



# Management Software

- Centralized Device Management
- Real-time visual representations and processing of alarms
- Long term event storage (**up to 1 year**)
- Easy, User-Friendly Operation Interface

CTC Union's **SmartView™ Element Management System (EMS)** is a comprehensive management solution that monitors device performance, enables remote configuration and provisioning, and provides fault notification status.

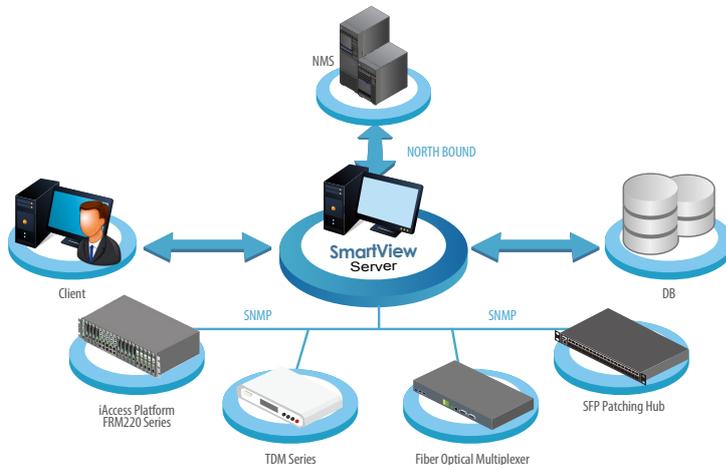
## SmartView™ EMS

(Element Management System)

- Main Functions (**FCAPS**):
  - Fault Management
  - Configuration Management
  - Accounting Management
  - Performance Management
  - Security Management
- Remote access control for efficient configuration
- Traffic / Performance monitoring and management
- Alarm Trap and event log management
- Auto Discovery and Device Viewer
- Allow up to 25 administrators to login



## Polled Network Elements



### Network Scheme Diagram

- User-Friendly Operation Interface
- Robust Client / Server architecture
- Network Monitoring and Management
- Database for persistent event storage
- Security Access Management

### • Agents

The server handles connections with the network devices using SNMP protocol and is responsible for communicating of requests from management clients. SmartView™ Server collects information data from specific SNMP agents, stores the information into a persistent database and updates that information to the management clients.

### • Microsoft® SQL Server for Persistent Storage

SQL Server is the place where SmartView™ stores collected data, such as alarms, traps and user actions, for long term retrieval. SmartView™ requires Microsoft® SQL Server and is compatible with SQL 2008 Server, SQL 2008 Express, SQL 2014 Server and SQL 2014 Express. (The EMS installer will install the free version Microsoft® SQL 2008 Express or SQL 2014 Express under Windows 10 by default).

### • SmartView™ Server

The server handles connection with the network devices using SNMP protocol, and is responsible for communication of requests from management clients. SmartView™ Server collects the information data from specific SNMP agents, stores the information into a persistent database and updates that information to the management clients.

### • Workstation-Clients

Management clients are provided with the JAVA applet GUI to monitor and control the agents at far end. They also receive the Alarm and Traps from the corresponding SNMP Agents. Multiple workstations are allowed, with a maximum of 25 concurrent logged in users.

## Features at a Glance

### - Fault Management

#### Trap Collection

All traps will be stored in SQL database. When an SNMP agent experiences an abnormal condition it will send an SNMP trap message to SmartView™ which then receives the message, and records it in the database. Depending on preset conditions, SmartView™ may sound an audible alarm, send an email or SMS alert message or just simply flash the trap message on the administrative console screen.

No.	Ack	Time	Device	Address	Message
1	<input checked="" type="checkbox"/>	2013-10-31 16:43:25	FRM220-44	10.1.1.44	Chassis1_Slot06_Local: Fiber Link Down.
2	<input checked="" type="checkbox"/>	2013-10-31 16:43:25	FRM220-44	10.1.1.44	Chassis1_Slot07_Local: Fiber Link Down.
3	<input checked="" type="checkbox"/>	2013-10-31 16:43:25	FRM220-44	10.1.1.44	Chassis1_Slot10_Local: Fiber1 Link Down.
4	<input checked="" type="checkbox"/>	2013-10-31 16:43:25	FRM220-44	10.1.1.44	Chassis1_Slot10_Local: Fiber2 Link Down.
5	<input checked="" type="checkbox"/>	2013-10-31 16:43:25	FRM220-44	10.1.1.44	Chassis1_Slot11_Local: Fiber Link Down.
6	<input checked="" type="checkbox"/>	2013-10-31 16:43:25	FRM220-44	10.1.1.44	Chassis1_Slot11_Local: UTP Link Down.
7	<input checked="" type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot12_Local: Fiber Link Down.
8	<input checked="" type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot12_Local: UTP Link Down.
9	<input checked="" type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot13_Local: Fiber1 Link Down.
10	<input checked="" type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot13_Local: Fiber2 Link Down.
11	<input type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot13_Local: Fiber3 Link Down.
12	<input type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot15_Local: UTP Link Down.
13	<input type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot15_Local: E1 Signal Loss.
14	<input type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot16_Local: UTP Link Down.
15	<input type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot16_Local: E1 Signal Loss.
16	<input type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot17_Local: Fiber Link Down.
17	<input type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot17_Local: UTP Link Down.
18	<input type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot18_Local: Fiber Link Down.
19	<input type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot18_Local: UTP Link Down.
20	<input type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot19_Local: Fiber Link Down.
21	<input type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot19_Local: UTP Link Down.
22	<input type="checkbox"/>	2013-10-31 16:43:26	FRM220-44	10.1.1.44	Chassis1_Slot20_Local: Fiber Link Down.
23	<input type="checkbox"/>	2013-10-31 16:43:27	FRM220-44	10.1.1.44	Chassis1_Slot20_Local: UTP Link Down.
24	<input type="checkbox"/>	2013-10-31 16:43:27	FRM220-44	10.1.1.44	Chassis1_Slot02_Local: Card FRM220A-1000EAS/X Found.
25	<input type="checkbox"/>	2013-10-31 16:43:27	FRM220-44	10.1.1.44	Chassis1_Slot03_Local: Card FRM220A-1000EAS/X Found.
26	<input type="checkbox"/>	2013-10-31 16:43:27	FRM220-44	10.1.1.44	Chassis1_Slot04_Local: Card FRM220A-1000EAS/X Found.
27	<input type="checkbox"/>	2013-10-31 16:43:39	FRM220-44	10.1.1.44	Chassis1_Slot05_Local: Card FRM220A-1000EAS/X Found.
28	<input type="checkbox"/>	2013-10-31 16:44:10	FRM220-44	10.1.1.44	Chassis1_Slot02_Local: Fiber1 Link Down.
29	<input type="checkbox"/>	2013-10-31 16:44:10	FRM220-44	10.1.1.44	Chassis1_Slot02_Local: Fiber2 Link Down.

Trap Messages

#### Active Alarm

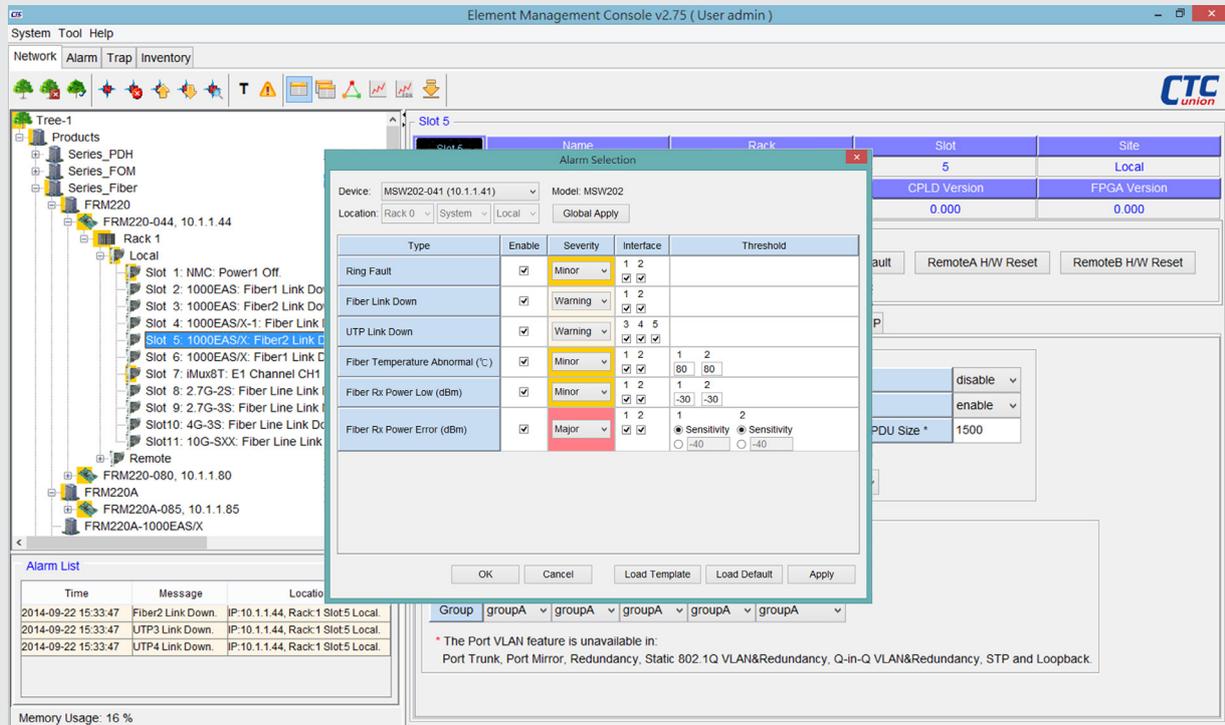
SmartView™ continuously polls all network devices under its management and will visually display all alarm conditions found. Alarms will be categorized as Major, Minor or Warning, depending on severity. Although alarms may be acknowledged, they remain actively displayed on the alarm page until there is no longer an alarm condition.

No.	Ack	Time	Device	Address	Location	Message	Severity
1	<input checked="" type="checkbox"/>	2013-10-31 16:48:28	FMUX04E-43	10.1.1.43	Local	Fiber2 port has no link.	Warning
2	<input checked="" type="checkbox"/>	2013-10-31 16:48:28	FMUX04E-43	10.1.1.43	Local	E1 channel CH1 inactive.	Warning
3	<input checked="" type="checkbox"/>	2013-10-31 16:48:28	FMUX04E-43	10.1.1.43	Local	E1 channel CH2 inactive.	Warning
4	<input checked="" type="checkbox"/>	2013-10-31 16:48:28	FMUX04E-43	10.1.1.43	Local	E1 channel CH3 inactive.	Warning
5	<input checked="" type="checkbox"/>	2013-10-31 16:48:28	FMUX04E-43	10.1.1.43	Local	E1 channel CH4 inactive.	Warning
6	<input checked="" type="checkbox"/>	2013-10-31 16:48:28	FMUX04E-43	10.1.1.43	Local	RS232 port inactive.	Warning
7	<input checked="" type="checkbox"/>	2013-10-31 16:48:28	FMUX04E-43	10.1.1.43	Local	LAN2 port inactive.	Warning
8	<input type="checkbox"/>	2013-10-31 16:49:30	FMUX04E-43	10.1.1.43	Local	LAN3 port inactive.	Warning
9	<input type="checkbox"/>	2013-10-31 17:06:01	FMUX04E-43	10.1.1.43	Remote	ES error (Error seconds).	Minor
10	<input type="checkbox"/>	2013-10-31 17:04:36	FMUX04E-43	10.1.1.43	Remote	Fiber2 port has no link.	Warning
11	<input type="checkbox"/>	2013-10-31 17:04:36	FMUX04E-43	10.1.1.43	Remote	E1 channel CH1 inactive.	Warning
12	<input type="checkbox"/>	2013-10-31 17:04:36	FMUX04E-43	10.1.1.43	Remote	E1 channel CH2 inactive.	Warning
13	<input type="checkbox"/>	2013-10-31 17:04:36	FMUX04E-43	10.1.1.43	Remote	E1 channel CH3 inactive.	Warning
14	<input type="checkbox"/>	2013-10-31 17:04:36	FMUX04E-43	10.1.1.43	Remote	E1 channel CH4 inactive.	Warning
15	<input type="checkbox"/>	2013-10-31 17:04:36	FMUX04E-43	10.1.1.43	Remote	RS232 port inactive.	Warning
16	<input type="checkbox"/>	2013-10-31 17:04:36	FMUX04E-43	10.1.1.43	Remote	LAN1 port inactive.	Warning
17	<input type="checkbox"/>	2013-10-31 17:04:36	FMUX04E-43	10.1.1.43	Remote	LAN2 port inactive.	Warning
18	<input type="checkbox"/>	2013-10-31 17:04:36	FMUX04E-43	10.1.1.43	Remote	LAN3 port inactive.	Warning
19	<input type="checkbox"/>	2013-10-31 17:04:36	FMUX04E-43	10.1.1.43	Remote	Phone port inactive.	Warning
20	<input type="checkbox"/>	2013-10-31 16:43:25	FRM220-44	10.1.1.44	Rack:1 Slot:1 Local	Power1 is not working or not installed.	Minor
21	<input type="checkbox"/>	2013-10-31 16:43:25	FRM220-44	10.1.1.44	Rack:1 Slot:1 Local	Fan1 is not working or not installed.	Minor
22	<input type="checkbox"/>	2013-10-31 16:43:25	FRM220-44	10.1.1.44	Rack:1 Slot:1 Local	Alarm1 setting is in alarm.	Minor
23	<input type="checkbox"/>	2013-10-31 16:43:25	FRM220-44	10.1.1.44	Rack:1 Slot:1 Local	Alarm2 setting is in alarm.	Minor
24	<input type="checkbox"/>	2013-10-31 16:43:58	FRM220-44	10.1.1.44	Rack:1 Slot:2 Local	Fiber1 port has no link.	Major
25	<input type="checkbox"/>	2013-10-31 16:43:58	FRM220-44	10.1.1.44	Rack:1 Slot:2 Local	Fiber2 port has no link.	Major
26	<input type="checkbox"/>	2013-10-31 16:43:58	FRM220-44	10.1.1.44	Rack:1 Slot:2 Local	UTP3 port has no link.	Major
27	<input type="checkbox"/>	2013-10-31 16:43:58	FRM220-44	10.1.1.44	Rack:1 Slot:2 Local	UTP4 port has no link.	Major
28	<input type="checkbox"/>	2013-10-31 16:43:58	FRM220-44	10.1.1.44	Rack:1 Slot:3 Local	Fiber1 port has no link.	Major
29	<input type="checkbox"/>	2013-10-31 16:43:58	FRM220-44	10.1.1.44	Rack:1 Slot:3 Local	Fiber2 port has no link.	Major

Active Warnings

### Alarm Selection

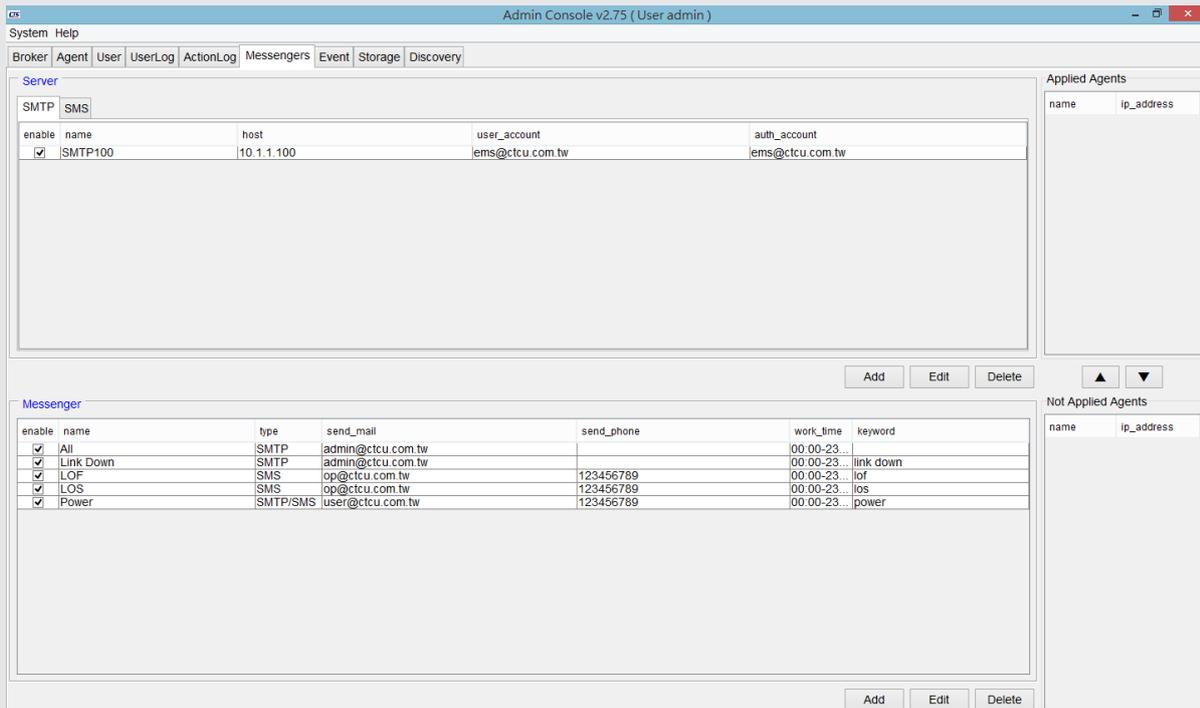
Alarm events of network element are configurable. All alarm events are warned by default, but them can be disabled to ignore warning messages.



Alarm Selection

### Alarms sent by E-mail & SMS

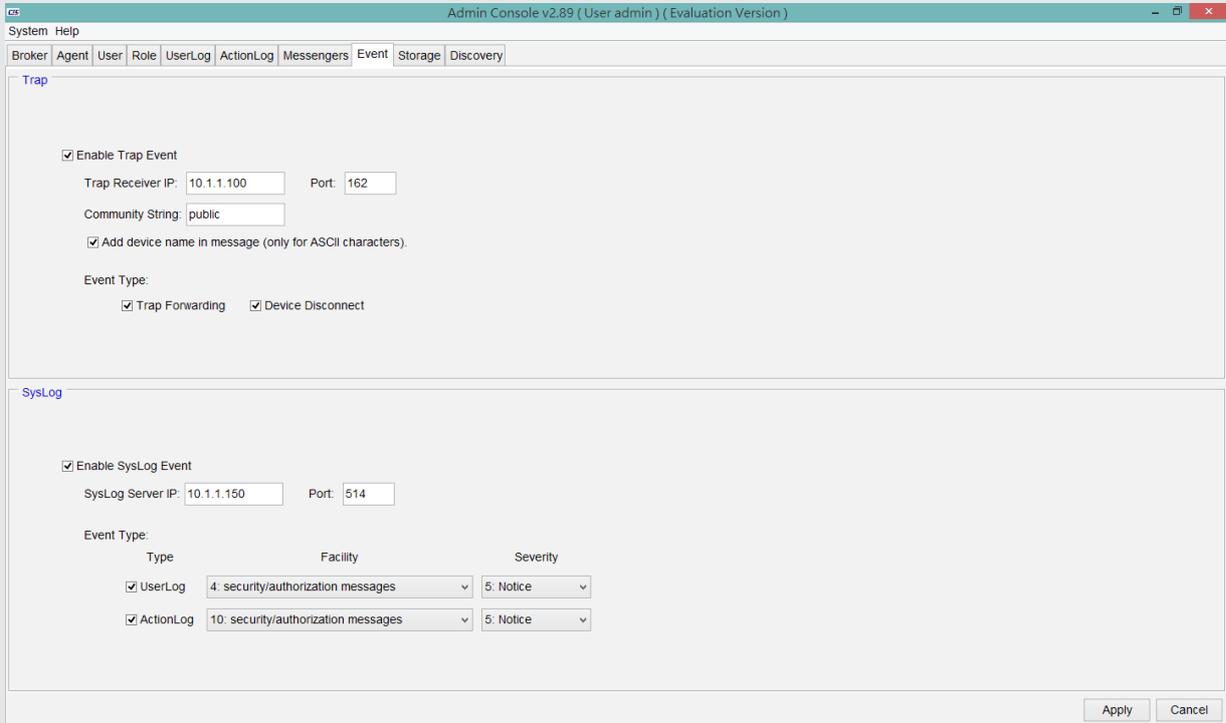
The SmartView™ is capable of sending emails and or SMS text messages to selected administrators when critical alarms occur. Prompt notification of system problems aid in getting problems in the network devices fixed in the shortest time possible.



Alarms Sent by Email & SMS

### Trap Forwarding and Syslog messages

The SmartView is capable of forwarding received traps to upper network management and sending event messages to a syslog server.



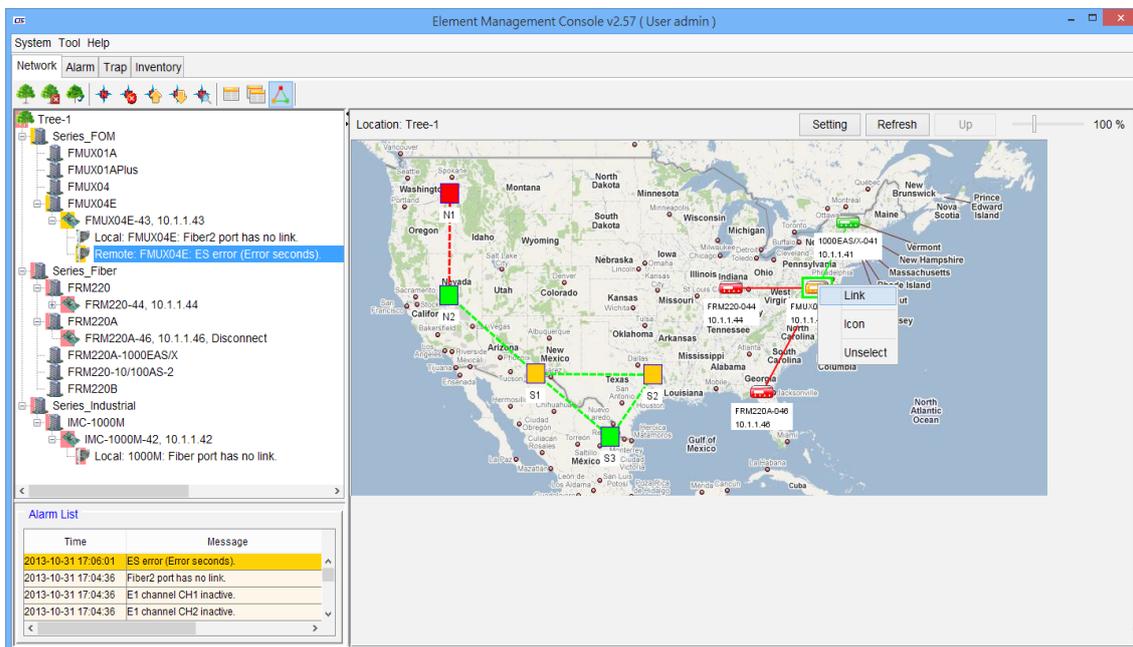
Trap Forwarding Syslog Message

## - Configuration Management

### Network Topology

User can load maps to SQL server, load maps from SQL server or delete attached maps. Download procedure is very simple. Map area may be used to layout any objects from Root and Node panel.

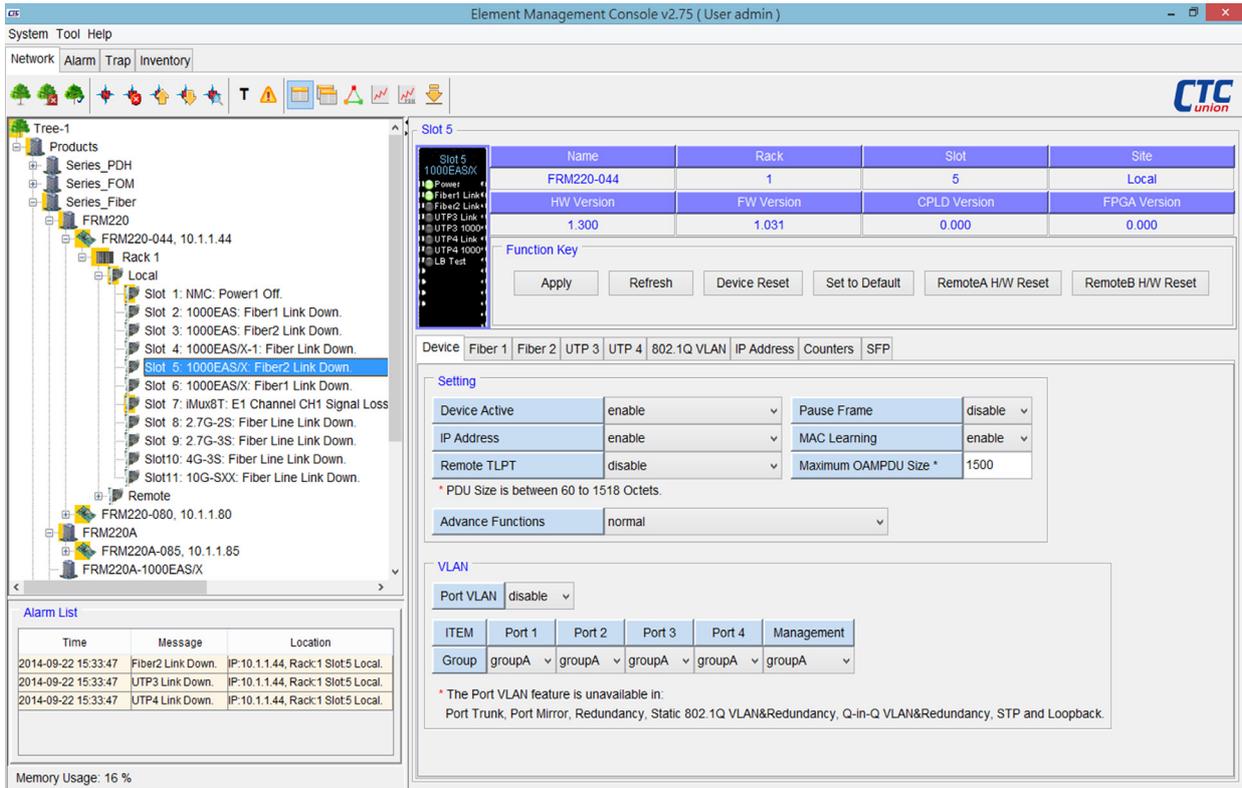
Using drag-and-drop, put any object to map area. Any label or network element location name may be added to object. Objects in red color indicate some alarm condition is present in the device. Right clicking an object brings a popup window to select Telnet or http management of the device directly.



Network Topology

### Network Element Configuration

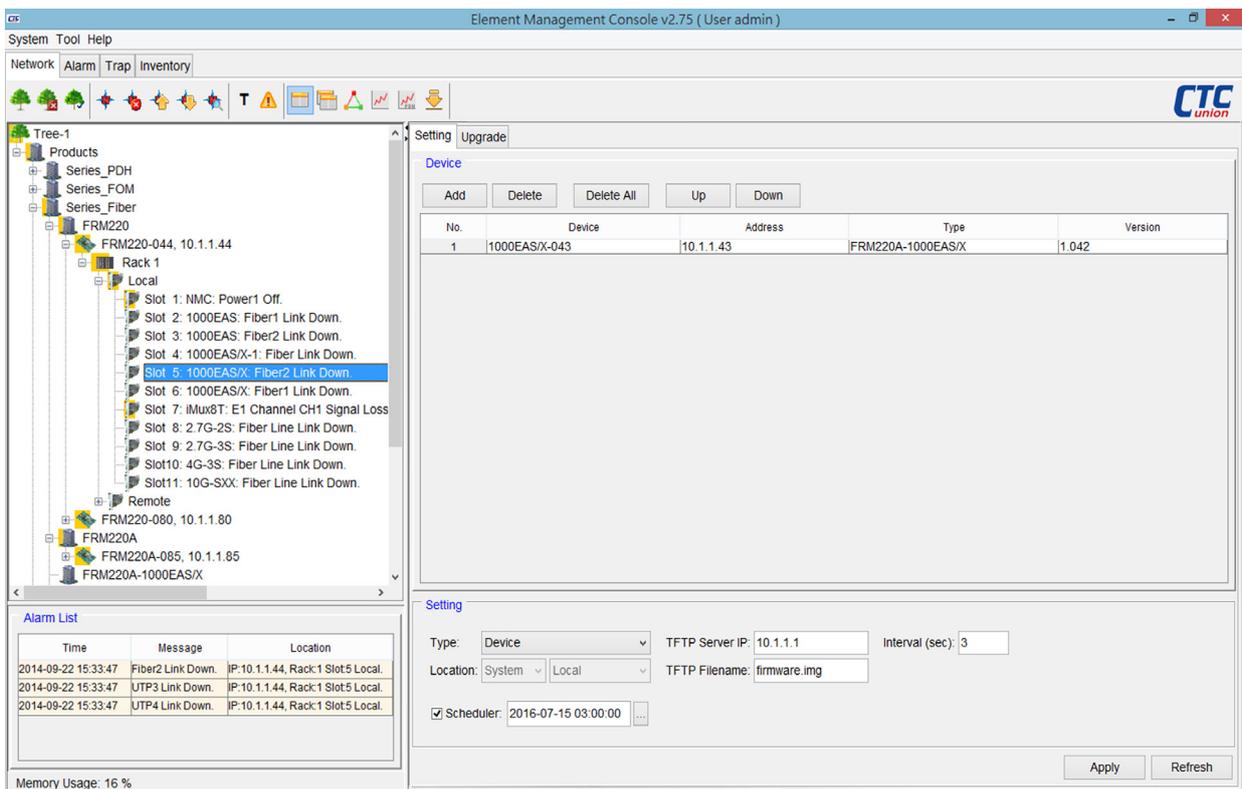
SmartView™ is able to provide a single point of configuration for the device elements. Most settings only require mouse clicks and by using a tab format, most scrolling is eliminated. Current settings and status are displayed along with hardware and firmware versions for each element.



Network Element Configuration

### Network Element Firmware Upgrade

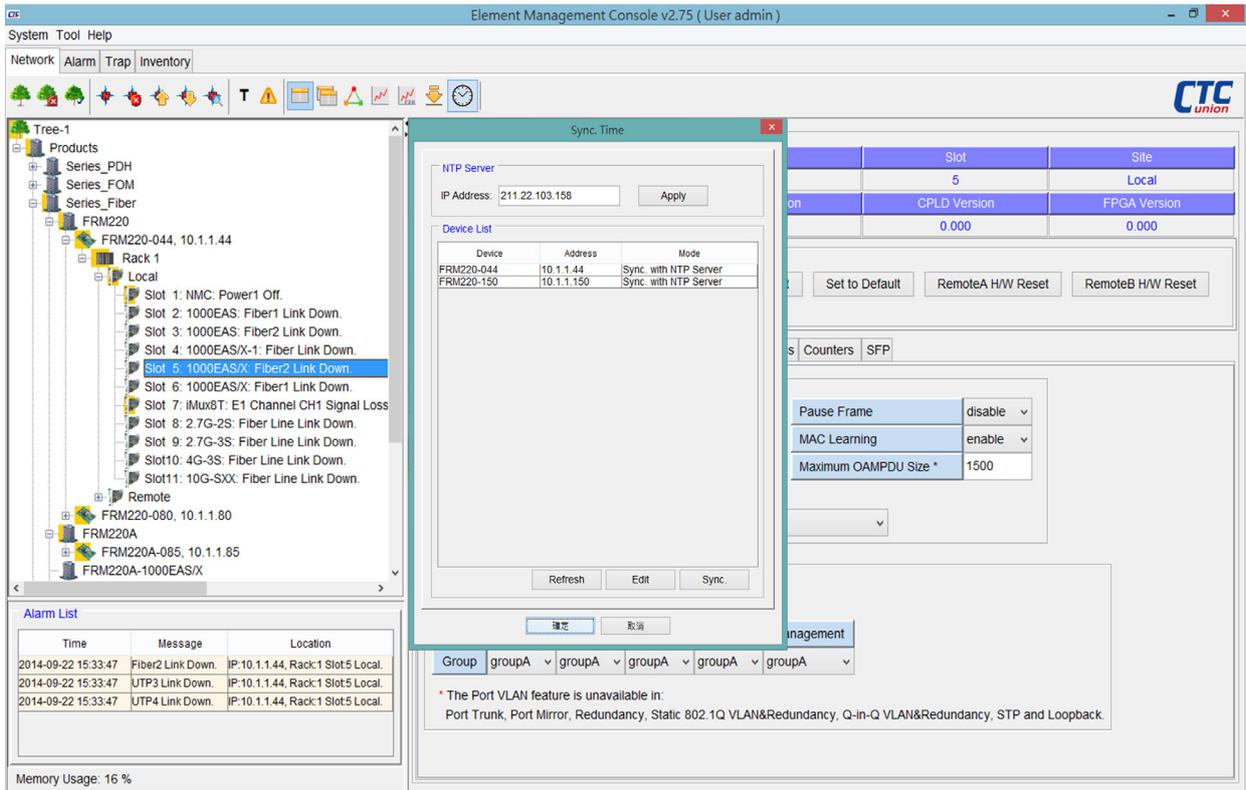
SmartView™ is able to download firmware to device elements and perform configuration backup/restore.



Network Element Firmware Upgrade

### Network Element Time Synchronization

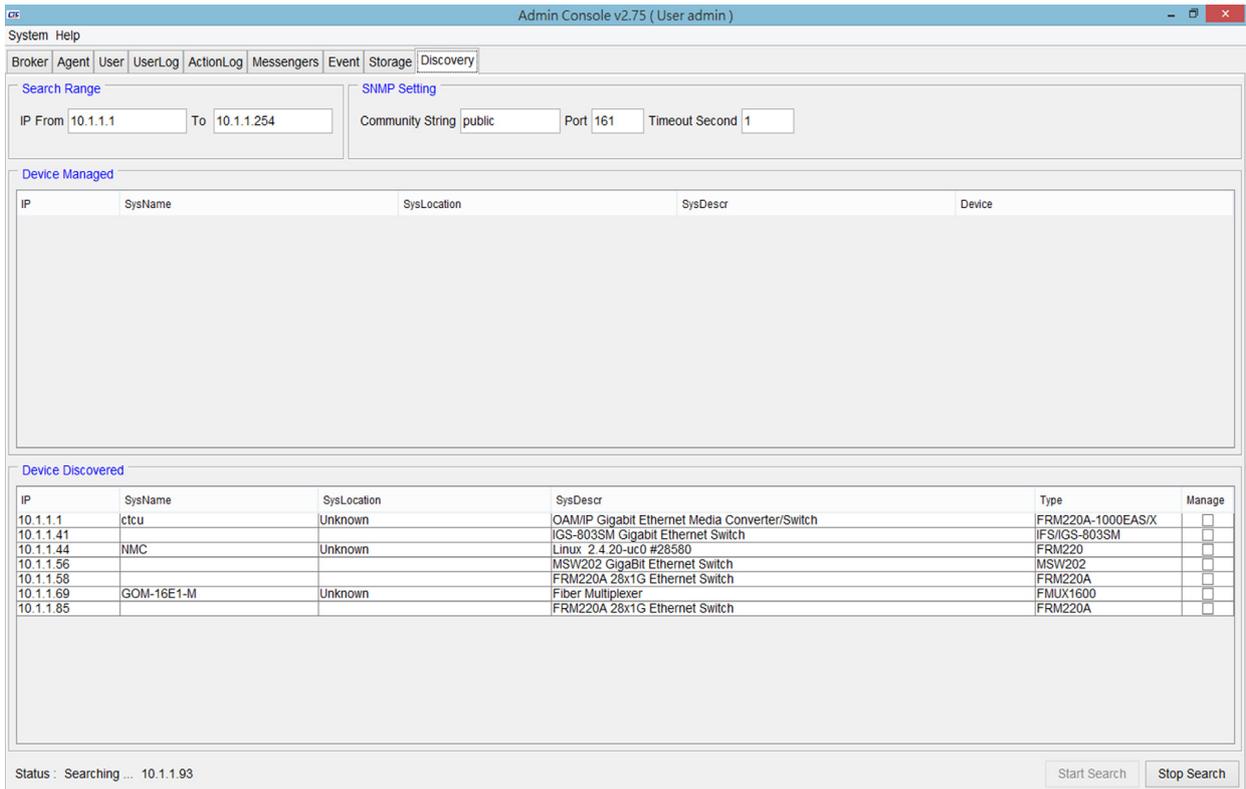
SmartView™ is able to trigger a command to network elements to perform time synchronization with Smartview or a NTP server.



Network Element Time Synchronization

### Network Element Discovery

SmartView™ has a tool for automatically discovering SNMP agents on the network. Simply enter an IP address range and the discovery program will ping every IP address looking for SNMP agents. Once discovered, the agents can be selected and brought into the broker for polling.



Network Element Discovery

## - Accounting Management

The accounting management supports reading a factory programmed serial number specific for each line card. The location, status and serial numbers of all assets can be managed and exported.

Element Management Console v2.57 ( User admin )

System Tool Help

Network Alarm Trap Performance PMGraph Inventory

Type:  Inventory Time: [ ] Device: All Status: All Serial Number: [ ] Identity: [ ]  
 Summary To: [ ] Location: All Racks All Slots All Sites Type: [ ] Alias: [ ] Remark: [ ] Clear

Inventory

Page: 1 / 2

No.	Device	Address	Location	Type	HW Version	FW Version	Serial Number	Alias	Status	Date
1	FRM220-44	10.1.1.44	Rack:1 Slot:10 Local	Protection	1.100	1.050	098765432101234567890		On Line	2013-10-31
2	FRM220-44	10.1.1.44	Rack:1 Slot:19 Local	1002ES	1.100	1.000	888888888888888888888		On Line	2013-10-31
3	FRM220-44	10.1.1.44	Rack:1 Slot:1 Local	NMC	1.01	3.54	F1234V012901313A00001		On Line	2013-10-31
4	FRM220-44	10.1.1.44	Rack:1 Slot:7 Local	8E1ET100S	1.300	1.226	10124A3680000003861		On Line	2013-10-31
5	FRM220-44	10.1.1.44	Rack:1 Slot:8 Local	100IS_2	1.100	2.000	F887B358D91986962NB0		On Line	2013-10-31
6	FRM220-44	10.1.1.44	Rack:1 Slot:9 Local	100IS_2	1.100	2.000	07203D1271246E6B2WS		On Line	2013-10-31
7	FRM220-44	10.1.1.44	Rack:1 Slot:12 Local	10GE_TS	1.100	1.001	W6000357937260927635		On Line	2013-10-31
8	FRM220-44	10.1.1.44	Rack:1 Slot:13 Local	10G_SXX	1.100	2.00B	None		On Line	2013-10-31
9	FRM220-44	10.1.1.44	Rack:1 Slot:14 Local	3R10G_SS	1.100	2.008	88B5AC34D90429A0DA		On Line	2013-10-31
10	FRM220-44	10.1.1.44	Rack:1 Slot:15 Local	EOE1G	1.100	1.023	None		On Line	2013-10-31
11	FRM220-44	10.1.1.44	Rack:1 Slot:16 Local	EOE1G	1.100	1.023	BE37559BB78FBE82FD0		On Line	2013-10-31
12	FRM220-44	10.1.1.44	Rack:1 Slot:17 Local	100M	1.000	1.050	0AD7BEB10B6BYC6T3		On Line	2013-10-31
13	FRM220-44	10.1.1.44	Rack:1 Slot:18 Local	100M	1.100	1.050	4PXRW2XKWBGYV33FB7		On Line	2013-10-31
14	FRM220-44	10.1.1.44	Rack:1 Slot:20 Local	1000M	1.100	1.070	A2C46823E6E44AWSW6		On Line	2013-10-31
15	FRM220A-46	10.1.1.46	Rack:0 Slot:1 Local	1000EASX	1.200	1.026	000357937260927630CA		Off Line	2013-10-31
16	FRM220A-46	10.1.1.46	Rack:0 Slot:2 Local	1000EASX	1.300	1.029	None		Off Line	2013-10-31
17	FRM220A-46	10.1.1.46	Rack:0 Slot:3 Local	1000EASX	1.200	1.026	5F4B31307FB6BYC6T124		Off Line	2013-10-31
18	FRM220A-46	10.1.1.46	Rack:0 Slot:4 Local	1000EASX	1.200	1.026	A36800000038617C34PX		Off Line	2013-10-31
19	FRM220A-46	10.1.1.46	Rack:0 Slot:5 Local	1000EASX	1.300	1.026	RW2XKWBGYV33099E07		Off Line	2013-10-31
20	FRM220A-46	10.1.1.46	Rack:0 Slot:10 Local	5E1ET100S	1.300	1.226	437FB4C0EC93755FD100		Off Line	2013-10-31
21	FRM220A-46	10.1.1.46	Rack:0 Slot:11 Local	5E1ET100T	1.200	1.061	None		Off Line	2013-10-31
22	FRM220A-46	10.1.1.46	Rack:0 Slot:12 Local	5E1ET100T	1.200	1.061	None		Off Line	2013-10-31
23	FRM220A-46	10.1.1.46	Rack:0 Slot:13 Local	5E1ET100T	1.200	1.061	AL3T8C3QRBBRTK234CD		Off Line	2013-10-31
24	FRM220A-46	10.1.1.46	Rack:0 Slot:14 Local	5E1ET100S	1.300	1.226	7MG7D43TC3M392BWSW		Off Line	2013-10-31
25	FRM220A-46	10.1.1.46	Rack:0 Slot:15 Local	8E1ET100T	1.200	1.061	None		Off Line	2013-10-31
26	FRM220A-46	10.1.1.46	Rack:0 Slot:16 Local	8E1ET100S	1.200	1.061	6000357937260927632BC		Off Line	2013-10-31

Export Edit Delete

Inventory List

Element Management Console v2.57 ( User admin )

System Tool Help

Network Alarm Trap Inventory

Type:  Inventory Time: [ ] Device: All Status: All Serial Number: [ ] Identity: [ ]  
 Summary To: [ ] Location: All Racks All Slots All Sites Type: [ ] Alias: [ ] Remark: [ ] Clear

Summary

Refresh

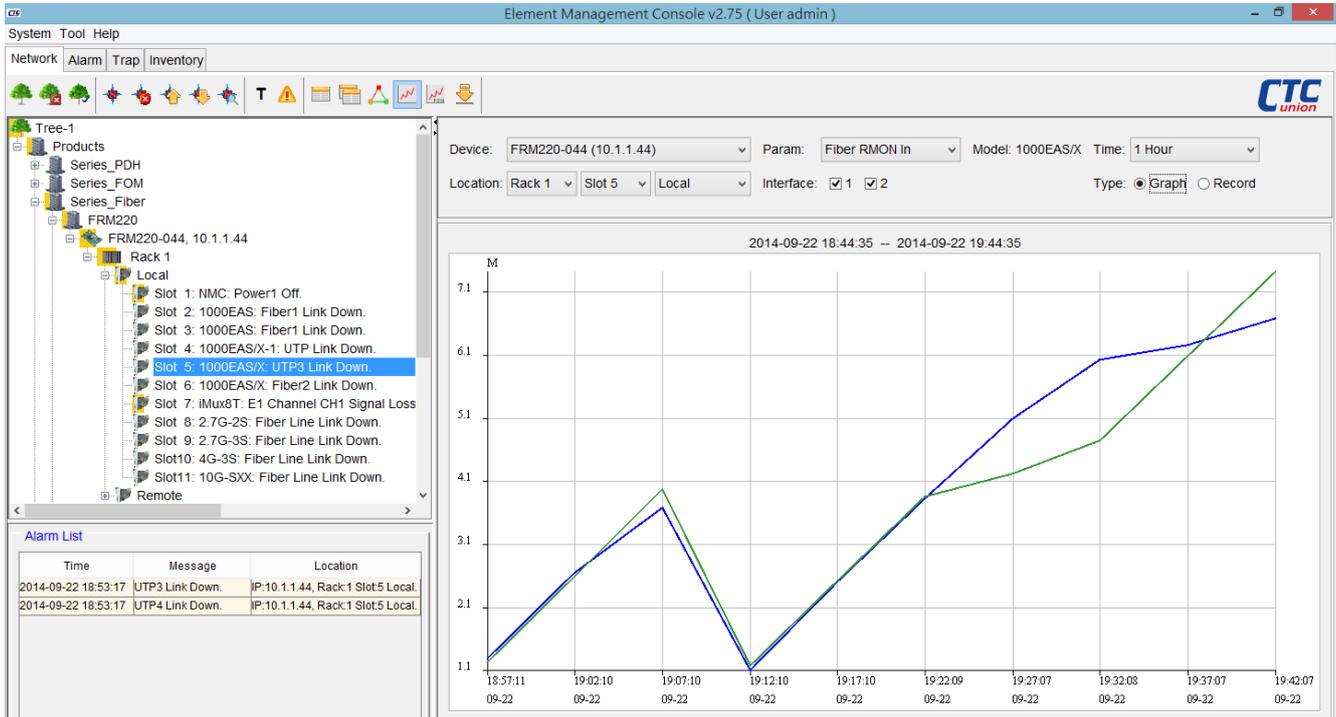
No.	Device	Type	On Line	Off Line	Total
1	FRM220				
2		NMC	1	0	1
3		1000M	1	0	1
4		1002ES	1	0	1
5		100IS_2	2	0	2
6		100M	2	0	2
7		10GE_TS	1	0	1
8		10G_SXX	1	0	1
9		3R10G_SS	1	0	1
10		8E1ET100S	2	0	2
11		EOE1G	2	0	2
12		Protection	1	0	1
13					
14	FRM220A				
15		1000EASX	0	4	4
16		1002ES	0	2	2
17		16E1ET100T	0	1	1
18		5E1ET100S	0	2	2
19		5E1ET100T	0	3	3
20		8E1ET100S	0	1	1
21		8E1ET100T	0	1	1
22		FSW103	0	1	1
23					

Export

Inventory Summary

**- Performance Management**

SmartView™ is able to monitor device performance parameters through polling of specific OIDs. Graphs of performance information (for example PDH PM data such as ES, UAS, etc. as well as hardware parameters such as fan speed, temperature, optical Tx/Rx power or RMON counters) can be generated on an X Y axis showing different trend data.



No.	Device	Address	Type	Location	Time	Param	Interface	Value
1	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 18:57:11	Fiber RMON In	1	1331040
2	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 18:57:11	Fiber RMON In	2	1270944
3	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:02:10	Fiber RMON In	1	2677120
4	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:02:10	Fiber RMON In	2	2621536
5	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:07:10	Fiber RMON In	1	3711872
6	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:07:10	Fiber RMON In	2	4005216
7	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:12:10	Fiber RMON In	1	1132512
8	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:12:10	Fiber RMON In	2	1210720
9	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:17:10	Fiber RMON In	1	2538752
10	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:17:10	Fiber RMON In	2	2547776
11	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:22:09	Fiber RMON In	1	3869792
12	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:22:09	Fiber RMON In	2	3887840
13	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:27:07	Fiber RMON In	1	5125632
14	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:27:07	Fiber RMON In	2	4259328
15	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:32:08	Fiber RMON In	1	6058112
16	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:32:08	Fiber RMON In	2	4775704
17	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:37:07	Fiber RMON In	1	6298752
18	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:37:07	Fiber RMON In	2	6116768
19	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:42:07	Fiber RMON In	1	6715360
20	FRM220-044	10.1.1.44	FRM220	Rack:01 Slot:05 Local	2014-09-22 19:42:07	Fiber RMON In	2	7452320

Performance Records

## - Security Management

### User Privilege

- The administrator can add necessary user logins with specific privileges, from Administrator to Operator and lastly to normal user.
- Radius Authentication. Supports authentication login provided by credentials stored on RADIUS server.

The screenshot shows the 'RADIUS Authentication' configuration page. The 'Enable RADIUS Authentication' checkbox is checked. The RADIUS Server IP Address is 10.1.1.1, Port is 1812, and Share Secret is secret. Below the configuration are two notes: 'Default administrator account 'admin' is not supported to be authenticated in RADIUS.' and 'Local user accounts will be updated automatically when user authenticated in RADIUS.' There are 'Apply' and 'Cancel' buttons.

Below the configuration is a 'User' table with the following data:

No.	Name	Description	Role	Division	Phone	Address
1	admin	administrator	Administrator	Admin Dep.		
2	admin1	Administrator	Administrator	Admin Dep.		
3	admin2	Administrator	Administrator	Admin Dep.		
4	op1	Operator	Operator	Op Dep.		
5	op2	Operator	Operator	Op Dep.		
6	siteA-001	siteA user	device10.funcDevice.funcNetwork	siteA Dep.		
7	siteB-001	siteB user	device192.funcDevice	siteB Dep.		
8	user1	Normal User	User	User Dep.		
9	user2	Normal User	User	User Dep.		

User Privilege

### User Role

A user role is a group and defines privileges for users to perform management tasks. The access to network elements is also restricted by user role.

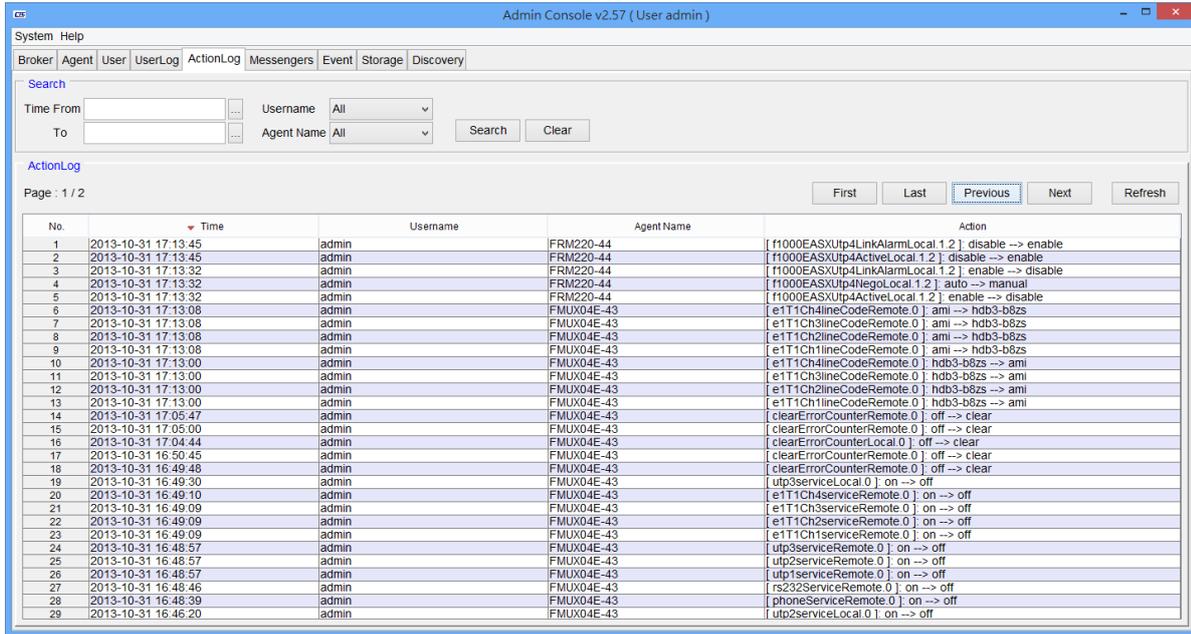
The screenshot shows the 'Role' configuration page. It contains a table with the following data:

Name	Description	Function	User	Radius Id
Administrator	administrator	System.Network.Device.Alarm	admin.admin1.admin2	1
Operator	read-write	System.Network.Device.Alarm	op1.op2	2
User	read-only	Read-Only	user1.user2	3
device10	devices within 10.X.X.X	Read-Only	siteA-001	4
device192	devices within 192.X.X.X	Read-Only	siteB-001	5
funcNetwork	function Network	Network	siteA-001	6
funcDevice	function Device	Device	siteA-001.siteB-001	7

User Role

### User Activity

Provides viewing and clearing of the user login and configuration action logs. User client login & logouts are recorded, including the client's source IP address. All activities performed on any Device Element are logged with time-stamping, the user making changes and the changes made.



User Activity

### System Requirements

SmartView™	Hardware (minimum)	Software	Operating System
SmartView™ Server	Intel Core2 or higher processor, 2GB RAM, 40GB HD	JAVA JRE. SmartView™ Kit. MS-SQL Server	Windows Server 2012/2014, Win 7/8/10
SmartView™ Clients	Intel Core2 or higher processor, 2GB RAM, 20GB HD	JAVA JRE. SmartView™ Kit.	Windows 7/8/10
All-In-One	Intel Core2 or higher processor, 4GB RAM, 80GB HD	JAVA JRE. MS-SQL Server. SmartView™ Kit. SmartView™ Server/Client	Windows Server 2012/2014, Win 7/8/10

### Ordering Information

SmartView™ EMS Server for Max 2000 IP address nodes

Model Name	Description
SV1-AGT-50	SmartView™ management software with 50 nodes (by IP address)
SV1-AGT-100	SmartView™ management software with 100 nodes (by IP address)
SV1-AGT-200	SmartView™ management software with 200 nodes (by IP address)
SV1-AGT-500	SmartView™ management software with 500 nodes (by IP address)
SV1-AGT-1000	SmartView™ management software with 1000 nodes (by IP address)
SV1-AGT-1500	SmartView™ management software with 1500 nodes (by IP address)
SV1-AGT-2000	SmartView™ management software with 2000 nodes (by IP address)