

**Powerful Single Box Branch Connectivity Solution providing Security and Survivability capabilities for VoIP Enterprise and Hosted VoIP/Centrex Scenarios with Session Border Controller Functionalities**

Designed specifically for enterprise and hosted applications, the Media5Boss-Branch devices seamlessly integrate with your telecommunication equipment and your carrier connections while connecting you to any standard-based VoIP network via a broadband connection.

The Media5Boss-Branch differentiates itself from other branch office solutions in providing both Security and Survivability capabilities and because it can also act as a Session Border Controller for voice scenarios, thus controlling real-time traffic flows in and out of the branch office. These powerful features make it the premier single box branch connectivity solution for VoIP Enterprise or VoIP Centrex scenarios.

The Survivability and Call Admission Control capabilities, the availability of voice call routing and SBC functionalities, the ability to terminate SRTP calls, as well as the state-of-the-art QoS functionality make these systems a true one-box-solution for current generation branch offices or customer premise equipment.

**Integrated Gateway Solution**

The Media5Boss-Branch allows enterprises to lower communications costs over any IP link. They are multi-function devices combining VoIP IAD, Gateway, IP Router, SIP aware NAT/Firewall, VPN functionality, and QoS control in a secure and powerful platform.

This platform, featuring a broad offering of voice interfaces, including analog FXS, ISDN BRI, or T1/E1 PRI interfaces, provides an ideal solution for enterprise voice applications, hosted applications, or for connecting to a service provider's broadband access.

**High Performance, Great Flexibility**

The Media5Boss-Branch is suitable as a universal network building block for medium-size offices. It helps to keep the costs down by providing an all-in-one, future proof solution. The performance of the Media5Boss-Branch allows connection



for up to 150 users and providing them with all functionalities described in this document. It also features a redundancy solution that permits using a second Media5Boss-Branch in Hot-Failover mode for high availability scenarios.

**Comprehensive and Secure Real-time Communication Solution from Media5**

The Media5Boss-Branch enables enterprises and service providers to securely deliver IP-based voice and multimedia services and applications to consumers as well as enterprise network users. The Media5Boss-Branch can be deployed by service providers as well as by enterprises as a single box solution providing functionalities of a Session Border Controller, a Branch Gateway, and a Branch Connector with Survivability, SRTP termination and advanced Call Admission Control.

**Features**

**Security**

- SRTP
- SIP over TLS
- SNMPv3
- HTTPS

**Firewall**

- Stateful inspection Firewall NAT/PAT
- Configurable port forwarding (DNAT)
- Intrusion detection

- All standard protocols supported: DNS, FTP, SSH, TELNET, POP3, SMTP, HTTPS, HTTP, NTP, Ping, SNMP
- Application-aware inspection engines securing protocols such as H.323, FTP
- Application-aware rule definitions for more than 50 protocols as for example HTTP, FTP, eDonkey, AIM, IRC, SMTP, RDP, etc.
- Strict TCP Validation to ensure TCP session state enforcement, validation of sequence and acknowledgement numbers, rejection of bad TCP flag combinations
- Protection against ping of death, land attack, tear drop, Syn Flood, ICMP flood, UDP flood, IP spoofing, IP address sweep attack, Win Nuke
- TCP reassembly for fragmented packet protection
- Malformed packet protections
- Protocol anomaly protection
- Stateful protocol signatures

## Routing

- OSPF/BGP dynamic routing
- RIPv2
- Static routes
- Source-based routing
- GRE Tunneling
- Multicast Routing
- VRRP Support

## VPN

- IPSec, OpenVPN (TLS-based VPN)
- Unlimited number of VPN tunnels
- L2TP over IPSec
- Point-to-Point VPN or Roadwarrior configurations possible
- VPN connections from 2<sup>nd</sup> LAN interface supported (e.g. Access Point connected to 2<sup>nd</sup> LAN)
- Encryption: AES (up to 256 Bits), 3DES (168 Bit), IDEA (128 Bit), Blowfish, variable key length
- Authentication: X.509 digital Certificates (RSA), Shared Secrets, HMAC-MD5, HMAC-SHA-1
- Perfect forward secrecy
- Secure Ethernet bridging, real-time adaptive link compression<sup>1</sup>
- NAT for VPN subnets

## Voice Features

- SIP Proxy Server (RFC 3261)

- SIP Registrar
- SIP Redirect Server
- B2BUA with Transcoding
- SIP Session aware RTP Proxy for VoIP NAT support

## Voice Gateway Features

- 2 card slots
- 7 FXS + 1 Bypass port per analog card
- 4 + 1 bypass ISDN BRI ports software configurable as NT or TE per card
- Configurable point-to-point, point-to-multipoint and connector pinout
- 8 or 16 simultaneous calls with BRI cards
- Cut-through relay for emergency operation (bypass connection) with BRI cards
- 1 or 2 ISDN PRI (E1/T1) ports NT/TE software configurable
- 30 or 60 simultaneous calls with PRI cards
- Local Switching
- Interface Hunt Groups
- Routing based on Interface, Calling / Called Number, Time, ISDN bearer
- Advanced Number Manipulation

- Here's what I would do:
- 2 card slots with the following choice of cards:
  - 1 or 2 analog 7 FXS + 1 Bypass port per analog card
  - 1 or 2 ISDN 4 + 1 bypass BRI ports software configurable as NT or TE per card
    - Configurable point-to-point, point-to-multipoint and connector pinout
    - 8 or 16 simultaneous calls with BRI cards
    - Cut-through relay for emergency operation (bypass connection) with BRI cards
  - 1 or 2 ISDN PRI (E1/T1) ports NT/TE software configurable
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## Voice Processing / Fax Modem Support

- Vcoders: G.711 (A-law,  $\mu$ -law), G.723.1, G.726, G.729a/b
- G.168 echo cancellation
- DTMF detection and generation
- Carrier tone detection and generation

<sup>1</sup> with OpenVPN

- Silence detection / suppression and Comfort Noise Generation level software adjustable
- Configurable dejitter buffer
- Configurable transmit packet length
- RTP/RTCP - RFC 1889, RFC 1890, RFC 2833, RFC 3389
- 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

## ISDN Signaling

- Euro ISDN EDSS-1 / ETSI PRI/NET5
- ETS 300 011 (ISDN PRI UNI)
- ETS 300 012-1 (ITU-T I.430)
- ETS 300 402-2 (ITU-T Q.921)
- ETS 300 403-1/2 (ITU-T Q.931)
- ETS 300 102-2 (ITU-T Q.931)
- 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, RDI 64)

## Network Interfaces

- WAN Port 1 x 10/100 BaseT Ethernet RJ-45 connector
- LAN Switch with 4 x 10/100 BaseT Ethernet RJ-45 connectors

## Voice Scenarios

- Voice over VPN
- Voice NAT
- Branch Survivability
- Call Admission Control based on available Bandwidth
- Emergency Call Prioritization
- ENUM
- Forced Media Routing
- Accounting

## Management

- WebUI
- SSH
- SNMP
- Local Serial Console

## QoS / Traffic Control

- Classification by Physical Port, Virtual Firewall Rule, Session, L7 protocol

- Bandwidth Guarantees
- Bandwidth Limits
- Many Queuing disciplines e.g. Token Bucket, Stochastic Fairness Queuing, CBQ, IMQ, CSZ, Diffserv mark, RED, WRR, etc.

## Miscellaneous

- DHCP Server / Relay
- DNS Server
- PPPoE, PPTP Support
- Separate 2<sup>nd</sup> LAN/DMZ Interface
- DynDNS support
- Unlimited number of hosts in DMZ

## Special Features

- Number of users not restricted
- Scripting Support
- Scheduled Scripting Support (e.g. timed hangups / reconnects on DSL lines)
- NTP Client / Server for accurate time (e.g. logging)
- Failsafe Update (Dual Firmware Flash)

## Operating Environment

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

## Hardware

- Internal 100-240 VAC power supply
- Rack mount, Desk mount, Wall mount
- 2 interface card slots
- Stackable units to increase port count

## Dimensions

- Height: 4.4 cm (1.73 in.) approx.
- Width: 44.5 cm (17.5 in.) approx.
- Width (mounting brackets): 48.5 cm (19 in.) approx.
- Depth: 20.5 cm (8 in.) approx.

**media5**  
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