

Features

Field-Proven Scalability

T-View has proven its ability to support large numbers of network elements, services, and GUI users.

Multi-Layer Visibility

Visibility at network and stream layers simplifies troubleshooting.

Powerful Bulk Functions

Scheduled or on-demand bulk functions provide powerful operational simplicity for tasks such as bulk configuration, software upgrades, statistics collection, and inventory reports.

Secure Operation

Extensive security features prevent unauthorized operation of the software and enable controlled deployment to a large pool of network operations and maintenance staff.

Multi-Platform Support

Java-based client-server architecture supports both Solaris™ and Windows® operating systems.

T-View™ Server

- » More than 3,000 Network Elements
- » More than 200 concurrent users
- » Server Administration
- » User Administration
- » Secure login and Password aging
- » Audit Logs

T-View™ AMS Client Dashboard

- » Hierarchy view
- » Topology view
- » Bulk Functions
- » Reports and Statistics
- » Alarm/Event Logs

T-View™ AMS Client Element Management

- » GUI representation of physical device
- » Configuration
- » Stream Management
- » Redundancy
- » Diagnostics and Maintenance

T-View™ Carrier-class Scalability

T-View EMS supports more than three thousand network elements, such as the Motorola VSP 1422, and allows more than two hundred concurrent operator sessions. Each operator is authorized to access a specific set of network elements and perform a specific set of tasks.

The T-View Server

The T-View Server provides the heart of the T-View Element Management System (EMS). The application runs on either Solaris or Windows. The T-View Server provides a variety of services appropriate to the network administrator. Two T-View Server deployment models are supported. Users can all be attached locally to the server, or users may all be remote.

T-View Server User Administration services allow the add/change/delete function of authorized T-View client users. User authentication is required, and the server enforces password aging, unauthorized user lockout, and session time limits. Any T-View client user actions that modify network elements are traceable in the system audit logs.

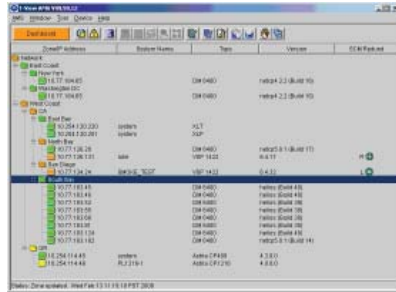
The T-View Server also provides the administrator with a set of global parameters to specify behavior of the application for all users, affecting trap processing, Access Management System (AMS) client behavior, reports, upgrades, configurations, and user properties. Other server features include SNMP trap forwarding to centralized trap management applications, alarm forwarding to e-mail accounts, and support of other SNMP devices.



T-View
Carrier-class Scalability

Access Management System (AMS) Client Dashboard

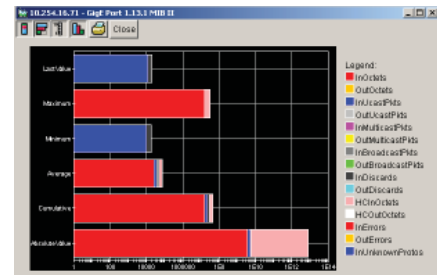
The T-View AMS Client Dashboard provides the authorized network operator or maintenance worker with the ability to access a variety of information and tools to manage the network elements (Motorola VSP 1422 and other devices) in their domain of responsibility. Upon successful log-in to T-View EMS, the AMS Client presents a hierarchical view of the entire network. The user may select either a hierarchical folder view of the network or a layered topology view. The highest outstanding alarm state of each network element bubbles upward so that a metro, regional, or entire network view reflects the aggregate status of all elements beneath that view.



The AMS Global Alarm Trap Log displays the list traps received from the network. The traps may be sorted by device, time, and type to help quickly locate specific problems and speed the resolution process. AMS also includes a device discovery function. When new network elements are installed, T-View AMS quickly and easily finds them and maps them into the hierarchy and topology views. One of the most important features of AMS is the range of bulk functions that can be applied to the network elements, greatly reducing operations time and effort. Examples include bulk software upgrade, which allows many network elements at a time to have new software loaded into their non-volatile RAM. The software upgrade feature allows the network operator to specify the time the bulk load occurs, and also what time the software cutover should occur on the network elements. Bulk functions can also be used for a range of options, from synchronizing system time and changing trap-host addresses or network logging server addresses to adding or deleting programs in the national channel line-up.

AMS also provides a variety of reports to assess the health and status of the network, including bulk software upgrade status, historical bulk statistics, and log reports; inventory reports may be obtained to collect hardware, software, and module status of any set of network elements.

	AbsoluteValue	Cumulative	Average	Minimum	Maximum	LastValue
InOctets	3,194,264,068	108,310,240	4,165,778,462	0	15,044,958	10,255,933,333
OutOctets	0	0	0	0	0	0
InUnicastPkts	2,118,437,876	285,939	10,887,615	7,557	11,718,898	7,857
OutUnicastPkts	0	0	0	0	0	0
InMulticastPkts	0	0	0	0	0	0
OutMulticastPkts	0	0	0	0	0	0
InDiscards	843,266,742	220,703	8,488,577	5,833,667	9,043,667	5,833,667
OutDiscards	0	0	0	0	0	0
InErrors	8,704,758,201,316	108,199,168	4,181,391,077	0	15,778,174	10,252,764,667
OutErrors	0	0	0	0	0	0
InUnknownProts	258,088	14	0.538	0.333	1	0.333



Reports can also be generated from VSP 1422 statistical information. A variety of information related to traffic volumes is available from the VSP 1422 system, such as separate In/Out counters for octets, unicast packets, discards, and errors. This information is useful for long-term traffic pattern analysis, as well as isolating specific MTS performance problems that transit the system.



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T-View AMS differentiates between alarms and events. The alarm report may contain the current alarms from a single device, or from all devices. Similarly, the event log may contain the history of all alarms and clear events for each device, or for all devices. To ensure no loss of log data, an independent logging server may be configured in the network to receive alarms and events from each of the network elements. T-View AMS also includes comprehensive On-line help. Major topics include how to use the AMS Client Dashboard, bulk capabilities, system features, and reports; how to use the Element Management User Interface; configuration examples for the VSP network interfaces and RF ports and carriers, as well as redundancy and pre-configuration; and a description of the monitoring toolset, including the statistical information available from various points within the system.

Element Management

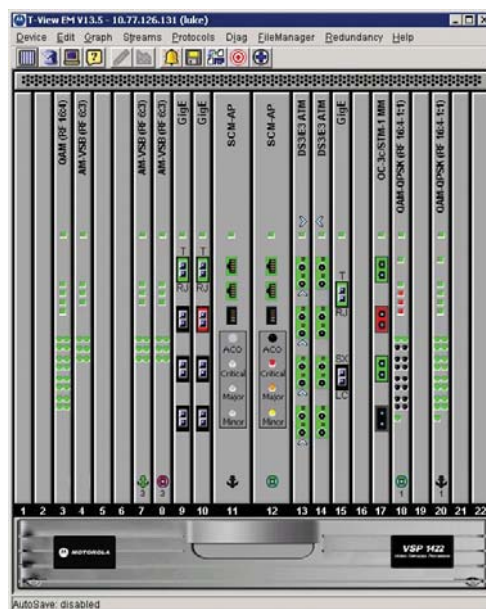
Within the T-View AMS Client, a network operator may select one of the authorized network elements at any time and launch the device user interface (UI) to manage the VSP 1422 element. The UI provides a realistic representation of the front of the equipment, including slot-by-slot positions of line modules, status, and a view of the SCM-AP core modules. The UI is context sensitive, so that mouse clicks can open more details on module status and inventory information, select cards, ports, or carriers to execute common commands, and launch diagnostic features such as packet profile analysis on the Gigabit Ethernet interfaces.

The Element Manager (EM) UI is where device-specific changes are made to the device configuration. Here a network operator can modify any of the parameters of the VSP 1422 system. Examples include the setup of the Gigabit Ethernet and RF Line Module interfaces, RF carriers, stream mapping, and VSP 1422 system-based features.

The diagnostic suite available through the EM includes the SNMP Trap Log, event log, filtered event log, and the alarm log. In addition, thresholds can be configured for many system variables, including Input or output loss, rate errors, loss of sync, discontinuities, format errors, and so forth. Rising and falling threshold alarms are generated when user-specified conditions are met.

Stream Management is a key feature of the T-View EM. Here the network operator can add / change / delete inbound MTS streams. Any program from any inbound interface may be mapped to any RF port and any RF carrier without restriction. The T-View EM also provides a stream mapping summary table, including all the key

information for the streams transversing the VSP 1422 system, status, and sortable indexes for quickly locating relevant detail.



The VSP 1422 Edge Modulation platform provides five-nines (99.999%) reliability when properly configured. T-View EM allows the network operator to provision all aspects of the VSP 1422 redundancy features, including proper configuration of the 1:1 SCM-AP core modules, configuration of Gigabit Ethernet redundant interface bundles, and configuration of the RF Line Module 1:N redundancy feature. Within the redundancy management, the T-View EM also allows the network operator to initiate maintenance activities such as forced failover or reversion of a service to replace specific modules in the VSP 1422 system.

SPECIFICATION SHEET

T-View Carrier-class Scalability

T-VIEW™ EMS FEATURE SET

Server

User Session Management, more than 200 concurrent sessions
On-demand Device Polling
SNMP Trap Selection
SNMP Trap Client Configuration
Alarm Email Notification
Over 100 Administrative Controls on T-View Server
T-View Element Management controls
SNMP Property management
Authentication Property management
Trusted Host configuration
User Configuration
Diagnostic Tools
On-line Help
GUI Lockout
Operating Systems: Solaris 10 or Windows XP Pro

AMS Client

Network Element Management,
More than 3,000 Network Elements managed per Server
AMS Client Properties Administration
Global Alarm/Trap Log
Problem Log
Craft / Telnet Window
Element Management
FTP Utility
Ping and Trace Route Utility
Bulk RF Configuration
Bulk System Configuration
System Logs
Bulk Stats Scheduler
System Scheduler, including Inventory, Config Backup, Save to NVRAM, and Upgrade
Policy Manager
Bulk Service Configuration
Reports, including Inventory, Alarms, Events, and Statistics

VSP 1422 Element Management User Interface Chassis View

Shelf
System control module (SCM-AP)
Line Modules (LMs)
Ports, Network (IP) and RF
Carriers
Active Redundancy
SCM-AP Alarm Panel
On-Line Legend of icons and color schemes

EMToolBar

Open Network Element
Refresh
Telnet
Help
Edit
Graph
Trap Log
Save to NVRAM
FTP
Troubleshooting

Configuration and pre-configuration
Trap Receivers
SNMP Trap Log
Threshold configuration
Event Log
Alarm Log
Monitored Statistics
Port Statistics
Protocol Statistics
System/Shelf Statistics



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