

## MR2510 Media Resource Server

The MR2510 Media Resource Server is designed specifically for deployment with MetaSphere applications and provides support for announcements, interactive voice response and other media processing functions associated with core telephony services.



### Future-Proof Open Architecture

Open standards and interoperability are the core of Metaswitch's philosophy – and of the MR2510. Within an IMS network, the MR2510 performs the Media Resource function, interfacing to MetaSphere and other application servers via industry-standard protocols.

### Scalability

The MR2510 meets the media server needs of up to 150,000 VoIP subscribers. It is architected for carrier-class availability, with 1:1 redundancy for common equipment cards, and N:1 protection for media processing cards. The MR2510 scales cost-effectively from small single-site to highly distributed network applications. A non-blocking native packet switching fabric avoids unnecessary VoIP decode/ encode operations for maximum voice quality.

The MR2510 is populated with up to 6 Universal Media Cards. Built onto each card is a powerful digital signal processor (DSP) farm sufficient to deliver echo cancellation, announcements, tone detection, silence suppression, and transcoding to every channel.

### Carrier-Grade Reliability

The NEBS Level 3-certified MR2510 was designed from the outset for 99.999% ("five nines") system reliability. It achieves this goal through a fully redundant, hotswappable hardware design, with n:1 protection for all media cards, power supplies and CPUs, and IP interfaces. Even the internal packet bus is powered by two redundant switches. In addition, a sophisticated application-aware software fault tolerance scheme ensures that, in the event of a program logic error, the backup processor takes over control of the chassis ensuring uninterrupted service.

# MR2510 Specifications

## ▶ Physical

- Height: 12.25" (311mm, 7U)
- Width: 17.2" (436mm)
- Depth: 17" (431mm)
- Weight: 65 lbs (29.55kg)
- Mounting options: 19" or 23" racks, 6 chassis per 7' rack
- Operating temperatures: 41°F to 104°F (5°C to 40°C), 41°F to 122°F (5°C to 50°C) short-term (up to 96 hours)
- Operating humidity: 5% to 85%, 5% to 90% short-term
- Maximum operating altitude: 9800' (3000m)

## ▶ Power

- Dual feed -48V DC nominal (-40V DC to -56V DC)
- Fused 800W (20A)

## ▶ System Architecture

- Passive midplane design with 8.8Gbps nonblocking packet-switched bus (upgradeable to 48Gbps)
- 2 half-height alarm card slots
- 6 universal media card slots (5:1 redundancy)

## ▶ Scalability

- Up to 150,000 VoIP subscribers per chassis

## ▶ Carrier-class Reliability

- GR-512-CORE (99.999% availability)
- Redundant, hot-swappable interface cards, alarm cards, power supplies, fans, and processor cards
- Fault-tolerant software architecture with calls preserved on CPU failover

## ▶ Network Management

- SNMP, CORBA and XML interfaces for alarms and system management
- Management of multiple chassis via MetaView NMS or integration with third-party OSS

## ▶ Codecs

- G.711 (64kbps PCM)
- G.726 (32kbps ADPCM)
- G.729AB (8kbps CS-ACELP)
- Automatic fallback to G.711 for fax/modem calls

## ▶ Media and Quality of Service

- QoS: IP Differentiated Services (DiffServ) with 802.1p prioritized weighted fair queuing
- Echo cancellation: G.165, G.168 (up to 128ms)
- Idle channel suppression
- Silence suppression and comfort noise generation
- Tone generation / detection (DTMF, MF, FSK)
- Onboard mixing and announcement server

## ▶ Compliance and Approvals

- Bellcore NEBS: Level 3 (Bellcore SR-3580, GR-63-CORE, GR-1089-CORE) certified
- Safety: UL 1950, CSA C22.2.950, EN 60950, IEC 60950
- Electro-magnetic compatibility: FCC Part 15 Class A, ICES-003 Class A, EN 55022 Class A, EN55024
- Network: FCC Part 68

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