

SmartNode™ Enterprise Session Border Controller & IAD

Broadband Access & FXS/FXO Interfaces | Model 5540



The SmartNode 5540, is a cost effective eSBC with integrated Broadband access and up to 8 FXS/ FXO ports supporting a high level of VoIP and network security. It is capable of doing up to 200 SIP to SIP calls*** whereof max. 4 can be transcoded**. Built-in QoS functionalities and support of G.722 high definition codec ensure excellent VoIP call quality.

WAN Access

Fiber SFP, G.SHDSL-EFM/ATM, Gigabit Ethernet or VDSL/ADSL WAN interface.

Up to 8 Analog interfaces (FXS/FXO)

2, 4 or 8 analog ports. Either FXS or FXO or a combo configuration. Up to 8 G.722/G.711 or T.38 calls simultaneously.

Full Telephony Features

Session Router allows flexible call routing and numbering plan adaptations, CLIP/CLIR, hold, transfer, and much more. Full SIP-ISDN AOC support.

Outstanding Interoperability

Interoperable for data, voice and T.38 fax with leading, SIP service providers, soft-switch vendors, major IP-PBX systems and various DSLAMs.

Complete Access Routing

Two 10/100/1000 Ethernet ports with auto-MDI-X. Ethernet Layer 2 switching and bridging. Access router with NAT, Policy Based Routing, Stateful Firewall, PPPoE, DHCP, DynDNS.

Easy Management & Provisioning

Web-based management, WEB Wizard, SNMPv3, command line interface, secure, zero-touch provisioning separate config. domain support, TR-069.

Full VoIP protocol support

SIPv2, SIPv2 over TLS, T.38, G.722 HD voice, RTP Security with SRTP, fax and modem bypass, DTMF relay

Why SmartNode?

- Patton Quality
- Swiss Engineered—Made in the USA
- Unrivalled Customer Support
- FREE Software Upgrades

The SN5540 is the perfect choice for All-IP applications where legacy, non-replaceable analog equipment has to be integrated into a UCC environment. For pure All-IP networks, the SmartNode acts as a service termination point toward the enterprise with an integrated Broadband access termination for G.SHDSL, VDSL, ADSL or Fiber SFP.

With the separate config domain feature, the SN5540 will be the service demarcation point for SIP Trunk service providers, where the local administrator can be limited to only modify configuration settings facing the LAN IP PBX.

The SN5540 acts as VoIP Gateway, eSBC, Access Router and QoS CPE all in one device.

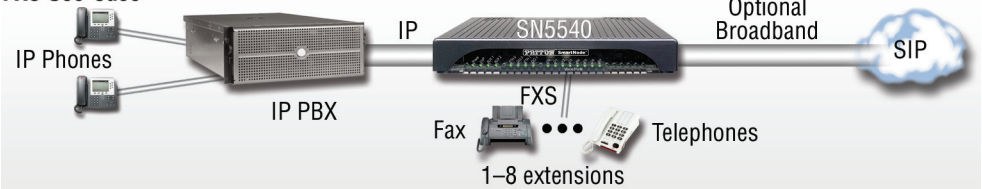
It can also undertake network assessment and monitoring at the customer premise by using the PacketSmart™ agent to prevent, reduce and resolve network and voice quality problems.

Network Integration

Thanks to the built-in FXS ports, it resolves technology evolution related problems, either by integrating old, non-replaceable telephones into a UCC environment, or for good old fax devices to be migrated to the next-generation network infrastructure. The built-in FXO ports, available on certain versions, offer failover for calls (mainly emergency calls) that are connected after broadband access fails.

Visit www.patton.com/smartnode for more information.

FXS Use-Case



Survivability Use-Case



8-FXO-Port eSBC Application



SmartNode™ Model 5540 eSBC/IAD



Integrated Access Device (IAD)



Enterprise Session Border Controller (eSBC)

Specifications

Voice Signaling

SIPV2/SIPV2 over TLS SIP call transfer, redirect

Overlap or en-bloc dialing

DTMF in-band, out-of-band

Configurable tones

Call Routing & Services

Regular expression number matching

Regular expression number manipulation

Least Cost Routing

Number blocking

Short-Dialing

Digit collection

Distribution-Groups and Hunt-Groups

FXS Connectivity

2, 4 or 8 FXS ports, RJ-11/12

2-wire Loopstart

EuroPOTS (ETSI EG201188)

Programmable AC impedance, feeding, ring and on-hook voltage

Caller-ID FSK and ITU V.23/Bell 202 generation

Long Reach FXS—10 km @ 3REN load

Secondary Surge Protection (optional)

FXO Connectivity

2, 4 or 8 FXO ports, RJ11/12

2-wire Loopstart

Programmable impedance

Ring detection, tone detection

Caller ID detection (FXS, DTMF)

Disconnect supervision

Voice Processing

G.722

G.711m/A-law

G.723.1 (6.4 kbps)

G.729, 729a, 729ab (8 kbps)

G.726 (16, 24, 32, 40 Kbps)

G.168-2004 echo cancellation (128 ms)

Up to 8 simultaneous low- or high-bandwidth voice or T.38 fax calls

Up to 200 SIP-to-SIP calls***

Up to 4 SIP transcoded calls*

Silence suppression and comfort noise

Adaptive and configurable dejitter buffer

Configurable RTP packet length

IP Quality of Service

PacketSmart™ Network Assessment & Monitoring**

Voice priority, DownStreamQoS™

Traffic Management, shaping policing

CBR, VBR-rt/nrt and UBR, IEEE 802.1p, IEEE 802.1Q, 4096

VLANs (Tag insertion/deletion), TOS, DiffServ Labeling

Connectivity

Two 10/100/1000Base-T

Ethernet ports

USB 2.0 host port Auto-MDIX

DHCP Client

PPPoE Client (multi-session)

IP Multi-Netting, VLAN, Secondary IP

IPv4 and IPv6 dual stack, ICMP

Dynamic and static NAT and NAT, ACL, Stateful Firewall DNS, DynDNS DHCP Server SNTP Client

Broadband Access

ADSL/VDSL: VDSL 2, G.hs, G.Vectoring, up to profile 30a support • ADSL2, ADSL2+, Annex, A/L/M** or B/J** • IPoA, IPoEoA, PPPoA, PPPoEoA (RFC2364, RFC2516)

G.SHDSL-ATM: 4-wire G.SHDSL ITU-T G991.2, Annex A, B, F, G • Up to 11.4 Mbps • PPPoE • PPPoA, IPoA, 8PVCs, each UBR, CBR or VBR-rt selectable • I.610 OAM F4/F5 support • G.994.1 (G.hs)

G.SHDSL-EFM: EFM mode compliant to IEEE 802.3 G.998.2 • PPP over Ethernet (RFC2516) • Support of OAM PDU information and functionality (ITU-T Y.1731) • OAMPDU event notification, variable request, variable response, and loopback control

Fiber: SFP slot for fiber WAN uplink • 100Base-T and GigE support • Up to 8 VLANs • PPPoE

Management

Customizable WebWizard, Web-based GUI, CLI Telnet and HTTP access

TR-069, TFTP, HTTP, HTTPS configuration up- and download TR-069, TFTP, HTTP, HTTPS firmware upgrade, Dual Image, SNMPv3 agent Separate config

domain (LAN side config and WAN side config), MIB II and private MIB

Built-in diagnostic tools

Secure Auto-Provisioning with built in root CA

Power Consumption

External Power: 100–240 VAC (50/60 Hz)

Power Consumption: < 15W

Packaging

Desktop/Wall-mount plastic chassis

Dimensions

Plastic chassis eSBC (w/o xDSL):

8.2W x 1.3H x 6.5D in.

(20.8W x 3.4H x 16.5D cm)

Metal enclosure IAD: (with rack mount option):

11W x 1.5H x 6.1D in

(28 W x 3.9 H x 15.7 D cm)

Weight

<450g (15.9 oz)/<600g (metal)

Environment

Operating temperature: 32–104°F (0–40°C)

Operating humidity: up to 90%, non-condensing

Compliance

FCC Part 15 Class A (US EMC)

CE per RTTE 99/5/EC (EMC and LVD)

Safety

EN60950

TBR-3 (ISDN BRI/So)

Specifications subject to change without notice | * Depending on model | ** Licensed Feature at additional charge | *** Supports up to 200 SIP-to-SIP calls under ideal conditions. Transcoding, debugging and/or IP Routing reduce processing capacity



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