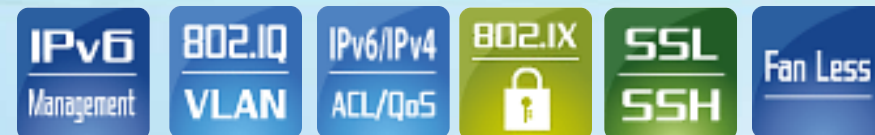


**48-Port 10/100/1000BASE-T
+ 4-Port 100/1000BASE-X SFP
Gigabit Managed Switch
GS-4210-48T4S**



Outlines

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

Extremely Quiet and Amazingly Powerful !

Fanless

Silent

Stable

104 Gpbs

Power Saving

IPv6

L2/L4 ACL

PLANET GS-4110-24104 40-Port 10/100/1000T + 4-Port 100/1000S SFP Managed Switch

Product Overview



Product Overview



Layer 2+ Stackable

Layer 2+ Standalone

Layer 2/4 Standalone

◆ The PLANET Managed Gigabit Ethernet Switch Family



SGS-5220-series
24G w/2 10G SFP+



GS-5220-46S2C4X
48G SFP + 4x10G SFP+



GS-5220-48T4X
48G TP w/ 4 SFP, 4 SFP+



XGSW-28040
24G TP w/ 4 SFP, 4 SFP+



GS-5220-16S8C
- 24 100/1000X SFP
- IPv4 static routing



GS-5220-44S4C
48 100/1000X SFP
IPv4 static routing



WGSW-24040
WGSW-24040R
24TP w/ 4 100/1000X SFP



WGSW-52040
48G TP + 2 SFP



WGSD-10020
8 TP +
2 100/1000 SFP



GSD-1020S
8TP + 2 SFP



GSD-1002M
- 8TP + 2 SFP



GS-4210-16T2S
16TP + 2 100/1000X SFP
IPv6 /IPv4 Management



WGSW-28040(v3)
28TP w/ 4 100/1000X SFP



GS-4210-24T2S
16TP + 2 100/1000X SFP
IPv6 /IPv4 Management



GS-4210-48T4S
-48-Port 10/100/1000T +
-4-Port 100/1000X SFP
- IPv6 /IPv4 Management

8/10-Port

16~20-Port

24~28-Port

48~52-Port

24/48-Port + 10G

Product Overview

◆ PLANET **48G above Managed Switch** Quick Selection Table

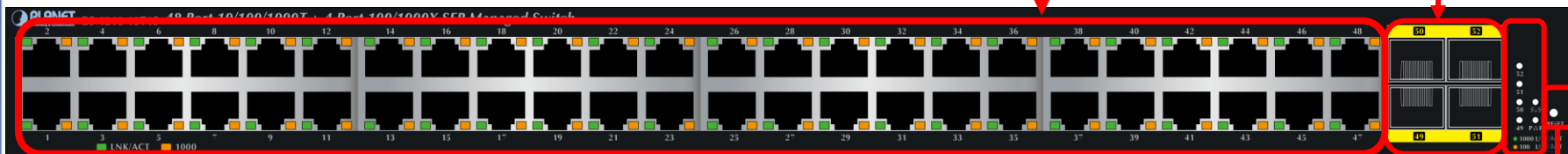
Level	L2/L4	L2/L4	L2+	L2+
Model	SGSW-24040 + SGSW-24040	GS-4210-48T4S	WGSW-52040	GS-5220-48T4X
Product Outlook				
10/100/1000T RJ45	24 x 2	48	48	48
100/1000X SFP	4 x 2 (shared)	4 extra	4 extra	4 extra
10G Uplink	-	-	-	4 extra
L3 Routing	-	-	✓	✓
IPv6 Mgt.	✓	✓	✓	✓
Stackable	-	-	IP Stacking	-
Space	2U	1U	1U	1U
Price	\$ \$	\$	\$ \$	\$ \$ \$

Product Overview

◆ GS-4210-48T4S Front Panel

48 10/100/1000Mbps Ports, Auto-MDI / MDI-X, Auto Negotiation

4 100/1000BASE-X



◆ GS-4210-48T4S Rear Panel

100-240V at 1.5A (max.) Universal Power Supply

Power and LNK/ACT LED Indication

Reset Button



One Ground Design

Product Benefits



Powerfully Managed at Lower Total Cost

- ✓ **IPv6 Management – Next Generation IP Protocol**
- ✓ **48-Port 10/100/1000 – Total Gigabit Solution**
- ✓ **Robust Layer 2 Features – Easy to Use and Configure**
- ✓ **Four Dual Speed SFP Slots – Flexible Extension**
- ✓ **Fanless Design – Stable and Quiet Operation**

Product Benefits

- ◆ **Cost-optimized L2 / L4 Managed Switch for department / backbone / server farm**
 - **48-port 10/100/1000BASE-T with 4 Dual Speed (100/1000Mbps) SFP Slots**
 - High performance store-and-forward switch architecture
 - Stable operation

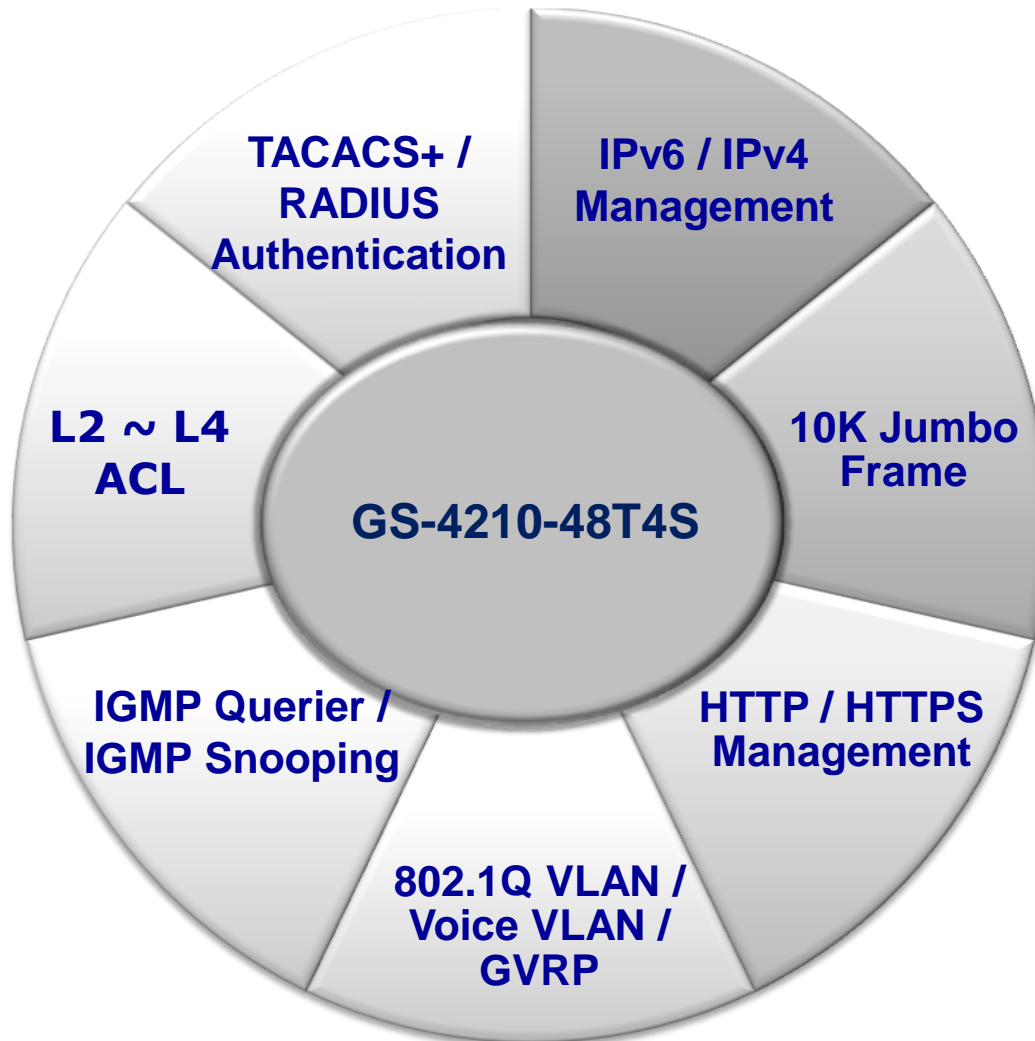
- ◆ **Efficient Traffic Control**
 - Robust **QoS** features for enhancing services to business-class data, voice and video solutions
 - Broadcast / multicast / unicast storm control, per port bandwidth control, 802.1p / CoS / IP DSCP QoS priority and remarking

- ◆ **Friendly and Secure Web-based Management**
 - **HTTPS, SNMPv3** secure remote management
 - Easy remote management via **Web browser**
 - Graphic User Interface (GUI)
 - **Web, Telnet** and **SNMP** management interfaces

Product Features



Key Features



Product Features

◆ Hardware

- ✓ **48** 10/100/1000BASE-T interfaces with **auto-negotiation** and **auto MDI/MDI-X**
- ✓ **4 100FX / 1000X** SFP interfaces for distance extension
- ✓ **Reset button** for factory default settings
- ✓ **16K** MAC address table size / **10K** jumbo frame size
- ✓ **104Gbps** switch fabric and **77.38Mbps** 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

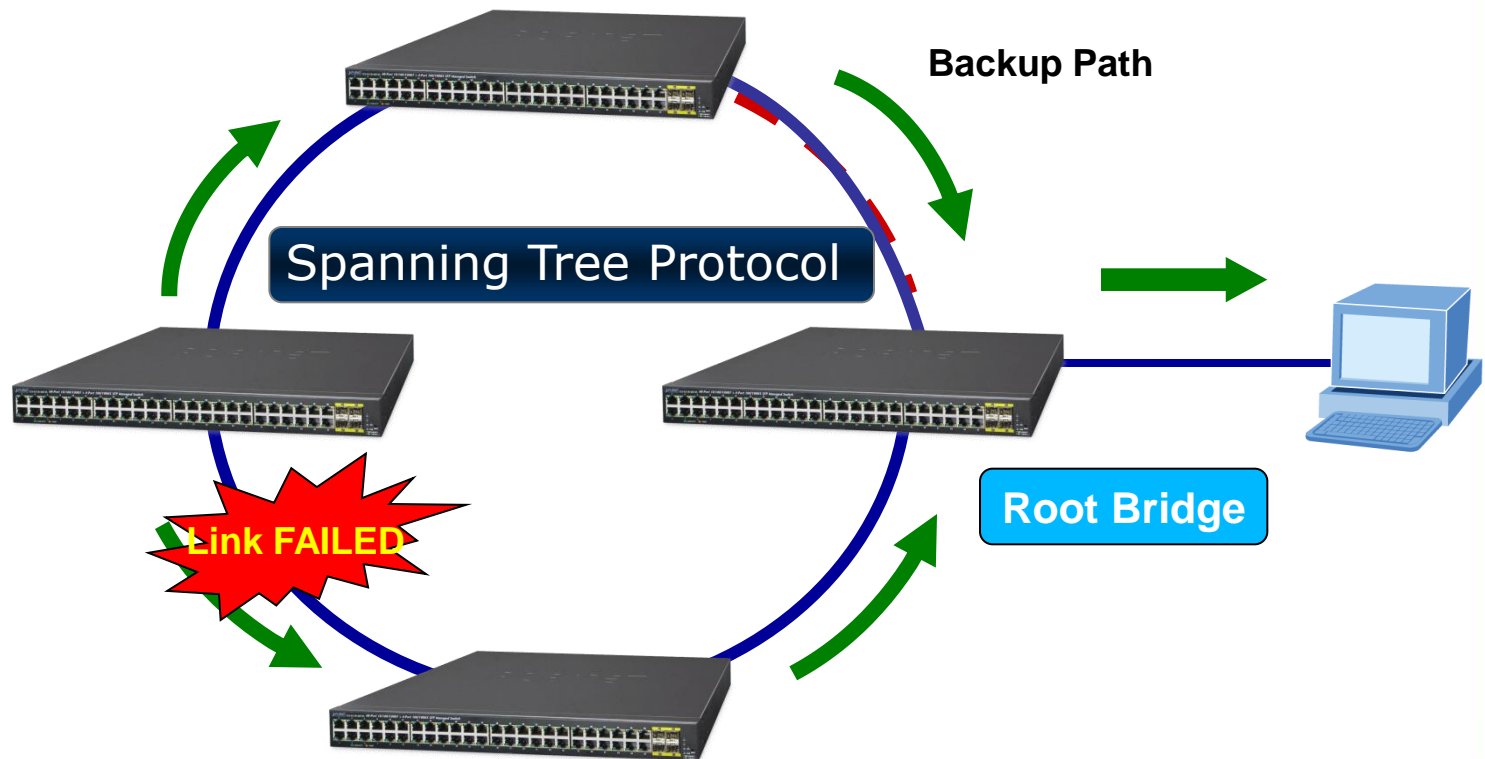
- IEEE 802.1Q tag-based VLAN, Q-in-Q VLAN
- Up to 256 VLAN groups, out of 4094 VLAN IDs
- Protocol VLAN / Voice VLAN / Private VLAN / Management VLAN / GVRP

➤ 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 10000 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 untrusted DHCP messages

➤ Dynamic ARP inspection discards ARP packets with invalid MAC address to IP address binding

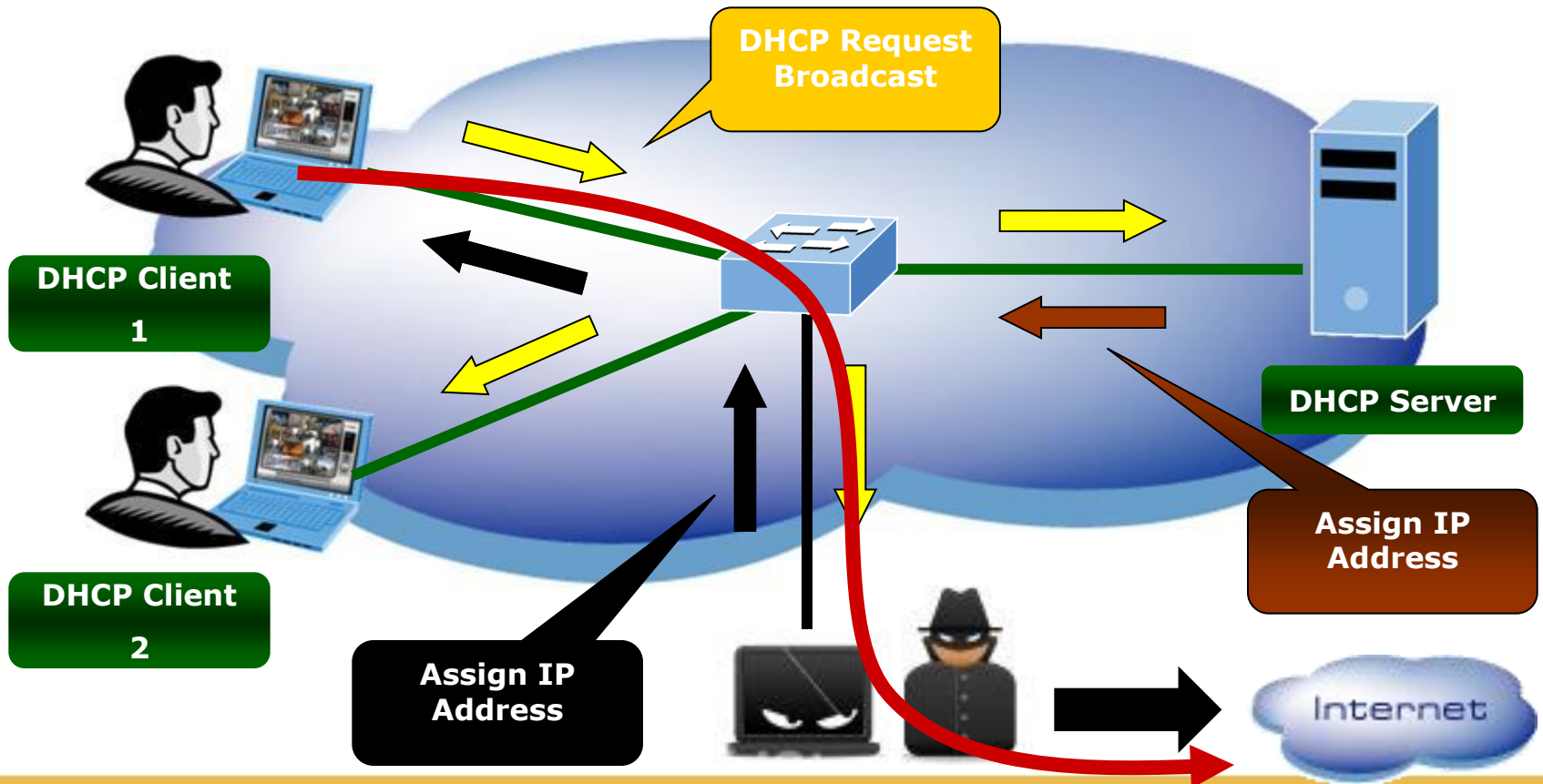
➤ IP source guard prevents IP spoofing attacks

➤ DoS attack prevention

Product Features

◆ DHCP Snooping

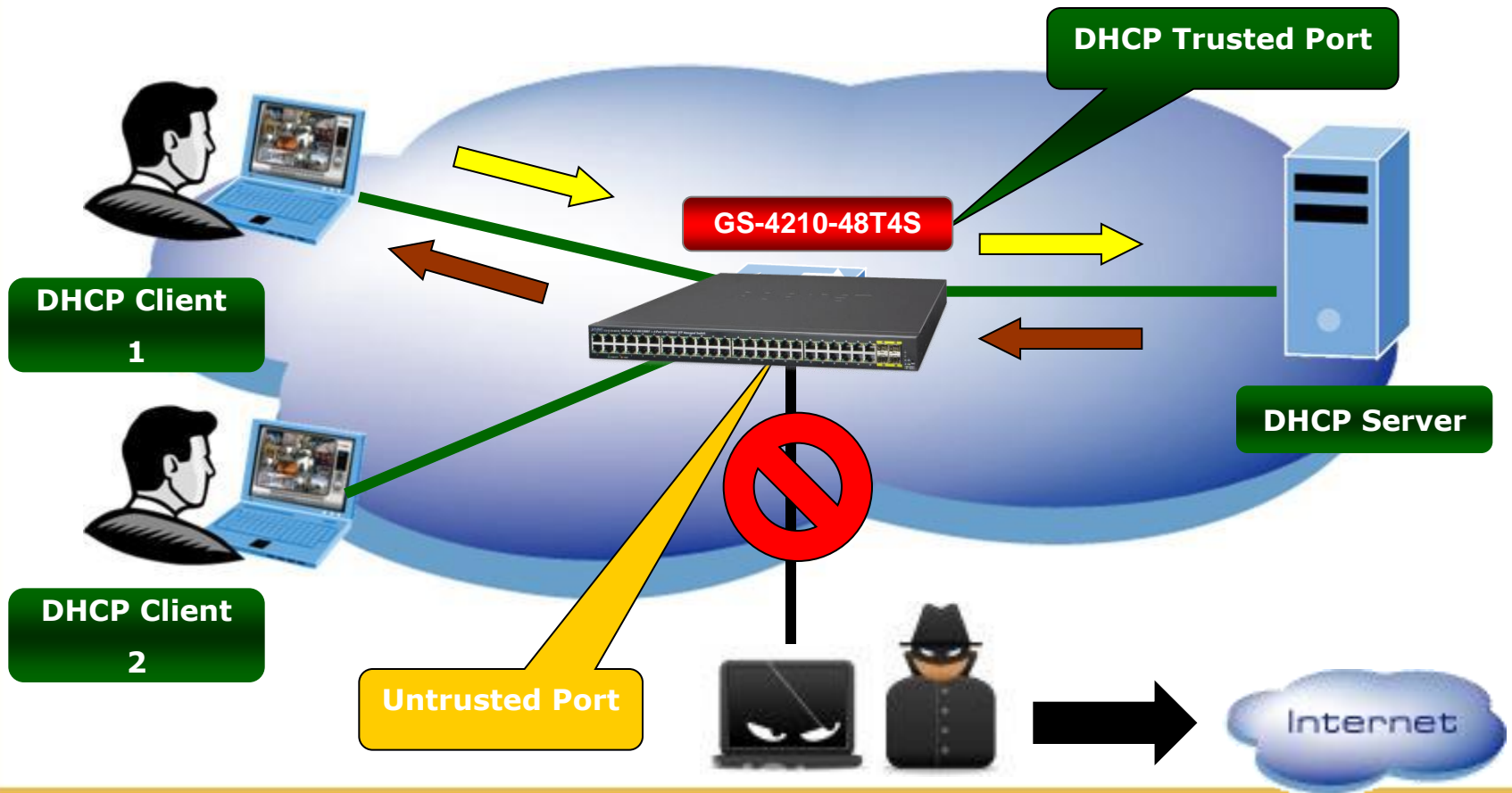
INTRANET Office Network



Product Features

◆ DHCP Snooping

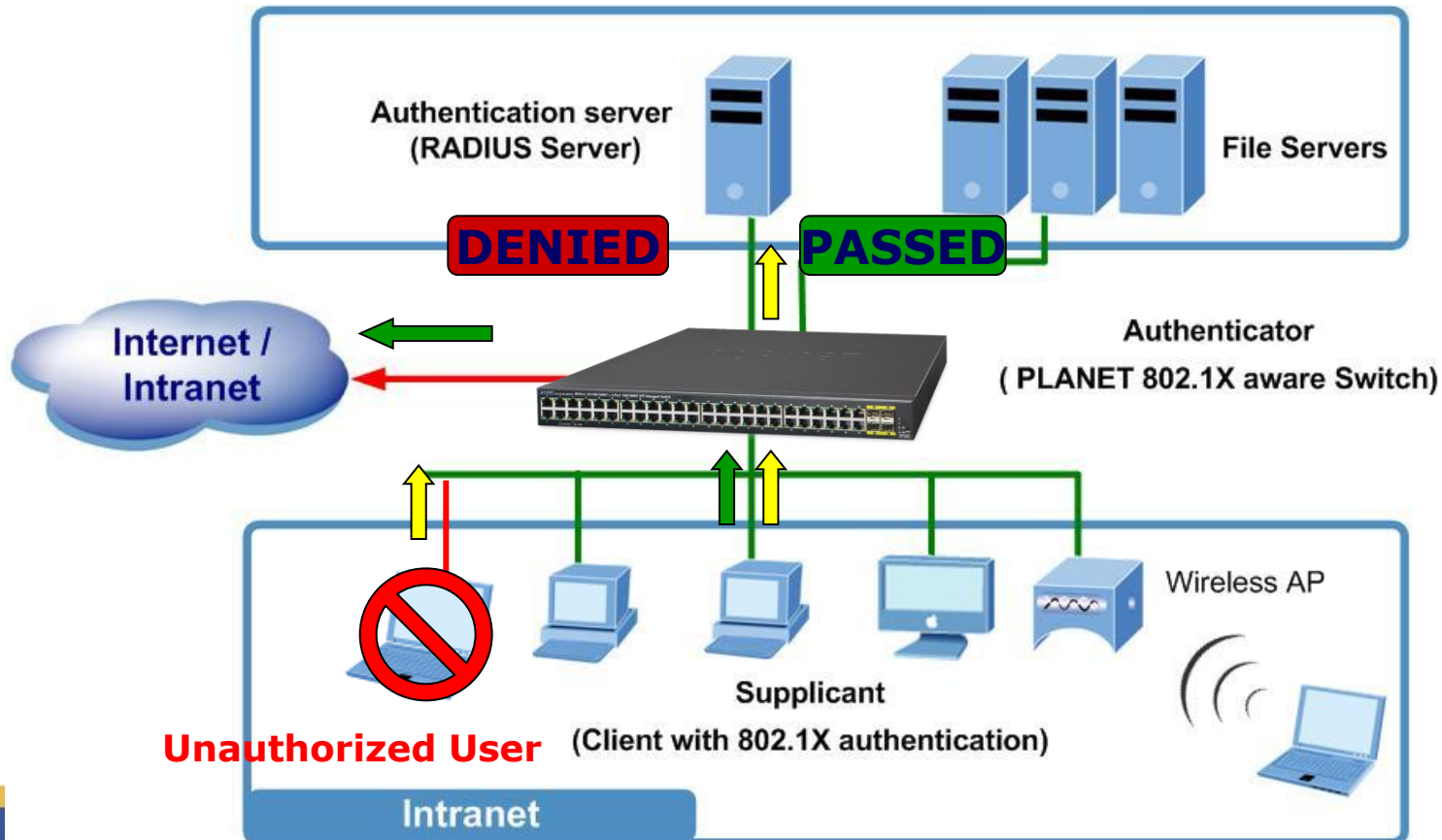
VLAN ID	IP Address	MAC Address
1	192.168.0.1	00:30:4F:11:22:33
2	192.168.0.2	00:11:22:55:AA:BB



Product Features

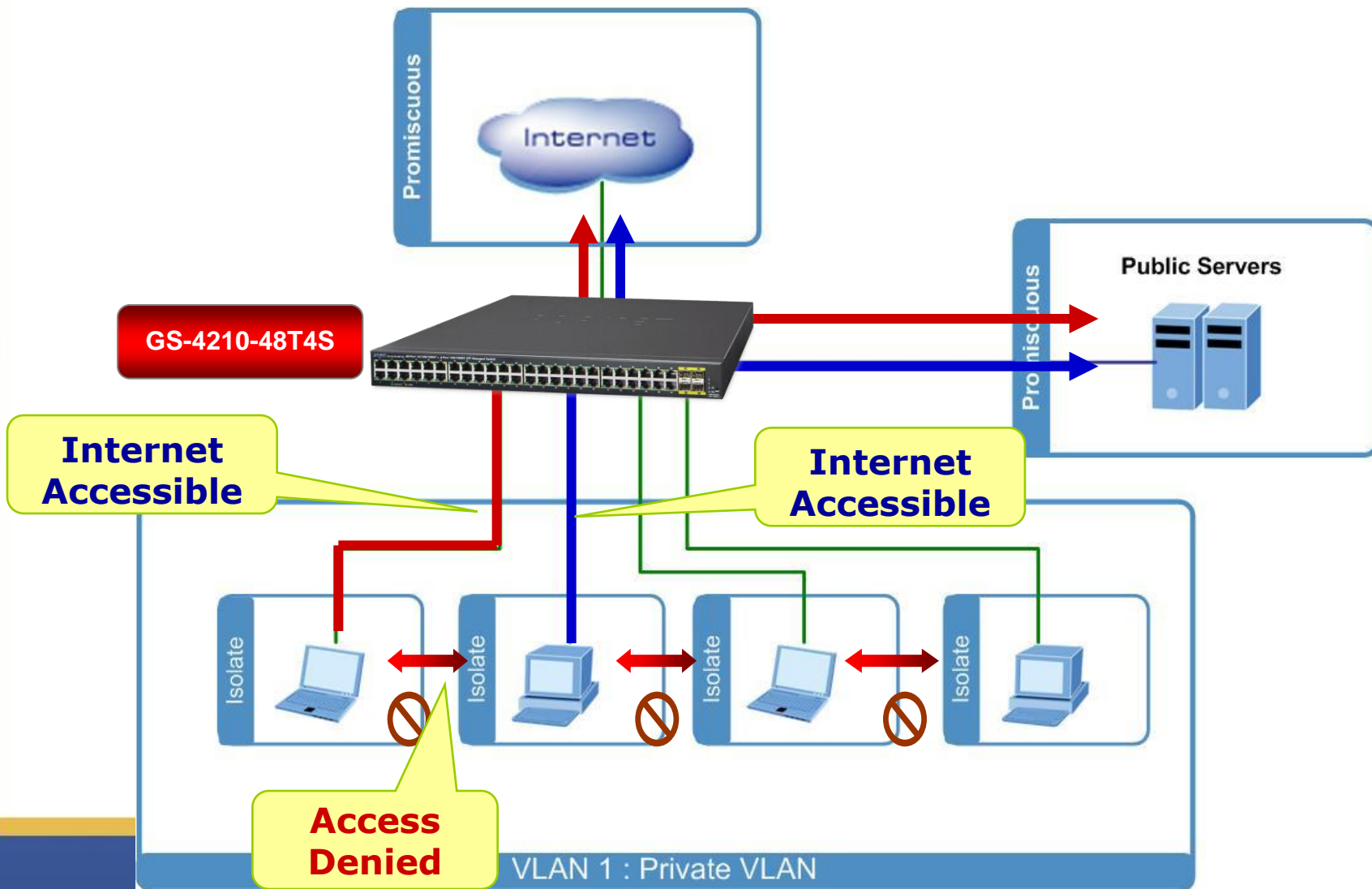
◆ Security - Network Access Authentication Mechanism

- ✓ 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

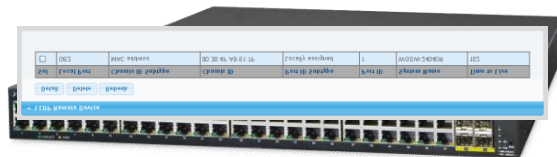
◆ Link Layer Discovery Protocol (LLDP)

- ✓ 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
<input type="checkbox"/>	GE2	MAC address	00:30:4F:A9:51:7F	Locally assigned	1	GS-4210-24PL4C	102



GS-4210-48T4S



GS-4210-24PL4C

LLDP

Product Features

◆ Management

➤ IPv4 / IPv6 Dual Stack Management

➤ Management 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

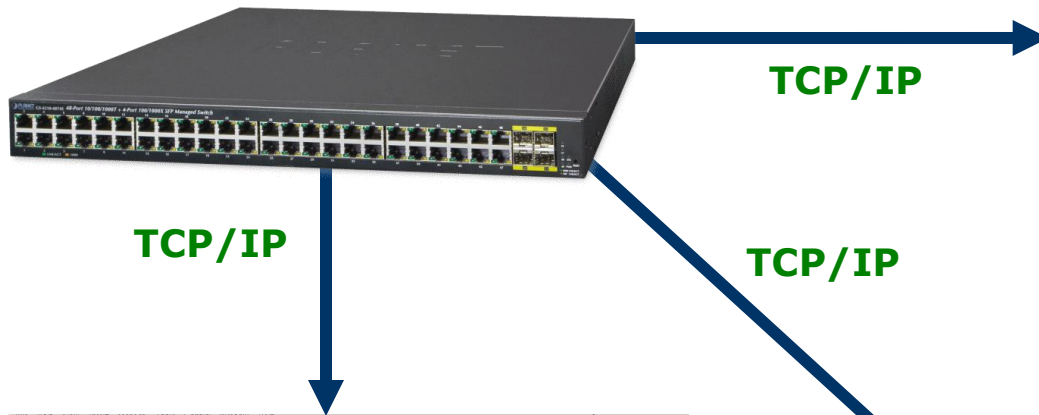
Product Features

◆ 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



```

Telnet 192.168.0.100
Switch Command Line Interface (Version v1.0b141231)

Username: admin
Password: *****
GS-4210-24T2S#
    
```

Telnet CLI

The screenshot shows a network management console with a tree view on the left containing "Root Subnet", "192.168.99", "New_Object", "Device", and "WS37-2620". The main area displays a network map with two devices: "WS37-2620" and "192.168.99". A status bar at the bottom shows "Normal" and "Device Responding to Poll".

The screenshot shows the Planet switch's HTTP Web Management interface. It features a navigation menu on the left with options like System, Port Management, Link Aggregation, VLAN, Spanning Tree, Multicast, QoS, Security, Access Control List, MAC Address Table, LLDP, Diagnostics, RMON, and Maintenance. The main content area displays "Welcome to PLANET GS-4210-24T2S" and "24-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch". It also includes contact information for PLANET Technology Corporation and a copyright notice for 2015.

SNMPv1 / v2c

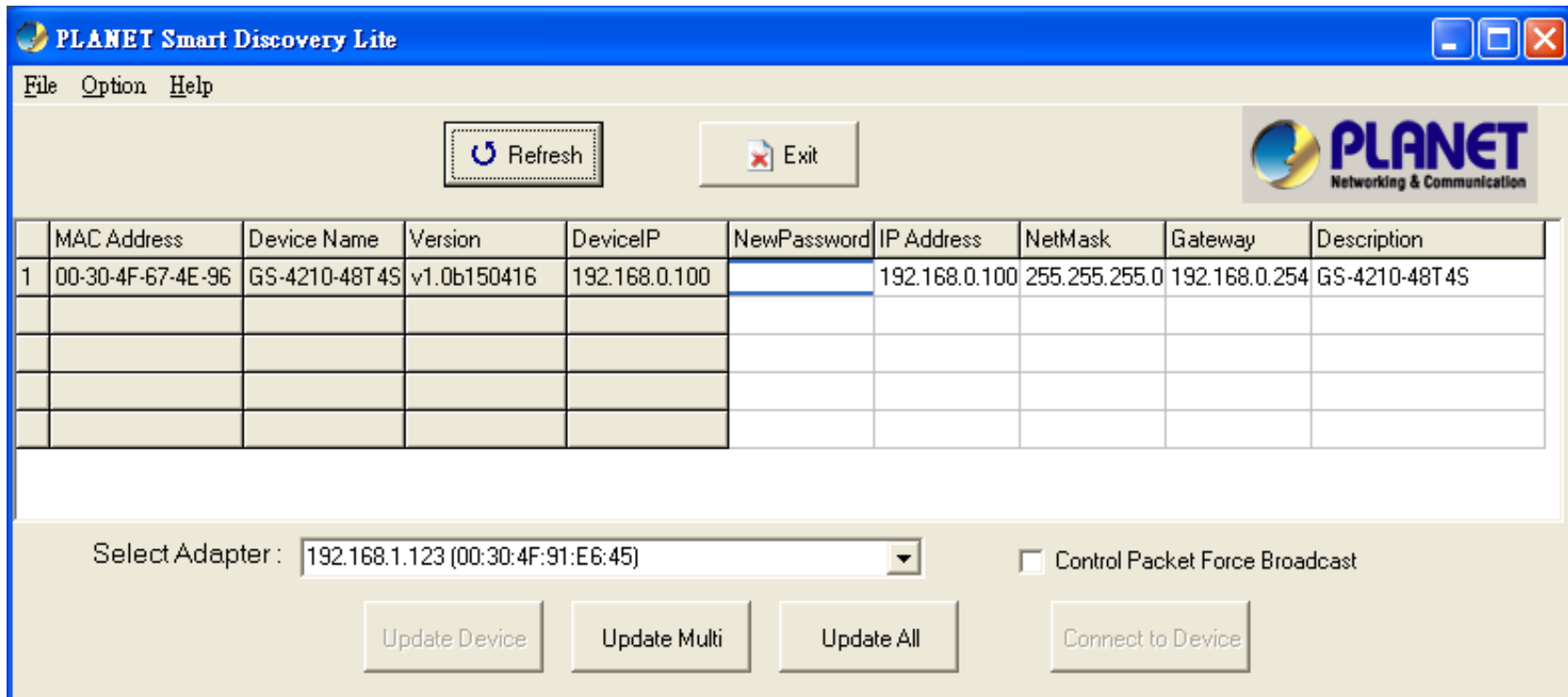
SNMPv3 – Secure SNMP

HTTP Web Management

SSL – Secure HTTP

Product Features

◆ PLANET Smart Discovery Utility



The screenshot shows the PLANET Smart Discovery Lite application window. It features a menu bar (File, Option, Help), a toolbar with Refresh and Exit buttons, and a table displaying discovered devices. The table has columns for MAC Address, Device Name, Version, DeviceIP, NewPassword, IP Address, NetMask, Gateway, and Description. Below the table, there is a 'Select Adapter' dropdown menu showing '192.168.1.123 (00:30:4F:91:E6:45)' and a checkbox for 'Control Packet Force Broadcast'. At the bottom, there are buttons for 'Update Device', 'Update Multi', 'Update All', and 'Connect to Device'.




	MAC Address	Device Name	Version	DeviceIP	NewPassword	IP Address	NetMask	Gateway	Description
1	00-30-4F-67-4E-96	GS-4210-48T4S	v1.0b150416	192.168.0.100		192.168.0.100	255.255.255.0	192.168.0.254	GS-4210-48T4S

Select Adapter : 192.168.1.123 (00:30:4F:91:E6:45) Control Packet Force Broadcast

Update Device Update Multi Update All Connect to Device

Product Comparison



Brand		PLANET	Allied Telesis	HP
Model Name		GS-4210-48T4S	AT-9000/52	HP 1910-48G
Product Outlook				
Interface				
Switching Capacity		104Gbps	104Gbps	104Gbps
10/100/1000Base-T		48	48	48
SFP / mini-GBIC		4 (DDM support) 100/1000BASE-X	4 100/1000BASE-X	4 1000BASE-X
Layer 2 Features				
Jumbo Frame		10K	9K	10K
Bandwidth Control		In / Out	In / Out	In / Out
Link Aggregation	Static	8 Trunks / 8 Ports	12 Trunks / 8 Ports	■
	LACP	8 Trunks / 8 Ports	12 Trunks / 8 Ports	■
VLAN	802.1Q	■	■	■
	Q-in-Q	■	■	-
	Private VLAN	■	-	-
	GVRP	■	■	-
	Voice VLAN	■	■	■
Spanning Tree	Protocol	802.1D / 802.1w / 802.1s	802.1D / 802.1w / 802.1s	802.1D / 802.1w / 802.1s
	STP BPDU Guard	■	■	■
	BPDU Filtering	■	-	■

Product Comparison

Brand		PLANET	Allied Telesis	HP
Model Name		GS-4210-48T4S	AT-9000/52	HP 1910-48G
IGMP Snooping		V1 / V2 / V3	V1 / V2 / V3	V1 / V2 / V3
IGMP Query mode		■	-	-
MLD Snooping		■	-	■
DHCP Relay/Option 82		- / ■	-	■ / -
Quality of Service				
QoS	802.1p	■ / 8 queues	■ / 8 queues	■ / 4 queues
	TOS / DSCP	■ / ■	- / ■	- / ■
	Strict / WRR	■ / ■	■ / ■	-
Security				
802.1x		Port-based	Port-based	Port-based
TACACS+		■	-	-
ACL		L2 / L3 / L4	L2 / L3 / L4	L2 / L3 / L4
RADIUS		■	■	■
Guest VLAN		■	■	-
Port Security (MAC Limit)		■	■	-
MAC Security		■	■	■
DHCP Snooping		■	-	■
ARP Inspection		■	-	-
IP Source Guard		■	-	-

Product Comparison



Brand		PLANET	Allied Telesis	HP
Model Name		GS-4210-48T4S	AT-9000/52	HP 1910-48G
SNMP	V1, V2c	■	■	■
	V3	■	■	■
	Trap	■	■	■
	RMON	■	■	■
System Log / Syslog		■ / ■	■ / ■	■ / ■
Management		Web, Telnet	Web, Telnet	Web, Telnet, Console
SSH / SSL		■ / ■	■ / ■	- / ■
IPv6 Management		■	■	■
Other Management		SNTP	-	-
Cable Diagnostic		■	-	-
Hardware				
Power		internal 100~240V AC	internal 100~240V AC	internal 100~240V AC
Dimensions (W x D x H)		440 x 300 x 44.5 mm	440 x 256 x 44 mm	442 x 420 x 43.2 mm
Thermal Fan		Fanless Design	1	1
Operating Temperature		0~50 degrees C	0~40 degrees C	0~45 degrees C

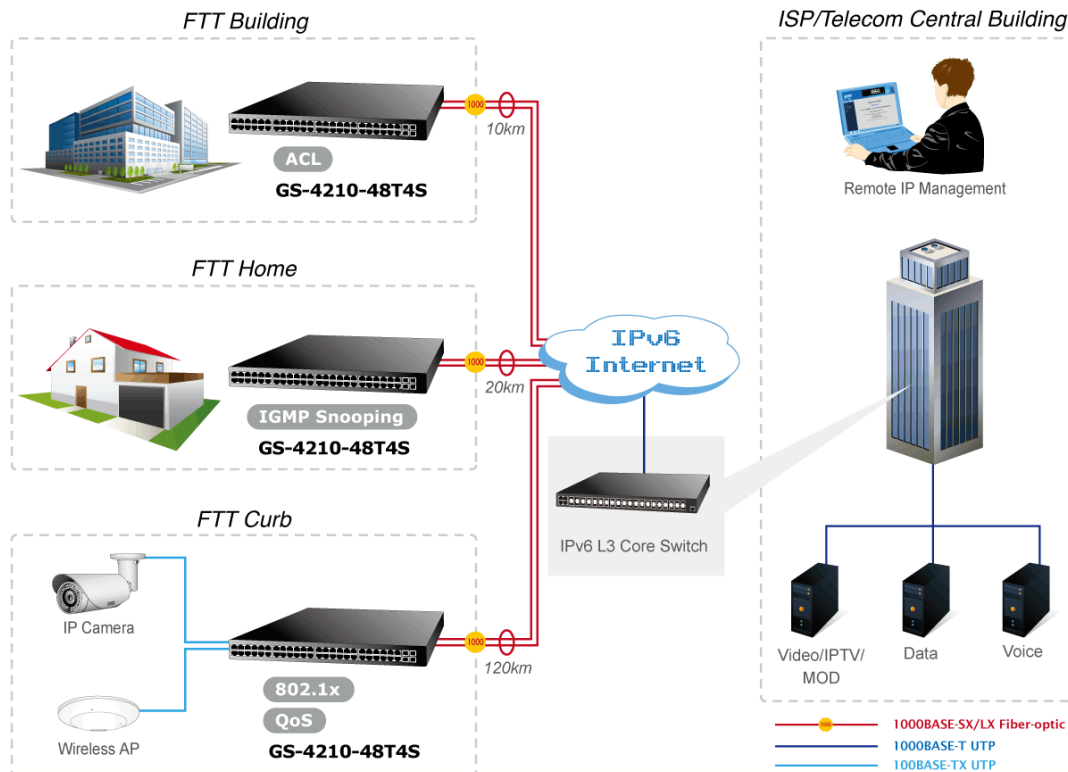
Applications



Applications

◆ Department / Edge Security and QoS Switch

- ✓ With the **IEEE 802.1x network access authentication**, the GS-4210-48T4S provides the **MAC / IP / Protocol Access Control list** and **Port Security** functions which can limit the number of MAC addresses to be passed through one specific port. The **IGMP snooping** and **QoS** features in the GS-4210-48T4S improves the network efficiency and protect the network client .

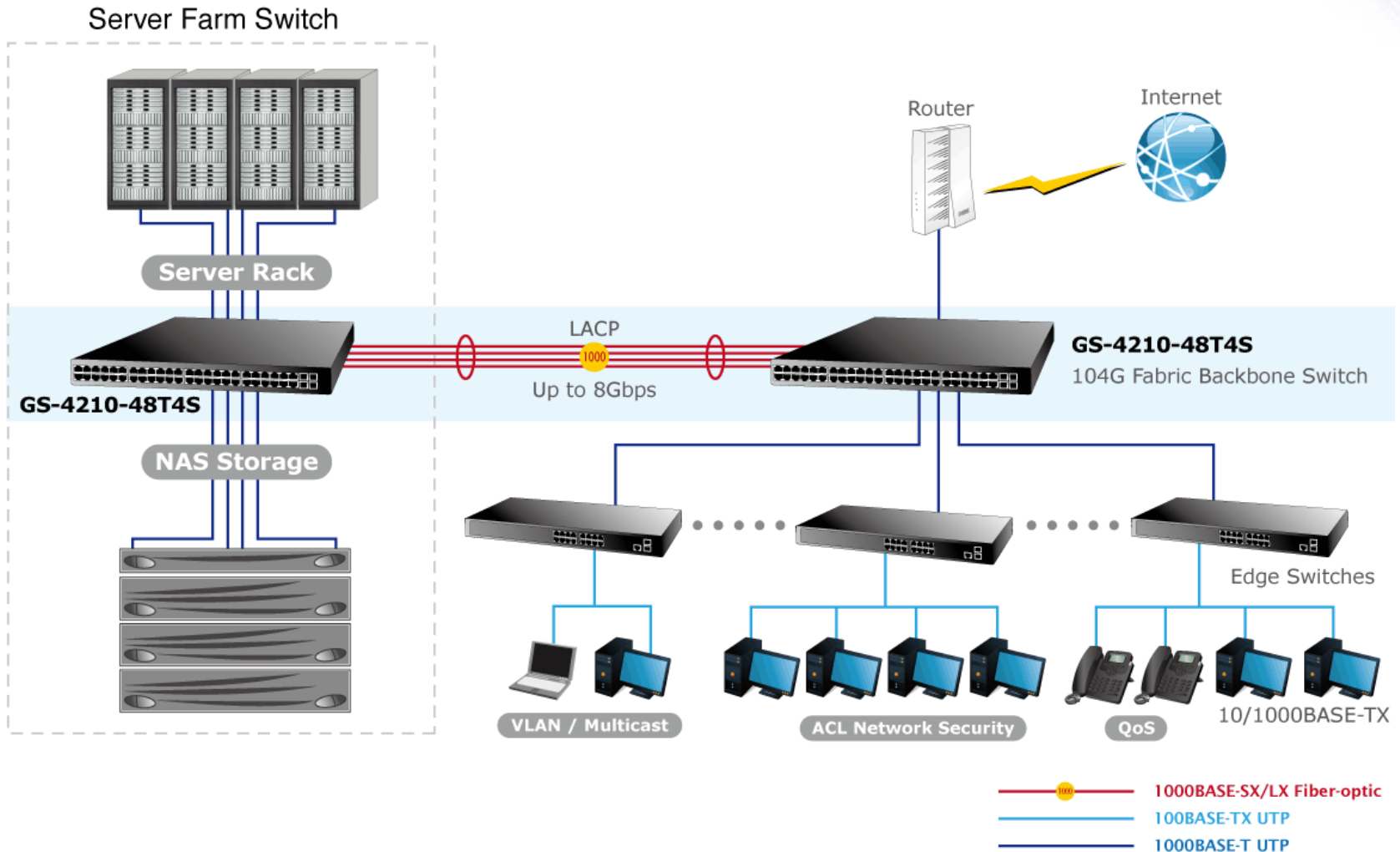


Applications

◆ High Performance Backbone / Server Farm Switch

- ✓ With up to **104 Gigabits** per second of non-blocking switch fabric, the GS-4210-48T4S can easily provide the high bandwidth required from now on.
- ✓ It can easily provide a local, high bandwidth and Gigabit Ethernet network for the backbone of enterprises or SMBs.
- ✓ With its **port trunking** function, a **16Gbps** fat pipe is provided for connecting to the backbone if required. It is ideal to be used as a server farm switch to connect servers.
- ✓ With the **four SFP ports**, the GS-4210-48T4S provides the uplink to the edge network through Gigabit Ethernet LX/SX/BX SFP modules.

Applications



Appendix



Sales Targets

◆ Target Markets

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







◆ Total Solutions

- ✓ Layer 2 Managed Gigabit Ethernet Switch:
 - **WGSW-52040**
 - **WGSW-24040 / WGSW-28040**
 - **SGSW-24040**



Related Products

◆ Related Managed Switch Products

Model Name		Description
GS-4210-16T2S		16-Port Layer 2 Managed Gigabit Ethernet Switch W/2 SFP Interfaces
GS-4210-24T2S		24-Port Layer 2 Managed Gigabit Ethernet Switch W/2 SFP Interfaces
WGSW-28040		24-Port 10/100/1000T + 4-Port Gigabit TP/SFP Combo Managed Switch
GS-4210-24P4C		24-Port 10/100/1000Mbps 802.3at PoE + 4-Port Gigabit TP/SFP Combo Managed Switch / 220W
GS-4210-24PL4C		24-Port 10/100/1000Mbps 802.3at PoE + 4-Port Gigabit TP/SFP Combo Managed Switch / 440W
GS-4210-48P4S		48-Port 10/100/1000T 802.3at PoE + 4-Port 100/1000BASE-X SFP Managed Switch / 440



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 °C
MGB-SX	1000	LC	Multi Mode	550m	850nm	0 ~ 60 °C
MGB-SX2	1000	LC	Multi Mode	2km	1310nm	0 ~ 60 °C
MGB-LX	1000	LC	Single Mode	10km	1310nm	0 ~ 60 °C
MGB-L30	1000	LC	Single Mode	30km	1310nm	0 ~ 60 °C
MGB-L50	1000	LC	Single Mode	50km	1550nm	0 ~ 60 °C
MGB-L70	1000	LC	Single Mode	70km	1550nm	0 ~ 60 °C
MGB-L120	1000	LC	Single Mode	120km	1550nm	0 ~ 60 °C
MGB-TSX	1000	LC	Multi Mode	550m	850nm	-40 ~ 75 °C
MGB-TLX	1000	LC	Single Mode	10km	1310nm	-40 ~ 75 °C
MGB-TL30	1000	LC	Single Mode	30km	1310nm	-40 ~ 75 °C
MGB-TL70	1000	LC	Single Mode	70km	1550nm	-40 ~ 75 °C

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 ^e	WDM(LC)	Single Mode	10km	1310nm	1550nm	0 ~ 60 °C
MGB-LB10	1000 ^e	WDM(LC)	Single Mode	10km	1550nm	1310nm ^e	0 ~ 60 °C
MGB-LA20	1000 ^e	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 °C
MGB-LB20	1000 ^e	WDM(LC)	Single Mode	20km	1550nm	1310nm ^e	0 ~ 60 °C
MGB-LA40	1000 ^e	WDM(LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60 °C
MGB-LB40	1000 ^e	WDM(LC)	Single Mode	40km	1550nm	1310nm ^e	0 ~ 60 °C
MGB-LA60	1000 ^e	WDM(LC)	Single Mode	60km	1310nm	1550nm	0 ~ 60 °C
MGB-LB60	1000 ^e	WDM(LC)	Single Mode	60km	1550nm	1310nm ^e	0 ~ 60 °C
MGB-TLA10	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 75 °C
MGB-TLB10	1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	-40 ~ 75 °C
MGB-TLA20	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 °C
MGB-TLB20	1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 75 °C
MGB-TLA40	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 °C
MGB-TLB40	1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 75 °C
MGB-TLA60	1000	WDM(LC)	Single Mode	60km	1310nm	1550nm	-40 ~ 75 °C
MGB-TLB60	1000	WDM(LC)	Single Mode	60km	1550nm	1310nm	-40 ~ 75 °C

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 °C
MFB-F20	100	LC	Single Mode	20km	1310nm	0 ~ 60 °C
MFB-F40	100	LC	Single Mode	40km	1310nm	0 ~ 60 °C
MFB-F60	100	LC	Single Mode	60km	1310nm	0 ~ 60 °C
MFB-F120	100	LC	Single Mode	120km	1550nm	0 ~ 60 °C
MFB-TFX	100	LC	Multi Mode	2km	1310nm	-40 ~ 75 °C
MFB-TF20	100	LC	Single Mode	20km	1550nm	-40 ~ 75 °C

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 °C
MFB-FB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 °C
MFB-TFA20	100	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 °C
MFB-TFB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 75 °C
MFB-TFA40	100	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 °C
MFB-TFB40	100	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 75 °C



ACTIVATING IP POWER