

ERICSSON MX-ONE™ TELEPHONY SYSTEM VERSION 3



MX-ONE™ is a complete IP PBX that now scales up to 50,000 users. It is based on open software and hardware, running on the Linux operating system and standard servers.

MX-ONE™ supports a rich variety of new and classic interfaces, such as IP, ISDN and conventional analog and digital interfaces. MX-ONE™ consequently smoothly interacts with both all-IP installations and conventional telecommunications.

With full MX-ONE™ deployment, powerful end-user applications and a management solution complement the Telephony Server to create a comprehensive, multi-convergence solution.

MX-ONE™ is based on a truly distributed processor architecture. Systems are built with nodes—LIMs, Line Interface Modules. An LIM can function as an independent node or in combination with other LIMs to form a single system. Since it is a single system, management is always fully centralized. The concept is flexible in regards to centralization versus decentralization; both approaches can be adapted depending on specific customer scenarios.

MX-ONE™ caters to all customer scenarios—all-IP, branch offices and geographically dispersed organizations.

In the latest version of MX-ONE™ Telephony Server, we have introduced a set of new features and system enhancements:

- Support for SIP on both the user and trunk sides

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

- 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.

- Security

Media encryption introduced

- Migration of existing MD110 installations to MX-ONE™-systems

MX-ONE™ V.3 also offers integration with Microsoft LCS (Live Communications Server). An extension in MX-ONE™ can be fully visible on LCS clients, and feature-wise, fully integrated. The user friendliness of mobile extensions is considerably enhanced with integrated support in the M600 and P990i.

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 an 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
- 1GB RAM, 72GB 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

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 an Ericsson-developed 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.



Embedded Server Unit

The MX-ONE™ Server Unit can host a variety of applications, such as D.N.A., applications for 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® Pentium-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

MX-ONE™ Server

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 new 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™ now also 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 in version 3.1.

Existing applications, such as D.N.A. or Netwise, are compatible with MX-ONE™.

CAPACITY OF MX-ONE™ Telephony System

Maximum per system	3.0	3.1
Number of total users	25,000	50,000
Number of IP extensions	16,000	32,000
Number of non-IP extensions (Media Gateway Classic)	15,360	30,720
– Analog extensions in /Media Gateway Classic 4	15,360	30,720
– Digital extensions in Media Gateway Classic	15,360	30,720
Mobile extensions in Media Gateway	16,000	32,000
Number of trunk/tie-line channels (T1/E1)	5,888/7,680	11,776/15,360
E1 channels used in QSIG connection to Media Gateway	7,680	15,360

Technical data

(With or without existing group switch)

Supported standards	H.323v2 and 4 SIP IPv4 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). G.723.1
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 3.0 SPECIFICATION

Operator	CDR/SMDR records compatible with 3rd party accounting systems
Ericsson 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* *See terminal datasheets for functionality with MX-ONE™ Telephony System.
System management	Telephony system managed centrally by MX-ONE™ Manager Telephony System 3.0* * See MX-ONE™ Manager application datasheet for details on functions and features.

APPLICATIONS

Applications	Uses MX-ONE™ Messaging* for voicemail, fax and unified messaging. On 3.0, the Netwise applications suite is used, with D.N.A. for migrating customers.
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