

SmartNode™ T1/E1/PRI VoIP Integrated Access Device

Model 4990



Now service providers can reach **more** enterprise subscribers with All-IP services. The SmartNode 4990 VoIP Integrated Access Device (IAD) connects any existing telephony system to SIP trunks and the PSTN.

15 to 120 VoIP calls

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

Survivability

PSTN failover using ISDN lines or alternate WAN link. SIP server health detection with instant failover call routing. SIP registrar for local calling during failover.

QoS and Security

Deliver secure, toll-quality voice communications with Patton's DownStreamQoS™, Fraud prevention, secure voice-over-VPN with IPsec*, OpenVPN*.

WAN Access

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

SIP Interop and Normalization

SIP interop with major IP PBX, softswitch and VoIP service providers. Over 100,000 SmartNode deployments worldwide. ISDN/PSTN compliance in nearly every country.

High Precision Clock

Delivers DECT PBX interoperability with reliable fax performance.

VoIP Transcoding Option

Up to 60 channels transcoding for WAN bandwidth optimization.

Transparent Telephony Features

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

Flexible Mounting Options

The device can be placed on a desktop or installed in a 19-inch rack using the optional rack ear kit (INS-KIT-RACKEARS-11/19).

Why SmartNode?

- Patton Quality
- Made in the USA
- Unrivaled Customer Support
- FREE Tech Support and Upgrades

The SmartNode™ 4990 VoIP Integrated Access Device for 15-to-120 VoIP calls lets enterprises graduate to All-IP at their own pace. The one-box solution includes a built-in G.SHDSL-EFM/ATM, VDSL/ADSL or Fiber WAN interface for broadband access. Legacy telephony interfaces enable SIP trunk providers to offer their All-IP services to businesses that want to keep an existing PBX solution, while providing PSTN connectivity for voice and data survivability.

The integrated WAN-access options reduce CPE costs, simplify network architecture, and accelerate service deployment. A SIP back-to-back user agent provides SIP normalization that ensures interoperability between any customer PBX and any provider softswitch on the market. Built on a platform that is ready to support IPv6, the SN4990 provides secure TLS and SRTP encryption while supporting all the industry-standard CODECs for toll-quality voice on every call.

The Unified Communications Agent™ (UCA) provides any-to-any multi-path switching (simultaneous SIP, ISDN, and POTS calls with routing and conversion between TDM/PSTN and IP/Ethernet networks—plus T.38 and SuperG3 FAX). VoIP-over-VPN technology (with voice encryption) provides secure voice and data via IPsec* with AES/DES strong encryption and automated keying via Internet Key Exchange (IKE) and OpenVPN*. Advanced call-router functionality includes least-cost call routing with flexible dialed-number plan support.

The SmartNode survivability suite combines PSTN fallback, SIP Registrar, IP-link redundancy and active SIP server reachability detection to ensure business continuity in case the IP network fails, while Patton's DownStreamQoS™ delivers clear, uninterrupted voice-and-data communication. Patton's unique high-precision clock delivers first-line IP-telephony service in demanding ISDN and DECT environments—with reliable FAX and modem performance.

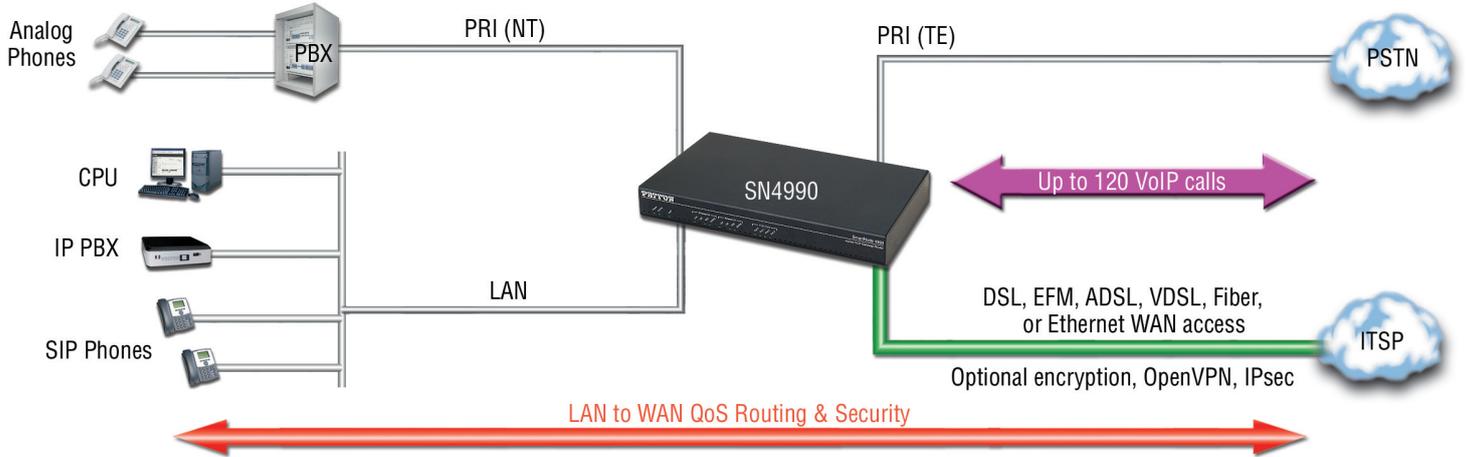
Strong number-portability delivers a smooth transition to VoIP by accepting incoming calls from the PSTN throughout the number-porting process. Session border router capabilities include optional transcoding for up to 64 channels. Reduce WAN-access bandwidth requirements by converting high-bandwidth G.711 calls on the enterprise LAN into lower-bandwidth G.729 calls for WAN transport.

The SN4990 delivers secure, prioritized unified communications with one to four T1/E1/PRI and two 10/100/1000 Ethernet ports—plus broadband access—in a single box. An optional third 10/100 Ethernet port may connect to an out-of-band IP management network, or—for enhanced survivability—provide a redundant Ethernet connection to the (same or alternate) service provider.

Visit www.patton.com/smartnode for more information about the SmartNode 4991.

General Applications Overview

- IP-enabled ISDN PBX
- Survivability & PSTN fallback
- QoS and IP routing



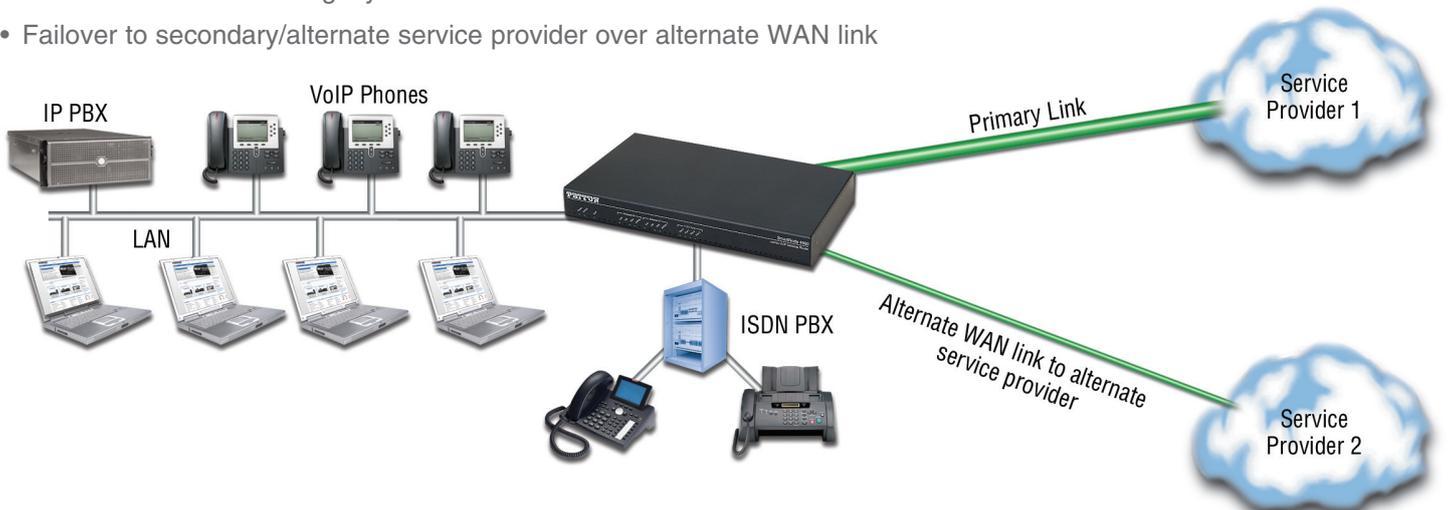
Migration to All-IP with Backup Link for Fallback

- IP PBX coexistent with legacy PBX
- SIP service monitoring & failover to PSTN



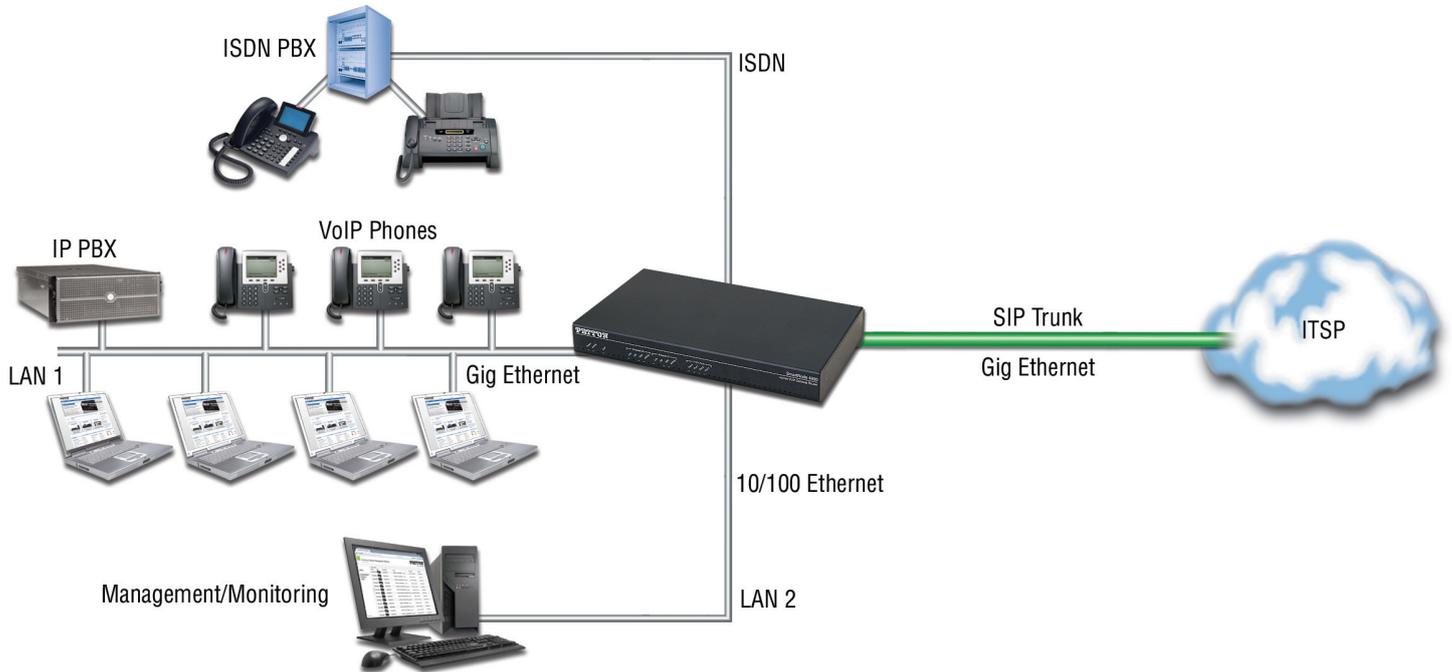
Migration to All-IP with Fallback to Alternate Service Provider

- IP PBX coexistent with legacy PBX
- Failover to secondary/alternate service provider over alternate WAN link



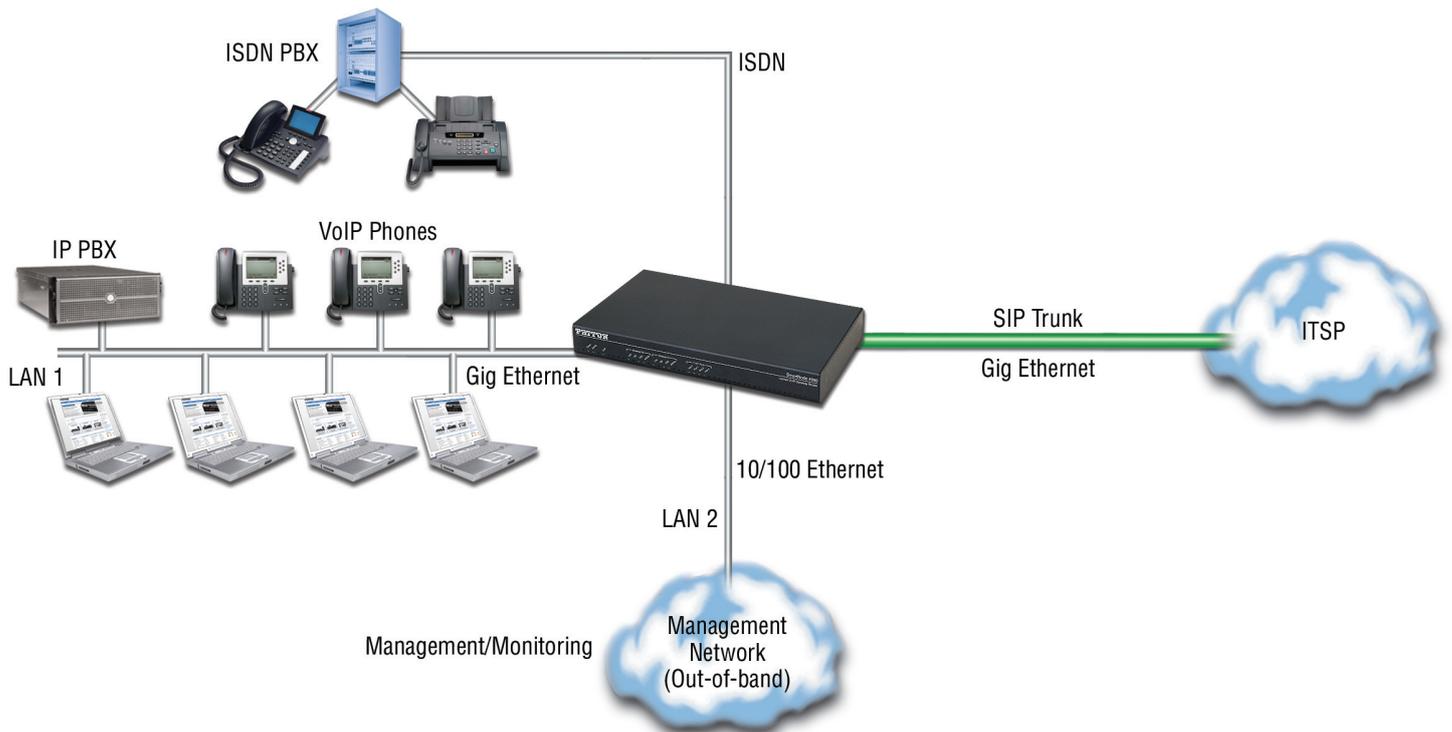
Migration to All-IP with Local Management & Monitoring

- ISDN to All-IP migration
- IP routing with QoS
- Separate Ethernet port for local monitoring and management



Migration to All-IP with Out-of-band Management

- Separate Ethernet port for remote, out-of-band monitoring and management
- ISDN to All-IP migration
- IP routing with QoS



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Specifications

PSTN

Up to four T1/E1/PRI ports (NE/TE) • Signaling support (ISDN DSS-1, NI-2, Q.SIG, R2 signaling) • ISDN AOC/ECT • ISDN speech, audio & data (Fax Gr 4, UDI 64, RDI64) • ISDN supplementary services • CAS protocol: R2/MFC-R2 (Q.400-Q.490 and configurable country profiles), fallback on 4-port versions

VoIP

Up to 80 SIP to SIP calls*** (no Transcoding) • up to 60** SIP-to-SIP Transcoded calls • SIPV2/SIPV2-TLS (SIP Info, Update, PRACK, Privacy, Refer), B2BUA, Optional SIP Registrar and Transcoding

Broadband Access

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)

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)

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

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

Fast Ethernet 10/100 full-duplex—refer to Data Interfaces

Voice Processing

Codec G.711 a-law/mu-law, G.723, G.729ab, G.726, G727, T.38 fax relay (9.6 k, 14.4 k) • G.711 transparent fax and bypass • 128 ms echo cancellation • Secure RTP (SRTP)

Call Routing and Services

Regular expression call routing and manipulation • number blocking • shortdialing • digit collection, distribution and hunt groups

Data Interfaces

Dual 10/100/1000 TX Ethernet Ports • Autosensing • Auto-MDI • Full-duplex • 10/100 Ethernet port (optional)

IP Routing

IP access router • DHCP Client & Server • RIPv2 • BGP • GRE • Packet fragmentation • Firewall • NAT/NAPT RFC 1631 • Access Control Lists • DMZ port • IPsec VPN, OpenVPN, L2TP (Option)

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/HTTPS, CLI with local console & remote Telnet

access • TR-069, HTTP/HTTPS/TFTP configuration & firmware management • SNMPv1-3 MIB II and product MIB • SYSLOG • Secure autoprovisioning for both firmware & unit/subscriber configuration • Built-in diagnostic tools (trace, debug, call generator)

Power & Packaging

Desktop metal chassis

Dimensions:

30.1W x 4.5H x 18.1D cm (11.9W x 1.8H x 7.1Din.)

Weight: < 30 oz (850g)

External 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

Ordering Info

Obtain ordering info for this product by using the QR code at right or by contacting:

- web: http://www.patton.com/products/product_detail.asp?id=467&tab=Ordering
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Specifications subject to change without notice.

* Additional charges apply for licensed features.

** Depending on model.

*** Supports up to 80 SIP-to-SIP sessions under ideal conditions. Transcoding, debugging, and/or IP routing reduce processing capacity.