

# Real-time Communications Solution

The Convergence Series is a scalable business solution which provides real-time communication (text, audio and video) over the Internet for remote branch offices, retail outlets, or even broadband telecommuters. As a smaller unit in the Convergence Series, the Convergence 3600 provides services for up to 1500 users.

## Guaranteed Compatibility

The Convergence 3600 is a fully RFC 3261 compliant SIP Proxy – Registrar as well as B2BUA. As such it can act in conjunction with a SIP PBX to provide for example Voice Routing, Survivability, Call Admission control or similar functionality, ENUM Lookup, Call Priorization, Transcoding and other features.

## Enterprise Class Network Security

Simplicity and maximum security are no paradox – they have become reality with the Convergence 3600. In addition to the state of the art firewall with Layer 7 Traffic classification as well as VPN functionality, the Convergence 3600 features the use of encrypted voice signaling and management protocols. With 2 LAN and one DMZ interface, there is also the possibility to configure different security zones even on the LAN side.

## Key Differentiator: Session Border Controller

Contrary to many other branch office solutions, the Convergence 3600 can also act as a Session Border Controller for voice scenarios thus controlling real-time traffic flows in and out of the branch office. This makes it the first single box branch connectivity solution for VoIP Enterprise or VoIP Centrex scenarios.

## High Performance, Great Flexibility

The Convergence 3600 is suitable as a universal network building block for medium size offices. It helps to keep costs down by providing a future-proof all-in-one solution. The performance of the Convergence 3600 allows the connection of up to 1500 users and providing them with all functionalities described in this document. It also features a redundancy solution that permits using a second Convergence 3600 in Hot-Failover mode for high-availability scenarios.



## 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
- Including 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, ...
- 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 2nd LAN interface supported (e.g. Access Point connected to second 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 (RFC3261)
- SIP Registrar
- SIP Redirect Server
- SIP TLS
- B2BUA with Transcoding
- SIP Session aware RTP Proxy for VoIP NAT support

#### Voice Scenarios

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

#### Management

- Web Interface and SSH
- Local Console (VGA, USB; Serial)
- Admin Tools on Appliance: tcp dump (traffic dumper), nmap (port scanner), hping (advanced ping), netcat (general TCP&UDP utility)

#### 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, ...

#### Performance

- Recommended for up to 1500 typical SIP Users (depending on several factors, esp. security and transcoding)
- 100 Mbps throughput packet filter and VPN (3DES)
- Wire speed on WAN interface

#### Differentiating Features

- Number of users not restricted
- Scripting Support
- Scheduled Scripting Support (e.g. timed hangups / re-connects on DSL lines)
- NTP Client for accurate time (e.g. logging)
- SMTP proxy for protecting internal mail servers
- Failsafe Update (Dual Firmware Flash)

#### Miscellaneous

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

#### Hardware

- Internal power supply (120W)
- 100 - 240V, 50 ~ 60 Hz
- 4 x RJ45 (2x Gigabit Ethernet, 2x Fast Ethernet)
- 2 x USB, 1 x RS232
- LC-Display (2 rows)

#### Dimensions

- 19" 1U Rackmount including brackets
- Height 4.4 cm
- Length 20 cm
- Width 45.0 cm

#### Certifications

EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3, EN 61000-4-2/-3/-4/-5/-6/-11, FCC Rules Part 15 / Subpart B, IEC / EN 60950-1, UL 60950-1, Marks: CE, FCC, UL

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<sup>1</sup> with OpenVPN