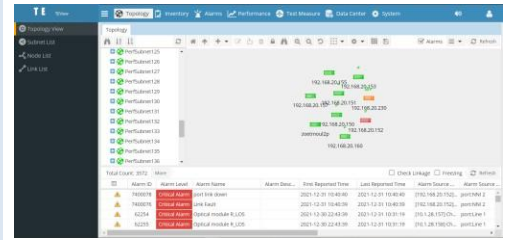




TEVIEW NETWORK MANAGEMENT SYSTEM

The TEView, designed and developed by Team Engineers, is oriented at multiple networks and services. It features rich functions and comprehensive applications. By providing comprehensive solutions with integrated management, intelligent deployment, and visualized operation and maintenance, it can improve management efficiency and operation stability, optimize capital expenditure utilization ratio, and lower operation cost.

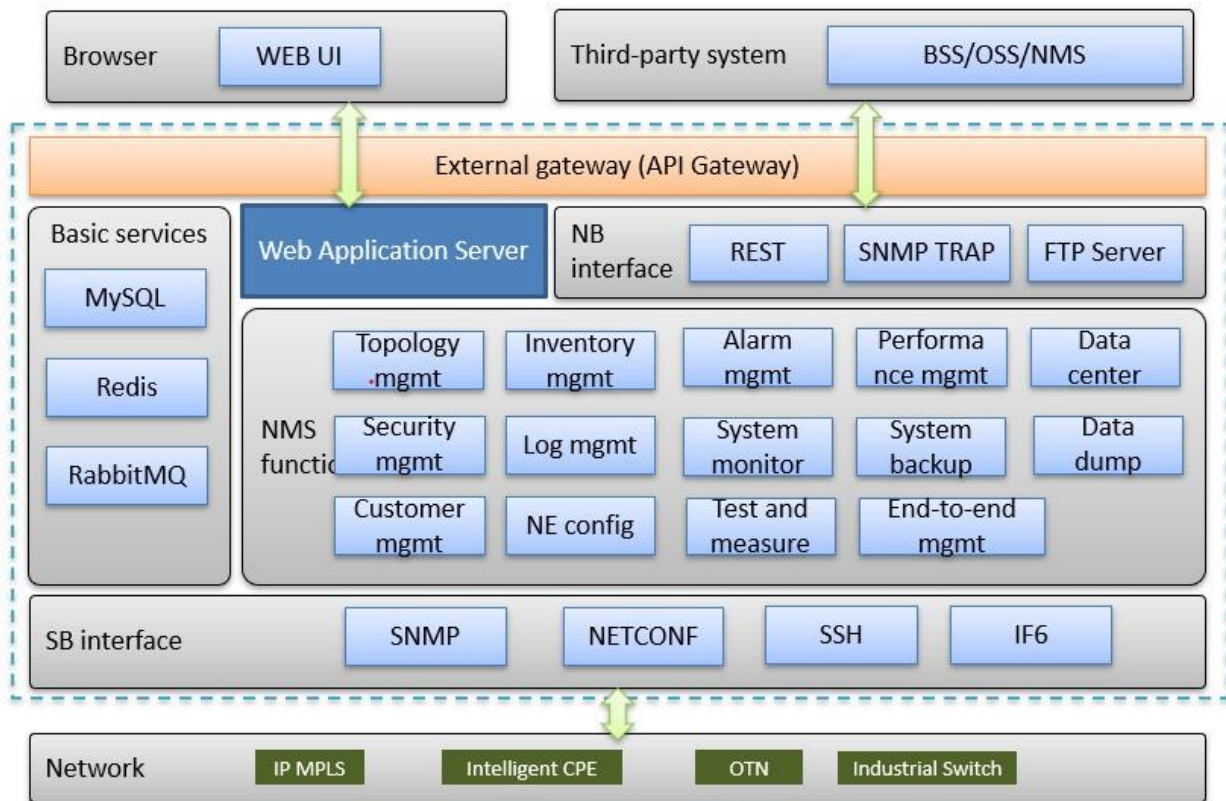


HIGHLIGHTS

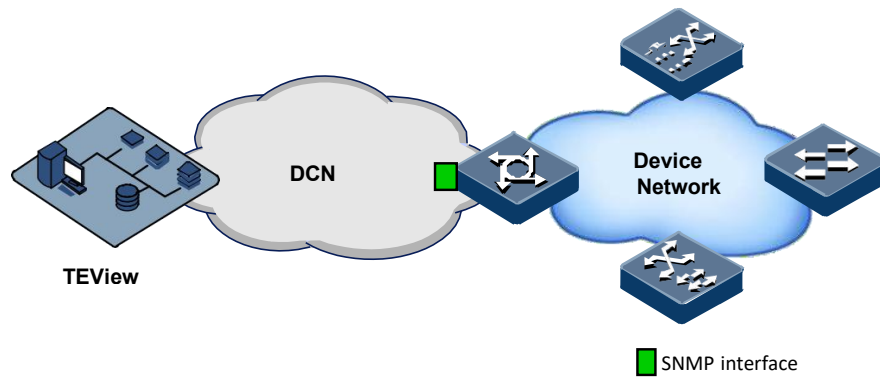
System Architecture	Based on B/S distributed architecture
System Security	Support disallowing the weak password Support the captcha on the login page
Network Management System	Comply with security requirements. Alarm management Performance management Data center - High availability with automatic redundancy Topology management Inventory management Support for interfacing to OSS (NB) using RESTCONF etc.,
General	Supports multiple service types VPLS, H-VPLS, VLL, RFC2547, VPNs and Internet access SNMP V1, V2 & V3 support Automatic discovery Remote software upgrade FCAPS support
High Availability	Configuration backup and Remote software upgrade support Support HA feature Active and standby system automatic redundancy Geographical redundancy of platforms



TEView Architecture



B/S Structure and System Deployment



TEView Installation and Upgrade

The installation will install all function components.
Separate installation and deployment.
Uniform upgrade manager controls all upgrade and version rollback.
Operation system for running TEView system.

Operation System		Language
Complete Installation	CentOS 7.9	English
Hardware Environment		
Managed quantity (Equivalent)	Hardware Configuration	Remark
<1000	CPU : 4 Cores Memory: Min 16GB or Higher Hard Disk: Min 1TB or Higher	PC Single EMS - NMS
<20000	CPU :8 Cores Memory : Min 16GB or Higher Hard Disk : Min 1TB or Higher	Server Multiple EMS - NMS



Function and Features

Topology Management

Alarm ID	Alarm Level	Alarm Name	Alarm Desc...	First Reported Time	Last Reported Time...	Alarm Source ...	Alarm Source ...	Alarm Sour
7514802	Major Alarm	Memory Utilization High		2021-12-31 15:25:28	2021-12-31 15:25:28	[10.1.101.99]		NE
7514739	Major Alarm	Memory Utilization High		2021-12-31 15:25:28	2021-12-31 15:25:28	[10.1.101.41]		NE
7514723	Major Alarm	Memory Utilization High		2021-12-31 15:25:28	2021-12-31 15:25:28	[10.1.101.27]		NE
7514689	Major Alarm	Memory Utilization High		2021-12-31 15:25:28	2021-12-31 15:25:28	[10.1.101.225]		NE

The network topology shows the distribution and operating status of network resources in a global and visualized view. The TEView allows you to execute functions of various NEs on the network topology.

Layer the physical network based on subnet to assign management domains and view network status conveniently. Visualize the physical network based on NE, link, symbol, location, and layout to monitor and manage them conveniently.

Visualize the logic network based on service view and management view to conveniently meet requirements for monitoring based on scenario.

Support automatically or manually entering information about subnets, NEs, links, and symbols during automatic discovery and manually entering. Support modifying attributes in a customized way.



Configuration Management

Port Index	Interface Friendly Name	Interface Fixed Name	Interface Mode	Management Status	Operational Status
1	NNI 1	NNI 1	Switch Mode	Up	Down
2	NNI 2	NNI 2	Switch Mode	Up	Down
1	UNI 1	UNI 1	Switch Mode	Up	Up
2	UNI 2	UNI 2	Switch Mode	Up	Down
3	UNI 3	UNI 3	Switch Mode	Up	Down
4	UNI 4	UNI 4	Switch Mode	Up	Down

Uniform platform for different EMS, different devices sharing topology, resource, fault, performance, security components : Reliable mechanism to create links LLDP protocol, MAC learning, BGP / LDP / OSPF

User-friendly device status displaying on device panels drawn by EMS - NMS

Real-time status changing feedback for every operation

Data center provided for centralized management of firmware upgrade and configuration files upload/download

Tools for point and click for creation of services

Provision to generate configuration file for remote station

Gross control of network resources and topologies



Inventory Management

The screenshot shows the 'NE Management' interface with a table of network equipment. The table has columns for NE Name, MAC Address, NE Type, NE Model, Managed IP, and Online status. The interface includes a sidebar with navigation options like Rack, Chassis, Slot, Board Card, Remote Device, Port, Switch, Discovery and Poll, Sync Management, and DHCP Pool. The top navigation bar includes Topology, Inventory, Alarms, Performance, Test Measure, Data Center, and System.

NE Name	MAC Address	NE Type	NE Model	Managed IP	Online ...
host1721661167		NMS		172.16.61.167	Online
10.1.1.1	fe:aa:aa:00:00:00	NEON	NEON	10.1.1.1	Online
10.1.1.2	fe:aa:aa:00:00:01	NEON	NEON	10.1.1.2	Online
10.1.1.3	fe:aa:aa:00:00:02	NEON	NEON	10.1.1.3	Online
10.1.1.4	fe:aa:aa:00:00:03	NEON	NEON	10.1.1.4	Online
10.1.1.5	fe:aa:aa:00:00:04	NEON	NEON	10.1.1.5	Online
10.1.1.6	fe:aa:aa:00:00:05	NEON	NEON	10.1.1.6	Online
10.1.1.7	fe:aa:aa:00:00:06	NEON	NEON	10.1.1.7	Online
10.1.1.8	fe:aa:aa:00:00:07	NEON	NEON	10.1.1.8	Online
10.1.1.9	fe:aa:aa:00:00:08	NEON	NEON	10.1.1.9	Online
10.1.1.10	fe:aa:aa:00:00:09	NEON	NEON	10.1.1.10	Online
10.1.1.11	fe:aa:aa:00:00:10	NEON	NEON	10.1.1.11	Online
10.1.1.12	fe:aa:aa:00:00:11	NEON	NEON	10.1.1.12	Online
vkaacvh5gr	fe:aa:aa:00:00:12	NEON	NEON	10.1.1.13	Online
10.1.1.14	fe:aa:aa:00:00:13	NEON	NEON	10.1.1.14	Online

Unified management tool for different resource, such as: device, chassis, cards, slots and ports

Comprehensive resource description, includes customer and fault information

Uniform query platform for quick search of resources

Manage and track the end to end physical information



Alarm Management

The screenshot shows the 'Alarm Group Monitor' interface. It features a navigation sidebar on the left with options like 'Current Alarms', 'History Alarms', and 'Event Alarms'. The main area displays a table of alarms with columns for Alarm ID, Alarm Level, Alarm Name, and timestamps. A summary bar at the top indicates 5895 total alarms, with 20000 in a specific category, 0 critical, 1 warning, and 25896 in another category. The table lists multiple 'Major Alarm' entries with IDs ranging from 19985 to 20001, all reported on 2022-08-16 at 16:04:27.

Alarm ID	Alarm Level	Alarm Name	Alar...	First Reported Time	Last Reported Time...	Alarm Source ...
20001	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
20000	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19999	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19998	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19997	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19996	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19995	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19994	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19993	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19992	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19991	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19990	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19989	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19988	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19987	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19986	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25
19985	Major Alarm			2022-08-16 16:04:27	2022-08-16 16:04:27	[111.112.254.25

- Standard five-level alarm displaying, color coding, real time alarm display
- Separate lists for current and historical alarm management
- Alarm monitoring interface defined according to customer's need
- Customized alarm filter rules that filter the displaying of less importance
- Automatic alarm list creation service
- Alarm forward service that forward alarms received on TView
- Alarm locating and troubleshooting library makes fault removal quicker and easier
- Acknowledge clear individual alarms
- Support Historical alarm database for cleared, deleted



Customer Management

The screenshot displays the TEVIEW system interface. The top navigation bar includes options like Topology, Inventory, Alarms, Performance, Test Measure, Data Center, and System. The left sidebar lists various system management functions such as System Backup, Data Dump, System Config, License, Log Mgmt, Login Log, Security Log, Operation Log, Syslog Log, System Log, Security, User Mgmt, Access Control, Security Policy, Customer List, and Customer Group.

The main content area is titled "Customer List Management" and features a table with the following data:

Customer ID	Customer Name	Circuit ID	Customer Category	Customer Group	Customer Level	Contacts	Customer Address
1	TestUser1		Ordinary customer	default group	Level 1		

Below this, the "Customer Resource" section shows a table with the following data:

Resource ID	Resource Name	Resource Type	Symbol Name	Device Type	IP
1	10.1.1.1	Device	10.1.1.1	NEON	10.1.1.1
2	10.1.1.2	Device	10.1.1.2	NEON	10.1.1.2
3	10.1.1.3	Device	10.1.1.3	NEON	10.1.1.3
4	10.1.1.4	Device	10.1.1.4	NEON	10.1.1.4

Centralized customer information management

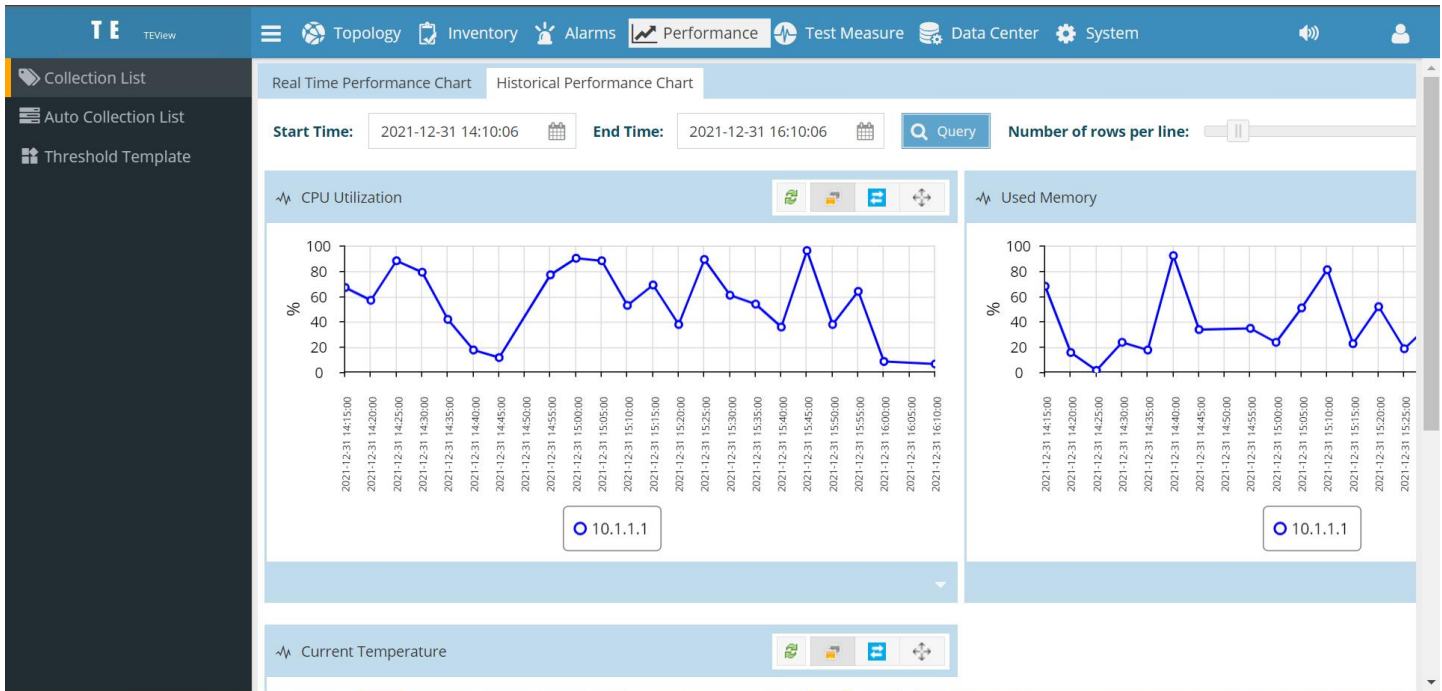
Customer-based resource management

Customer-based fault management

Customer information import and export



Performance Management



Uniform performance management for all devices under management end to end visibility of network

Comprehensive default performance metric templates and supports add/delete performance metric template manually

Tailored deployment for network of different capacity

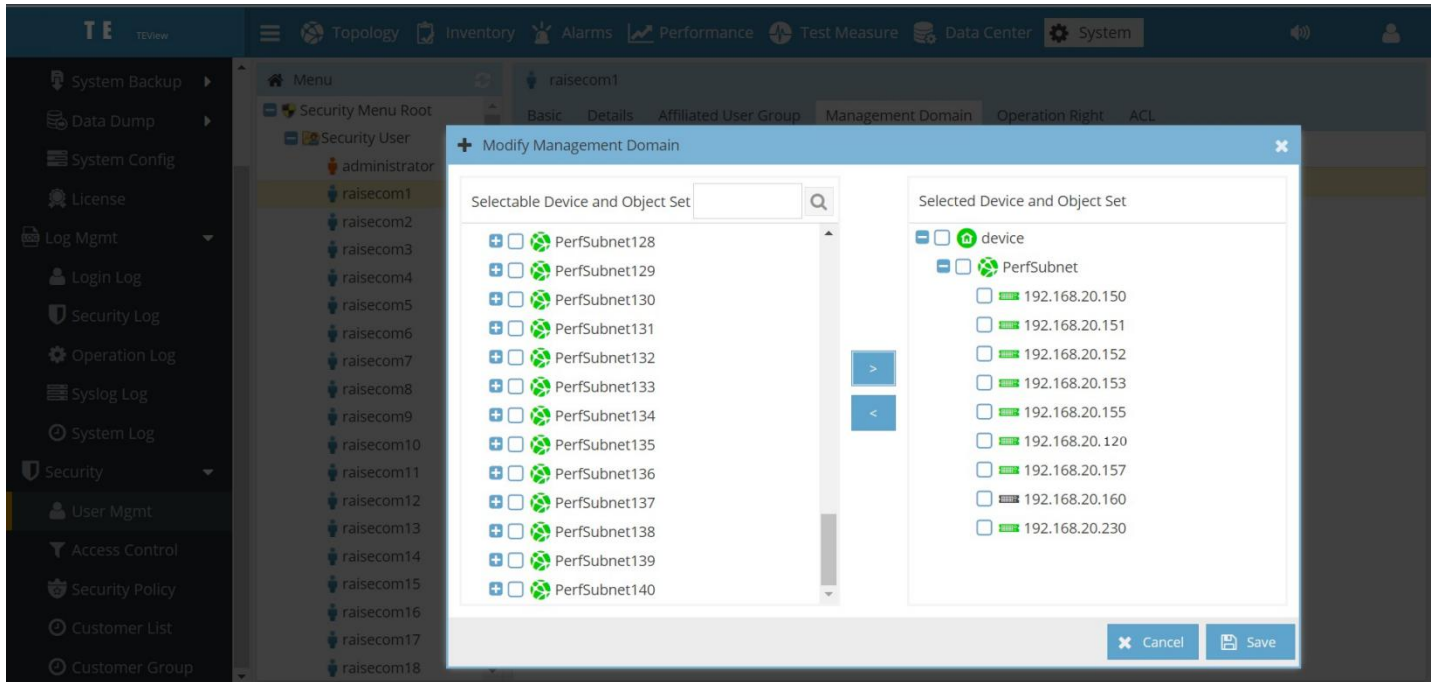
Collect port real-time and historical performance data

Performance graph drawn on the basis of performance data collected

Performance data exports



Security Management



Multi-domain multi-authority management

Different user profiles have different read and/or write authorities over devices in different subnets

Client access control mechanism

Unauthorized login deny mechanism

Keeps system and device operation logs and supports log export

Support Netconf , SNMP , SSH etc, to access device

Support RADIUS, TACACS+, AAA systems



NMS Control

The screenshot shows the TEView interface with a sidebar menu on the left and a main content area. The sidebar menu includes options like System Mgmt, Components, Server Mgmt, System Backup, Data Dump, System Config, License, Log Mgmt, Security, and Access Control. The main content area displays a table titled 'Basic Services' with columns for Component Name, IP Address, Component Port, Running Status, and Operation. A 'Refresh' button is located in the top right corner of the table area.

	Component Name	IP Address	Component Port	Running Status	Operation
1	CLI Service	172.16.61.167	9010	Normal	
2	Alarm	172.16.61.167	60030	Normal	
3	Alarm Mapping	172.16.61.167		Normal	
4	Performance Service	172.16.61.167	60040	Normal	
5	Performance Data Collector	172.16.61.167	60041	Normal	
6	DataCenter Service	172.16.61.167	60050	Normal	
7	Polling Service	172.16.61.167	3001	Normal	
8	Measure Service	172.16.61.167	61304	Normal	
9	Transmission Network Manage...	172.16.61.167	61308	Normal	
10	Switch Management	172.16.61.167	61403	Normal	

Start/Stop the service of functional component on TEView

Monitors the status of process, disk of PC, database and server improving maintenance efficiency

Keeps operation logs

Unauthorized login deny mechanism

License management for updating license and checking license information



Devices Under NView Management

NEON - DC : NEON - 01 : NEON - 02 : NEON - 03 : NEON - LSR

ORDERING INFORMATION

TEView	TEView platform is the network management system developed by Team Engineers to manage TE IPMLPS devices. TEView provides a uniform platform for IPMPLS devices LER and LSR. Topology management component, inventory management component, alarm management component, security management component, log management component.
License	License file that verifies the legality of TEView series products. The License file defines the device types and the number of nodes to be managed on TEView platform