



Mediatrix® Sentinel

Sentinel bundles the capabilities of a Session Border Controller and a Media Gateway. Robust and field-upgradable, this multi-service business platform is designed for medium and large enterprises. Sentinel is ideally targeted for applications ranging from 30 up to 600 simultaneous sessions.

Sentinel delivers a flexible architecture designed to address a variety of applications including security, demarcation point, SIP normalization and survivability.

Key Benefits

- Carrier-grade voice quality;
- Field upgradable telephony cards;
- Topology hiding and NAT Traversal;
- Flexible routing and SIP Header manipulation;
- Survivability;
- Call admission control;
- Secured SIP signaling and media transmission;
- TR-069 for massive deployments;
- Encrypted configuration files support;
- Call Detail Record generation.

Mediatrix Sentinel Overview

The Mediatrix Sentinel combines VoIP Analog Adapter, PSTN Gateway and Session Border Controller capabilities in a secure and powerful platform.

This platform, featuring FXS/FXO and PRI interfaces, provides an ideal solution for enterprise voice applications and connecting to a Service Provider's broadband access.

With a large variety of Telephony Interfaces, it is the ideal solution to deploy private and hosted toll bypass networks. It provides a simple, transparent and cost-effective way of maintaining a connection to the PSTN.

The Mediatrix Sentinel also allows Enterprises, Service Providers, and System Integrators to deploy secure systems and generate additional revenue streams.

The Mediatrix Sentinel enables cost-effective VoIP deployments into medium and large enterprises for both media gateway and session border controller applications.

Sentinel has the additional benefit of supporting high compression codecs simultaneously on each voice ports, thus saving valuable bandwidth.

The Mediatrix Sentinel makes use of existing broadband access equipment to connect to any standards-based VoIP network.

Sentinel offers security features such as TLS, SRTP, certificates management, SIP signalling and media transmission aspects and HTTPS designed to bring enhanced security for the network management.

The Mediatrix Sentinel targets:

- Service providers deploying SIP trunk and hosted services for medium to large enterprises and branch offices.
- System integrators offering added-value-applications in combination with IP-telephony and legacy systems.
- Service providers looking for a secure demarcation point at customer premises to control quality of service, speed-up new services activation and protect enterprises from toll fraud and denial of service attacks.
- Enterprises looking to reduce communication costs with the benefits of Voice over IP while protecting investments on existing legacy equipments.
- Enterprises planning to progressively introduce Voice over IP services into their networks, with transparent and cost-effective migration.



Applications

Survivability

The Mediatix Sentinel ensures reliable communications by simultaneously maintaining access to separate networks. Sentinel establishes calls through a secondary server or through the PSTN when primary server is temporally unavailable.

Network Demarcation

The Mediatix Sentinel sits at the edge between the service provider and the enterprise network as a demarcation point. Sentinel monitors the quality of service conditions and provides enhanced troubleshooting tools to understand and resolve failures affecting the service.

SIP Normalization

The Mediatix Sentinel normalizes the wide variety of SIP signaling protocols supported by vendors into a single well-defined interface that can be adapted to any specific IMS or Softswitch implementation.

Integration with Third Party Applications

Sentinel enables an open environment for System Integrators to bundle their own Applications into a business-class multi-service platform, optimizing CPE investment while addressing complex customer solution needs.

Remote users have services just like those in the office

Sentinel solves Far-end NAT traversal problems and supports call-forking, giving access to communication services to home workers or travellers as if they were in the office.

PSTN and Legacy PBX System Gateway

With flexible configuration of FXS, FXO and PRI telephony ports, call-switching, and user-programmable call routing (including caller/called ID), Mediatix Sentinel smoothly integrates into existing legacy PBXs and PSTN networks.



Ordering

Module	Description
Base unit	1 WAN + 4 LAN Gigabit Ethernet 8 slots for telephony cards 3 SBC session licenses
Telephony cards	1 x PRI Port card 4 x FXS Ports card 4 x FXO Ports card DSP card (needed when using FXS or FXO)
SBC licences	- Individual session - 10 session package - 100 session package - Transcoding (available soon) - Voice Recording (available soon) - WebRTC gateway (available soon)

Customers can order individual modules or a combination of them assembled from factory into a Sentinel base unit.

By default Sentinel is delivered with 3 SBC session licenses. Additional licences can be later uploaded for service activation. Sentinel also offers optional redundant power supply and 48 VDC unit.

Technical Specifications

Voice Processing

- G.711 (A-law, μ -law), G.723.1, G.726, G.729a/b;
- NAT/NAPT on media;
- Audio and Video media relay;
- Codec filtering;
- G.168 echo cancellation;
- DTMF detection and generation;
- Carrier tone detection and generation;
- Silence detection / suppression and comfort noise;
- Configurable de-jitter buffer and packet length.



Enhanced Security

- Signaling topology hiding;
- Media topology hiding;
- RTP DoS protection;
- Call rejection under DoS;
- Call rate limitation;
- HTTPS, for the exchange of Configuration File and web pages;
- SRTP with MIKEY or SDES :
 - Supported Cypher:
 - AES – 128 bits;
- MIKEY key management protocol (RFC 3830 and 4567);
- SDES key management protocol (RFC 4568);
- X.509 Certificate management;
- TLS transport method :
 - Supported Key Exchange Mechanism:
 - RSA;
 - Diffie-Hellman;
 - Supported Cyphers (minimum):
 - AES (128 and 256 bits);
 - 3DES (168 bits);
- Multiple management levels for observer, user and admin access rights.

Fax and Modem Support

- Fax over IP;
- T.38 fax relay (9.6 k, 14.4 k);
- G.711 fax and modem bypass;
- Clear channel (G.711) or T.38;
- T.38, fax tone detection and pass-through on G.711 and G.726.

IP Telephony Protocol

- SIP;
- High availability with hot standby redundancy;
- Back-to-Back-User-Agent;
- Multi-part body support;
- Multiple SIP Proxy support via DNS SRV;
- TCP and UDP support;
- IPv6 addressing.

Management

- SNMPv3, HTTP, FTP, TFTP, HTTPS;
- TR-069 for massive deployments;
- Auto-provisioning for VoIP parameters;
- Automatic firmware download;
- Intuitive web management Interface.

Voice Signalling

- Session Description Protocol (SDP);
- Compliant with MMTEL requirements for 3GPP;
- Select Channel Range for Inbound and Outbound calls.

Call Routing

- Local switching;
- Call filtering and blocking;
- Interface hunt groups;
- Routing Criteria :
 - Interface;
 - Calling/called party number;
 - Time of day, day of week, date.
- Number modification :
 - Replace numbers;
 - Add/remove digits;
 - Multiple remote gateways.
- Call properties modification;
- SIP header modification.

QoS Marking

- Bandwidth limitation and management;
- Call admission control per peering partner/trunk;
- TOS/DiffServ;
- IEEE 802.1p/Q.

Network Interfaces

- 5 x 10/100/1000 BaseT Ethernet RJ-45 connectors.

Enhanced Telephony Features

- Support for Call Forward / Call Transfer / Conference Call / Call Waiting.
- Inter-digit timer and IP dialing;
- Echo Cancellation / Dynamic Jitter Buffer / Voice Activity Detection / Silence Suppression.
- Message Waiting Indication, via FSK;
- Flash hook event signaling;
- Caller ID Generation (Name & Number) as per Bellcore DTMF or FSK and Telebras BINA.
- CCNR / CCBS;
- PRACK & UPDATE.

Monitoring

- System: CPU and memory usage;
- Subscribers active registrations;
- Active calls, providing the option to also terminate a certain call;
- Events;
- Show call trace and message sequence.



Physical Specifications

Operating Environment

- Operating temperature: 0°C to 45°C;
- Storage temperature: -20°C to +70°C;
- Humidity: up to 85 %, non-condensing.

Power Supply

- Internal 100-240 VAC power supply;
- Optional -48VDC power supply;
- Optional redundant 100-240 VAC power supply;
- Optional redundant -48VDC power supply.

Mechanical

- Rack mount 1U, Desk mount;
- Stackable units to increase port count.

Dimensions

- Height: 4.4 cm;
- Width (mounting brackets): 48.5 cm;
- Depth: 330 cm;
- Weight: 7Kg approx.

Physical interfaces and telephony cards

