ServiceOn Element Manager

Element Management Layer

General

The ServiceOn Element Management system is a scaleable management application capable of supporting Ericsson's Optical, Microwave, Access and Metro Ethernet products. A consolidation of the separate platforms ServiceOn Optical, ServiceOn Microwave and ServiceOn Public Ethernet Manager, ServiceOn EM becomes the single Element Management layer application for the future. Built on years of experience it provides a common environment for the equipment focused management.

Key benefits

- Single application capable of supporting Optical, Microwave, Access and Metro Ethernet products.
- Maintains network competitiveness through regular enhancement.
- Extendible to support third party equipment.
- Meets operators needs through a task focused GUI or Open interfaces to external OSS platforms.
- Comprehensive FCAPS features for enhanced manageability.

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Solution Architecture

The ServiceOn Element Management system is a standards based software application designed to support the equipment focused management of Optical, Microwave, Broadband Access and Packet based network elements. ServiceOn Element Manager is part of the comprehensive Ericsson OSS solution covering the complete portfolio of fixed and mobile network solutions.

Based on a modular software design and employing scalable hardware the ServiceOn Element Manager can cost-effectively manage from tens to thousands of network elements. As a scaleable system, operators can deploy the element management platforms in a cost-effective way, minimizing first-in costs and then growing with the network.

For overall network views and total network control, including end-to-end trail provisioning, the element management system interworks with the ServiceOn Network Management System.

For network operators with an existing network control layer, the ServiceOn Element Manager provides a range of interfaces enabling external applications access to network element information. Ericsson has extensive competence in the integration of the ServiceOn portfolio with commercial off the shelf products such as IBM with Netcool, Cramer, Axiom, Syndesis, Metasolv, HP Temip, Metrica and customer specific management applications.

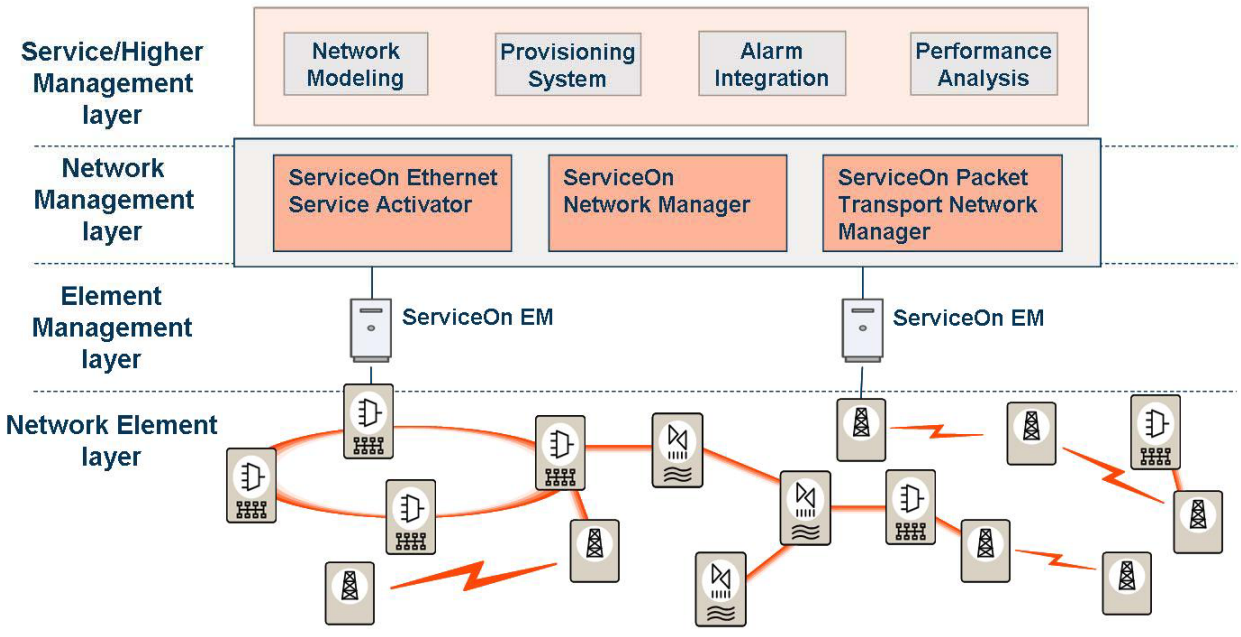
Scalability

Ericsson can tailor the solution to meet the operator's requirements for both small and large networks. For instance, for small network configurations, the ServiceOn Element Manager can be hosted on the same platform as the ServiceOn Network Management System.

With larger networks, multiple element managers can be hosted on separate platforms offering growth potential to support thousands of deployed network elements. The separate element management systems can be interfaced to the ServiceOn Network Management system or third party higher level applications to provide an overall network level view of the managed resources.

The ServiceOn Element Manager offers future extendibility to cope with the challenges of multi-technology networks by enabling a mix of network elements from the Optical, Microwave Access and Metro Ethernet portfolios to match any network requirement.

ServiceOn Management Architecture



System Description

The ServiceOn Element Manager application is hosted on selected platforms from the HP Integrity family of servers, HP ProLiant platforms or Sun SPARC servers. High-availability solutions are supported at platform level by the use of disk mirroring and duplication of hardware such as LAN and disk interfaces. For solutions based on HP Integrity hardware application level protection is supported by use multiple platforms and HP ServiceGuard software for hot standby solutions. Cold standby solutions using Geographical Redundancy software and additional hardware can be designed for any of the server types, for HP Integrity platforms the Cold and Hot standby solutions can be combined to offer increased availability.

User access is supported through the use of Windows based PC platforms and web browser. The user interaction is supported through a windows based GUI where menus and dialog boxes assist the operator in carrying out tasks.

ServiceOn Element Manager provides comprehensive support for the complete range of technologies including xDSL, GPON, PDH, SDH, OTN, WDM, Ethernet and packet based network elements under a single application. The GUI features a consistent style across the managed technologies, providing access to the full range of element features including: Fault, Configuration, Performance and Security management.

A continuing program of software development ensures that the ServiceOn Element Management system features are enhanced to keep pace with technology and operational requirements.

Features

Fault Management

ServiceOn Element Manager provides a clear graphical representation of real time alarms and severity status by use of Icons and alarm list. It supports high peak and sustained alarm rate for reliable network monitoring. SO EM provides detailed configuration of element alarm filtering, threshold settings and sparkling (transient) alarm filtering feature to control alarm load. Alarm data is held in alarm log files that can be archived for later analysis.

Configuration Management

ServiceOn Element Manager provides comprehensive configuration of cards, ports, and traffic connectivity and protection mechanisms at the network element level. It performs centralized scheduled equipment inventory data collection and scheduled network element backup feature.

Performance Management

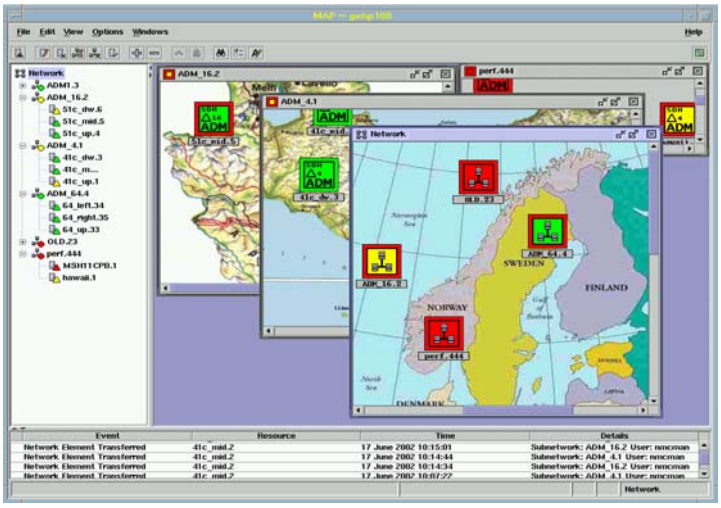
ServiceOn Element Manager enables configuration of the performance monitoring points on equipment and acts as the centralized scheduled performance data collection. Performance data is displayed by use of an internal graph function and table.

Interworking

ServiceOn Element Manager includes a range of standardized TMF and proprietary interfaces for interworking with external OSS applications for provisioning and data export.

Third Part integration

ServiceOn Element Manager introduces the Extra Smart Adapter a tool kit enabling easy integration of 3rd party equipment into the common management layer helping to reduce costs.



Data Summary

General
The ServiceOn Element Manager is designed to meet the appropriate sections of ITU-T recommendations M.3010 and M.3400.

Fault Management
Provides effective surveillance of the alarms occurring in the network elements:
- Real-time alarm monitoring
- Alarm supervision
- Alarm acknowledgement
- Threshold alarms
- Alarm reports

Configuration Management
Enables the user to configure and add elements to the network:
- Provision elements
- Configure elements
- Configure SDH and WDM protection mechanisms

Performance Management
- Performance monitoring and control at element level
- Performance parameters to ITU-T G.826

Security management
Restricts access to the element management system, as determined by the system administrator.
- User name and password
- Defined user profiles
- Domain partitions

Third Party Equipment Integration
Extends the management solution by adding support for third party network elements. Supports a range of management capability including:
- Basic level of integration
- Full management support with the same level of functionality as a native network element

External Interfaces
Provides a number of interfaces to export data to network level systems including proprietary Alarm. Performance, Provisioning / Configuration and Inventory interfaces.

Standardized interfaces
- TMF 814 interface
- Future support for TMF 854 compatible interface

Network Element Interfaces
- Q. Protocol in accordance with ITU-T G.733, Q.811 and Q.812 (between a gateway network element and the element manager)
- SNMP
- TL1

Hardware Platform
- HP Integrity servers
- HP ProLiant Servers
- Sun SPARC Servers
- Windows PCs for ServiceOn operator terminals.

Software platform
- Server Operating system:
    - HP UX 11i3
    - HP SUSE Linux 10
    - Sun Solaris 10
- Operator PC GUI: web browser

Information Model
- ITU-T Recs X.700 series, M3100, G.774 series

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