



# Mediatrix® Sentinel 100 SBC

The Sentinel 100 Hybrid SBC combines a Session Border Controller and a Media Gateway in a robust multi-service business platform capable of addressing complex needs for SMBs. Sentinel 100 goes up to 120 simultaneous VoIP channels and targets applications for up to 500 users.

With a flexible architecture designed for a variety of use cases, including SIP Trunking, Hosted Services, and Unified Communications, Sentinel 100 is a trustworthy solution for any stage of SIP deployment with QoS monitoring, security, survivability, and interoperability.

Featuring flexible support for digital E1/T1 PRI, ISDN BRI S0/T0, CAS (R2, E&M) and analog FXS/FXO interfaces, Sentinel 100 is also the most reliable platform for legacy PBX connectivity and fallback to the PSTN.



## Survivability

Sentinel ensures service continuity by establishing external calls through the PSTN and by routing internal calls when the primary network is temporarily unavailable.

## Remote Users

Sentinel solves far-end NAT traversal problems and support SIP manipulations, providing communication service access to branch offices, home workers, or travellers as if they were on the same site.

## Network Demarcation

Create a clear separation between the enterprise's and the operator's networks by hiding the topologies and credentials, and by blocking unauthorised users.

## Legacy and IP Systems Integration

With its flexible configuration of E1/T1 PRI, ISDN BRI, and FXS/FXO telephony ports, call-switching, and user-defined call properties (including caller/calling ID), the Mediatrix Sentinel smoothly integrates legacy CPE into IP systems.

# Mediatrix<sup>®</sup> Sentinel 100 SBC

## Applications

### Operators

- ✓ Facilitate TDM replacement project by integrating the current legacy equipment in a first phase, and then complete the transition to pure SIP in a later phase, without having to replace the CPE.
- ✓ Ensure security, protection against fraud, and interoperability for SIP trunk deployments.
- ✓ Provide survivability in Hosted Unified Communications/PBX deployments by using a built-in PSTN gateway in case of a WAN failure.

### System Integrators

- ✓ Safely connect SIP trunks, PSTN, branch offices, and mobile workers to the enterprise TDM or IP-PBX.
- ✓ Allow cost-effective and profitable SIP deployments in a smooth integration with SIP-based and legacy telephone systems.
- ✓ Create a shield of confidentiality between the enterprise and the Internet.

## Key Features

### Carrier-Grade Features

T.38 and clear channel fax over IP  
High performance processing of up to 120 voice channels

### Robust Security

Enterprise communication encryption  
SIP-enabled firewall inspects and authorises communications and prevents DoS attacks

### Easy Configuration and Management

Zero-touch configuration  
Intuitive Web GUI  
Customisable factory settings

### Networking

Dual-stack IPv6 and IPv4  
Multiple IP addresses and VLANs  
NAT, firewall, and router capabilities

## Benefits

- ✓ High quality built and carrier-grade validation standards contribute to the industry's most reliable platform
- ✓ Extensive TR-069 support for an easy management of large-scale deployments with a centralised EMS
- ✓ Superior rule-based SBC with dynamic routing and manipulations for solving complex deployment scenarios

# Technical Specifications

## Session Border Controller

Back-to-Back user agent  
SIP header manipulation  
SIP registrar  
SIP authentication  
SIP failover  
Registration throttling/caching  
Call forking  
Advanced, rule-based, call routing  
Dynamic call routing based on:  
• Peer monitoring state  
• Registration cache  
Call Admission Control (CAC), per trunk, based on:  
• Call volume  
• Bandwidth usage  
• Concurrent calls  
Near and far-end NAT traversal  
Audio and video media relay  
Codec filtering  
SIP and media encryption  
UDP/TCP/TLS interworking  
DTMF interworking

## Media Processing

G.711 (A-law and  $\mu$ -law), G.726, and G.729a/b;  
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 and media topology hiding  
Denial of Service (DoS) protection of core and enterprise networks  
Call rate limitation  
SIP over TLS  
SRTP with AES cipher – 128 bits  
SDES key management protocol (RFC 4568)  
TLS-encrypted configuration and management  
X.509 certificate management  
OCSP (Online Certificate Status Protocol) revocation status verification  
Supported TLS key exchange mechanism:  
• RSA  
• Diffie-Hellman  
Supported TLS ciphers (minimum):  
• AES (128 and 256 bits)  
• 3DES (168 bits)

## Management

Zero-touch provisioning  
TR-069, TR-104, and TR-111  
Web GUI  
SSH and TELNET  
SNMP v1, v2c, and v3

Scripts/firmware files uploaded via HTTP, HTTPS, FTP, and TFTP  
Multiple levels of management access rights  
Customisable CDR  
Event notifications via Syslog, SIP, log file, and SNMP traps  
Remote activation of service licenses

## Monitoring and Troubleshooting

Alarms and traps  
Call Details Record (CDR)  
Subscriber's active registration and call monitoring  
Media quality statistics  
System: CPU and memory usage  
PCM capture  
IP network capture  
Diagnostic traces

## Quality of Service (QoS)

Bandwidth limitation and traffic shaping  
TOS/DiffServ  
IEEE 802.1p/Q  
RTCP-XR – special order

## IP Telephony Protocol

SIP (RFC 3261) over UDP, TCP, and TLS  
IMS (3GPP TS 24.229)  
RTP (RFC 3550)  
SDP (RFC 4566)  
Multi-part body support  
Redundancy support via DNS SRV  
Multiple trunk support  
IPv4 and IPv6 dual stack signaling and media

## Digital Telephony

Euro ISDN EDSS-1/ETSI PRI/NET5 BRI/NET3  
ISDN NI-2 (US T1 PRI)  
ISDN DMS100 (US T1 PRI)  
ISDN 5ESS (US T1 PRI)  
ISDN speech, audio, and data (Fax Gr 4, UDI 64, and RDI 64)  
ECMA-143 (QSIG-BC)  
E1 R2 digital line signaling (ITU-T Q.421)  
E1 R2 MFC inter-register signaling (ITU-T Q.441)  
Presets for: Brazil, Argentina, Mexico, Saudi Arabia, Venezuela, Philippines, and ITU-T  
T1/E1 E&M (Immediate, Wink-Start, Feature Group-B, and Feature Group-D), MF-R1, DTMF  
Advice of Charge AOC-D and AOC-E (ETS 300 182)

## Analog Telephony

Support for call forward, call transfer, conference call, call waiting, CCNR, and CCBS  
Multiple country presets

Customisable tones and ring patterns  
Echo cancellation  
Message Waiting Indication (MWI), via FSK  
Caller ID detection (name & number) as per Bell-core FSK  
On-hook/off-hook caller ID generation (name & number) as per Bell-core DTMF or FSK and Telebras BINA  
Answer and disconnect signaling

### **Fax and Modem Support**

Group 3/super G3 fax real-time fax over IP  
T.38 fax relay (9.6 k and 14.4 k)  
Clear channel (G.711) fax and modem pass-through

### **Networking**

IPv4 – IPv6  
Multiple IP addresses per link or VLAN  
Multiple VLANs per link  
DHCP client  
PPPoE (RFC 2516)  
IEEE 802.1q + DSCP QoS tagging (media, signaling, and mgmt)  
IEEE 802.1x wired authentication  
LLDP-med (ANSI/TIA-1057)  
QoS traffic shaping  
Firewall with stateful inspection, rate-limitation, and automatic black-listing  
Static routing  
NAPT  
DHCP Server

### **Power Supply**

Internal 100-240 VAC power supply

### **Physical Interfaces**

5 x 10/100/1000 BaseT Ethernet RJ-45 connectors  
2 x TDM sync RJ-45 connectors  
1 x USB 2.0 Type-A connector

### **Operating Environment**

Operating temperature: 0°C to 40°C  
Storage temperature: -20°C to 70°C  
Humidity: up to 85%, non-condensing

### **Dimensions**

Height: 4.4 cm  
Width (mounting brackets): 48.3 cm  
Depth: 19.5 cm

### **SBC Licensing**

A license is needed for each concurrent call.  
No restrictions on number of users/registrations

SBC Sessions	Up to 120
Digital Ports	Up to 4 E1/T1 Up to 24 BRI
Analog Ports	Up to 24 FXS Up to 24 FXO
Mounting	Rack
Network	5 x 10/100/1000 Base-T

*This datasheet applies to model: M.*

## **A Trusted Partner**

Media5 Corporation is a global supplier of multimedia communication solutions, offering a complete set of IP-based products and technologies.

With a focus on innovation and excellence in customer support, we deliver highly adaptive hardware and ready-to-market software components. This allows our customers and partners to take advantage of secure, reliable, and comprehensive communication solutions.

Present in more than one hundred countries, Media5 has its headquarters in Canada and local representatives in North and Latin America, Europe, and the Middle East.

©2018 Media5 Corporation. Information is subject to change without notice. All rights reserved.

For additional information, contact your Media5 representative.

[media5corp.com](http://media5corp.com) | [sales@media5corp.com](mailto:sales@media5corp.com)