

MetaSphere PSTN Emulation Services



MetaSphere PSTN Emulation Services delivers the industry's foremost solution for IMS networks. With MetaSphere, you can deliver an exact implementation of local telephony over POTS, precisely matching the functions offered by legacy Class 5 switches down to the last detail.

In the IMS architecture, this functionality is implemented by a PSTN Emulation Application Server working in conjunction with an Access Gateway Control Function. MetaSphere supports both of these functions comprehensively.

Beyond Standard Calling Features

A complete set of generic local calling features is essential for PSTN Emulation, but there's a lot more required to satisfy all the needs of local POTS subscribers and fully enable the replacement of legacy Class 5 switches.

For example, there are special local features that are specific to POTS lines, like Single Party Revertive Ringing (sometimes known as "barn phone") and Off-Premises Extension (OPX). Then there are POTS-specific signaling functions such as pulse dialing and Line-Side Answer Supervision. There are network-based services that rely on SS7 / C7 signaling, including Calling Name Delivery, Automatic Callback and Automatic Recall, as well as special applications such as Telemarketer Call Screening that use Advanced Intelligent Network (AIN) technology.

MetaSphere equips you with the service capabilities you need to meet all of the requirements identified above – enabling you to migrate your TDM network to VoIP and IMS in complete confidence.

Scalability

Designed to scale to your network's requirements, a minimum server configuration is capable of delivering sufficient processing power for up to 1.3 million busy hour call attempts, supporting up to 250,000 subscribers. If required, additional servers can be added to scale to networks of millions of users.

MetaSphere Architecture

MetaSphere comprises a set of application sub-systems which correspond with the standard definition of Application Servers in IMS. These may be deployed individually or together as standalone app servers, or they may be deployed over a set of optional integrated IMS core elements that provide the session control, gateway control and SIP registrar functions, and which allows for the connection of additional third-party SIP application servers.

This architectural approach offers a high degree of flexibility. It enables MetaSphere to be deployed today as a self-contained solution that minimizes the network integration risks and maximizes ease of management, while providing the open standard interfaces to support an evolution to a more fully-disaggregated IMS deployment in the future. And it offers those service providers who are moving aggressively to deploy IMS core networks the full set of application layer functions that they need for consumer and business VoIP services, business IP trunking and POTS

Management and Operations

MetaSphere deployments are fully supported by the MetaView NMS, allowing configuration via an easy-to-use graphical user interface, as well as integration with external billing / mediation systems.

MetaSphere PSTN Emulation Services Specifications

▶ Scalability And Reliability (UX9024)

- up to 1,300,000 Busy Hour Call Attempts (BHCA)
- up to 250,000 subscribers
- GR-512-CORE (99.999% availability)
- 1:1 server redundancy with fault-tolerant software architecture; calls preserved on failover

▶ Protocols

- H.248 / Megaco for access/trunk gateway control
- SIGTRAN (M2UA/M2PA/IUA/SCTP) for SS7/ISDN signaling over IP networks
- Media Gateway Control Protocol (MGCP) 1.obis
- Session Initiation Protocol (SIP) v2
- IMS ISC interface for feature servers
- TDM trunks (GR-303, T1, MF, PRI) via media gateway
- PacketCable Network-based Call Signaling (NCS)
- Voicemail services via SMDI, TCAP, SIP

▶ Residential Services Include:

- Call forwarding (unconditional, busy, selective, fixed, no-answer, and RACF)
- Call rejection (anonymous or selective)
- Automatic recall (AR) and callback (AC)
- Call waiting (with or without caller ID)
- Caller ID / calling name (delivery and blocking)
- Home intercom and off-premises extension
- Simultaneous ring
- Find-me / follow-me
- Hot line / warm line
- Message center (audible and visual message waiting)
- Speed calling (1 or 2 digit)
- Priority call (distinctive ringing on calling number)
- Teen line (distinctive ringing on called number)
- Reminder call (one-time and repeating schedule)
- Toll restriction
- Three-way calling (with ringback)
- Caller ID screen popup via IPTV middleware
- Fully Web-configurable via CommPortal
- Do not disturb
- Message waiting lamp (SIP and analog)

▶ Operator and *11 Services

- ANI presentation
- Busy line verification
- Operator override / recall
- Release controlling party
- Reverse make busy
- Ringback
- Call hold / Called party hold
- Nomadic VoIP 911 routing

▶ Business Station Features Include:

- Handsets: IP or analog phones (via GR-303 or ATA)
- Station-to-station intercom dialing
- Flexible dialing plans (including 9+ or assume-9)
- Multiple Appearance Directory Numbers
- Line hunting / ACD
- Do not disturb
- Message waiting lamp (SIP and analog)
- Attendant console (line state monitoring)
- Call park / retrieve
- Find-me / follow-me
- Directed call pickup
- Short codes (group and personal)
- Account codes (mandatory and optional)
- Internal/external caller ID presentation
- Distinctive ringing for internal/external calls
- Click-to-dial, Outlook integration and incoming call handling via CommPortal
- Business group administration via CommPortal

▶ Business Trunk Services Include:

- T1 CAS/E&M or ISDN-PRI trunks to digital PBXs
- SIP trunks to IP PBXs
- DID's with caller ID supported on all trunk types
- Simulated facility groups

▶ Billing and Management

- Bellcore AMA GR-1100 CDRs retrieved via sftp
- SNMP, CORBA and XML interfaces for alarms, system management and access to subscriber database
- Comprehensive statistics and low-level diagnostics
- Management of multiple chassis via MetaView NMS or integration with third-party OSS

Related Brochures

See also:

- CommPortal Overview
- MetaSphere Overview
- MetaView Overview
- UX9024 Server

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www.metaswitch.com