

QuFast MetaASSIST™ EMS

Actelis' MetaASSIST™ Element Management System (EMS) provides network operators with the ability to cost-effectively and efficiently accelerate their broadband deployments.

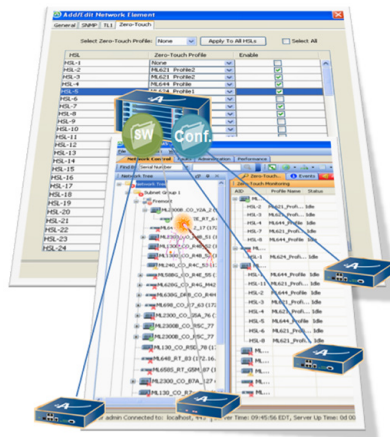
With Actelis' MetaASSIST EMS, network operators can scale their network, accelerating 'time to service' and increasing service availability, while reducing operational expenses and complexity. MetaASSIST EMS offers a carrier-class, user friendly platform for real-time planning, "Zero Touch" provisioning, monitoring, performance analysis, and management of networks with multiple Actelis elements.

Actelis' MetaASSIST EMS offers core management capabilities, including Fault, Configuration, Performance, and Security Management, all of which are in accordance with the ITU-Telecommunication Management Network (TMN) standard and FCAPS model to enable the following key benefits:

- Lowering OpEx and accelerating ROI
- Accelerating service availability and reliability
- Enhancing security with flexible access control mechanisms
- Accelerating scale of deployments

Lowering OpEx & Accelerating ROI by Simplifying Configuration & Service Activation

Actelis' MetaASSIST EMS XML northbound interface and its "Zero Touch" provisioning provide automated solutions to simplify service turn-ups, allowing more installations per day, fewer technician resources, and faster error-free configurations. This lowers operating expenses (OpEx), increases customer satisfaction and significantly accelerates deployment of new services.



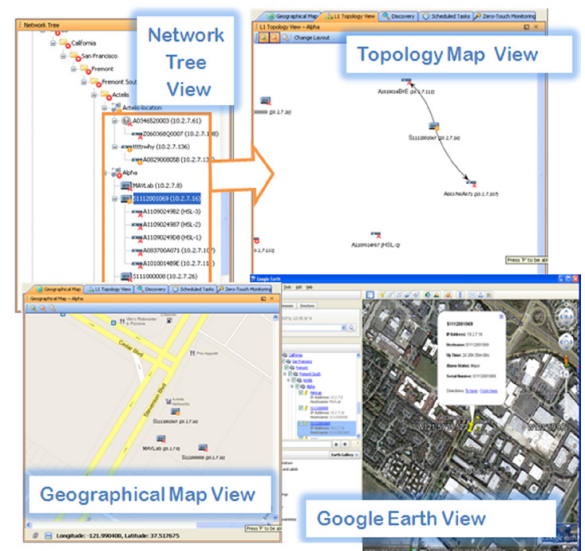
Actelis' MetaASSIST EMS offers network element configuration backup/restore and centralized software management that significantly simplify network operations. Configuration backup/restore allows storage and download of configuration data of all managed elements. The software management feature allows centralized software release management for all Actelis network elements managed by MetaASSIST EMS.

The Flexible Schedule Task functionality allows users to define and run different operations on a group of elements or at a system level. Up to 100 tasks can execute simultaneously. The scheduled task can range from report generation to software management and service activation.

Accelerating Service Availability & Reliability

MetaASSIST EMS incorporates built-in graphical tools for proactive and reactive performance analysis of network elements and services. Layer 1, Layer 2, service level (Y.1731) and real-time Layer 2 performance information is continuously collected and can be viewed in a variety of graphical or tabular formats. Performance data can also be saved or exported for further analysis.

The EMS offers "Various Types of Network Views," enabling more effective fault isolation and network management. The MetaASSIST EMS network displays include Hierarchical (Tree), Graphical, and Topology map views, which are presented with their associated connectivity, inventory and alarm information.



Highlights

- "Zero-Touch" Provisioning for Faster "Time to Service"
- Configuration and Inventory Management
- Fault and Alarms Management
- Performance Monitoring and Analysis
- Network & Topology Management and Graphical Display
- Machine-to-Machine XML/JSON north bound interface
- Scheduled Tasks and Group Operations
- Scalable Distributed Architecture
- Easy Integration into Other OSS via Flexible Northbound Interfaces
- Enhanced Security via Flexible User Access Control
- Minimized Downtime
- One Management Solution for All ActelisNetwork Elements
- Simple to Install - Easy to Use



Features

Customized views and logical NE sub-group views are also supported, allowing operators to tailor specific views, monitoring areas and operations for their individual needs.

MetaASSIST EMS continuously collects equipment and service alarms, events and notifications. Graphic displays of alarm status at the network, sub-network, node/element, card and port levels are available in a hierarchical color-coded format. Alarms are aggregated, categorized and displayed as a summary of all Critical, Major and Minor alarms and Warnings. Advanced filtering and sorting capabilities are available to customize the system based on carrier-specific needs.

All alarms can be reported via a northbound interface using TL1, SNMP or XML. Real-time event notifications can be automatically sent to a pre-defined list of e-mails and/or SNMP managers for immediate alarm handling and problem resolution.

Flexible User Access Control for Enhanced Security

Actelis' MetaASSIST EMS provides security-enhanced communication channels utilizing Radius, LDAP and TACAS+ for authentication between the EMS Server and the managed NEs and HTTPS-based communication between the EMS Server and Clients.

MetaASSIST EMS offers advanced access control capabilities for enhanced security, including unlimited number of user groups setting, managing password complexity and access restriction per user or user group. Access may be restricted to only specific parts of the network (partial network view including all its related alarms, inventory, etc.) or applied to specific actions and operations based on a variety of user-determined criteria, such as EMS Control privileges.

Built to Scale

For networks with multiple Actelis elements, MetaASSIST EMS is a modular and scalable management system for centralized configuration and fault management. MetaASSIST EMS distributed architecture includes the EMS Server, EMS Database and a Graphical EMS Client. In addition users can access the EMS utilizing standard Web browsers. Optional Server and Database redundancy can be enabled for higher resiliency and availability.

MetaASSIST EMS can manage up to 5,000 assorted Actelis' aggregation (CO) systems and their EADs or up to a total of 20,000 NEs. MetaASSIST EMS distributed server architecture* offers carriers "pay as you grow" scalability, adding more servers to support larger networks with more NEs.

All of the following Actelis solutions can be managed by the MetaASSIST EMS:

- ML2300 and ML230
- ML130 and ML1300
- ML700, ML600, ML500 and ML50
- XR239 EFM Repeaters
- ML100E

The MetaASSIST EMS can be easily integrated into various OSS and NMS systems for various OA&M capabilities including alarms reporting, performance monitoring as well as service configurations via standard northbound interfaces such as SNMP, TL1 and JSON based XML.

MetaASSIST EMS manages Actelis systems via an IP network using Telcordia standards. Subtending Actelis systems are managed in-band via the High-Speed Link™ (HSL™).

System Requirements

For full details, please refer to the MetaASSIST EMS User's Manual.

Server Prerequisites

Server Hardware Minimum Requirements

- Up to 5000 COs. 20000 NEs
- Dual Intel Core2 duo processors, 1.8GHz, 2MB L2-Cache
- 8GB DDR3-600 SDRAM
- 250GB SATA hard disk drive
- Dual 1Gb Ethernet interfaces
- CD ROM Drive
- Optional dual power supply

Software Requirements

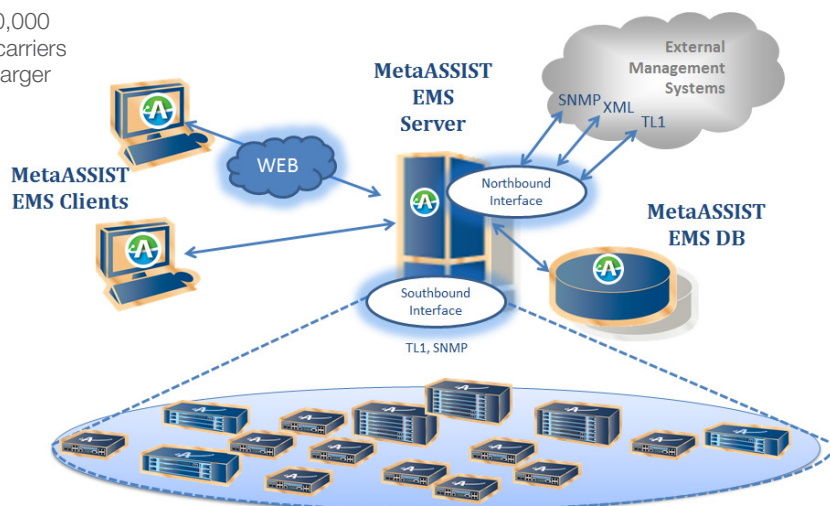
- **Operating System:** Microsoft Windows 2008 server, Redhat Enterprise Linux Server 6.x, Oracle Solaris 10/11
- **Database:** MYSQL/Oracle 10

Client Prerequisites

- Hardware Requirements
- Single Intel Core2 duo processor, 1.5GHz, 2MB L2-Cache
- 2 GB RAM
- 100MB Ethernet interface
- Display resolution of 1024x768 pixels

Software Requirements

- **Operating System:** Microsoft Windows XP/Vista/7, Redhat Enterprise Linux Desktop 5.x/6.x, Ubuntu Linux Desktop 9/10, Oracle Solaris 10/11
- **Web browser:** Microsoft Internet Explorer 7/8, Mozilla Firefox 2.5 and above, Google Chrome 7/8



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