# Optical Access MonitorOnline User Manual

OTN Solutions for Metro/Regional and Long Haul



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# Chapter I MonitorOnline Installation Prerequisites

The data management of MonitorOnline software is based on SQL\_SERVER database. Therefore, SQL\_SERVER database needs to be installed in advance to achieve the monitoring and recording of the entire system data.

Microsoft NET Framework 4.5 and database (SQL Server 2000 or SQL Server 2005 or SQL server 2008 or SQL server 2008R2 or SQL Server 2012 or SQL Server 2016 or SQL server 2017) must be set up before installing MonitorOnline software. The current mainstream databases are SQL Server 2008 and SQL server 2008R2.

#### SQL\_SERVER Installation Environment

Operating System Requirements: according to the following table 1.0. Computer Configuration Requirements: 4-core CPU, 4G RAM or more, 500G disk space.

Operating System Name	64Bit	32Bit
WIN10	$\checkmark$	$\checkmark$
WIN8	$\checkmark$	$\checkmark$
WIN7	$\checkmark$	$\checkmark$
WINXP	$\checkmark$	$\checkmark$
WIN2003	$\checkmark$	$\checkmark$
WIN2000	$\checkmark$	$\checkmark$
WIN98	\	\
WIN95	/	\

#### Table.1.0 Operating System

#### Note: $\sqrt{}$ : Supporting this system;

\: No such system.

Once Microsoft .NET Framework 4.5 and SQL\_SERVER are installed, you can start to install MonitorOnline Management Software, and please noted the selection of language during installation.

# 1.1 Login SSMS

The network management software needs to connect the database remotely to implement the operation, so it is necessary to make the pre-connected database and open the remote function before running MonitorOnline software. The specific steps as following: Step One: Open SQL Server Management Studio and login as windows, then right click "SQL Server", choose "Properties" (see Fig.1.1).



Fig.1.1 Microsoft SSMS

Step Two: After clicking "Properties", choose "Security" on the left, then choose "SQL Server and Windows Authentication mode" in Server authentication to enable hybrid login mode(see Fig.1.2).

Server Properties - PC2015082613	29		
Select a page	🔄 Script 🔻 🌇 Help		
General     Memory     Processors     Security     Connections     Database Settings     Advanced     Permissions	Server authentication Windows Authentication mode SQL Server and Windows Authen Login auditing None Failed logins only Successful logins only Both failed and successful lo Server proxy account Enable server proxy account Proxy account:		
Connection	Password:	\$0606060606	
Server: Connection: sa <u>View connection properties</u>	Options		
Progress			

Fig.1.2 Server Properties

Step Three: Choose "Connections" on the left, check "Allow remote connections to this server", then click "OK" button (see Fig.1.3).

Server Properties - FSCOM-F	
Select a page General Memory Processors Security Connections Database Settings Advanced Permissions	Script
Connection	Remote server connections
Server: (local) Connection: sa View connection properties	Image: Allow remote connections to this server         Remote guery timeout (in seconds, 0 = no timeout):         600         Image: Require distributed transactions for server-to-server communication
Progress	
Ready	<u>Configured values</u> <u>Running values</u>
	OK Cancel

Fig.1.3 Server Properties

Step Four: Unfold "Security"-> "Logins"-> "sa", then right click "sa" and choose "Properties" (see Fig.1.4).

Note: The user name can only be "sa", cannot be modified.

💯 Microsoft SQL Se	erver Management Studio			
File Edit View	Tools Window Communi	ty Help		
New Query	1 1 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	a 🕰 🛓		
Object Explorer	* † ×			
Connect• 🛃 🛃				
ISQL Server ISQL Server ISQL Server				
🗉 🦢 System				
🗉 🛄 Datab	ase Snapshots			
🗉 📋 Repor	tServer			
	tServerTempDB			
😑 🚞 Security				
🗄 🛄 Logins				
	MS_PolicyEventProcessing			
	MS_PolicyTsqlExecutionLc			
	AUTHORITY\NETWORK !"			
	AUTHORITY\SYSTEM			
	SERVICE\MSSQLSERVER SERVICE\SQLSERVERAGE			
	201508261329\Administra			
	New Login			
🗉 🛄 Server				
III 🛄 Crede	script cogin as			
🗉 🥁 Crypt	Optimizer			
🗉 🧰 Audits				
🗉 🧰 Serve				
E      Server O     Replication	Reports k			
4	Rename			
Ready	Delete			
	Refresh	0135	2015/9/1 22:23	
2.168.0.223	Troperties			

Fig.1.4 Microsoft SSMS

Step Five: Choose "General" on the left, then choose "SQL Server authentication" on the right and set password, click "OK" button (see Fig.1.5).

🗄 Login Properties - sa			
Select a page	🔄 Script 🔻 🚺 Help		
General Server Roles	3		
Typing User Mapping	Login <u>n</u> ame:	54	S <u>e</u> arch
🚰 Status	<u>     W</u> indows authentication		
	SQL Server authentication		
	Password:	******	
	Confirm password:	******	
	Specify old password		
	Old password:		
	V Enforce password polic	y.	
	Enforce password expir		
	User must change passw	ord at next login	
	Mapped to certificate		
	Mapped to asymmetric key		
	Map to Credential		▼ <u>A</u> dd
	Mapped Credentials	Credential Provider	
Connection			
Server:			
Server:			
Connection:			
59			
View connection properties			
Progress			
Ready			Remowe
	Default <u>d</u> atabase:	master	•
	Default language:	English	•
			OK Cancel

Fig.1.5 Login Properties

Step Six: Choose "Status" on the left, choose "Grant" and "Enabled" on the right and click "OK" button (see Fig.1.6).

Login Properties - sa	
Select a page	🖾 Script 🔻 🚺 Help
General Server Roles Wiser Happing General Status	Settings  Fermission to connect to database engine:
Connection	
Server:	
Connection: sa	
Yiew connection properties	
Progress	
O Ready	
	OK Cancel

Fig.1.6 Login Properties

Step Seven: Back to SQL Server Management Studio login interface, right click SQL Server, choose "Facets" (see Fig.1.7).

🇏 Microsoft SQI	L Server Management Stu	udio	
File Edit Vie	w Tools Window C	Community Help	
New Query	🗅   🔁 📸 💁   🖬   🖬		
Object Explorer		<b>4</b> ×	
Connect • 📑	🛃 = 🝸 🖬 🔏		
🖃 🚺 . (SQL Ser	ver 10.0.1600 - sa)		
🕀 🚞 Da	Connect		
🕀 🧰 Se	Disconnect		
⊞ 🚞 Se ⊞ 🚞 Re	Register		
	New Query		
	Activity Monitor		
_	Start		
	Stop		
	Pause		
	Resume		
	Restart		
	Policies +		
	Facets		
	Start PowerShell		
	Reports +		
	Refresh		
	Properties		
		,	
Ready			

Fig.1.7 Microsoft SSMS

Step Eight: Choose "Server Configuration" from the drop-down box of "Facets" and set the properties of "Remote Access Enabled" as "true", then click "OK" button (see Fig.1.8).

Note: Now, SSMS has been set up. Exit first, then log in with "sa". If it is successful, it means the "sa" account is enabled. Otherwise, please check whether the network connection can be pinged. If the network connection is normal, please further confirm whether you followed the above steps.

🕦 Ready			
Select a page	Script 👻 🚺 Help		
🚰 General			
	Facet: Server	-	
	-	he Server ehiert	
	Description: Exposes properties of t	ne server object.	
	Facet properties:		
	AuditLevel	Failure	
	BackupDirectory	C:\Program Files\Microsoft SQL Server\MSSQL1	
	BrowserServiceAccount	NT AUTHORITY\LOCAL SERVICE	
	BrowserStartMode	Manual	
	BuildClrVersionString	v2.0.50727	
	BuildNumber	1600	
	Collation	SQL_Latin1_General_CP1_CI_AS	
	CollationID	872468488	
	ComparisonStyle	196609	
	ComputerNamePhysicalNetBIOS	FSCOM-PC	
	DefaultFile		
	DefaultLog		
	Edition	Enterprise Edition (64-bit)	
	EngineEdition	EnterpriseOrDeveloper	
	ErrorLogPath	C:\Program Files\Microsoft SQL Server\MSSQL1	
Connection	FilestreamLevel	Disabled	
릗쿠 (local) [sa]	FilestreamShareName	MSSQLSERVER C:\Program Files\Microsoft SOL Server\MSSOL1	
View connection properties	InstallDataDirectory AuditLevel	C:\Program Files\Microsoft SOL Server\MSSOL1	
	Gets or sets the audit level for the instance	re of Microroft SOL Server	
Progress	Gets or sets the addit lever for the instance	te or microsoft SQL Server.	
Ready			
"east"		Export Current State as Policy	

Fig.1.8 View Facets

# 1.2 Deploy SSMS

Step Nine: Open SQL Server Configuration Manager to start configuring SSCM, choose "SQL Server Services" on the left, please make sure the state of "SQL Server" and "SQL Server Browser" is running on the right (see Fig.1.9).

Note: It is usually necessary to reboot SQL Server after shutdown and restart, but SQL Server is still running after closing the SQL Server Configuration Manager program box.

ile Action View Help						
• 🔿   🚈   🤷 📑   👔						
SQL Server Configuration Manager (Local)	Name	State	Start Mode	Log On As	Process ID	Service T
SQL Server Services	SQL Server Browser	Stopped	Other (Boot, Syste	NT AUTHORITY\LO	0	
SQL Server Network Configuration (32bit	SQL Server (MSS	Running	Automatic	NT AUTHORITY\NE	3632	SQL Serve
SQL Native Client 10.0 Configuration (32) SQL Server Network Configuration	👔 SQL Server Agent	Stopped	Manual	NT AUTHORITY\NE	0	SQL Ager
SQL Native Client 10.0 Configuration	n SQL Full-text Filte	Running	Manual	NT AUTHORITY\LO	380	
	🔞 SQL Server Analy		Automatic	NT AUTHORITY\NE	3384	Analysis S
	ntegr		Automatic	NT AUTHORITY\NE	2712	
	🚯 SQL Server Repor	Running	Automatic	NT AUTHORITY\NE	2264	Report Se

Fig.1.9 SQL Server Configuration Manager

Step Ten: Choose "Protocols for MSSQLSERVER" under the node of SQL Server Network Configuration on the left. The default status of TCP/IP is Disabled (see Fig.1.10). Please set status of TCP/IP as "Enable" by right click or opening TCP/IP Properties interface by double click (see Fig1.11), then modify "active" to "yes", click "OK" button.

Note: TCP/IP protocol is generally enabled, and can be tested by ping.

🚡 Sql Server Configuration Manager				
File Action View Help				
SQL Server Configuration Manager (Local)	Protocol Name	Status		
SQL Server Services	译 Shared Memory 중 Named Pipes 译 TCP/IP 중 VIA	Enabled		
<ul> <li>SQL Native Client 10.0 Configuration (32)</li> <li>SQL Server Network Configuration</li> <li>Protocols for MSSQLSERVER</li> </ul>		Disabled Disabled		
		Disabled		
SQL Native Client 10.0 Configuration				





Fig.1.11 SQL Server Configuration Manager

Step Eleven: Right click "TCP / IP", select "IP Address" under "Properties" or double click to open the settings panel and select the "IP Address" tab, then set the port of TCP as "1433", and click "OK" button. (see Fig.1.12).

Step Twelve : Set TCP/IP of Client Protocols as "Enable" . (see Fig.1.13)

CP/IP Properties	a Sql Server Configuration Manager
	File Action View Help
Protocol IP Addresses	
Protocol       IP Addresses         IP1       ▲         Active       Yes         Enabled       No         IP Address       fe80::a049:766c:e02f:114c614         TCP Port       1433         IP2       Active         Active       Yes         Enabled       No         IP2       Active         Active       Yes         Enabled       No         IP Address       192.168.1.104         TCP Port       1433         IP3       Active         Active       Yes         Enabled       No         IP Address       fe80::497d:5bc4:43ff:100f%12         TCP Port       TCP Port         TCP Port       TCP Port	
OK Cancel Apply Help	

Fig.1.12 TCP/IP Properties

Fig.1.13 SQL Server Configuration Manager

Step Thirteen: Turn off the firewall or add SQL Serve.exe to the program list that allows the firewall to run. If you choose the latter, please open the firewall settings to add SQLServr.exe (C:\Program Files\Microsoft SQL Server\MSSQL10.SQLEXPRESS\MSSQL\Binn\sqlservr.exe) to the allowed list, the concrete steps are as follows:

- (1) Click the "start" to open control panel
- (2) Click "View network status and tasks" (see Fig.1.14)



Fig.1.14 Control Panel

(3) Click "Windows Firewall" in Fig.1.15, the interface will pop up " (see Fig.1.16)



Fig.1.15 Network and Sharing Center

(4) Click "Allow a program of feature through Windows Firewall" (see Fig.1.16).



#### Fig.1.16 Windows Firewall

(5) Click "Changes settings" button and "Allow another program" button (see Fig.1.17). Then add "SQLServr.exe" to the list of allowed list according to the path "C:\Program Files\Microsoft SQL Server\MSSQL10.SQLEXPRESS\MSSQL\Binn\sqlservr.exe"

			- • ×
C windows Firewall > Allowed Programs	👻 🍫 Search Con	trol Panel	٩
Allow programs to communicate through Windows F To add, change, or remove allowed programs and ports, click Change What are the risks of allowing a program to communicate? Allowed programs and features:	irewall settings.	ige settings	]
Name	Home/Work (Private)	Public ^	
Distributed Transaction Coordinator File and Printer Sharing HomeGroup StSCSI Service Key Management Service Media Center Extenders Netlogon Service Vetwork Discovery Performance Logs and Alerts Remote Assistance Remote Desktop Remote Event Log Management	 	Remove	
	Allow another	program	
	ОК	Cancel	]

Fig.1.17 Allowed Programs

(6) Click "Browse" and open Program Files folder in C (see Fig.1.18).

🔗 Browse				×
🔾 🗢 🚢 🕨 Computer	► Local Disk (C:) ►	<b>-</b> ∮ <del>y</del>	Search Local Disk (C:)	٩
Organize 🔻 New folder				
🔶 Favorites	Name		Date modified	Туре
🧮 Desktop	OSFMount		9/4/2015 5:36 AM	File folder
🗼 Downloads	퉬 PerfLogs		7/13/2009 8:20 PM	File folder
🔛 Recent Places	퉬 Program Files		9/4/2015 5:43 AM	File folder
<b>B</b>	퉬 Program Files (x86)		9/4/2015 5:43 AM	File folder
🛜 Libraries 👘	퉬 Users		9/4/2015 7:35 PM	File folder
Documents	퉬 Windows		9/4/2015 5:40 AM	File folder
🚽 Music				
Pictures				
Videos				
Constant Sector				
Computer				
Local Disk (C:)				
VM DVD Drive (D:) VN 🔻				
File nar	me:	-	Applications (*.exe;*.com	;*.icd) ▼
			Open 🚽 Ca	incel
		_		1

Fig.1.18 Local Dlisk C

(7) Open "Microsoft SQL Server" folder (see Fig.1.19).

🔗 Browse			•		<b>-</b> ×
COO 🗢 🚺 « Local	Disk (C:)	Program Files	<b>▼</b> <sup>4</sup> 7	Search Program Files	م
Organize 🔻 New f	older			:≡ ▼	1 🕡
🔆 Favorites	^ N	ame		Date modified	Туре 📩
🧮 Desktop		Common Files		9/4/2015 5:06 AM	File fol
鷆 Downloads		DVD Maker		7/14/2009 12:47 AM	File fol
🕮 Recent Places		Internet Explorer		7/13/2009 10:37 PM	File fol
		Microsoft Analysis Services		9/4/2015 5:43 AM	File fol
🥽 Libraries		Microsoft SQL Server		9/4/2015 5:43 AM	File fol
Documents		Microsoft Sync Framework		9/4/2015 5:42 AM	File fol
J Music		Microsoft Visual Studio 9.0		9/4/2015 5:42 AM	File fol
Pictures		Microsoft.NET		9/4/2015 5:41 AM	File fol
🛃 Videos		MSBuild		7/13/2009 10:32 PM	File fol
		Reference Assemblies		7/13/2009 10:32 PM	File fol
🖳 Computer		VMware		9/4/2015 5:06 AM	File fol
🏭 Local Disk (C:)		Windows Defender		7/13/2009 10:37 PM	File fol 👻
DVD Drive (D:) VM	▼ ◀	III			F.
Fi	le name:		•	Applications (*.exe;*.com;*	.icd) 🔻
				Open 🚽 Car	icel

Fig.1.20 Program Files

(8) Open "MSSQL10.MSSQLSERVER" folder (see Fig.1.20). Then open "MSSQL" folder

Browse	> Microsoft SQL Server > • •	Search Microsoft SQL Server
Organize		₩ ▼ 1 0
<ul> <li>★ Favorites</li> <li>■ Desktop</li> <li>Downloads</li> <li>③ Recent Places</li> <li>Cibraries</li> <li>Documents</li> <li>Music</li> <li>Pictures</li> </ul>	Name 80 90 100 MSAS10.MSSQLSERVER MSRS10.MSSQLSERVER MSSQL10.MSSQLSERVER	Date modifiedType9/4/2015 5:42 AMFile folder9/4/2015 5:41 AMFile folder9/4/2015 5:41 AMFile folder9/4/2015 5:41 AMFile folder9/4/2015 5:41 AMFile folder9/4/2015 5:42 AMFile folder9/4/2015 5:42 AMFile folder
Videos Computer Local Disk (C:) DVD Drive (D:) VI Fi	ame:	Applications (*.exe;*.com;*.icd) Open  Cancel

Fig.1.20Microsoft SQL Server

(9) Open "Binn" folder (see Fig.1.21).

COO ▼ U ≪ MSSQL10.MSSQLSERVER ► MSSQL ► ▼ 4 Search MSSQL	Q
Organize ▼ New folder 855	• 🔟 🔞
★ Favorites Arme Date modified	і Туре
<b>Desktop Backup</b> 9/4/2015 5:55	AM File folder
Downloads 9/4/2015 5:55	AM File folder
La Recent Places JATA 9/4/2015 5:56	AM File folder
J FTData 9/4/2015 5:55	AM File folder
📜 Libraries 📱 🌗 Install 9/4/2015 5:42	AM File folder
Documents JOBS 9/4/2015 5:55	AM File folder
👌 Music 🔋 🔒 Log 9/4/2015 6:03	AM File folder
Pictures I prepldata 9/4/2015 5:55	AM File folder
Videos 📗 Upgrade 9/4/2015 5:42	AM File folder
Computer	
vm DVD Drive (D:) VI 🔻 < 👘	+
File name: Applications (*.exe; Open	*.com;*.icd) ▼ Cancel

Fig.1.21 MSSQL

(10) Double-click "sqlservr" (see Fig.1.22).

Browse					×
COO - 📔 « MSSC	)L I	Binn 🕨	<b>- - ↓</b>	Search Binn	Q
Organize 🔻 New f	olde	r		:= ▼ [	
🔆 Favorites	-	Name	<u>^</u>	Date modified	Туре 🔺
🧮 Desktop		Templates		9/4/2015 5:43 AM	File fol
📜 Downloads		💷 DatabaseMail		7/10/2008 4:38 AM	Applic
📃 Recent Places		DCEXEC		7/10/2008 4:38 AM	Applic
		💷 fdhost		7/10/2008 4:39 AM	Applic
🥃 Libraries	=	💷 fdlauncher		7/10/2008 4:39 AM	Applic
Documents		SQLAGENT		7/10/2008 5:31 AM	Applic
👌 Music		SQLIOSIM		7/9/2008 3:45 PM	MS-D( ≡
Pictures		🛃 SQLIOSIM		7/10/2008 5:31 AM	Applic
📑 Videos		💷 sqlmaint		7/10/2008 5:31 AM	Applic
		sqlservr		7/10/2008 5:31 AM	Applic
🖳 Computer		sqlstubss		7/10/2008 5:31 AM	Applic
🏭 Local Disk (C:)		💷 xpadsi		7/10/2008 5:31 AM	Applic 👻
DVD Drive (D:) VI	Ŧ	•	III		P.
File name: sqlservr					
				Open 🔽 Car	ncel

Fig.1.22 Binn

(11) Click "Add" button to add SQL Server Windows NT-64bit to "Allow Programs" (see Fig. 1.23).

Add a Program	x
Select the program you want to add, or click Browse to find one that is no listed, and then click OK.	ot
Programs:	
Import and Export Data (32-bit) Import and Export Data (64-bit) Internet Explorer Supporting Services Configuration Manager SQL Server Business Intelligence Development Studio SQL Server Firor and Usage Reporting SQL Server Installation Center (64-bit) SQL Server Installation Center (64-bit) SQL Server Profiler	* III
SQL Server Windows NT - 64 Bit	Ŧ
Path: C:\Program Files\Wicrosoft SQL Server\WSSQL Browse	
What are the risks of unblocking a program?	
You can choose which network location types to add this program to.	
Network location types Add Cancel	

#### Fig.1.23 Add a Program

(13) The configuration is complete now. Please start SQL Server Management Studio and log in.

#### Note:

If you open SQL Server Management Studio before starting SQL Server and SQL Server Browser, you need to shut it down and then restart it.

# Chapter **II** MonitorOnline Installation Procedures

# 2.1 MonitorOnline Installation

Double-click MonitorOnline.exe or MonitorOnline.msi of MonitorOnline.exe folder to install MonitorOnline. Please keep going to the next step until the installation is successful (see Fig.2.1)

Note: Based on the software version in the CD.

Name	Date modified	Туре	Size
■る MonitorOnline.exe	17.6.2017 8:33	Application	612 KB
劇 MonitorOnline.msi	17.6.2017 8:33	Windows Installer Package	13 065 KB

Fig.2.1 Software Installer

The Shortcut will be created after installing Monitor Online, as shown in Fig.2.2.



Fig.2.2 Monitor Online

### 2.2 Connect Database

Step 1: Double click Fig.2.2, the interface will pop up(see Fig.2.3). After filling in the user name and password (the default login name and password are both admin), click "Login" to log in the system. If you have connected to the database, the system interface will pop up directly. If you do not connect to the database, you will be prompted to connect to the database. and click "Database Connection" button, the interface of database connection will pop up(see Fig.2.4).

Login 📃 🕱	Database connection
FS.COM FMT optical transport network	NMU IP address
management system	Localhost address
User name admin 💌	Login name sa
Pressured Treat	Password
Password ***** Database connection	Database name MonitorOnline
Login Quit	Comfirm Quit
Fig.2.3 Login	Fig.2.4 Database Connection

Step 2: Input MNU IP address (IP address of NMU card ), Localhost address (Computer IP of installing database), Login name ( Default as "sa") and Login password ( password set when installing the database) of database, and click "confirm" button In Fig.2.4. If the database is existent and the connection is successful, then user can log in to the system. If the database does not exist and the connection is unsuccessful, the interface of establishing a database will pop up (see Fig.2.6).



	Database configuration	X
	Localhost address	
Tips	Login name sa	
Database does not exist ,	Password	
please establish a database .	Database name MonitorOnline	
Confirm	Monitor count 100	
	Create	Quit

Fig.2.5 Tips



Step 3: Please click **"Confirm"** button in Fig.2.5, then the interface of database configuration will pop up as shown in Fig.2.6. Step 4: Input Localhost address (Computer IP of installing database) and Login password (password set when installing the database) of database, and click **"Create"** button In Fig.2.6 to create database, after creating database, the interface of **"Submit success"** will pop up, and click **"OK"** button, then the database connection interface will pop up as shown in Fig.2.4. The other steps are same with Step 2, complete the database connection and user login operation, you can log in the system.

Note:

1. Both the initial login account and initial password of network management software are admin.

2. After the user finishing the configuration database on the local machine. If the configuration information of the device (such as Localhost address, NMU address, and database) does not change, user can skip the database connection and configure the operation to log in directly; if the device configuration information changes, the user needs to re-database connection and configuration.

3. If an error occurs during the database connection operation, the following interface will pop up (see Fig.2.7):



Fig.2.7 Tips

Solutions for error interface:

- 1. The NMU's IP address is incorrect. Please check whether the NMU IP can be pinged.
- 2. The Localhost address is incorrect. Please check the IP address of the PC network card.
- 3. The SA database password is incorrect. Please pay attention to keyboard capitalization
- 4. SQL Sever is not enabled. Please configure the SQL service properly.

# 2.3 MonitorOnline Interface Instruction

MonitorOnline interface is shown in Fig.2.8.



#### Fig.2.8 Fiberstore FMT Optical Transport Network Management System

System	Description
<b>⊕</b> Menu Bar	Main congfiguration functions
	: Add unit, by clicking the icon, you can add unit.
	: Delete unit, by clicking the icon, you can delete the selected unit.
<b>⊘</b> Shortcut bar	Edit unit, by clicking the icon, you can edit some information of unit.
	: Add line card, by clicking the icon, you can add a line card for the unit.
	: Delete line card, by clicking the icon, you can delete a line card of the unit.
	Edit line card, by clicking the icon, you can edit some information of the unit.
	Exit system, by clicking the icon, you can close the current system.
	E Lock system, by clicking the icon, you can lock the current user.
	: Close/open alarm sound, by clicking the icon, you can close or open network management software alarm sound.

System	Description
	: The number of emergency alarm.
<b>②</b> Shortcut bar	: The number of serious alarm.
	: The number of general alarm.
Note: To add unit or delete	unit, please select the service room where the unit is located.
③Net Topology Tree	See 5.2.
Device Statistics	The numbers of units and business cards are presented in real time.
<b>⑤</b> View Display Area	Current alarm management interface, historical alarm management interface, history records, operation records interface and graphic topology are all presented in view display area.
	Move : After selecting the this box, you can drag a selected unit icon.
	<b>Drag</b> : After selecting the this box, you can drag all unit icons of the topology.
<b>6</b> Topology	🔀 : Save topology, by clicking this icon, you can save topology.
	: Enlarge icon, by clicking the icon, you can enlarge all the icons of topology.
	${igsilon}$ : Shrink icon, by clicking the icon, you can shrink all the icons of topology.
🕜 Status Bar	<ul><li>(1) Presenting login account of current system.</li><li>(2) Presenting local IP address.</li><li>(3) Presenting local time.</li></ul>

# Chapter III System Configuration

Click "System Configuration" of menu bar (see Fig.3.1), then the system configuration interface will pop up. There are several operations in system configuration, such as: add city, add room, add unit, edit and delete (see Fig.3.2).







Fig.3.2 System configuration

Explain: ① represent city; ② represent serviceroom; ③ represent unit device name; ④ represent business card The name of the business card is in the slot where the card is located, for example: OEO(3)

# 3.1 Add City

Click "Submit" button.

Add city Add room Add unit Edit	Delete
-	
— III OLP7(7)	
ー 単 Miniaturized EDFA10(10)	
- # TAWG11(11)	
Miniaturized EDFA13(13)	
- B OLP12(12)	
₩ DCM8(8)	

Click "Add City" button in Fig.3.3 and "Edit City" interface will pop up (see Fig.3.4). Inputting city code and city description, then

Fig.3.3 System configuration

Edit city	X
* City code	
* City description	
Explain:	
City code is three dig	it and the range of numbers is
between 000 ~999	
	Submit Close

Fig.3.4 Edit city

Note: The city code and city description should fulfil requirements, and cannot be duplicated with other cities.

### 3.2 Add Room

Click "Add Room" button in Fig.3.3, then "Edit Room" interface will pop up (see Fig.3.5). You can add room by inputting room code and room description.

# 3.3 Add Unit

Click "Add Unit" button in Fig.3.3. It can only be added manually and distinguish it by between IP addresses. IP addresses can only be modified by button; Then the interface of add unit will pop up (see Fig.3.6). Inputting unit basic information, then Click "Submit" button. At the same time, the software will automatically refresh the number and type of cards in the added unit.

Edit room		$\square$	Edit unit	
Luit room			Unit info NMU IP address Unit code	
Belong city	000	-	Unit description	
* Room code			Belong city 000   Belong room 01	
<ul> <li>Room description</li> </ul>			Connecting unit. - 문제 000 - 승진을 01	
Explain:	n a sa a sa a sa		01(10.32.110.98)	
Room code is two d between 00 ~99	ligit and the range of numbers is			
	Submit Close	,	Submit	Cle
F	Fig.3.5 Edit room		Fig.3.6 Edit unit	

### 3.4 Edit

Right click the card in network topology tree, and the "Edit board" interface will pop up. (Before edit the board information, you need to fill in the Board Code first.)

The Fig.3.7 is the interface of editing OEO board, and here you can modify basic information, wavelength and rate of the optical module.

Edit board										X
- Board informa	ation									_
Board type	OEO				_				•	
Belong city	000		•	Belo	ong roon	ı	00		•	
Belong unit	192.168.3.2	218	•	Boa	rd descr	iption	OEO5			
Board code				Belo	ong slot		5			
Topology info	rmation									
	Navelength	nn	Rate		Gb/s	Servio	e notes			
Port A2 \	Navelength	nn	Rate	_	Gb/s	Servio	e notes			
Port B1 V	Wavelength	nn	Rate		Gb/s	Servio	e notes			
Port B2 \	Navelength	nn	Rate		Gb/s	Servio	e notes			
Port C1 \	Navelength	nn	Rate		Gb/s	Servio	e notes			
Port C2 \	Navelength	nn	Rate		Gb/s	Servio	e notes			
Port D1 \	Navelength	nn	n Rate	_	Gb/s	Servio	e notes			
Port D2	Wavelength	nn	Rate		Gb/s	Servio	e notes			
								Submit	Close	

Fig.3.7 Edit board

The Fig.3.8 is the interface of OLP edit board, and here you can edit basic information, topology information. The main and backup cable description of OLP can be modified.

TXEDFA: Add EDFA on the TX side of OLP

T1EDFA: EDFA Add EDFA on the T1 side of OLP

T2EDFA: EDFA Add EDFA on the T2 side of OLP

RXEDFA: EDFA Add EDFA on the RX side of OLP

R1EDFA: EDFA Add EDFA on the R1 side of OLP

R2EDFA: Add EDFA on the R2 side of OLP

Board informatio	on					
Board type	DLP					•
Belong city	000	✓ Belor	g room	00		•
Belong unit	192.168.3.218	- Board	description	OEO5		
Board code		Belor	Belong slot 5			
Fopology inform	opology information					
Description of	main rounte					
beschpachter						
Description of	second rounte					
	second rounte City	Room		Unit		Board
	City	Room None selected	None se		▼ None	Board
Description of t	City			ected		
Description of s	City	None selected	None se	lected lected	• None	selected 🔹
Description of s Connect board TXEDFA	City       None selected       None selected	None selected	None se	lected lected lected	None     None	e selected
Description of a Connect board TXEDFA T1EDFA	City None selected • None selected • None selected •	None selected	None se None se None se	lected lected lected lected	<ul> <li>None</li> <li>None</li> <li>None</li> </ul>	e selected
Description of a Connect board TXEDFA T1EDFA T2EDFA	City None selected • None selected • None selected • None selected •	None selected	None se None se None se None se	ected lected lected lected lected	None     None     None     None	e selected    selected  selected  selected  selected  selected

#### Fig.3.8 Edit board

The Fig.3.9 is the interface of EDFA edit board, and here you can edit basic information, topology information. The up even board and down even board of the EDFA can be selected according to the actual situation of the link.

Board type	Miniaturized E	DEA					-
~	Initiaturized E						·
Belong city	000		•	Belong	room	00	-
Belong unit	192.168.3.218		•	Board d	lescription	OEO5	
Board code				Belong	slot	5	<u>.</u>
Topology info	ormation ———						
		City		Room		Unit	Board
Up even boa			None se		None se		Board None selected
		cted •		elected 🔻	None se	lected 🔻	
Up even boa					None se		



### 3.5 Delete

You can delete city, room, unit and board card in Fig.3.10 (take unit for example). Click pre deleted unit and click "Deleted" button, the confirm interface will pop up (see Fig.3.11).

Add city     Add room     Add unit     Edit     Delete	System configuration					X
<ul> <li>□ 01</li> <li>□ 01(0.32.110.98)</li> <li>□ □ 0EOS(5)</li> <li>□ □ 0EOK6(6)</li> <li>□ □ 0LP7(7)</li> <li>□ □ Miniaturized EDFA10(10)</li> <li>□ □ TAWG11(11)</li> <li>□ □ Miniaturized EDFA13(13)</li> <li>□ □ 0LP12(12)</li> </ul>		Add city	Add room	Add unit	Edit	Delete
	□ 01 □ 01(10.32.110.98) □ □ 0CO5(5) □ □ 0CO5(5) □ □ 0CO5(6) □ □ 0CO5(6) □ □ 0CO5(7) □					

Fig.3.10 Edit room

Then you can delete unit by clicking "Confirm" button (see Fig.3.11).



Fig.3.11 Tips

# Chapter IV Software Security

### 4.1 User Management

Click "User Management" of menu bar in Fig.4.1, then an interface of user management will pop up (see Fig.4.2). There are several operations in user configuration, such as: add user, edit user, delete user and query user as shown in Fig.4.2.

FS.COM FMT Optical Trans	sport Networi	k Management System				- <b>(</b>
😔 System management 👔	🔒 User manag	gement 🛛 🐕 System configuration	🐥 Alarm management 🛛 😂 Statistics 🔇	🕽 Data security 🛛 Ələp		
- 🔀 🔀		📮 i 📑 🔒 📣				
Network topology tree	Device top	ology				
⊖-∰ 000 ⊨-∰ 01	Move	Drag Save for the picture	es 🗘 🗘 100% -			
i-∰ 01		- ong - Construction process				
- 🚟 OEO5(5)						Legend
- My DCM6(6) - My OLP7(7)		User management		X	3	
- Miniaturized		User management				Emergency
- 💵 TAWG11(11)		User query				
- Miniaturized - Miniaturized		Account	User type	None selected		Serious
- By DCM8(8)						
				Query		General
						Normal
				Add Delete Edit		
		User type	Account User name	Phone Password		Dorpped
		▶ 1 Administrator	admin admin	admin		
		Total 1 Page	30 Records per page Total 1 F	Records 《 1 > 》		
Device statistics		lotar y rege	oo neeeros per poge			
Device Count Online unit 0						
Alarm unit 0						
Unline unit 1						
admin 192.168.56.1 2019-0	7.11.17.06 **					
aurini 192,108.50.1 2019-0	//-11 1/:06:45					

Fig.4.1 Fiberstore FMT Optical Transport Network Management System

User qu					
Accoun	t		User type	None selected	•
					Query
				Add	Delete Edit
	User type	Account	User name	Phone	Password
• 1	Browse	11	11		123
2	Operator	00	00		123
3	Administrator	admin	admin		admin

Fig.4.2 User Management

#### 4.1.1 Add User

Click "Add" button in Fig.4.2, the interface of user adding will pop up (see Fig.4.3). Selecting user type and inputting login account, user name and phone number, then click "Confirm" button.

#### 4.1.2 Edit User

Click "Edit" button in Fig.4.2, the interface of user editing will pop up (see Fig.4.4). Then you can edit user type, login account, user name and phone number.

User editing	X	User editing	X
User type	None selected 💌	User type	Administrator 🔹
Account	•	Account	admin *
Password		Password	admin *
User name		User name	admin *
Phone		Phone	+86 188 8888 8888 *
	Confirm Cancel		Confirm Cancel
	Fig 4 3 User editing		Fig.4.4 User editing

Fig.4.3 User earling

Note: User types include administrators, operators, browsers, and they have different permissions.

Administrators have all permissions; Operators just can not operate user management; Browsers only has permission to view, no delete permission; Customers need to choose user type according to their needs.

#### 4.1.3 Delete User

Click "Delete" button in Fig.4.2, the interface of user deleting will pop up (see Fig. 4.7), then click "Confirm" button to delete user.





Note: The user of login account is admin that cannot be deleted and modified.

#### 4.1.4 Query User

You can query user in Fig4.2 and the query condition includes:

- (1) User information: Input login account and click "Query" button, then the login account with the input login account information will be displayed.
- (2) User type: Click "User type" to select administrator, operator and browser to view user information.

# 4.2 System Management

System management menu items include modify password, switch user, lockking system, setting interval time of record, exit (see Fig.4.6).

FS.COM FMT Optical Transport	Network Manag	ement System				
😳 System management 🧘 Use	er management	🐕 System configuration	🔔 Alarm management	🕒 Statistics	🥑 Data security	🕜 Help
Modify password Switch user		📑 🔒 🌗				
Locking system Setting record interval	ice topology					
Mailbox configuration Exit	Nove 🗌 Drag	Save for the pictur	es 🔇 🔾 100%	•		
-# OEO5(5) -# DCM6(6) -# OLP7(7)						

Fig.4.6 System Management

#### 4.2.1 Modify Password

Click **"M**odify password" in Fig.4.6, then an interface of change password will pop up (see Fig.4.7). Inputting original password and new password, then click **"Confirm"** button to complete the modification.

#### 4.2.2 Switch User

Click "Switch user" in Fig.4.6, then an interface of switch user will pop up (see Fig.4.8). Inputting user name and password, then click "Login" button. MonitorOnline login user name is the user name of the switch user.

#### 4.2.3 Locking System

Click "Lockking system" in Fig.4.6, then an interface of locking system will pop up (see Fig.4.8). Inputting user name and password, you can unlock it and log in again.

Modify password	X	Logi	in .COM
Account	admin	FMT	optical transport network
User name	admin	mana	agement system
Old password	•	ι	User name: None selected
New password	*	r	Password:
Confirm new password	•		
	Confirm Cancel		Login Quit
Fig.4.7 Cha	nge password	_	Fig.4.8 Login

#### 4.2.4 Setting Record Interval

Click "Setting record interval" in Fig.4.6, then an interface of setting record interval will pop up. You can set interval of EDFA, OLP,OEO. The specific operational records of OEO and EDFA will be covered in Chapter 7.

#### 4.2.5 Exit System

Click "Exit" in Fig.4.6, then you can exit current system.

### Chapter V System Monitoring

### 5.1 Network Management Card





### Panel Keys Description

▲ S	croll Up Key	The key is used to change the menu or data up.
▼ Scr	oll Down Key	The key is used to change the menu or data down.
► Sci	roll Right Key	The key is used to move the cursor right when in modification state.
▲ So	croll Left Key	The key is used to move the cursor left when in modification state.
(OK)	OK	Confirm key, the key is used to enter into the submenu or confirm the modification. Enter this key to modify
(Esc)	Esc	Quit key, the key is used to exit the current menu level or to exit the modification state.

Table 4-1 Panel keys description

# 5. 2 Network Topology Tree

In each newly created database, the initial login management must establish the network topology tree to monitor the device. The database does not delete the network topology tree and will keep recording it. Network topology tree is located on the left of main interface (see Fig.5.2). You can see all cities, engine rooms, units and the type and number of cards of each network element.. Double click the card icon to enter the chassis monitoring interface (see Fig.5.4).

# 5.3 Equipment Topology

Device topology is in view display area of main interface (see Fig.5.3), and you can see all states of device. means normal, means offline, means emergency alarm, means serious alarm, means general alarm). Double click unit icon of equipment topology to open an interface of chassis monitoring interface (see OEO monitoring interface in Fig.5.4).



Fig.5.2 Network topology tree

Fig.5.3 Equipment topology

#### OEO card:

Double-click OEO card, then pop up an interface of card monitoring (see Fig.5.4). You can see monitor information, topology information and basic information of OEO in Fig.5.4.

The monitoring information includes:

(1) Basic information of each transceiver on OEO card (Wavelength, transmission distance, Tx & Rx power, temperature and rate).

(2) The illumination control mode and working mode of the OEO.



Fig.5.4 OEO card information

Note1: When set up the light control mode of OEO via Monitor Online, there will be a certain delay, this is caused by a large amount of data of OEO.

Note2: For 8G transceivers, please save the FC setting according to the following steps: first, click "set" to choose "FC", then, click "send". For the other transceivers, just set the normal mode.

#### EDFA card:

You can see monitor information, topology information and basic information of EDFA in Fig 5.5.

Description of EDFA's main parameters:

Input power & Output power: Real-time monitoring can be realized;

Gain adjustment: Adjustment range between ± 3db;

Output adjustment: AGC mode is default;

Lower limit value of input and upper limit value of output: Adjust according to the demand.

Pump: Pump2 of the mid-stage EDFA also has monitoring parameters.

192.168.3.117192.168.3.117							X
NMU P1 P2 RUN	rA ● PWR ● In ● MT ● SUN ● Dut ● PT In	S1 e out	ett DCM	in out		PWR Status	•
SFP1 ETH1 ETH2		SL o	(⊕) (⊕) ● RUN ● R1 ● Tx	ade Status Rx Tx R1 T1 R2 T2	61ot4	(	•
Business information Topolo	ogy information Basic informatio	n					
	1.00	dB	Module temperature	30.5		℃	
Supply voltage 5	.28	) v	Work model	AGC			
Input power	50.00	dBm	Output Power	-50.00		dBm	
Low input power	15.00	dBm	Low output power	-3.00		dBm	
Input warning threshold		dBm	Output warning threshold			dBm	
- Pump state							
Pump1 work current	1.8	mA	Pump2 work current			mA	II I
Pump1 power	0.00	dBm	Pump2 power			dBm	
Pump1 temperature	25.1	۹۵	Pump2 temperature			°C	
Pump1 cooling electricity	39.0	mA	Pump2 cooling electricity			mA	
Upper pump1 temperature	30.0	°C	Upper pump2 temperature	•		°C	

Fig.5.5 EDFA card information

OLP card:

You can see monitor information, topology information and basic information of OLP in Fig 5.6.

Description of OLP's main parameters:

Power value: the left data is the real-time monitoring parameter, and the right data is the alarm threshold;

Switching Threshold: When the current power of the fiber is lower than the threshold, the switch switches immediately.

Change back delay: Switch back to the original line after a delay;

Change delay: Switch to the alternate line after a delay;

Working parameters: Mainly divided into manual and automatic modes, generally using automatic mode.

This 0000001OLP7	OLP1:1A	Remote —
-50.00 <b>13</b>	100 Main 120 Seco 150.00 Main 150.00 Seco	nd 88 82
Power value         Alarm threshold           R1         50.00         0.00         set           R2         50.00         -20.00         set           IX         -50.00         -20.00         set           LS         set         set	Change param Switching Threshold 50.00 set Switching Threshold 2000 set Changeback delay 1 set Change delay 0 set	Power value     Change param       Power value     Alam threshold       R1     set       Switching Threshold     set       TX     set       LS     set   Change delay set
	k channel Main Second Set Set	Working parameters Work model auto hand Second Back model auto hand Second Back model auto hand Second Back model auto hand Second

Fig.5.6 OLP card information

# Chapter VI Alarm Management

Alarm management: Device alarm query and alarm type configuration.

### 6.1 Current Alarm Management

The alarm management of menu bar includes current alarm management, historical alarm management and alarm configuration. The interface of current alarm management is shown in Fig.6.1.

								Confirm	Clear No handle
	Alarm level	Alarm unit	Alarm name	Event description	Alarm source	Happen time	confirm	n time	Event state
1	General event	01	EDFA input alarm	EDFA input alarm	Miniaturized EDFA3	2019年5月25日 10:23:51			Untreated
2	General event	01	EDFA input alarm	EDFA input alarm	Miniaturized EDFA4	2019年5月25日 10:23:51		Confirm	Untreated
3	General event	01	EDFA input alarm	EDFA input alarm	Miniaturized EDFA3	2019年5月25日 10:08:56		Clear	Untreated
4	General event	01	EDFA input alarm	EDFA input alarm	Miniaturized EDFA4	2019年5月25日 10:08:55		No handle	Untreated
5	General event	01	EDFA input alarm	EDFA input alarm	Miniaturized EDFA3	2019年5月24日 18:10:01		View device	Untreated
6	General event	01	EDFA input alarm	EDFA input alarm	Miniaturized EDFA4	2019年5月24日 18:10:00			Untreated
7	General event	01	EDFA input alarm	EDFA input alarm	Miniaturized EDFA3	2019年5月23日 18:10:15			Untreated
8	General event	01	EDFA input alarm	EDFA input alarm	Miniaturized EDFA4	2019年5月23日 18:10:15			Untreated
9	General event	01	EDFA input alarm	EDFA input alarm	Miniaturized EDFA3	2019年5月23日 14:57:54			Untreated
10	General event	01	EDFA input alarm	EDFA input alarm	Miniaturized EDFA4	2019年5月23日 14:57:54			Untreated
11	General event	01	EDFA input alarm	EDFA input alarm	Miniaturized EDFA3	2019年5月22日 9:38:47			Untreated
12	General event	01	EDFA input alarm	EDFA input alarm	Miniaturized EDFA4	2019年5月22日 9:38:46			Untreated
13	General event	01	EDFA input alarm	EDFA input alarm	Miniaturized EDFA3	2019年5月21日 15:41:28			Untreated
14	General event	01	EDFA input alarm	EDFA input alarm	Miniaturized EDFA4	2019年5月21日 15:41:28			Untreated

#### Fig.6.1 Current Alarm

Note: Current alarm information must be confirmed and then cleared. The current alarm that is confirmed and cleared will be transferred to historical alarm.

The interface of current alarm management contains confirm alarm, clear alarm and no need handle. Right-clicking the

selected current alarm also can realize all the above functions as well as view device.

Confirm alarm: Confirm the selected current alarm information.

Clear alarm: Clear the selected current alarm information and transfer it to the historical alarm.

No need handle: Transfer alarm information that does not need to be processed to historical alarms.

View device: Jump directly to the alarm device.

### 6.2 Historical Alarm Management

	Alarm level	Alarm unit	Alarm name	Event description	Alarm source	Happen time	confirm time	Event state
1	Common event	01	OLP TX generate power alarm	OLP TX generate power alarm	OLP2	2019年5月25日 10:23:59		No handle
2	Common event	01	OLP R2 generate power alarm	OLP R2 generate power alarm	OLP2	2019年5月25日 10:23:59		No handle
3	Common event	01	OLP R1 generate power alarm	OLP R1 generate power alarm	OLP2	2019年5月25日 10:23:59		No handle
4	Common event	01	EDFA output alarm	EDFA output alarm	Miniaturized EDFA3	2019年5月25日 10:23:51		No handle
5	Common event	01	EDFA output alarm	EDFA output alarm	Miniaturized EDFA4	2019年5月25日 10:23:51		No handle
6	Common event	01	Device online	Device online	01	2019年5月25日 10:23:50		No handle
7	Common event	01	OLP R2 generate power alarm	OLP R2 generate power alarm	OLP2	2019年5月25日 10:09:04		No handle
8	Common event	01	OLP TX generate power alarm	OLP TX generate power alarm	OLP2	2019年5月25日 10:09:04		No handle
9	Common event	01	OLP R1 generate power alarm	OLP R1 generate power alarm	OLP2	2019年5月25日 10:09:04		No handle
10	Common event	01	EDFA output alarm	EDFA output alarm	Miniaturized EDFA3	2019年5月25日 10:08:56		No handle
11	Common event	01	EDFA output alarm	EDFA output alarm	Miniaturized EDFA4	2019年5月25日 10:08:55		No handle
12	Common event	01	Device online	Device online	01	2019年5月25日 10:08:55		No handle

Fig.6.2 History alarm

You can query, clear and export historical alarm information in Fig.6.3. The explanation of query condition includes:

- (1) Related equipment: Input the related name of the pre-query history alarm and click query button(see Fig.6.3), then all the alarm information that is related to query will be displayed.
- (2) Alarm name: Click the alarm name, select the alarm type (see Fig.6.3), and click the "Query" button, then all the alarm information of the selected alarm name will be displayed.

	Alarm level	Alarm unit	Alarm name
1	Common event	Alarm Unit	OLP TX generate power alarm
2	Common event	01	OLP R2 generate power alarm
3	Common event	01	OLP R2 generate power alarm OLP R1 generate power alarm
4	Common event	01	OLP R1 generate power alarm OLP R2 generate power alarm
4	Common event	01	
5	Common event	01	OLP TX generate power alarm OLP R1 generate power alarm

_		Alarm level		Alarm name
			Alarm unit	
•	1	Common event	01	OLP R1 generate power alarr
	2	Common event	01	OLP R1 generate power alarr

Fig.6.3 History alarm

(3) Record time: Choose the start date and end date of the pre-query, and click the "Query" button, then all alarm information of selected time period will be displayed (see Fig.6.4).

telated D	evice	Alarm name None	selected V Record time 2017/12/26	To 2019/05/25			Query	Export Clear
	Alarm level	Alarm unit	Alarm name	Event description	Alarm source	Happen time	confirm time	Event state
1	Common event	01	OLP TX generate power alarm	OLP TX generate power alarm	OLP2	2019年5月25日 10:33:23		No handle
2	Common event	01	OLP R2 generate power alarm	OLP R2 generate power alarm	OLP2	2019年5月25日 10:33:23		No handle
3	Common event	01	OLP R1 generate power alarm	OLP R1 generate power alarm	OLP2	2019年5月25日 10:33:23		No handle
4	Common event	01	EDFA output alarm	EDFA output alarm	Miniaturized EDFA4	2019年5月25日 10:33:15		No handle
5	Common event	01	Device online	Device online	01	2019年5月25日 10:33:14		No handle
6	Common event	01	TAWG module temperature generate alarm r	TAWG module temperature generate alarm r	TAWG3	2019年5月25日 10:29:28		No handle
7	Common event	01	TAWG module temperature generate alarm	TAWG module temperature generate alarm	TAWG3	2019年5月25日 10:29:07		No handle
8	Common event	01	TAWG module temperature generate alarm r	TAWG module temperature generate alarm r	TAWG3	2019年5月25日 10:29:00		No handle
9	Common event	01	TAWG module temperature generate alarm r	TAWG module temperature generate alarm r	TAWG3	2019年5月25日 10:28:45		No handle
10	Common event	01	TAWG module temperature generate alarm	TAWG module temperature generate alarm	TAWG3	2019年5月25日 10:28:32		No handle
11	Common event	01	DCM is pulled out	DCM is pulled out	DCM1	2019年5月25日 10:28:24		No handle
12	Common event	01	TAWG module temperature generate alarm	TAWG module temperature generate alarm	TAWG3	2019年5月25日 10:28:24		No handle
13	Common event	01	TAWG module temperature generate alarm r	TAWG module temperature generate alarm r	TAWG3	2019年5月25日 10:28:17		No handle
14	Common event	01	TAWG module temperature generate alarm	TAWG module temperature generate alarm	TAWG3	2019年5月25日 10:27:56		No handle
15	Common event	01	DCM is pulled out	DCM is pulled out	DCM1	2019年5月25日 10:27:55		No handle
16	Common event	01	Device online	Device online	01	2019年5月25日 10:27:38		No handle
17	Common event	01	Device dropped	Device dropped	01	2019年5月25日 10:27:24		No handle
18	Common event	01	OLP TX generate power alarm	OLP TX generate power alarm	OLP2	2019年5月25日 10:23:59		No handle
19	Common event	01	OLP R2 generate power alarm	OLP R2 generate power alarm	OLP2	2019年5月25日 10:23:59		No handle
20	Common event	01	OLP R1 generate power alarm	OLP R1 generate power alarm	OLP2	2019年5月25日 10:23:59		No handle
21	Common event	01	EDFA output alarm	EDFA output alarm	Miniaturized EDFA3	2019年5月25日 10:23:51		No handle
22	Common event	01	EDFA output alarm	EDFA output alarm	Miniaturized EDFA4	2019年5月25日 10:23:51		No handle
23	Common event	01	Device online	Device online	01	2019年5月25日 10:23:50		No handle
24	Common event	01	OLP R2 generate power alarm	OLP R2 generate power alarm	OLP2	2019年5月25日 10:09:04		No handle
25	Common event	01	OLP TX generate power alarm	OLP TX generate power alarm	OLP2	2019年5月25日 10:09:04		No handle
26	Common event	01	OLP R1 generate power alarm	OLP R1 generate power alarm	OLP2	2019年5月25日 10:09:04		No handle
27	Common event	01	EDFA output alarm	EDFA output alarm	Miniaturized EDFA3	2019年5月25日 10:08:56		No handle
28	Common event	01	EDFA output alarm	EDFA output alarm	Miniaturized EDFA4	2019年5月25日 10:08:55		No handle
29	Common event	01	Device online	Device online	01	2019年5月25日 10:08:55		No handle
30	Common event	01	Working route of QLP is switched to main ro-	Working route of OLP is switched to main ro	0192	2019年5月24日 18:24:05		No handle

#### Fig.6.4 History alarm

### 6.3 Alarm Configuration

Choose event level of every event type and click submit button to configure each alarm level. At the same time, selecting the alarm level that you need to push(see Fig.6.5).

	Event type	Alarm level		Ľ
▶ 1	Device dropped	Common event	~	ľ
2	Device online	Common event	~	
3	Nmu restore factory default configuration	Common event	~	
4	NMU open key	Common event	~	
5	NMU close key	Common event	~	
6	NMU open buzzer	Common event	~	
7	NMU close buzzer	Common event	~	ł
8	NMU open fan control switch	Common event	~	
9	NMU close fan control switch	Common event	~	ł
10	NMU open fan	Common event	~	ł
11	NMU close fan	Common event	~	l
12	NMU open power1	Common event	~	ł
13	NMU open power2	Common event	~	
14	NMU close power1	Common event	~	ŀ

Fig.6.5 Alarm configuration

# Chapter VII Statistics

Statistics: Record the historical data of the equipment card. When the line encounters problems, you can check statistics to figure out the failure time and the reason of failure quickly. Statistics in the submenu only contain four types of products: OEO, EDFA, mid-stage EDFA and OLP.

# 7.1 History Record

The statistics menu includes history record submenu and operation record submenu. The history interface of EDFA is shown in Fig.7.1.



Fig.7.1 History Record

You can query, export and clear history record in Fig.7.1. The query condition includes:

- (1) Related equipment: Input the related equipment name, then click the "Query" button to check out the history record of the related equipment.
- (2) Record time: Choose the start date and end date of the pre-query and click the "Query" button, then all history record of selected time period will be displayed(see Fig.7.2).



Fig.7.2 Operation record

# 7.2 Operation Record

The operation record is shown in Fig.7.3. You can query operation record according to the related equipment and the record time. At the same time, you can export, query and clear operation record.

FS.COM FMT Optical Trans	port Net	work Management System			- 0 X
🤤 System management 🛛 🔒	User m	anagement 🛛 🖓 System configuration 斗 Alarm management 🔮 St	atistics 😴 Data security 🕜 Help		
🐹 🐹 😸 🕴		🛔 📮 🗄 🕒 🌒			
Network topology tree	Device	topology Operation recorc×			
000 	Relate	nd Device Record time 2019/06/14	19/06/14		Query Export Clear
- III OEO5(5)		Record time	Operation type	Related Device	Operator
	F 1	2019年6月14日 11:19:31	Modify unit		admin
BP OLP7(7)	2	2019年6月14日 11:18:12	User login		admin
IIII Miniaturized	3	2019年6月14日 11:17:49	Modify unit		admin
TAWG11(11)	4	2019年6月14日 11:16:55	User login		admin
	5	2019年6月14日 11:16:19	Modify unit		admin
- Miniaturized	6	2019年6月14日 11:16:07	Modify unit		admin
- III OLP14(14)	7	2019年6月14日 11:15:52	Modify unit		admin
	8	2019年6月14日 11:14:45	Add unit		admin
	9	2019年6月14日 11:13:57	User login		admin
	10	2019年6月14日 11:13:29	Add unit		admin

#### Fig.7.3 Operation record

### 7.3 Email configuration

Click "Email address of sender", then the interface will pop up, and click "Query" to configure the email(see Fig.7.4).



Fig.7.4 Email configuration

Click "Email address of recipient", then the interface will pop up, and click "Query" to configure the email(see Fig.7.5).

		vork Management System	And And And	
💛 System m	sanagement 2 User m	inagement 🛛 😤 System configuration 🔑 Alarm management		
32 33		l 🔜 🗄 🔁 📣	Historic records    Operation record	
			Operation record Mail address of sender	المتحك ( <b>للمتحك</b> )
	topology tree Device	topology	Mail address of recipient	
000 🔮 😑	177 Mar	e 🔄 Drag 🛛 🔝 Save for the pictures 🛛 🕰 🕰 100%		
		e Claud Construction and a state		
i i i	OE05(5)			Log
	DCM6(6)			
	OLP7(7)			
	Miniaturized Miniaturized	Query recipient mail address	IX I	Emerg
	TAWG11(11)			
	DCM12(12)		Query Export Clear	Serie
	Winiaturized			
	OLP14(14)		Mail address of recipient	Ger
-81	02			
	04			Nor
-				
				Dorp
	statistics			
Device	Count			
Online unit	1			
Online OLP	2			
Online EDFA				
Online OEO	1			
	2			
Online DCM	1			
	1			

Fig.7.5 Email configuration

Click "Query" to edit the email information that you have configured; click "Clear" to delete the existing mailbox configuration; click "Export" to export the existing mailbox configuration table.

The prerequisite for using the mailbox push function is that the management PC requires access to the public network and the client server corresponding to the mailbox type is configured.

The supported mailbox types and client servers are as follows:

Email	SMTP server	SSL
Gmail	smtp.gmail.com	V
Yahoo	smtp.mail.yahoo.com	V
Outlook	smtp-mail.outlook.com	V
QQ	smtp.exmail.qq.com	V

Fig.7.6 Email	configuration
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Note: Only the highest level of alarm information is received by the mail, and the common event alarm information is not pushed by default. (Using QQ email address as the sending mailbox, the login password must be the authorization code.)

### Chapter VIII SNMPv1

### 8.1 About SNMPv1

General	Get-Bulk	
Read community	🗸 Use G	iet-Bulk
public 👻	0	Non repeaters
et community	10	Max repetitions
private 👻	SNMPv3	l security
imeout [s] 5	User security name	
Petransmits 4		6. N-
Port number 161 -	Security	level

Fig.8.1 SNMP Protocol Preferences

Note: The default version is SNMPv1. FS can also offer the customized service according to customers' different demands.

Read community: It's similar to the password function, if you need to read the data, you only need to write the "Read community" correctly. The password can only be modified via the Simple Management Tool.

Set community: It's similar to the password function, if you need to modify the data, you need to write the "Read & Set community" correctly. The password can only be modified via the Simple Management Tool.



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