M6200 Series NE Configuration Manual



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Preface

Overview

Chapter	Description
Preface	This chapter introduces contents, version information and explanation of special symbols.
1 Preparation Before Configuration	This chapter describes the preparation work required before configuring network NEs.
2 Create A Network	This chapter introduces how to build a network environment.
3 NE & Board Configuration	This chapter introduces the detailed configuration method of all the boards on NE.
4 Alarm Management	This chapter introduces the current alarm and history alarm of NE and NMS system.
5 Configuration Example of WDM Transmission	This chapter introduces configuration method and example of WDM point-to-point transmission.
6 Configuration Example of OSC Channel	This chapter introduces how to use OSC channel to manage configuration methods and examples.
Abbreviation	Abbreviation indication.

Product Version

Product Number	Version Number
M6200 Series	R6.3.10

Symbol Conventions

The following symbols may be found in this document. They are defined as follows:

Symbol	Description
	DANGER indicates a hazard with a high level or medium level of risk which, if not avoided, could result in death or serious injury
WARNING	WARNING indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury
CAUTION	CAUTION indicates a potentially hazardous situation that, if not avoided, could result in equipment damage, data loss, performance deterioration, or unanticipated results.
О	Provides a tip that may help you solve a problem or save time.
Note Note	Provides additional information to emphasize or supplement important points in the main text.

1. Preparation Before Configuration

1.1. Configuration Process

When configuring M6200 devices on M Series system, some rules and orders must be followed.

If the whole project and its configuration are initially created, please refer to process in Figure 1-1 to complete the operation. If the project has been created, only the configuration of one NE or single disk needs to be changed, please perform the operation according to relevant content of chapters in Figure 1-1.



Figure 1-1 M6200 Configuration Process

M Series system mainly contains operations such as parameter configuration of port mode and optical amplifier as well as alarm query and configuration information query etc.

It is recommended that the configurations of M Series equipment be completed according to the sequence of operation in the flowchart (Figure 1-1).

1.2. Connect NMS System & NE

For different network connection components, there are multiple connection modes between M Series network management computer and M6200 network NEs. The connection mode of "directly connected network line + HUB + directly connected network line" is the most commonly used. You can also directly connect M Series

network management computer with M6200 network NEs by using cross network cable or directly connected network cable.



Figure 1-2 Schematic Diagram of Connection Between NMS System and NE

Prerequisite

The deployment of network cables between the NMS system and NE has been completed.

Steps

Here we take the connection mode of "directly connected network cable + HUB + directly connected network cable" as an example to introduce the steps to connect the NMS system and the network NEs:

- Turn on the network management computer and take a network cable to connect one end to the network card interface of the host computer, and connect the other end to the Ethernet port of HUB.
- Take another network cable. Connect one end to the Ethernet port of HUB and connect the other end to MGMT1/2/3/4 ports of NMU board for M Series equipment.
- Check on the network management computer to see if the network cable is connected to a device network card; if not, connect the network cable to another network card of the network management computer.

1.3. Start Network Management Service

Prerequisite

Ensure that the M Series system has been installed on the network management host.

1.3.1. Start Server End Program



Double click on *"MNS Server"* on the network management computer, the "NMS" server window pops up. Then double click on *"Start NMS Server"*, as shown in Figure 1-3.

NMS			- 0	×
<u>Options</u> E <u>d</u> it <u>H</u> elp				
Pa 🕹 🔍 🕫				
Start NMS Server Starts the NMS Server	Start NMS Server	Shutdown NMS Server	Reinitialize NMS	
Start NMS Server				<u>010010</u>
TTOCESS . EVENUL	[Stated]			
Process : MapFE	[Started]			_
Process : PolicyFE	[Started]			
Process : AlertFE	[Started]			
Process : UserConfigProc	essFE [Started]			
Process : ConfigFE	[Started]			
Process : NmsMainFE	[Started]			
Process : WebNMSMgmtFl	EProcess [Started]			
Verifying connection with w	reb server verified			
NMS modules started suc	cessfully at Sep 22,2020 02:03:01 PM			
Please connect your client	to the web server on port: 9090			
				=
				-

Figure 1-3 Start NMS Server

2. Create Network

Create network topology, that is, create corresponding network model of actual project according to the configuration of actual engineering (such as networking, single site configuration etc.), so as to realize the monitoring of devices.

Before creating a network topology, operators need to know the relevant engineering configuration files, including:

- Information such as the NE type and single disk configuration of each site.
- Network topology of engineering.
- Service scheduling and protection scheme.

If an operator only needs to add a network NE to an existing project, he only needs to know the location and topological connection of the network NE in the actual network.

It will introduce the creation steps of the network topology according to the configuration process in the following passage. Moreover, it will focus on the parameter configuration related to M6200 in each step, and only the sections of the reference book will be provided for the common configuration steps for each device. M Series-related software was pre-installed when the network management host was manufactured. When the network management host was turned on, the network topology could be created according to the configuration process. This chapter includes the following content:

- Create Network Flow
- Login NMS Interface
- Create Nodes
- Add NE
- Establish Network NE connection
- Management of Network NEs
- Check Configuration Data
- Save Configuration Data

2.1. Network Creation Process

The topology of subnet, network NE and fiber cable can be created in M Series system. Network NE data can be configured. The single board parameters can be checked or modified, and further the subnet, network NE or fiber cable can be managed by M Series NMS.

To create network, you can take the following process as reference:



Figure 2-1 Create Flow Chart of Network Topology

2.2. Login NMS Interface

Prerequisite

The installation of NMS system is completed, and NMS server has been started.

Steps

Open the Google Chrome browser and enter localhost:9090 in the address bar (If you log on to the NMS host, you can use this address.) or xxx.xxx.xxx:9090 (for remote NMS host). Enter your user name and password to login. The user name is root, and the password is public.



Figure 2-2 Login NMS System

2.3. Create Node

Click on "Global View" or click on "Configuration Management" on the top after clicking on "Global View", and

then click on "*Add Group*". Input node name and description information. The description information can be blank. After that, click on "*Apply*".

			Monitor	(S) Global	Configuration	X Maintain
 Global View M6200-CH2U-No.2(10.32.130.116) M6500-CH2U-No.2(10.32.130.160) M6800-TSP16(10.32.130.112) OTN 	Global View Add Group Parent Node • Group Name Describe Info	Global Configuration Global View Please Input content Please input content Apply				

Figure 2-3 Add Node

Click on the created node and then click on the right side of the "*Group Configuration*", you can continue to add children, enter the name of the child node, click "*Apply*".



			Monitor	(Global	Configuration	X Maintain
	Group view Group Config	gration				
	Modify Group					
TTN	Parent Node	Global View				
	* Group Name	OTN				
	Describe Info	Please input content				
		Apply Delete				
	Add Group					
	Parent Node	OTN				
	* Group Name	Please input content				
	Describe Info	Please input content				
		Apply				

Figure 2-4 Add Child Node

Click on the created child node, then click "*Group Configuration*", then click "*Delete*" to delete the node, click "*Apply*" to delete the node.

		Mon		Configuration	% Maintain
 Global View M6200-CH2U-No.2(10.32.130.116) M6500-CH2U-No.2(10.32.130.160) M6800-TSP16(10.32.130.112) OTN 	Group view Group Config Modify Group Parent Node * Group Name Describe Info	Clobal View CTN Please input content Apply Delete			
	Add Group		Are you su	re to delete all content under the group	12
	Parent Node * Group Name	OTN Please input content		Apply Cancel	
	Describe Info	Please input content			
		Apply			

Figure 2-5 Delete Child Node



The operation steps to delete node are the same as that to delete child node. You only need to select the parent node.

2.4. Create NE

2.4.1. Add NE

Click the added node and then click "*Group Configuration*" on the right, under "*Add NE*", enter the NE name, IP address of the NE, subnet mask, Trap host name, Trap host IP address, and click "*Apply*".

Click on the node which has been added, then click on "*Group Configuration*". Enter the NE name, NE IP address, subnet mask, Trap host name, Trap host IP address, and click on "*Apply*".

222 Please input content
Please input content
Please input content

Copyright ©:

Figure 2-6 Add NE

Note: The IP address of the trap host is the IP address of the network management server.

2.4.2. Modify NE

Click on the NE which has been added and select "NE Management" to modify the NEs description name.

Parent Node	Global View	
Group Name	10G	
IP Address	10.32.130.110	
Subnet Mask	255.255.255.0	

Figure 2-7 Modify NE

2.4.3. Delete NE

Click on the added NE and then click on "*NE Management*" on the right, and then click "*Delete*" at the bottom of the "*Modify NE*" module.

Global View	NE View	NE Management	NE Configuration	MGMT IP Configuration	Server Configuration	Software Update	OSPF Information
 M6200-CH2U-No.2(10.32.130.116) M6500-CH2U-No.2(10.32.130.160) M6800-TSP16(10.32.130.112) 	Modify NE						
T OTN	Parent Node		Global View				
	Group Name		M6200-CH2U-No.2				
	IP Address		10.32.130.116				
	Subnet Mask		255.255.255.0				
			Apply Delete				

Figure 2-8 Delete NE

2.4.4. Add Single Board

Select an empty channel on the added NE, click on the empty channel and configure the card mode in the "Card Mode Configuration" module on the right.

🚍 🐨 Global View	Card Mode Configuration	n	
 ☐ M6800-TSP16(10.32.130.111) ☐ ☐ 106(10.32.130.110) 	Card Mode	Empty	*
⊡ · ■ Shelf01		Apply	
Slot1 M6200-DCM40 : normal			
Slot2 Empty : available			
Slot3 Empty : available			

Figure 2-9 Add Single Board

In the card mode configuration interface, open the drop-down box, select the mode of card you want to configure, then click "*Apply*", and then select "*Apply*" at the pop-up prompt box.

Card Mode Configuration

Card Mode

Empty	*
DCM	
10G OEO	
OLP1+1	
EDFA	
MUX	
R/B	



Card Mode Configuration		
Card Mode	DCM	*
	Apply	
		Q
		Success

Figure 2-11 Add a line-card successfully

The pre-configuration of board can only be realized when the slot is not occupied.

2.4.5. Delete Single Board

The deleted board has no single-board crossover or no cross-board crossover service exists. Click the added veneer and then click "*Delete*" in the "*Remove Board*" module on the right.



Figure 2-12 Delete Single Board

2.5. Manage NE IP

2.5.1. Node IP Configuration

Click on the added network NE and click on "MGMT IP Configuration" on the right.

⊡-• Global View	NE View NE Manage	ment NE Configuration	MGMT IP Configuration	Server Configuration	Software Update	OSPF Information
🔁 🛑 10G(10.32.130.110)	MGMT IP Configuration					
🖻 🚆 Shelf01	* Node IP	192.168.120.107		(1.1.1.1)		
Slot1 M6200-DCM40 : normal		102.100.120.101				



Enter the "MGMT IP Configuration" interface, enter the IP address of the node, and then click "Apply".

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NE View NE Management	NE Configuration	MGMT IP Configuration	Server Configuration	Software Update	OSPF Informatio
GMT IP Configuration					
• Node IP	192.168.120.107		(1.1.1.1)		
NMS IP1					
• IP Address	10.32.130.110		(1.1.1.1)		
• Subnet Mask	255.255.255.0		(1.1.1.1)		
* OSPF	Disable				
NMS IP2					
IP Address	126,1.2.120		(1.1.1.1)		
Subnet Mask	255.255.255.255		(1.1.1.1)		
OSPF	Disable		Ŧ		
LCT IP					
IP Address	192.168.126.1				
Subnet Mask	255,255,255,252				
• Gateway	0.0.0.0		(1.1.1.1)		
* Default route re-distribution	Disable		•		
	Apply				

Figure 2-14 Node IP Configuration

2.5.2. NMS IP1 Configuration

Click the added network NE \rightarrow Click "*MGMT IP Configuration*" \rightarrow "*NMS IP1*".

NMS IP1		
* IP Address	10.32.130.110	(1.1.1.1)
* Subnet Mask	255.255.255.0	(1.1.1.1)
* OSPF	Enable	•

Figure 2-15 NMS IP1 Configuration

2.5.3. NMS IP2 Configuration

The steps are the same as those of NMS IP1 configuration.

2.5.4. Local NMS IP Configuration

The default IP address of local NMS is 192.168.126.1, and the default subnet mask is 255.255.255.252. These parameters cannot be changed.

LCT IP	
IP Address	192.168.126.1
Subnet Mask	255.255.255.252

Figure 2-16 Local NMS IP Configuration

2.5.5. Gateway Configuration

Click the added network NE \rightarrow Click "*MGMT IP Configuration*" \rightarrow Local network management IP module. Enter the gateway IP and click "*Apply*".

LCT IP		
IP Address	192.168.126.1	
Subnet Mask	255.255.255.252	
* Gateway	0.0.0.0	(1.1.1.1)
* Default route re-distribution	Disable	
	Apply	

Figure 2-17 Gateway Configuration

2.6. Configure FTP Server

Click the added NE \rightarrow Click "Server Configuration" on the right, enter the FTP server IP address in the setting value and click "Apply".



NE View	NE Management	NE Configuration	MGMT IP Configuration	Server Configuration	Software Update	OSPF Information
FTP Server Co	onfiguration					
Current Value	e	10.32.130.8				
* Set Value	F	Please input content				
		Apply				



2.7. Configure SNMP Trap

Click the added network NE \rightarrow Click "*Server Configuration*" to configure, enter the SNMP Trap configuration module, and click "*Apply*".

NE View		figuration MGMT IP Configuration	Server Configuration Software Update	OSPF Information	
Please input c	a	Search			
Add	Refresh Delete				
D ID 🛧 N	Name	↑ Trap Host	↑ Trap Port		+ Trap State
1 1		10.32.130.23	16222	NonVolatile	Active
🗆 2 OT	ΓN	10.32.130.8	16222	NonVolatile	Active
🗌 3 Tra	ap	192.168.126.2	16222	NonVolatile	Active
🗌 4 inte	ernal0	127.0.0.1	162	ReadOnly	Active
🗍 5 inte	ernal1	127.0.0.1	162	ReadOnly	Active
🗌 6 traj	ip	10.32.130.9	16222	NonVolatile	Active
Total: 6 records					10 Trevious 1 Next



2.8. Configure NE Time

2.8.1. Configure NTP Server

Click the added network NE \rightarrow Click "Server Configuration" on the right, and configure it in the "NTP Configuration" module.

View	NE Management	NE Configuration	MGMT IP Configuration	Server Configuration	Software Update	OSPF Information	Active			
🗌 3 Traj		192.168.126.2		16222		NonVolatile	Active			
a inte	ernal0	127.0.0.1		162		ReadOnly	Active			
5 inte	ernal1	127.0.0.1		162		ReadOnly	Active			
🗌 6 trap	p	10.32.130.9		16222		NonVolatile	Active			
Total: 6 records								10 💌	Previous	1 Next
Please input co			Search							
Basic Info	Add	Refresh Delete								
Basic Info		Refresh Delete			↑ Server Sta	tus				
		Refresh Delete		1	↑ Server Sta	tus				
		Refresh Delete				tus				

Figure 2-20 NTP Configuration

Click "*Add*", enter the NTP server IP, click "*Apply*" and the configuration is successful.

Server IP	Please input content	
		(1.1.1.1
Apply	Close	

Figure 2-21 Successful Configuration of NTP

The purpose to configure NTP time is to make the reporting time of the current alarm be the same as the local computer time.

2.8.2. Configure NE Time

Click the added NE \rightarrow Click "*NE Configuration*" on the right side and configure it in the "*NE Time Configuration*" module.

In the "NE Time Configuration" module, set the current NE time and click "Apply".



NE View	NE Management	NE Configuration	MGMT IP Configuration	Server Configuration	Software Update	OSPF Information
NE Basic Info	1					
System Loc	ation					
Contact Info	,					
Device Iden	tifier	M6200-CH2U				
System Up	Time	1 day, 1 hours, 49 minutes, 1	0 seconds.			
Serial Numb	ber	1032B01SN19060016				
Hardware V	ersion	1.0				
Software Ve	ersion	-				
System Nar	ne	Please input content				
System Des	scription	Please input content				
		Refresh Apply				
NE Time Con	figuration					
Time Zone		(GMT)		•		
NE Current	Time	2020-09-30 01:59:51				
		Refresh Apply				

Figure	2-	22	NE	Time	Configuration
--------	----	----	----	------	---------------

2.9. Configure NE Data

2.9.1. Save NE Configuration

Click the added NE \rightarrow click "*NE Configuration*" on the right, and then click "*Save*" in the "*NE Configuration Management*" module.

FS M Series NMS		Monitor	Global	Configuration	X Maintain		Inspect Lock root
Global View	NE View NE Management	NE Configuration MG	GMT IP Configuration	Server Configuration	Software Update	OSPF Information	
🖨 👩 M6200-CH2U-No.2(10.32.130.116)	System Name	Please input content	own in comparation	Server Comgutation	outware opuate	COFF INIGINATION	
🗄 🚟 Shelf01							
E Slot1 M6200-EDFA(BA) : normal	System Description	Please input content					
Slot2 M6200-DCM40 : initializing							
🗊 🔲 Slot3 M6200-OEO10G : normal		Refresh Apply					
Slot4 Empty : available							
Slot5 M6200-RB : normal	NE Time Configuration						
Slot6 M6200-OLP2 : normal	Time Zone	(GMT+8:00)		*			
🖽 🖸 Slot7 M6200-NMU : normal							
Slot8 M6200-EDFA(PA) : normal	NE Current Time	2020-10-09 16:44:06					
Slot9 M6200-2UFAN : normal							
Slot10 M6200-2UPSM : normal		Refresh Apply					
Slot11 M6200-2UPSM : normal							
H M6500-CH2U-No.2(10.32.130.160)	NE Configuration Management						
■ M6800-TSP16(10.32.130.112)	NE Log Upload	The NE log will be uploaded from the ne	a la lha NMC sanar	Upload	6		
The OTN	WE LOG Optoau	The ive log will be uploaded iron the in	e to the NMS Server	Upicad			
	Configuration Data Save	The NE configuration will be saved to the	he flash of the device	Save			
	Default Configuration Data Restore	The existing configuration will be lost, a restarted	and the NE will be restored a	and Recovery			
	Configuration Data Upload	The NE Configuration will be uploaded	from the NE to the NMS se	rver Upload			
	Configuration Data Download			Download			

Figure 2-23 Save NE Configuration

2.9.2. Upload NE Configuration

Click the added NE \rightarrow click "*NE Configuration*" on the right, and then click the "*Configuration Data Upload*" upload button in the NE Configuration Management module.

			onitor Global	Configuration	* Maintain		Inspect	Lock	root	Quit
😑 🚱 Global View	NE View NE Management	NE Configuration	MGMT IP Configuration	Server Configuration	Software Update	OSPF Information				
M6200-CH2U-No.2(10.32.130.116)	System Name	Please input content								
🗎 🔛 Shelf01										
E Slot1 M6200-EDFA(BA) : normal	System Description	Please input content								
Slot2 M6200-DCM40 : initializing		Refresh Apply								
🕀 🖸 Slot3 M6200-OEO10G : normal										
Slot4 Empty : available										
Slot5 M6200-RB : normal	NE Time Configuration									
🗊 🖸 Slot6 M6200-OLP2 : normal	Time Zone	(GMT+8:00)		*						
🖽 🛄 Slot7 M6200-NMU : normal										
E) - Slot8 M6200-EDFA(PA) : normal	NE Current Time	2020-10-09 16:44:06		m						
Slot9 M6200-2UFAN : normal										
Slot10 M6200-2UPSM : normal		Refresh Apply								
Slot11 M6200-2UPSM : normal										
🖽 💼 M6500-CH2U-No.2(10.32.130.160)	NE Configuration Management									
M6800-TSP16(10.32.130.112)	NE Log Upload	The NE log will be uploaded fro	m the ne to the NMC conver	Upload						
DTN	WE LOG Option	The five log will be oploaded in	til ble tie to ble NMG Server	Opioad						
	Configuration Data Save	The NE configuration will be sa	ved to the flash of the device	Save						
	Default Configuration Data Restore	The existing configuration will b restarted	e lost, and the NE will be restored	and Recovery						
	Configuration Data Upload	The NE Configuration will be up	ploaded from the NE to the NMS s	erver Upload						
	Configuration Data Download			Download						

Figure 2-24 Upload NE Configuration

The input file name for NE upload configuration cannot include special characters and Chinese characters. After successful upload, the saved configuration can be viewed under the folder of [Installation

Directory \rightarrow TFTP \rightarrow configure J.

2.9.3. Download NE Configuration

Click the added NE \rightarrow click "*NE Configuration*" on the right, and then click the "*Configuration Data Download*" download button in the NE Configuration Management module.

Configuration Data Download	10.32.130.111_config.tar.gz	Download
	10.32.130.111_config.tar.gz 10.32.130.120_config.tar.gz	
	10.32.130.120_comig.tdi.gz	

Figure 2-25 Download NE Configuration



The configurations which are not for the NE cannot be selected during the download of NE configurations. This illegal operation will lead to abnormal network NEs.

2.9.4. Restore NE Default Configuration

Click the added NE \rightarrow click "*NE Configuration*" on the right, and then click the "*Default Configuration Data Restore*" button in the NE Configuration Management module.



			Monitor Global	Configuration	* Maintain		Inspect	Lock	root	Quit
🖂 🚱 Global View	NE View NE Management	NE Configuration	MGMT IP Configuration	Server Configuration	Software Update	OSPF Information				
☐ M6200-CH2U-No.2(10.32.130.116)	System Name	Please input content								
🖻 🗮 Shelf01										
🗈 🖸 Slot1 M6200-EDFA(BA) : normal	System Description	Please input content								
Slot2 M6200-DCM40 : initializing		Refresh Apply								
🖽 🗖 Slot3 M6200-OEO10G : normal										
Slot4 Empty : available										
Slot5 M6200-RB : normal	NE Time Configuration									
Slot6 M6200-OLP2 : normal	Time Zone	(GMT+8:00)		*						
🕒 🖸 Slot7 M6200-NMU : normal										
🕀 🖸 Slot8 M6200-EDFA(PA) : normal	NE Current Time	2020-10-09 16:44:06								
Slot9 M6200-2UFAN : normal										
Slot10 M6200-2UPSM : normal		Refresh Apply								
Slot11 M6200-2UPSM : normal										
🖽 👩 M6500-CH2U-No.2(10.32.130.160)	NE Configuration Management									
M6800-TSP16(10.32.130.112)	MP Loc Holord	The ME is a colline to be a set	from the ne to the NMS server							
The OTN	NE Log Upload	The NE log will be uploaded	irom the ne to the NMS server	Upload						
	Configuration Data Save	The NE configuration will be	saved to the flash of the device	Save						
	Default Configuration Data Restore	The existing configuration will restarted	If be lost, and the NE will be restored	d and Recovery						
	Configuration Data Upload	The NE Configuration will be	uploaded from the NE to the NMS s	server Upload						
	Configuration Data Download			• Download						

Figure 2-26 Restore NE Default Configuration

When the default configuration of the network NE is restored successfully, the board configuration of all slots on the network NE will turn to the default configuration. Please operation with caution.

2.10. Create Fiber Optic

2.10.1.Adjust NE Layout

Click on "Global View" and click on NE or node in the global view and then drag it to the right place.



Figure 2-27 Adjust NE Layout

2.10.2.Create Connection between NEs

Left-click on the "*Connect*" button in the global view.



Figure 2-28 Click on "Connect" Button

Input name, NE IP address, chassis number, slot number and port number in the pop-up, and then click on *"Apply"*.

Create Link		>
Name	20-50	
Source		
* Network	Please Select	v
* Shelf	1	Ţ
* Slot	4	V
* Port	1	v
Dest		
* Network	Please Select	~
* Shelf	1	×
* Slot	1	Ŧ
* Port	1	~



2.10.3.Save Layout

Left-click on the "Save Coordinates" button in the global view.

Global View	Global Configuration
¢ Q	Q % 🖺 💿 Please input content Q Search
	20-50 10G M6500

Figure 2-30 Save Layout

3. NE & Board Configuration

Prerequisite

- 1. Network devices and lines are normal.
- 2. NE and NMS system have been configured.
- 3. NMS server has been running and logged into the NMS system.

3.1. Chassis Information

Select the network NE, click "*Shelf01*" and select "*Shelf Information*" to open the frame information interface, you can view the frame type, temperature and other information in this interface, as shown in Figure 3-1.

🖃 🚱 Global View						
☐ ■ M6800-TSP16(10.32.130.111)	Shelf View	Shelf Information	Slot Information	Card Information	SC1+1 Conf	figuration
☐	Shelf Inventory					
🖻 🚆 Shelf01	12010200					
- Slot1 M6200-DCM40 : normal	Shelf Type		M6200-CH2U			
🗄 📮 Slot2 M6200-OLP2 : normal	HW Version		1.0			
Slot3 Empty : available	Mac Address		60:E6:BC:02:08:6B			
🖽 📮 Slot4 M6200-OEO10G : normal	Fan Speed Pwm		60%			
🖽 📮 Slot5 M6200-EDFA(PA) : normal	Fan Top Speed		False			
🗈 📮 Slot6 M6200-EDFA(BA) : normal	PN		20.010.5148			
🕀 📮 Slot7 M6200-NMU : normal	SN		1032B01SN19060016			
🕀 📮 Slot8 M6200-OEO10G : normal	Shelf Id		1			
- 📮 Slot9 M6200-2UFAN : normal	Temperature(°C)		23			
Slot10 M6200-2UPSM : normal						
Slot11 M6200-2UPSM : normal	Location		Please input content			(Can not contain / : * ? " < > special characters)
🗇 🛑 M6200-CH2U-No.2(10.32.130.116)			-			
🖨 🚆 Shelf01	Auto Regulate Sp	eed	True		*	
			Apply LampTest			
Slot3 Empty : available						
Slot4 Empty : available						

Figure 3-1 Operation Steps to View Chassis Information

3.1.1. M6200-CH2U

The chassis information interface of 2U device is as shown in the figure below:

Shelf Inventory		
Shelf Type	M6200-CH2U	
HW Version	1.0	
Mac Address	60:E6:BC:02:08:6B	
Fan Speed Pwm	60%	
Fan Top Speed	False	
PN	20.010.5148	
SN	1032B01SN19060016	
Shelf Id	1	
Temperature(°C)	23	
Location	Please input content	(Can not contain / : * ? " < > special characters)
Auto Regulate Speed	True	
	Apply LampTest	

Figure 3-2 M6200-CH2U Chassis Information

3.1.2. M6200-CH5U

The chassis information interface of 5U device is as shown in the figure below:

Shelf View	Shelf Information	Slot Information	Card Information	SC1+1 Confi	guration
Shelf Inventory					
Shelf Type		M6200-CH5U			
HW Version		1.0			
Mac Address		60:E6:BC:06:6A:40			
Fan Speed Pwm		70%			
Fan Top Speed		False			
PN		20.010.5167			
SN		1035B00SN20070007			
Shelf Id		1			
Temperature(°C)		22			
Location		Please input content			(Can not contain / : * ? * <> special characters)
Auto Regulate Sp	eed	True		v	
		Apply LampTest)		



3.2. Board Information

Click on "Card Information" to view the board information.

Inventory					
Please input cont	ent	Search			
Slot ID	Туре	SN	PN	HW Version	SW Version
1	Empty	-	-	<u> </u>	-
2	M6200-OLP2	1432LP1RS1902091	20.010.5200	20.010.5200	V2.00_190911
3	Empty	-	-	-	-
4	M6200-DEO10G	2132TACRW19010008	20.010.5190	20.010.5190	V2.00_190128
5	M6200-EDFA(PA)	1032ON1YD19020010	20.010.5270	20.010.5270	V1.00_190711
6	Empty	-	-	-	-
7	M6200-NMU	2532C00RS1808256	20.010.5138	20.010.5138	R6.4.28_v103
8	Empty				
9	M6200-2UFAN	1532F00RW19020243	20.010.5136	20.010.5136	-
10	M6200-2UPSM	1232BR0BY1705385	20.010.5180	20.010.5180	

Figure 3-4 Operation Steps to View Board Information

The board information interface is as shown in the figure below. Information such as board type of each slot, hardware version, software version, Kernel version, Uboot version, CPLD version, central temperature and outlet temperature can be viewed in this interface.

Inventory					
Please input cont	tent	Search			
Slot ID	Туре	SN	PN	HW Version	SW Version
1	Empty		-	-	-
2	M6200-OLP2	1432LP1RS1902091	20.010.5200	20.010.5200	V2.00_1909110
3	Empty	-	-	-	-
4	M6200-OEO10G	2132TACRW19010008	20.010.5190	20.010.5190	V2.00_1901280
5	M6200-EDFA(PA)	1032ON1YD19020010	20.010.5270	20.010.5270	V1.00_1907110
6	Empty	-	-		-
7	M6200-NMU	2532C00RS1808256	20.010.5138	20.010.5138	R6.4.28_v1039
8	Empty	-			
9	M6200-2UFAN	1532F00RW19020243	20.010.5136	20.010.5136	-
10	M6200-2UPSM	1232BR0BY1705385	20.010.5180	20.010.5180	



3.3. Optical Module Configuration

The operation steps to view optical module information are as follows:

Select NE - Channel, right-click "*Port*" and select "*Pluggable Configuration*" menu, as shown in the following figure.



		Monito				
M6200-CH2U(10.32.130.110)						
🗄 🖀 Shelf01	Port Management	Pluggable Configuration				
Slot1 M6200-DCM40 : absent		\sim				
🗄 🖸 Slot2 M6200-OLP2 : normal	Pluggable BasicInfo					
Slot3 M6200-DCM40 : absent	Туре	SFP/SFP+				
🖨 🖸 Slot4 M6200-OEO10G : normal	Present or Absent	Alarm				
- O Port1	Vendor SN	F1811017572				
🔂 Port2	Vendor PN	SFP-10GLR-31				
Port3	Vendor OUI	00-00-00				
Port4	Application Code	Ethernet 10GBASE_LR				
Dort5	CLEI	Ellener IoobAde_CK				
Port6						
🙆 Port7	LaneNum	1				
Port8	Firmware					
Port9	Tunable	False				
Port10	Wavelength(nm)	1310				
🕒 🖸 Slot5 M6200-EDFA(PA) : normal						
🕀 🖸 Slot6 M6200-EDFA(BA) : absent	Optics Paramete					
🖽 📮 Slot7 M6200-NMU : normal	Please input content		Search			
B Slot8 M6200-OEO10G : absent						
Slot9 M6200-2UFAN : normal	↓Lane ID		+ Lane RxPower(dBm)		+ Laser Bias(mA)	
Slot10 M6200-2UPSM : normal	1	-40.00	-40.00	19.0	N/A	3.32
Slot11 M6200-2UPSM : normal						
M6200-CH2U-No.2(10.32.130.116)	Total: 1 records					10 V Previous 1 Ne
🖨 🔚 Shelf01						
Slot1 M6200-D2160M : normal						
Slot2 Empty : available						
Slot3 Empty : available			Copyright @	2020 by FS.COM All Rights Reserved.		

Figure 3-6 Optical Module Configuration

3.3.1. SFP/SFP+ Optical Module Information

M Series NMS system SFP and SFP+ optical module information is not separately distinguished, and the XFP optical module information is similar to it.

ort Management	Pluggable Configuration				
ggable BasicInfo					
Туре	SFP/SFP+				
Present or Absent	Work				
Vendor SN	CIB1908221481				
Vendor PN	SFP-10GLR-31				
Vendor OUI	00-00-00				
Application Code	Ethernet 10GBASE_LR				
CLEI					
LaneNum	1				
Firmware					
Tunable	False				
Wavelength(nm)	1310				
tics Paramete					
Please input content		Search			
↓Lane ID	↑ Lane TxPower(dBm)		+ Laser Temperature(°C)		
1	-2.00	-5.30	31.0	31	3.26
					10 V Previous 1



Please input content		Search			
Lane ID		+ Lane RxPower(dBm)	+ Laser Temperature(*C)		
1	-2.00	-5.30	31.0	31	3.26



3.4. NMU Board

3.4.1. NMU Board Introduction

M6200-NMU board is the NMU board for M6200 chassis. It supports status management and service configuration of the backplane, power supply, fan, and line cards. It also supports remote login maintenance management, SNMP V2C general network management interface, Trap alarm reporting and flexible networking management of electrical/optical ports.



Figure 3-9 Front Panel of NMU Board

Table 3-1 Indicator Light Information of NMU Board

ltem	Meaning	Indicator Light Status	Description
		Red Light Always ON	There is alarm of NE.
ALM	Alarm Light	Slow Flash of Red Light	There is Latch_open alarm of the NMU board.
		Always OFF	There is no alarm of NE.
		Always OFF	The software is not started.
RUN	System Running Light	Quick Flash of Green Light	The software has started and the board works normally.
АСТ	Active/Standby Status Light of NMU Board	Green Light Always ON	NMU is Active.
	LIGHT OF NIVIO BOARD	Green Light OFF	NMU is Standby.

3.4.2. View and Configure NMU Board Information

Left click to select the M6200-NMU board, click "*Check*" in the current alarm column of the board to view the current alarm information.

3.4.3. NMU Port Configuration

Select the network NE M6200-NMU card, open the NE tree, and click "*MGMT5*" to select "*Port Management*" and "*Pluggable Configuration*", as shown in the following figure.

M6200 Series NE Configuration Manual

😑 😚 Global View	Port Management P	uggable Configuration		
🕀 🛑 M6800-TSP16(10.32.130.111)				
🖻 🚽 M6200-CH2U(10.32.130.110)	BasicInfo			
📩 🚆 Shelf01	Eddioinio			
Slot1 M6200-DCM40 : normal	Administrative State	Enabled	*	
🕀 🖪 Slot2 M6200-OLP2 : normal	Operational State	Up		
Slot3 Empty : available	Operational State	- OP		
🗊 🗖 Slot4 M6200-OEO10G : normal	Availability	LatchOpen		
🗊 🖪 Slot5 M6200-EDFA(PA) : normal				
🗊 🔄 Slot6 M6200-EDFA(BA) : normal	Port Mode	MGMT	V	
🖨 🗳 Slot7 M6200-NMU : normal	Port Description	Please input content		n not contain / : * ? " < > special characters
MGMT5				
MGMT6		Apply		
E Slot8 M6200-OEO10G : normal				
Slot9 M6200-2UFAN : normal				
- 🔄 Slot10 M6200-2UPSM : normal				
Slot11 M6200-2UPSM : normal				

Figure 3-3 NMU Port Configuration

In port management, the basic configuration information of the port can be viewed and the port management status can be configured.

BasicInfo			
Administrative State	Enabled	v	
Operational State	Down		
Availability	Notinstalled		
Port Mode	MGMT	Ŧ	
Port Description	Please input content		(Can not contain /: *? * < > special characters)
	Apply		

Figure 3-4 NMU Port Configuration

Click on the port and select "*Pluggable Configuration*", you can view the basic configuration information of the optical modules and the parameter information of the current optical module.

Pluggable BasicInfo	
Туре	Unknown
Present or Absent	Absent
Vendor SN	1422
Vendor PN	0.77
Vendor OUI	0.5
Application Code	0
CLEI	1422
LaneNum	0
Firmware	25
Tunable	False
Wavelength(nm)	0

Figure 3-12 Basic Information of Optical Transceiver

Please input content		Search			
Lane ID		+ Lane RxPower(dBm)			
1	-30.60	-40.00	40.0	20	3.23



3.5. 10G Cross Conversion Board--OEO10G Board Configuration

3.5.1. OEO10G Board Introduction

M6200-OEO10G is a 10G multi-functional cross conversion board for wavelength conversion of optical fiber links, optical signal amplification, optical line protection and intelligent cross conversion of optical lines launched by our company. It adopts the conversion principle of optical-electrical-optical to regenerate optical signals, so as to realize the regenerative amplification and wavelength conversion of optical signals. It can realize wavelength division multiplexing (WDM) transmission, wavelength conversion and OEO signal amplification with C/DWDM multiplexer/demultiplexer, which is especially suitable for optical communication systems such as 155M-10G/s, SDH/SONET and Ethernet. It provides fast and low-cost transmission schemes for optical fiber relay and transmission lines with scarce optical fiber resources. Moreover, it can realize 1+1 protection of 10G port and can support intelligent cross scheduling of optical lines.



Figure 3-14 Front Panel of OEO10G Board

There are five port modes for OEO10G:

- Port Amplification
- Adjacent Cross Connection
- 1+1 Protection
- Broadcast
- Free Mode



Figure 3-15 Port Amplification Mode of OEO10G

Port Amplification Mode: Optical signals are input from RX port of port1, and are output from TX port of port1 after conversion by the internal chip. That is the port loop mode, and the source of the port is the port itself.



Figure 3-16 Adjacent Cross Connection Mode of OEO10G

Adjacent Cross Connection Mode: Optical signals are input from RX port of port1 and are output from TX port of port2. That is, the source of port1 is port2 and the source of port1 is port1.

In adjacent cross connection mode, the corresponding relationships between ports are: port1-port2,

port3-port4, port5-port6, port7-port8 and port9-port10。





1+1 protection mode: In the mode that optical signals are transmitted simultaneously over the two channels and it selects to receive the optical signals from one of the two channels, that is to say, port3 is the service port, port1 and port2 are line ports, which are used for the switch between primary and secondary channels. The source of port1 and port2 is port3. port1 is the primary channel and port2 is the secondary channel.

For 1+1 protection mode, the corresponding relationships between ports are: port3-port1/2, port6-port4/5 and port9-port7/8.



Figure 3-18 Broadcast Mode of OEO10G

Broadcast Mode: Optical signals are input from RX of port1 and are output from TX of port1-port10, that is, port1 is the source port of port1-10.

Free Mode: Optical signals are input from RX of a certain port, and they can be set to be output from TX of any port. That is, the source of the port can be selected by the user.

ltem	Meaning	Indicator Light Status	Description
SYS	Alarm/System Running Light	Quick Flash of Red Light	There is mismatch alarm of the board.
		Slow Flash of Red Light	There are other alarms of the board.
		Slow Flash of Green Light	The board works normally and there is no alarm.
PORT (1~10)	Port Light	Green Light ON	The port is enabled and there are optical signals received at the port.
		Red Light ON	The port is enabled and there is no optical signal received at the port.
		OFF	The port is not enabled.

Table 3-2 Indicator	Light Information	of OEO10G Board
	Eight innormation	01 020100 00010

3.5.2. View and Configure OEO10G Board Information

Click on the board and select "Board Current Alarm", you can view the current alarms of the board (including alarms of the board and the port).

Click on the board and select "Reset Board Status", the factory configuration of the board can be restored.

Click click on the board and select "OEO10G Configuration", you can enter OEO10G configuration interface, as

shown in the figure below:

Left click to select M6200-OEO10G board, select "*Card Configuration*", you can view the current alarms of the board (including the alarms of the board and ports). Click the Reboot button of "Board Cold Start" to restore the factory configuration of the board. Select "*OTU Configuration*" to enter the OTU configuration interface. Select "*Pluggable Configuration*", you can enter the optical module configuration interface, as shown in the following figure.

			Monitor	Global	Configuration	* Maintain				
- 🚱 Global View										
H6800-TSP16(10.32.130.111)	Card Configuration	n OTU Configuration	Pluggable Configuration	1						
E @ M6200-CH2U(10.32.130.110)										
🗄 🗮 Shelf01	OTU Configuration	on .								
Slot1 M6200-DCM40 : normal	Work Mode	1+1 Protection		Ψ.						
🗄 🧧 Slot2 M6200-OLP2 : normal										
Slot3 Empty : available	BasicInfo									
E Slot4 M6200-OE010G : normal		Laser Shutdown Control			Port Laser State			Port Source Select		
O Port1	Port1	ALS Enable		Ŧ	Down		v			
e Port2	Politi	ALS ENDIR								
Port3	Port2	ALS Enable		*	Down		*			
Port4										
- O Port5	Port3	ALS Enable		*	Down		Ψ.	1	*	
Ports	Port4	ALS Enable		*	Dawn			6		
Port7		PLO LINER								
Port8	Port5	ALS Enable		*	Down		Ψ.	6	÷	
Port9										
Port10	Port5	ALS Enable		-	Down		Ψ.	4	Ŧ	
E Slot5 M6200-EDFA(PA) : normal	Port7	ALS Enable		*	Down		Ψ.	9	*	
E Slots M6200-EDFA(BA) : normal										
🗒 🖸 Slot7 M6200-NMU : normal	Port8	ALS Enable		*	Down			9		
🗄 🚨 Slot8 M6200-OEO10G : normal										
Slot9 M6200-2UFAN : normal	Port9	ALS Enable		v	Down		Ψ.		Y	
Slot10 M6200-2UPSM : normal	Port10	ALS Enable		*	Down			10	w	
Slot11 M6200-2UPSM : normal		-								
E M6200-CH2U-No.2(10.32.130.116)		Apply Refresh								
🖨 🗮 Shelf01					Copyright @ 2020 by FS	COM All Rights Reserved.				



©≝[™] TIP

There are five work modes of OEO10G, which respectively are port amplification, adjacent cross connection, 1+1 protection, broadcast and free mode.

Table 3-3 Corresponding Relationship

between OEO10G ALS (Automatic Laser Shutdown) Status and Port Status

ALS (Automatic Laser Shutdown) Status	Port Status
ALS Function Disabled	Port TX Forced ON
ALS Function Enabled	Whether Port TX emits light depends on the port source. If there are optical signals received by the port source, port TX emits light, otherwise, it does not emit light.
Forced OFF	Port TX Forced OFF



In port amplification mode, both forced shutdown and no light shutdown are valid for the port.

In adjacent cross connection mode, forced shutdown is valid for the port and no light shutdown is valid for adjacent ports.

In 1+1 protection mode, forced shutdown is valid for the port and no light shutdown is valid according to the corresponding primary/secondary status.

In broadcast mode, forced shutdown is valid for the port and no light shutdown is valid according to the port source.

In free mode, forced shutdown is valid for the port and no light shutdown is valid according to the port source.

"Work Mode" cannot be modified in the previous four modes, but the port source can be changed freely in free mode.

The number of the drop-down menu of *"Work Mode"* corresponds to the port of the board, as shown in the figure below:

figura	ation					
Mode	Freedom	•				
0						
	Laser Shutdown Control		Port Laser State		Port Source Select	
rt1 -	ALS Disable	•	Down	Ŧ	1	v
irt2	ALS Enable	*	Down	·	2 3 4	
rt3	ALS Enable	Ŧ	Down		5 6 7	
rt4	ALS Enable	×	Down	×	8 9 10	
rt5	ALS Enable	Ŧ	Down	•	6	•
rt6	ALS Enable	Ψ.	Down	v	5	▼
rt7	ALS Enable	Ŧ	Down	*	8	•
rt8	ALS Enable	*	Down	Ŧ	7	•
rt9	ALS Enable	*	Down		10	•
rt10	ALS Enable	¥	Down	Ψ.	9	•

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Figure 3-20 OEO10G Port Source Selection

3.5.3. OEO10G Port Configuration

Select the network NE - OEO10G card, open the network NE tree, and left-click "*Port 1*" to select "*Port Management*" and "*Pluggable Configuration*", as shown in the following figure.
M6200 Series NE Configuration Manual



		Monitor	Global	Configuration	* Maintain		Insped	Lock	root	Quit
⊖ Solobal View ⊕ ● M6800-TSP16(10.32.130.111)	Port Management P	uggable Configuration								
☐ ● M6200-CH2U(10.32.130.110)	BasicInfo									
🗇 🗮 Shelf01	Administrative State	Enabled		*						
Slot1 M6200-DCM40 : absent										
Slot2 M6200-OLP2 : normal	Operational State	Up								
Slot4 M6200-OE010G : normal	Availability	Degraded								
Port1	Availability	nelignen								
Port2	Port Mode	10G-2G5-GE		-						
Port3										
- Port4	Port Description	Please input content		(Can not con	ntain 7 : * 7 * < > [special characters)					
Port5		Apply								
Port6										
B Port7										
Port8										
A Port9										
A Port10										
🗄 🖸 Slot5 M6200-EDFA(PA) : normal										
B- Slot5 M6200-EDFA(BA) : absent										
🗄 🖸 Slot7 M6200-NMU : normal										
🗄 🛄 Slot8 M6200-OEO10G : absent										
Slot9 M6200-2UFAN : normal										
Slot10 M6200-2UPSM : normal										
Slot11 M6200-2UPSM : normal										
E 👩 M6200-CH2U-No.2(10.32.130.116)										
🗇 📕 Shelf01				Copyright @ 2020 by F5	S.COM All Rights Reserved.					

Figure 3-21 OEO10G Port Configuration

In port management, you can view the basic information of the port.

sicInfo			
Administrative State	Enabled	v	
Operational State	Up		
Availability	Normal		
Port Mode	10G-2G5-GE	Ŧ	
Port Description	Please input content		(Can not contain / : * ? * < > special characte



Click on the port and select "*Pluggable Configuration*", you can view the basic configuration information of optical modules and the parameter information of current optical module.

Pluggable BasicInfo	
Туре	SFP/SFP+
Present or Absent	Work
Vendor SN	CIB1908221481
Vendor PN	SFP-10GLR-31
Vendor OUI	00-00-00
Application Code	Ethernet 10GBASE_LR
CLEI	_
LaneNum	1
Firmware	
Tunable	False
Wavelength(nm)	1310

Figure 3-23 Basic Information of OEO10G Optical Transceiver

Please input conten		Search			
↓ Lane ID	+ Lane TxPower(dBm)				
1	-2.30	-5.10	33.0	29	3.26



3.6. Optical Line Protection Board--OLP1+1 Board Configuration

3.6.1. OLP 1+1 Board Introduction

M6200-OLP2 system can monitor the power status of service optical fibers in real time. When the power of the service optical fibers is lower than the threshold value, it can automatically switch to the secondary optical fiber. The optical protection system will provide users with a more stable, flexible and secure transmission network, which has been widely used in backbone networks and important business routes.



Figure 3-25 Front Panel of OLP1+1 Board



Figure 3-26 Schematic Diagram of OLP 1+1

			-		
Table 3-4	Indicator	Light	Information	$\cap f \cap P$	1⊥1 Board
	marcator	LIGHT	mormation		I I I Doulu

ltem	Meaning	Indicator Light Status	Description
ALM	Alexee Indicate a Light	ON	There is alarm.
ALM	Alarm Indicator Light	OFF	There is no alarm.
RUN	Running Indicator Light	Slow Flash of Green Light	The board works normally.
	Light	OFF	The board works abnormally.
Auto/Force	Modo Indicator Light	ON	Automatic Work Mode
Auto/Force	Auto/Force Mode Indicator Light		Manual Work Mode
Pri/Sec	Primary/Secondary	ON	It works on the primary path.
Pri/Sec	Path Indicator Light	OFF	It works on the secondary path.
	Optical Power	ON	There are optical signals at Port R1.
R1	Indicator Light of Port R1	OFF	There is no optical signal at Port R1.
R2	Optical Power	ON	There are optical signals at Port R2.
π∠	Indicator Light of Port R2	OFF	There is no optical signal at Port R2.
Ty	Optical Power	ON	There are optical signals at Port Tx.
Тх	Indicator Light of Port TX	OFF	There is no optical signal at Port Tx.

Table 3-5 Port Description of OLP 1+1 Board

ltem	Meaning	Description
ТХ	Port TX	The input port of the board which is connected with the transmission equipment.
RX	Port RX	The output port of the board which is connected with the transmission equipment.
Т1	Output Port 1	The output port of the primary path of the board, which is split from TX and is connected with R1 port of the opposite end.
R1	Input Port 1	The input port of the primary path of the board, which is connected with T1 port of the opposite end and selects to output to RX port.
Т2	Output Port 2	The output port of the secondary path of the board, which is split from TX and is connected with R2 port of the opposite end.
R2	Input Port 2	The input port of the secondary path of the board, which is connected with T2 port of the opposite end and selects to output to RX port.

3.6.2. View and Configure OLP 1+1 Board Information

Select OLP 1+1 on the NE tree to access the board management related page, as shown below.

		Monitor Global	Configuration	X Maintain	(Inspect) Lo	ck i root	Quit
G Slot12 Empty : available G Slot20 Empty : available G ■ 2(10.32.130.110)	Card Current Alarm	View the current board alarm information	Check				
Shelf01 Slot1 M6200-DCM40 : normal	Slot Reboot						
😑 🗖 Slot2 M6200-OLP2 : normal	Card WarmReboot	The board will restart and the board configuration will not be lo	st Reboot				
- 🙆 TX 🙆 RX	Card ColdReboot	The board will restart and the board configuration will reset	Reboot				
- 🖨 T1 - 🔐 R1	Card Business Configuration						
- 🖸 T2	Switch State	T1/R1	*				
A R2	Switch Mode	Auto		Switch HoldoffTimer(ms)	0		
 Slot4 M6200-OEO10G : normal Slot5 M6200-EDFA(PA) : normal 	Revertive of Switch Mode	NonRevertive	×	WTR of Switch Mode(min)	1		
Slot6 M6200-EDFA(BA) : normal	Auto-back Mode	Autoback	w	HoldoffTimer of Auto-back Mode(s)	30		
🗄 🖸 Slot7 M6200-NMU : normal 🖽 🖸 Slot8 M6200-OE010G : normal	Button Enable	Enable	Ŧ	Switch Counter	123		
Slot9 M6200-2UFAN : normal	Console Enable	Enable	*	Card Description	Please input content		
Slot10 M6200-2UPSM : normal					(Can not contain / : * ? * <> special characters)		
Slot11 M6200-2UPSM : normal		Apply					
☐ ☐ 2(10.32.130.116)							
Slot1 M6200-D2160M : normal							
Slot2 Empty : available							
Slot3 Empty : available							
Slot4 Empty : available				y FS.COM All Rights Reserved.			
Slot5 M6200-RB : normal				F COORT IN TOURING TOUR THE PARTY OF			

Figure 3-27 OLP 1+1 Board Management Menu

Click "*Check*" in the "*Card Current Alarm*" column, you can view the current alarms of the board (including the alarms of the board and ports). The following figure shows the current alarms of the board.



Click "*Reboot*" in the "*Card ColdReboot*" column to restore the factory configuration of the card.

In "Card Business Configuration", you can view and set switch mode, button enable, consloe enable, card descripiton and other configurations.

Card Business Configuration					
Switch State	T1/R1	*			
Switch Mode	T1/R1 T2/R2 Tvianuai	v	Switch HoldoffTimer(ms)	0	
Revertive of Switch Mode	NonRevertive	*	WTR of Switch Mode(min)	1	
Auto-back Mode	Autoback	•	HoldoffTimer of Auto-back Mode(s)	30	
Button Enable	Enable	×	Switch Counter	123	
Console Enable	Enable	¥	Card Description	Please input content (Can not contain / : * ? * <> special characters)	
	Apply				



Right-click on the board and select "Switch State", only if the board's operating mode is manual, you can use the switch command to switch the board's operating line.

Card Business Configuration				
Switch State	T1/R1	*		
Switch Mode	T1/R1 T2/R2 Wanuai	*	Switch HoldoffTimer(ms)	0
Revertive of Switch Mode	NonRevertive		WTR of Switch Mode(min)	1
Auto-back Mode	Autoback	×	HoldoffTimer of Auto-back Mode(s)	30
Button Enable	Enable	Ŧ	Switch Counter	123
Console Enable	Enable	×	Card Description	Please input content
	Apply			(Can not contain / : * ? * <> special characters)

Figure 3- 30 OLP 1+1 State Switching

Note: The M6200 OLP 1+1 can be programmed to switch in 3 different modes:

- In **Revertive mode**, the OLP will switch from a primary signal to a backup signal when the primary signal fails. Upon restoration of the primary signal, the OLP will switch back.
- In Non-Revertive mode, neither signal is primary. The OLP will switch to the alternate signal when the signal it is using fails but will not revert to the original signal upon restoration. A failure of the new signal it is utilizing will however cause it to switch back to the original signal.
- In Manual mode, no automatic switch will take place. The network operator must manually switch the OLP from one signal to the other in M Series NMS management software.

Select the port you want to manage, and in the "*BasicInfo*" column, you can set the port management status and port mode (OLP2 card prohibits modifying the port mode).

	f			
Slot12 Empty : available	BasicInfo			
E	Administrative State	Enabled	•	
🗇 🗮 Shelf01	Operational State	Up		
Slot1 M6200-DCM40 : normal				
🖹 📮 Slot2 M6200-OLP2 : normal	Availability	Normal		
TX	De de la construcción de la constru	OLP	~	
🔂 RX	Port Mode	OLP	.*	
🔂 T1	Port Description	Please input content	(Can not contain /	: * ? " < > special characters)
🔂 R1				
🔂 T2		Apply		

Figure 3-31 OLP 1+1 Basic Information

In the "*Port Configuration*" column, you can read the optical power of the port in real time and set the wavelength, threshold and description information of the port.

Port Configuration			
Choose State	Interface		
Port Type	TX		
Optical Power(dBm)	-49.79		
Optical Threshold(dBm)	-20.00		
Wavelength(nm)	1310	*	
Port Description	Please input content		(Can not contain / : * ? * <> special characters)
	Apply		

Figure 3- 32 OLP 1+1 Interface Settings

3.7. Optical Amplification Module--EDFA(BA) Board Configuration

3.7.1. EDFA(BA) Board Introduction

M6200-EDFA(BA) board is a single-channel optical amplifier launched by our company. It can regenerate multi-wavelength optical signals in C-band, thus extending the transmission distance of signals. WDM transmission can be realized with DWDM multiplexer/demultiplexer. It is especially suitable for long-distance trunk network, MAN, access network and various SDH/PDH transmission systems.



Figure 3-33 Front Panel of EDFA(BA) Board

Table 3-6 Indicator	Light Information	of EDFA(BA) Board

ltem	Meaning	Indicator Light Status	Description
	ON		There is alarm of the board.
01.04	Alarm Indicator	OFF	There is no alarm.
ALM	M Light Quick Flash of Red Light		The board does not match with the pre-configurations, that is, there is mismatch alarm of the board.
RUN Running Indicator Light		Slow Flash of Green Light	The board works normally.
		Red Light ON	The board works abnormally.
	Input Indicator	Green Light ON	The input is normal.
111	In Light		There is alarm of the input.
Ou Ou	Output	Green Light ON	The output is normal.
Out	Indicator Light	Red Light ON	There is alarm of the output.

Table 3-7 Port Description of EDFA(BA) Board

ltem	Meaning	Description
In	Input Port IN	The input port of the board.
Out	Output Port OUT	The export port of the board.
MON	Monitoring Channel	Monitoring channel
OSC	Optical Supervisory Channel	Optical supervisory channel (Use the channel according to the collocation module).

3.7.2. View EDFA(BA) Board Information

Left click to select M6200-EDFA(BA) board, select "*Card Configuration*", click "*Check*" on the current alarm column of the board to view the current alarm of the board (including the board and port alarms), as shown below.



			Global	Configuration	* Maintain		C	Inspect I	.ock	root	Quit
Colobal View C	Card Configuration Card Current Alarm Card Current Alarm Stot Reboot Card WarmReboot Card ColdReboot	EDFA Info		Chess Related Related							



To restart the card, click "*Reboot*" in the column of "*Card ColdReboot*" to restore the factory configuration of the card.

Click on the board and select "EDFA Info", you can view and configure EDFA(BA) board information.

Select"EDFA Info", you can view information such as OA module version, gain and function type etc.

EDFA Info	
Configuration	OA1-E1-WX
Firmware Version	1.4
Serial Number	216336
Туре	Single Stage
Function	Booster-Amplifier
Max Output Power(dBm)	16
Default Gain(dB)	15

Figure 3-35 EDFA(BA)-OA Basic Information

Select "EDFA Configuration", you can view the control mode, gain, optical power of input/output ports and their corresponding alarm threshold of the current OA module. Moreover, control mode setting function is provided. (For detailed setting method, please see Configuration Method of Control Mode for EDFA(BA) Board.)

EDFA Configuration				
Control Mode	AGC	•	Mode Value	20
Pump Number	1		VOA Supported	True
Voa State	ОК	•	Voa Actual Value(dB)	0.2
TILT	0.0			
Pump1(IN1)RxPower(dBm)	-10.44		Pump1(IN1)Alarm Threshold(dBm)	-27.00
Pump1(OUT1)TxPower(dBm)	9.67		Pump1(OUT1)Precision Threshold(dB)	2.00
	Apply Refresh			

Figure 3-36 EDFA(BA)-OA Configuration

Select "Pump Info", you can view operating parameters of OA module, such as working current and module temperature etc.

Pump Info1	
Laser Diode Current(mA)	109.5
Laser Diode EOL Current(mA)	527.4
Pump Temperature(°C)	25.0
TEC Current(mA)	-171.0
Pump Current State	Auto
Module Temperature(°C)	16.0

Figure 3-37 EDFA(BA)-Pump Information

3.7.3. Configuration Method of Control Mode for EDFA(BA) Board

On the board and select "*EDFA Info*" in the "*EDFA Configuration*" column, select the control mode behind the drop-down menu, select the mode you want to set, set the parameter values of the mode you want to modify, and click "Apply".

There are three general control modes:

- Automatic gain control
- Automatic power control
- Disabled

The mode parameter is a default value given according to the adaptation of different modules and there is a built-in range. When the set value is not in this range, the user will be prompted to set the range.

EDFA Configuration				
Control Mode	AGC	*	Mode Value	20
	AGC APC			
Pump Number	Disable		VOA Supported	True
Voa State	ок	-	Voa Actual Value(dB)	0.2
You olde			Four relative for the four for	0.4
TILT	0.0			
			Pump1(IN1)Alarm	
Pump1(IN1)RxPower(dBm)	-10.44		Threshold(dBm)	-27.00
Pump1(OUT1)TxPower(dBm)	9.67		Pump1(OUT1)Precision	2.00
			Threshold(dB)	
	Apply Refresh			

Figure 3-38 EDFA(BA)-OA Configuration

If you receive a prompt message <Success>, the mode is successfully set.

EDFA Configuration					
Control Mode	AGC	*	Mode Value	20	
Pump Number	1		VOA Supported	True	
Voa State	PWR		Voa Actual Value(dB)	0.0	
TILT	0.0	Q			
Pump1(IN1)RxPower(dBm)	-40.00	Success	Pump1(IN1)Alarm Threshold(dBm)	-32.00	
Pump1(OUT1)TxPower(dBm)	-40.00		Pump1(OUT1)Precision Threshold(dB)	2.00	
	Apply Refresh				

Figure 3- 39 EDFA(BA)-Successfully Modify the Control Mode

If you receive a warning message, it indicates that the mode setting failed. Please reset it according to the parameters in the warning message.

EDFA Configuration	<u> </u>	<u></u>	<u></u>		
Control Mode	APC	*	Mode Value	20	
Pump Number	1		VOA Supported	True	
Voa State	PWR		Voa Actual Value(dB)	0.0	
TILT	0.0	Mode Value is:1~16.5			
Pump1(IN1)RxPower(dBm)	-40.00	Apply	Pump1(IN1)Alarm Threshold(dBm)	-32.00	
Pump1(OUT1)TxPower(dBm)	-40.00		Pump1(OUT1)Precision Threshold(dB)	2.00	
	Apply Refresh				

Figure 3-40 EDFA(BA)-Modify Mode Parameters

3.8. Optical Amplification Module--EDFA(PA) Board

Configuration

3.8.1. EDFA(PA) Board Introduction

M6200-EDFA(PA) board is a single-channel optical amplifier launched by our company. It can regenerate multi-wavelength optical signals in C-band, thus extending the transmission distance of signals. WDM transmission can be realized with DWDM multiplexer/demultiplexer. It is especially suitable for long-distance trunk network, MAN, access network and various SDH/PDH transmission systems.

ALM OUT TX RX O O O O N NUN IN	

Figure 3-41 Front Panel of EDFA(PA) Board

Table 3-8 Indicator Light Information of EDFA(PA) Board

ltem	Meaning	Indicator Light Status	Description
		ON	There is alarm of the board.
	Alarm Indicator	OFF	There is no alarm.
ALM	LM Light Quick Fla		The board does not match with the pre-configurations, that is, there is mismatch alarm of the board.
RUN		Slow Flash of Green Light	The board works normally.
	Indicator Light		The board works abnormally.
	Input Indicator	Green Light ON	The input is normal.
IN	In Light F		There is alarm of the input.
Out	Output	Green Light ON	The output is normal.
Out	Indicator Light	Red Light ON	There is alarm of the output.

Table 3-9 Port Description of EDFA(PA) Board

ltem	Meaning	Description
In	Input Port IN	The input port of the board.
Out	Output Port OUT	The export port of the board.
MON	Monitoring Channel	Monitoring channel
OSC	Optical Supervisory Channel	Optical supervisory channel (Use the channel according to the collocation module).

3.8.2. View EDFA(PA) Board Information

Left click to select M6200-EDFA(PA) board, select "*Card Configuration*", click "*Check*" on the current alarm column of the board to view the current alarm of the board (including the board and port alarms), as shown below.



		Moritor	Global	Configuration	* Maintain		Inspect	Lock	root	Out
 Global View Mosoo-TSP16(10.32.130.111) Mosoo-CR2U(10.32.130.110) Mosoo-CR2U(10.32.130.110) Shelf01 	Card Configuration	EDFA Info								
Slot1 M6200-DCM40 : absent Slot2 M6200-OLP2 : normal Slot3 M6200-OLP40 : absent	Card Current Alarm Slot Reboot	View the current board alarm information		Check						
Slots Mo200-DCMM0 : adjent Slots M6200-DCDM0 : normal Slots M6200-EDFA(PA) : normal	Card WarmReboot	The board will restart and the board configura	tion will not be lost	Reboot						
	Card ColdReboot	The board will restart and the board configura	tion will reset	Raboot						
 ■ ● M6500-CH3U-M6.2(16.32.130.160) ■ ● M6200-CH3U(16.32.130.180) 				Copyright © 2020 by F8	3.COM All Rights Reserved.					

Figure 3-6 EDFA(PA) Current Alarm

To restart the card, click "*Reboot*" in the column of "*Card ColdReboot*" to restore the factory configuration of the card.

Click on the board and select "EDFA Info", you can view and configure EDFA(BA) board information.

Select"EDFA Info", you can view information such as OA module version, gain and function type etc.

EDFA Info	
Configuration	OA1-E1-WX
Firmware Version	1.4
Serial Number	216287
Туре	Single Stage
Function	Pre-Amplifier
Max Output Power(dBm)	16
Default Gain(dB)	20

Figure 3-7 EDFA(PA)-OA Basic Information

Select "EDFA Configuration", you can view the control mode, gain, optical power of input/output ports and their corresponding alarm threshold of the current OA module. Moreover, control mode setting function is provided. (For detailed setting method, please see Configuration Method of Control Mode for EDFA(PA) Board.)

EDFA Configuration				
Control Mode	AGC	v	Mode Value	20
Pump Number	1		VOA Supported	True
Voa State	PWR		Voa Actual Value(dB)	5.8
TILT	0.0			
Pump1(IN1)RxPower(dBm)	~40.00		Pump1(IN1)Alarm Threshold(dBm)	-32.00
Pump1(OUT1)TxPower(dBm)	-40.00		Pump1(OUT1)Precision Threshold(dB)	2.00
	Apply Refresh			

Figure 3-8 EDFA(PA)-OA Configuration

Select "Pump Info", you can view operating parameters of OA module, such as working current and module temperature etc.

Pump Info1	
Laser Diode Current(mA)	0.0
Laser Diode EOL Current(mA)	495.0
Pump Temperature(°C)	25.0
TEC Current(mA)	-170.0
Pump Current State	Auto
Module Temperature(°C)	17.0

Figure 3-9 EDFA(PA)-Pump Information

3.8.3. Configuration Method of Control Mode for EDFA(PA) Board

On the board and select "*EDFA Info*" in the "*EDFA Configuration*" column, select the control mode behind the drop-down menu, select the mode you want to set, set the parameter values of the mode you want to modify, and click "Apply".

There are three general control modes:

- Automatic gain control
- Automatic power control
- Disabled

The mode parameter is a default value given according to the adaptation of different modules and there is a built-in range. When the set value is not in this range, the user will be prompted to set the range.

EDFA Configuration				
Control Mode	AGC	*	Mode Value	20
	AGC APC			
Pump Number	Disable		VOA Supported	True
Voa State	PWR		Voa Actual Value(dB)	5.8
TILT	0.0			
Pump1(IN1)RxPower(dBm)	-40.00		Pump1(IN1)Alarm Threshold(dBm)	-32.00
			Pump1(OUT1)Precision	
Pump1(OUT1)TxPower(dBm)	-40.00		Threshold(dB)	2.00
	Apply Refresh			

Figure 3- 10 EDFA(PA)-OA Configuration

If you receive a prompt message <Success>, the mode is successfully set.

EDFA Configuration					
Control Mode	AGC	*	Mode Value	20	
Pump Number	1		VOA Supported	True	
Voa State	PWR		Voa Actual Value(dB)	0.0	
TILT	0.0	Q			
Pump1(IN1)RxPower(dBm)	-40.00	Success	Pump1(IN1)Alarm Threshold(dBm)	-32.00	
Pump1(OUT1)TxPower(dBm)	-40.00		Pump1(OUT1)Precision Threshold(dB)	2.00	
	Apply Refresh				

Figure 3-11 EDFA(PA)-Successfully Modify the Control Mode

If you receive a warning message, it indicates that the mode setting failed. Please reset it according to the parameters in the warning message.

EDFA Configuration			
Control Mode	APC	Mode Value	20
Pump Number	1	VOA Supported	True
Voa State	PWR	Voa Actual Value(dB)	0.0
TILT	0.0 Mode Value is:1~16.5		
Pump1(IN1)RxPower(dBm)	-40.00	Pump1(IN1)Alarm Threshold(dBm)	-32.00
Pump1(OUT1)TxPower(dBm)	-40.00	Pump1(OUT1)Precision Threshold(dB)	2.00
	Apply Refresh		

Figure 3-12 EDFA(PA)-Modify Mode Parameters

3.9. WDM Board--MUX/DEMUX Configuration

3.9.1. MUX/DEMUX Board Introduction

M6200-MUX/DEMUX board is a DWDM multiplexer launched by our company. It can be used to multiplex/demultiplex DWDM channels, which greatly saves customers' optical fiber resources. The network configuration can be flexibly changed according to customers' needs.

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Figure 3-49 Front Panel of MUX/DEMUX Board

3.9.2. View MUX/DEMUX Board Information

Select "Card Current Alarm" to view the current alarm of the board.

Left click to select M6200 MUX/DEMUX board, click "Check" to view the board's current alarms (including the board and port alarms), as shown below.

			Monitor	(S) Global	Configuration	X Maintain
⊟- 🚱 Global View	Card Current Alarm					
 ■ M6800-TSP16(10.32.130.111) ■ ■ M6200-CH2U(10.32.130.110) 	Card Current Alarm	View the current board alarm	information		Check	
Shelf01	Slot Reboot					
I Slot2 M6200-OLP2 : normal	Card WarmReboot	The board will restart and the	board configura	tion will not be lost	Reboot	
□ Slot3 M6200-DCM40 : absent	Card ColdReboot	The board will restart and the	board configura	tion will reset	Reboot	
□ □ Slot5 M6200-EDFA(PA) : normal						
 Slot7 M6200-NMU : normal Slot8 M6200-OEO10G : absent 						
- Slot9 M6200-2UFAN : normal						
Slot11 M6200-2UPSM : normal						



3.10. DCM Module Configuration

3.10.1.DCM Board Introduction

M6200-DCM40 board provides fixed chromatic dispersion compensation for high-speed metro core, regional, and extended long haul DWDM networks, and it can be used to compensate dispersion on standard single-mode optical fiber (SMF) across the entire C-Band.



Figure 3-51 Front Panel of DCM40 Board

3.10.2.View DCM Board Information

Select "Card Current Alarm" to view the current alarm of the board.

Left click to select M6200-DCM40 board, click "View" to view the board's current alarms (including the board and port alarms), as shown below.

Global View Global View Global View Global View Global View	Card Current Alarm		
□ □ 10G(10.32.130.110)	Card Current Alarm	View the current board alarm information	Check
🗄 🚆 Shelf01	Slot Reboot		
Slot1 M6200-DCM40 : normal	Card WarmReboot	The board will restart and the board configuration will not be lost	Reboot
📮 Slot3 Empty : available	Card ColdReboot	The board will restart and the board configuration will reset	Reboot
🗄 🗖 Slot4 M6200-OEO10G : normal			
∃ Slot5 M6200-EDFA(BA) : normal ∃ Slot6 M6200-EDFA(BA) : normal	Dispersion Compensation		
🕀 🖸 Slot7 M6200-NMU : normal	Dispersion Compensation Distance(KM)	.40	

Figure 3-52 View the board's current alarms

4. Alarm Management

4.1. Alarm Management Introduction

The alarm management function is a functional group that manages the faults of various network devices managed by the NMS system during the operation of the system. The managed fault is commonly called alarm.

The NMS alarm management function manages two types and four levels of failures. The two types are equipment alarm and communication alarm. The four levels are emergency, primary, secondary and warning.

4.2. Main Interface of Alarm Management

After logging in the NMS system, click on the navigation bar – left click on the "*Alarm Management*" menu -the alarm management sub-menu appears, which includes: current alarm, history alarm, alarm configuration, alarm notification configuration, alarm mailbox server configuration and enable sound.

©= TIP

In the upper right corner of the NMS main interface, alarm statistics are displayed, including the total number of alarms and the number of alarms at all levels.

		Monitor	Global	Configuration	* Maintain		(Inspect) Lo	ock root Quit
Monitor							<u>@</u> 40	<u>⊜</u> 13 <u>⊕</u> 0 <u>⊕</u> 8
Topology Diagram								Add NE
					Monitor	Global	Configuration	X Maintain
Log Management	Current Alarm	History Alarm	Element Ever	nt				
Alarm Management								
					Monitor	Global	Configuration	🔧 Maintain
Alarm Configuration	Alarm Configuration	Alarm Notificat	ion Configuration	1 /	Narm Mailbox Server Configu	ration		

Figure 4-1 Alarm Management

4.2.1. Current Alarm

Click "*Maintain*" in the top navigation bar -> "*Alarm Management*" in the left navigation bar -> "*Current Alarm*" in the sub-menu to enter the current alarm page. As shown in the figure.

rent Alarm										
IP	All			Slot	All		*			
Port	All		v	Raised Time From	Please Select					
Raised Time To	Please Sele	t		Cleared Time From	Please Select					
Cleared Time To	Please Sele	t		Search	Please enter the search content					
Severity	Major	Minor Warning C	Critical	Acknowledge State	🗋 Ack 🗌 Unack	Auto Refresh	Query			
Ack	Unack									
	Severity	NE	Alarm Source							
			Alarm Source		Alarm Name	Alarm Type	State	Raised Time	Acknowledge State	Acknowledge User
0 1	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Por	t1_ETYn	Alarm Name ETY_LF	Alarm Type Communication	State Set	Raised Time 2020/09/19 11:48:58	Acknowledge State Unacknowledge	Acknowledge User
	Major Major									
2		10.32.130.160_DC-B	Location_Shelf1_Slot1_Por	t1_ETYn	ETY_LF	Communication	Set	2020/09/19 11:48:58	Unacknowledge	-
2 3	Major	10.32.130.160_DC-B 10.32.130.120_M6500	Location_Shelf1_Slot1_Por	t1_ETYn t1_ETYn	ETY_LF ETY_LF	Communication Communication	Set Set	2020/09/19 11:48:58 2020/09/19 11:48:36	Unacknowledge Unacknowledge	
2 3	Major Major	10.32.130.160_DC-B 10.32.130.120_M6500 10.32.130.160_DC-B	Location_Shelf1_Slot1_Por Location_Shelf1_Slot2_Por Location_Shelf1_Slot1_Por	t1_ETYn t1_ETYn t1_ETYn	ETY_LF ETY_LF ETY_CSF_OPU	Communication Communication Communication	Set Set Set	2020/09/19 11:48:58 2020/09/19 11:48:36 2020/09/19 11:39:21	Unacknowledge Unacknowledge Unacknowledge	
2 3 4 5	Major Major Major	10.32.130.160_DC-B 10.32.130.120_M6500 10.32.130.160_DC-B 10.32.130.120_M6500	Location_Shelf1_Slot1_Por Location_Shelf1_Slot2_Por Location_Shelf1_Slot1_Por Location_Shelf1_Slot2_Por	t1_ETYn t1_ETYn t1_ETYn t1_CDU2e(0)	ETY_LF ETY_LF ETY_CSF_OPU ETY_CSF_OPU	Communication Communication Communication Communication	Set Set Set Set	2020/09/19 11:48:58 2020/09/19 11:48:36 2020/09/19 11:39:21 2020/09/19 11:39:14	Unacknowledge Unacknowledge Unacknowledge Unacknowledge	-
2 3 4 5	Major Major Major Warning	10.32.130.160_DC-B 10.32.130.120_M6500 10.32.130.160_DC-B 10.32.130.120_M6500 10.32.130.120_M6500	Location_Shelf1_Siot1_Por Location_Shelf1_Siot2_Por Location_Shelf1_Siot1_Por Location_Shelf1_Siot2_Por Location_Shelf1_Siot1_Por	11_ETYn 11_ETYn 11_ETYn 110_ODU2e(0) 111_Och	ETY_LF ETY_LF ETY_CSF_OPU ETY_CSF_OPU ODU_AIS	Communication Communication Communication Communication Communication	Set Set Set Set Set	2020/09/19 11:48:58 2020/09/19 11:48:36 2020/09/19 11:39:21 2020/09/19 11:39:14 2020/09/18 16:43:02	Unacknowiedge Unacknowiedge Unacknowiedge Unacknowiedge Unacknowiedge	
2 3 4 5 6	Major Major Major Warning Critical	10.32.130.160_DC-B 10.32.130.120_M6500 10.32.130.160_DC-B 10.32.130.120_M6500 10.32.130.120_M6500 10.32.130.120_M6500	Location_Shelf1_Slot1_Por Location_Shelf1_Slot2_Por Location_Shelf1_Slot1_Por Location_Shelf1_Slot2_Por Location_Shelf1_Slot1_Por Location_Shelf1_Slot1_Por	tt_ETYn tt_ETYn tt_ETYn tt0_ODU2e(0) tt1_Och tt1_Och	ETY_LF ETY_LF ETY_CSF_OPU ETY_CSF_OPU ODU_AIS OCN_LOS	Communication Communication Communication Communication Communication Communication	Set Set Set Set Set Set	2020/09/19 11:48:58 2020/09/19 11:48:36 2020/09/19 11:39:21 2020/09/19 11:39:21 2020/09/19 11:39:14 2020/09/18 16:43:02 2020/09/18 16:43:02	Unacknowledge Unacknowledge Unacknowledge Unacknowledge Unacknowledge Unacknowledge	-

Figure 4- 2 Current Alarm

The area at the bottom right of the table allows you to filter the number of alerts displayed on the current page, and the number of alerts per page can be adjusted to 10, 20, 50 and 100.



Figure 4-3 Show Number of Current Alarms

The middle right area under the navigation bar is "Ack", "Unack", button, which functions as.

The "Ack" button is used to confirm the selected alert. By selecting the check box to the left of the selected alert, and clicking the "Ack" button, all the selected alerts will be in the status of confirmation. The confirmation status of the alert is "Acknowledge", The "Ack" button in the operation bar changes to "Unack". The specific operation is as follows: Select the alarm to be confirmed \rightarrow Click "Ack" button \rightarrow Click "Apply" \rightarrow Alarm confirmation.

©= TIP

Because the current page will refresh once in 10 seconds, the selected alarm will become unchecked after refreshing if it is not confirmed in time.

D ID	Severity	NE	Alarm Source	Alarm Name	Alarm Type	State	Raised Time	Acknowledge State	Acknowledge User
1	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Port1_ETYn	ETY_LF	Communication	Set	2020/09/19 11:51:42	Unacknowledge	
2	Major	10.32.130.120_M6500	Location_Shelf1_Slot2_Port1_ETYn	ETY_LF	Communication	Set	2020/09/19 11:51:33	Unacknowledge	
3	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Port1_ETYn	ETY_CSF_OPU	Communication	Set	2020/09/19 11:39:21	Unacknowledge	-
4	Мајог	10.32.130.120_M6500	Location_Shelf1_Slot2_Port1_ETYn	ETY_CSF_OPU	Communication	Set	2020/09/19 11:39:14	Unacknowledge	-
5	Warning	10.32.130.120_M6500	Location_Shelf1_Slot1_Port10_ODU2e(0)	ODU_AIS	Communication	Set	2020/09/18 16:43:02	Unacknowledge	-
6	Critical	10.32.130.120_M6500	Location_Shelf1_Slot1_Port11_Och	OCh_LOS	Communication	Set	2020/09/18 16:43:02	Unacknowledge	-
7	Critical	10.32.130.160_DC-B	Location_Shelf1_Slot2_Port11_Och	OCh_LOS	Communication	Set	2020/09/18 16:42:14	Unacknowledge	2
3	Warning	10.32.130.160_DC-B	Location_Shelf1_Slot2_Port10_ODU2e(0)	ODU_AIS	Communication	Set	2020/09/18 16:42:13	Unacknowledge	-
9	Critical	10.32.130.111_M6800-TSP16	Location_Shelf1_Slot1_Port2_ETYn	ETY_LOSYNC	Communication	Set	2020/09/18 11:50:41	Unacknowledge	-
] 10	Major	10.32.130.111_M6800-TSP16	Location_Shelf1_Slot1_Port2_ETYn	ETY_CSF_OPU	Communication	Set	2020/09/18 10:43:05	Unacknowledge	-

Figure 4-4 Select to Confirm Current Alarm

Ack	Unack				to perform this operation?					
	Severity	NE	Alarm Source	Apply	Cancel	Alarm Type	State	Raised Time	Acknowledge State	Acknowledge User
1	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Port1_E1	l'Yn	ETY_LF	Communication	Set	2020/09/19 11:53:06	Unacknowledge	-
2 2	Major	10.32.130.120_M6500	Location_Shelf1_Slot2_Port1_E1	l'Yn	ETY_LF	Communication	Set	2020/09/19 11:52:54	Unacknowledge	-
3	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Port1_E1	l'Yn	ETY_CSF_OPU	Communication	Set	2020/09/19 11:39:21	Unacknowledge	-
- 4	Major	10.32.130.120_M6500	Location_Shelf1_Slot2_Port1_E1	TYn	ETY_CSF_OPU	Communication	Set	2020/09/19 11:39:14	Unacknowledge	-
5	Warning	10.32.130.120_M6500	Location_Shelf1_Slot1_Port10_C	DU2e(0)	ODU_AIS	Communication	Set	2020/09/18 16:43:02	Unacknowledge	
6	Critical	10.32.130.120_M6500	Location_Shelf1_Slot1_Port11_C	Och	OCh_LOS	Communication	Set	2020/09/18 16:43:02	Unacknowledge	
7	Critical	10.32.130.160_DC-B	Location_Shelf1_Slot2_Port11_C	Och	OCh_LOS	Communication	Set	2020/09/18 16:42:14	Unacknowledge	-
8	Warning	10.32.130.160_DC-B	Location_Shelf1_Slot2_Port10_C	DU2e(0)	ODU_AIS	Communication	Set	2020/09/18 16:42:13	Unacknowledge	-
9		10.32.130.111_M6800-TSP16	Location_Shelf1_Slot1_Port2_E1	ΓYn	ETY_LF	Communication	Set	2020/09/18 11:52:16	Unacknowledge	-

Figure 4-5 Carry Out Confirmation of Current Alarm

Ack	Unack								
	Severity	NE	Alarm Source	Alarm Name	Alarm Type	State	Raised Time	Acknowledge State	Acknowledge User
1	Major	10.32.130.120_M6500	Location_Shelf1_Slot2_Port1_ETYn	ETY_LF	Communication	Set	2020/09/19 12:00:51	Acknowledge	-
2	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Port1_ETYn	ETY_LF	Communication	Set	2020/09/19 12:00:39	Acknowledge	
3	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Port1_ETYn	ETY_CSF_OPU	Communication	Set	2020/09/19 11:39:21	Acknowledge	12
4	Major	10.32.130.120_M6500	Location_Shelf1_Slot2_Port1_ETYn	ETY_CSF_OPU	Communication	Set	2020/09/19 11:39:14	Unacknowledge	
5	Warning	10.32.130.120_M6500	Location_Shelf1_Slot1_Port10_ODU2e(0)	ODU_AIS	Communication	Set	2020/09/18 16:43:02	Unacknowledge	-
6	Critical	10.32.130.120_M6500	Location_Shelf1_Slot1_Port11_Och	OCh_LOS	Communication	Set	2020/09/18 16:43:02	Unacknowledge	
7	Critical	10.32.130.160_DC-B	Location_Shelf1_Slot2_Port11_Och	OCh_LOS	Communication	Set	2020/09/18 16:42:14	Unacknowledge	- <u></u>
8	Warning	10.32.130.160_DC-B	Location_Shelf1_Slot2_Port10_ODU2e(0)	ODU_AIS	Communication	Set	2020/09/18 16:42:13	Unacknowledge	
9	Major	10.32.130.111_M6800-TSP16	Location_Shelf1_Slot1_Port2_ETYn	ETY_LF	Communication	Set	2020/09/18 12:00:06	Unacknowledge	-

Figure 4-6 Complete Confirmation of Current Alarm

The function of "Unack" button is to cancel the confirmed alarm, and make it return to the unconfirmed state. Its operation method is similar to the confirmation alarm: select the alarm to cancel the confirmation of the alarm \rightarrow click the "Unack" button \rightarrow click "Apply" \rightarrow the alarm is not confirmed.

O-TIP

Because the current page will refresh once in 10 seconds, the selected alarm will become unchecked after refreshing if it is not confirmed in time.

DID	Severity	NE	Alarm Source	Alarm Name	Alarm Type	State	Raised Time	Acknowledge State	Acknowledge User
1	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Port1_ETYn	ETY_LF	Communication	Set	2020/09/19 12:03:16	Unacknowledge	<i>w</i>
2	Major	10.32.130.120_M6500	Location_Shelf1_Slot2_Port1_ETYn	ETY_LF	Communication	Set	2020/09/19 12:03:07	Unacknowledge	-
3	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Port1_ETYn	ETY_CSF_OPU	Communication	Set	2020/09/19 11:39:21	Acknowledge	-
4	Major	10.32.130.120_M6500	Location_Shelf1_Slot2_Port1_ETYn	ETY_CSF_OPU	Communication	Set	2020/09/19 11:39:14	Unacknowledge	20
5	Warning	10.32.130.120_M6500	Location_Shelf1_Slot1_Port10_ODU2e(0)	ODU_AIS	Communication	Set	2020/09/18 16:43:02	Unacknowledge	-
6	Critical	10.32.130.120_M6500	Location_Shelf1_Slot1_Port11_Och	OCh_LOS	Communication	Set	2020/09/18 16:43:02	Unacknowledge	-
7	Critical	10.32.130.160_DC-B	Location_Shelf1_Slot2_Port11_Och	OCh_LOS	Communication	Set	2020/09/18 16:42:14	Unacknowledge	-
8	Warning	10.32.130.160_DC-B	Location_Shelf1_Slot2_Port10_ODU2e(0)	ODU_AIS	Communication	Set	2020/09/18 16:42:13	Unacknowledge	-
9	Major	10.32,130,111 M6800-TSP16	Location Shelf1 Slot1 Port2 ETYn	ETY LF	Communication	Set	2020/09/18 12:02:13	Unacknowledge	

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Figure 4-7 Cancel Confirmation of Current Alarm

Ack	Unack			sure to perform this operation?					
D	Severity	NE	Alarm Source	pply Cancel	Alarm Type	State	Raised Time	Acknowledge State	Acknowledge User
1	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Port1_ETYn	ETY_LF	Communication	Set	2020/09/19 12:03:53	Unacknowledge	
2 2	Major	10.32.130.120_M6500	Location_Shell1_Slot2_Port1_ETYn	ETY_LF	Communication	Set	2020/09/19 12:03:43	Unacknowledge	-
3	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Port1_ETYn	ETY_CSF_OPU	Communication	Set	2020/09/19 11:39:21	Acknowledge	
_ 4	Major	10.32.130.120_M6500	Location_Shelf1_Slot2_Port1_ETYn	ETY_CSF_OPU	Communication	Set	2020/09/19 11:39:14	Unacknowledge	
5	Warning	10.32.130.120_M6500	Location_Shelf1_Slot1_Port10_ODU2e(0)	ODU_AIS	Communication	Set	2020/09/18 16:43:02	Unacknowledge	
6	Critical	10.32.130.120_M6500	Location_Shell1_Slot1_Port11_Och	OCh_LOS	Communication	Set	2020/09/18 16:43:02	Unacknowledge	
7	Critical	10.32.130.160_DC-B	Location_Shelf1_Slot2_Port11_Och	OCh_LOS	Communication	Set	2020/09/18 16:42:14	Unacknowledge	
38	Warning	10.32.130.160_DC-B	Location_Shelf1_Slot2_Port10_ODU2e(0)	ODU_AIS	Communication	Set	2020/09/18 16:42:13	Unacknowledge	
9	Critical	10.32.130.111_M6800-TSP16	Location_Shelf1_Slot1_Port2_ETYn	ETY_LOSYNC	Communication	Set	2020/09/18 12:02:43	Unacknowledge	

Figure 4-8 Cancel Confirmation

Ack	Unack								
DID	Severity	NE	Alarm Source	Alarm Name	Alarm Type	State	Raised Time	Acknowledge State	Acknowledge User
1	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Port1_ETYn	ETY_LF	Communication	Set	2020/09/19 12:04:13	Unacknowledge	-
2	Major	10.32.130.120_M6500	Location_Shelf1_Slot2_Port1_ETYn	ETY_LF	Communication	Set	2020/09/19 12:04:10	Unacknowledge	-
3	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Port1_ETYn	ETY_CSF_OPU	Communication	Set	2020/09/19 11:39:21	Acknowledge	-
4	Major	10.32.130.120_M6500	Location_Shelf1_Slot2_Port1_ETYn	ETY_CSF_OPU	Communication	Set	2020/09/19 11:39:14	Unacknowledge	
5	Warning	10.32.130.120_M6500	Location_Shelf1_Slot1_Port10_ODU2e(0)	ODU_AIS	Communication	Set	2020/09/18 16:43:02	Unacknowledge	-
6	Critical	10.32.130.120_M6500	Location_Shelf1_Slot1_Port11_Och	OCh_LOS	Communication	Set	2020/09/18 16:43:02	Unacknowledge	
7	Critical	10.32.130.160_DC-B	Location_Shelf1_Slot2_Port11_Och	OCh_LOS	Communication	Set	2020/09/18 16:42:14	Unacknowledge	2
8	Warning	10.32.130.160_DC-B	Location_Shelf1_Slot2_Port10_ODU2e(0)	ODU_AIS	Communication	Set	2020/09/18 16:42:13	Unacknowledge	
9	Critical	10.32.130.111_M6800-TSP16	Location_Shelf1_Slot1_Port2_ETYn	ETY_LOSYNC	Communication	Set	2020/09/18 12:03:14	Unacknowledge	-

Figure 4-9 Complete Confirmation Cancellation of Current Alarm

The "Query" button can use known conditions to view and operate the specified alarm, the filtering conditions include: the IP NE, the specified IP slot, the specified port under the specified slot, the alarm creation time (i.e., the alarm generation time period), the alarm clear start and stop. The time; the level of the alert; the acknowledgement status of the alert. A single filter can be used alone, or several filters can be combined to filter out the desired alarms. For example, the following figure shows.

Р	10.32.130.120		Slot All			
Port	All	*	Raised Time 1 From 3			
aised Time o	Please Select		Cleared Time 5 From 6			
leared Time	Please Select		Search 9 10			
everity	🗌 Major 🗌 Minor 🗌 Warning 🗌 Critical		Acknowledge Ack	Unack	Auto Refresh	Qu

Figure 4-10 IP Filter Current Alarm

10.32.130.120	*	Slot	1	*
All	•	Raised Time From	Please Select	Ē
Please Select		Cleared Time From	Please Select	
Please Select	Ē	Search	Please enter the search content	
	All Please Select	All Please Select	All Raised Time From Cleared Time From Cleared Time From	All Raised Time Please Select Please Select Cleared Time From Please Select Please Sel



P	All	Slot	All								
Port	All	Raised Time From	Plea	ise Si	elect						t
Raised Time Fo	Please Select	Cleared Time From	+ Su	Mo	Septe Tu	ember We) Fr	→ Sa		li
Cleared Time To	lease Select	Search	30 6	31	1	2 9	3 10	4	5 12		
Severity	Major Minor Warning Critical	Acknowledge State	13 20	14 21	15 22	16 23	17 24	18 25	19 26	uto Refresh	Quer
Ack	Unack		27	28	29	30	1	2	3		
	Severity NE Alarm S		4	5	6	7 Today	8	9	10	Alarm Type	Stat

Figure 4-12 Create Time to Filter Current Alarm

Severity	Major	Minor	U Warning	Critical	Acknowledge State	Ack	Unack	Auto Refresh	Query
Severity	Major	Minor	U Warning	Critical	State	Ack	Unack	Auto Refresh	Query



The method to filter IP, slot and port is: IP \rightarrow Slot \rightarrow Port or IP \rightarrow Slot or IP. It is not allowed to select slot or port separately.

The function of "All" check box is to show all alarms for all NE devices.

"Auto Refresh" button is a button which can move right and left (It can switch from refresh to close or from close to refresh by clicking the button.) The current page is refreshed every 10 seconds when it is in Refresh state and the current page is not refreshed when it is in Close state.

The upper-right area of the navigation bar is the search area: By entering specified content, it can get all the alarms that contain that content, as shown in the following figure.

ared Time	Please Se	lect	Search	ETY					
Ack	O Major	Minor Warning C	Critical Acknowledge State	Ack Unack	Auto Refresh	Query			
) ID	Severity	NE	Alarm Source	Alarm Name	Alarm Type	State	Raised Time	Acknowledge State	Acknowledge User
1	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Port1_ETYn	ETY_LF	Communication	Set	2020/09/19 12:24:40	Unacknowledge	
2	Major	10.32.130.120_M6500	Location_Shelf1_Slot2_Port1_ETYn	ETY_LF	Communication	Set	2020/09/19 12:23:47	Unacknowledge	-
3	Major	10.32.130.160_DC-B	Location_Shelf1_Slot1_Port1_ETYn	ETY_CSF_OPU	Communication	Set	2020/09/19 11:39:21	Acknowledge	-
4	Major	10.32.130.120_M6500	Location_Shelf1_Slot2_Port1_ETYn	ETY_CSF_OPU	Communication	Set	2020/09/19 11:39:14	Unacknowledge	
5	Major	10.32.130.111_M6800-TSP16	Location_Shelf1_Slot1_Port2_ETYn	ETY_LF	Communication	Set	2020/09/18 12:23:43	Unacknowledge	
6	Major	10.32.130.111_M6800-TSP16	Location_Shelf1_Slot1_Port2_ETYn	ETY_CSF_OPU	Communication	Set	2020/09/18 10:43:05	Unacknowledge	
7	Critical	10.32.130.160_DC-B	Location_Shelf1_Slot2_Port10_ETYn	ETY_LOS	Communication	Set	2020/09/17 18:21:55	Unacknowledge	-
8	Critical	10.32.130.120_M6500	Location_Shelf1_Slot1_Port10_ETYn	ETY_LOS	Communication	Set	2020/09/17 18:21:51	Unacknowledge	177



Figure 4-14 Search Current Alarm

The bottom middle area is the alarm display part of the current alarm, the table header from left to right: check the box, ID, Severity, NE, Alarm Source, Alarm Name, Alarm Type, State, Raised Time, Acknowledge State, Acknowledge User, Acknowledge Time, Operation.

- The check boxes are used to check or uncheck specific alarms, or you can use the first check box to select all alarms for the current page.
- The serial number is the target number of the alarm and is incremented starting from 1.
- There are four warning levels, identified by different colors: emergency (red), primary (orange), secondary (blue) and warning (cyan).
- A NE is the IP address of the network device generating the alarm.
- The alarm source is information about the specific slot or port of the NE that generated the alarm.
- Alarm name, alarm type, status, generation time, confirmation status, confirmation person, confirmation time content is relatively simple, do not repeat here.
- Details, when clicked, this alert will open a popup window to display the details of the alert. The details include: NE, alarm source, alarm name, alarm reason, recommended action, alarm type, alarm level, status, generation time, clear time, confirmation status, acknowledgement person, and acknowledgement time. The NE, alarm source, alarm name, alarm type, status, generation time, clearing time, confirmation status, confirming person, confirmation time and the contents of the table header are the same, the cause of the alarm refers to the cause of the current alarm, and the recommended measures are links, page, you can see the possible causes of alarms and recommended actions to help engineers troubleshoot problems.
- Details, when clicked, this alert will open a popup window to display the details of the alert. The details include: NE, Alarm Source, Alarm Name, Probable Cause, Recommend Measures, Alarm Type, Severity, State, Raised Time, Cleared Time, Acknowledge State, Acknowledge User, Acknowledge Time. Where the NE, Alarm Source, Alarm Name, Alarm Type,, Severity, State, Raised Time, Cleared Time, Acknowledge State, Acknowledge User, and Acknowledge Time are consistent with the contents of the table header, the reason for the alarm refers to the reason for the current alarm, and the recommended measures are the content of the link, clicking on the "Document Links" will generate a warning document page in a new browser window, it is possible to see the possible causes of alarms and recommended measures to help engineers troubleshoot problems.
- Confirmation has the same function as "Ack" and "Unack" buttons respectively, but the icon buttons in the operation bar are only available for alarms on the line.

4.2.2. History Alarm

Click "*Maintain*" in the top navigation bar -> "Alarm Management" in the left navigation bar -> "History Alarm" in the sub-menu to enter the history alarm page. As shown in the figure.

Log Management	Current Alarm	History	Alarm Element Event									
Alarm Management												
Performance Current Info	History Alarm											
Performance History Info	IP	All		Ψ.	Raised Time From	Please Select						
Data Maintenance	Raised Time To	Please Selec	a	Ē	Cleared Time From	Please Select						
	Cleared Time To	Please Selec	t		Severity () Major 🗌 Minc	r 🗌 Critical	U Warning				
	Acknowledge State	B 🗌 Ack 🗌) Unack Query									
	Delete	Delete ALL	. Export									
	ai 🗋	Severity	NE	Alarm Source	Alarm Nan		Alarm Type	State	Raised Time	Cleared Time	Acknowledge State	
	0 1	Major	10.32.130.111_M6800-TSP16	Shelf1_Slot1_Port2_ETYn	ETY_LF		Communication	Auto clear	2020/09/18 12:27:11	2020/09/18 12:27:11	Acknowledge	
	2	Critical	10.32.130.111_M6800-TSP16	Shelf1_Slot1_Port2_ETYn	ETY_LOS	NC	Communication	Auto clear	2020/09/18 12:27:10	2020/09/18 12:27:10	Acknowledge	
	3	Critical	10.32.130.160_DC-B	Shelf1_Slot1_Port1_ETYn	ETY_LOS	NC	Communication	Auto clear	2020/09/19 12:28:20	2020/09/19 12:28:20	Acknowledge	
	4	Major	10.32.130.160_DC-B	Shelf1_Slot1_Port1_ETYn	ETY_LF		Communication	Auto clear	2020/09/19 12:27:35	2020/09/19 12:27:35	Acknowledge	
	5	Major	10.32.130.111_M6800-TSP16	Shelf1_Slot1_Port2_ETYn	ETY_LF		Communication	Auto clear	2020/09/18 12:27:08	2020/09/18 12:27:08	Acknowledge	
	6	Critical	10.32.130.111_M6800-TSP16	Shelf1_Slot1_Port2_ETYn	ETY_LOS'	NC	Communication	Auto clear	2020/09/18 12:27:07	2020/09/18 12:27:07	Acknowledge	
	0 7	Major	10.32.130.111_M6800-TSP16	Shelf1_Slot1_Port2_ETYn	ETY_LF		Communication	Auto clear	2020/09/18 12:27:05	2020/09/18 12:27:05	Acknowledge	
	□ 8	Critical	10.32.130.111_M6800-TSP16	Shelf1_Slot1_Port2_ETYn	ETY_LOS	NC	Communication	Auto clear	2020/09/18 12:27:04	2020/09/18 12:27:04	Acknowledge	
	U V											
	0.0	Major	10.32.130.111_M6800-TSP16	Shelf1_Slot1_Port2_ETYn	ETY_LF		Communication	Auto clear	2020/09/18 12:27:02	2020/09/18 12:27:02	Acknowledge	

Figure 4-10 History Alarm

The number of alerts displayed on the current page can be filtered in the right-hand area under the navigation bar, and the number of alerts per page can be adjusted to 25, 50, 75 and 100.

The Delete, Delete All, Export buttons are shown in the right area of the navigation bar.

- Functions of "*Query*" button-sand "*All*" check box are the same as the functions of those buttons in the current alarm.
- The function of "*Delete*" button is to delete the selected history alarm, as shown in the following figure.

Log Management	Current Alarm	History Alarm	Element Event							
Alarm Management										
Performance Current Info	History Alarm									
Performance History Info	IP A	JI		▼ Raised Time From	Please Select					
Data Maintenance	Raised Time	Please Select		Cleared Time From	Please Select		Ē			
	10	Please Select		Severity	Major Minor	Critical 🗌 V	Varning			
	State Delete	Ack Unack Delete ALL Export	Query							
	D ID Se	averity NE	Alarm Sourc	e Alarm Na	me Ala	arm Type Sta	te Raised Time	Cleared Time	Acknowledge State	9
	🗌 1 Ma	ajor 10.32.130.11	1_M6800-TSP16 Shelf1_Slot1	1_Port2_ETYn ETY_LF	Co	mmunication Aut	o clear 2020/09/18 1	2020/09/18 12:27:1	1 Acknowledge	
	🗆 2 Cr	ritical 10.32.130.11	1_M6800-TSP16 Shelf1_Slot1	1_Port2_ETYn ETY_LO	3YNC Co	mmunication Aut	o clear 2020/09/18 1	2020/09/18 12:27:1	0 Acknowledge	
	🗆 3 Cr	itical 10.32.130.16	0_DC-B Shelf1_Slot1	1_Port1_ETYn ETY_LO	SYNC Co	mmunication Aut	o clear 2020/09/19 1	2020/09/19 12:28:2	0 Acknowledge	
	🗆 4 Ma	ajor 10.32.130.16	0_DC-B Shelf1_Slot1	1_Port1_ETYn ETY_LF	Co	mmunication Aut	o clear 2020/09/19 1	2020/09/19 12:27:3	5 Acknowledge	
	🗍 5 Ma	ajor 10.32.130.11	1_M6800-TSP16 Shelf1_Slot1	1_Port2_ETYn ETY_LF	Co	mmunication Aut	o clear 2020/09/18 1	2020/09/18 12:27:0	8 Acknowledge	
	C 6 Cr	ritical 10.32.130.11	1_M6800-TSP16 Shelf1_Slot1	1_Port2_ETYn ETY_LO	3YNC Co	mmunication Aut	o clear 2020/09/18 1	2020/09/18 12:27:0	7 Acknowledge	
	□ 7 Ma	ajor 10.32.130.11	1_M6800-TSP16 Shelf1_Slot1	1_Port2_ETYn ETY_LF	Co	mmunication Aut	o clear 2020/09/18 1	2020/09/18 12:27:0	5 Acknowledge	
						mmunication Aut	o clear 2020/09/18 1	27:04 2020/09/18 12:27:0	4 Acknowledge	
		ritical 10.32.130.11	1_M6800-TSP16 Shelf1_Slot1	1_Port2_ETYn ETY_LO	BYNC Co	mmunication Aut	20201031101	2020108/10 12:21:0		
	8 Cr		1_M6800-TSP16 Shelf1_Slot1 1_M6800-TSP16 Shelf1_Slot1				o clear 2020/09/18 1			

Figure 4-11 Delete History Alarm

- The function of "*Delete All*" button is to delete all the history alarms.
- The function of *Export* button is to export all the history alarms. A dialog box pops up after clicking the Export button. Enter the name of the file you want to save in the dialog box. After saving, it will prompt to save the path. The exported data is saved in Excel format.

A A	В	C	D	E	F	G	Н		J	K
1 Number	NE	Alarm Source	Alarm Name	Alarm Type	Severity	State	Raised Time	Cleared Time	Acknowledge	Acknowledge Acknow
2	1 10. 32. 130. 220	10.32.130.220	NE_Offline	Communication	Major	Auto clear	2020/09/17 12:09:37	2020/09/17 12:14:22	Acknowledge	Auto Acknowle2020/01
3	2 10. 32. 130. 220	Shelf1_Slot18_SFP1	Pluggable_Missing	Equipment	Critical	Synchronized clear	2020/09/16 17:26:33	2020/09/17 12:14:23	Acknowledge	Auto Acknowle2020/01
4	3 10. 32. 130. 220	Shelf1_Slot7_RX_OLP	Optical_Below_Threshold	Communication	Critical	Synchronized clear	2020/09/16 17:26:04	2020/09/17 12:14:23	Acknowledge	Auto Acknowle2020/09
5	4 10. 32. 130. 220	Shelf1_Slot1_MGMT4_Pluggable	Pluggable_Missing	Equipment	Critical	Synchronized clear	2020/09/16 17:05:14	2020/09/17 12:14:23	Acknowledge	Auto Acknowle2020/01
	5 10. 32. 130. 220	Shelf1_Slot10	EQPT_Power_Supply_Issue	Equipment	Major	Synchronized clear	2020/09/16 17:05:20	2020/09/17 12:14:23	Acknowledge	Auto Acknowle2020/01
	6 10. 32. 130. 220	Shelf1_Slot7_R1_OLP	Optical_Below_Threshold	Communication	Critical	Synchronized clear	2020/09/16 17:26:04	2020/09/17 12:14:23	Acknowledge	Auto Acknowle2020/09
	7 10. 32. 130. 220	Shelf1_Slot2	EQPT_Comm_Fail	Equipment	Major	Synchronized clear	2020/09/17 09:58:26	2020/09/17 12:14:23	Acknowledge	Auto Acknowle2020/01
3	8 10. 32. 130. 220	Shelf1_Slot7_R2_OLP	Optical_Below_Threshold	Communication	Critical	Synchronized clear	2020/09/16 17:26:04	2020/09/17 12:14:23	Acknowledge	Auto Acknowle2020/01
	9 10. 32. 130. 220	Shelf1_Slot7_T2_OLP	Optical_Below_Threshold	Communication	Critical	Synchronized clear	2020/09/16 17:26:04	2020/09/17 12:14:23	Acknowledge	Auto Acknowle2020/09
1	10 10, 32, 130, 220	Shelf1 Slot18 IN	EDFA Ex Power Too Low	Communication	Critical	Synchronized clear	2020/09/16 17:26:35	2020/09/17 12:14:23	Acknowledge	Auto Acknowls2020/05





The path to save the data is: NMS Installation Root Directory \rightarrow report_out Folder \rightarrow historyAlarm Folder \rightarrow File Name.xls.

The lower area of the navigation bar is the display section of the history alarm. From left to right in turn, the table header is: check box, details, serial number, NE, alarm source, alarm name, alarm type, alarm level, status, generation time, clearance time, confirmation status, confirmer and confirmation time. (The functions are the same as that in the current alarm. Here we will not go into much detail.)



In history alarm details, there is no recommended measure and linked document.

There are three types of alarm clearance states, which are automatic clearance, manual clearance and synchronous clearance.

For the confirmation state, it can only be "confirmed" state.

There are two types of confirmers, which are automatic confirmation and current login user confirmation, such as root.

4.3. Alarm Configuration

4.3.1. Alarm Configuration

Click on "*Alarm Configuration*" in the submenu to enter the alarm configuration page, as shown in the figure below:

Click "*Configuration*" in the top navigation bar -> "*Alarm Configuration*" in the left navigation bar -> "*Alarm Configuration*" in the sub-menu to enter the alarm configuration page. As shown in the figure.

FS M Series NMS		Monitor	Global	Configuration	* Maintain				Inspect) Lock	root	Quit
Alarm Configuration	Alarm Configuration Alarm Notification Configuration	Alarm Mailbox Server Configuration	n									
Performance Monitoring												
A User Management	Alarm Configuration											
User Group Management	Please enter the search content	Search										
La OLP Route	Apply Refresh											
Data Store Config		Alarm Sever	ty Configuration			Alarm Shielding	Configuration					
🕤 Set Screen Lock Time	TCA_UAS	Major	~			No 🗸						
	TCA_SES	Major	~			No 🗸						
	TCA_ES	Major	v			No 🗸						
	тса_вве	Major	×			No 🗸						
	SWITCH_PortDown	Major	~			No 🗸						
	SW_STORAGE_FULL	Major	<u>~</u>			No 🗸						
	SW_MISMATCH	Major	~			No 🗸						
	SW_MIB_MISMATCH	Major	~			No 🗸						
	SW_MIB_FAIL	Major	~			No 🗸						
	SW_DOWNLOAD_FAIL	Major	×			No 🗸						
	Total: 201 records							10 Treviou	1 2 3 4	5	21 Ne	txe

Figure 4-18 Alarm Configuration

The number of alerts displayed on the current page can be filtered in the right-hand area under the Alert Configuration table.



Figure 4-19 Number of Alarms Displayed in Alarm Configuration

The left side of the table is the search function. By typing in the specified content and clicking on the search NE, you can get all the alarms containing that content, as shown in the following figure.

FCA	Search		
Apply Refresh			
Alarm Name	Alarm Severity Configuration	Alarm Shielding Configuration	
ICA_UAS	Major 🗸	No 🗸	
TCA_SES	Major 🗸	No 🗸	
CA_ES	Major 🗸	No 🗸	
CA_BBE	Major 🗸	No 🗸	



The header of the alarm configuration table data is: Alarm Name, Alarm Severity Configuration, Alarm Shielding Configuration.

- Alarm Name: All the alarms on NE are contained in alarm name.
- Alarm Level Configuration: The specified alarm level can be set for the specified alarm. There are four optional levels: emergency, primary, secondary and warning. (The alarm level before configuring is the default level.)
- Alarm Shielding Configuration: It can shield the specified alarm. After the alarm is shielded, if the alarm is generated on NE, it will not be displayed on the NMS system. (By default, all the alarms are not shielded.)

4.3.2. Alarm Notification Configuration

Click "Configuration" in the top navigation bar -> "Alarm Configuration" in the left navigation bar -> "Alarm Notification Configuration" in the sub-menu, in the Alarm Notification Configuration module. As shown in the figure.

	1 · · · · · · · · · · · · · · · · · · ·		
Alarm Configuration	Alarm Configuration	Alarm Notification Configuration	Alarm Mailbox Server Configuration
Performance Monitoring	- <u>-</u>	~	<u>ر آنا</u>
오 User Management	Alarm Sound Configura	ation	
🛞 User Group Management	* Sound on / off		
L OLP Route	Choose Sound	Custom	
Data Store Config	Choose Sound		
🔒 Set Screen Lock Time	Alarm Notification Con	figuration	
	⊞ Critical		
	⊞⊡ Major		
	⊞⊡ Minor		
	⊞ Warning		
	Apply Car	ncel	

Figure 4-21 Alarm Notification Configuration

The alarm notification configuration is an alarm configuration for alarm mail notifications, and by default only the alarm at the emergency level is checked (that is, the mail receives only the alarm notification at the emergency level).

After expanding the Emergency Level Alarm Tree, you can find that by default all the Emergency Level Alarms are selected. The designated alarms or all the alarms can be checked or the check can be canceled. In application, it will only receive the generation and elimination information of the selected alarm in the mail system.

4.3.3. Alarm Mailbox Server configuration

Click "Configuration" in the top navigation bar -> "Alarm Configuration" in the left navigation bar -> "Alarm mail server configuration" in the sub-menu to enter the page of alarm mail server configuration. As shown in the figure.

Alarm Configuration	Alarm Configuration	Alarm Notification Configuration	Alarm Mailbox Server Configuration
Performance Monitoring			
A User Management	Alarm Mailbox Serve	r Configuration	
😂 User Group Management	* Send Name	Please input content	
U OLP Route	* Send User	Please input content	
□ Data Store Config	* Email Authorization Code	Please input content	
	* Value Smtp	Please input content	
	* Value Smtp Port	25	
	SSL		
		Apply	

Figure 4-22 Alarm Mailbox Server Configuration

The function of alarm mailbox server configuration is: configure a mailbox as server mailbox, and then change information in navigation bar \rightarrow Configuration \rightarrow User Management \rightarrow (Assign user column) and fill in an email address to receive alarm notification. In this way, the alarm generated by the NE (after the configuration in the previous section) will be sent to the mailbox server through the mailbox server to receive the alarm email.

For different types of mailboxes, SMTP addresses and port numbers are different. Before setting the server mailbox, please check to confirm the server mailbox type and the SMTP information to be used.

4.3.4. Enable the Alarm Sound

Click "Configuration" in the top navigation bar \rightarrow "Alarm Configuration" in the left navigation bar \rightarrow "Alarm Notification Configuration" in the sub-menu, in the alarm sound configuration module. As shown in the figure.



Alarm Configuration	Alarm Configuration	Alarm Notification Configuration	Alarm Mailbox Server Configuration
Performance Monitoring			
A User Management	Alarm Sound Configura	ation	
🛞 User Group Management	* Sound on / off		
La OLP Route	Choose Sound	Custom	
Data Store Config			



Enable sound function means when there is an alarm on the NMS system, the NMS server will continue to issue an alarm sound after enabling this function, so as to indicate that there is an alarm on the NMS system. Currently, the NMS system only has function to enable or disable the sound.



There are four kinds of alarm sounds, which correspond to emergency alarm, main alarm, secondary alarm and warning alarm respectively, but when the NMS system enables the sound, only the highest level alarm sound is prompted. When the alarm level changes, the alarm sounds also change (for example, the current alarm level is emergency and main, it will prompt the highest level alarm sound which is emergency alarm sound. If at that time the alarm at the emergency level disappears, then it will turn to the main alarm sound).

5. WDM Transmission Configuration Example

Point-to-point transmission is widely used in data interconnection of inter-provincial backbone network, metropolitan area network, bank outlets and securities business outlets. It can also be used in the interconnection of primary and secondary computer room data for IDC computer room. In short, where there is a shortage of optical fiber resources, we can use the WDM transmission system, which not only solves the problem of resource shortage, but also greatly solves the problem of cost savings caused by renting optical fibers or laying optical cables.

5.1. Configuration Example

Taking the point-to-point transmission scheme as an example, the use of M6200-2U equipment saves optical fiber resources. It adds a standby optical fiber to the original line, so that it can provide 1+1 protection of optical lines to multi-wavelength service by using OLP board, which ensures the stability of the entire link and maximizes the safety of the optical fiber.



Figure 5-1 Schematic Diagram of Point-to-Point Transmission

5.2. Configuration Example Description

Multiple services of Site A enter OEO10G service board and adjacent cross connection mode is used to convert the data traffic into CWDM/DWDM wavelength for transmission. OMU board is used to multiplex the signals from each channel. After the multiplexing, the signals are transmitted to TX port of OLP. The optical fiber is divided into two channels by OLP, which are respectively transmitted from Port T1 and Port T2 and transmission is realized after amplification by BA.

After the signals are transmitted to Site B, they are amplified by PA. The signals of the primary channel are selected and received by RX port of OLP. OMU board is used to demultiplex the signals to multi-wavelength CWDM/DWDM services. The services are connected to OEO10G board and adjacent cross connection mode is used to convert the CWDM/DWDM services into common services. After that, the services are transmitted to the client device.

The process of the transmission protection from Site B to Site A is the same. So far, the optical transmission, optical amplification and optical protection of the whole link are completed. When the primary optical fiber is normal, it is used for transmission. When fault occurs to the primary optical fiber, OLP board will switch the

service to the secondary optical fiber for transmission, so as to ensure the uninterrupted operation and the stability of the service.

5.3. Configuration Rules

Hardware Configuration Rules

- Selection of Boards: For each group of protection, one OLP1+1 board with protection function is usually correspondingly configured on the network NEs at both ends of the service.
- Protection Capability: Each OLP1+1 board can realize 1+1 protection of one group of lines.
- Slot Configuration: OLP1+1 board can be installed in the service board slot of M6200 chassis.
- System Requirement: It is required to provide two independent optical channels between the devices at the two points of the channel.
- Optical Fiber Connection: Please refer to the above Schematic Diagram of Point-to-Point Transmission in the configuration example.

NMS Configuration Rules

- The network NE information configured in NMS should be consistent with the planning program in the actual project.
- In "Board Configuration", you can configure parameters such as switch mode, mode recovery, switch time delay, automatic switch back and automatic switch back time delay of OLP1+1 board. It is required that the parameters of OLP1+1 boards at both the local and opposite ends of optical line 1+1 protection must be the same.

6. OSC Network Management Channel Configuration Example

OSC network management channel management is mainly used for long-distance transmission, and there is no interconnected switching network between sites. By using this technology, network management monitoring of remote devices for long-distance transmission can be realized under the condition of saving optical fiber resources.

6.1. Configuration Example

Taking the point-to-point transmission with relay scheme as an example, network management monitoring of relay sites and remote sites needs to be realized when using M6200 Series equipment. Management through in-band OSC channel not only saves optical fiber resources, but also realizes the capability to monitor remote devices. The commonly used wavelength of OSC channel is 1510nm, so we take 1510nm as an example.



Figure 6-1 Schematic Diagram of Point-to-Point Transmission

6.2. Configuration Example Description

Optical signals at 1510nm from Site A are transmitted to EDFA-OSC channel through the NMU optical channel, and reach the relay point B through line transmission. Optical signals are output to the NMU optical channel at 1510nm of the relay point B through EDFA-OSC channel of the relay point B. At this time, OSC channel of A-B has been opened. That is, equipment of Site B can be managed by Site A. Optical signals at 1510nm are transmitted to EDFA-OSC channel through the NMU optical channel of the relay point B, and then reach Site C through line transmission. Optical signals are output to the NMU optical channel at 1510nm of Site C through line transmission. Optical signals are output to the NMU optical channel at 1510nm of Site C through EDFA-OSC channel of B-C has been opened. That is, equipment of the relay point B and Site C can be simultaneously managed by Site A.

The OSC supervisory from Site C to Site A is the same. Equipment of Site A and Site B can be simultaneously managed by Site C.

6.3. Configuration Rules

Hardware Configuration Rules

- Selection of Boards: BA EDFA and PA EDFA are selected as amplifier boards (with OSC channel monitoring).
- Slot Configuration: EDFA boards can be installed in the service board slot of M6200 chassis.
- Optical Fiber Connection: Please refer to the above schematic diagrams in the configuration examples.

NMS Configuration Rules

- The network NE information configured in NMS should be consistent with the planning program in the actual project.
- Different IP addresses in the same network segment need to be assigned for relay point devices and remote devices.

Abbreviation

This table introduces some Acronym definition. It mainly includes:

Abbreviation	Description
CDR	Clock and Data Recovery
CWDM	Coarse Wavelength Division Multiplexing
DCM	Dispersion Compensation Module
DWDM	Dense Wavelength Division Multiplexing
GE	Gigabit Ethernet
GUI	Graphical User Interface
IP	Internet Protocol
LOS	Loss of Signal
NE	Network Element
NTP	Network Time Protocol
OA	Optical Amplifier
OCh	Optical Channel
OLA	Optical Line Amplifier
OLP	Optical Line Protection
OMU	Optical Multiplexer Unit
OPA	Optical Pre-Amplifier
OSC	Optical Supervisory Channel
OSNR	Optical Signal-to-Noise Ratio
OTN	Optical Transport Network
SNMP	Simple Network Management Protocol
XFP	10-Gigabit Small Form-Factor Pluggable