level one

GEU-2429

26-Port Gigabit Ethernet Switch, 2 Ports SFP

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Directory

1 Introduce

This chapter mainly introduces the characteristics of 24 ports Gigabit Ethernet Switch.

1.1 Product overview

The 24 ports full Gigabit Ethernet Switch provide adaptive 10/100/1000Mbps port, all Gigabit Ethernet Switch provides a simple, economic, high performance, seamless, standard migrated to 1000Mbps network solutions, provide a lot of flexibility in improving performance of the working party, has the use of simple and flexible, convenient installation, superior performance, the ideal is to build a medium or large network products, designed for quick connection and broadband services and design of the working party.

1.2 product feature

- Support   IEEE802.3、IEEE802.3i、IEEE802.3u, IEEE802.3ab、IEEE802.3z、IEEE802.3x standard

- The full speed forward. Frame forwarding rate for l0Mbps port 14880 frames per second, 100 MBPS port 148800 frames per second, 1000 MBPS port 1488000 frames per second.

- Support port automatically turning (Auto MDI/MDIX), plug and play.

- Support automatic consultation function, automatically adjust the transmission mode and transmission rate.

- Support the MAC address from learning

- Support port aggregation function

- Dynamic LED lamp, provide the working state of the simple tips and trouble shooting

2 The component of Switch

2.1 front panel

● LED display panel

See chapter 4 for details.

● Twisted-pair cable connection

All RJ45 port have MDI, MDIX auto-calibration function, automatic transformation of the intersection line with straight line, from the loaded down with trivial details that the cable is distinguished in the process of the actual use.

2.2 rear panel

● AC power supply input .

2.3 lateral side

On both side of the Switch has a few rows of cooling vents. Please don't block the vent, and must guarantee with sufficient space on both sides of the switch, so that the air circulation, for ventilation and heat dissipation. Otherwise, the internal components of the Switch may overheat, cause system can't work normally.

2.4   Link Aggregation function

1. The Networks Switch have two different mode through a slide switch.
    1.1> Normal Sharing Mode:
    On the left of slide switch, all of the ports have 2000M bandwidth in full duplex.
    Equivalent to an ordinary Gigabit switches, can be used in a variety of network access layer, also can be used in small network core layer as a central switch tasks.
    On the right of slide switch ,the Network Switch have trunk function.
    The Uplink port (23p , 24p ,25p 26p) will be Link Aggregation, the bandwidth is 4000M in full duplex.

3 The installation of the Switch

In this chapter Introduce the installation of Switch.

3.1 list of articles

Open the packing box, carefully counted and should include the following components:

● A Switch

● A standard power cord

● Four rubbers

● Two pieces brackets for rack-mount and screws

● A Manual

Check box in the switches and the supplementary items, if have damaged or missing, please immediately contact the local distributor. You should be ready before installation tools and other cables.

3.2 Installation Method

When installation, need to seriously consider the following:

● Must be on the surface at least can load 5 kg.

● Must ensure that the power cord is reliably connected to the switch on the rear panel of power between the interface and power supply socket.

● Ensure the sides of the switch can be a good ventilation cooling, and do not place heavy objects on the switches.

● Power requirements: 100-240 vac 50/60 hz, power grounding is good.

● Not in strong electromagnetic field, where the sun installation place, dust, vibration.

● Placement of switches must be kept 10 cm from other objects before and after space, so that ventilation and heat dissipation

● When placed in a horizontal panel switches, can be included with the rubber mount, to prevent the switches from bottom and surface friction.

● Will switch installed on the bracket, it must be safe with screws

4 Panel work status display

When the network devices connected to the switch, please read this chapter carefully, understand the meaning of each LED indicator light.

4.1 (Power)

Switches after Power up, the Power light.

4.2 Port status indication

In switches, each a twisted-pair port status indicators are as follows:

● Link/Act port

When the green is light, refers to equipment connected to this port

When the green light is blink, port has a data transfer

When the green is black, port have without access to the equipment.

● 1000 m gigabit Ethernet connection (1000 m) indicator lights

When the green is light, there is a Gigabit Ethernet device access this port:

When the green light is black, this port l0/100 m equipment access or no access transmit

5 Set up the network connection

Connect the device to Switch

Connection Guide:

When switches connected to the base 10 Tx equipment use class 3 or 5 line twisted-pair, super line 5 class twisted-pair (pin definition refer to cable).

Connecting cable length should follow the IEEE specification is less than 100 meters (328 ft), because the switches support MDI/MDIX automatic polarity, you can use ordinary straight lines to connect the workstation, or another switch/hub.
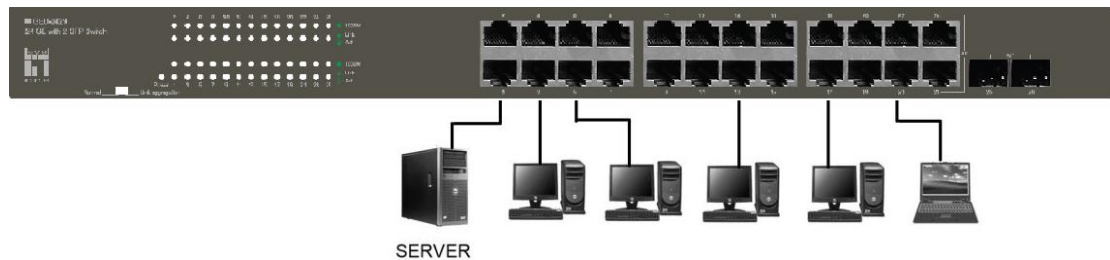
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6 Ethernet switch technology is introduced

Today, is suitable for a variety of sophisticated applications (such as multimedia video conference CAD/CAM) computer technology development is very rapid, in order to apply these techniques more effectively to, to take on more traffic high-speed network put forward higher request.

Because realize on bandwidth and low latency communications more urgently need a lot of technology, fast Ethernet technology to upgrade the existing 10 MBPS Ethernet is the most economic and puts forward the feasible solution. However, fast Ethernet media side question method is still limited to a large number of sites share access to a common transmission medium, the CSMA/CD, when a site occupied transmission media, other sites can only wait for, its structure is still not meet a surge in traffic. Switched Ethernet was born, on high greatly the performance of the local area network (LAN). And now based on LAN topology structure of Bridges and routers Shared media, compared to a network switch can significantly increase the bandwidth. Switching technology to join, can build the city location relatively decentralized network, make the LAN switch each port can be parallel, safe, and transmit information to each other, and make the LAN can be highly extended.

Now switching technology is a kind of improved local Bridges, compared with the traditional bridge, it can provide more ports, better performance and stronger management functions and cheaper prices. The principle of Ethernet switch is very simple, it detects the source and destination of data packets from the Ethernet port to MAC (medium access layer) address, and then compared with the system internal dynamic address table, if the MAC address of the packet is not in the address table, then add the address to address table, and then sends the packet to the corresponding destination port: when the destination address is not in the address table, switches will send data in the form of radio.

Ethernet switches and telephone exchange are similar, a store-and-forward (Store and Forward), direct way (cut through). Direct way to understand for the port crisscrossed circuit matrix between the telephone switchboard. It detected in I/o port a packet, check the package in baotou, input or output junction connected, the packet directly to the corresponding port, realize the exchange function. Because do not need to be stored, delay is very small, exchange, very fast, this is its advantage. Its defect is: because the content of the packet has not been switches preserved, so can't check for error rate transmission of packets, is unable to provide error detection ability, with no cache, not to direct I/o/output connected with different rate, moreover, when the switch port increases, the switching matrix becomes more and more complex, is very difficult to implement.

Store-and-forward mode is applied most widely in local area network mode, it's on the I/o port of packet storage first, and then carries on the CRC check and the error packet processing after take out the packet destination address, and through the address lookup table is converted into the corresponding output port sends data packets. Because of this, store-and-forward mode in the data processing time delay is big, but it can be to enter the exchange error code inspections of packets, especially important to support the transformation between the different speed of input and output ports.

10/100/1000 m switched Ethernet still USES the star topology structure, it USES four pairs of twisted-pair cable. A 5 UTP or STP can meet the requirements. As a result of the online data transmission rate increased to 1000 MBPS, the signal frequency, attenuation, interference of more demanding, but

also follow the rule of the 100 base - TX wiring.

Therefore, switched Ethernet has the following advantages:

• Switched Ethernet does not need to replace other network hardware, including the cable and the user's network card, only need to use a change Shared hub, switch to save the user's network upgrade costs.

• Between high-speed and low-speed network transformation, different network together, be the first choice of the local area network upgrade.

• Provide multiple channels at the same time, provides more bandwidth than the traditional Shared hub, allow different users to transmit at the same time, for example, a 16 port switches allow 16 sites in eight link between communication at the same time.

7 Appendix

7.1 Product spec

Table 1

Support of standards and protocols	IEEE802.3、IEEE802.3i、IEEE802.3u, IEEE802.3ab、IEEE802.3z、IEEE802.3x
port	24　RJ-45 　2　SFP
Lagging parameters	52Gbps
Exterior size H * W * L (unit: mm)	440*220*44
Network media	10BaseT Cat. 3, 4, 5 UTP/STP 100BaseTX Cat. 5 UTP/STP 1000BaseT Cat. 5E UTP/STP
Filtering and forwarding rate	10Mbps：l4880pps 100 Mbps：148800pps 1000Mbps：1488000pps
LED port	port	10/100M Link/Act 1000M
	other	Power
message transmission rate	Ethernet：10Mbps(half duplex)，20Mbps(full duplex) Fast Ethernet：100Mbps(half duplex)，200Mbps(full duplex) Gigabit Ethernet：2000Mbps (full duplex)
topological	star class

structure	
operating environment	operating temperature：0℃~40℃ storage temperature：-40℃~70℃ operating humidity：10％~90％ RH noncondensing Storage Humidity：5％~90％ RHnoncondensin
power dissipation	≤20W

7.2 Wire instructions

Switches can use two kinds of cable

specification