



Manual N10GSM2C8

Rev 1.2

1. Product overview

1.1 Product features

1.1.1 High-density 10G access

Firstly, With the constant increase of demand on bandwidth, switches will need to provide a higher forward performance and 10G port extension ability. Adaptive interfaces and switches provide 1G/10G QSFP + interface, ensure all ports non-blocking packet forwarding.

1.1.2 Comprehensive safety control strategy

Support port security features, effectively prevent attacks based on MAC address. Characteristic of the ARP intrusion detection function, which can effectively prevent a hacker or attacker through ARP packet in the network gradually prevailed "middlemen" attack.

1.1.3 Easy and convenient way of management

Support rich management interface, for example, the Console, OOB management, support the SNMP v1 / v2 / v3. Visual interface, simple and convenient control for each function of switch can be done via Web interface.

1.2 Specifications

- Port support automatic consultation function, automatically adjust the transmission mode and transmission speed.
- Working environment temperature: the temperature of 0~45 °C
- Humidity: humidity 10% ~ 10% without condensation
- Voltage: AC 110 V to 240 V AC

2. Configuration guide

2.1 Overview

The instruction manual describes the basic method of configuration switch function on the Web. If you want to access switch through the web, you need to ensure that your computer is connected to the switches in the network; If it is the first time using our switch, don't need to do additional configuration switches, you can use Web access.

Log in as shown below:

Turn on switch, connect the devices in the network by cable. This equipment is **only support WEB page via OOB management port connection**; As shown in figure 2-1.



Figure 2-1 OOB port management

2.2 System login

This switch provides local and remote Web management. In Internet browser bar, type "http://192.168.2.1" and log in WEB interface, (Please note: this equipment is only support IE11 above browser version can display normally) log in page as shown.

System log in interface



Switch default management user name: admin; password: admin; the default IP address is 192.168.2.1

After input the correct user name and password, click on the < log in > , you can log in the system, as shown:

The screenshot displays the NIVEON Professional web interface. On the left, a navigation menu includes: System Config, Port Config, Layer 2 Config, Network security, Advanced Config, and System management. The main content area is titled 'PortStatus' and features a green indicator for 'Indicate port up' and a grey indicator for 'Indicate port down'. Below this is the 'Device information' section, which contains the following details:

- Device model: N10GSM2C8
- SN: [empty]
- Device name: switch
- Hardware version: 1.0
- Software version: Wed Dec 7 14:13:23 CST 2016
- Cpu MAC: 549a-1170-0000
- Running time: 0Day, 0 Hours, 22 Minutes
- deviceTime: 1970-1-1 0:22:58 (with 'Set Time euqal PC' button)
- PCTime: 2017-1-5 10:32:09
- Cpu usage: 0.0%
- memory usage: 14% (free:409156 KB, total:475704 KB)

At the bottom of the device information section are 'Apply' and 'Refresh' buttons. To the right of the text is a bar chart showing resource utilization: CPU at 0% and MEMORY at 14%.

3 System configuration

3.1 System information

Able to set name of the equipment, time and check the product model, hardware version, software version, MAC system, running time, the information such as CPU utilization, memory utilization.

This screenshot is identical to the one above, showing the NIVEON Professional web interface with the 'PortStatus' and 'Device information' sections. The device information includes: Device model N10GSM2C8, SN, Device name 'switch', Hardware version 1.0, Software version Wed Dec 7 14:13:23 CST 2016, Cpu MAC 549a-1170-0000, Running time 0Day, 0 Hours, 22 Minutes, deviceTime 1970-1-1 0:22:58, PCTime 2017-1-5 10:32:09, Cpu usage 0.0%, and memory usage 14% (free:409156 KB, total:475704 KB). The bar chart shows CPU at 0% and MEMORY at 14%.

3.2 Network Settings

Able to set the IPV4 address of this product.

System Config

System Information

Config network

User Config

Device log message

TELNET-config

HTTPS-config

Diagnosis

Port Config

Layer 2 Config

Network security

Advanced Config

System management

User set

User name 31 characters atmost. We have to modify the related password and authority if the user exists already.

Password no more than 31 characters

Privilege

User name	Password	Privilege
admin	admin	15

3.4 Log configuration

Able to view the product log information, and upload the log to the TFTP server;

System Config

System Information

Config network

User Config

Device log message

TELNET-config

HTTPS-config

Diagnosis

Port Config

Layer 2 Config

Network security

Advanced Config

System management

log upload

TFTP server

File name the name of the stored file on the server

Log-information

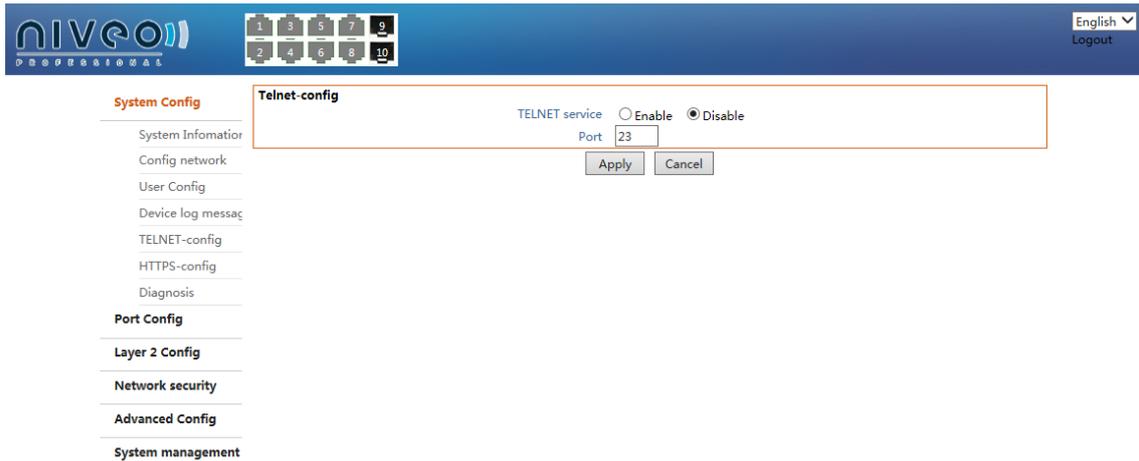
```

1970/01/01 00:00:24 MONO: gvrp init
1970/01/01 00:00:24 MONO: Mono 5.4.2 starting
1970/01/01 00:00:24 SNMP: SNMPD 5.4.2 starting
1970/01/01 00:00:24 SNMP: snmpd receive S81 starting
1970/01/01 00:00:24 MSTP: MSTP 5.4.2 starting
1970/01/01 00:00:24 IGMP: Igmpe 5.4.2 starting
1970/01/01 00:00:24 LLDP: LLDP 5.4.2 starting
1970/01/01 00:00:24 LACP: LACP 5.4.2 starting
1970/01/01 00:00:24 STMP: STMP 5.4.2 starting
1970/01/01 00:00:24 DOT1X: Flushing old station entries
1970/01/01 00:00:24 DOT1X: Deauthenticate all stations
1970/01/01 00:00:24 DOT1X: Radius server up fd 6 port 1812 secret radius
1970/01/01 00:00:24 DOT1X: Radius client up fd 7 port 1812 saddr:100007f secret:radius
1970/01/01 00:00:24 DOT1X: Dot1x 5.4.2 starting
1970/01/01 00:00:24 DHCP Snooping: Dhcp-snooping 5.4.2 starting
1970/01/01 00:00:24 MONO: Add port: type 3 unit 0, hw_port 2, uport xel/1(3010001)
1970/01/01 00:00:24 MONO: Add port: type 3 unit 0, hw_port 3, uport xel/2(3010002)
1970/01/01 00:00:24 MONO: Add port: type 3 unit 0, hw_port 4, uport xel/3(3010003)
1970/01/01 00:00:24 MONO: Add port: type 3 unit 0, hw_port 5, uport xel/4(3010004)
1970/01/01 00:00:24 MONO: Add port: type 3 unit 0, hw_port 6, uport xel/5(3010005)
1970/01/01 00:00:24 MONO: Add port: type 3 unit 0, hw_port 7, uport xel/6(3010006)
1970/01/01 00:00:24 MONO: Add port: type 3 unit 0, hw_port 8, uport xel/7(3010007)
1970/01/01 00:00:24 MONO: Add port: type 3 unit 0, hw_port 9, uport xel/8(3010008)
1970/01/01 00:00:24 MONO: Add port: type 3 unit 0, hw_port 12, uport xel/9(3010009)
1970/01/01 00:00:24 MONO: Add port: type 3 unit 0, hw_port 13, uport xel/10(301000a)

```

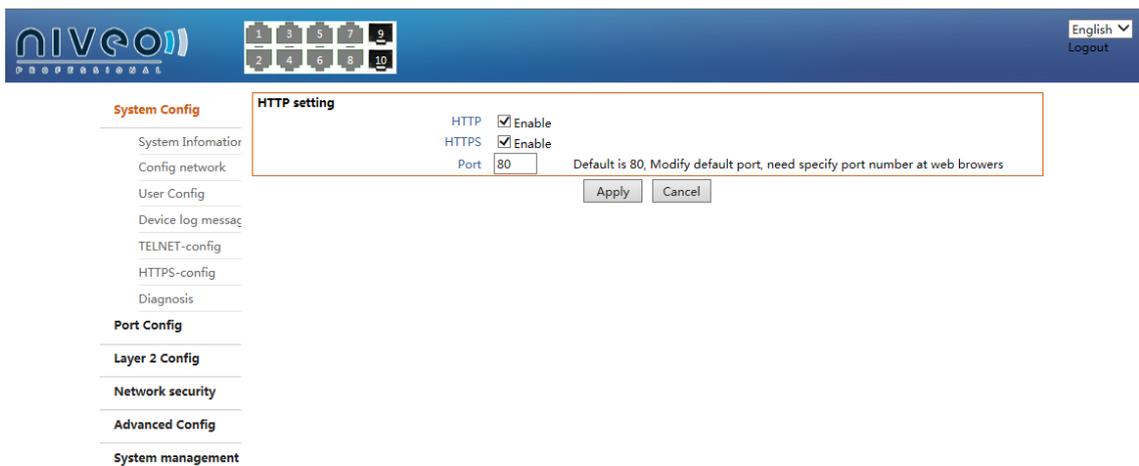
3.5 TELNET configuration

Able to turned on or disable TELNET management;



3.6 HTTPS configuration

Able to turned on or disable HTTP, HTTPS connection;



3.7 Diagnostic tests

Able to test whether port connected through PING and TRACEROTE service;

System Config PING TRACEROUTE

Ping

IP address
Test

System Information
 Config network
 User Config
 Device log message
 TELNET-config
 HTTPS-config
 Diagnosis

Port Config

Layer 2 Config
 Network security
 Advanced Config
 System management

4 port configuration

4.1 Physical port

Able to view the connection state, medium, the rate of each port. You can modify the port status information, rate (1 G/ 10 G) and flow control, the longest long frame information;


English v
Logout

System Config

Port Config

Physical port
 Storm control
 Port rate-Limit
 Mirror
 Port channel Config
 Isolate-port Config
 Port statistics

Layer 2 Config
Network security
Advanced Config
 System management

PortName	Status	Medium	Auto negotiation	Rate	Flow control	Max-Frame	Enable
xe1/1		RJ45	Force 10000M	0	disable	16356	<input checked="" type="checkbox"/>
xe1/2		RJ45	Force 10000M	0	disable	16356	<input checked="" type="checkbox"/>
xe1/3		RJ45	Force 10000M	0	disable	16356	<input checked="" type="checkbox"/>
xe1/4		RJ45	Force 10000M	0	disable	16356	<input checked="" type="checkbox"/>
xe1/5		RJ45	Force 10000M	0	disable	16356	<input checked="" type="checkbox"/>
xe1/6		RJ45	Force 10000M	0	disable	16356	<input checked="" type="checkbox"/>
xe1/7		RJ45	Force 10000M	0	disable	16356	<input checked="" type="checkbox"/>
xe1/8		RJ45	Force 10000M	0	disable	16356	<input checked="" type="checkbox"/>
xe1/9		SFP	Force 10000M	0	disable	16356	<input checked="" type="checkbox"/>
xe1/10		SFP	Force 10000M	0	disable	16356	<input checked="" type="checkbox"/>

Apply Cancel

4.2 Storm control

Able to set radio, the size of the unknown multicast and unicast unknown values for each port ; "0" means no configuration.

Port	Broadcast(kbps)	Unknown Multicast(kbps)	Destination Lookup Fail(kbps)
xe1/1	0	0	0
xe1/2	0	0	0
xe1/3	0	0	0
xe1/4	0	0	0
xe1/5	0	0	0
xe1/6	0	0	0
xe1/7	0	0	0
xe1/8	0	0	0
xe1/9	0	0	0
xe1/10	0	0	0

4.3 Port speed limit

Able to set the port entrance rate, sudden entrance, export rate, export value, the size of the sudden export; "0" means no configuration.

Port	InputRate(kbps)	InputBurst(kbps)	OutputRate(kbps)	OutputBurst(kbps)
xe1/1	0	0	0	0
xe1/2	0	0	0	0
xe1/3	0	0	0	0
xe1/4	0	0	0	0
xe1/5	0	0	0	0
xe1/6	0	0	0	0
xe1/7	0	0	0	0
xe1/8	0	0	0	0
xe1/9	0	0	0	0
xe1/10	0	0	0	0

4.4 Port mirror

Able to configure the port mirror; set up four groups (one-to-many);

The session ID: create a mirror image of the group; (the default group 4)

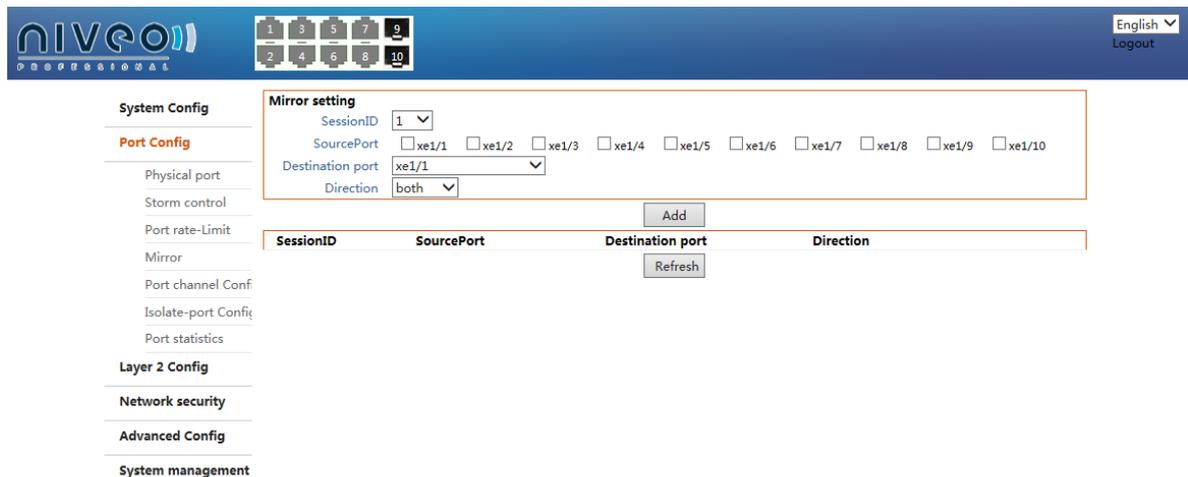
Source port: refers to the mirror ports, can support multiple;

Destination port: mirror port;

Ingress: mirror, mirror for only from the port into the traffic.

Egress: export image, only to the port of the flow in the mirror.

Both: two-way mirror: support the two-way traffic of the port may send and receive images.



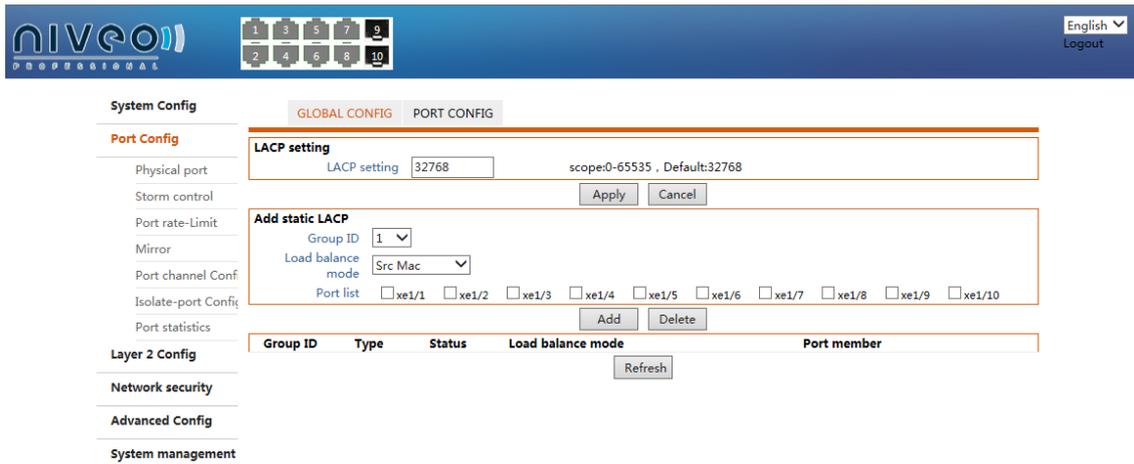
4.5 Link aggregation

Via global configuration can add/delete group (maximum support group, each group support the eight largest port); Together through the port configuration to view each port group configuration information;

Mac: Src the source Mac;

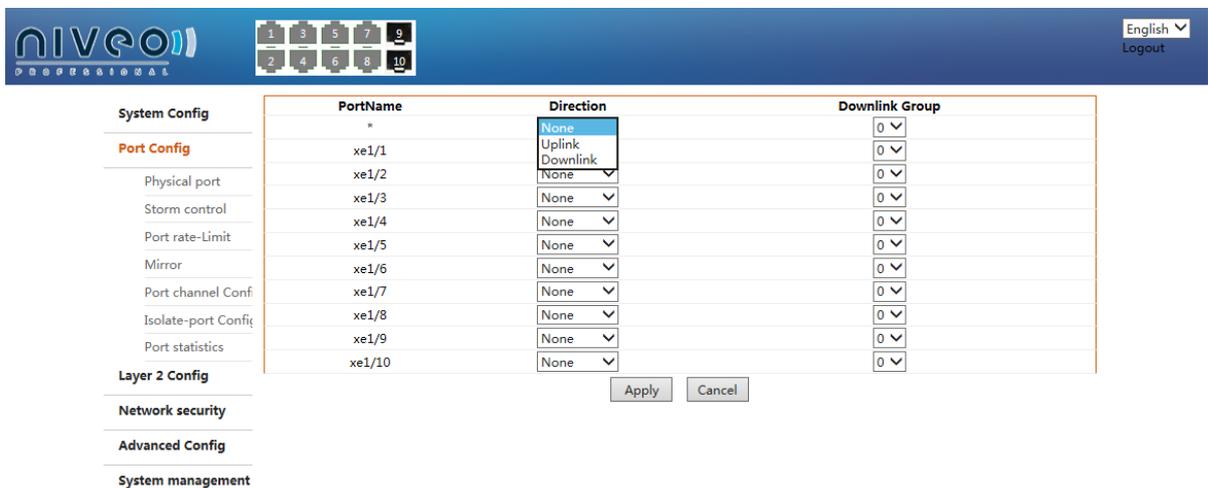
Mac: Dst destination Mac;

Mac: Src&Dst source and destination Mac



4.6 Port isolation

Able to configure port isolation, achieve port protection effect; UP link Shared mouth; Down link used will need to be isolated port; Down link multiple isolated port will need to join group. Each group support MAX of 8 port;



4.7 Port statistics

Able to view data statistics on each port ;

System Config **PORT STATS** DETAIL PORT STATS

Port Config

- Physical port
- Storm control
- Port rate-Limit
- Mirror
- Port channel Conf
- Isolate-port Conf
- Port statistics

Layer 2 Config

Network security

Advanced Config

System management

PortName	Packet		Byte		Filter
	Receive	Send	Receive	Send	Receive
xe1/1	0	0	0	0	0
xe1/2	0	0	0	0	0
xe1/3	0	0	0	0	0
xe1/4	0	0	0	0	0
xe1/5	0	0	0	0	0
xe1/6	0	0	0	0	0
xe1/7	0	0	0	0	0
xe1/8	0	0	0	0	0
xe1/9	0	0	0	0	0
xe1/10	0	0	0	0	0

Clear Refresh

5 Second configuration

5.1 VLAN configuration

Able to configure the product port VLAN; In PVLAN configuration interface, you can configure the VLAN mode and PVID information.

System Config **PVLAN-CONFIG** TRUNK-CONFIG VLAN-CONFIG

Port Config

Layer 2 Config

- VLAN Config
- mac-vlan
- protocol-vlan
- voice-vlan
- dot1q_tunnel
- MAC Config
- Spanning-tree Cor
- IGMP-snooping C
- DHCP-snooping C
- ERPS-Ring Config
- GMRP Config

Network security

Advanced Config

System management

Port	VLANMode	Ingress Filtering	PVID
xe1/1	access	<input type="checkbox"/>	1
xe1/2	trunk	<input type="checkbox"/>	1
xe1/3	access	<input type="checkbox"/>	1
xe1/4	access	<input type="checkbox"/>	1
xe1/5	access	<input type="checkbox"/>	1
xe1/6	access	<input type="checkbox"/>	1
xe1/7	access	<input type="checkbox"/>	1
xe1/8	access	<input type="checkbox"/>	1
xe1/9	access	<input type="checkbox"/>	1
xe1/10	access	<input type="checkbox"/>	1

Apply Cancel

Set up a VLAN ID, check the need to increase the port. Use port to connect the client to mark tag port for the interconnection between equipment use,

selection is completed, click add > < button, finish adding VLAN information.

The screenshot shows the Niveo web interface for VLAN configuration. The left sidebar lists navigation options: System Config, Port Config, Layer 2 Config (highlighted), Network security, Advanced Config, and System management. Under Layer 2 Config, there are sub-options: VLAN Config, mac-vlan, protocol-vlan, voice-vlan, dot1q_tunnel, and MAC Config. The main content area is titled 'VLAN-CONFIG' and includes a 'Vlan setting' form with fields for Vlan ID, Description, and Multicast. Below the form is a table with columns 'Vlan ID', 'Description', and 'Unkown Multicast'. The table shows one entry with Vlan ID 1 and Description Flood-unknown. There are 'Add/Mo' and 'Go' buttons.

5.2 MAC - vlan

Based on the MAC VLAN is the VLAN divided into another division method, it depends on the message of the source MAC address forwarding message from which VLAN.

The screenshot shows the Niveo web interface for MAC-based VLAN configuration. The left sidebar lists navigation options: System Config, Port Config, Layer 2 Config (highlighted), Network security, Advanced Config, and System management. Under Layer 2 Config, there are sub-options: VLAN Config, mac-vlan, protocol-vlan, voice-vlan, dot1q_tunnel, and MAC Config. The main content area is titled 'Vlan based on MAC' and includes a form with fields for Vlan Id and MAC. Below the form is a table with columns 'SerialNum', 'Vlan Id', and 'MAC'. The table is currently empty. There are 'Add' and 'Go' buttons.

5.3 Protocol - a vlan

Based on the protocol VLAN also known as a agreement VLAN, is different from the port VLAN based another VLAN division method. By configuring VLAN based protocol, switches can be analyzed on port received do not carry VLAN Tag message, according to different packaging format and special field values to set the message to the user agreement template matching, automatic for matching success message to add the corresponding VLAN Tag, will belong to specify the protocol data automatic transmission in the distributed to the corresponding VLAN.

The screenshot displays the Niveo Professional web interface. The top navigation bar includes the Niveo logo, a numeric keypad, and language options (English, Logout). The left sidebar contains a navigation menu with categories: System Config, Port Config, Layer 2 Config, Network security, Advanced Config, and System management. The main content area is titled 'Vlan based on protocol' and includes a note: 'VLAN must exist, and add to untag port'. The configuration form contains the following fields:

- Port: xe1/1
- Frame-type: ether2
- Ether-type: arp
- Vlan Id: eg:1-4094

An 'Add' button is located below the form. Below the form is a table with the following columns: SerialNum, Port, Frame-type, Ether-type, and Vlan Id. The table content is: 'Total 0 Entry 20 entrys per page'. A pagination control shows '1/1Page' and a 'Go' button.

5.4 Voice - vlan

Voice VLAN is for the user's Voice flow dividing VLAN.

Often is the data in the network, voice, video and so on the many kinds of traffic and transport. Because of the effect of packet loss and delay to call quality is large, the user about the quality of the voice more sensitive than

the quality of the data or video, so in the case of limited bandwidth will need to ensure the quality.

The screenshot shows the Niveon web interface with a navigation menu on the left and a configuration panel on the right. The navigation menu includes sections for System Config, Port Config, Layer 2 Config (with sub-items like mac-vlan, protocol-vlan, voice-vlan, dot1q_tunnel, MAC Config, Spanning-tree Cor, IGMP-snooping C, DHCP-snooping C, ERPS-Ring Config, GMRP Config), Network security, Advanced Config, and System management. The configuration panel is titled 'Voice vlan' and contains the following elements:

- A warning: "VLAN must exist, and add to untag port".
- A checkbox for "Enable voice vlan" which is checked.
- A text input field for "Vlan id" and a label "scope:1-4094".
- "Apply" and "Cancel" buttons.
- A section titled "Voice vlan MAC" with two input fields: "MAC" (with example "eg:0001-0001-0001") and "MAC mask" (with example "eg:ffff-ff00-0000").
- An "Add" button.
- A table with columns "SerialNum", "MAC", and "MAC mask", and a "Refresh" button below it.

5.5 dot1q_tunnel

QinQ is short for in Q802.1 in 802.1Q, it is based on a second tunnel protocol of IEEE 802.1Q technology, through the user's private network packet encapsulation on outer VLAN Tag, make it with two layers of VLAN Tag the backbone network (also called public) through the carrier, to provide users with a simple layer 2 VPN tunnel technology, also allow operators to use a VLAN network to provide service for users include more than one VLAN.

dot1q tunnel set Enable Dot1q Tunnel

Apply Cancel

PortName	Mode	Tpid
xe1/1	None	0x0
xe1/2	None	0x0
xe1/3	None	0x0
xe1/4	None	0x0
xe1/5	None	0x0
xe1/6	None	0x0
xe1/7	None	0x0
xe1/8	None	0x0
xe1/9	None	0x0
xe1/10	None	0x0

Apply Cancel

5.6 MAC configuration

Able to view the MAC configuration table;

MAC address setting

MAC address aging-time scope:10-1000000 , Default:300 , unit: Seconds

Apply Cancel

SerialNum	MAC	Vid	Interface	Type
Total 0 Entry 20 entries per page				

1/1Page < > Go >

By static MAC page manually configure bindings based on VLAN ID, the port's MAC address binding;

The screenshot shows the Niveo Professional web interface. The top navigation bar includes the Niveo logo, a numeric keypad (1-10), and language settings (English, Logout). The main menu on the left is categorized into System Config, Port Config, Layer 2 Config, Network security, Advanced Config, and System management. The 'Layer 2 Config' section is expanded, showing options like VLAN Config, mac-vlan, protocol-vlan, voice-vlan, dot1q_tunnel, MAC Config, Spanning-tree Config, IGMP-snooping Config, DHCP-snooping Config, ERPS-Ring Config, and GMRP Config. The 'MAC Config' option is selected, leading to a configuration page with tabs for 'MAC-CONFIG' and 'STATIC MAC'. The 'MAC bind' section contains input fields for MAC (eg:0001-0001-0001), Vlan Id (eg:1-4094), and Port (xe1/1, eg:ge1/1), along with an 'Add' button. Below this is a table with columns for SerialNum, MAC, Vlan Id, and Port, showing 'Total 0 Entry' and '20 entries per page'.

5.7 MSTP configuration

Set the STP, RSTP, MSTP through the global configuration parameters;

The screenshot shows the Niveo Professional web interface with the 'MSTP setting' configuration page. The top navigation bar is identical to the previous screenshot. The main menu on the left is expanded to 'Layer 2 Config', with 'MAC Config' selected. The 'MSTP setting' page has tabs for 'GLOBAL CONFIG', 'INSTANCE CONFIG', 'INST PORT CONFIG', and 'PORT CONFIG'. The 'MSTP setting' section includes a checkbox for 'EnableSpanning-tree' (checked), a 'Mode' section with radio buttons for 'stp', 'rstp', and 'mstp' (selected), and several input fields for configuration parameters: Priority (32768), Max age (20), Hello time (2), Forward delay (15), Max hop (20), and Revision (0). On the right side, there are labels for 'scope:0-61440', 'scope:6-40', 'scope:1-10', 'scope:4-30', 'scope:1-40', and 'scope:0-65535'. A 'Name' field contains '549A11700000' with a note 'no more than 31 characters'. 'Apply' and 'Cancel' buttons are at the bottom.

Instance configuration VLAN configuration page and priority for a MST instance, add a VLAN MST instance members, set a MST instance configuration screen

System Config GLOBAL CONFIG INSTANCE CONFIG INST PORT CONFIG PORT CONFIG

Port Config

Layer 2 Config

MSTI setting

MSTI ID: 1
 Priority: 32768
 Vlan Mapped:

Priority range is 0-61440, default is 32768, step is 4096 separated by ',' is scope, such as 2,4-7,9,10-15

Add

Instance	Priority	Vlan Mapped
0	32768	1-4094

Refresh

VLAN Config
 mac-vlan
 protocol-vlan
 voice-vlan
 dot1q_tunnel
 MAC Config
 Spanning-tree Cor
 IGMP-snooping C
 DHCP-snooping C
 ERPS-Ring Config
 GMRP Config

Network security

Advanced Config

System management

Through examples of port configuration, port configuration to configure the parameters of each port.

System Config GLOBAL CONFIG INSTANCE CONFIG INST PORT CONFIG PORT CONFIG

Port Config

Layer 2 Config

MSTID: 0 Refresh

Port	Enable	Instance	Priority	AdminCost	Cost	Role	Status
xe1/1	Yes	0	128	0	200000000	Disa	disc
xe1/2	Yes	0	128	0	200000000	Disa	disc
xe1/3	Yes	0	128	0	200000000	Disa	disc
xe1/4	Yes	0	128	0	200000000	Disa	disc
xe1/5	Yes	0	128	0	200000000	Disa	disc
xe1/6	Yes	0	128	0	200000000	Disa	disc
xe1/7	Yes	0	128	0	200000000	Disa	disc
xe1/8	Yes	0	128	0	200000000	Disa	disc
xe1/9	Yes	0	128	0	200000000	Disa	disc
xe1/10	Yes	0	128	0	200000000	Disa	disc

Apply Cancel

VLAN Config
 mac-vlan
 protocol-vlan
 voice-vlan
 dot1q_tunnel
 MAC Config
 Spanning-tree Cor
 IGMP-snooping C
 DHCP-snooping C
 ERPS-Ring Config
 GMRP Config

Network security

Advanced Config

System management

System Config GLOBAL CONFIG INSTANCE CONFIG INST PORT CONFIG PORT CONFIG

Port Config

Layer 2 Config

Port	Enable	BPDU Guard	Edge	Point-to-Point	Loop Detect	Resume Time	Lp Status
xe1/1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto	Auto	<input type="checkbox"/>	180	<input type="checkbox"/>
xe1/2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto	Auto	<input type="checkbox"/>	180	<input type="checkbox"/>
xe1/3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto	Auto	<input type="checkbox"/>	180	<input type="checkbox"/>
xe1/4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto	Auto	<input type="checkbox"/>	180	<input type="checkbox"/>
xe1/5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto	Auto	<input type="checkbox"/>	180	<input type="checkbox"/>
xe1/6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto	Auto	<input type="checkbox"/>	180	<input type="checkbox"/>
xe1/7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto	Auto	<input type="checkbox"/>	180	<input type="checkbox"/>
xe1/8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto	Auto	<input type="checkbox"/>	180	<input type="checkbox"/>
xe1/9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto	Auto	<input type="checkbox"/>	180	<input type="checkbox"/>
xe1/10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto	Auto	<input type="checkbox"/>	180	<input type="checkbox"/>

Apply Cancel

VLAN Config
 mac-vlan
 protocol-vlan
 voice-vlan
 dot1q_tunnel
 MAC Config
 Spanning-tree Cor
 IGMP-snooping C
 DHCP-snooping C
 ERPS-Ring Config
 GMRP Config

Network security

Advanced Config

System management

5.8 IGMP snooping configuration

IGMP Snooping on the second floor equipment running through analyze the IGMP packets received, for port and the MAC multi-cast address to establish a mapping relationship, and according to the mapping relationship between forward multi-cast data.

The screenshot shows the Niveo Professional web interface. The top navigation bar includes the Niveo logo, a numeric keypad (1-10), and language options (English, Logout). The main menu on the left lists various configuration categories: System Config, Port Config, Layer 2 Config, Network security, Advanced Config, and System management. The 'IGMP-SNOOPING CONFIG' tab is active, showing the 'IGMP-snooping setting' form. The form includes an 'Enable IGMP-snooping Config' checkbox (unchecked), a 'Host age-time' input field with the value '260', and a 'scope:200-1000' label. Below the form is a table with columns: SerialNum, Vlan Id, multicast source, multicast addr, and Port list. The table shows 'Total 0 Entry' and '20 entrys per page'. Navigation buttons for the table include 'Go' and page indicators.

The screenshot shows the Niveo Professional web interface, specifically the 'IGMP-snooping vlan setting' configuration page. The top navigation bar and left menu are consistent with the previous screenshot. The 'IGMP-SNOOPING CONFIG' tab is active, and the 'IGMP-snooping vlan setting' form is displayed. The form includes fields for 'Vlan Id' (value: 1), 'IGMP-snooping Config' (checkbox, unchecked), 'Fast leave status' (checkbox, unchecked), 'Max response time' (value: 10), 'Query interval' (value: 60), and 'Last member query interval' (value: 1). Each field has a corresponding 'scope' label: 'scope:1-4094', 'scope:1-25', 'scope:2-300', and 'scope:1-5'. Below the form is a table with columns: Vlan Id, IGMP-snooping Config, Fast leave status, Max response time, Query interval, and Last member query interval. The table shows 'Total 0 Entry' and '20 entrys per page'. Navigation buttons for the table include 'Go' and page indicators.

5.9 DHCP snooping configuration

By establishing and maintaining the DHCP Snooping DHCP binding table filter cannot trust information, this information refers to information from distrust area DHCP. DHCP Snooping binding table contains distrust area user MAC address, IP address, information such as the lease period, VLAN ID interface.

System Config | GLOBAL CONFIG | BINDING | PORT CONFIG

Port Config

Layer 2 Config

DHCP-snooping Config

Enable DHCP-snooping
 Enable Infomation
 Option 82
 Range: 1-1440, Unit: minutes, Defalut is 0, not write flash
 eg:10.0.0.2, Upload database to tftp server
 Tftp Server
 Tftp File name
 EnableDAI
 EnableIPSG
 ARP Dynamic Inspection, Only legal arp will be forward
 IP Source Guard, Only legal ip packet will be forward

Apply Cancel

SerialNum	MAC	Vlan Id	IP	Type	Expire	Port
Total 0 Entry 20 entrys per page						

1/1Page |< < > >| Go

System Config | GLOBAL CONFIG | BINDING | PORT CONFIG

Port Config

Layer 2 Config

Lease

MAC
 eg:0001-0001-0001
 Vlan Id
 eg:1-4094
 IP address
 eg:192.168.1.1
 Port
 eg:ge1/1

Add

SerialNum	MAC	Vlan Id	IP	Port
Total 0 Entry 20 entrys per page				

1/1Page |< < > >| Go

System Config | GLOBAL CONFIG | BINDING | PORT CONFIG

Port Config

Layer 2 Config

PortName	Trust	Trust-DAI	Trust-IPSG	Policy (Op82)	Circuit-type	Circuit-id	Remote-type	Remote-id
xe1/1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Replace	Normal		Normal	
xe1/2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Replace	Normal		Normal	
xe1/3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Replace	Normal		Normal	
xe1/4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Replace	Normal		Normal	
xe1/5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Replace	Normal		Normal	
xe1/6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Replace	Normal		Normal	
xe1/7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Replace	Normal		Normal	
xe1/8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Replace	Normal		Normal	
xe1/9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Replace	Normal		Normal	
xe1/10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Replace	Normal		Normal	

Apply Cancel

5.10 ERPS - Ring configuration

ITU (international telecommunication union) the development of a ring network protection agreement, also known as "g. 8032." Steadfast a dedicated link layer protocol used in Ethernet ring network. When Ethernet ring network complete, it can prevent data from loop of broadcast storm, and when one Ethernet link disconnected can quickly restore the ring online communication between each node.

The screenshot shows the Niveo web interface for configuring ERPS-Ring settings. The interface is divided into several sections: System Config, Port Config, Layer 2 Config, Network security, Advanced Config, and System management. The 'Layer 2 Config' section is active, and the 'ERPS-Ring setting' form is displayed. The form includes a checkbox for 'ERPS-Ring enable' and 'Apply' and 'Cancel' buttons. Below this, the 'ERPS-Ring node stting' form is shown, which includes fields for 'ERPS-Ring ID', 'Role', 'Master Port', and 'Slave Port'. The 'Role' field is set to 'master', and the 'Node role' is set to '(management/transmit)'. The 'Master Port' and 'Slave Port' are both set to 'xe1/1'. Below the form is a table with columns for 'ERPS-Ring ID', 'Role', 'Master Port', 'Slave Port', and 'Ring statu'. The table is currently empty, and there are 'Add', 'Cancel', and 'Refresh' buttons associated with it.

5.11 GMRP configuration

GMRP allow terminal station and bridge to connect to the same LAN segment of MAC bridge dynamic registration group membership information, and the information can be transmitted to the extended filter support services (extended filtering services) bridge all the Bridges in the local area network (LAN) system. Operation based on the services provided by the GARP GMRP.



System Config | GMRP GLOBAL CONFIG | GMRP PORT CONFIG | GMRP GROUP

Port Config

Layer 2 Config

VLAN Config

mac-vlan

protocol-vlan

voice-vlan

dot1q_tunnel

MAC Config

Spanning-tree Cor

IGMP-snooping C

DHCP-snooping C

ERPS-Ring Config

GMRP Config

Network security

Advanced Config

System management

GMRP Global Set

GMRP enable

Apply Cancel



System Config | GMRP GLOBAL CONFIG | GMRP PORT CONFIG | GMRP GROUP

Port Config

Layer 2 Config

VLAN Config

mac-vlan

protocol-vlan

voice-vlan

dot1q_tunnel

MAC Config

Spanning-tree Cor

IGMP-snooping C

DHCP-snooping C

ERPS-Ring Config

GMRP Config

Network security

Advanced Config

System management

PortName	Enable	ForwardAll	JoinTime	LeaveTime	LeaveAllTime	Registration
xe1/1	<input type="checkbox"/>	<input type="checkbox"/>	20	60	1000	Normal
xe1/2	<input type="checkbox"/>	<input type="checkbox"/>	20	60	1000	Normal
xe1/3	<input type="checkbox"/>	<input type="checkbox"/>	20	60	1000	Normal
xe1/4	<input type="checkbox"/>	<input type="checkbox"/>	20	60	1000	Normal
xe1/5	<input type="checkbox"/>	<input type="checkbox"/>	20	60	1000	Normal
xe1/6	<input type="checkbox"/>	<input type="checkbox"/>	20	60	1000	Normal
xe1/7	<input type="checkbox"/>	<input type="checkbox"/>	20	60	1000	Normal
xe1/8	<input type="checkbox"/>	<input type="checkbox"/>	20	60	1000	Normal
xe1/9	<input type="checkbox"/>	<input type="checkbox"/>	20	60	1000	Normal
xe1/10	<input type="checkbox"/>	<input type="checkbox"/>	20	60	1000	Normal

Apply Cancel

System Config
GMRP GLOBAL CONFIG
GMRP PORT CONFIG
GMRP GROUP

Port Config

SerialNum	MAC	Vlan Id	Port	Type
Total 0 Entry 20 entries per page				

1/1Page v v

- Layer 2 Config
 - VLAN Config
 - mac-vlan
 - protocol-vlan
 - voice-vlan
 - dot1q_tunnel
 - MAC Config
 - Spanning-tree Co
 - IGMP-snooping C
 - DHCP-snooping C
 - ERPS-Ring Config
 - GMRP Config
- Network security
- Advanced Config
- System management

6 Network security

6.1 Access control

Set the filter rules, is disabled by default, if set to allow, will ban all is not in the list of rules of q. Please add rules first, and then set up the access rules, otherwise may cause the current WEB cannot access.


English v
Logout

System Config
GMRP GLOBAL CONFIG
GMRP PORT CONFIG
GMRP GROUP

Port Config

Layer 2 Config

Network security

Configure access policy , default is disabled. If specify **allowed**, all host which do not matched rule list will be forbidden. Please add rule list first.

Disable
 IP listed below, **allowed** access this device.
 IP listed below, **forbidden** access this device.

Access Control

Configure access rule for system

IP address eg:192.168.0.1/24

Service

SerialNum	IP address	Service
Total 0 Entry 20 entries per page		

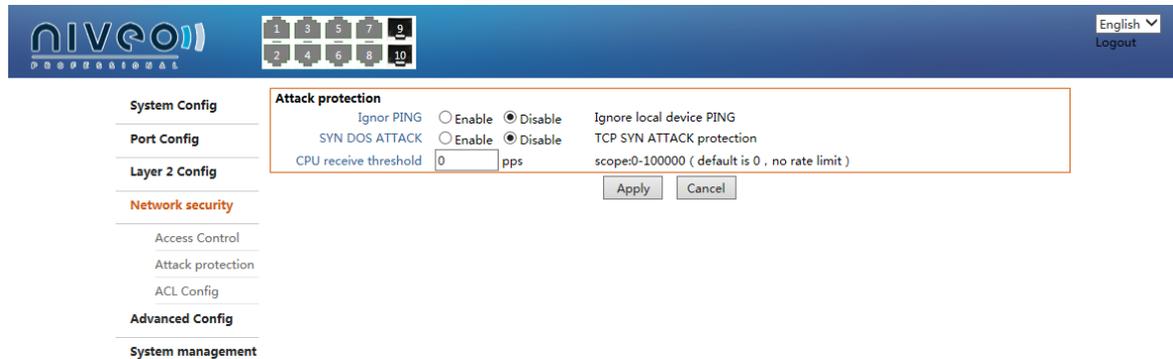
1/1Page v v

Advanced Config

System management

6.2 Attack Settings

Enable or disable ignoring ping packets, prevent the SYN DOS attacks.



The screenshot shows the NIVECO web interface. The top navigation bar includes the NIVECO logo, a numeric keypad (1-10), and a language dropdown menu set to English with a Logout button. The main content area is divided into a left sidebar and a main configuration panel. The sidebar lists configuration categories: System Config, Port Config, Layer 2 Config, Network security (highlighted), Advanced Config, and System management. The main panel displays the 'Attack protection' settings. It includes three rows of configuration options: 'Ignor PING' with radio buttons for 'Enable' and 'Disable' (selected), 'SYN DOS ATTACK' with radio buttons for 'Enable' and 'Disable' (selected), and 'CPU receive threshold' with a text input field containing '0' and the unit 'pps'. To the right of these options are three descriptive labels: 'Ignore local device PING', 'TCP SYN ATTACK protection', and 'scope:0-100000 (default is 0 , no rate limit)'. At the bottom of the configuration panel are 'Apply' and 'Cancel' buttons.

6.3 ACL configuration

ACL (Access Control List, the Access Control List) is used to implement the flow of recognition. Network equipment to filter packets, the matching conditions need to configure a series of packet classification, these conditions can be a message source address, destination address, port, etc. When equipment port receives the message, that is, according to a port on the current application of ACL rules to analyze the field of a message, after identify specific message, according to the preset strategies allow or prohibit the newspaper article through. Defined by the ACL packet matching rules, which can be reference by other need to distinguish between traffic situations, such as packet filtering, QoS shed the definition of the classification rules, etc.

System Config | **ACL GROUP CONFIG** | TIME RANGE CONFIG | MAC ACL CONFIG | IP ACL CONFIG

Port Config

Layer 2 Config

Network security

Access Control

Attack protection

ACL Config

Advanced Config

System management

Port	MACACL ListID	IPACL ListID
xe1/1	0	0
xe1/2	0	0
xe1/3	0	0
xe1/4	0	0
xe1/5	0	0
xe1/6	0	0
xe1/7	0	0
xe1/8	0	0
xe1/9	0	0
xe1/10	0	0

Apply Cancel

System Config | ACL GROUP CONFIG | **TIME RANGE CONFIG** | MAC ACL CONFIG | IP ACL CONFIG

Port Config

Layer 2 Config

Network security

Access Control

Attack protection

ACL Config

Advanced Config

System management

Add Time Range

Name Add

Time Config

Time-RangeName absolute Cycle

start (HH:MM) (YYYY-MM-DD)

end (HH:MM) (YYYY-MM-DD)

Time (HH:MM) - (HH:MM)

Week Mon Tue Wed Thu Fri Sat Sun

Add

Name	Time

Refresh

System Config | ACL GROUP CONFIG | TIME RANGE CONFIG | **MAC ACL CONFIG** | IP ACL CONFIG

Port Config

Layer 2 Config

Network security

Access Control

Attack protection

ACL Config

Advanced Config

System management

MAC ACL Config

Group ID scope:1-99

Add Delete

rule Config

Group ID scope:1-99

RuleID scope:1-127

ACTION ACTION

SourceMAC If no Input , anything is valid

DestMAC If no Input , anything is valid

Time-RangeName any time is valid if no input

Add Delete

Group ID	RuleID	ACTION	SourceMAC	DestMAC	Time-RangeName

Refresh

System Config | ACL GROUP CONFIG | TIME RANGE CONFIG | MAC ACL CONFIG | **IP ACL CONFIG**

Port Config

Layer 2 Config

Network security

Access Control

Attack protection

ACL Config

Advanced Config

System management

IP ACL Config

Group ID scope:100-999

Add Delete

rule Config

Group ID scope:100-999

RuleID scope:1-127

ACTION ACTION

protocol PROTOCOL

SourceIP format : XXX.XXX.XXX.XXX or any

SourceMask format : XXX.XXX.XXX.XXX or any

SourcePort scope is 0-65535,any port if no input

DestIP format : XXX.XXX.XXX.XXX or any

DestMask format : XXX.XXX.XXX.XXX or any

DestPort scope is 0-65535,any port if no input

Time-RangeName any time is valid if no input

Add Delete

Group ID	RuleID	ACTION	protocol	SourceIP	SourceMask	SourcePort	DestIP	DestMask	DestPort	TimeRange

Refresh

7 Advanced configuration

7.1 QOS configuration

QoS (Quality of Service) as a Service Quality. For the network business, service quality including the transmission bandwidth, transmission delay, data packet loss rate, etc. In the network can guarantee the bandwidth of the transmission, reducing the transmission delay, reduce data packet loss rate and delay jitter and other measures to improve the quality of service. Network resources are always limited, as long as there is a grab the situation of the network resources, can appear the quality of service requirements. Service quality is relative to network business, in at the same time, to ensure the quality of service of a kind of business is likely to be at the expense of other business service quality. For example, in the case of fixed total network bandwidth, if certain business takes up more bandwidth, so other businesses can use the less bandwidth, may affect the use of other business. Therefore, the network according to the characteristics of the various business managers need to carry on the reasonable planning and allocation of network resources, making efficient use of network resources.

System Config GLOBAL CONFIG PORT CONFIG

Port Config

Layer 2 Config

Network security

Advanced Config

QOS Config

LLDP Config

SNMP Config

System management

Policy

SP
 WRR W0: W1: W2: W3: W4: W5: W6: W7:
 DRR

Apply Cancel

COSCos map queue

COS -> Queue Apply

0->0 1->1 2->2 3->3 4->4 5->5 6->6 7->7

DSCPcos map queue

DSCP -> New DSCP -> Cos Apply

0->0->0	1->0->0	2->0->0	3->0->0	4->0->0	5->0->0	6->0->0	7->0->0
8->0->0	9->0->0	10->0->0	11->0->0	12->0->0	13->0->0	14->0->0	15->0->0
16->0->0	17->0->0	18->0->0	19->0->0	20->0->0	21->0->0	22->0->0	23->0->0
24->0->0	25->0->0	26->0->0	27->0->0	28->0->0	29->0->0	30->0->0	31->0->0
32->0->0	33->0->0	34->0->0	35->0->0	36->0->0	37->0->0	38->0->0	39->0->0
40->0->0	41->0->0	42->0->0	43->0->0	44->0->0	45->0->0	46->0->0	47->0->0
48->0->0	49->0->0	50->0->0	51->0->0	52->0->0	53->0->0	54->0->0	55->0->0
56->0->0	57->0->0	58->0->0	59->0->0	60->0->0	61->0->0	62->0->0	63->0->0

System Config GLOBAL CONFIG PORT CONFIG

Port Config

Layer 2 Config

Network security

Advanced Config

QOS Config

LLDP Config

SNMP Config

System management

Port	Default COS
xe1/1	<input type="text" value="0"/>
xe1/2	<input type="text" value="0"/>
xe1/3	<input type="text" value="0"/>
xe1/4	<input type="text" value="0"/>
xe1/5	<input type="text" value="0"/>
xe1/6	<input type="text" value="0"/>
xe1/7	<input type="text" value="0"/>
xe1/8	<input type="text" value="0"/>
xe1/9	<input type="text" value="0"/>
xe1/10	<input type="text" value="0"/>

Apply Cancel

7.2 LLDP configuration

Provides a standard way of Link Layer Discovery can be main ability, the Management of this device address, device id, such as interface identification Information organization into different the TLV (Type/Length/Value, Type/Length/Value), and encapsulated in a LLDPDU (Link Layer Discovery Protocol Data Unit, the Link Layer Discovery Protocol Data Unit) of the published to their direct neighbor, neighbor after receiving this Information will be in a standard MIB (Management Information Base and Management Information Base)

stored in the form of, query for the network Management system and the status of the judge Link communication. Configurable LLDP related information through this page.

The screenshot shows the NIVEON Professional web interface. The top navigation bar includes the NIVEON logo, a numeric keypad (1-10), and a language dropdown set to English with a Logout button. The left sidebar contains a menu with categories: System Config, Port Config, Layer 2 Config, Network security, Advanced Config, QOS Config, LLDP Config, SNMP Config, and System management. The main content area is titled 'LLDP Config' and is part of the 'GLOBAL CONFIG' tab. It features a radio button to toggle LLDP between 'Enable' and 'Disable' (currently set to 'Disable'). Below this are four input fields for configuration parameters: 'Send cycle' (30), 'Hold Time' (120), 'Send interval' (2), and 'Reinit delay' (2). Each field has a 'scope' value: 5-65535 for Send cycle and Hold Time, and 2-5 for Send interval and Reinit delay. At the bottom, there are checkboxes for 'TLV Optional to send' (checked) and several other options: 'Management address', 'Port description', 'System property', 'System description', and 'System name' (all checked). 'Apply' and 'Cancel' buttons are located at the bottom right of the configuration area.

The screenshot shows the NIVEON Professional web interface. The top navigation bar is identical to the previous screenshot. The left sidebar menu is the same. The main content area is titled 'PORT CONFIG' and shows a table for configuring LLDP on individual ports. The table has four columns: 'Port', 'Send', 'Receive', and 'Management address'. There are 10 rows, one for each port from xe1/1 to xe1/10. The 'Send' and 'Receive' columns contain checkboxes, all of which are checked. The 'Management address' column contains empty input fields. 'Apply' and 'Cancel' buttons are located at the bottom right of the table.

Port	Send	Receive	Management address
xe1/1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
xe1/2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
xe1/3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
xe1/4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
xe1/5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
xe1/6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
xe1/7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
xe1/8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
xe1/9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
xe1/10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

The screenshot shows the NIVEON Professional web interface. The top navigation bar is identical. The left sidebar menu is the same. The main content area is titled 'LLDP NEIGHBORS' and shows the 'LLDP Neighbors shows' section. It includes a text area with 'Capability Codes: (R)Router,(B)Bridge,(C)DOCSIS Cable Device,(T)Telephone (W)WLAN Access Point,(P)Repeater,(S)Station,(O)Other'. Below this is a table with columns: 'SerialNum', 'Device ID', 'Chassis-ID', 'management', 'Local interface', 'Vlan', 'Hold Time', 'Port ID', and 'Capability'. A 'Refresh' button is located below the table.

SerialNum	Device ID	Chassis-ID	management	Local interface	Vlan	Hold Time	Port ID	Capability

7.3 SNMP configuration

SNMP (Simple Network Management Protocol, Simple Network Management Protocol) is a Network Management of equipment and communication rules between managed devices, it defines a series of messages, methods, and syntax, used to implement the Management of equipment access and Management of managed devices. Through the information on this page to configure SNMP.

The screenshot shows the NIVEON Professional web interface. The top navigation bar includes the NIVEON logo, a numeric keypad (1-10), and language settings (English, Logout). The left sidebar lists configuration categories: System Config, Port Config, Layer 2 Config, Network security, Advanced Config (highlighted), QOS Config, LLDP Config, SNMP Config, and System management. The main content area is titled 'SNMP SYSTEM INFORMATION' and contains the following configuration options:

- SNMP Config**
 - Mode: Enable Disable
 - Version: v1, v2c, v3
 - System Name:
 - System Description:
 - System Location:
 - System Contact:
 - Engine no.:
- Trap Config**
 - Trap Event: Trap Start Trap Link

Buttons for 'Apply' and 'Cancel' are located at the bottom right of the configuration area.

The screenshot shows the NIVEON Professional web interface with the 'SNMP VIEW' configuration page selected. The left sidebar is the same as in the previous screenshot. The main content area is titled 'SNMP VIEW' and contains the following configuration options:

- View Config**
 - View Name:
 - View Mode:
 - View OID:

Buttons for 'Add' and 'Delete' are located below the configuration fields. Below the configuration area is a table with the following structure:

View Name	View Mode	View OID
-----------	-----------	----------

A 'Refresh' button is located below the table.

niveo PROFESSIONAL 1 3 5 7 9 2 4 6 8 10 English Logout

System Config **SNMP SYSTEM INFORMATION** SNMP VIEW **SNMP COMMUNITY** SNMPV3 USER SNMP TRAP

Port Config **Community Config**

Layer 2 Config Community Name

Network security Read View

Write View

Advanced Config Add Delete

Community Name	Read View	Write View

Refresh

QOS Config

LLDP Config

SNMP Config

System management

niveo PROFESSIONAL 1 3 5 7 9 2 4 6 8 10 English Logout

System Config SNMP SYSTEM INFORMATION SNMP VIEW SNMP COMMUNITY **SNMPV3 USER** SNMP TRAP

Port Config **SNMPv3 User Config**

Layer 2 Config User Name

Network security SNMP Authentication md5

SNMP Privilege des

Read View

Write View

Advanced Config Add Delete

User Name	SNMP Authentication Mode	SNMP Authentication Passwd	SNMP Privilege Mode	SNMP Privilege Passwd	Read View	Write View

Refresh

QOS Config

LLDP Config

SNMP Config

System management

niveo PROFESSIONAL 1 3 5 7 9 2 4 6 8 10 English Logout

System Config SNMP SYSTEM INFORMATION SNMP VIEW SNMP COMMUNITY SNMPV3 USER **SNMP TRAP**

Port Config **Trap Config**

Layer 2 Config SNMP Trap Address eg:192.168.0.1

Network security SNMP trap Mode v1

Advanced Config Add Delete

SNMP Trap Address	SNMP trap Mode

Refresh

QOS Config

LLDP Config

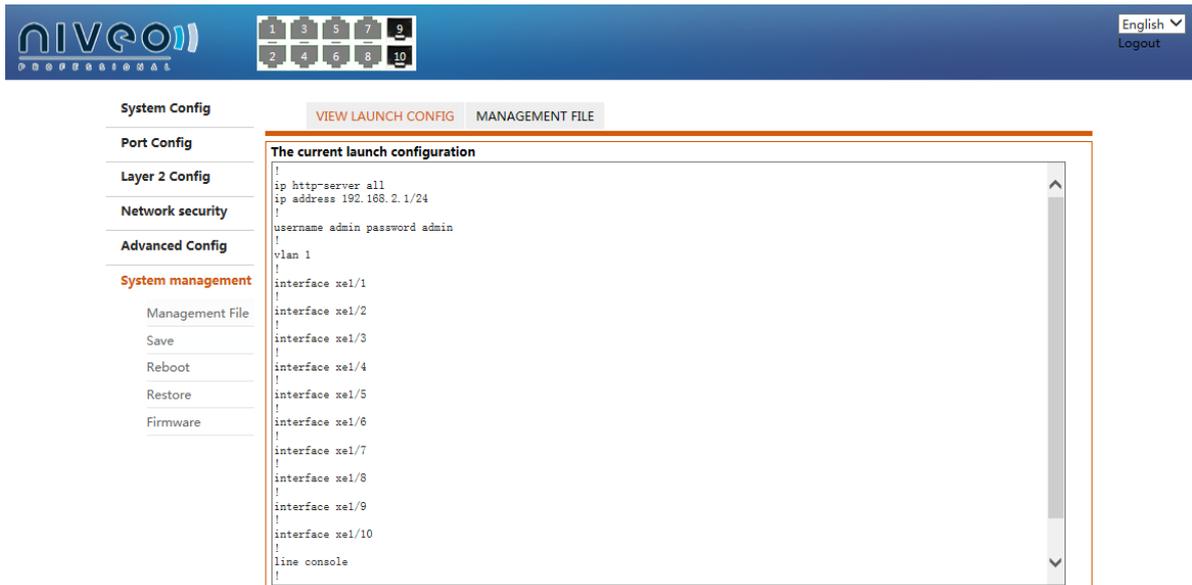
SNMP Config

System management

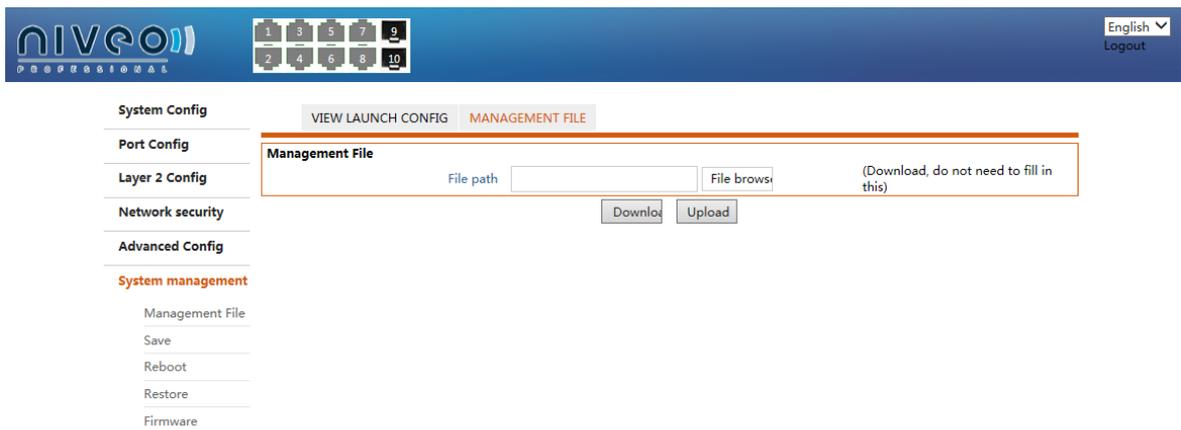
8 System maintenance

8.1 configuration file management

Able to view equipment related configuration;



Through the configuration file management can be downloaded, uploaded equipment related configuration;



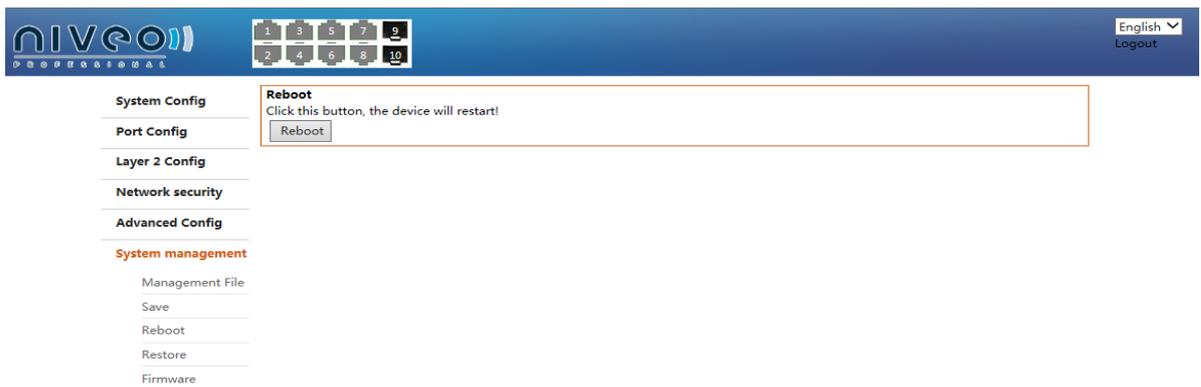
8.2 Save the configuration

Through this page click save configuration to save equipment related configuration, ensure the equipment after power reset configuration will not be lost;



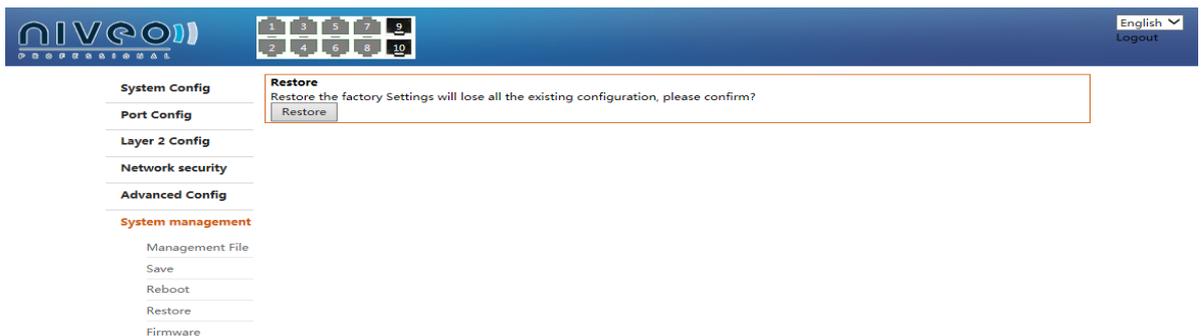
8.3 Restart the equipment

Click on the restart button; The device will reboot;



8.4 Restore factory Settings

Click restore factory Settings button, will lose all the existing configuration, restore the default;



8.5 Online upgrade

Click browse, choose to upgrade the firmware, click upload, waiting for the upload is complete; To complete the online upgrade.

