



Aastra MX-ONE™ Manager

The Aastra MX-ONE™ Manager suite of products provides comprehensive management functions for availability monitoring, configuration, user related data and software delivery and inventory.

MX-ONE Manager functionality primarily targets enterprise IT departments and provides management functionality to support the work of user administrators and system administrators, as well as network/system operators.

The following Aastra MX-ONE™ Manager products are included in the launch:

- Aastra MX-ONE™ Manager Availability: Fault and performance management
- Aastra MX-ONE™ Manager Device: Software management
- Aastra MX-ONE™ Manager Telephony System: Configuration of Telephony System
- Aastra MX-ONE™ Manager Provisioning for user related data in the whole MX-ONE solution

Aastra MX-ONE Manager Availability

MX-ONE Manager Availability provides fault and performance management for all MX-ONE servers and applications, i.e. MX-ONE Telephony System, MX-ONE Messaging as well as the LINUX™ and Microsoft Windows™ servers they run on.

Manager Availability is based on selected BMC PATROL® [1] components and prepared for integration with existing SNMP-capable management frameworks, therefore providing the benefit of leveraging customers' existing skills, processes and management framework investments.

[1] BMC Performance Manager, former BMC PATROL

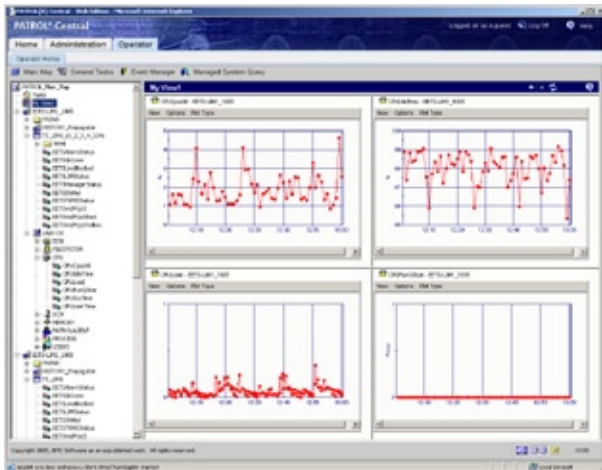


Figure: Manager Availability Console

Framework Integration

An SNMP bridge module for integration of the management console with an SNMP v1 capable management framework. MX-ONE alarms are then forwarded to the management framework. The SNMP bridge module can be installed on the same server as the console application or it could be on another server closer to the management framework, on the same side of a firewall as the management framework to prevent SNMP v1 from bypassing the firewall. If management framework integration is not wanted by the customer, this module is not used.

MX-ONE Manager Availability Functionality Overview

MX-ONE Manager Availability provides fault and performance monitoring for MX-ONE servers and applications. Filtering and basic correlation is provided to ensure that the administrator/operator can focus on important alarms and protect customers' management framework from overloads. Some of the key features included are:

- Server Monitoring – Monitors the performance, resource consumption and capacity of critical server components such as CPUs, memory, caches, physical and logical disks.
- Application Monitoring – Picks up and handles events, monitors status of critical applications.
- VoIP QoS Monitoring – Basic QoS monitoring. There is also an interface to provide info to an external system for more advanced calculations and presentation
- Performance monitoring – traffic data and vital parameters

Technical Specifications

MX-ONE Manager Availability is based on BMC PATROL (also called BMC Performance Manager) with applications developed especially for the Aastra MX-ONE all-in-one communication solution.

Characteristics:

- Web-based management interface: Internet Explorer or Netscape browsers supported
- Communications between managed system and Manager Availability utilize SSL

Manager Availability consists of the following components – all prepared for easy installation and integration with the MX-ONE system to be managed:

- Web-based management Console software (see figure) running on Windows
- Agent (one per server) software with knowledge modules to manage detailed aspects of Windows and LINUX™ servers, Active Directory and MX-ONE applications individually. One agent with knowledge module(s) is installed on each managed server.
- An SNMP bridge module for integration of the management console with an SNMP v1-capable management framework. MX-ONE alarms are then forwarded to the management framework. The SNMP bridge module can be installed on the same server as the console or it can be on another server closer to the management framework, on the same side of a firewall as the management framework to prevent SNMP v1 from bypassing the firewall. If management framework integration is not required by the customer, this module is not used.

For small systems, the console and the SNMP bridge can be co-located with communications functionality. The recommendation is to deploy the console and the SNMP bridge on a separate server, and not on those managed.

Technical Requirements

The operating systems supported by Manager Availability are: Windows Server 2003 and LINUX™ SLES 10 (SUSE LINUX™ Enterprise Server).

The management console runs on Windows Server 2003.

Aastra MX-ONE Manager Device

MX-ONE Manager Device is designed for managing the distribution of digital assets (software, firmware, operating systems, patches, etc.) for various devices in the MX-ONE system. However, Aastra

MX-ONE Manager is compatible with LINUX- and Windows-based servers and various MX-ONE related software installed on these operating systems. Coming releases of Manager Device will also include PC clients.

MX-ONE Manager Device is based on the HP OpenView Radia platform. Radia technology provides high levels of adaptability, flexibility and automation. Adaptability comes from embedded intelligence of platform-independent object-oriented technology. Flexibility is provided by the media-independence of Radia technology that enables content to be easily revised and customized. And Radia also automates digital asset management across virtually any kind of network.

By having Manager Device based on HP OpenView Radia, customers can leverage the benefits of any existing Radia infrastructure they may have. Familiarity with the HP OpenView product family will also reduce training/skill expectations on partners/customers.

MX-ONE Manager Device Functionality Overview

Customers gain the following benefits in the first version of Radia, which is mainly based on Radia Application Manager and Radia Inventory Manager.

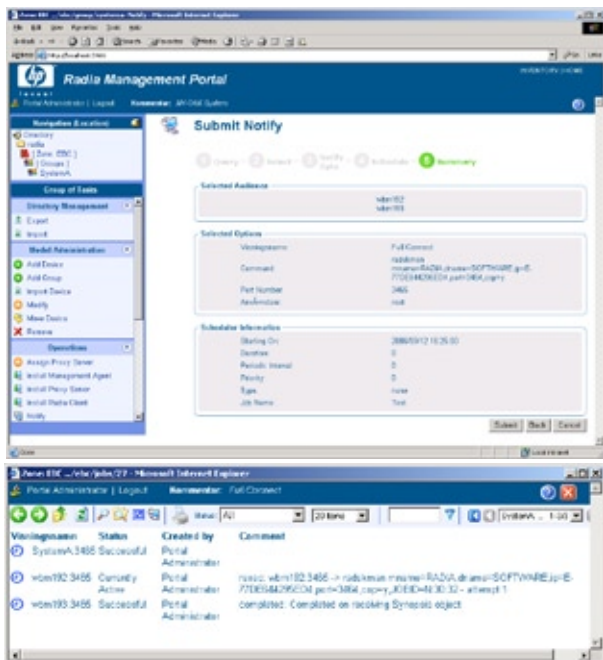


Figure: Manager Device console

Using Radia Application Manager, an administrator can:

- Deploy mandatory digital content to MX-ONE servers over intranets, extranets and the Internet to unattended devices.
- Select, install/uninstall and update MX-ONE server software and content automatically on a scheduled or just-in-time basis, transparently to subscribers.
- Restore faulty applications on unattended devices automatically to a desired state.
- Control application versions.

The Radia Inventory Manager:

- Automatically gathers information about MX-ONE software and hardware configurations, and consolidates the results into web-based reports.
- Improves manageability of enterprise digital assets by maintaining current inventory information, collected across LAN, Internet and dial-up links, and across a wide array of heterogeneous devices and operating systems.

Technical Specifications

MX-ONE Manager Device is based on HP Radia with adaptations for Aastra MX-ONE.

Characteristics:

- Web-based management interface
- Communications between managed system and manager utilises SSL
- Manager Device consists of the following components:

A management server containing:

- Radia Management Portal: The web GUI for managing application software upgrades for MX-ONE servers
- Radia Configuration Server and Radia Database: Handles and contains Radia software packages (MX-ONE application software), desired states, etc.
- An Access RDB for storing inventory information on the managed systems (MX-ONE servers) The managed systems (MX-ONE servers) containing:
 - Radia Application Manager client for unattended software upgrades
 - Radia Inventory Manager client for collecting inventory information

Technical Requirements

The management server may be co-located on the same Windows server as the console software for Manager Availability.

Operating systems supported by Manager Device are Windows Server 2003 and LINUX™ SLES10.

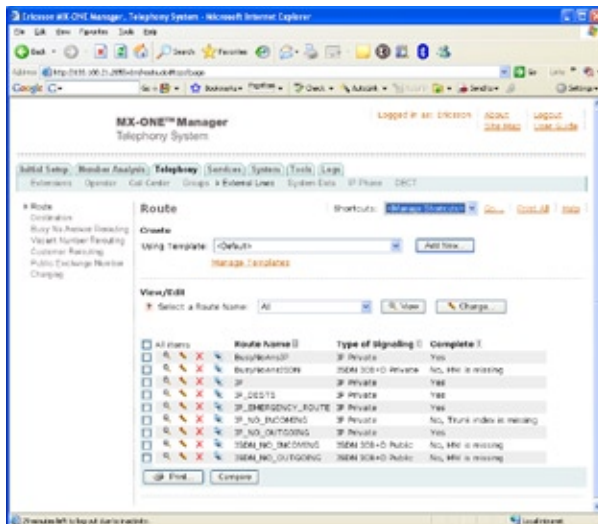


Figure: Manager Telephony System GUI

Aastra MX-ONE Manager Telephony System

The Manager Telephony System tool is part of the MX-ONE Manager concept that consists of several operation and maintenance applications that provide management functions for the MX-ONE solution according to the FCAPS paradigm.

MX-ONE Manager Telephony System Functionality Overview

The Manager Telephony System is used to:

- **Configure the telephony systems** (for example, configuration of number plans, routes, trunks, groups, operators, DECT systems, IP phone systems, routing server etc).
- Add and manage **voice prompts**.
- Block and unblock **HW**.
- **Manage IP phones**. It lists all registered IP phones and provides a web link to the phones' internal web server. Manager Telephony System is also used for managing the IP phone configuration files.
- **Back up and restore** data on the telephony system. The IP phone configuration file can also be backed up and restored.
- **View quality** of service per extension.
- **View** information on **hardware** and **software revision** status for the telephony server and media gateway components.
- **View security logs**, audit **trails**, and event **logs**.
- Create several configuration tasks in a **batch**.
- **Print** the configuration data in different ways.
- **Compare** system configurations.
- **Create** system configurations using **templates** and **walkthroughs**.

Technical Specifications

MX-ONE™ Manager Telephony System is an integral part of MX-ONE™ Telephony Server.

Aastra MX-ONE Manager Provisioning

Aastra MX-ONE Manager Provisioning provides a comprehensive solution for handling user service related data. Manager Provisioning will handle all user and service related tasks for the entire MX-ONE solution from one and the same GUI. New users will be defined for all relevant applications; Telephony Server, CMG and Messaging will all be handled from this one and same interface. No need to switch between different tools when defining new users. The GUI is web based and aligned with the GUI of the Telephony Server. In order to migrate users and departments from other systems, for example D.N.A. or Communication Organizer, data can be extracted from the other system and then imported into Manager Provisioning. User and department data can also be imported from other systems via a CSV-file (Comma Separated Values)

Manager Provisioning integrates with the company IT department via a SOAP-based API. Security is provided via TLS based HTTPS.

Technical Specifications

Manager Provisioning is a LINUX™-based application and can be installed on the MX-ONE Telephony Server or on a separate LINUX™ -server.