



# SmartNode™ 4960

## Multi-Port T1/E1/PRI VoIP Enterprise Session Border Router

*Integrate SIP and legacy phone systems with PSTN and VoIP. Reliable, secure, and feature rich, the high performance SmartNode™ 4960 with transcoding paves the way to Unified Communications.*

### VoIP Transcoding

Up to 60 channels for WAN bandwidth optimization.

### Up to 120 VoIP calls...

with up to four T1/E1/PRI ports and dual Gigabit Ethernet ports.

### Unified Communications Agent™

Provides any-to-any multi-path switching with VoIP and data survivability, VoIP-over-VPN security with AES/DES strong encryption, Internet Key Exchange (IKE), and SIP Registrar.

### Secure Toll-Quality VOIP

Patton's DownStreamQoS™ and Voice-over-VPN with adaptive traffic management and shaping for maximum voice quality and secure voice communication.

### Transparent Telephony Features

Complex number manipulation and mapping for seamless integration with existing infrastructures, CLIP, CLIR, hold, transfer and much more.

### WAN Access

Optional 4-wire, 11.4-Mbps G.SHDSL.bis or serial X.21 WAN interface.

### Optional High Precision Clock

Delivers DECT PBX interoperability with reliable fax performance.

### SmartNode™ Awards

- **2010 Internet Telephony Product of the Year:** SmartNode™ 5400
- **2009 Internet Telephony Product of the Year:** SmartNode™ 4400 Series
- **2008 Internet Telephony Product of the Year:** SmartNode™ 4961
- **2007 Internet Telephony Product of the Year:** SmartNode™ S-DTA
- **2006 Internet Telephony Product of the Year:** SmartNode™ 4960
- **2005 Internet Telephony Product of the Year:** SmartNode™ 4630

**A**s enterprises move toward SIP-based Unified Communications, the SmartNode™ 4960 offers a seamless transition by simultaneously supporting VoIP and circuit-switched access to SIP and traditional telephony.

**Preserve your investment** in legacy phone equipment while taking the next step toward Unified Communications. Least-cost call routing in Patton's proven SmartNode™ VoIP solutions optimizes monthly expenses while flexible dialed-numbering plans maintain established business processes.

**The Unified Communications Agent™ (UCA)** provides any-to-any multi-path switching (simultaneous SIP, H.323, ISDN, and POTS calls with routing and conversion between TDM/PSTN and IP/Ethernet networks—plus T.38 and SuperG3 FAX) combined with dial-backup and IP-link redundancy for VoIP-and-data survivability. Provide VoIP-over-VPN security with voice encryption via IPsec with AES/DES strong encryption and automated keying via Internet Key Exchange (IKE), plus SIP Registrar for presence/reachability.

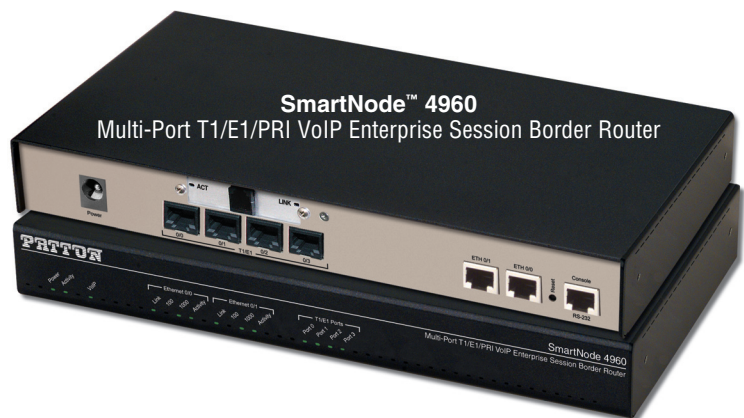
**Advanced router functionality** includes Patton's DownStreamQoS™ delivering the clear advantage of secure, uninterrupted voice-and-data communication.

**Session border controller** capabilities include transcoding for up to 64 sessions. Reduce WAN-access bandwidth requirements by converting high-bandwidth G.711 calls on your LAN into lower-bandwidth G.723 calls for WAN transport.

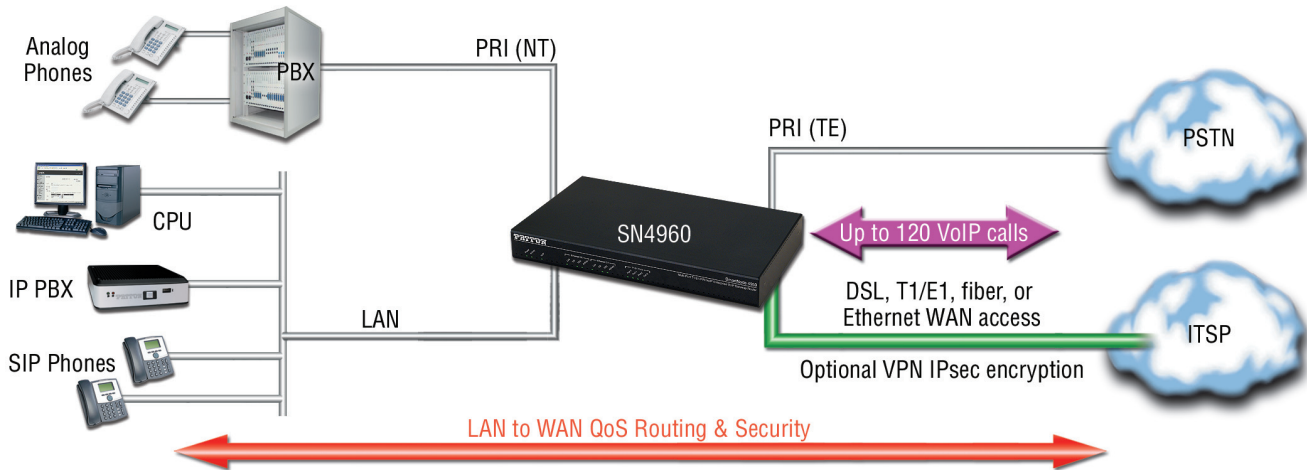
**Ensure business continuity.** Combining PSTN breakout with IP-link redundancy, SmartNode™ ensures voice-and-data survivability for reliable enterprise-class communications.

**Additional options** include Patton's unique high-precision clock enabling first-line IP telephony services in demanding ISDN and DECT environments with reliable FAX and modem performance. Optional built-in broadband access via 11.4 Mbps, 4-wire G.SHDSL.bis or serial X.21 reduces hardware costs, simplifies network architecture, and streamlines service and deployment.

Visit [www.patton.com](http://www.patton.com) for more information.



## Application Diagram—Migrate Legacy PBX to IP PBX



## Specifications\*

### Voice Connectivity

Up to four software selectable T1/E1/PRI ports (NE/TE) • Signaling support (ISDN DSS-1, NI-2, Q.SIG, CAS Robbed bit loop and ground start, E&M, immediate, wink, double wink) • ISDN AOC/ECT • ISDN speech, audio & data (Fax Gr 4, UDI 64, RDI64) • ISDN supplementary services • SIPv2 & H.323v4 • CAS protocols: RBS (Loop start, ground start, E&M wink, intermediate, double-wink) and R2/MFC-R2 (Q.400–Q.490 and Configurable country profiles)

### Broadband Access

4-wire G.SHDSL ITU-T G991.2, Annex A, B, F, G • Up to 11.4 Mbps • Ppoe • 8PVCs, each UBR, CBR or VBR-rt selec-

table • I.610 OAM F4/F5 support • G.994.1 (G.hs) • Serial X.21

### Voice Processing

Codec G.711 a-law/mu-law, G.723, G.729ab, G.726, G.727, T.38 fax relay (9.6 k, 14.4 k) • G.711 transparent fax and bypass • 128 ms echo cancellation • transcoding for up to 64 sessions

### Call Routing and Services

Regular expression call routing and manipulation • number blocking • short-dialing • digit collection, distribution and hunt groups

### Data Interfaces

Dual 10/100/1000 TX Ethernet Ports • Autosensing • Auto-MDI • Full-duplex

### IP Routing

Complete IP access router • DHCP Client & Server • Packet fragmentation • Static firewall, NAT, NAPT RFC 1631 access control lists • DMZ port

### IP Quality of Service

Voice priority • DownStreamQoS™ • traffic management, shaping policing • IEEE 802.1p, TOS, DiffServ labeling • IEEE 802.1Q, VLAN tag insertion/deletion 4,096

### Management

Web/HTTP, CLI with local console & remote Telnet access • TFTP configuration & firmware loading • SNMP MIB II and product MIB • Secure autoprovisioning for both firmware & unit/subscriber configuration • Built-in diagnostic tools (trace, debug, call generator)

### Power & Packaging

Desktop metal chassis

**Dimensions:** 11.0W x 1.5H x 7.0 D in. (28.0W x 3.9H x 18.0D cm)

**Weight:** < 30 oz (850g)

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

**Power Consumption** < 15W

### Operating Environment

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

**Operating humidity:** up to 90%, non condensing

### Compliance

EMC: EN55022 and EN5502 • Safety: EN 60950 • CE • FCC Part 15 Class A; Part 68; CS-03

\* Specifications subject to change without notice.

## Ordering Info

### SN4960 SmartNode T1/E1/PRI VoIP Enterprise Session Border Router: Hi-Capacity, 2x GigEthernet, External UI power

**SN4960/1E15V/UI:** 1 E1/T1, 15 VoIP channels, upgradeable to 30 callX

**SN4960/1E24V/UI:** 1 E1/T1, 24 VoIP channels, upgradeable to 30 calls

**SN4960/1E30V/UI:** 1 E1/T1, 30 VoIP channels, non-upgradeable

**SN4960/4E15V/UI:** 4 E1/T1, 15 VoIP channels, upgradeable to 60 channels

**SN4960/4E24V/UI:** 4 E1/T1, 24 VoIP channels, upgradeable to 60 channels

**SN4960/4E30V/UI:** 4 E1/T1, 30 VoIP channels, upgradeable to 60 channels

**SN4960/4E48V/UI:** 4 E1/T1, 48 VoIP channels, upgradeable to 60 channels

**SN4960/4E60V/UI:** 4 E1/T1, 60 VoIP channels, non-upgradeable

**SN4960/4E96V/UI:** 4 E1/T1, 96 VoIP channels, field upgradeable to 120 channels

**SN4960/4E120V/UI:** 4 E1/T1, 120 VoIP channels

Note: For complete ordering list, contact [sales@patton.com](mailto:sales@patton.com)

### Options & Accessories

**SNSW-49V6:** 6 channel Voice Upgrade Key for SN4960 VoIP IADs. Software expansion for additional voice channels.

**SNSW-VPN2:** Software option for IPsec VPN, including DES/3DES and AES encryption, IKE and Voice-Over-VPN

**SNSW-QSIG2:** Support for ISDN Q.SIG.

\*For G.SHDSL option: add 2GS in SKU (ex: SN4960/4E30V2GS/EUI)

\*For High-Precision option: use SN4961 in SKU (ex: SN4961/4E30V/EUI)

WAN Options include G.SHDSL, X.21, Frame Relay, PPP, and ML-PPP over E1/T1 Relay Option: Between port 0/0 and port 0/1

**PATTON**  
Let's Connect!™

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