MetroIntegrator
## Network and Element Manager V4.6

albis elcon

Overview	MetroIntegrator enables you to keep the overview of what is going on in large scale and highly dynamic network environments
Control	By regaining the overview and a powerful suite of functionality sets at your fingertips you can perform and ensure your network performance objectives are met
Simplicity	An advanced management system as MetroIntegrator lets you intuitively execute complex activities with ease, saving time and relieving your most qualified people
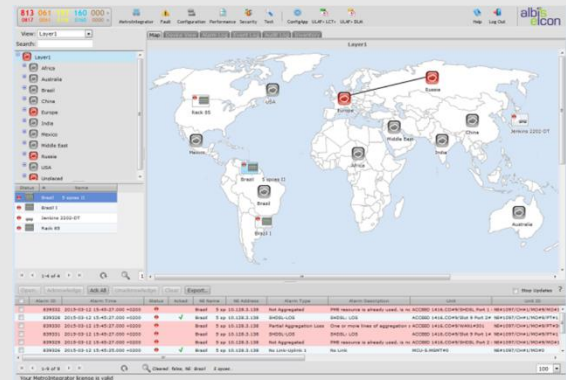
Product Overview

MetroIntegrator is albis-elcon's own state of the art and comprehensive network management platform. With its strong multi-level navigation framework it allows the operator by means of a navigation map, navigation tree, main screen tabs and a powerful search facility to quickly acquire overview and zoom in to the network elements that require attention. It has been designed as a flexible and scalable architecture based on the ITU-T M.3000 series for the Telecommunications Management Network (TMN). The FCAPS functionality sets as defined in ITU-T M.3400 were taken as the main starting point to design a network management tool that perfectly suits the needs of the operator and will ease and enable the operators path towards SDN based automation and enhanced service management.

Powerful Web 2.0 GUI

MetroIntegrator is designed around Web 2.0 technologies from Google™, which provides the user an application like experience right in a web-page. So it does not require Client software installation or administration, nor plug-ins to be installed on the Client. Through the intuitive and thus easy to operate GUI, training effort is reduced and focus given to the things that matter to the operator.

Besides the strong navigation framework, MetroIntegrator allows the definition of multiple Views, in combination with its rich security framework, it enables true multi-domain management and Customer Network Management (CNM).

Service Management

MetroIntegrator allows provisioning for EVC, TDM and CES Services (Pseudowires) for SAToP and CESoPSN. It also allows customers with RPS 1600 devices to monitor their power services via a graphical view. The Service view can be used to display alarms per Service and the navigation framework makes it easy and efficient to show the Service elements in multiple customizable views.

Service alarms can be forwarded over the NBI as separate instances while providing NE alarm correlation information.

Advanced North Bound Interface

MetroIntegrator provides a SNMP NBI to connect to 3rd party umbrella Network Management Systems, forwarding comprehensive data sets, which can be further enriched over time or can be configured backward compatible with the Corba SNMP Mediator (CSM) module of AccessIntegrator. The MetroIntegrator framework is capable to enhance this basic alarm forwarding interface to an advanced and fully bidirectional XML based interface, which supports a REST API.

Configuration Management

Configuration management is presented through the well-known ULAF+ LCT, LCT+ and Download Manager tools, which are web started from the MetroIntegrator server, eliminating the need for these applications to be installed on the clients and thus taking away the effort for client administration and required version management.

The back-up and restore facility protects the valuable network configuration in case of failure of network elements and / or management systems.

The scheduling job framework provides easy access to a continuously increasing number of tasks that can be scheduled and automated., such as system and network element backups and verification jobs.

Multi-vendor Management

Multi-vendor management is implemented through a complete SNMP engine capable to map any SNMP traps to a new Custom SNMP NE created by the user. The embedded MIB Browser provides an easy-to-use and powerful tool to troubleshoot and monitor the network.

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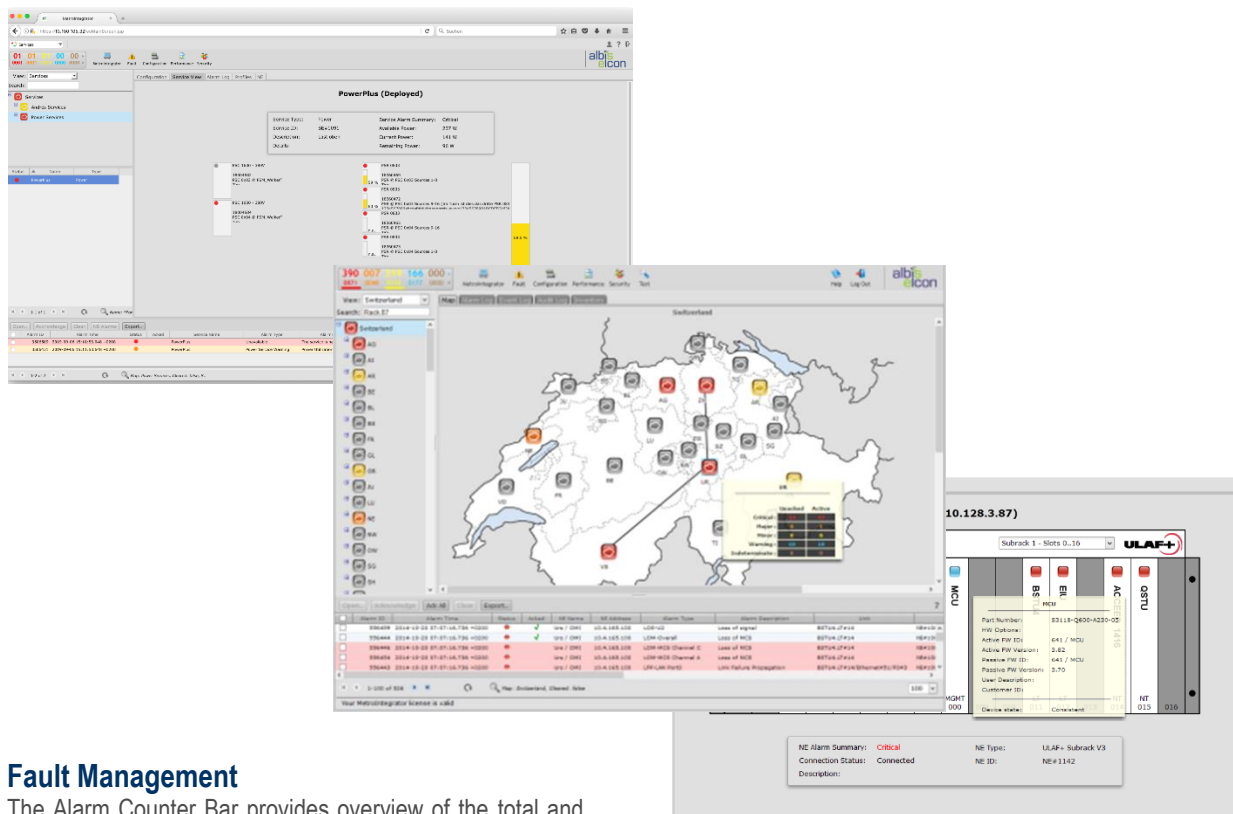
Fault Management

The Alarm Counter Bar provides overview of the total and unacknowledged alarm counts per severity and helps by use of trend indications to track alarm changes efficiently. Dynamic Alarm Lists on subnetwork, NE (subrack) and card (link) levels are available with extensive filtering capabilities. Together with the Graphical Device View, they provide detailed information with colored alarm indication about alarm status in the network. The Alarm Log provides access to the full alarm history of the network. An integrated trouble ticket system supports the operator in managing open issues and handovers.

Performance Management

Performance data according relevant standards (i.e. ITU-T G.821 / G.826 or MEF) are stored for service quality monitoring and can be shown through interactive line graphs and tables. File export functions can be used to generate statistics in comma separated values (CSV) format for further analysis with external tools (e.g. Excel™). Threshold Crossing Alerts inform the operator on important deviations.

Security Management

The integrated security solution of MetroIntegrator supports authentication and authorization in combination with user role and profile management and the connection to external authentication systems using LDAP or RADIUS. Audit Logs enable the operator to verify and relate historical activity.

Resource Management

Inventory management generates lists of equipment installed in the network. With the Software Download function, centralized software distribution simplifies network upgrades. The Event Log provides access to all events which are not categorized as Alarms or Security related.

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Functionality

Architecture

- Web GUI
- 100 concurrent users
  of up to 1.000 configured users
- Max supported subracks: 6.000
  (up to 100.000 devices)
- Max supported stand-alone devices: 20.000
- 1+1 Hot Standby High Availability Mode
- SNMP North Bound Interface with filtering-capability
- REST based API
- LDAP and RADIUS authentication / authorization
- Multi domain and Customer Network Management
- Web-started LCT / LCT+ / Download Manager
- NE Tools: SSH, CLI, Web GUI
- Clustered MariaDB support for Linux

Features

- Device Commissioning via NETCONF
- NE Upgrade
- Service Management Framework
- EVC and CES Pseudowire provisioning and monitoring
- TDM Service Monitoring
- Power Service monitoring
- Ring Service Monitoring (including MC-LAG support)
- Multi-vendor equipment monitoring via Custom SNMP
- MIB Browser
- Service Alarm Correlation and Log
- Navigation Map and Tree with Search function
- Multi-level sub-networks
- Colored alarm indication (node, device, link)
- SNMP Agent Address & Proxy Support for CustomSNMP NE
- Conditional audible alarm indication
- Alarm lists (Subnetwork / NE / card) and filters
- Alarm, Event and Audit Log
- Graphical Device Views (ULAF Racks/ Compact Shelf / Desktops / Stand-Alone ACCEED)
- Centralized software distribution management
- Inventory data with export function
- Performance statistics with export function
- Alarm assignment and handover
- Manual and periodic back-up & restore for both single and multi NE selections

Supported NEs and Modules

With detailed alarm support

- ACCEED 1102 / 1104 / 1404 / 1416 / 1480 / 1816
- ACCEED 2102 / 2104 / 2202
- ACCEED 3102
- ACCEED 4420 / 4630
- ACCEED 5101
- AG1210
- AG6416
- AG7860 / AG7860A
- ACCEED SMC
- MCU-CES / MCU-S / MCU / OMI-SNMP
- EIU
- BSRU / BSRU+
- BSTU4 / STU4
- BOTU / QOTU / OTU
- BGTU / GTU4 / GTU
- BSTU / QSTU / STU2 / STU
- SRU / REG
- HTU
- RPS 1600
- Generic / Custom SNMP NE
- IP NE
- Management System

System Requirements

Server
Hardware

- ≥ 2.5 GHz quadcore CPU and ≥ 8 GB RAM
- ≥ 300 GB HDD

64-bit Operating System

- ≥ Windows 7 or ≥ Windows 2008 R2 Server
- ≥ RHEL 6.3 / CentOS 6.3
- OpenJDK 11.0.2

Client
Hardware

- ≥ 2 GHz CPU and ≥ 1 GB RAM
- ≥ Screen resolution 1920 x 1080

Operating System

- Cross-browser compatible
- Microsoft IE ≥10
- Mozilla Firefox ESR ≥ 17
- Google Chrome ≥ 57
- Java Runtime Environment ≥ 6 & ≤ 8
- Windows ≥ 7
  (to run LCT and Download Manager)

Note: **All rights reserved. Subject to modifications due to technical progress. Errors and printing mistakes may occur.**

Purchase Order Information

Product designation	Order number
MetroIntegrator V4.6 Windows	P3121-P300-A1
MetroIntegrator V4.6 Linux	P3121-P300-A3

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