



REDCOM® Sigma® Server 1600

MIL-STD-810 and FIPS 140-2 validated softswitch and call controller

A call control server designed for extremes

Sigma Server 1600 is a prepackaged communications solution that consists of REDCOM's Sigma Core software running on a REDCOM Server 1600 MIL-spec small form factor computing platform. Sigma Server 1600 enables session and call control for voice, video, and chat — as well as a full media server and Virtual PBX — all in a single integrated box. The server includes an industrial-grade motherboard, a powerful Intel® Core i7 processor, and front to rear cooling, delivering high performance across a broad temperature range.



Deployment scenarios

Sigma Server 1600 is a complete virtualized call controller and IP PBX that can be deployed as a stand-alone softswitch or as a UC complement to an existing core switch. Applications include:

- Class 4/5 end-office
- Unified communications
- Virtual PBX
- Secure & encrypted communications
- Local Session Controller (LSC)



Industry-leading security

No company takes security more seriously than REDCOM. Sigma Core software includes the following defensive mechanisms to secure IP traffic:

- SRTP payload encryption
- TLS encryption for call set-up
- Mutual authentication
- FIPS 140-2
- Suite B encryption
- Certificate revocation list
- Online Certificate Status Protocol (OCSP)
- Secure administration via HTTPS
- RADIUS authentication
- ANI spoofing verification
- Source/destination whitelist/blacklist
- Integrated firewall



Rugged and reliable

REDCOM leveraged decades of hardware design experience to build Sigma Server 1600 to withstand the test of time. The system uses extended lifecycle components and meets MIL-STD-810 specifications for temperature, altitude, vibration, and shock resistance. Server 1600 is backed by a three-year hardware warranty from REDCOM.



SWaP optimized design

Sigma Server 1600 is optimized for low Size, Weight, and Power (SWaP), making it ideal for tactical deployments, harsh environments, mobile communications, and industrial automation. The server's unique 1U, half-rack form factor allows two units to be installed side-by-side in a standard 19" rack or transit case, enabling redundancy and High Availability in a very compact space. Front-to-rear airflow allows Server 1600 to stack with other components without impacting performance.



Flexible translator

Sigma Server 1600 includes REDCOM's most flexible translator yet, with the ability to translate on both numeric and URI addressing and support for numerous call translating trigger points using Lua scripts. This powerful combination enables the Sigma software's functionality to be customized for unique applications.



Versatile media services

The combination of Server 1600's powerful computing capacity and Sigma Core's flexible media engine delivers a robust suite of simultaneous media services, including:

- Voice conferencing (400+ parties)
 - ◆ Secure conferencing
 - ◆ Individualized conferences
- Transcoding (including HD voice)
- Transrating
- Announcements/Tones (including auto attendant)
- Music on hold



OA&M for the IT Generation

Designed to appeal to IT specialists, Sigma Server 1600 can be deployed and fully operational within minutes. To make OA&M and provisioning as easy as possible, the software features an intuitive web-based interface with a customizable dashboard and app gallery.



Unified communications

Sigma Server 1600 enables service providers and network operators to instantly offer a rich suite of UC functions including:

- IP trunking
- Video (P2P)
- Chat/XMPP with presence
- Hosted PBX
- Conference bridge
- Unified messaging (voice mail)
- Voice mail to email
- Enterprise features
- White label web interfaces



Standards-based interoperability

Sigma Server 1600 will not lock you into a proprietary ecosystem. REDCOM follows industry standards in order to interoperate with third party phones, soft clients, and gateways.

REDCOM Server 1600 Hardware Specifications

PHYSICAL

Type	Small form factor, standalone server
Form Factor	1U x 1/2 width
Dimensions (WxHxD)	8.42 x 1.72 x 15.16 inches / 21.39 x 4.37 x 38.51 cm
Weight	8.5 lbs. / 3.9 kg
Motherboard	Mini-ITX
Power Input	90-264 VAC, 50-60 Hz, 207 watt and/or 18-36 VDC
Mounting	Optional bracket kits for mounting one or two units in a standard 19" rack

ENVIRONMENTAL

Temperature (operational)	32 to 122 °F / 0 to 50 °C MIL-STD-810G, Method 501.6, Procedure II
Temperature (storage)	-4 to 158 °F / -20 to 70 °C MIL-STD-810G, Method 501.6, Procedure I
Altitude (operational)	up to 10,000 ft. / 3.0 km at 122 °F / 50 °C up to 15,000 ft. / 4.5 km at 104 °F / 40 °C MIL-STD-810G, Method 500.6, Procedure II
Altitude (storage)	up to 30,000 ft. / 9.1 km MIL-STD-810G, Method 500.6, Procedure I
Vibration	7.7 Grms MIL-STD-810G, Method 514.7, Procedure I, Category 24: General Minimum Integrity Exposure
Shock	20 G MIL-STD-810G, Method 516.7, Procedure I

CPU

Type	Intel i7-4790S
Speed	3.2 GHz
L3 Cache	8 MB
TDP	65 W
Features	4 dual-threaded cores

MEMORY

Capacity	16 GB
Specifications	2 x 8 GB SO-DIMM, PC3-12800, Non-ECC
Data Rate	1600 MT/s

HARD DRIVE

Type	Two 2.5" SATA 3.0 drive bays
Capacity	256GB SSD (default, upgradeable)

PORTS

USB 3.0	4 x rear
USB 2.0	2 x front
Ethernet	4 x 1 GbE, RJ45 (2 front, 2 rear)
Audio Output	1/8" Jack, stereo
Microphone	1/8" Jack, monaural
Video	1 x HDMI, 1 x DisplayPort