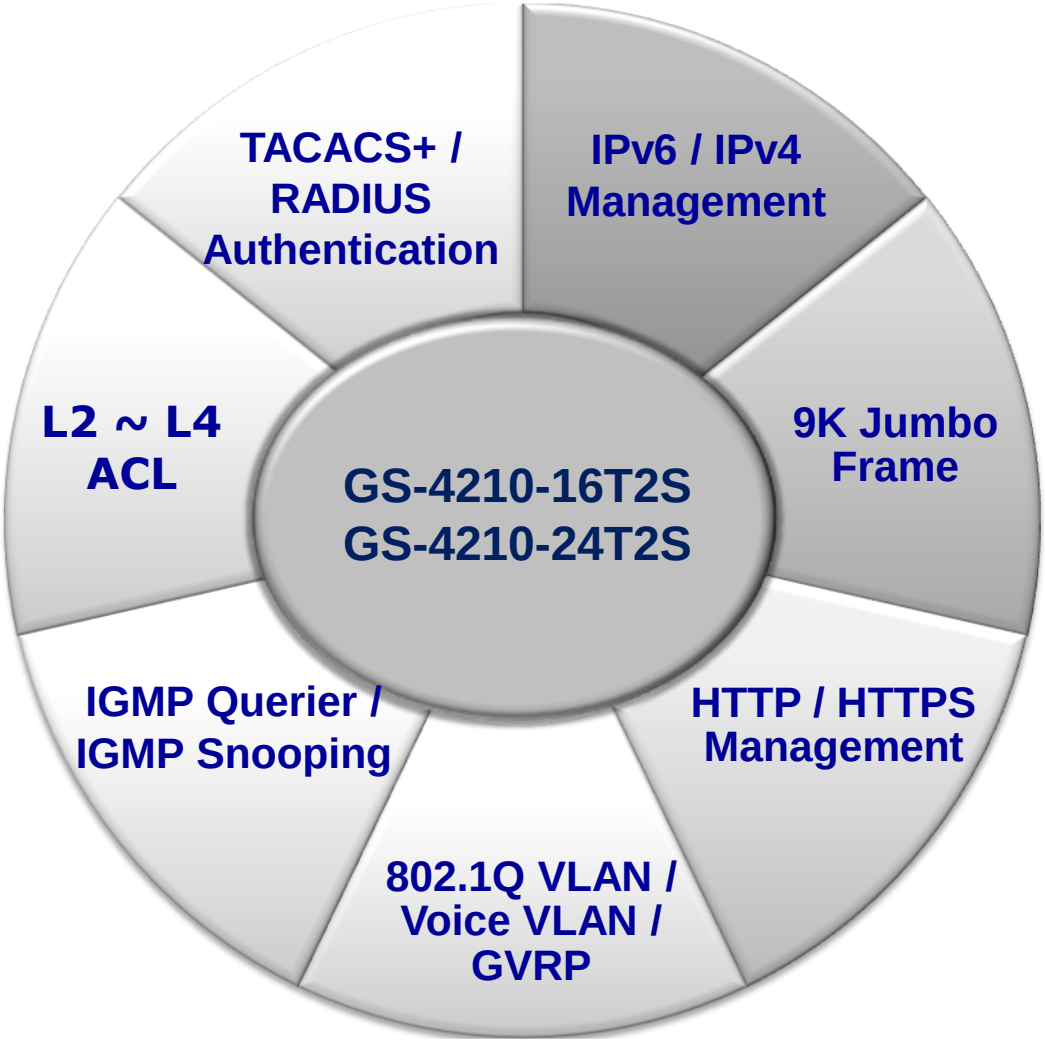
- **Cost-Optimized L2 / L4 Managed Switch for department / backbone / server farm**
  - **16 / 24-port 10/100/1000BASE-T with 2 Dual Speed (100/1000Mbps) SFP Slots**
  - High performance store-and-forward switch architecture
  - Stable operation
- **Efficient Traffic Control**
  - Robust **QoS** features for enhancing service to business-class data, voice and video solution
  - Broadcast / multicast / unicast storm control, per port bandwidth control, 802.1p / CoS / IP DSCP QoS priority and remarking
- **Friendly and Secure Web-based Management**
  - **HTTPS**, **SNMPv3** secure remote management
  - Easy remote management via **Web browser**
  - Graphic User Interface (GUI)
  - **Console, Web, Telnet** and **SNMP** management interfaces

PLANET Networking & Communication

Pioneer of IP Innovation

Product Features

Key Features



Product Features

Hardware

- **16 / 24** 10/100/1000BASE-T interfaces with **auto-negotiation** and **auto MDI/MDI-X**
- **2 100FX/ 1000X** SFP interfaces for distance extension
- **Reset button** for factory default settings
- **8K** MAC address table size / **9K** jumbo frame size
- **36 / 52Gbps** switch fabric and **26.7 / 38.6Mpps** switch throughput
- **Fanless** design
- **Power** LED display on the front panel
- **Per port Ethernet, LNK/ACT Status** LED display on the front panel
- UTP cable distance up to **100m**
- **Store-and-Forward** switch architecture, automatic address learning and address aging

Product Features

Layer 2 Features

VLAN

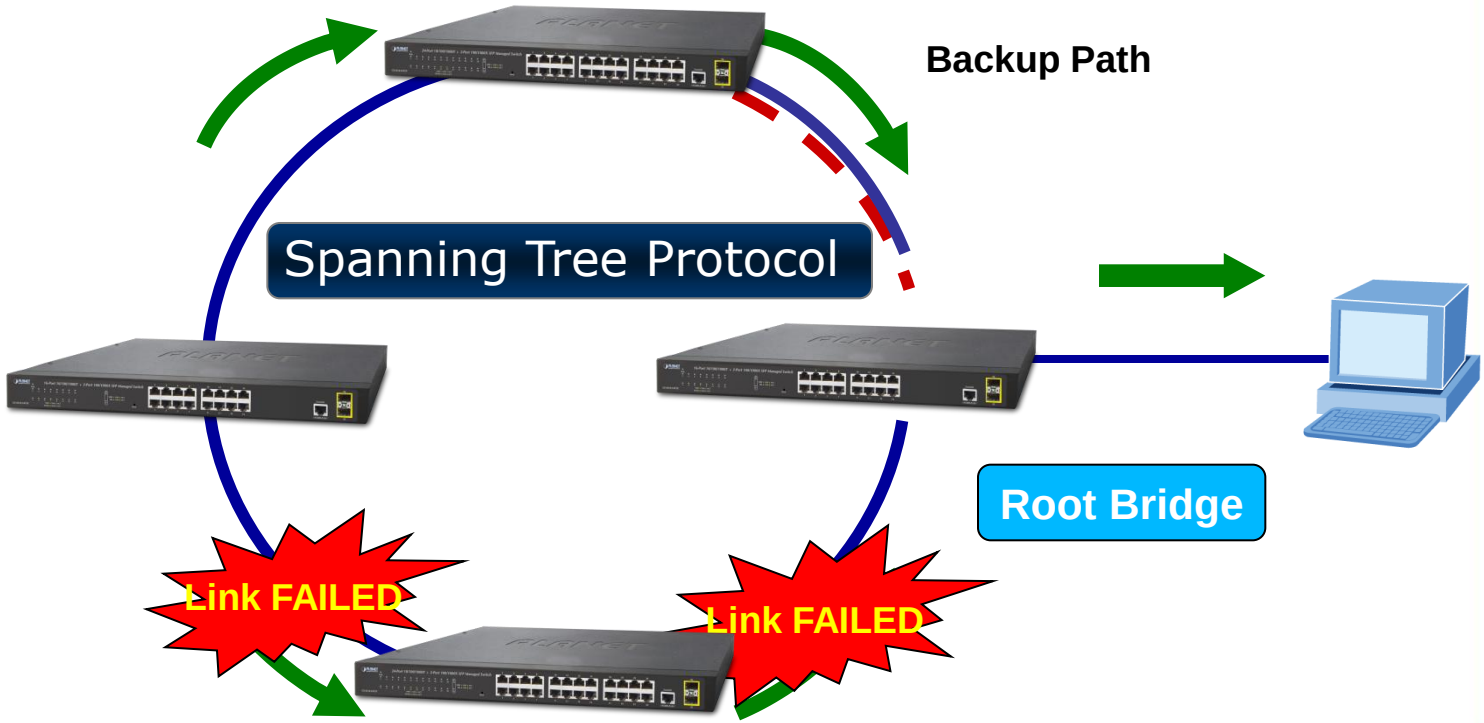
- IEEE 802.1Q tag-based VLAN, Q-in-Q VLAN
- Up to 256 VLAN groups, out of 4094 VLAN IDs
- Protocol VLAN / Voice VLAN / Private VLAN / Management VLAN / GVRP

Spanning Tree Protocol

- STP (Spanning Tree Protocol)
- RSTP (Rapid Spanning Tree Protocol)
- MSTP (Multiple Spanning Tree Protocol)
- STP BPDU Guard / BPDU Filtering / BPDU Forwarding

Product Features

- **STP / RSTP / MSTP Topology**



Product Features

Layer 2 Features

Trunk

- IEEE 802.3ad Link Aggregation Control Protocol (LACP)
- Maximum 8 LACP groups, up to 8 ports per LACP group
- Cisco ether-channel (static trunk)
- Maximum 8 trunk groups, up to 8 ports per trunk group
- Up to 16Gbps bandwidth (full duplex mode)

Port Mirroring

- Multi-ports to 1 port
- Port Mirroring to monitor the incoming or outgoing traffic on a particular port

Loop Protection

- Avoid broadcast loops

Product Features

Layer 2 Features

QoS

- Ingress / Egress Rate Limit per port bandwidth control
- Traffic classification

  -IEEE 802.1p CoS

  -DSCP / IP Precedence of IPv4 / IPv6 packets
- Strict priority / Weighted Round Robin (WRR) CoS policies

Storm Control

- Broadcast / Unknown-Unicast / Unknown-Multicast

Product Features

Layer 2 Features

Multicast

- IPv4 IGMP Snooping v2/ v3
- IPv6 MLD Snooping v1/v2
- IGMP Querier
- IGMP Snooping port filtering
- MLD Snooping port filtering

Jumbo Frame

- 64 bytes to 9216 bytes jumbo packet setting

Product Features

Security

Authentication

- IEEE 802.1X port-based network access authentication
- Built-in RADIUS client to co-operate with the RADIUS servers
- DHCP Option 82
- RADIUS / TACACS+ login user access authentication

Access Control List

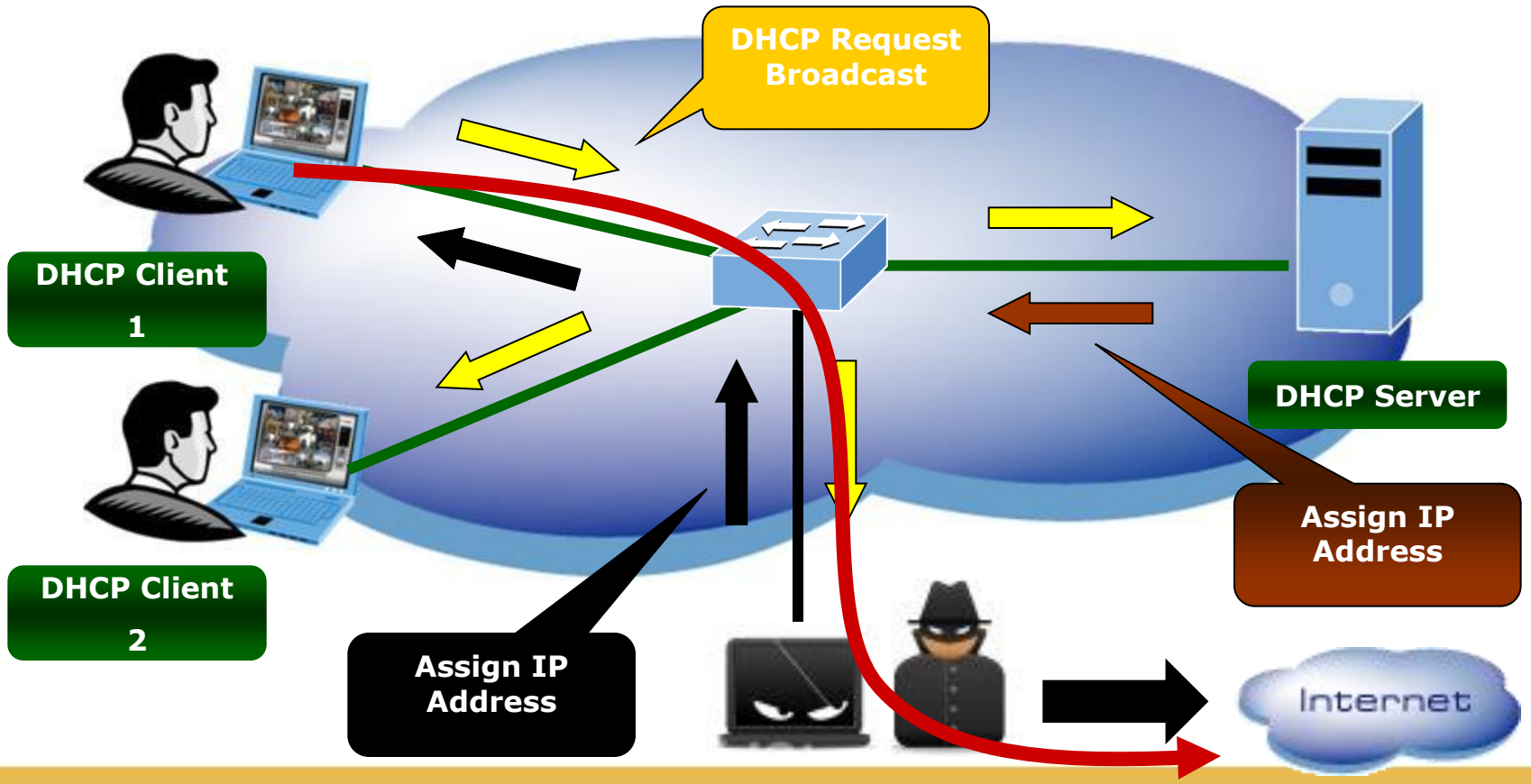
- IPv4 / IPv6 IP-based ACL
- IPv4 / IPv6 IP-based ACE
- MAC-based ACL
- MAC-based ACE

Product Features

- **Security**
  - **MAC Security**
    - Static MAC
    - MAC Filtering
  - **Port Security to filter source MAC address entries**
  - **DHCP Snooping to filter distrusted DHCP messages**
  - **Dynamic ARP inspection discards ARP packets with invalid MAC address to IP address binding**
  - **IP source guard prevents IP spoofing attacks**
  - **DoS attack prevention**

Product Features

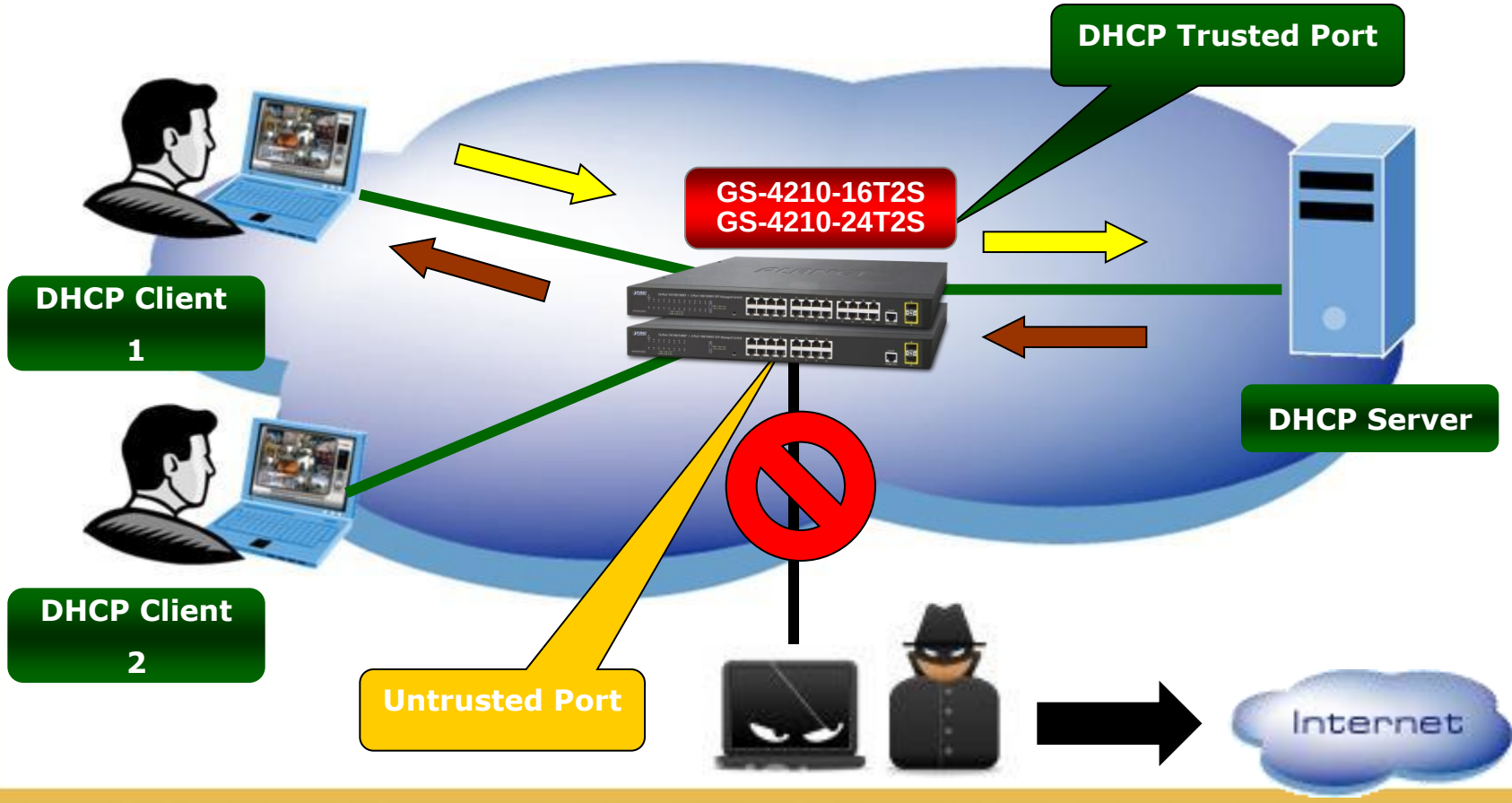
- DHCP Snooping



Product Features

DHCP Snooping

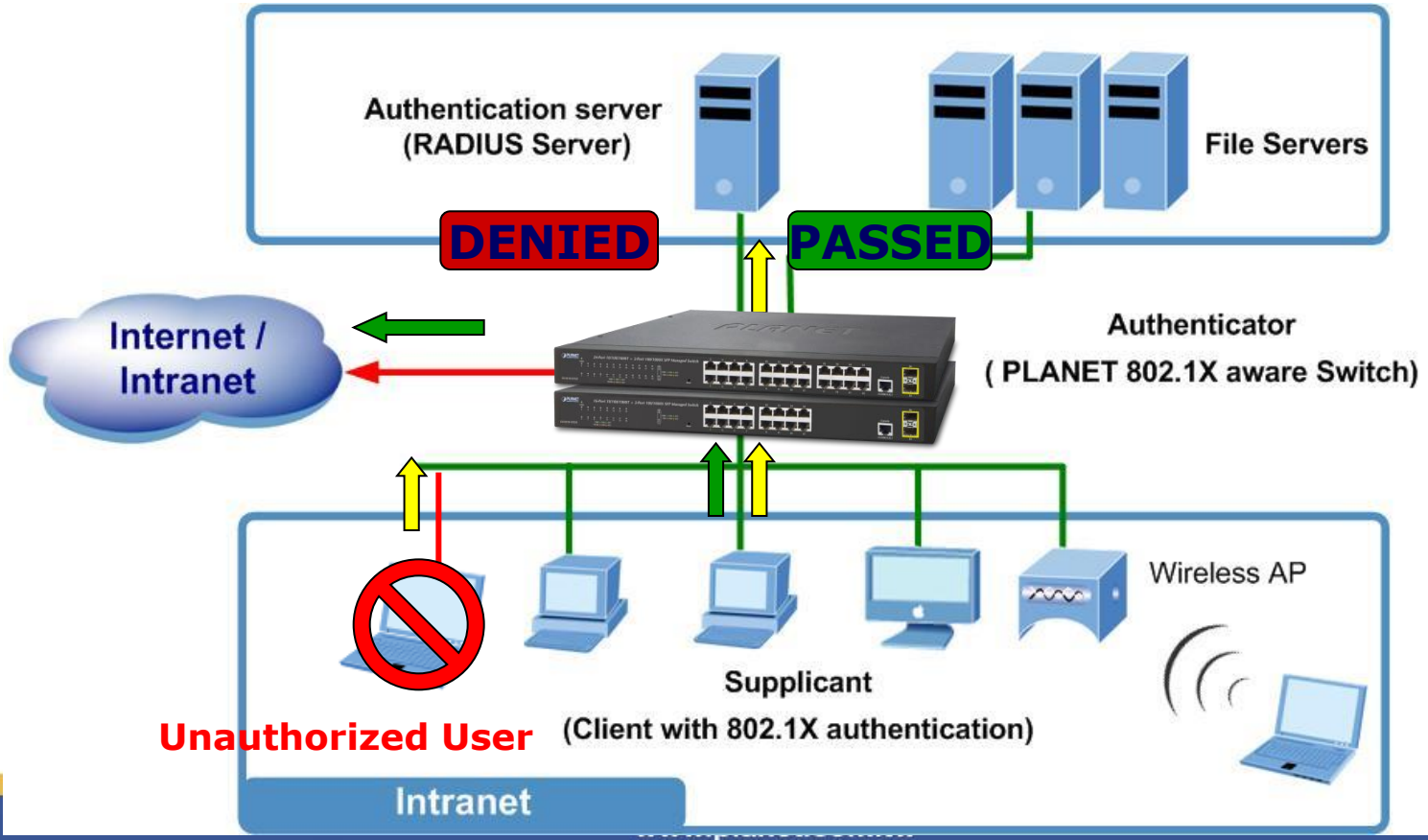
VLAN ID	IP Address	MAC Address
1	192.168.0.1	00:30:4F:11:22:33
2	192.168.0.2	00:11:22:55:AA:BB



Product Features

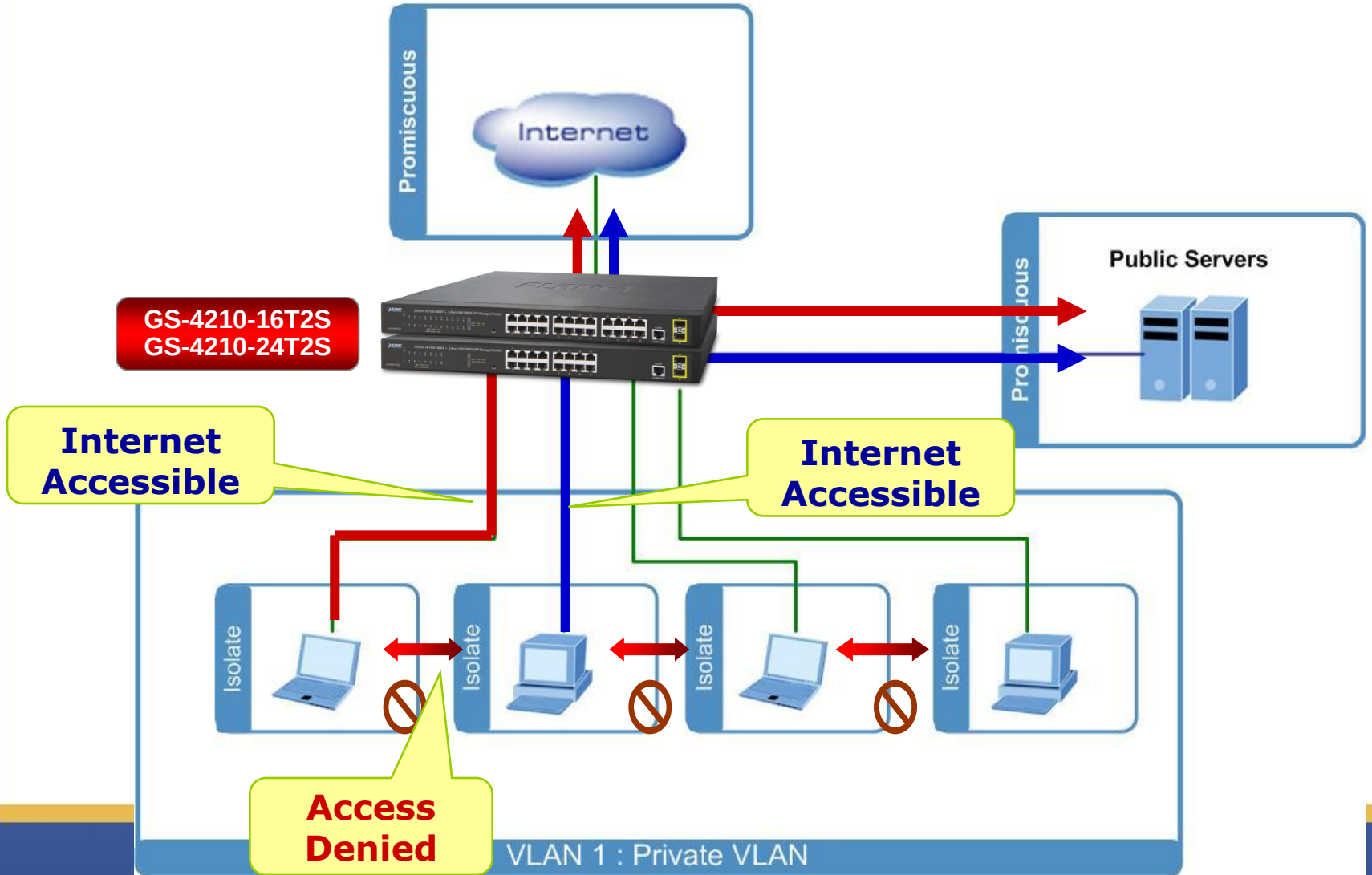
Security - Network Access Authentication Mechanism

- ✓ 802.1x Port-based / MAC-based User Authentication
- ✓ RADIUS / TACACS+ Authentication for Management Access



Product Features

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



Product Features

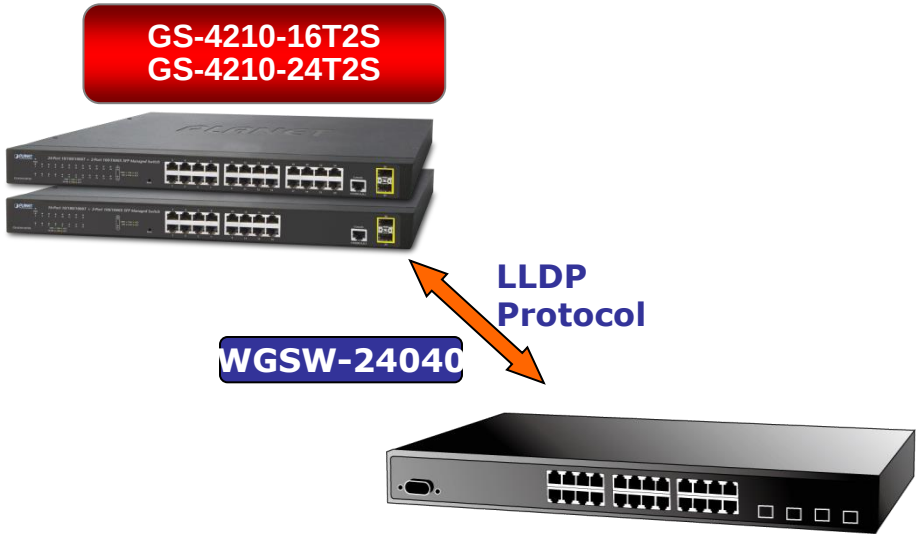
Link Layer Discovery Protocol (LLDP)

- ✓ LLDP is used to **discover** basic information about neighboring devices on the local broadcast domain

LLDP Remote Device

Detail | Delete | Refresh

Sel	Local Port	Chassis ID Subtype	Chassis ID	Port ID Subtype	Port ID	System Name	Time to Live
☐	GE2	MAC address	00:30:4F:A9:51:7F	Locally assigned	1	WGSW-24040R	102



Product Features

Management

IPv4 / IPv6 Dual Stack Management

Management Interface

- Local Command Line Interface
- IPv4 / IPv6 Remote Web management
- Remote Telnet Command Line Interface
- SNMP v1, v2c and v3 [Four RMON groups (history, statistics, alarms and events)]
- HTTPs secure access

System Maintenance

- Firmware upload / download via HTTP / TFTP
- Configuration upload / download through HTTP / TFTP
- Hardware reset button for system reboot or factory default settings

Product Features

Management

- SNTP Network Time Protocol
- Cable Diagnostics
- Link Layer Discovery Protocol (LLDP) / LLDP-MED
- SNMP trap for interface Link Up and Link Down notification
- Event message logging to remote Syslog server
- Four RMON groups (history, statistics, alarms and events)
- PLANET Smart Discovery Utility
- Built-in Trivial File Transfer Protocol (TFTP) client
- Static and DHCP for IP address assignment

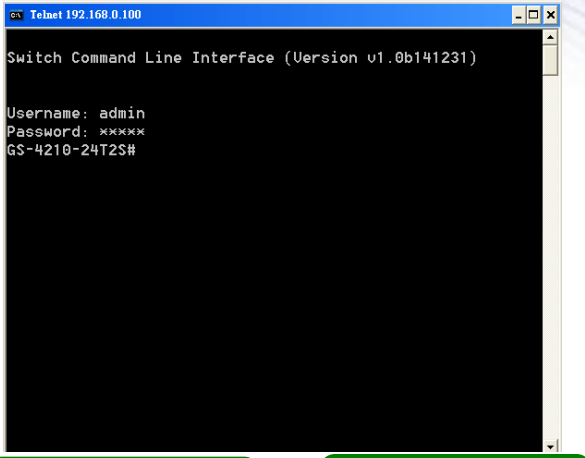
Product Features

- **Remote IPv6 / IPv4 Management**

TCP/IP

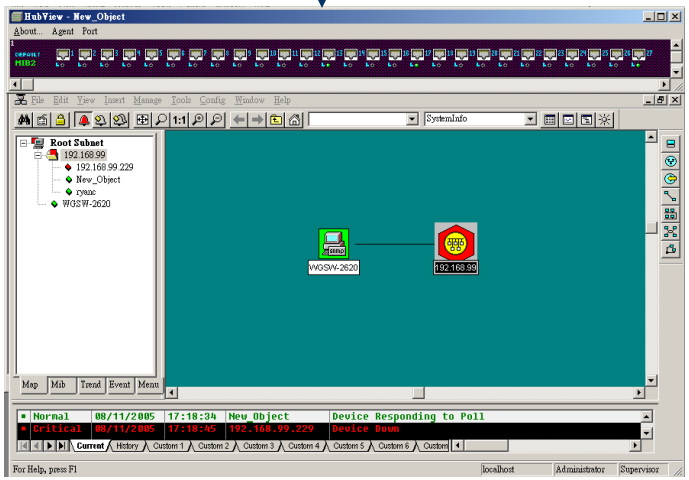
TCP/IP

TCP/IP



Telnet CLI

Console CLI



SNMPv1 / v2c

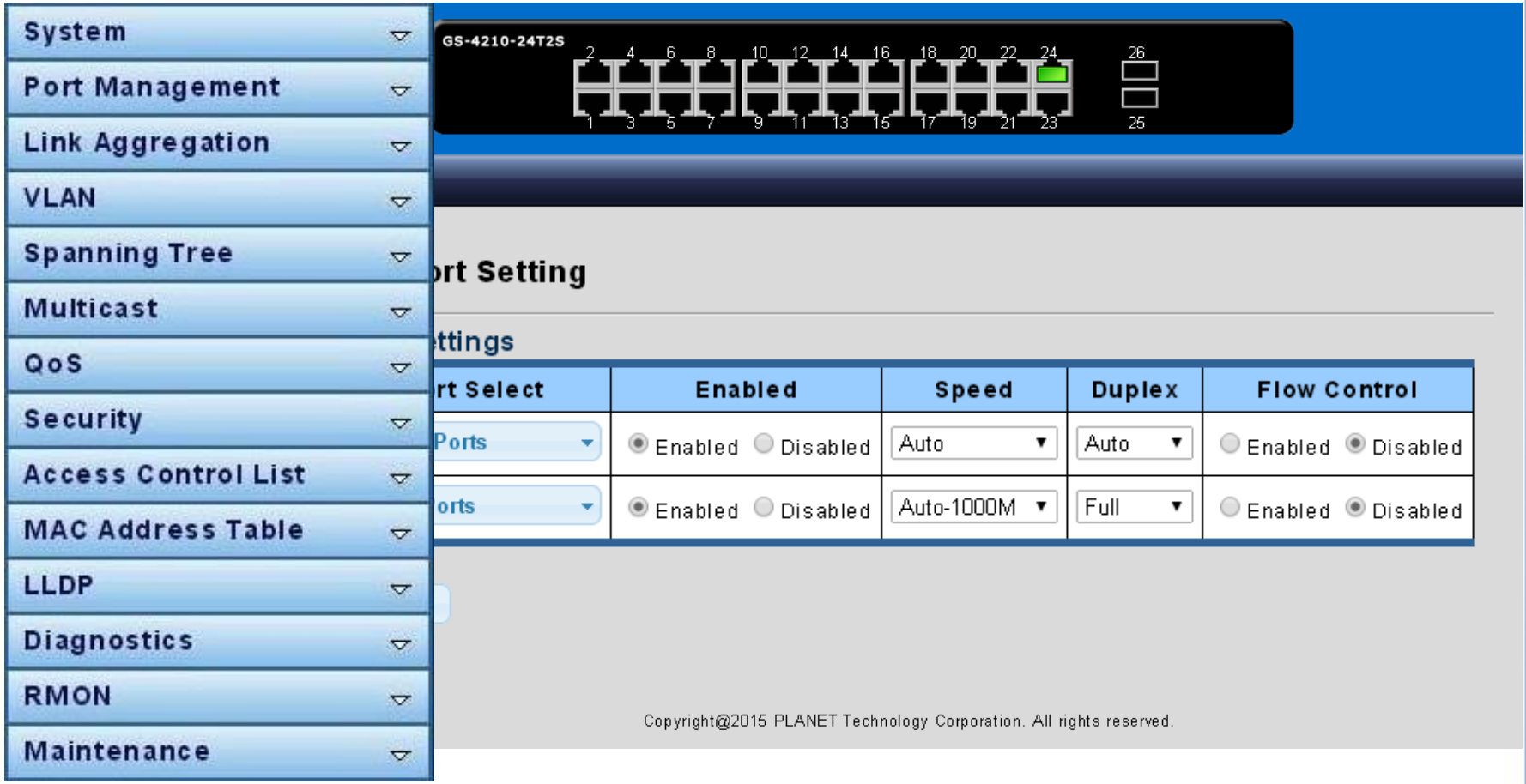
SNMPv3 – Secure SNMP

HTTP Web Management

SSL – Secure HTTP

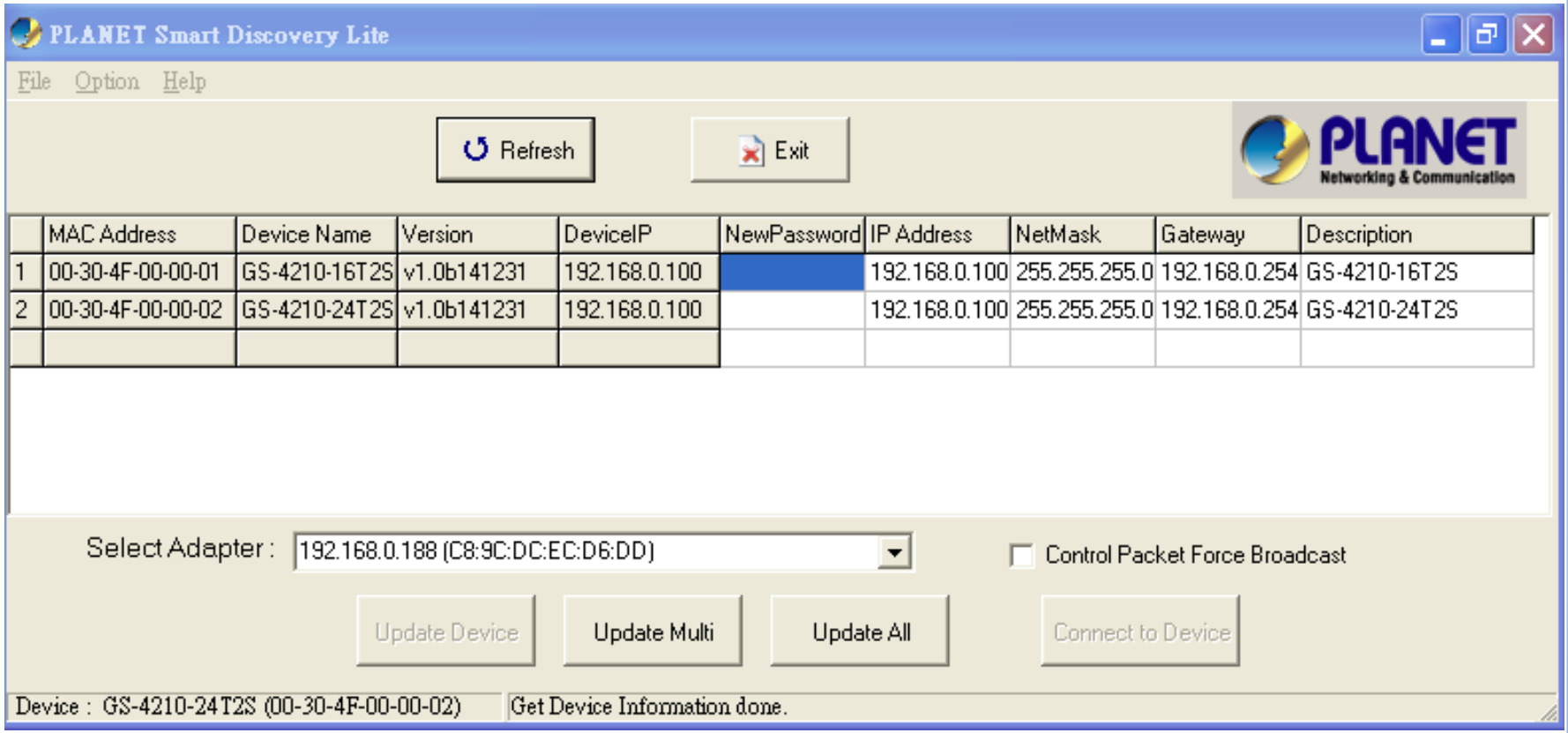
Product Features

- Friendly Web User Interface



Product Features

- PLANET Smart Discovery Utility



PLANET
Networking & Communication

Pioneer of IP Innovation

Applications

Application

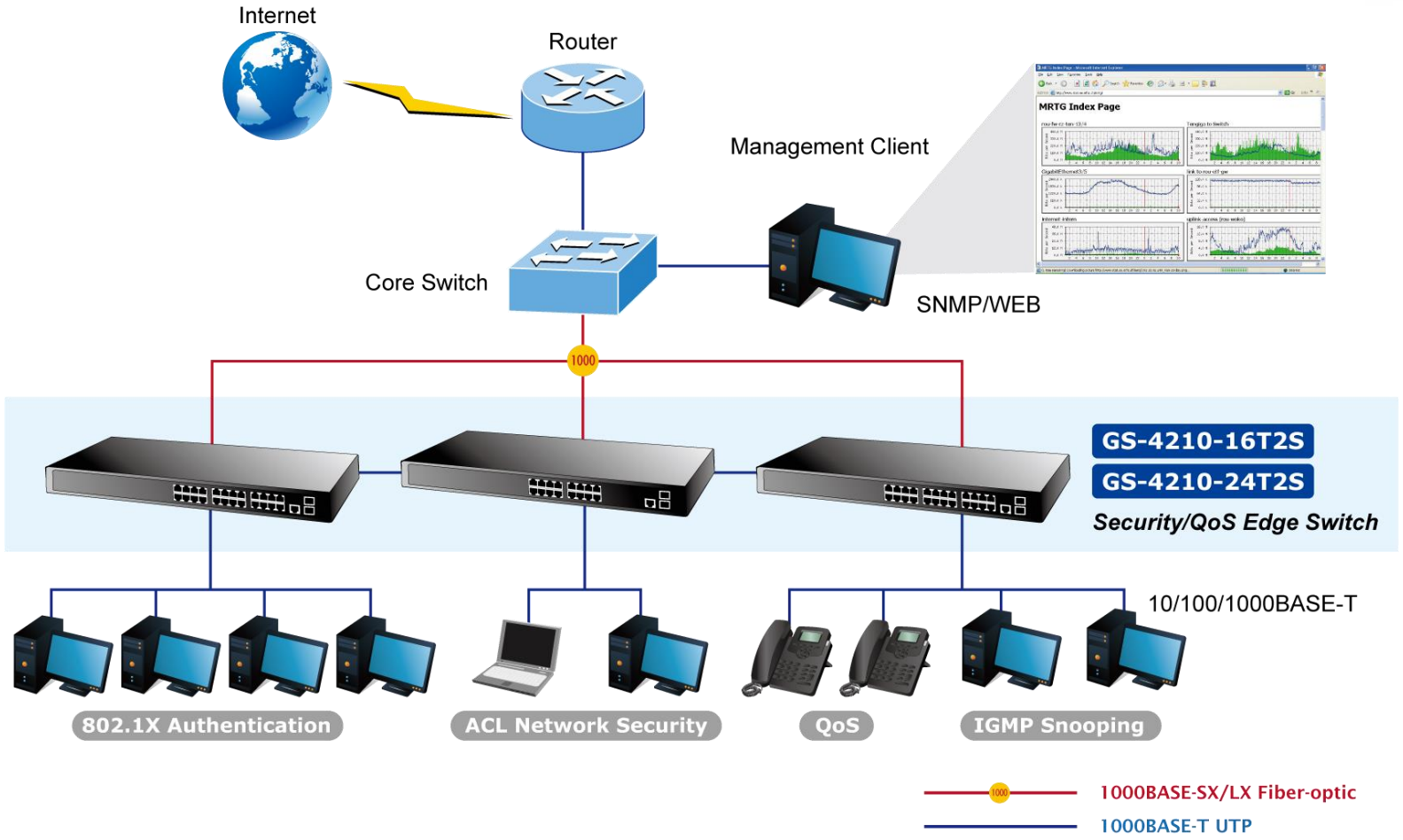
Department / Edge Security and QoS Switch

- The GS-4210-16T2S / GS-4210-24T2S connects up to 16 / 24 high-speed workstations in the Ethernet environment, in which its two SFP Mini-GBIC interfaces uplink to a department backbone.

- The GS-4210-16T2S / GS-4210-24T2S improves the network efficiency and safeguards the network clients with its powerful features:

  - IPv6 / IPv4 management
  - Layer 2 to Layer 4 security
  - QoS
  - 802.1x pPort-based and MAC-based network access authentication security
  - Multicast IGMP snooping

Applications



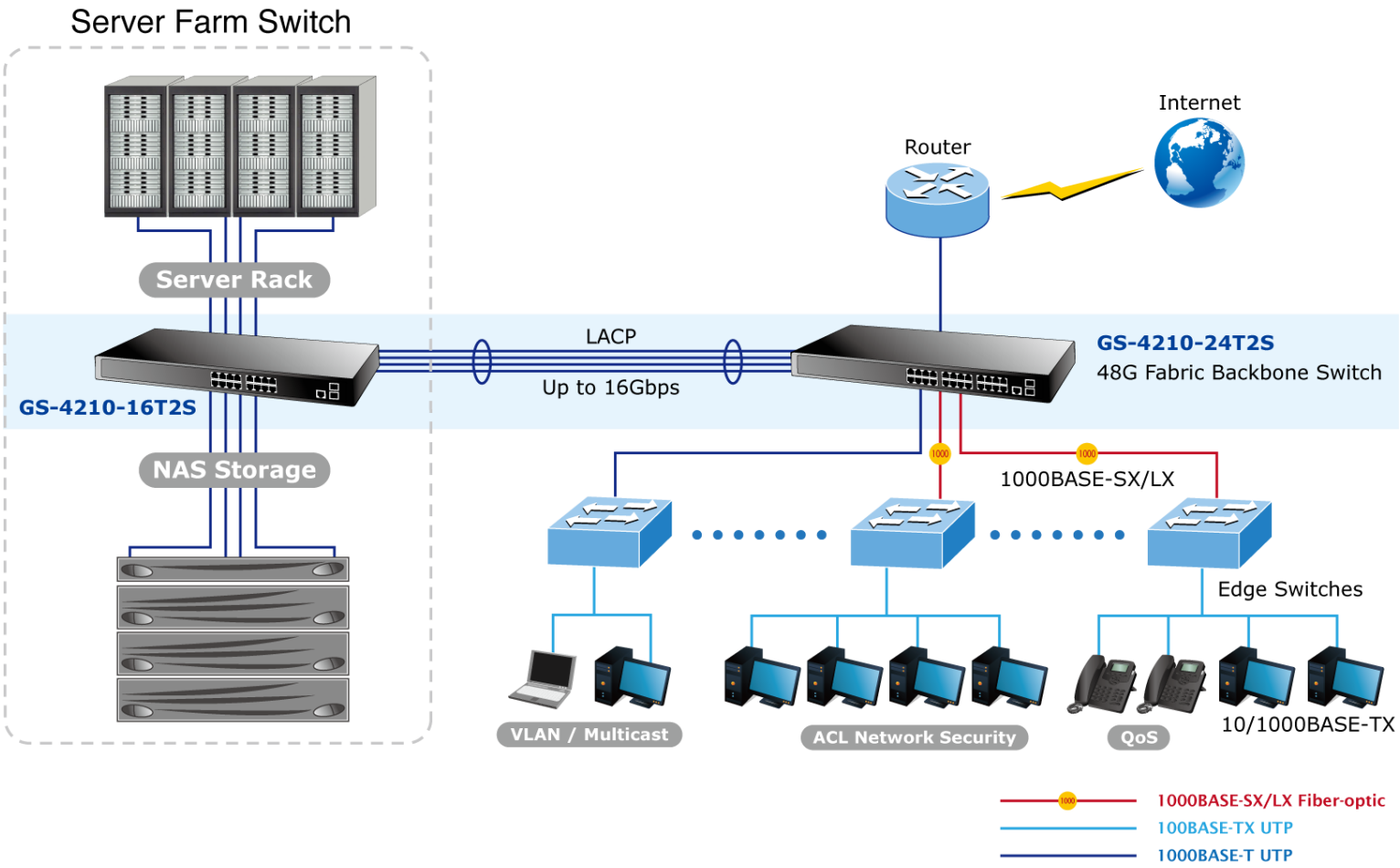
Applications

High Performance Backbone / Server Farm Switch

- Gigabit Ethernet supported equipment has become the fundamental unit of enterprises and network servers. With up to **36 / 52 Gbps** of non-blocking switch fabric, the GS-4210-16T2S / GS-4210-24T2S can easily provide the high bandwidth required from now on.

- It can easily provide a local high bandwidth Gigabit Ethernet network for backbone of enterprises or telecoms. With its **port trunking** function, a **16 GB** fat pipe is provided to connect to the backbone if required. It is ideal to be used as a server farm switch connecting to servers.

Applications



Applications

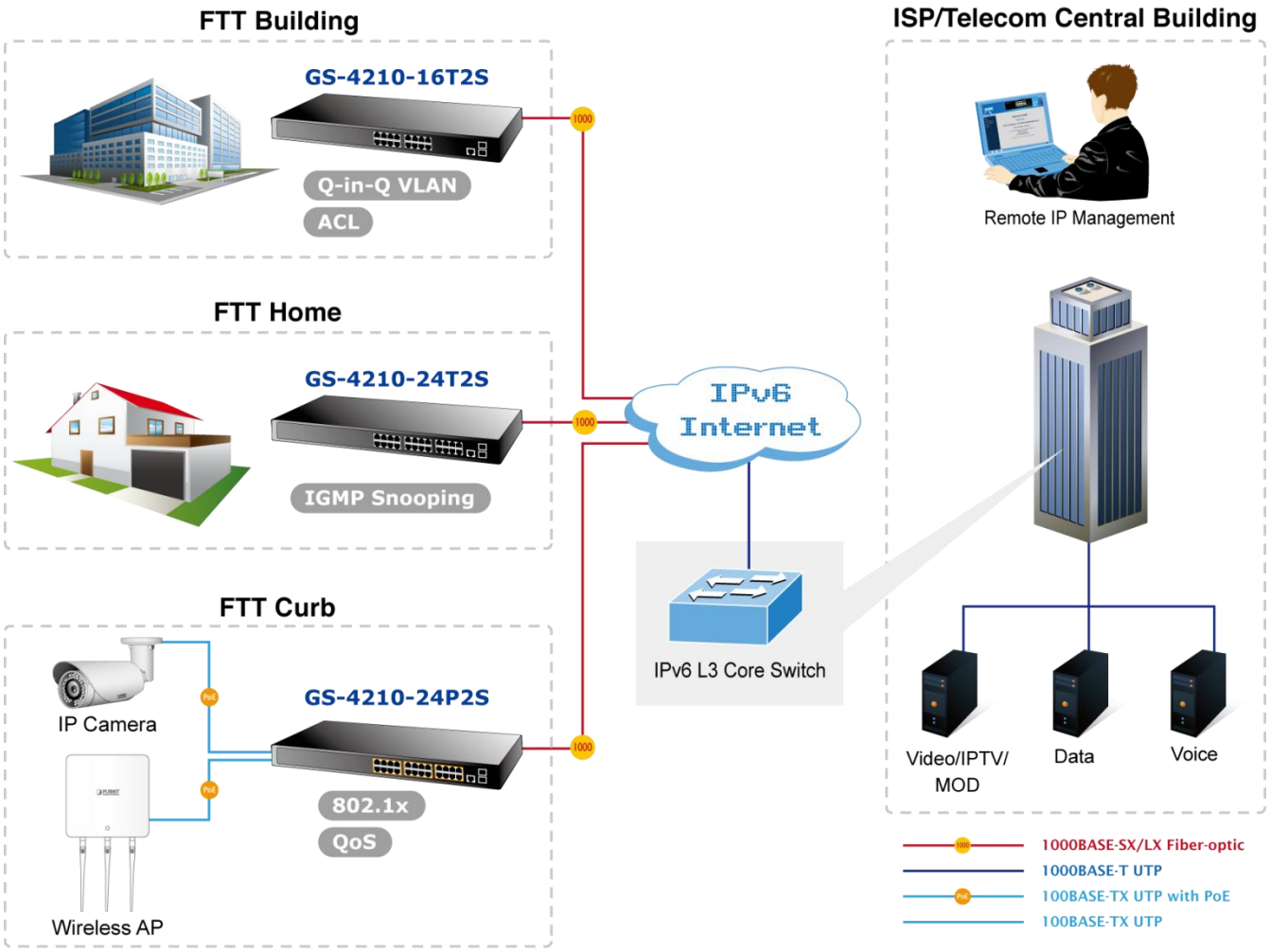
FTTX / MAN Applications

- The GS-4210-16T2S / GS-4210-24T2S applies the **double tag VLAN (Q-in-Q)** technology to providing low cost and easy operation for service providers carrying traffic for multiple customers across their networks. It features **SNMPv3** and **RMON** Groups. The **SNMPv3 security** structure consists of security models, with each model having its own security levels.

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

- For security and various applications, the 16 / 24 Gigabit ports of the GS-4210-16T2S / GS-4210-24T2S can be configured with VLAN settings and connected to different units, offices, flowers, houses and departments.

Applications



PLANET Networking & Communication

Pioneer of IP Innovation

Appendix

Sales Targets

- **Target Markets**
  - ✓ Enterprises, SMB Offices, Government, Campuses
  - ✓ ISPs, Telecoms, Service Providers
  - ✓ System Integrators

- **Total Solutions**
  - ✓ Layer 2 Web Smart Gigabit Ethernet Switch:
    - GSW-1602SF / GSW-2404SF
  - ✓ Layer 2 Managed Gigabit Ethernet Switch:
    - WGSW-24040 / WGSW-28040 / SGSW-24040

Related Products

- **Available Gigabit Ethernet Fiber Optic SFP Modules:**

Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-GT	1000	Copper	--	100m	--	0 ~ 60 ℃
MGB-SX	1000	LC	Multi Mode	550m	850nm	0 ~ 60 ℃
MGB-SX2	1000	LC	Multi Mode	2km	1310nm	0 ~ 60 ℃
MGB-LX	1000	LC	Single Mode	10km	1310nm	0 ~ 60 ℃
MGB-L30	1000	LC	Single Mode	30km	1310nm	0 ~ 60 ℃
MGB-L50	1000	LC	Single Mode	50km	1550nm	0 ~ 60 ℃
MGB-L70	1000	LC	Single Mode	70km	1550nm	0 ~ 60 ℃
MGB-L120	1000	LC	Single Mode	120km	1550nm	0 ~ 60 ℃
MGB-TSX	1000	LC	Multi Mode	550m	850nm	-40 ~ 75 ℃
MGB-TLX	1000	LC	Single Mode	10km	1310nm	-40 ~ 75 ℃
MGB-TL30	1000	LC	Single Mode	30km	1310nm	-40 ~ 75 ℃
MGB-TL70	1000	LC	Single Mode	70km	1550nm	-40 ~ 75 ℃

Related Products

- **Available Gigabit Ethernet WDM Fiber Optic SFP Modules:**

Gigabit Ethernet Transceiver (1000BASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-LA10	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	0 ~ 60 ℃
MGB-LB10	1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	0 ~ 60 ℃
MGB-LA20	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 ℃
MGB-LB20	1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 ℃
MGB-LA40	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60 ℃
MGB-LB40	1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	0 ~ 60 ℃
MGB-LA60	1000	WDM(LC)	Single Mode	60km	1310nm	1550nm	0 ~ 60 ℃
MGB-LB60	1000	WDM(LC)	Single Mode	60km	1550nm	1310nm	0 ~ 60 ℃
MGB-TLA10	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 75 ℃
MGB-TLB10	1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	-40 ~ 75 ℃
MGB-TLA20	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 ℃
MGB-TLB20	1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 75 ℃
MGB-TLA40	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 ℃
MGB-TLB40	1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 75 ℃
MGB-TLA60	1000	WDM(LC)	Single Mode	60km	1310nm	1550nm	-40 ~ 75 ℃
MGB-TLB60	1000	WDM(LC)	Single Mode	60km	1550nm	1310nm	-40 ~ 75 ℃

Related Products

Available Fast Ethernet Fiber Optic SFP Modules:

Fast Ethernet Transceiver (100BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MFB-FX	100	LC	Multi Mode	2km	1310nm	0 ~ 60 ℃
MFB-F20	100	LC	Single Mode	20km	1310nm	0 ~ 60 ℃
MFB-F40	100	LC	Single Mode	40km	1310nm	0 ~ 60 ℃
MFB-F60	100	LC	Single Mode	60km	1310nm	0 ~ 60 ℃
MFB-F120	100	LC	Single Mode	120km	1550nm	0 ~ 60 ℃
MFB-TFX	100	LC	Multi Mode	2km	1310nm	-40 ~ 75 ℃
MFB-TF20	100	LC	Single Mode	20km	1550nm	-40 ~ 75 ℃

Fast Ethernet Transceiver (100BASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MFB-FA20	100	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 ℃
MFB-FB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 ℃
MFB-TFA20	100	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 ℃
MFB-TFB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 75 ℃
MFB-TFA40	100	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 ℃
MFB-TFB40	100	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 75 ℃

Activating IP Power