

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 1600 provides services for up to 50 users.

Guaranteed Compatibility

The Convergence 1600 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 1600. In addition to the state of the art firewall with Layer 7 Traffic classification as well as VPN functionality, the Convergence 1600 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 1600 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 1600 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 1600 allows the connection of up to 50 users and providing them with all functionalities described in this document. It also features a redundancy solution that permits using a second Convergence 1600 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 compression¹
- 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 50 typical SIP Users (depending on several factors, esp. security and transcoding)
- 100 Mbps throughput packet filter

- 40 Mbp/s throughput VPN (3DES)

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 2nd LAN, Separate DMZ Interface
- DynDNS support
- Unlimited number of hosts in DMZ

Hardware

- External power supply
- 100 - 240V, 50 - 60 Hz
- 1 x RJ45, 6 x USB (2 external ports, 4 x onboard pin header), 2 x PS/2, 1 x RS232 (1 xDB9)

Dimensions

- Height 4.1 cm
- Length 24.2 cm
- Width 15.1 cm (with connectors 15.6cm)

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

¹ with OpenVPN

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