



Mediatrix® Sentinel 400



The Sentinel 400 bundles the capabilities of a Session Border Controller, Virtualization server and Media Gateway, featuring E1/T1 PRI, ISDN BRI, FXS, and FXO interfaces. Robust, field-upgradable, and ready for third-party software integration, this multi-service business platform is designed for medium and large enterprises. The Sentinel 400 new hardware revision targets applications for up to 6000 users.

The Sentinel series is Microsoft Teams certified for Direct Routing and takes full advantage of the current security features, such as the firewall with DDoS prevention and signaling, media and data encryption capabilities.



Survivability

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

SIP Normalization

Sentinel normalizes major vendor SIP signaling protocols into a single well-defined interface that can be adapted to any specific IMS or Softswitch implementation.

Network Demarcation

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

Integration with Third-Party Applications

Sentinel provides an open environment for system integrators to bundle their own applications into a business-class multi-service platform, increasing CPE investment profitability while addressing customer needs.

Mass Management

Featuring advanced provisioning capabilities for a smooth integration into mass management systems, ensuring service and reducing operational costs.

Remote Users

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

Applications

Operators

- ✓ Provide a demarcation point with QoS and remote troubleshooting for cost-effective network management and customer service.
- ✓ Provide service continuity in Hosted Unified Communications/PBX deployments with phone survivability, failover to geo-redundant core servers, and QoS traffic shaping.
- ✓ Secure communications inside or outside on both the operator and customer networks.
- ✓ Facilitate TDM replacement projects, fully migrating to SIP or integrating the current legacy equipment.

System Integrators

- ✓ Safely connect multiple trunks, branch offices, and mobile workers to the enterprise IP-PBX or UC system.
- ✓ Integrate 3rd-party applications into a single box for niche markets.
- ✓ Perform SIP normalization by translating any vendor implementation into a single well-defined SIP interface.
- ✓ Protect the IP network of the Enterprise by controlling all incoming and outgoing media, signaling, and data.
- ✓ Create a shield of confidentiality between the enterprise and the public network.

Key Features

Carrier-Grade Features

T.38 and clear channel fax over IP
High performance processing of up to 240 voice channels

Robust Security

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

Networking

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

Easy Configuration and Management

Intuitive Web GUI
Customizable Default settings

Field Upgradability

Scalable and modular design allows adding interface cards as enterprise needs to evolve
Third-party application integration
Open environment, allowing an easy integration of third-party software

Benefits

- ✓ High quality and carrier-grade validation standards contribute to the industry's most reliable platform
- ✓ Microsoft Teams Certified for Direct Routing
- ✓ 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
registrars
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 and Codecs – SBC Service

SRTP and RTP interworking
Codec enforcement and re-prioritization
Codec whitelist and blacklist
Voice codecs: G711, G722, G723, G726, G729, AMR, GSM, iLBC, OPUS, SILK, and others *

Video codecs: H261, H263, H264, VP8, and others *

** Supported codecs are dependent on the IP-PBX and VoIP endpoints technical specifications*

Media Processing – Voice Gateway

G.711, G.722, G723, G726, G.729a/b
G.168 echo cancellation
DTMF detection and generation
Silence detection/suppression and comfort noise
Configurable de-jitter buffer and packet length
Packet loss concealment

Fax and Modem Support – Voice Gateway

RealtimeT.38 fax
Clear channel (G.711) fax and modem pass-through

Enhanced Security

Signaling and media topology hiding
Denial of Service (DoS) protection
Call rate limitation
SIP over TLS
SRTP with AES cipher – 128 bits
SDS key management protocol (RFC 4568)
TLS-encrypted configuration and management
X.509 certificate management
OCSP (Online Certificate Status Protocol) revocation status verification

TLS Version 1.3

Secure TLS ciphers like ECDHE with AES256 and SHA384

Management

Web GUI
SSH and TELNET
SNMP v1, v2c, and v3
Scripts/firmware files via HTTP, HTTPS, FTP, and TFTP
Multiple levels of management access rights
Remote activation of service licenses

Monitoring and Troubleshooting

Alarms and traps
Notifications via Syslog, SIP, log file, and SNMP traps
Call quality reporting (eMOS) (RTCP-XR / RFC 6035)
Call Details Record (CDR)
Media quality statistics
Subscriber's active registration and call monitoring
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

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

Digital Telephony – Voice Gateway

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 Gr4, UDI 64, and RDI 64)
ECMA-143 (QSIG-BC)
E1 R2 digital line signaling (ITU-T Q.421)
E1 R2 MFC interregister 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 – Voice Gateway

Call forward, call transfer
Call waiting, call hold
3-way conference call
On-hook/off-hook Caller ID
Country tones presets
Customizable tones and ring patterns
Distinctive ringing
Message Waiting Indication (MWI)
Music on Hold (MoH)
Echo cancellation
Answer and disconnect signaling

Networking

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 blacklisting
Static routing
NAPT
DHCP Server

Virtual Machine Support

Up to 5 virtual machines

SBC Sessions

Up to 2000 sessions
Up to 6000 registered users
A license is needed for each concurrent call

Operating Environment

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

Power Supply

Single or dual internal 100-240 VAC power supply

Telephony Interfaces

2 x TDM sync RJ-45 connectors
Up to 8 E1/T1 PRI
Up to 28 BRI/FXS/FXO*
Field-upgradable
*DSP Card required
** 1 PRI port per telephony card
** 4 BRI ports per telephony card
** 4 FXS ports per telephony card
** 4 FXO ports per telephony card

Dimensions

Height: 4.4 cm
Width: 48.5 cm (with mounting brackets)
Depth: 33.0 cm
Weight: 7 kg

Technical Specifications

AMD Ryzen™ V1605B 4C/8T 3.6Ghz
4GB DDR4 RAM (up to 32 GB)
64 GB M.2 SSD (up to 256 GB)
5 x 1 Gbps Ethernet ports

Ordering

Customers can order individual telephony cards or a combination of them installed from factory into a base unit. SBC licences can be later uploaded for service activation.

This datasheet applies to model: 400



A Trusted Partner

M5 Technologies 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.

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