



Aastra MX-ONE™ Telephony System

Version 3.2

Aastra MX-ONE™ is a complete vehicle for communications. MX-ONE not only provides a complete telecommunications solution, it is also the tool for Mobility and Unified Communications. MX-ONE is based on open software and hardware environment; standard server and LINUX™ SUSE operating system.

Today's users are expected to have all types of communications services combined and integrated in the same application GUI. Furthermore users expect to have all services when they are on the move.

Since long MX-ONE offers mobile extension where mobile phones are features wise integrated with the office communications system.

MX-ONE takes mobility and Unified Communications a step further by combining the two. The combination of mobility and Unified Communications leads to full freedom for the employee as to how and where to perform his duties irrespective of device and location.

The management solution of MX-ONE is based on industry standards that an IT department will feel familiar with.

MX-ONE is enhanced with a rich set of new services:

- Support for SIP on both the user and trunk sides

SIP support can be used with SIP-compliant phones, wired or WLAN.

- IP DECT
IP DECT allows for connection of base stations via the IP network infrastructure thus supporting all IP installations
- Network and server redundancy

Duplicated networks can be used for inter-LIM signaling, and backup servers can be installed to take over duties of defective servers.

- Dual Mode WLAN/Cellular 3G/GSM
To always be best connected Dual Mode with call continuity is now included
- Security

Signalling and media encryption

- Migration of existing MD110 installations to MX-ONE-systems
- Hospitality application

MX-ONE also offers integration with Microsoft® LCS/OCS (Live Communications Server, Office Communications Server). An extension in MX-ONE can be fully visible on LCS/OCS clients, and feature-wise, fully integrated. The integration with OCS is based on the Microsoft "Dual Forking" standard.

MX-ONE™ Telephony System Building Blocks

The MX-ONE Telephony System consists of two basic components: the server and the media gateway. A server and a media gateway can be combined to form either a complete system or a LIM that is included in a large multi-LIM system. So as to always provide cost-efficient solutions, several hardware options have been developed. Both the server and the media gateway are available with a variety of options.



Server Options

This option is supplied as turnkey solution based on HP ProLiant.

Main technical characteristics:

- Intel® Xeon® 5140 Dual Core Processor, 2.33 GHz
- 1 GB RAM, 72 GB HDD, redundant fans
- Redundancy options:
 - RAID hot-plug disk drives
 - Redundant power supply
- Both the LINUX™ operating system and Telephony Server application software are installed and pre-configured.

Software only is available for use with general standard servers.

Main server requirements:

- SUSE LINUX™ Enterprise Server 10
- CPU, 3 GHz
- RAM, 1 GB
- Hard drive, 40 GB

Embedded Server Unit (ESU) and MX-ONE Server

The Embedded Server Unit is a solution available in two versions. The first version is a blade server that is mainly used to upgrade existing MD110/Telephony Switch installations. The second is a 19-inch-based version called MX-ONE Server Unit.



The MX-ONE Server Unit can host a variety of applications, such as messaging applications or any other application you may want to install. The MX-ONE Server Unit requires little space and only 20 watts of power.

Main characteristics

- Intel® Prentium-M CPU, 1.4 GHz
- RAM, 512 MB
- Hard drive, 40 GB
- Same software as Telephony Server

Available in both a board version and a 19-inch rack version

Media Gateways

The function of a media gateway is to form a bridge between the IP and classic telecommunications worlds.

Media Gateway

The Media Gateway is a 19-inch, rack-mounted unit enclosed in a 1U box, with the following features:



- Telephony interfaces to IP networks (LAN), as well as to public (PSTN/PLMN) and private (via QSIG) circuit-switched networks
- 72 IP gateways to PSTN/ISDN, IP extensions
- 8 T1/E1 network interfaces
- 4 POTS analog terminal interfaces to connect G3 fax machines or emergency phones
- Digital signal processors (DSP) to convert non-IP voice signals to IP and vice versa (Codecs)

Media Gateway Classic

The Media Gateway Classic is the preferred solution when MX-ONE is installed in an environment where both IP and classic interfaces are present. It supports all classic interfaces for the MD110: IP, ISDN, DECT and Mobile Extension, both digital and analog.



The Media Gateway Classic uses the 19-inch mechanical standard.

Main characteristics:

The Media Gateway Classic has the following configuration:

- 32-channel, IP gateway resource boards for calls to other LIMs and to IP extensions and trunks
- Digital extensions and trunks, IP, ISDN PRI and BRI, ISDB S0, DECT and more
- Analog extension and trunks, CAS, E&M and more
- 480 extensions

MX-ONE™ Compact SM

The Compact is a 2U box consisting of a 19-inch ESU and a Media Gateway. It is a complete 700 line IPPBX for IP or mobile extensions. MX-ONE Compact SM is a cost-efficient solution requiring little space and power—just 45 watts.



Combined with an MX-ONE Server Unit, a complete system with applications is attained. Power consumption is just 65 watts, providing considerable cost savings.

Server and media gateways can be combined in many ways to provide cost-efficient solutions for a multitude of scenarios.



Migration Scenarios

MX-ONE supports migration of existing MD110 installations. Because only a limited number of hardware boards need be replaced, most existing hardware can be retained. Migration can proceed at a cost-efficient pace, fully capitalizing on previous investments. LIMs can now be distributed over IP networks. Continued use of existing group switches, if preferred, is supported.

Capacity of MX-ONE™ Telephony System (Maximum per system)	V 3.2
Number of total users	50,000
Number of IP extensions	32,000
Number of non-IP extensions (Media Gateway Classic)	30,720
– Analog extensions in /Media Gateway Classic 4	30,720
– Digital extensions in Media Gateway Classic	30,720
Mobile extensions in Media Gateway	32,000
Number of trunk/tie-line channels (T1/E1)	11,776/15,360
E1 channels used in QSIG connection to Media Gateway	15,360
Capacity of IP DECT	1000 Base stations and 1000 handsets

Technical data (With or without existing group switch)

Supported standards	H.323v2 and 4 SIP IPv4 T.38 Fax DHCP, HTTP, Telnet, TFTP, FTP, SSH
Supported voice codecs	G.711 with a-law and μ -law. G.729a, G.729ab with voice activity detection (silence suppression & comfort noise generation).
Quality of Service	Diffserv (RFC 2474) for trunks and extensions IEEE802.1 p/Q extension-side only. Compatible with cRTP header compression algorithms
Survivability	Automatic fallback to PSTN on WAN failure

Telephony Server Software 3.2 Specification

Operator	CDR/SMDR records compatible with 3rd party accounting systems
Aastra Dialog terminals	Dialog 4187 analog phone with CLI Dialog 4220, 4222, 4223 and 4225 digital phones* Dialog 4420 and 4422 office IP phones* Dialog 4425 Vision IP phone* Dialog 5446 IP Premium *See terminal datasheets for functionality with MX-ONE™ Telephony System.
System management	Telephony system managed centrally by MX-ONE™ Manager Telephony System* Manager Provisioning for all user data, MX-ONE as well as OneBox, CMG, etc *See MX-ONE™ Manager application datasheet for details on functions and features.

Applications

Applications	Uses MX-ONE™ Messaging for voicemail, fax and unified messaging. In MX-ONE™ Telephony System the CMG application is used, with D.N.A. for migrating customers.
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