User Guide

24GE+4*10G SFP+ Managed Switch

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Package Contents

Check the following contents of your package:

- Switch x 1
- User Manual x 1
- Power Cord x 1
- Accessories(Rack Mount Accessory Kit x2, Rubber Feet x4, Screws)

If any part is lost and damaged, please contact your local agent immediately.

1. Introduction

The product provides 24-port Gigabit RJ45 and 4 *10G SFP+ Slots , powerful and flexible enough for users to deploy wireless access points or IP-based network surveillance cameras. The switch also comes equipped with 4*10G SFP+ slots, expanding your network flexibly. In addition, it provides high performance, enterprise-level QoS, advanced security strategies and rich layer 2 management features. With all these advanced features, the Switch is an ideal choice for WIFI coverage, Internet cafes, computer rooms, and so on.

2. Hardware Description

2.1 Front Panel

The front panel includes a 24-port Gigabit RJ45 + 4-port 10G SFP++ 1-port console-managed PoE switch. The LED indicator is also located on the panel.



LED indicator

LED	Color	Function
PWR	Green	Off: No Power supply Light: Indicates the switch has power
LNK/ACT	Green	Off: No device is connected to the corresponding port Light: Indicates the link through that port is successfully established. Blink: Indicates that the Switch is actively sending or receiving data over that port.
SYS	Green	Blinking: the system works Out: the system is starting or has no power

2.2 Rear Panel

The rear panel shows the DC / AC inlet power outlet, fan, and grounding post.



Power socket

Connect the female connector of the power cord here, and the male connector to the AC(Alternating Current) power outlet. Please make sure the voltage of the power supply meets the requirement of the input voltage.

Grounding column

The switch already comes with lightning protection mechanism. You can also ground the switch through the PE (Protecting Earth) cable of AC cord or with Ground Cable.

3. Installation the Switch

This part describes how to install your Fiber Switch and make connections to it. Please follow the following instructions in avoid of incorrect installation causing device damage and security threat.

- Before cleaning the switch, unplug the power plug of the switch first. Do not clean the switch with wet cloth or liquid;
- Do not place the switch near water or any damp area. Prevent water or moisture from entering the switch chassis;
- Do not place the switch on an unstable case or desk. The switch might be damaged severely in case of a fall;
- Ensure proper ventilation of the equipment room and keep the ventilation vents of the switch free of obstruction;
- Make sure that the operating voltage is the same one labeled on the switch;
- Do not open the chassis while the switch is operating or when electrical hazards are present to avoid electrical shocks.

3.1 Desktop Installation

Install the Switch on a desktop, please attach these cushioning rubber feet provided on the bottom at each corner of the Switch in case of the external vibration. Allow adequate space for ventilation between the device and the objects around it.



3.2 Rack Installation

Check EIA-19inch machine Cabinet of grounding and stability, first, with screws will installation hanging ear fixed in switch front Panel sides will switch placed in machine Cabinet of a bracket, along machine Cabinet guide slot Mobile switch to right location, then, with screws will installation hanging ear fixed in machine Cabinet ends of fixed guide slot, ensure switch stable to installation in machine Cabinet slot bit of bracket. Equipment mounting brackets are not used for load-bearing, it only plays the regular role. When installing the equipment cabinet, box bottom bracket (fixed on the Cabinet) to support the device.



3.3 Turn on the switch

The PoE switch can be used with DC power supply. Powering on the switch, it will automatically initialize and its LED indicators will respond as follows:

1) Firstly, the Power LED indicator will light up.

2) Then, the data LED indicators will flash momentarily for 15~25 second, which represents a resetting of the system.

3.4 Connection Interface

3.4.1 Connection The monitor port has a monitor port (Console port), this section describes the characteristics of this monitoring port and how to use it.

First step: Rate 115200bps, standard RJ45 plug. Use a dedicated monitoring cable to lead the port to the PC serial port connection, as follows:



The second step to start the terminal emulation software on the PC (such as: Windows HyperTerminal) can be configured for the switch, monitoring and other operations. The cable is supplied with the host. The terminal serial port communication parameters can be set as right: rate -115200bps, eight bits data bit, one stop bit, no parity bit, no flow control. The communication parameters of HyperTerminal are configured as follows:

the RJ45 connector used by the Console port is shown in the figure below, and the RJ45 plug corresponds to the RJ45 socket, from left to right numbered from 1 to 8.



Pin number	English name	Jane note
One	RTS	No connect
Two	DTR	No connect
Three	TXD	Output
Four	GND	GND
Five	GND	GND
Six	RXD	Input
Seven	DSR	No connect
Eight	СТЅ	No connect

Console Port PIN Definition:

NOTE: The switch console port does not support the flow control function, so when the switch is configured with HyperTerminal, the data flow control should be set to "none", otherwise the problem of

HyperTerminal single pass will occur. This cable is used to connect the console port of the switch to the external monitoring terminal. One end of the RJ45 eight-pin plug, the other end is a 25-hole plug (DB25) and 9-hole plug (DB9), RJ45 head into the switch's console port socket, DB25 and DB9 can be used according to the requirements of the terminal serial port.

NOTE:

Enter "?" in the console Port command line interface Command action tips to see what features are available in pre-mode

4. How to Login the Switch

4.1 Switch to End Node

Use standard Cat.5/5e Ethernet cable (UTP/STP) to connect the Switch to end nodes as described below. The Managed Switch ports will automatically adjust to the characteristics (MDI/MDI-X, speed, duplex) of the device to which is connected.



Please refer to the LED Indicator Specification. The Link/Act LED for each port lights green when the link is available.

4.2 Logging on the Switch

As the Managed Switch provides Web-based management login, you can configure your computer's IP address manually to log on to the Managed Switch. The default settings of the Managed Switch are shown below.

Parameter	Default Value
Default IP address	192.168.2.1
Default user name	admin
Default password	admin

You can log on to the welcome window of the Managed Switch through following steps:

- 1. Connect the Managed Switch with the computer NIC interface.
- 2. Power on the Managed Switch.
- 3. Check whether the IP address of the computer is within this network segment: 192.168.2.xxx ("xxx" ranges 0~255), for example, 192.168.2.100.

4. Open the browser, and enter http://192.168.2.254 and then press "Enter". The Managed Switch login window appears, as shown below.

Ma	naged	Switch
User	admin	
Passwd	•••••	
	Login	Reset

5. Enter the user name and password (The factory default login username and password is admin), and then click "Login" to log in to the Switch configuration window as below.

系统管理	×.		9 69 69 69 69 69 69 69 69 69 69 69 69 69		La 保存配置
○ 用户配置		产品信息	c ß	利用率	c
o 配置管理 o 访问配置 o SNMP配置		PEEEE PM128GTM SN 00000000421 記述版本 switch 認識版本 3.1.0 build 565		1% CPU积图率	70% 内研制用庫
接口管理 业务管理 路由管理 安全管理	e e e	振続 MMC 00:01:02:03:04:05 指行時間 0 天, 0 时, 18 分 时区 UTC+8 限期时間 1970-1-1 8:18:38			(free:35252 KB, total:116564 KB)
扩展管理系统维护	*				

5. Management the Switch

5.1 System Manage

5.1.1 System Information

The page is used not only to display information about the device, but also to modify the device name, time



Managed Sw	itch	•••••••••	0 0 0		◎ 施体中文 -
		000000000000			💾 保存配置
O 系统信息		当前位置: 系统管理 / 系统值息			
O 用户配置		产品信息	C R	利用率	C
0 配置管理		产品型母 PM128GTM			
0 访问配置		SN 00000000421			
O SNMP配置		股資名称 switch		1% CPU利用率	70%
按回管理		软件版本 3.1,0 build 565			
	140	ER M/C 00:01:02:03:04:05			
	140	進行时间 0天,0时,18分			(free:35252 KB, total:116564 KB)
	191	时区 UTC+8			
扩展管理	*	scarster 1970-1-1 8:18:36			
admin	通出				

Note: device name fields can accept "Aa~Zz", "0-9", "_", "-", "=", but do not include special characters.

5.1.2 User Config

This page is used to display the name, password, and privilege of all current users.

AddUser : Add a new user

: Delete the user of this row

Solution: Modify the user name, password, privilege of this row

Managed Switch	h	0000000000	0 0 0 0			# Englist -
System Manage	^	2466000000	0 0 0 0			🖹 Save
O System Infomation		Current Position : System Manage / User Config				
O User Config		AddUser				c
O Management File		User name	Password	Privilege	handle	
O Access Config		admin	****	administrator	8	
O SNMP Config						
Interface Manage	~					
Business Manage	~					
Route Manage	~					
Network security	~					
Extend Management	~					
System maintenance	~					
admin Log	gout					

5.1.3 Management File

This page is used to view running configuration, start configuration, and management file.

RUNNING-CONFIG

Display the device's current running state configuration

Managed Switch		🕀 Englist 🔻
	8 C G G G G G G G G G G G G G G G G G G	🖹 Save
	Current Position : System Manage / Management File	
	Ruming-config Start-config Management File	
	version 3.0.0 build 497 13 http://werver all 13 http://werver language en	Î
	urernase ashin pareverd RAJ j16112/epr.	
O SNMP Config	interface gal/1	
	Interface p1/2 Interface p1/2 Interface p1/4	
	interior gal/5	
	interface gol/6	
	interface gel/7	
	interface gel/8	
	interface ge//9	
	interface ga/11	
	interface get/12	
	interface gol/13	
	interface gal/14	
	Since the current configuration to the startup File)	

THE START CONFIGURATION

Displays the configuration loaded when the machine starts, click "Download" button to download the configuration to your PC.

Managed Switch	● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●	🐥 Englist 🔻
System Manage		💾 Save
O System Infomation	Current Position : System Manager / Management File	
O User Config	Purning-config Start-config Management File	
O Management File	version 2.5.0 build 418 ip http:server all	Î
O Access Config	uzerrane abkin pazword RAJjiGIIFepz. , interface gel/l	
O SNMP Config	interfies gel/2	
later to the second	interface gel/3	
Interface Manage	interface gel/4	
Business Manage	incrise ps//o	
Route Manane	interface gel/7	
House Mailage	i interior gn/8	
Network security	interface gsl/9	
Extend Management	interface gsl/10	
	interface gal/11	
System maintenance	interface gs//2	
	increase gr/13	
	interface gei/15	
	Restore Trake effect after rebool Download	
admin I Loor		
aumin Logo		

MANAGEMENT FILE

Select and unload the configuration files saved before.

Managed Switch			🏶 Englist 👻
			🖹 Savo
		Current Position : System Manage / Management File	
		Purning-config Start-config Managoment File	
		File path 道报文件 未违_文件	
		Lipicaid Take effect after reboot	
admin Logo	out		

5.1.4 Access config

This page is used to determine whether to enable the http server / https server / telnet server / ssh server, and what is the port number of each server's logical port.

Apply: save changes, make configuration effective

cancel: discard modified data

Managed Switch		000000000000	8 8 9	🏶 Englist 👻
System Manage	~	8888 00000000		🖹 Save
O System Information		Current Position : System Manage / Access Config		
O User Config		HTTP-config		
O Management File		HTTP Service	🔽 Enable	
O Access Config		HTTPS Service	C Enable	
O SNMP Config		Port	80 Default is 80, Modify default port, need specify port number at web browers	
Interface Manage	~	Telnet-config		
		Telnet Service		
Business Manage	Ť	Port	23	
Route Manage	~	SSH-config		
Network security	~	SSHService		
Extend Management	~	Port	22	
System maintenance	~		Apply	
admin I Logo	luc			

5.1.5 SNMP Config

SNMP is a network management standard based on TCP/IP protocol family. It is a standard protocol for managing network nodes (such as servers, workstations, routers, switches, etc.) in IP networks.

The SNMP protocol is composed of two parts: NMS (Network Management Station) and agent. The network management station is a central node responsible for collecting and maintaining information about each SNMP element, processing the information, and finally feedback it to the network administrator; the agent is running on each managed network node. It is responsible for counting the information of the node, interacting with the

network management station, receiving and executing the commands of the management station, uploading all kinds of local network information.

Global Config

SNMP configuration default disable, this page can be used to enable SNMP and inform SNMP server by description, location, contact

Managed Swit	tch	0850	9 📵 🚯 🕻	0 🙂 🕲 🤇	3 6 9					🛟 Englist 🤹
		2468	••••		3 9 9					🖹 Save
		Current Position : S	ystem Manage / S	NMP-config / Glo	obal Config					
O User Config		Global Config	Trap -config	View-config	Community-config	V3 User-config				
		Mode		🔿 Enable 🧿	Disable					
		Version		v1,v2c,v3						
		Name		switch						
		Description		cns-3.0.0						
		Location		Unknown						
		Contact		x@x						
Network security		Engine no.								
				Apply	Refresh					
admin										

Trap-config

This page can be used to send the system startup, port status, traffic alarm, user login/logout, user operation,

and MAC learning of the device to the SNMP server.



View config The page user adds VIEW name, Type, OID



Community-config

The page user adds Community and sets the permissions of Community.

Managed Switch		0 8 8 7 9 1 8 6	0 0 19 0 0 0 0					🐥 Englist 💌			
System Manage	~	00000000						E Save			
O System Information			ceiton: System Manage / SM/P-config / Community-config								
O User Config		Global Config Trap -config		nfig V3 User-config							
O Management File		Add						c			
O Access Config	_	CommunityName	Version Read View	Write View	Notify View	Security mode					
O SNMP Config	_	public	v2c defaultView	defaultView	defaultView	None	Ê				
Interface Manage	~	private	v2c defaultView	defaultView	defaultView	None	8				
Business Manage	С		AddView		×						
Route Manage	~		Com	nunityName							
Network security	~			Version v1 ¢							
Extend Management	~		Sc	Curity mode None +							
System maintenance	~			Write View defaultView +							
				Notify View defaultView \$							
				Apply Return							
admin I Logou	a.										

V3 User-config

To use SNMP V3, we need to create V3 user, fill in the user name, select the type of authentication algorithm, type of encryption algorithm, and fill in the authentication password and encryption password. The authentication algorithm supports MD5 and sha, the encryption algorithm supports des and esa.

Managed Switch		# Fredist +
		E Save
	Current Pointon r Synteen Manage / BMM-config / V3 Dear -config	
	Global Config Trap-config View-config Community-config V3 User-config	
		C
	V3 User Community Security mode Authentication Passphrase Privacy Type Passphrase	
	Add/21ber Y	
	V8 User	
	Socurity mode None +	
	Authentication Type MD5 C	
	Pasghrasa	
	Privice Type DES Privice Type	
	Apply Return	
admin Logout		

5.2 Interface Manage

5.2.1 Port management

View the current port name, status, medium, rate, settings, and management of each port's Auto-negotiation, rate, flow control, Max frame, and switch status.

Managed Switc	h	0000) 🕕 🔁 🔂 🕼	• • • • • • •						🐥 Englist 💌
System Manage		88080		000000						🖹 Save
Interface Manage		Current Position : Inter	face Manage / Port M	Management						
O Port Management		C Apply								
O Storm control		PortName	Status	Medium	Auto negotiation	ApplyRate	Rate	Flow control	Max-Frame	Enable
O Port rate-Limit		*			• •	• •		• •	*	• •
O Mirror		ge1/1	Down	Fiber		1G 🕈	0	tx +	1518	
O Port channel Config		ge1/2	Down	Fiber		1G 🕈	0	tx •	1518	
 Isolate-port Config 		ge1/3	Down	Fiber		1G 🗢	0	tx ¢	1518	
Rort statistics		ge1/4	Down	Fiber		1G 🕈	0	tx +	1518	
		ge1/5	Down	Fiber		1G 🕈	0	tx ¢	1518	
business manage		ge1/6	Down	Fiber		1G 🗢	0	tx +	1518	
Route Manage		ge1/7	Down	Fiber		1G 🕈	0	tx +	1518	
Network security		ge1/8	Down	Fiber		1G 🕈	0	tx •	1518	
Extend Management		ge1/9	Down	Fiber		1G 🗢	0	tx 🗢	1518	
System maintenance		ge1/10	Down	Fiber		1G 🕈	0	tx 🗢	1518	
		ge1/11	Un	Fiber		16 .	16	tv a	1518	
		001/10	Down	Eibor	-	10 •			1519	
		ge1/12	Down	Fiber		16 🗣	U	uX ₹	1018	
admin I Lo		ge1/13	Down	Fiber		1G 🕈	0	tx 🜩	1518	

* represents all ports, and the operation done on this line will apply to all ports

5.2.2 Storm control

Storm control allows ports to filter certain types of storm messages that appear on the network. After the storm control is turned on, when the corresponding frame received by the port accumulates to a predetermined limit, the port will automatically discard the received data frame. Avoid network congestion caused by port storms. Broadcast Storm print, only configure storm suppression only fill in storm suppression value, and select the corresponding port, other storm suppression does not need to set the value to 0. Unknown multicast and unknown unicast configuration are similar.

Managed Switch	6	888888	• • • • • • •	D								4 Englist
System Manage	~	00000000	•••••	D								Save
Interface Manage	~	Current Position : Interface Manage	/ Storm control									
O Port Management.		C Apply										
O Storm control		PortName	Broadcast		U	Inkown-Mult	lcast				DLF	
O Port rate-Limit		*		٠	4		٠		-	٠		
O Mirror		ge1/1	disabled	•	d	disabled	٠		disabled	٠		
Doct observed Config		ge1/2	disabled	•	d	disabled	٠		disabled	٠		
O Portunamer Coming		ge1/3	disabled	•	d	disabled	•		disabled	٠		
 Isolate-port Config 		ge1/4	disabled	•	d	disabled	•		disabled	•		
 Port statistics 		ge1/5	disabled		d	disabled	•		disabled	•		
Business Manage	~	ge1/6	disabled		d	disabled			disabled	•		
Route Manage	*	ne1/7	disabled		d	fitabled			rlisabled			
Network security	~	90177	0.0000									
Extend Management	~	ge1/8	disabled	•	d	disabled	•		disabled	•		
System maintenance	~	ge1/9	disabled	•	d	disabled	•		disabled	٠		
		ge1/10	disabled	•	d	disabled	٠		disabled	٠		
		ge1/11	disabled	٠	d	disabled	٠		disabled	٠		
		ge1/12	disabled	•	d	disabled	•		disabled	•		
andredan (ge1/13	disabled	•	d	disabled	•		disabled	•		

5.2.3 port rate-limit

Configuring port rate can limit the bandwidth of a port and avoid overflowing a port with too many data packets. Configuration burst and entry rate are configured together to take effect.

Managed Switch		0 8 8 8 8 0 1 8	0 0 0 0 0 0 0 0			🏶 Eng	list 🕶
System Manage	~	00000000				🖹 Sav	Ð
Interface Manage	^	Current Position : Interface Manage	9 / Port rate-Limit				
O Port Management		C Apply					
O Storm control		PortName	InputRate	InputBurst	OutputRate	OutputBurst	
O Port rate-Limit		*	* +	* •	* +	* ¢	
O Mirror		ge1/1	disabled 🗢	disabled 🗢	disabled 🗢	disabled \$	Ш
 Port channel Config 		ge1/2	disabled •	disabled •	disabled	disabled \$	
 Isolate-port Config 		ge1/3	disabled 🗢	disabled 🗢	disabled 🗢	disabled \$	
Port statistics		ge1/4	disabled 🗢	disabled 🗢	disabled 🗢	disabled 🗢	
Distance Manager		ge1/5	disabled •	disabled •	disabled	disabled \$	
Dusiness manage		ge1/6	disabled 🗢	disabled 🗘	disabled 🗢	disabled \$	
Houte Manage	Ť.	ge1/7	disabled 🗢	disabled 🗢	disabled 🗢	disabled \$	
Network security	ř	ge1/8	disabled •	disabled •	disabled •	disabled \$	
Extend Management	~	ge1/9	disabled 🗢	disabled 🗣	disabled 🗢	disabled \$	
System maintenance	ř	ge1/10	disabled 🗢	disabled 🗢	disabled 🗢	disabled \$	
		ge1/11	disabled •	disabled •	disabled •	disabled \$	
		ge1/12	disabled	disabled	disabled •	disabled	
		goi/ie	Environi				
admin Logi	out	ge1/13	disabled =	disabled =	disabled =	aisabled =	

5.2.4 Mirror

A message sent or received by a port can be copied to the monitoring port. Mirroring is based on vlan, the default port belongs to Vlan1, testing needs to send vlan tagged data message. There are four session IDs, and different IDs can set up different mirroring groups.

Managed Switch	0 0 0 0 0 0 0 0 0 0 0 0 0 0	# From	
System Managa 🛛 👻		E Saw	
Interfaçã Manage 🔷 🗠	Current Provinces a searched Manage / Minor		
O Fort Management	Adu .		C
O Storm control	SessionID SourcePort Destination port	Direction handle	
O Port rate-Linit	Addmirror	×	
O Mirror	SessionD 1 ¢		
O Port channel Config	Gge1/1 Gge1/2 Gge1/3 Gge1/4 Gge1/5 Gge1/6 Gg	ge1/7 @ge1/8	
O Isolate-port Config	SourcePort Bge1/9 Ege1/10 Ege1/11 Ege1/12 Ege1/13 Ege1/14 Eg	ge1/15 @ge1/16	
O Port statistics	Uge1/17 Uge1/18 Uge1/19 Uge1/20 Uge1/21 Uge1/22 Ug Exe1/25 Exe1/26 Exe1/27 Exe1/28 Select All	ge1/23 llige1/24	
Elisirian Manige 🔷 🗸	Destination port ge1/1 =		
	Direction both 🗢		
	Add		

5.2.5 Port channel Config

Used to organize multiple physical interfaces into one logical link

STATIC LINK-AGGR

By establishing a group and selecting the load sharing method according to the actual needs, the ports that need aggregation are added to the link aggregation group. In static aggregation mode, the lacp protocol is not enabled on the member ports within the aggregation group, and its port state is maintained manually.

Drop-down options for dot-small triangle symbols.

There are three ways to share the load: src-mac, dst-mac, both-mac.

Managed Switch		😩 Englist 👻
System Manage 👻		E Save
Cintertada Managa	Current Position : Interface Manage / Port deened Config	
O Port Managament	Static Ink-aggr Port Config LACP LACPStatus LACPstatistics	
O Storm control		c
O Port rate-Limit	Group ID Type Status Load balance mode Port member	handle
O Mirror		
O Port channel Config	Addistate trunk X	
O Isolate-port Config	Group D 1 0	
O Port statistics	Lood beforce mode Ste Mac •	
Busineen Manage 🛛 👻	Bgot/1 Bgot/2 Bgot/3 Bgot/4 Bgot/5 Bgot/6 Bgot/7 Bgot/8	
Route Manage 🔗	Port list 0e1/10 0ge1/10 0ge1/11 0ge1/13 0ge1/14 0ge1/14 0ge1/15 0ge1/16 0e1/17 0e1/18 0e1/19 0e1/20 0e1/21 0e1/22 0e1/23 0e1/24	
Noheark security 🗸	Exe1/25 Exe1/26 Exe1/27 Exe1/28 Select All	
Extend Management 🛛 🗠	Add Deiete	
System mentenence 🛛 👻		
admin Lognut		

PORT CONFIG

Determine how to work by selecting the type of port.

None: No converging use.

LACP: Enable dynamic convergence of LACP

STATIC: Static link convergence

Managed Switch		0000	9 11 18 16 17 (•					🏶 Englist 🔻
System Manage	~			9 8 8 8 8 9 9 8 8 8 8					🖹 Save
Interface Manage	^	Current Position : Inte	rface Manage / Port cha	nnel Config					
O Port Management		Static link-aggr	Port Config LA	CP LACPStatus	LACPstatistics				
O Storm control		C Apply							
		PortName	Туре	Group ID	Mode	Key	timeout	PortPriority	
 Port rate–Limit 		ge1/1	None 🗢	1 🗢	Active •	0	Fast 🗢	32768	
O Mirror		ge1/2	None 🗢	1 🗢	Active +	0	Fast 🗢	32768	
O Port channel Config		ge1/3	None •	1 0	Active •	0	Fast ¢	32768	
O Isolate-port Config		ge1/4	None •	1 0	Active \$	0	Fast ¢	32768	
O Port statistics		ge1/5	None 🕈	1 =	Active \$		Fast ¢	32768	
Business Manage	~	ge1/6	None •	1 0	Active •	0	Fast •	32768	
Route Manage	~	ge1/7	None ¢	1 0	Active \$	0	Fast ¢	32768	
Network security	~	ge1/8	None 🕈	1 =	Active ¢	0	Fast ¢	32768	
Extend Management	~	ge1/9	None •	1 0	Active 0	0	Fast ©	32768	
System maintenance	~	ge1/10	None 🗢	1 0	Active •	0	Fast ¢	32768	
		ge1/11	None 🕈	1 🗢	Active \$	0	Fast ¢	32768	
		ge1/12	None 🕈	1 0	Active +	0	Fast 🗢		
		ge1/13	None 🗢	1 🗢	Active	0	Fast 🗢	32768	

LACP

LACP provides two types of aggregation, one is active and the other is Passive, which is exchanged under Active The machine initiatively initiates the aggregation negotiation process, while the Passive mode is the passive receiving aggregate negotiation process, and the LACP is selected. When both sides of the port aggregation are Passive, the aggregation will not succeed because both ends will wait The process of initiating an end-to-end converging negotiation.

Select a way to aggregate load sharing, view aggregation group information. By adopting different types of aggregate load sharing, load sharing among aggregation groups can be realized flexibly.

Type of aggregate load sharing:

Src Mac: Aggregated load sharing according to the source MAC address of the message;

Dst Mac: Aggregate load sharing based on the destination MAC address of the message;

Src&Dst Mac: Aggregate load sharing based on the source of the message, the destination MAC address.

Managed Switch	9 9 9 0 1 9 9 9 9 9 9 9 9 9	🏶 Englist 🔻
System Manage 🛛 🗸 🗸		💾 Save
Interface Manage	Current Position : Interface Manage / Port channel Config / LACP-config	
O Port Management	Static link-aggr Port Config LACP LACPStatus LACPstatistics	
O Storm control	System priority 32768 scope:0-65535	
O Port rate-Limit	Load balance mode SrcDist Mac. Port selection criteria	
O Mirror	C Auchy	
O Port channel Config	Group D PartnerSystemiD PartnerKey PartnerPrio LastChanged LocalPorts	
O Isolate-port Config		
O Port statistics		
Business Manage 🗸 🗸 🗸		
Route Manage 🗸 🗸 🗸		
Network security		
Extend Management Y		
System maintenance 🛛 🗸 🗸		
admin Logout		

LACP STATUS

View aggregation group information, facilitating the management of information for converging groups.



LACP STATISTICS

Check the statistics of the converging group and check the transmission status of the convergence groups.

Managed Switch	k	88888	666666	0			🐥 Englist 💌
System Manage	*	0000000		2			🖹 Save
Interface Manage	^	Current Position : Interface Manage	/ Port channel Config				
O Port Management		Static link-aggr Port Cor	ifig LACP LACPStat	us LACPstatistics			
O Storm control		PortName	Receive	Transmit	Unknown	Error	
O Port rate-Limit							
O Mirror							
O Port channel Config							
O Isolate-port Config							
O Port statistics							
Business Monage	. v.						
Route Manager	÷						
Network security	~						
Extend Management	~						
System maintenance	~						
admini L. Log	iout						

5.2.6 Isolate-port config

Port isolation can realize the independence of receiving and sending ports. It is convenient to designate a port to receive messages from a particular port and discard messages from some ports.

Managed Switch		88668886	0 8 8 8 9	# Englist +
		00000000		E Save
		Add		c
		Input port	Output port he	ndle
		٨	ddsolate-port Config X	
			keyt gef / #	
			0et/1 0et/2 0et/3 0et/4 0et/6 0et/6 0et/7 0et/8	
			Output joge 1/9 Bge1/10 Bge1/11 Bge1/12 Bge1/13 Bge1/14 Bge1/15 Bge1/16	
			Gge1/17 Gge1/18 Gge1/19 Gge1/20 Gge1/21 Gge1/22 Gge1/23 Gge1/24	
			The packets from in port cann't forward to selected out-ports	
			Add	
admini Logo	ait.			

5.2.7 Port statistics

The data message received or sent by the current port can be analyzed for each port. Port statistics are divided into port summary statistics and port detailed statistics. You need to analyze different messages in detail, and you can see the port details.

Managed Switch	
System Manage	
Interface Manage	Current Position : Interface Manage / Port statistics
O Port Management	Rate Summary Port stats Detail port stats
O Storm control	detaillate Refresh Time : 30 Seconds
O Port rate-Limit	n v tr
O Mirror	
O Port channel Config	20(%)
O Isolate-port Config	60(%)
O Port statistics	42(%)
Business Manage	20(9)
Route Manage	0%
Network security	
Extend Management	
System maintenance	
admin Logout	

	00000	• • • • • • • • • • • •	9 99			
~	60000	00000000000				
^	Current Position : Interf	face Manage / Port statistics				
	Rate Summary	Port stats Detail port stats				
	Clear					
	PortName	ReceivePacket num	SendPacket num	ReceiveByte num	SendByte num	DropPacket num
	ge1/1	0	0	0	0	0
	ge1/2	0	0	0	0	0
	ge1/3	0	0	0	0	0
	ge1/4	0	0	0	0	0
	ge1/5	0	0	0	0	0
~	ge1/6	0	0	0	0	0
Ť	ge1/7	0	0	0	0	0
~	ge1/8	0	0	0	0	0
~	ge1/9	0	0	0	0	0
~	ge1/10	0	0	0	0	0
	ge1/11	196708	581723	31688859	302674170	270
Ť	ge1/12	0	0	0	0	0
	ge1/13	0	0	0	0	0
	ge1/14	0	0	0	0	0
	ge1/15	0	0	0	0	0

C

	~	000000000000000000000000000000000000000			🕀 Englist 💌 💾 Savo
	~	Current Position : Interface Manage / Port statistics			
		Rate Summary Port stats Detail port stats			
		Port : ge1/1 +			C Clear
		ReceiveTotal		SendTotal	
O Mirror		ReceivePacket num	0	SendPacket num	0
		ReceiveByte num	0	SendByte num	0
 Port channel Config 		ReceiveUnicast num	0	SendUnicast num	0
		ReceiveMulticast num	0	SendMulticast num	0
		ReceiveBroadcast num	0	SendBroadcast num	0
	~	ReceivePause frame	0	SendPause frame	0
		ReceiveDiscard	0	SendDiscard	0
	~	ReceiveFCS errors	0		
	~	ReceiveOversize	0		
	~	ReceiveAlignment errors	0		
	,	ReceiveMessage size classification statistics		SendMessage size classification statistics	
		Receive64Byte size packet num	0	Send64Byte size packet num	0
		Receive65-127Byte size packet num	0	Send65–127Byte size packet num	0
		Receive128-255Byte size packet num	0	Send128-255Byte size packet num	0
		Receive256-511Byte size packet num	0	Send256-511Byte size packet num	0
	ionut	Receive512-1023Byte size packet num	0	Send512-1023Byte size packet num	0
	<u> </u>				

5.3 Business manage

5.3.1 VLAN config

Logically divide a physical LAN into different broadcast domains (or virtual lan, or VLANs), and each VLAN contains a set of computers with the same requirements, since VLAN is logically rather than physically partitioned. Therefore, the computers within the same VLAN need not be placed in the same physical space, that is, these computers do not necessarily belong to the same physical LAN network segment.

PORT CONFIG

View the port belongs to the VLAN, according to the definition of the port VLAN to choose the way to discard the message, select the legitimacy check is at the exit / entry.

Managed Switch	0000	0 0 0 0 0 0 0 0 0	000		😩 Englist 👻
System Manage	0000		© © ©		E) Save
Interface Manage	Current Position :	Business Manage / VLAN Config			
Business Manage	Port Config Pylan is defai	VlanApply Mac-vlanApply ult vlan. default is 1.	Protocol-vlanApply		
O VLAN Config	Discard: none Filter: Modes	e-not dicard; untag-discard untag p for VLAN ingress/egress filtering.	acket; tag-discard tag packet; all-disc	ard all packet.	
O MAC Config	Apply				C
O Spanning-tree Config	Port	Pvlan	InputDrop	Filter	
O ERPS-Ring Config	*		•	• •	
O L2 moast-config	ge1/1	1	None 🗢	Egress 🗢	
O MLD-snooping Config	ge1/2		None •	Egress . ●	
O QOS Config	ge1/3	1	None 🗢	Egress 🗢	
O LLDP Config	ge1/4		None +	Egress 🗢	
O DHCP Server Config	ge1/5	1	None •	Egress •	
Route Manage	ge1/6		None +	Egress 🗢	
Network security	ge1/7		None 🗢	Egress 🗢	
Extend Management	ge1/8		None +	Egress ¢	
System maintanance	ge1/9		None 🗢	Egress ¢	
	ge1/10		None ¢	Egress ¢	
animin' English					

VLAN APPLY

The switch supports the 802.1q VLAN pattern by identifying the Tag in the message (including 802.1p priority and VLAN ID, etc.) to process a message.

VLAN ID: The VLAN number that identifies the message is 12 bits in length and ranges from 0 to 4095. Due to 0 And 4095 are reserved for the protocol, so the VLAN ID values range from 1 to 4094.

Multicast: Used to configure the processing of multicast packets in a specified VLAN.

Drop: Represents dropping multicast packets

Flood all: Represents all multicast packets for flooding

Flood unknown: Multicast packets representing flooding unknown



MAC-VLAN APPLY

According to the mac address, there is no need to pay attention to the physical location of the end user, which improves the security of the end user and the flexibility of access. Mac vlan only processes untagged packets, and tagged message processing mode is the same as that of port-based vlan.

Managed Switch	000000000000000	🏶 Englist 🔹
System Manage 🛛 👻		E Save
Interface Manage 🚽 👻	Current Positions: Buarness Manage / YUNIConfig	
Businities Manago 🔗	Port Config ManApply Mac-HanApply Protocol-HanApply	
O VLAN Config	Add	C
o MAC Config	SeriaNum Van D MAC hande	
O Spanning-tree Config	Adden X	
o ERPS-Ring Config	Van D	
O L2 moast-config	adopet — GOAL. The ports thus belong to the Ven. In unitage model	
O MLD-snooping Config	MAL, eg 00.01 (22.03.04.05	
O QOS Config		
O LLDP Config		
O DHCP Server Config		
Route Manage 🛛 👻		
Notwork mountly		
Extend Management:		
System maintenance 🛛 👻		
		el Page , 20 entrys por page
admin Logout:		

PROTOCOL-VLAN APPLY

Protocol-based VLAN, also known as protocol VLAN, is another VLAN representation different from port-based VLAN Dividing method. By configuring a protocol-based VLAN, the switch can analyze any received on the port that does not carry VLAN Tag To match the message with the user-set protocol template according to the values of different encapsulation formats and special fields, automatically The corresponding VLAN tag is added to match the successful message, and the data belonging to the specified protocol is automatically distributed to the corresponding VLAN for transmission.

Managed Switch	0000	e 🕦 B	6093	889						🏶 Englist 🔻
System Manage	8000	••••	0000	889						E Save
Interface Manage										
Business Manage			Mac-vlanApply							
O VLAN Config	Add									C
O MAC Config	SerialNum	Port			Frame-type	E	Ether-type	Vian ID	handle	
O Spanning-tree Config				AddVlan ba	ised on protocol		×			
O ERPS-Ring Config					Port ge1/1 🗢		_			
O L2 mcast-config				Fra	ame-type ether2 ¢		_			
O MLD-snooping Config				Et	ther-type arp 🗢					
O QOS Config					Vian ID scope:1-4094.The p	ports must belong to the via	in in untag mode			
O LLDP Config					Add		_			
O DHCP Server Config										
Route Manage										
Network security										
Extend Management										
System maintenance										
	Jump	ок				ee e 1 >	22		Total1Page , 20 or	trys per page
edmin Logo										

5.3.2 MAC Config

The default is dynamic mac. you can modify the mac aging time

MAC list

The MAC address table records the MAC address of the device connected to the device. Interface number and the VLAN ID. When forwarding data, the device queries the MAC location according to the destination MAC address in the message Address table to quickly locate the interface, thus reducing broadcast. Displays the MAC address of the current connection port.

To adapt to changes in the network, the MAC address table needs to be continuously updated. The automatically generated items in the. MAC address table are not forever. Far more effective, each table item has a lifetime, items that arrive at the life cycle that have not been refreshed will be deleted, and this The life cycle is called aging time. If the record is refreshed before reaching the life cycle, the ageing time of the table item is recalculated Calculate.

Managed Switch		136	000000	0 8 8 9				🏶 Englist 👻
System Manage	~	246		00000				😫 Save
Interface Manage	~	Current Position	: Business Manage / MAC Confi	9				
Business Manage	^	MacList	Static Mac Mac-config					
O VLAN Config		٠	Clearmac					
O MAC Config		SerialNu	im MAC	Vid	Interface	Туре		
 Spanning-tree Config 		1	a8:be:27:f1:bb:47	1	ge1/19	dynamic		
		2	1c:15:1f:50:29:f2	1	ge1/19	dynamic		
 ERPS-Ring Config 		3	f8:62:14:43:8f:5d	1	ge1/19	dynamic		
O L2 mcast-config		4	14:4f:8a:06:dd:a8	1	ge1/19	dynamic		
O MLD-snooping Config		5	1c:da:27:05:2a:e0	1	ge1/19	dynamic		
O QOS Config		6	7c:76:35:f4:f9:66	1	ge1/19	dynamic		
		7	a0:3b:e3:8c:07:8e	1	ge1/19	dynamic		
O LLDP Config		8	2c:4d:54:62:64:7f	1	ge1/19	dynamic		
O DHCP Server Config		9	78:62:56:ae:d9:01	1	ge1/19	dynamic		
Route Manage	~	10	10:c3:7b:6c:6e:5b	1	ge1/19	dynamic		
Notwerk newrity	J	11	84:73:03:5e:47:b7	1	ge1/19	dynamic		
Hermore accurry		12	f0:0f:ec:e0:8f:1f	1	ge1/19	dynamic		
Extend Management	~	13	d8:c7:71:c1:b8:83	1	ge1/19	dynamic		
System maintenance	~	14	b8:63:4d:55:ce:cf	1	ge1/19	dynamic		
		15	68:a3:c4:f3:21:54	1	ge1/19	dynamic		
admin I Logo	out	Jump	ОК		« < 1	2 3 4 > >>	Total4Page , 20 entry	s per page

STATIC MAC

When a device learns to automatically create a MAC address table through a source MAC address, it cannot distinguish between legitimate users and hacker users Wen, brought about the hidden danger of safety. If the hacker user masquerades the source MAC address of the attack message as the legitimate user's MAC address, And get in from the other interfaces of the device, the device learns the wrong MAC address table entry, and it forwards it to the legitimate user's message is forwarded to the hacker user. To improve interface security, network administrators can manually add a specific MAC address table entry to the MAC address table, setting the User devices are bound to the interface to prevent false identities of illegal users from obtaining data. Manually configured MAC address table entries Priority is higher than automatically generated table items.



If the aging time of the user configuration is too long, the device may save many outdated MAC address table items, thus exhausting the MAC address table resources, resulting in the device unable to update the MAC address table according to the change of the network. If the aging time of the user configuration is too short, the device may delete the valid MAC address table item, which may cause the device to broadcast a large number of data packets and affect the performance of the device. Therefore, users need to configure appropriate aging time according to the actual situation to effectively achieve MAC address aging function.

Mac-limit: To set the maximum numbe	r of learning for port MAC addresses
-------------------------------------	--------------------------------------

Managed Switch		🏶 Englist 👻
System Manage 🛛 🗸 🗸		E Save
Interface Manage 🗸 🗸 🗸	Current Position : Business Manage / MAC Config	
Business Manage	MacList Static Mac Mac-config	
O VLAN Config	MAC address aging-time 200 Acray scope:10-1000000 , Default:300 , unit: Seconds	
O MAC Config	Mac limit MAC limit(port)	
O Spanning-tree Config	MAC Imit(vian)	
O ERPS-Ring Config		
O L2 mcast-config		
O MLD-snooping Config		
O QOS Config		
O LLDP Config		
O DHCP Server Config		
Route Manage 🗸 🗸 🗸		
Network security Y		
Extend Management Y		
System maintenance 🛛 🗸 🗸		
admin i Logout		

5.3.3 Spanning-tree config

GLOBAL-CONFIG

STP: The protocol can be used to establish tree topology in the network, eliminate the loop in the network, and can achieve path redundancy through a certain method, but it is not sure to achieve path redundancy. The spanning tree protocol is suitable for all vendors' network devices, and is different in configuration and function intensity, but in principle and application effect. It's the same.

RSTP: 802.1w is developed by 802.1d. This protocol can converge faster when the network structure changes. It has two more port types than 802.1d: the alternate port and the backup port type. STP (Spanning Tree Protocol) is the abbreviation of the spanning tree protocol. The protocol can be applied to the loop network and pass through a loop network. The algorithm implements path redundancy and Pruns the loop network into a loop free tree network, thereby avoiding the proliferation and infinite loop of packets in the loop network.

MSTP: MSTP is a multi-spanning tree protocol. MSTP's "multi-spanning tree" includes two meanings: one is that multiple instances of spanning tree can be divided based on VLAN in a switching network, the other is that multiple VLANs can be included in each instance of spanning tree.

Managed Switch	000000000000		🏶 Englist 👻					
System Manage 🛛 🛩								
Interface Manage 🗸 🗸 🗸	Current Position : Business Manage / Spanning-tree Config							
Business Manage	Global Config Port Config Instance Co	nfig INST-PORT CONFIG						
O VLAN Config	Apply		C					
O MAC Config	EnableSpanning-tree							
O Spanning-tree Config	Mode	⊖ stp ⊖ rstp ● mstp						
o EBPS-Bina Config	Priority	32788 scope:0-61440, Default:32768						
6 10 million million	Max age	20 scope:6-40, Default:20						
O L2 meast-comig	Hello time	2 scope:1-10, Default:2						
 MLD-snooping Config 	Forward delay	15 scope:4-30, Default:15						
O QOS Config	Max hop	20 scope:1-40, Default:20						
O LLDP Config	Revison	0 scope:0-85535						
O DHCP Server Config	Name	000102030405						
Route Manage 🗸 🗸 🗸								
Network security 👻								
Extend Management								
System maintenance 🗸 🗸								
admin Logout								

PORT CONFIG

In order to reduce excessive link computation, when configuring the ring function, the port that needs to be enabled is opened, and the function does not need to be turned off with the ring network port.

Managed Switch		0000	e 🕦 B G Ø	19 8 8 8 9			😩 Englist 👻
	~	2 4 6 8	•••••	••••••			🖹 Save
	~	Current Position : B	usiness Manage / Spanni	ing-tree Config			
	~	Global Config	Port Config Inst	ance Config INST-PORT CC	NFIG		
		Apply					C
		Port	Enable	BPDU Guard	Edge	Point-to-Point	
		*	• •	• •	• •	• •	
		ge1/1			Auto 🕈	Auto	
		ge1/2			Auto 🗢	Auto 🗢	
		ge1/3	V		Auto •	Auto	
		ge1/4			Auto •	Auto 🗢	
		ge1/5			Auto 🕈	Auto 🗢	
		ge1/6			Auto •	Auto 🗢	
	<i>.</i>	ge1/7			Auto 🗢	Auto	
	<i>.</i>	ge1/8			Auto 🗢	Auto 🗢	
	<i>.</i>	ge1/9			Auto 🗢	Auto 🗢	
		ge1/10			Auto 🗢	Auto	
		ge1/11			Auto 🗢	Auto 🗢	
		ge1/12			Auto 🗢	Auto 🗢	

INSTANCE CONFIG

Set the number of VLAN that can be included per build tree instance.

Managed Switch		🕀 Englist 🔹
System Manago 🛛 🗠		🖺 Savo
Interfació Manage	Current Planton : Business Menage / Openning-twoe Centlig	
Businesa Monage 💦 🔿	Global Config Port Config Instance Config INST-PORT CONFIG	
O VLAN Config		c
O MAC Config	Instance Priority Van Mapped	
O Spanning-tree Config	0 32768 1-4094	
O ERPS-Ring Config	AddMSTP Instance X	
O L2 moast-config	MSTIC 1 C	
O MLD-snooping Config	Priorly 32768	
O QOS Config	Van Mapped	
O LLDP Config	Ads Return	
O DHCP Server Config		
Route Manage 🛛 🗸		
Network associate 👻		
Extend Management 🛛 😽		
System maintanande 🛛 👻		
edmin / Logput		

INST-port CONFIG

View the status of the spanning tree example and manage priorities and Cost.

Managed Switch	00000000	© Ø 🗐						🐥 Enviliet 💌
	0000000	••••	••••					🖹 Save
	Current Position : Business Manage	/ Spanning-troo	e Config					
	Global Config Port Config	Instance (Config INST-PORT	CONFIG				
	Apply							MSTID: 0. + C
	Port	Enable	Instance	Priority	AdminCost	Cost	Role	Status
	*				*			
O ERPS-Ring Config	ge1/1	Yes	0	128		20000000	Disabled	<i>*</i>
	ge1/2	Yes	0	128		20000000	Disabled	
O MLD-snooping Config	ge1/3	Yes	0	128	0	20000000	Disabled	-
O QOS Confia	ge1/4	Yes	0	128		20000000	Disabled	-
	ge1/5	Yes	0	128		200000000	Disabled	×
O LLDP Config	ge1/6	Yes	0	128		20000000	Disabled	-
	ge1/7	Yes	0	128		20000000	Disabled	а.
	ge1/8	Yes	0	128		20000000	Disabled	÷
	ge1/9	Yes	0	128		20000000	Disabled	a
	ge1/10	Yes	0	128		20000000	Disabled	-
	ge1/11	Yes	0	128	0	20000	Designated	forwarding
	ge1/12	Yes	0	128		200000000	Disabled	-
	ae1/13	Yes	0	128	0	20000000	Disabled	÷

5.3.4 ERPS-Ring Config

ERPS (Ethernet Ring Protection Switching), is a two-layer broken ring protocol standard defined by ITU-T. The standard number is ITU-T G.8032 / Y1344, so it is also called G. 8032 / Y1344. It defines RAPS (Ring Auto Protection Switching) protocol packets and protection switching mechanism. V2 fully compatible with v1. Erps is a protocol for Ethernet link layer break loop. It takes the erps loop as the basic unit and contains several

nodes. By blocking the rpl owner port and controlling the other common ports, the state of the port is switched between forwarding and discarding to eliminate the loop.

Managed Switch		0000	0 1 0 0 0 (🕈 Englist 💌
		00000								El Sovo
	~									
	8	Add								c
		Ring-Id	Ring statu	Port 0	Port 1		Role	RPL port	handle	
				Add ERPS-Ring Config				×		
				Ring-Id	1.0					
				Port 0	ge1/1 • Rf	PL None +				
				Part 1	ge1/1 + RF	PL None +				
				Control vian	1-4094, must add	led to both ports in tag mo	ide.			
				Wtr Timeout	1 In minutes 1–12, c	default is 1 minutes.				
				Guard Timeout						
				Hold Timeout		0-2000 in the incruments				
					In milliseconds 0-	10000 in the increments o	f 100ms, default is 0.			
	Ť.			Version	Z •	16TD		_		
	Ť				100	AR 11				
	<u>.</u>									
admin Logo	4									

5.3.5 L2 mcast-config

IGMP-SNOOPING working process: The switch listens for the interactive messages between the user host and the router, tracks the multicast information and the application port. When the switch detects an IGMP report message sent by the host to the router, the switch adds the port to the multicast forwarding table; when the switch listens to the IGMP leave message sent by the host, the router will send the Group-Specific query (specific group query) message of the port. If other hosts need the group to broadcast, the router will respond to the IGMP Report message. If the router does not receive any response from the host, the switch will remove the port from the multicast forwarding table. After receiving the IGMP Query message, if the router does not receive the IGMP Report message from the host within a certain time period, the port is removed from the multicast table.

A member of a dynamic multicast message sends to join a specific multicast group, and the polling message monitors that the port is automatically added to the corresponding multicast group. Configuration as shown below, must first turn on the global function, at the same time open the active query, according to the actual use of configuration aging time, the default aging time 200s. Since IGMP is based on vlan, for the functionality to take effect, it must also be configured in IGMP-snooping VLAN.

IGMP-snooping config

Send query: To enable sending master query packets



MCAST APPLY

View and add multicast.

Managed Switch	0000000000	9 19 19 19 19 19 19 19 19 19 19 19 19 19			🐥 Engliet 👻
System Manage 🛛 🗸 🗸	00000000				Save
Interface Manage 🛛 🗸 🗸	Current Position : Business Manage / L2 n	icast-config			
Business Manage	IGMP-snooping Config Igmp-sno	Static IP multicas	t Static Mac multicast		
O VLAN Config	Clear				
O MAC Config	SerialNumVlan ID	Multicast source Mu	ticast addr	Port list(Expire)	
O Spanning-tree Config					
O ERPS-Ring Config					
O L2 mcast-config					
O MLD-snooping Config					
O QOS Config					
O LLDP Config					
O DHCP Server Config					
Route Manage 🗸 🗸					
Network security 🗸					
Extend Management Y					
System maintenance V					
					Total1Dana, 20 entre ner nem
admin Logout	ounp OK				romen oge i zo entrys på page

STATIC MULTICAST

Static multicast group, where ports to be set are manually added to a multicast group. If the multicast source is arbitrary, it can not be filled in.



5.3.6 MLD-snooping Config

MLD Snooping is short for Multicast Listener Discovery Snooping. It runs the IPv6 multicast constraint mechanism on Layer 2 devices to manage and control IPv6 multicast groups.

It analyzes the received MLD packets, establishes a mapping relationship between the port and the MAC multicast address, and forwards the IPv6 multicast data according to the mapping relationship.

MLD-snooping config

This page is used to enable mld-snooping, start sending packets, and set the aging time.



The following is the page for adding group, VLAN, and static IP to mld-snooping.

sympolic sympolic sympolic	Managed Switch		00000000000			🕀 Englist 👻
i underst skrangel i under		0000000	••••••	I		Save 5
Readers Marage MLD-mooping Confg MLD-mooping Confg Spanning-tree Confg Spanning-tree Confg Lic mooping Confg MLD-mooping Confg MLD-mooping Confg Lic mooping Confg MLD-mooping Confg </th <th></th> <th>Current Position : Business Mana</th> <th>go / MLD-snooping Config</th> <th></th> <th></th> <th></th>		Current Position : Business Mana	go / MLD-snooping Config			
• VLAN Config • Multic Config • Spanning-true Config • Erres-Hing Config • Liz neast-config • OSS Config • DLEP C		MLD-snooping Config	GroupApply VlanApply Sta	itic IP multicast		
Multicest source Multicest source Multicest source Multicest source PertiletDeprine)		ge1/1 Clear				
 Spenning-une Config L2 moast-config MLD-snooping Config GL0 Config D HCP Saver Config D HCP Saver Config D HCP Saver Config Extend Management Apptermantations 		SerialNumVian ID	Multicast source	Multicast addr	Port list(Expire)	
 EPSBing Config L2 moat-config MLD-scooping Config OLD Config LD Config DHCP Sonve Config Poter Sonve Config Extend Management. Spasm maintenence Spasm maintenence Lange Lange Lang						
• L matt-config • MLD-scooping Config • COS Config • LLDP Config						
o MLD-stoopping Config o COS Config o LLDP Config o LLP Config o LP Config <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
o COS Config o LLDP Config o ExHCP Server Config Route Manager and the security o Externa Manager and the security o Statem maintenance o Statem maintenance o Admini Luppot						
o LLDP Config o DHCP Soner Config Route Management o System maintenance o Lupout Imp Index Sone Sone Sone Sone Sone Sone Sone Sone						
o DHCP Server Config Route Manage Network security Control Management System meinternance System meinternance Aumo Mano Control Management Control Managemen						
Route Management System maintenance admin Lopost						
Network socurity Extand Management System maintenance admin Logost TotelPage , 20 erbys per page						
Extand Management						
System maintenance Auro Auro OK K K K K K K K K K K K K K K K K K K						
Jung OK K K K K K K K K K K K K K K K K K K						
Jump OK C C 1 2 2 Total Page , 20 entitys per page						
	admin I Logout	Jump OK			« < 1 > »	TotalTPage , 20 entrys per page

Vlan Apply

Group Apply

Managed Switch		00000	860	000	0			🕀 Englist 💌
	~	800000	0000	0000	• •			Save
	~		inage / MLD-snoop					
	~							
		Add						c
		Vlan ID	Fast-le	ave	Query inter	val	Query source	handle
					Addvlan		×	
					Vian ID			
					Fast-loave	cope:1-4094 D		
					Query interval	0 nit: Seconds scope:2-1800, Default:60		
					Query source	eg:2000::2		
						Apply Return		
	~							
	~							
	~							
	~							
		Jump						Total1Page , 20 entrys per page
admin I Logo	out							

Static IP multicast

Managed Switch		🏶 Enalist 🔻
System Manage 🛛 🗸 🗸		E Save
Interface Manage 🛛 🗸	Current Position : Business Manage / MLD-strooping Config	
Business Manage	MLD-snoeping Config GroupApply VlanApply Static IP multicest	
O VLAN Config	Add	C
o MAC Config	SerialNumVIan ID Multicast source Multicast addr Port list	handle
O Spanning-tree Config	AddStatic P millioat Y	
o ERPS-Ring Config		
O L2 mcast-config	Ven D scope1-4094	
O MLD-snooping Config	Multicast source eg2000-2	
O QOS Config	Multicast addr eg:#02:1	
O LLDP Config	Gge1/1 Gge1/2 Gge1/3 Gge1/4 Gge1/5 Gge1/6 Gge1/7 Gge1/8	
O DHCP Server Config	Pert list @ge1/19 @ge1/10 @ge1/11 @ge1/13 @ge1/14 @ge1/15 @ge1/16	
Route Manage 🗸 🗸 🗸	llige1/17 / llige1/18 llige1/19 llige1/20 llige1/22 llige1/22 llige1/23 llige1/24 llige1/24 llige1/25 llige1/25 llige1/26 llige1/27 llige1/28 select All	
Network security 🗸 🗸	Add Return	
Extend Management V		
System maintenance 🛛 🗸 🗸		
		Total1Page , 20 entrys per page
admin Ecogout		

5.3.7 QOS Config

QOS (Quality of Service): For network services, the quality of service includes the bandwidth of transmission, the delay of transmission, the packet loss rate, etc. in the network, the quality of service can be improved by guaranteeing the bandwidth of the transmission, reducing the transmission delay, reducing the packet loss rate and the delay jitter.

Global config

SP: Strictly prioritize and implement the first-in-first-out principle. The default is strict priority and no configuration is required.

WRR: The weighted queue scheduling in wrr is the same as the weight of a packet with a length of 1518 frames and 64 frames, which may result in unfair scheduling, and the data of all large packets will take up more bandwidth.

DRR: bite schedules weighted, that is, regardless of the size of the frame, eventually scheduling at the data rate.

Managed Switch	00000	8 8 9 9 8 8 8	🏶 Englist 💌
	000000		E Save
	Current Position : Business Mar	wgo / QOS Config	
	Global Config Port Co	annig	
	Policy	SP OWRA ODRA Appy	
	Weight	WD: W1: W2: W3: W4: W5: W6: W7:	
		Set up class-of-service policy and corresponding weights and delay	
O ERPS-Ring Config	COSCos map queue	COS 0 + -> Queue 0 + AppAy	
		Map packet to special quoue according to cos.	
	Current map	0->0 1->1 2->2 3->3 4->4 5->5 6->6 7->7	
	DSCPCos map queue	DSCP 0 • -> New DSCP 0 • -> COS 0 • Apply	
		Define a mapping for diffuery code points	
	Current map		

Port Config

The direct port corresponds to the configuration cos value and selects the priority of the current port. Global configuration to modify the scheduling policy to the corresponding WRR or DRR mode.

Managed Switch		0000	0 1 8 6 7 1 8 8 8 9	🕀 Englist 🔹
	~	8000		Save
	~	Current Position : B	Business Manage / QOS Config	
	^	Global Config	Port Config	
		Apply		c
		Port	Default COS	
		*	• •	
o ERPS-Ring Config		ge1/1	0 ¢	
		ge1/2	0 \$	
O MLD-snooping Config		ge1/3	0 \$	
		ge1/4	0 \$	
		ge1/5	0 🗢	
		ge1/6	0 \$	
	~	ge1/7	0 🗢	
	~	ge1/8	0 🗢	
	~	ge1/9	0 🗢	
	~	ge1/10	0 ¢	
		ge1/11	0 🗢	
		ge1/12	0 🗢	

5.3.8 LLDP Config

The link layer discovery protocol (LLDP) is a vendor independent two level protocol, which allows network devices to notify their device identities and performance in the local subnet.

Open the protocol configuration parameter in the global configuration, fill in the management IP address through port configuration, and view the information in the LLDP neighbor.

Managed Switch		00000	<u>(1)</u> (8) (6)	0 10 10 10 10 10	9 0	🐥 Englist 🔹
System Manage	. **	00000				Save
Interface Manage	~	Current Position : Businer	ss Managa /	LLDP Config		
Business Manage	^	Global Config Po	ort Config	LLDP Neighbors		
O VLAN Config		LLDP		🔿 Enable 🧿 Disat	de .	
O MAC Config		Send cycle		30	scope 5-65535, Default 30	
O Spanning-tree Config		Hold Time		120	scope/5-65535, Default 120	
O ERPS-Ring Config		Send interval		2	scope2-5, Default2	
O L2 mcast-config		Reinit delay		2	scope 2-5, Default/2	
O MLD-snooping Config		TLV Optional to se	end	Management ad	drass 🗹 Port description 🗹 System property 🗹 System description 🗹 System name	
O QOS Config				Apply Refre	n	
O LLDP Config						
O DHCP Server Config						
Route Manage	~					
Network security	*					
Extend Management	~					
System maintenance	÷					
admin Lon	614					

Managed Switch		1 8 8 7	9 11 13 19 19 1	00000		🕀 Englist
	~					💾 Save
	~	Current Position : Bus	iness Manage / LLDP Con	fig		
	^	Global Config	Port Config LLDP I	Veighbors		
		Apply				c
		Port	Send	Receive	Management address	
		*	• •	• •	*	
		ge1/1				
		ge1/2				
		ge1/3				
		ge1/4				
		ge1/5				
		ge1/6				
	~	ge1/7				
	~	ge1/8				
	~	ge1/9		~		
	~	ge1/10				
		ge1/11				
admin Logo:	ut	ge1/12				

Managed Switch

ERPS-Ring Config	

Capability Codes:							
(R)Router,(B)Bridge,(C)DOCSIS (W)WLAN Access Point,(P)Rep	Cable Device,(T)Telephone eater,(S)Station,(O)Other						
C							
SarialNumDavice ID	Chassis_ID	management	Local interface	Vlan	Hold Time	Port ID	Capabilit

5.3.9 DHCP Server Config

A computer DHCP server that manages the DHCP standard in a particular network is responsible for assigning IP addresses when a workstation logs in. And make sure that the IP address assigned to each workstation is different and that the DHCP server greatly simplifies some of the network management tasks that previously needed to be done manually.

DHCP POOL CONFIG

Default gateway: A configuration item for the TCP/IP protocol that is the IP address of a directly reachable IP router.

Domain server, Name server: Converting a domain name into an IP address that can be identified by the network.

NetBIOS Server: The correspondence between Host name and IP in LAN.

Managed Switch		# Englist +
		Save
	Current Pasition - Business Manage / CHCP Server Config	
	DHCP Pool Config Leases List Static Leases Config Port Bind Config	
	DHCPSanica Enuble Activ	
	AddrHCP Pool Contig	с
	Pool name Subnet mask Lease time Default gateway Name server Domain server NetBIOS Server	handle
	AddDHCP Pool Config X	
	Pool name Imrgift:18	
	Submet mask	
	Less time Dev 0 C Hours	
	Default gateriary	
	eg 192.188.0.1	
	Domain server	
	NardBOG Server	
	Add Return -	

LEASES LIST

Display Leases list



STATIC LEASES CONFIG

The DHCP server administrator manually specifies an IP address and passes it over the DHCP protocol to the client for use.

Managed Switch		6 0	🖶 Englist =
System Manage 🛛 🗸 🗸	000000000000		E Save
Interface Manage 🛛 🗸	Current Position : Business Manage / DHCP Server Config		
Business Manage	DHCP Pool Config Leases List Static Lease		
O VLAN Config	Add		c
o MAC Config	SerialNum IP address	MAC address DHCP Pool	handle
O Spanning-tree Config		Add Static DHCP Config X	
O ERPS-Ring Config		DHCP Pool +	
O L2 mcast-config		IP addross	
O MLD-snooping Config		eg:192.168.0.1 MAC address	
O QOS Config		Format: MMAMAMAMAMAMAMAM	
O LLDP Config			
O DHCP Server Config			
Route Manage 🛛 🗸 🗸			
Network security 🗸 🗸			
Extend Management 🛛 🗸			
System maintenance 🛛 🗸			
	Jump		Total1Page . 20 entrys per page
admin I Logout			

PORT BIND CONFIG

Bind a port to an IP address that can only be used on that port by binding an IP address.

Managed Switch		0 8 8 9 9	11 (3 (5 (0 0 0 0 0					🏶 Englist 👻
	~	00000	000						Save
	~		ss Manage / DHI						
	~								
		Add							C
		DHCP Pool	1	Port	IP address				
					AddPort Bind Co	nfig	×		
					DHCP F	Pool			
						Port ge1/1 🜩			
					IP add	ress			
						Add Return			
	~								
	~								
	~								
	~								

5.4 Route Manage

In the network, the router selects a suitable path according to the destination address of the received packet, and forwards the message to the next router. The last router in the path is responsible for forwarding messages to the destination host. Routing is the path information in the process of forwarding a message, which is used to direct the forwarding of a message.

5.4.1 L3 interface

A switch virtual interface corresponds to a VLAN, when it is necessary to route traffic between virtual Lans or non-routing protocols between bridging VLAN, and to provide connections between IP hosts to the switch. You

need to configure the corresponding switch virtual interface for the corresponding virtual local area network.

Managed Sw	itch	0000	8 📵 🛛 🕞 🕼	• • • • • •					🏶 Englist 👻
	×	0000							🖹 Save
	÷	Current Position : Ros	ute Menage / L3 Interfa	100					
	÷	AddInterface							C Apply
	~	Interface	Enable	Status	Mode	IP address	Description	handle	
		vlanif1		Up	static	192.168.1.254/24 192.168.0.254/24 192.168.2.254/24		1 C	
						100.100.4.009/ E9			
	~								
	×								
	÷								
	PROVIDE	Jump	ж			«« « 1 » »»		1	otal1Page , 20 entrys per page

Managed Switch		00000	9 0 0 0 0 0 0 0 0	19 0 0 0 0 0 0 0 0 0 0					🏶 Englist 👻
	~				,				E Sava
	×.		ia Microge / L3 Interfac	2)					
		Addinterface							C Apply
	~	Interface	Enable	Status	Mode	IP address	Description	handle	
		vlanif1	2	Úp.	static	192.168.1.254/24 192.168.0.254/24 192.168.2.254/24		1 G	
					Addinterface		×		
					Interface Name Manif	<1-4094>			
					IP address agr10	1.1.0/24 or 2000:3/64			
					Ad	d Return			
	*								
	~				_		_		
Nadmin I Lóg	ō.t	Jump	2					1	platiPage , 20 minys per page

Managed PoE Switch	00000		🕀 Englist
System Manage			🖹 Save
Interface Manage	ModifyInterface		
Business Manage	Interface Name	vlanif1 vlanif<1-4094>	
Route Manage			
O L3 interface		192.168.2.1/24 Delete	
O Show route		192.168.0.57/24 (Delete	
O Static Config	IP address	eg:10.1.1.0/24 or 2000:3/64	
O ARP Config		Add Return	
Network security			
Extend Management			
System maintenance			
admin			

5.4.2 show route

Display switch internal routing information.

Managed Swi	tch	000	0 11 8 6 0 19 8	0 0 0				😤 Englist 👻
System Manage		2 4 5 6		8 8 8				🖹 Save
Interface Manage		Current Position :	Route Manage / Show route					
Business Manage		Codes: K – kernel ro	ite, C – connected, S – static, R – Ri	IP, O – OSPF, I – IS–IS, B – BGP, J	A - Babel, > - selected	route, * – FIB route		
Route Manage		SerialNum	Destination	Mask	Mark	Gateway	Output port	
O L3 interface		1	192.168.0.0	24	C>*		vlanif1	
O Show route		2	192.168.1.0	24	C>*		vlanif1	
O Static Config		з	192.168.2.0	24	C>*		vlanif1	
O RIP Config		4	239.255.255.250	32	K>*		vlanif1	
O OSPF Config								
O VRRP Config								
O ARP Config								
Network security								
Extend Management								
System maintenance								
			-		_			
admin		Jump	OK		~~	< 1 > >>		Total1Page , 20 entrys per page

5.4.3 Static Config

Static routing is a special route that is manually configured by the administrator. After configuring static routing, the data message to the designated destination will be forwarded according to the administrator's specified path.

Managed Swit	tch	00000000000	0000				4 Fraint -
System Monage		0000000000	0000				E Save
Interface Manage							
Basiness Manage		Add static route					с
Route Manage		SerialNum Destination prefix	Mask	Gateway	Distance	handle	
O L3 interface			Add static n	oute	×		
O Show route			Destinatio	on prefix			
O Static Config				eg:10.1.1.0/24			
O RIP Config) i i i i i i i i i i i i i i i i i i i	eg:20.1.1.3			
O OSPF Config			, C	Sistence 1 scope 1-255			
O VRRP Config				Add Return			
O ARP Config							
Network security							
Extend Management							
System maintenance							
		Jump OK					Total1Page , 20 entrys per page

5.4.4 RIP Config

The Routing Information Protocol (RIP) is one of the most widely used Interior Gateway Protocols (IGPs). (IGP) is a routing protocol used on the internal network (in a few cases, it can also be used to connect to the Internet), which can dynamically adapt the router to changes in network connectivity by continuously exchanging information, including Which networks can be reached by routers, how far these networks are, and so on. The RIP protocol uses broadcast or multicast for routing updates, where RIPv1 uses broadcast and RIPv2 uses multicast.

RIP global configuration

Overall configuration of the RIP routing protocol

Managed Swit	tch	1 3 5 7	9 11 13 15 17	0 9 8 9 9	db market
		2468	00006	® ® ® ® ®	Save
		Current Position : R	oute Manage / RIP Conf	9	
		RIP Global Conf	RIP network set	ing	
		RIP Enable			
O L3 interface		RIP version	v1&2 🗢		
		Distribute	~	Distribut default route	
O Show route		metric	1	1-16,Default:1.	
O Static Config		passive		Restrain route Interface	
		Update	30	Update timer of RouteTable.5-2147483647,Default:30.	
O OSPF Config		Timeout	180	RouteInfo timeout.5-2147483647,Default:180.	
O VRRP Config		LOOP	120	Collection Timer of reclaim .5-2147483647,Default:120.	
		Redistribute	Connected Static	Direct linj Static route setting	

RIP network configuration

Display Layer 3 interfaces and add RIP routes

Managed Switch		A Englist =
		Save
	Current Position : Route Menage / RIP Config	
	RIP Global Config Addinterface X	
	Addinterface C ©Network / eg:10.1.1.0/24	Apply
	Interface vianif1 + Interface choice type Auth character	
	vlanif1 RIP	
	network/interface:	
	Add Delete	
admin Logout		

5.4.5 OSPF Config

OSPF (Open Shortest Path First) is an Interior Gateway Protocol (IGP) that is used to determine routes within a single autonomous system (AS).

OSPF global config

Enable OSPF and specify the route ID.

Managed Switch		
	8 8 8 0 1 8 6 6 8 2 2 8 8	👫 Englist 🔻
	Current Position: Route Manage / OSPF Config	
	OSPF global Config OSPF network Config	
	OSPF Enable	
O L3 interface	RouteID 0.0.0.1 Format of OSPF's routeID,like Ip address	
O Show route	Redistributeredistribute 🗹 Connected 🗹 Static 🗹 RIP	
O Static Config	Apply Refresh	
O RIP Config		
O VRRP Config		
admin Logout 192.168.2.254/u.cgi?next_file=ospfil		

OSPF network config

Specify the area of the network

Managed Switch		Englist 🔻
System Manage 🛛 🗸 🗸 🗸 🗸 🗸 🗸 V	●	Save
Interface Manage 🛛 🗸	Current Position : Route Manage / OSPF Config	
Business Manage 🛛 🗸	OSPF global Config OSPF network Config	
Route Manage 🔷 🔨	OSPF network Config	
O L3 interface	Network eg:10.1.1.1/24 Area / eg:0-4294967295	
O Show route	OSPFNetwork: 192.168.2.13/24 area 429496	
O Static Config	Add Delete	
O RIP Config	Apply	
O OSPF Config	Interface Network Cost Hello Interval Dead Interval Priority Auth type Auth char	acter
O VRRP Config	vlanif1 broadcast	
admin Logout		

5.4.6 VRRP Config

VRRP (Virtual Router Redundancy Protocol) is a fault-tolerant protocol. Generally, all hosts in a network are configured with a default route. Therefore, packets sent from the host with the destination address not on the local network segment are sent to the router RouterA through the default route. This implements communication between the host and the external network. When the router RouterA is faulty, all hosts on the local network segment that use RouterA as the next hop of the default route will be disconnected from the external network to generate a single fault.

Managed Switch				0
System Manage 🛛 🗸 🗸 🗸 🗸 🗸 🗸 🗸				🖶 Englist 👻
Interface Manage 🛛 🗸 🗸 🗸 🗸 🗸 🗸 🗸	Current Position : Route Ma			A
Business Manage 🛛 👻	Interface vlanif1 Add VRRP			C 🗷
Route Manage 🔷 🔨	VRID 1 scope:1-255			
O L3 interface	Interface VRID Virtual IP 192.168.2.250 Virtual IP	reempt	Dealy of preempt	handle
O Show route	vianif1 1 Broadcast Interval time 1 scope:1-10 Seconds	nable	10	D
O Static Config	Priority 100 scope:1-254, Default:100			
O RIP Config	Preempt 🧿 enable 🗌 disable			
O OSPF Config	Dealy of preempt scope:0-1000 Seconds			
O VRRP Config	Add			
admin Logout				

5.4.7 ARP Config

ARP (Address Resolution Protocol) is a TCP/IP protocol for obtaining physical addresses based on IP addresses. When the host sends the information, it broadcasts the ARP request containing the target IP address to all hosts on the network, and receives the return message to determine the physical address of the target. After receiving the return message, the IP address and physical address are stored in the local ARP. The cache keeps a certain amount of time, and the next time the request is made, the ARP cache is directly queried to save resources. The address resolution protocol is based on the mutual trust of each host in the network. The host on the network can send ARP reply messages autonomously. When other hosts receive the response message, they will not detect the authenticity of the message. Enter the local ARP cache;

Show ARP

Display arp information

Managed Switch	i	000000000	0 🐵 4 4 4 4					# Englist
System Manage	~	00000000	00000					😫 Save
Interface Manage	~	Current Position : Route Manage / ARP C	lonfig					
Business Manage	~	show ARP Static ARP ARP (Config					
Route Manage	~	¢ Clear		24-1	7	100	handa	
O L3 interface		192 168 0 1	MAC 08-00-12-34-58-58	output port	Type Dyn	Are age-time	nandie fil	1
O Show route		192.168.0.13	74:d4:35:48:9c:11	vlanif1	Dyn	0	e	
O Static Config		192.168.0.15	08:94:61:54:82:24	vlanif1	Dyn	0	â	
O PIP Confin		192.168.0.16	dD:50:99:e8:80:7f	vianif1	Dyn	D	â	
O Hir comig		192.168.0.22	f8:0f:41:ab:4f:00	vlanif1	Dyn	0	â	
O OSPF Config		192.168.0.27	e8:4e:06:38:4e:e0	vlanif1	Dyn	0	會	
O VRRP Config		192.168.0.36	f8:0f:41:ab:4f:46	vlanif1	Dyn	0	a	
O ARP Config		192.168.0.38	30:b4:9e:5a:9b:2e	vlanif1	Dyn	0	1 1 1	
Notwork san title		192.168.0.39	9c:5c:8e:72:1d:6b	vlanif1	Dyn	0	â	
		192.168.0.40	b8:ee:65:95:8b:51	vlanif1	Dyn	0	會	
Extend Management	*:	192.168.0.41	10:7b:44:91:5e:5a	vlanif1	Dyn	0	會	
System maintenance	~	192.168.0.42	30:b4:9e:c9:3f:5e	vtanif1	Dyn	0	畲	
		192.168.0.43	bc:ee:7b:73:e8:4e	vlanif1	Dyn	0	1 Alian Alia	
		192.168.0.44	f8:32:e4:76:d9:46	vlanif1	Dyn	D	1 1	
		192.168.0.46	f8:32:e4:76:d6:f6	vlanift	Dyn	0	ê	
		Jump		4< 4 1 2 3	> >>		Tot	al3Page , 20 entrys por page

Static ARP

Add and display static ARP tables.



ARP config

Configure aging time based on dynamic ARP.

Managed Switch	l.	000000000	6 0 9 8 8 9			🕀 Englist 💌
System Manage		0000000	••••••			Save
Interface Manage		Current Position : Route Manage /	ARP Config			
Business Manage		show ARP Static ARP	ARP Config			
Route Manage		Interface	ARP age-time(Seconds)	Arp-proxy		
O L3 interface		vlanif1	600			
O Show route		Apply Refresh				
O Static Config		timeout: Min is 30, max is 3	2147483647, default is 600 seconds.			
O RIP Config						
O OSPF Config						
O VRRP Config						
O ARP Config						
Notwork security						
Extend Management						
System maintenance						
admin: I Lo	jout					

5.5 Network Security

5.5.1 Access Control

Only devices that conform to the access rules can access the switch. Configure access rules before you configure them.

Managed Switc	h	00000	36000			🏶 Englist 💌
System Manage	~	84680 00	B 6 6 0 0 0 0 0 0 0			Nove Save
Interface Manage	~	Current Position : Network securi	ty / Access Control			
	~	Configure access policy , o	lefault is disabled, If specify allowed, all he	ost which not matched rule list will be forbidden. Please	e add rule list first.	
Route Manage	~	 Disable IP listed below, allowed 	access this device.			
Network security	^	IP listed below, forbidde	n access this device.			
O Access Control		Apply				
O Attack protection		Add				C
O ACL Config		SerialNum	IP address	Service	handle	
O Traffic monitor						
O Alarm-config						
O 802.1x Config						
Extend Management	~					
System maintenance	~					
		Jump		«« « <mark>1</mark> »	>>	Total1Page , 20 entrys per page
admin Lu	ogout					

5.5.2 Attack protection

It mainly includes ping packet dos attack, and CPU receive packet threshold setting.

Managed Switch	1	00000000000	9 8 8 8 9		🏶 Englist 💌
System Manage		000000000000			🖹 Save
Interface Manage		Current Position : Network security / Attack pro	tection		
Business Manage		Ignor PING	C Enable O Disable	Ignore local device PING	
Route Manage		SYN DOS ATTACK	C Enable O Disable	TCP SYN ATTACK protection	
Network security		CPU receive threshold	0 pps	scope:0-100000 (default is 0 , no rate limit)	
O Access Control			Apply Refresh		
O Attack protection					
O ACL Config					
O Traffic monitor					
O Alarm-config					
o 802.1x Config					
Extend Management					
System maintenance					
admin I Log	gout				

5.5.3 ACL Config

ACL (Accesss Control List) Is a collection of one or more rules used to identify message flows. A rule is a judgment statement that describes the matching conditions of a message. These conditions may be the source address, destination address, port number, etc., of the message.

ACL GROUP CONFIG

Select the port to execute and the corresponding rule ID to execute.



MAC ACL CONFIG

Mac acl to discard or forward the message according to the source mac address and the destination mac address of the message. The greater the value of the rule ID, the higher the priority.

Managed Switc	00000	• • • • • • •					🏶 Englist 💌
	00000		00000				Save
	Current Position : Netwo						
	ACL GROUP Config		IP ACL Config				
	AddGroup A	ddRule					c
	Group ID	RuleiD	ACTION	EtherType	SourceMAC DestMAC	SourcelP DestIP	Time-Range
			Add MAC) Group	×		
				Group ID scope 1-99	-		
				Add Delete			

Add MAC Rule	×
Group ID	\$
RuleID	
	scope:1-127
ACTION	deny 🗢
SourceMAC	
DestMAC	
	If no Input, anything is valid
ETHER type	Format:0xHHHH
SourcelP	
DestIP	
	format:A.B.C.D or any
Rate	Burst
	scope::64-1000000 kbps. Only for policer
Time-RangeName	÷
	Add Delete

IP ACL CONFIG

IP MAC based on message protocol, source IP address, source mask, source port number, destination IP address, destination mask and entry To discard or forward a message by its port number.



Add IP ACL Config			×
Apply Group			
Group sco	ope:100–999 Add	Delete	1
rule Config			
Group ID	÷	scope:100-999	
RuleID		scope:1-127	
ACTION	deny 🗢	ACTION	- 1
protocol	any 🗢	ACTION	
SourceIP		format:A.B.C.D or any	- 1
SourceMask		format:A.B.C.D or any	- 1
SourcePort		scope is 0-65535,any port if no input	
DestIP		format:A.B.C.D or any	
DestMask		format:A.B.C.D or any	
DestPort		scope is 0–65535,any port if no input	
Time-RangeName	₽ \$	any time is valid if no input	
	Add Delete		,

5.5.4 Traffic monitor

The traffic monitoring here is mainly in snmp. For a certain port traffic exceeding the set value trap will automatically send traffic excess information for remote management and monitoring.

Managed Swit	.ch	000000	000000			Second a
System Manago		000000	0000000			E Save
Interface Manage						
Business Managa		Add				c
Pisute Manage		Port	Direction	Rate	handle	
Network encurity			Add Traffic monitor		×	
O Access Control			Ege1/1 Ege1/2	Oge1/3 Oge1/4 Oge1/5 Oge1/6 O	ge1/7 @ge1/8	
O Attack protection			Port Ege1/9 Ege1/10	Bge1/11 Bge1/12 Bge1/13 Bge1/14 Bg	ge1/15 IIge1/16	
O ACL Config			Bge1/17 Bge1/18 Exe1/25 Exe1/26		ge1/23	
O Traffic monitor			Direction ingress +			
O Alarm-config			Rate-config			
O 802.1x Config			Add Return			
Extend Management						
System maintenance						
Vidmini I						

5.5.5 Alarm-config

By default, the alarm is turned off. When the system alarms, the CPU exceeds the set value and the message is displayed at the alarm.

Managed Switch	1		🕀 Englist 💌
System Manage			💾 Save
Interface Manage		Current Position : Network socurity / Alerm-config	
Business Manage		System alarm Link alarm	
Route Manage		Enable	
Network security		CPU 0 % scope 30-100, Send alarm while overload threshold.	
O Access Control		Memory 0 % scope:30-100	
O Attack protection		Power	
O ACL Config		CPU usage 0.9%	
O Traffic monitor		Aarm	
O Alarm-config		Apply -	
O 802.1x Config			
Extend Management			
System maintenance			
admin Log	gout		

5.5.6 802.1x config

The 802.1x protocol is a port-based access control and authentication protocol. The port referred to here is a logical port, which can be a physical port. The switch implements a port-based 802.1x protocol.

802.1x is a Layer 2 protocol. The authenticated switch and the user's PC must be in the same subnet. The protocol packet cannot span the network segment. 802.1x authentication uses a model of the client server, and there must be one server to authenticate all users.

Managed Switch	00000	60000000		4 Englist -
	8868088	6 6 8 8 8 9		🖶 Save
Network security ^	Clarent Position : Network security /	Llear Config		
O Access Control	Global Coning	User Comig		
O Attack protection	Apply			C
O ACL Config	802.1x auth Config			
O Traffic monitor	Mode	🔾 Enable 💿 Disable		
	Radius server	🔿 Remote 💿 Local		
O Alarm-config	reauth-period	30	unit: Seconds scope: 1~65535	
O 802.1x Config	Radius server Config			
Extend Management 🗸 🗸 🗸 🗸 🗸 🗸	IP address	127.0.0.1		
System maintenance 🗸 🗸	Port	1812	scope:1~65535	

Managed Switch	• • • • • • • • • • • • • • • • • • •	4 b c c c
Route Manage 🛛 🗸 🗸	6 6 6 0 12 13 13 13 13 13 13 13 13 13 13 13 13 13 	🖶 Englist 🔻
	Current Position : Network security / 802.1x Config	·
	Global Config Port Config User Config	
O Access Control	Apply	c
 Attack protection 	Port Enable Auth mode	
O ACL Config	* * • •	
O Traffic monitor	oe1/1 Auto €	
O Alarm-config		
O 802.1x Config		
Extend Management 🛛 🗸	ge1/3 Auto •	
System maintenance 🗸 🗸	ge1/4 Auto ≑	
admin Logout	ge1/5 Auto 🗢	
	and 1/2 Andre A	Ŧ
Managed Switch		
		♣ Englist ▼
Route Manage 🛛 👻	Current Poetition : Network security / 802.1x Config	🏶 Englist 👻
Route Manage 🛛 🗡	Q Q	券 Englist ▼
Route Manage × Network security Access Control	Current Position : Network security / 802.1x Config Global Config Port Config AddUser	t Englist ▼
Route Manage > Network security > O Access Control O Attack protection	Current Pacifion : Network security / 802.1x Config Global Config Port Config Add User name	t Englist ▼ Sove
Route Manage Natwork security O Access Control O Attack protection O ACL Config	Current Position : Network security / 802.1x Config Global Config Port Config Add User name Password Password	♣ Englist ▼ Sove
Route Manage > Network security > Access Control Attack protection Attack config Traffic monitor	Current Pesition : Network security / 802.1x Config Global Config Port Config AddUser X Add User name Password Auth type md5 ¢	t englist ♥ Save
Route Manage > Network security > O Access Control O Attack protection O ACL Config O Traffic monitor O Alarm-config	Current Position : Network security / 802.1x Config Global Config Port Config AddUser x Add User name Password Password Auth type md5 ÷ Add Retum	t Englist ▼ Save
Route Manage Natwork security O Access Control O Attack protection O ACL Config O Traffic monitor O Alarm-config O 802.1x Config	Current Position : Network security / 802.1x Config Global Config Port Config AddUser X Add User name Password Password Auth type md5 • Add Return	t € Englist ♥
Route Manage > Network security > Access Control Attack protection ACL Config Traffic monitor Alarm-config 802.1x Config	Current Position : Network security / 802.1x Config Global Config Port Config AddUser rame Password Auth type md5 ÷ Add Retum	t englist ▼ Save
Route Manage Network security O Access Control O Attack protection O ACL Config O Traffic monitor O Alarm-config O 802.1x Config Extend Management System maintenence	Current Position : Network security / 802.1x Config Global Config Port Config Liser name Passwort Password Auth type md5 ÷ Add Return	t Englist ← Sove
Route Manage > Network security > Access Control Attack protection Attack protection ACL Config Traffic monitor Alarm-config B02.1x Config Extend Management > System maintenance >	Current Position : Network security / 802.1x Config Global Config Port Config User name Passwort Passwort Auth type md5 • Add Return	t englist ← Save

5.6 Extend management

5.6.1 ONVIF Config

The ONVIF specification describes the models, interfaces, data types, and patterns of data interaction for network video. The goal of the ONVIF specification is to implement a network video framework protocol that enables network video products (including video front ends, video recording devices, etc.) produced by different vendors to be fully interoperable.

ONVIF devices

Discover ONVIF devices and list information about the device.

Managed Switch	I	0 8 6 7	8 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19				🕀 Englist 💌
System Manage		2468	••••••••				E Save
Interface Manage		Current Position : Ex	tend Management / onvif-config				
Business Manage		ONVIF devices	ON/IF NVT				
Route Manage		C Discover	ν				Clear offline Clear all
Network security		IP	MAC	Model/Name	Local	Port	Status
Extend Management							
O POE-config							
O ONVIF-config							
O QINQ-config							
O GMRP-config							
O Time Range Config							
System maintenance							
		Jump	ок	« < 1 > »			Total1Page , 20 entrys per page
admin I Log							

ONVIF NVT



5.6.2 QinQ-cofig

QinQBy encapsulating the outer layer of VLAN Tag for the user's private network packets on the operator's network edge device, the message carries two layers of VLAN Tag across the backbone of the operator's network (public network).

QinQ can be divided into two categories: basic QinQ and flexible QinQ:

basic QinQ

The basic QinQ is implemented in port mode. After the basic QinQ function of the port is turned on, when the port receives the message, the device will type the VLAN tag of the default VLAN of the port for the message. If a message has been received with VLAN Tag, it becomes a message of double Tag; if it is received without VLAN Tag, it becomes a message with port default VLAN Tag.

flexible QinQ

In addition to implementing all basic QinQ functions, messages received on the same port can also act differently according to different VLAN:

Add a different outer layer VLAN Tag for a message with different inner VLAN IDs;

The 802.1p priority of the outer VLAN message is marked according to the 802.1p priority of the original inner VLAN of the packet;

The inner user VLAN ID can be modified while the outer VLAN Tag is added.

TPID is a field in VLAN Tag that represents the protocol type of the VLAN Tag

Managed Switch		00000	0 0 0 0 0 0 0 0 0 0			🕀 Englist 👻
System Manage	~	000000	0000000000			🖺 Save
Interface Manage	~	Current Position : Extend Mar	nsgement / QINQ-config			
Business Manage	~	Apply				c
Route Manage	~	Port	Mode	ACTION	TPID	
Network security	~	*	•	• •	*	
Extend Management	^	ge1/1	None	None 🗢	0x8100	
O POE-config		ge1/2	None	None 🗢	0x8100	
O ONVIF-config		ge1/3	None ●	None 🗢	0x8100	
O QINQ-config		ge1/4	None	None 🗢	0x8100	
O GMRP-config		ge1/5	None 🗢	None 🗢	0x8100	
O Time Range Config		ge1/6	None	None	0x8100	
System maintenance	~	ge1/7	None	None 🗢	0x8100	
		ge1/8	None	None 🗢	0x8100	
		ge1/9	None •	None •	0x8100	
		ge1/10	None •	None •	0x8100	
		ge1/11	None 🗢	None 🗢	0x8100	
		ge1/12	None	None	0x8100	
admin Logo	out	ae1/13	None	None	0x8100	

5.6.3 Time Range Config

New time schedule for other functions



New time schedule

Managed Switch	2	00000000	0 0 0 0 0			🏖 Englist 💌
		00000000	000000			E Sava
			Time Range Config			
		Add Time				c
		Name	Time		handle	
			Arid Time-Banna			
				^		
			Time-RangeName	sbsolute O Cycle		
			Start	00:00 2018/01/01		
			Time	00:00 - 23:00		
			Week	≪Mon ≪Tue ≪Wed ≪Thu ≪Fri ≪Sat ≪Sun		
				Add		
admin. I Log	801					

5.7 System maintenance

5.7.1 Log Config

Logs can be uploaded via the tftp server.

Managed Switch		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	🕀 Englist 🔻
System Manage	~		💾 Save
Interface Manage	~	Current Position : System maintenance / Log Config	
Business Manage	~	log upload	
Route Manage	~	TFTP server	
Network security	~	File name the name of the stored file on the server	
Extend Management	~	Upload	
System maintenance	^		
O Log Config		Log-infomation	
O Diagnosis		1970/01/01 00:00:00 HSH: lowbarg b150 PH2280TM noc 1970/01/01 08:00:13 HSH: Unit 0: Chip=80186151 A0 Dew=Oub151 Rev=Ou01	î.
O NTP Config		1970/U/U 0500121 Basit Ros VetTry 20 1970/U/U/D 0500121 BETE Board verification OK 1970/U/U/D 0500121 EZERA: vlamii f changes to UP 1970/U/U/D 0500121 EZERA: vlamii f changes to UP	
O Reboot		1970/01/01 08:00:19 6:3Hz #pt/11 is up 1970/01/01 08:00:19 4WB: shain login from 192.168.2.55 1970/01/01 08:00:29 WB: shain login from 192.168.2.55: en	
O Firmware		1970/01/01 0844422 WB: sdmimBH2:108.255: ippg_clear_couptingroupsin 1970/01/01 09:02:09 IEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE	
		19700/010 0900109 WBC: shaming/21.082, 2051 Interface_gambabershami1 19700/010 09005000 WBC: shaming/21.082, 2051 / unitfalialitationality [18, 18, 24/24/dec)192, 168, 0, 256/24/dec)192, 168, 2, 256/24/dec)14; 19700/01/01 0905500 UBC: shamily 1:062, 2051 / unitfalialitationality [18, 18, 24/24/dec)192, 168, 0, 256/24/dec)14; 19700/01/01 0905500 UBC: shamily 21, 2051 / Statisface additadic/Lanasevia.unitf	
		1970/01/01.004/053179 WBE: admini922; 182; 255: 1:vin.mf184 [Matratia192; 184: 1.254/24 Orl92; 186: 0.254/24 Orl92; 188: 2.254/24 Orl82: 1970/01/01:004/05317 WBE: admini92; 182; 255: 1:terfox_add#add=2kmamerst 1970/01/01:004/05317 WBE: admini92; 182; 255: 1:terfox_add#add=2kmamerst 1970/01/01:004/05317 WBE: admini92; 182; 255: 1:terfox_add#add=2kmamerstantf1 1970/01/01:004/05317 WBE: admini92; 182; 255: 1:terfox_add#add=2kmamerstantf1	
		1970/01/01 11-d1-15 6/30 # we1/11 i e um.	×

5.7.2 Diagnosis

Managed Swi	tch	000000	••••••		🏶 Englist 🔻
		000000	•••••		E Save
		Current Position : System mainte	mance / Diagnosis		
		Cable Diag	This may take a few seconds.		
			Test		
		PING		eg:182.168.1.1, 2000:1	
			Test		
		TRACEROUTE		eg:192.168.1.1, 2000:1	
			Test		

Cable Diag

Detect the cable of each port, Unable to detect optical signal



PING

Ping packets can be exported through the switch, and only ping packets can be implemented in the same network segment.

Managed Switch		🐥 Englist 💌
		Save
Route Manage 🛛 🗸 🗸	Current Position : System maintenance / Diagnosis	
Network security 🗸 🗸	· • • • • • • • • • • • • • • • • • • •	
Extend Management 🗸 🗸	PING 192.168.2.13 (192.168.2.13): 56 data bytes 64 bytes from 192.168.2.13: seq=0 ttl=64 time=0.719 ms 64 bytes from 192.168.2.13: seq=1 ttl=64 time=0.735 ms 64 bytes from 192.168.2.13: seq=2 ttl=64 time=0.685 ms	
System maintenance \land	64 bytes from 192.168.2.13: seq=3 ttl=64 time=0.635 ms	
O Log Config	192.168.2.13 ping statistics 4 packets transmitted, 4 packets received, 0% packet loss round-trip min/avg/max = 0.635/0.693/0.735 ms	
O Diagnosis	Close	
O NTP Config		
O Reboot		
O Firmware		

Traceroute

Routing tracing can be done by ping path to facilitate testing whether the current route is correct.

Managed Switch	0 6 7 9 0 8 5 7 8 3 8 5	4 Englist
	2 Current Position : System maintenance / Diagnosis	Save
Route Manage 🛛 🗸	Traceroute	
Network security 🗸 🗸	traceroute to 192.168.2.13 (192.168.2.13), 30 hops max, 38 byte packets	
Extend Management 🛛 🗸	1 192.168.2.13 (192.168.2.13) 0.423 ms * 0.518 ms Finish!	
System maintenance \land	Close	
O Log Config		
O Diagnosis		
O NTP Config		
O Reboot		
O Firmware		
admin Logout		

5.7.3 NTP Config

Its aim is to transmit uniform, standard time on the Internet. The specific implementation scheme is to designate several clock source websites on the network to provide time service for users, and these websites should be able to compare with each other and improve the accuracy. It can provide high precision time correction and can be confirmed by encryption to prevent malicious protocol attacks.



5.7.4 Reboot

Switch software restart.



5.7.5 Firmware

Click on the firmware of the upgrade switch by selecting the path to the upgrade file.



5.9 Hardware Specifications

Model	24GE+4*10G SFP+
Standard	IEEE 802.3、IEEE 802.3u、IEEE 802.3ab 、IEEE 802.3z、IEEE 802.3x、IEEE 802.1X、IEEE 802.1q 、 IEEE 802.1p、 IEEE 802.1d 、 IEEE 802.1w、 IEEE 802.3ad
Interface	24*10/100/1000Mbps RJ45 port 4* 10G SFP+ Slots
Indicator	PWR、LNK/ACT、SYS
Network media	10BASE-T: UTP category 3,4,5 cable (≤100m) 100BASE-TX: UTP category 5, 5e cable (≤100m) 1000BASE-T: UTP category 5e, 5 cable(≤100m) 1000BASE-X: MMF, SMF 10GBASE-X: MMF, SMF
MAC Address Table	16K, Auto-learning, Auto-aging
jumbo frame	9216Bytes
Transfer Mode	Store-and-forward
Packet Forward Speed	95Mpps
Packet buffer	1.5MB
Switching Capacity	128Gbps
Dimensions(L*W*H)	440*260*44mm
Fan Quantity	Fanless
Green energy saving	IEEE 802.3az
Input Power Supply	12V/3A
Operating Temperature	0° C~40 ° C
Storage Temperature	-40 ° C ~ 70 ° C
Operating Humidity	10% ~ 90% non-condensing
Storage Humidity	5% ~ 90% non-condensing
МТВҒ	>100000 hour