SmartView™ EMS

Element Management System

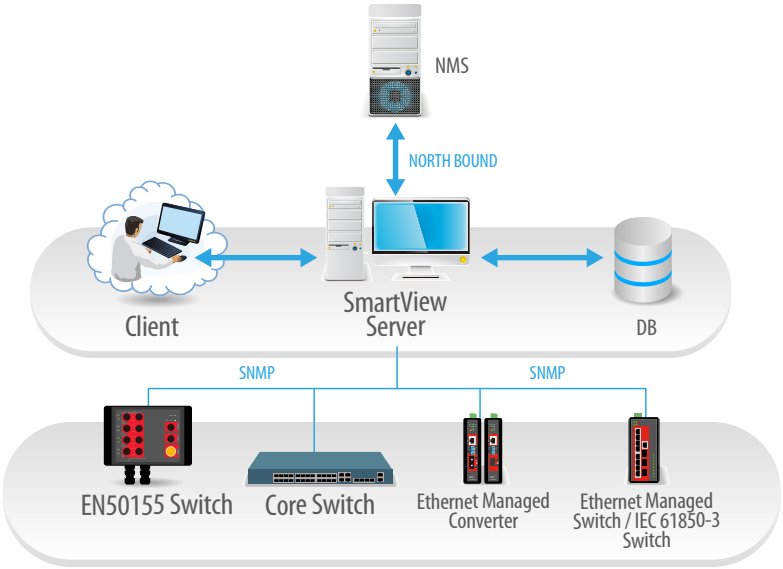
- Centralized Device Management Platform
- Real-time visual representations and processing of alarms
- Easy and User-Friendly Operation Interface
- Long term event storage (1 year)

Main Features

- Main Functions (**FCAPS**): **F**ault, **C**onfiguration, **A**ccounting, **P**erformance and **S**ecurity 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

Network Scheme Diagram

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



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.

Agents

All of CTC Union's SNMP enabled products, such as Industrial Core Switch, PoE Switch and PoE Converter are manageable by CTC Union SmartView™ EMS management Platform.

Microsoft® SQL Server for Persistent Storage

SQL Server is the place where the SmartView™ collected data, such as alarms, traps and user actions is stored for long term retrieval. SmartView™ requires Microsoft® SQL Server and is compatible with SQL Server 2005, SQL 2005 Express, SQL 2008 Server, SQL 2008 Express, SQL 2012 Server and SQL 2012 Express. (The EMS installer will install the free version Microsoft® SQL 2008 Express by default.)

Workstation-Clients

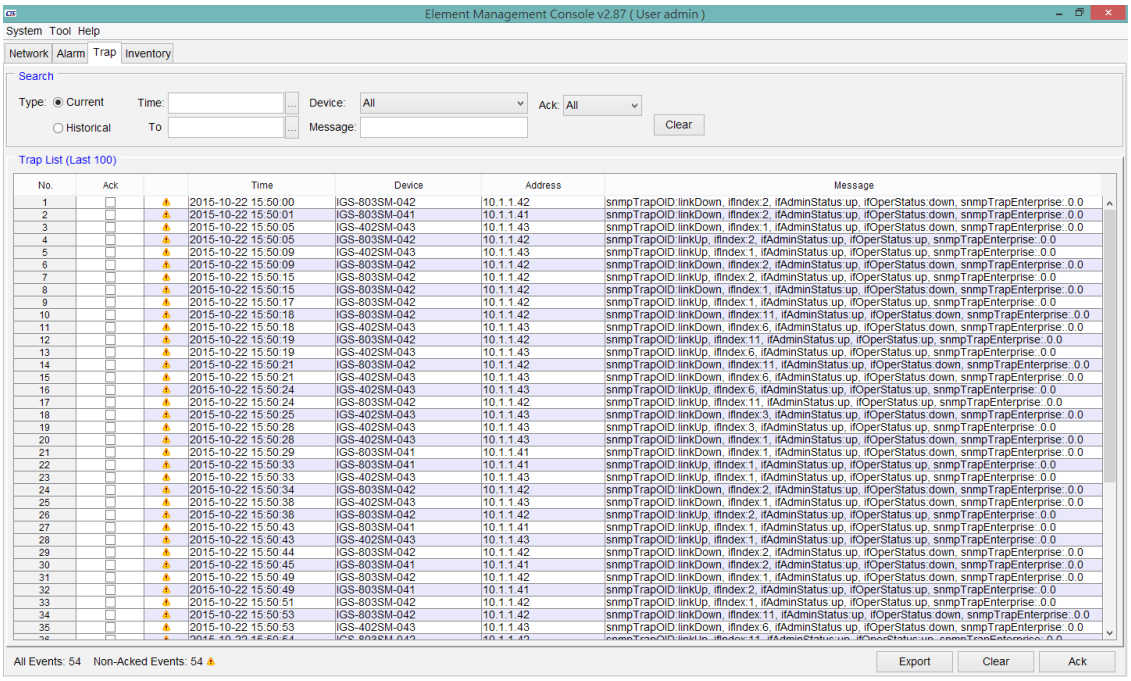
Management clients are provided with the JAVA applet GUI to monitor and control the agents at far end. They also receive the Alarm and Traps from the corresponding SNMP Agents. Multiple workstations are allowed, with a maximum of 25 concurrent logged in users.

Features at a Glance

• Fault Management

Trap Collection

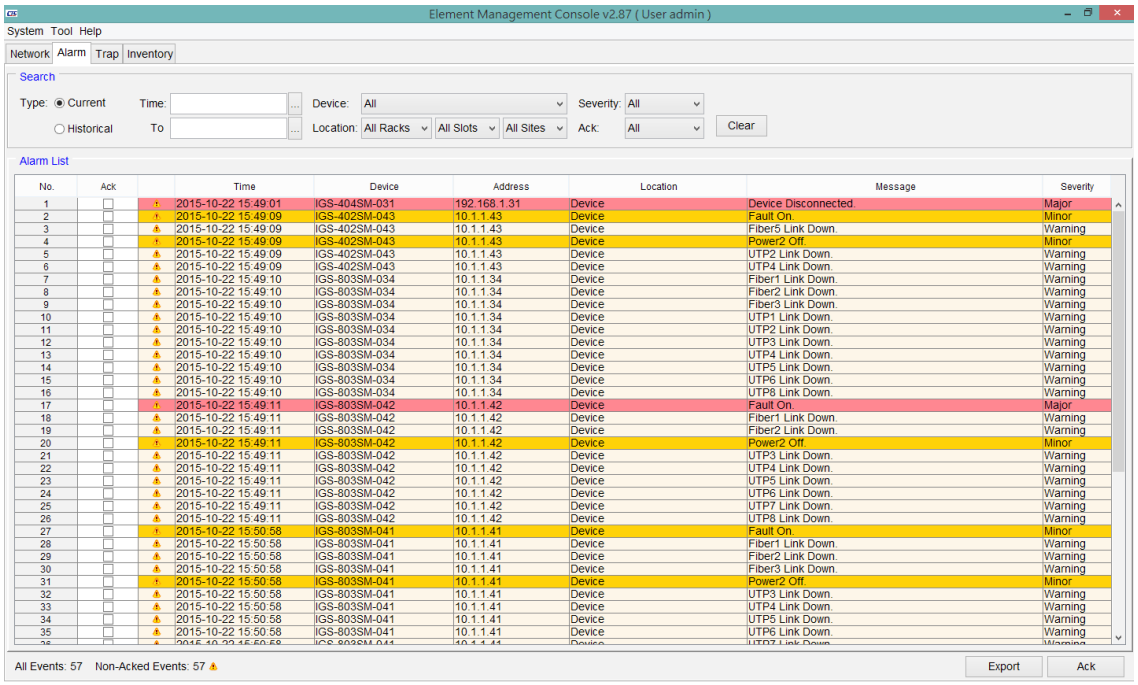
All traps will be stored in SQL database. When an SNMP agent experiences an abnormal condition it will send an SNMP trap message to SmartView™ which then receives the message, and records it in the database. Depending on preset conditions, SmartView™ may sound an audible alarm, send an email or SMS alert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



Trap Messgages

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.



Active Warning

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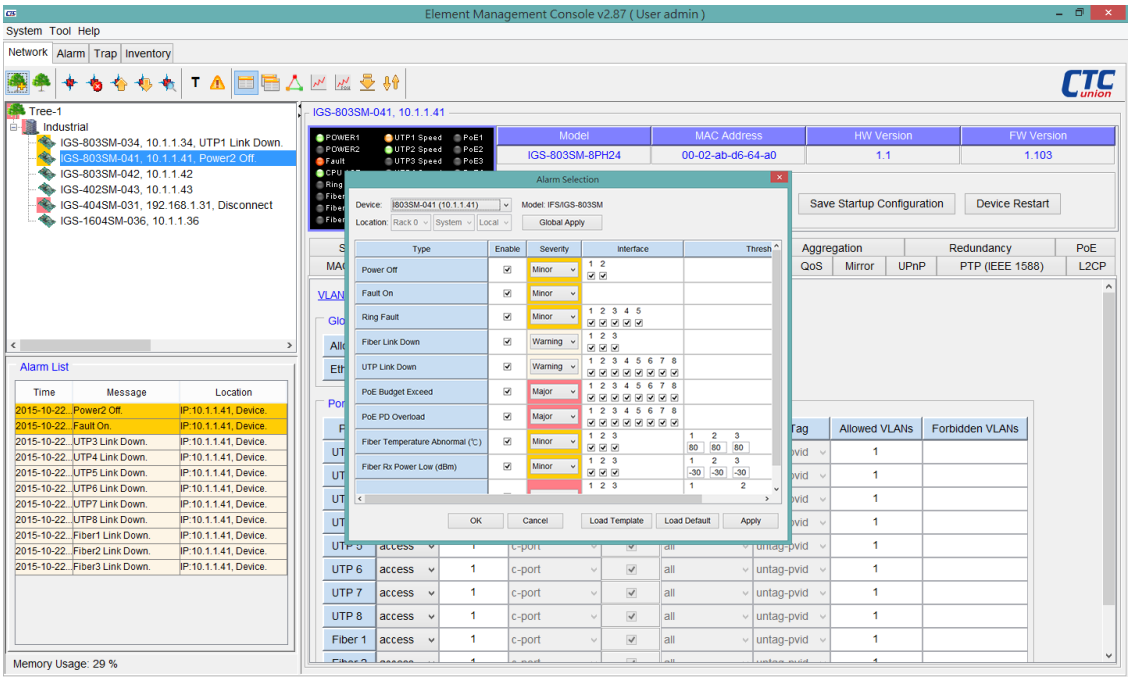
Alarm Selection

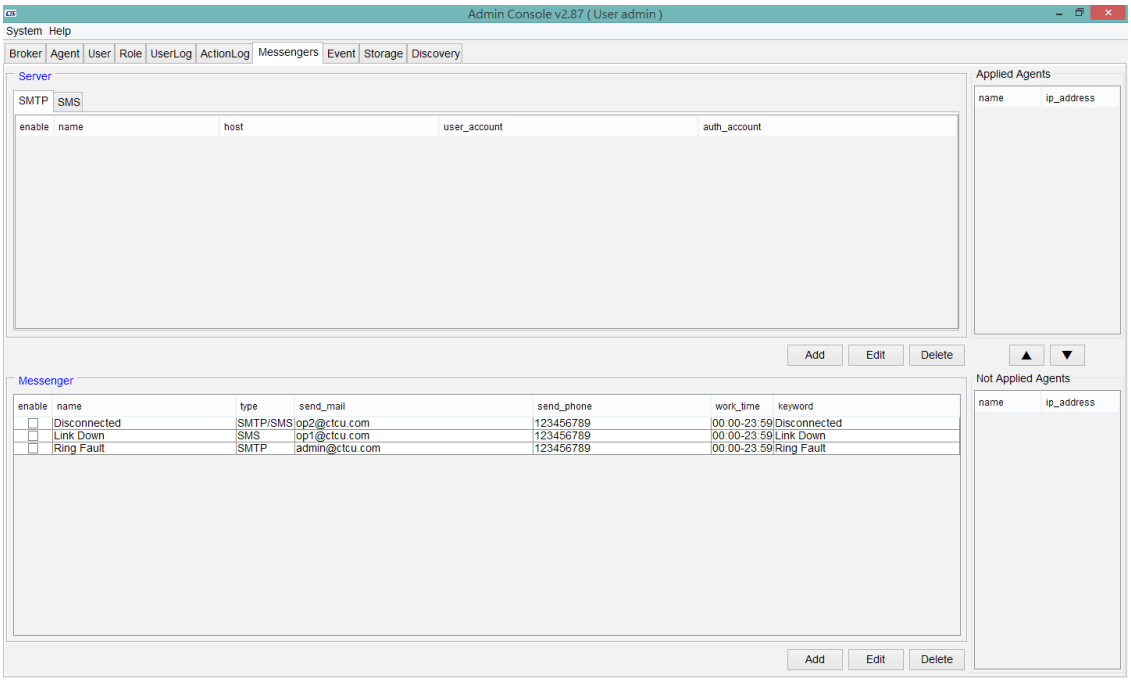
Alarm events of network element are configurable. All alarm events are warned by default, but them can be disabled to ignore warning messages.



Alarms Selection

Alarms sent by E-mail & SMS

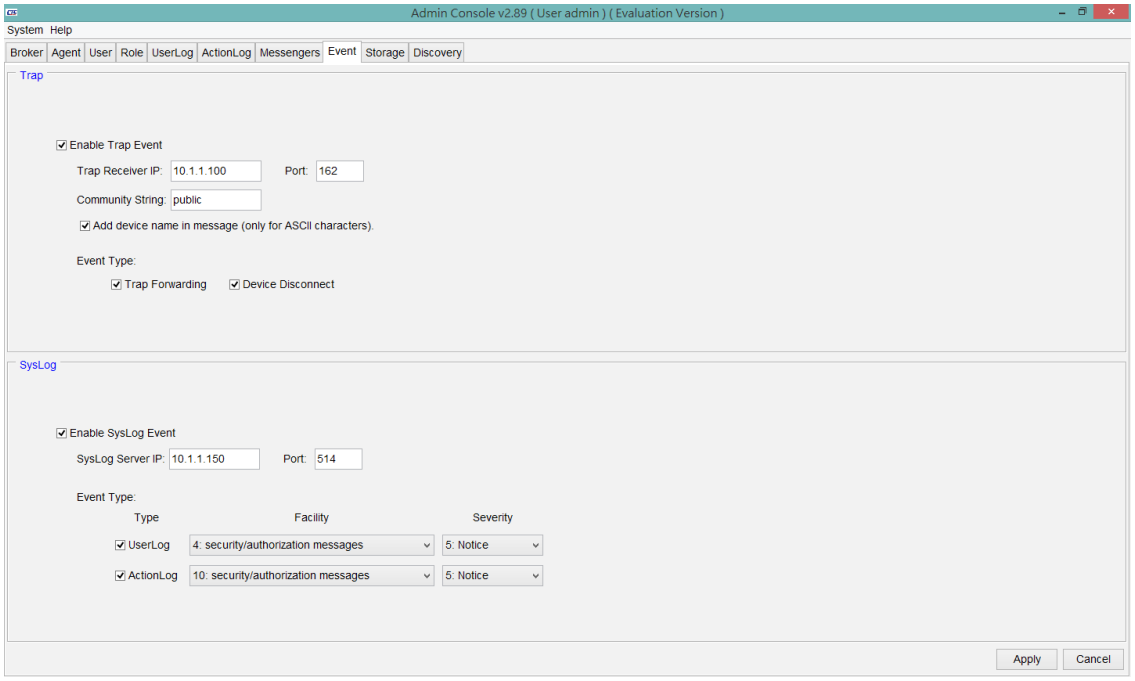
The SmartView™ is capable of sending emails and or SMS text messages to selected administrators when critical alarms occur. Prompt notification of system problems aid in getting problems in the network devices fixed in the shortest time possible.



Alarms Sent by Email & SMS

Trap Fordwarding and Syslog messages

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

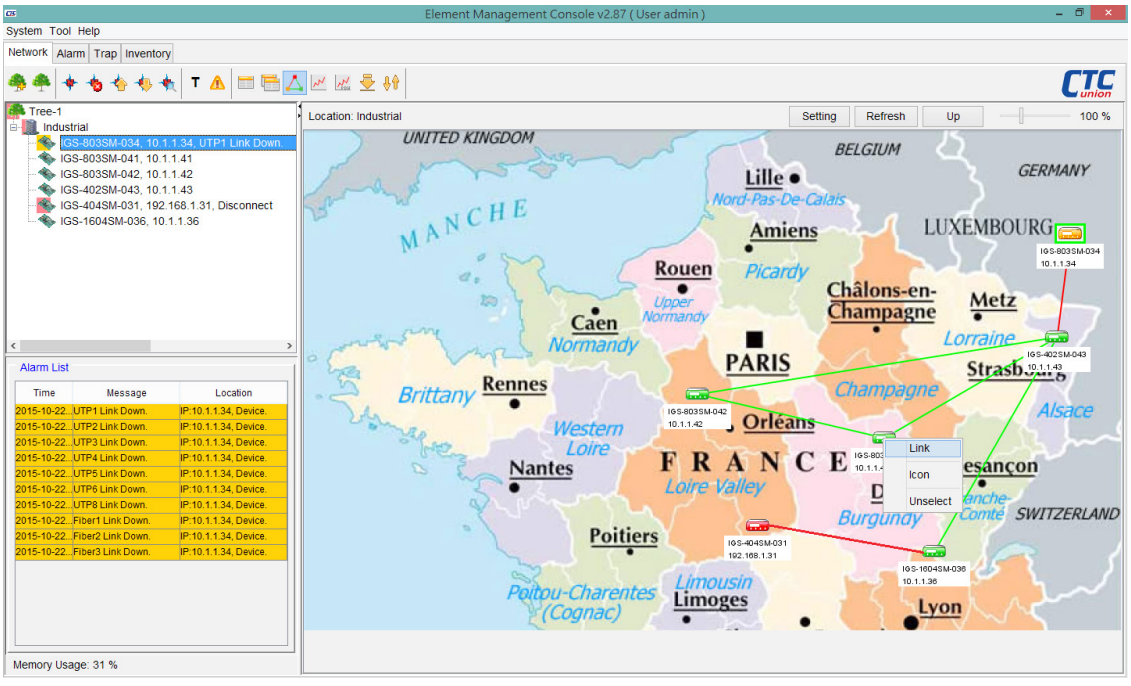


Trap Forwarding Syslog Message

• 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

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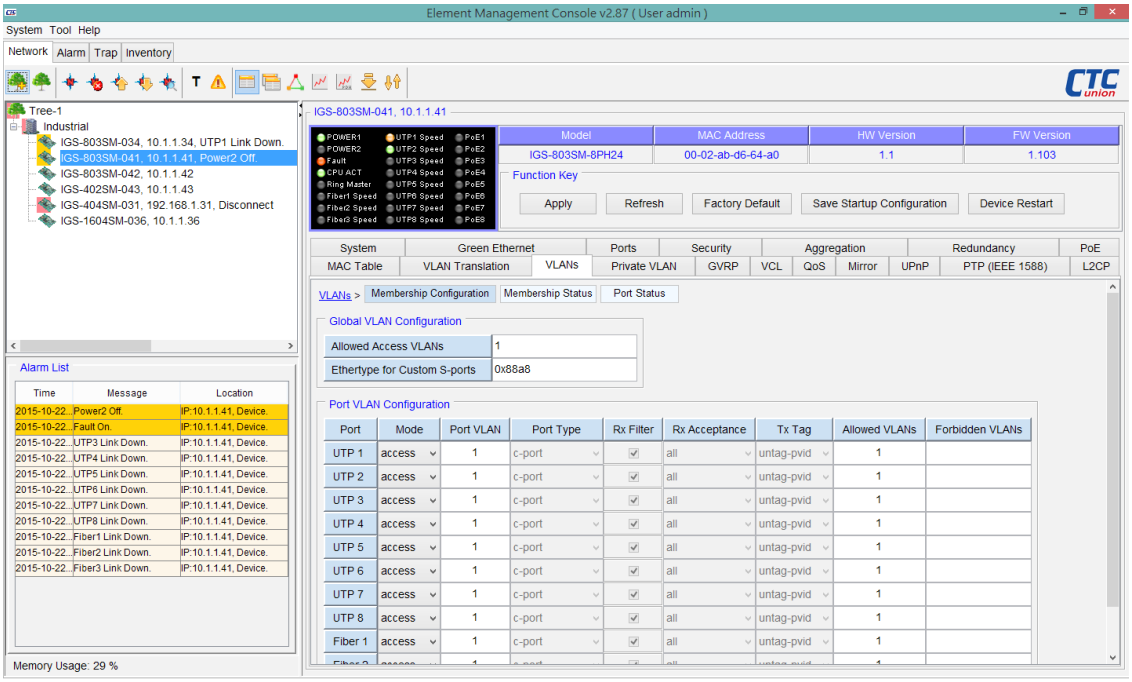
Network Element Configuration

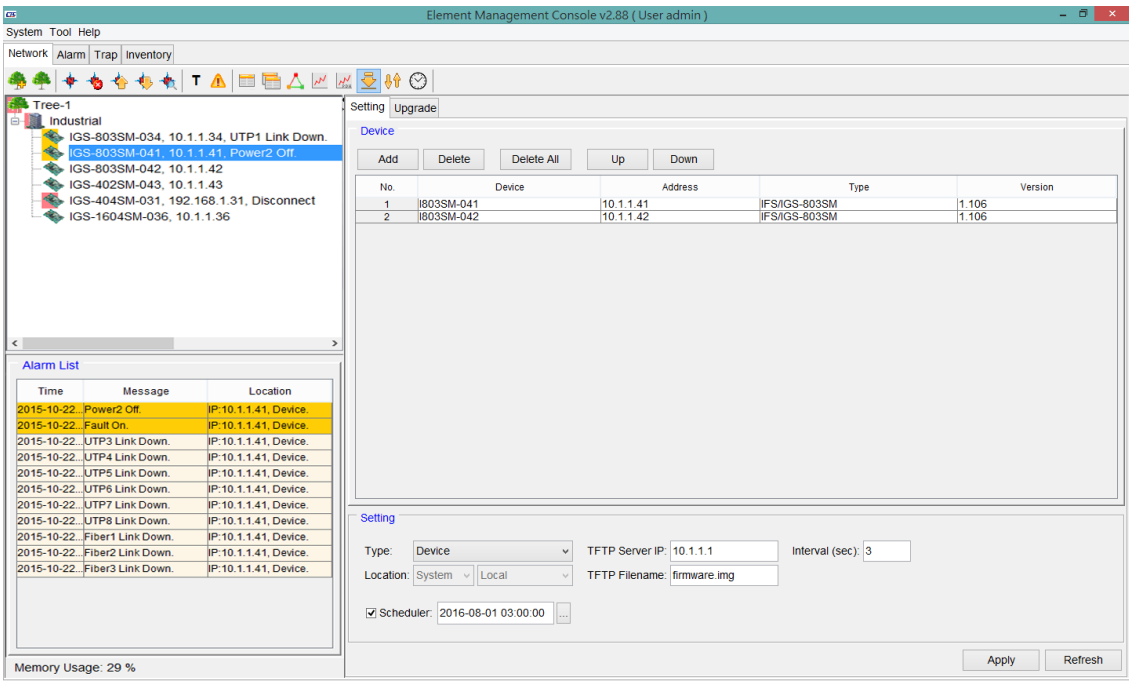
SmartView™ is able to provide a single point of configuration for the network device elements. Most settings only require mouse clicks and by using a tab format, most scrolling is eliminated. Current settings and status are displayed along with hardware and firmware versions for each element.



Network Element Configuration

Network Element Firmware Upgrade

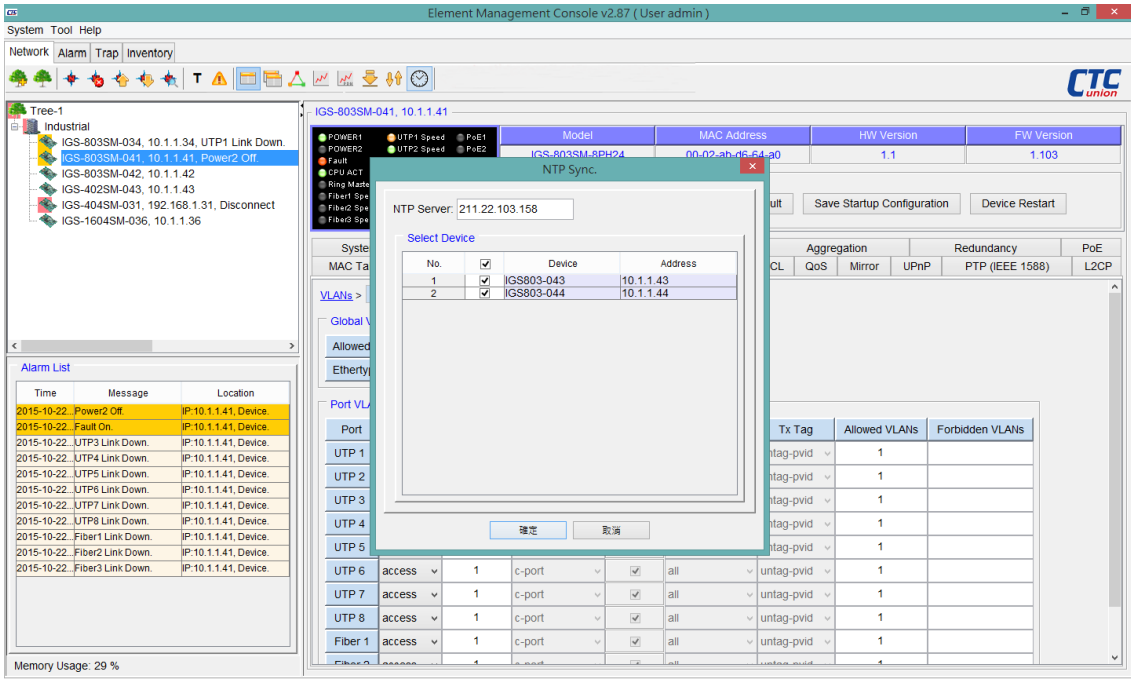
SmartView™ is able to download firmware to device elements and perform configuration backup/restore.



Network Element Firmware Upgrade

Network Element Time Synchronization

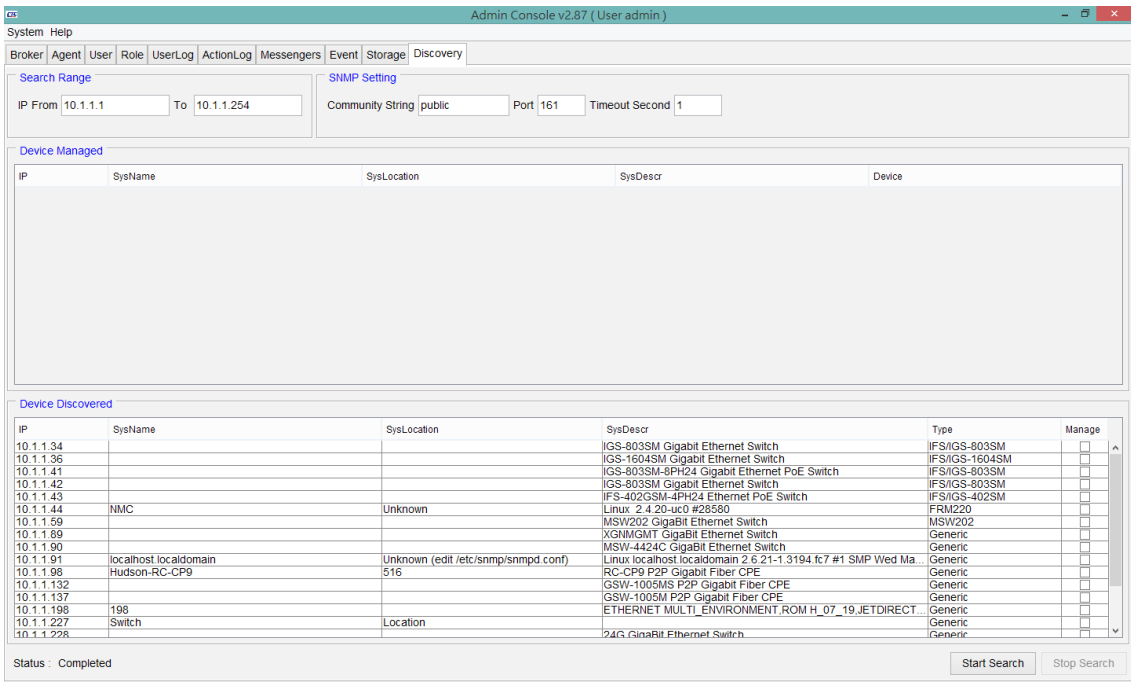
SmartView™ is able to trigger a command to network elements to perform time synchronization with Smartview or a NTP server.



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

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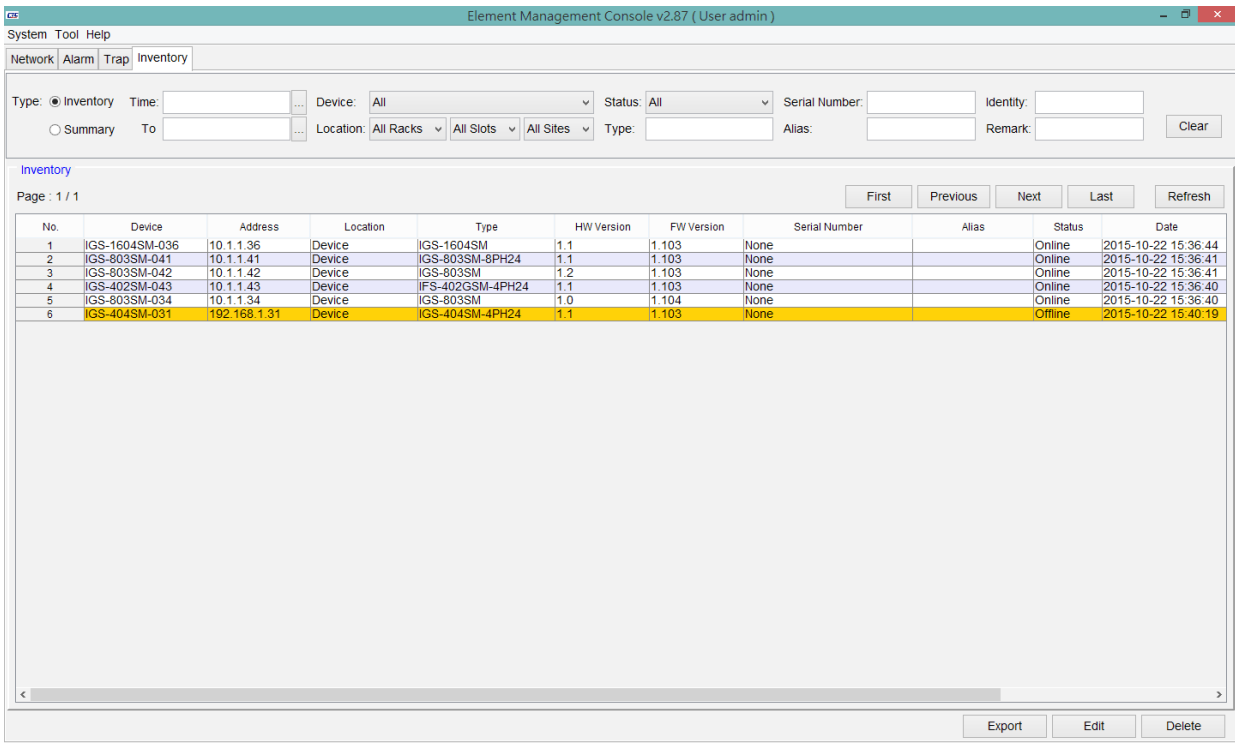
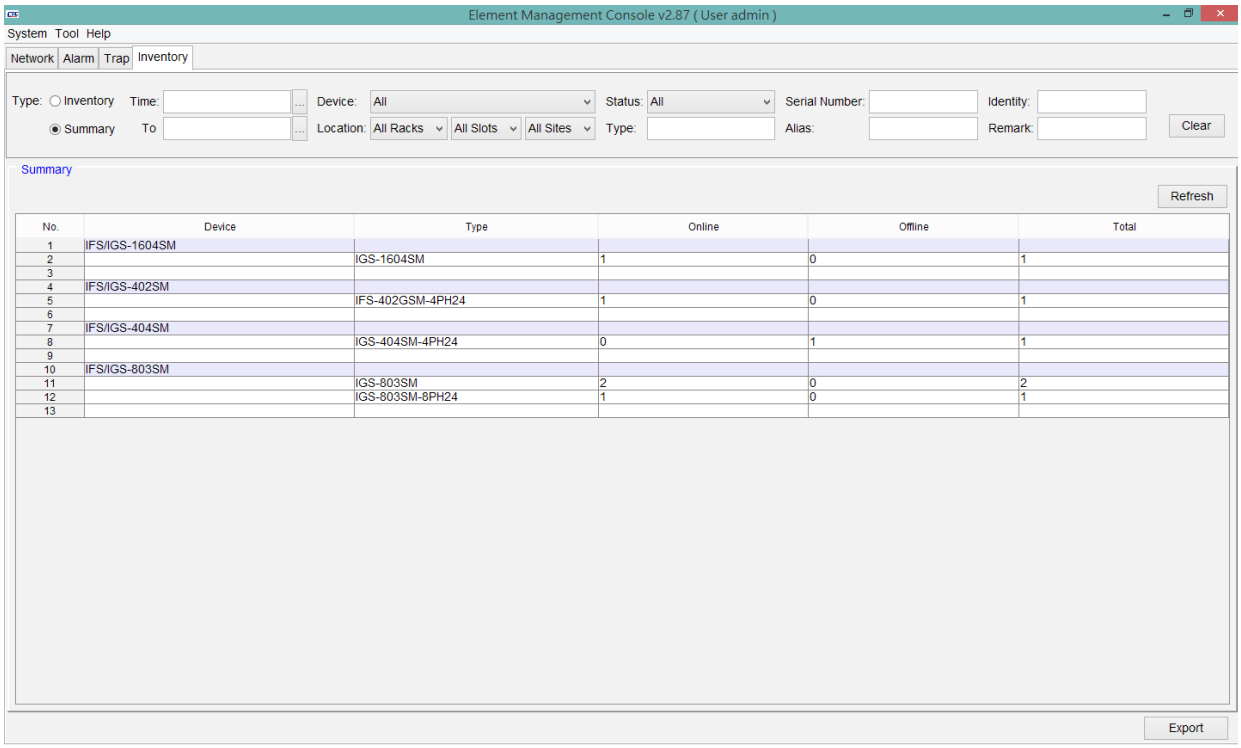
▪ Accounting Management

The accounting management supports property overview for each network device. The location, status and version of all assets can be managed and exported.



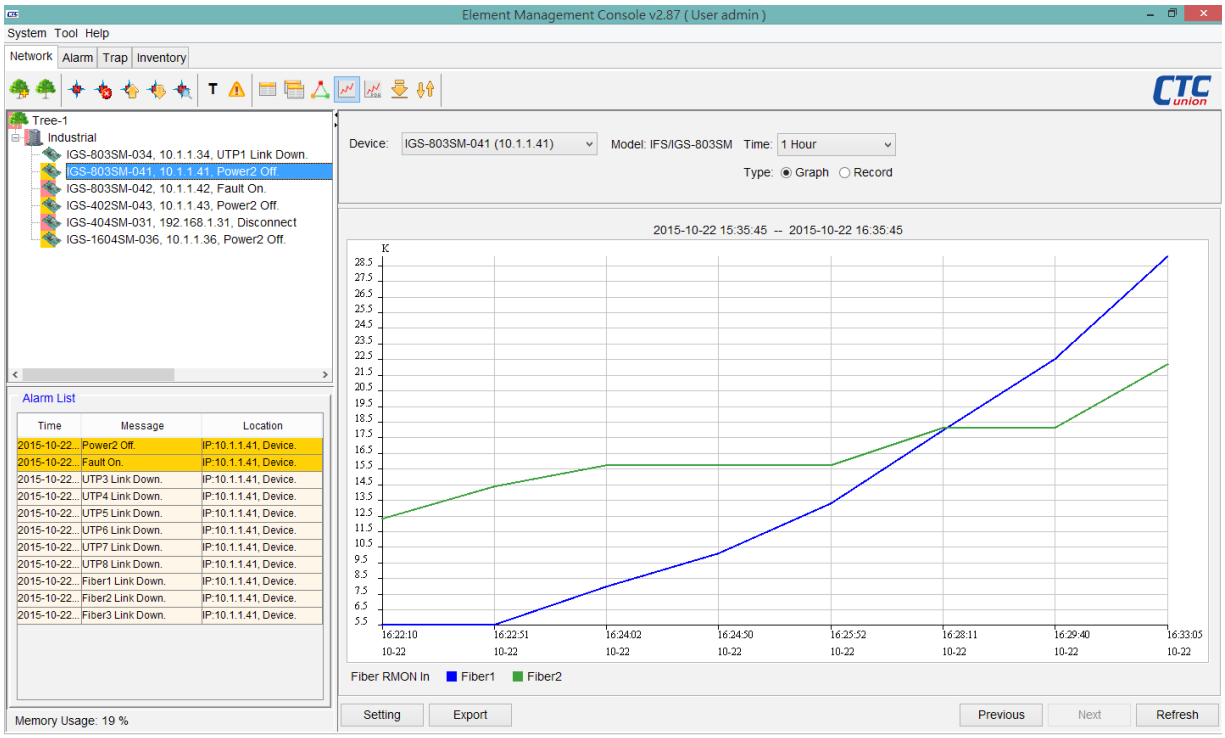
Inventory List



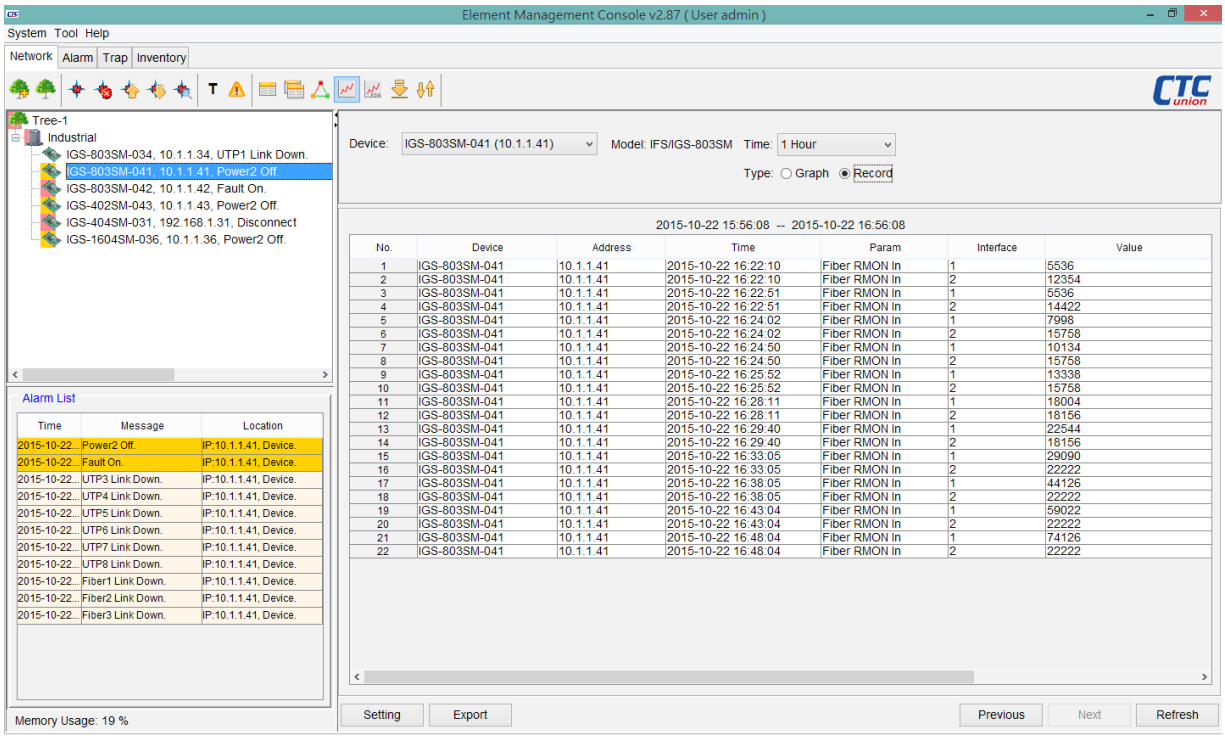
Inventory Summary

▪ 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.



Performance Graphics



Performance Records

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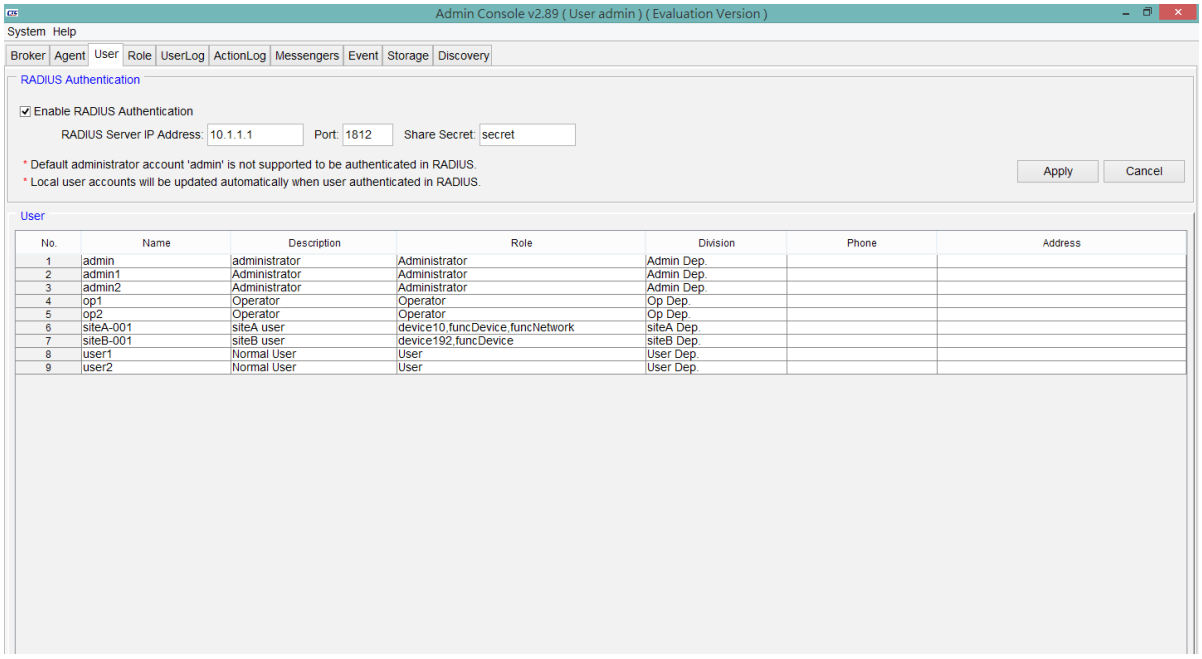
▪ Security Management

User Privilege

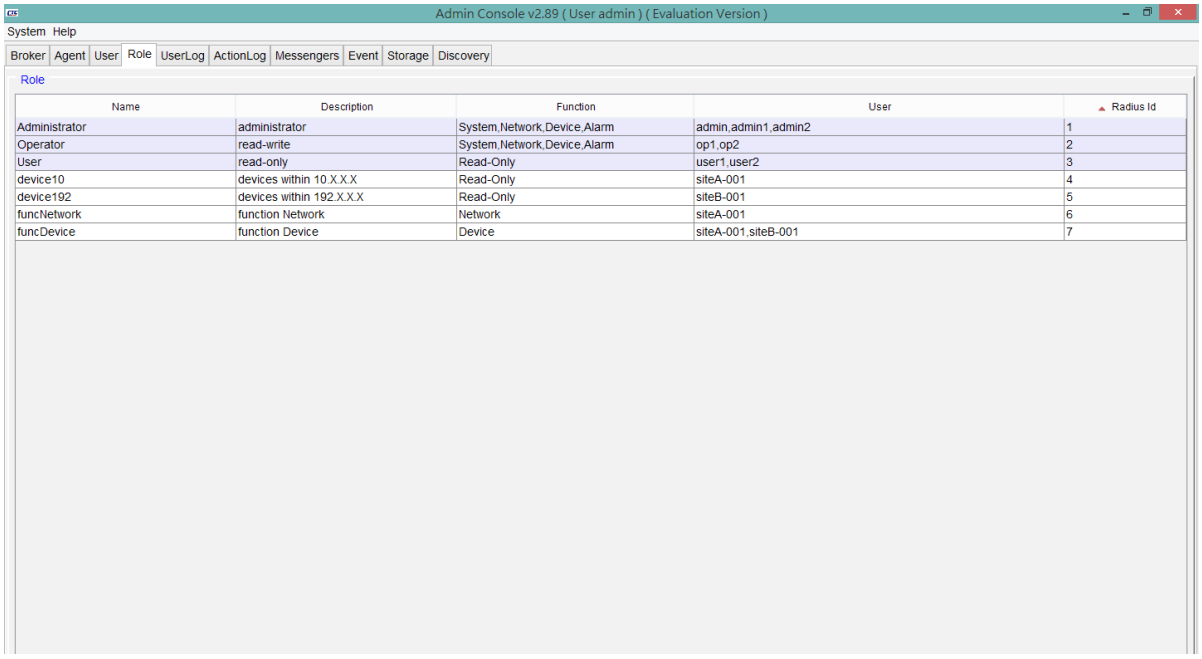
- The administrator can add necessary user logins with specific privileges, from Administrator to Operator and lastly to normal user.
- Radius Authentication. Supports authentication login provided by credentials stored on RADIUS server.



User Privilege

User Role

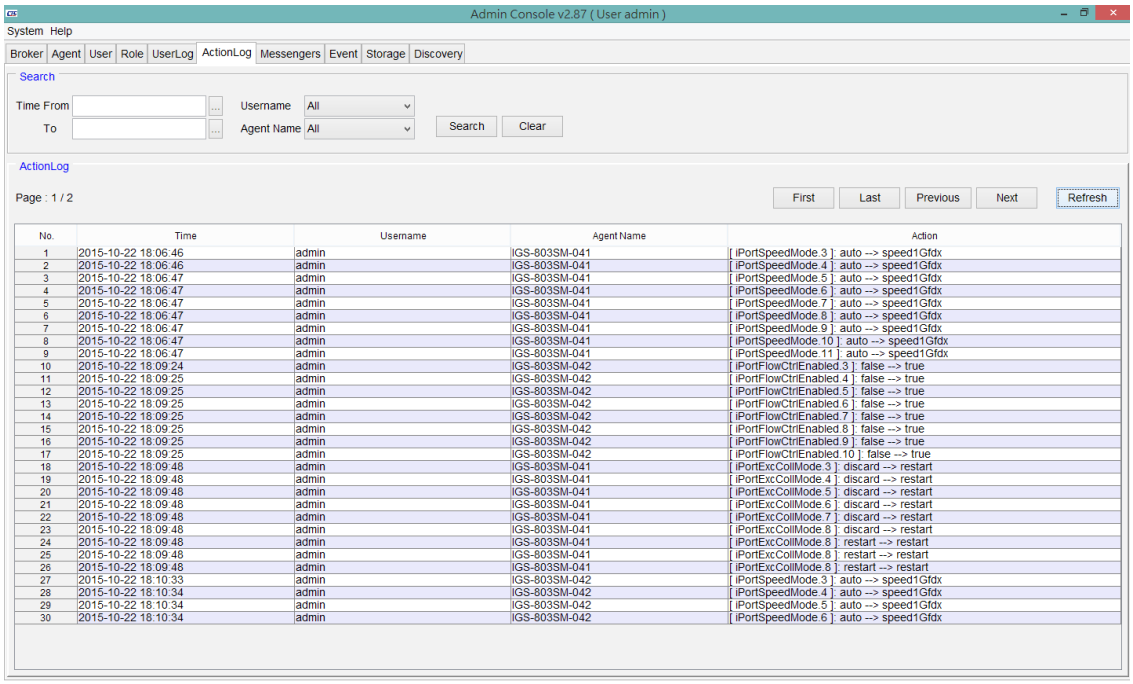
A user role is a group and defines privileges for users to perform management tasks. The access to network elements is also restricted by user role.



User Role

User Activity

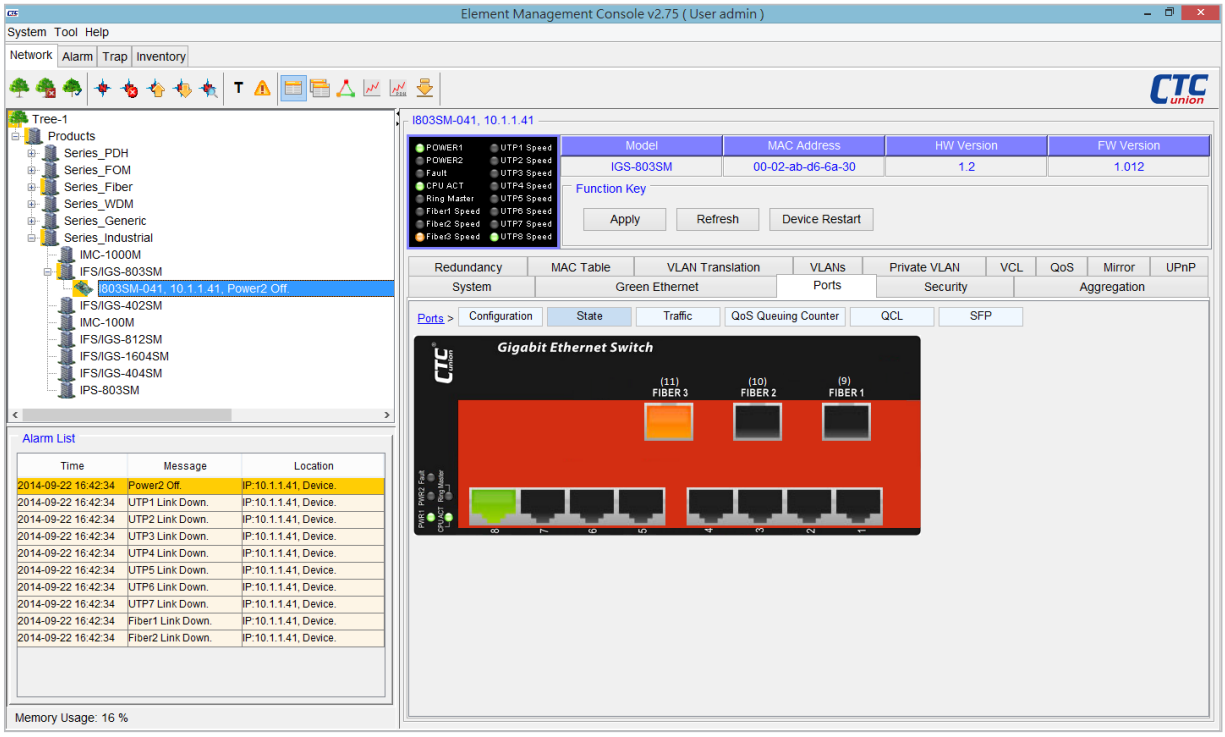
Provides viewing and clearing of the user login and configuration action logs.
User client login & logouts are recorded, including the client's source IP address. All activities performed on any Network Element are logged with time-stamping, the user making changes and the changes made.



User Activity

Available Models

▪ Industrial Ethernet Switch & Media Converter



EMS Interface

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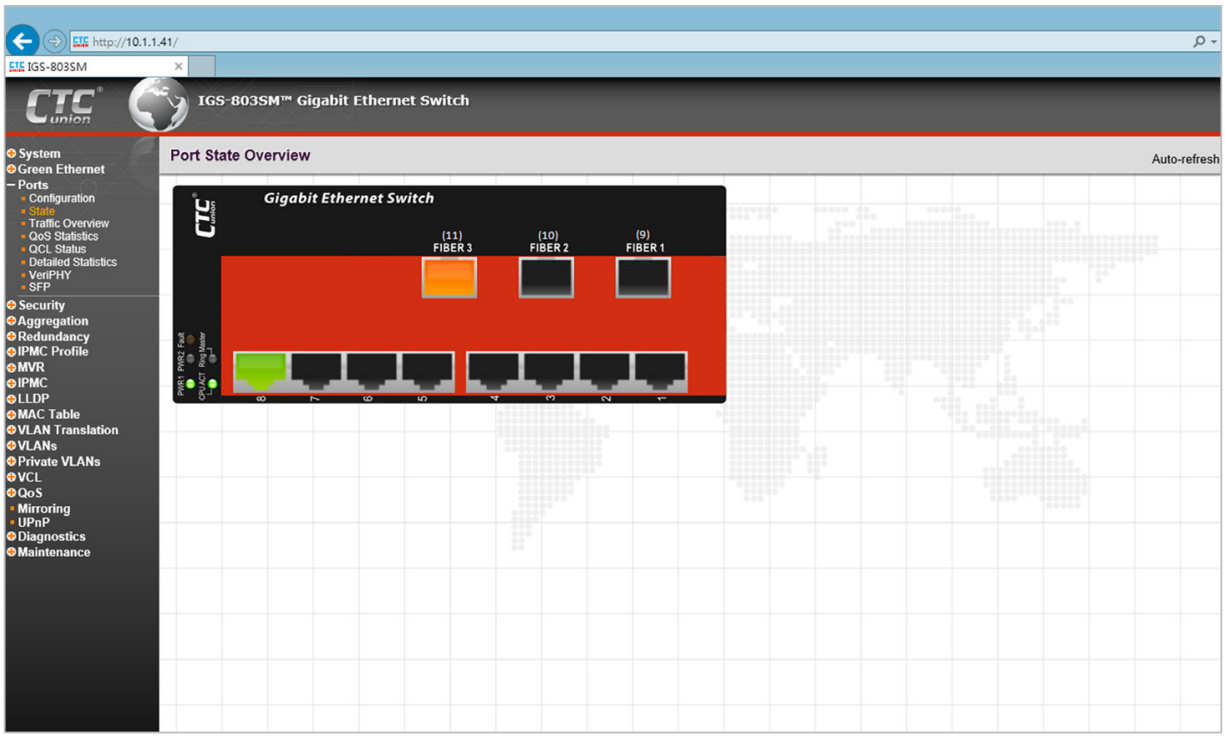

Web Interface

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 2008/2012 Server, Windows Vista, Win 7/8
SmartView Clients	Intel Core2 or higher processor, 2GB RAM, 20GB HD.	JAVA JRE. SmartView™ Kit.	Windows Vista, Win 7/8
All-In-One	Intel Core2 or higher processor, 4GB RAM, 80GB HD.	JAVA JRE. MS-SQL Server SmartView™ kit. SmartView™ Server/Client	Windows 2008/2012 Server, Windows Vista, Win 7/8

SmartView™ Supported Industrial Product List

Product Series	Model List
Industrial Managed Ethernet Switch	IGS-404SM, IGS-803SM, IGS-812SM, IGS-1604SM, IFS-402GSM, IFS-803GSM, IFS-1604GSM, IGS-804SM-SE, IGS-1608SM-SE
Industrial Managed PoE Switch	IGS-402SM-4PH24, IGS-803SM-8PH24, IGS-1608SM-8PH, IFS-1608GSM-8PH, IFS-402GSM-4PH24, IFS-803GSM-8PH24
Industrial Managed Media Converter	IMC-1000MS
Industrial Managed Converter with PoE	IMC-1000MS-PH12
IEC61850-3 Ethernet Switch	IPS-G803SM, IPS-803GSM
EN50155 Ethernet Switch	ITP-G802SM, ITP-G800M, ITP-802GSM, ITP-802GTM, ITP-800M
EN50155 Ethernet Switch with PoE	ITP-G802SM-8PH24, ITP-G800M-8PH24, ITP-802GSM-8PH24, ITP-802GTM-8PH24, ITP-800M-8PH24
Industrial Core Switch	ICS-G24S4X, ICS-G24S2X

Ordering Information

SmartView™ Platform Server with Device Agents

Model Name	Description
SV2-AGT-50	SmartView™ Platform with 50 device agents for Industrial grade product
SV2-AGT-100	SmartView™ Platform with 100 device agents for Industrial grade product
SV2-AGT-200	SmartView™ Platform with 200 device agents for Industrial grade product
SV2-AGT-500	SmartView™ Platform with 500 device agents for Industrial grade product

Agent
SV2 – AGT – □□□
Example: SV2 – AGT – 100