

REALITY CHECK

application solutions for your world

SmartNode™ VoIP Gateways Power inode's Converged Services for ISDN Business Subscribers

Business was booming... Broadband Internet access, web hosting, managed networks, security services... inode had all that going on, and more. Serving 60,000 DSL subscribers and counting, inode had become Austria's leading provider of unbundled broadband services. Their private fiber backbone and xDSL access infrastructure had Austria pretty well covered, and offered international connections as well. inode's focus on delivering business-class network services was a proven strategy for success.

Keeping the lead. Yet without plans for future growth, success in business is sure to be short-lived. As a market front-runner, inode was determined to lengthen their lead. Since Austria's business community is heavily invested in Integrated Services Digital Network (ISDN) technology, a key element in inode's plans for expansion involved rolling out new Voice-

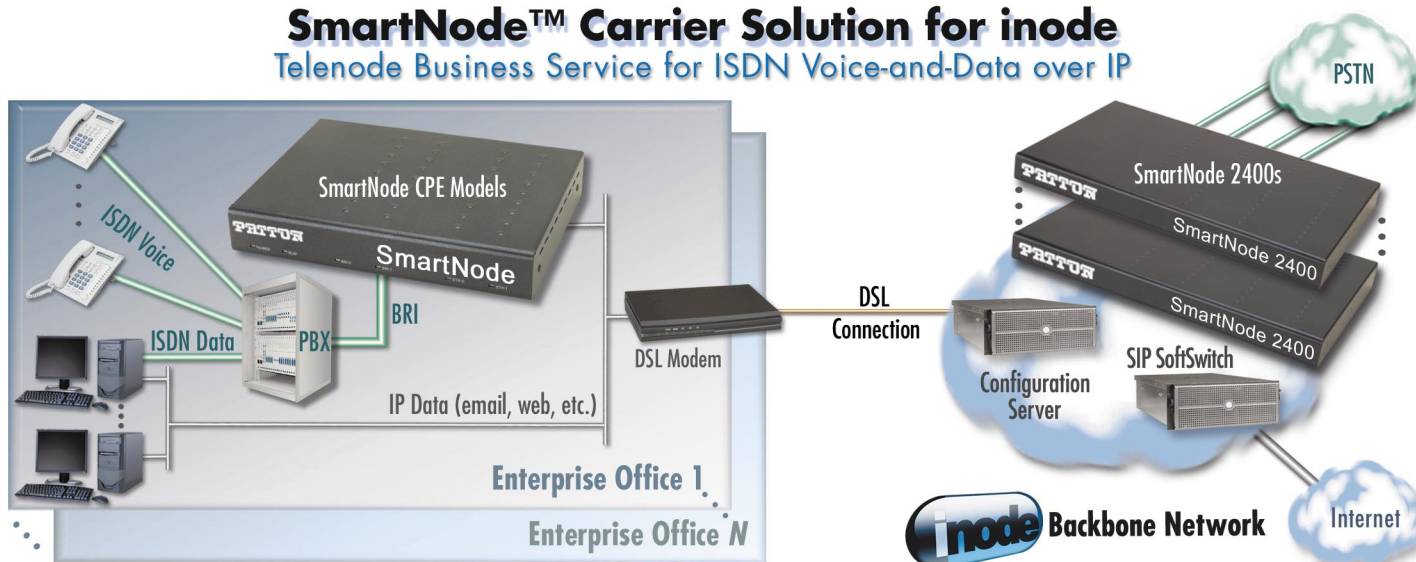
over-Internet Protocol (VoIP) services for ISDN subscribers. With ISDN Private Branch Exchange (PBX) equipment installed in nearly every office in the country, inode needed VoIP customer-premise equipment (CPE) that could seamlessly connect all that legacy ISDN gear to their new VoIP services.

"SmartNode™ gives us a clear advantage over our competition. inode offers services that no other VoIP provider can, based on the custom features Patton implemented at our request."

*Michael Bretterkieber
Director of Core Development
inode*

Understanding Understanding that success in the service-provider market requires technical leadership, inode wisely chose Session Initiation Protocol (SIP), the cutting-edge standard in VoIP networking, as the core of their VoIP-system design. To ensure full control of their service network, they also chose to build their own open-source soft-switch based on SIP. Those two choices would effectively future-proof inode's investments in both R&D and infrastructure. All that remained was to find a vendor with a CPE that could Interoperate with both legacy ISDN

SmartNode™ Carrier Solution for inode Telenode Business Service for ISDN Voice-and-Data over IP



Key Benefits of SmartNode Carrier-Provider Solutions

- ✓ **Customized Carrier Solutions**
Flexible Process—Special Features are No Problem!
- ✓ **Patton Plays Well with Others**
Open Access to Patton Engineering & Manufacturing
- ✓ **Touchless Deployment**
Cost-cutting Auto-provisioning & Configuration
- ✓ **SmartNode™ Fits Any Network**
All the ports & protocols (BRI, E1, FXS... H.323, SIP, MGCP)
- ✓ **Top-Quality Packet-Voice Service**
Standard Upstream & Advanced DownStreamQoS™
- ✓ **Superior Support**
First-rate Tech Support Throughout Project Life Cycle

telephony systems and their state-of-the-art SIP-based VoIP network.

Working with SIP. Because SIP is a peer-to-peer protocol, making it work in ISDN's point-to-multipoint environments requires some innovative engineering. So inode's CPE vendor would have to be a flexible business partner with the capability to customize.

What Happened... As it turned out, Patton had everything inode was looking for, plus a few extras. To make a long story short, inode has deployed SmartNode™ customer-premise models **SN1200**, **SN1400**, **SN4552**, and **SN4630**. With standard upstream QoS and Patton's advanced DownStreamQoS™, SmartNode™ delivers industry-leading voice quality to inode's more than 10,000 VoIP business customers. Within inode's private network, an array of **SN2400** modular VoIP routers, each supporting 4 E1s, provide a high-volume gateway to the Austrian PSTN.

Getting there. During the pre-deployment period, Patton's engineers worked shoulder-to-shoulder with the inode team to customize and test the SmartWare software suite for fully-integrated interoperation with inode's own SIP-based softswitch. Patton created a full set of special products just for inode. The customized SmartNode™ gateways fully support inode's private numbering scheme and call-routing plan while fully interoperating with their accounting and billing systems.

Patton-Inode Touchless Deployment

(Before shipping to Inode, the Patton factory loads SmartNode CPEs with inode's custom start-up configuration.)

1. inode creates subscriber configuration keyed to SmartNode MAC address and ships SmartNode CPE to inode subscriber.
2. Subscriber receives SmartNode from inode, installs and powers up.
3. SmartNode sends its own MAC address to the inode auto-provisioning server.
4. inode server downloads subscriber configuration to the SmartNode CPE.
5. Subscriber enjoys high-quality Voice-over-IP and ISDN data services.

Cutting costs. In order to reduce inode's VoIP deployment costs, Patton developed an auto-provisioning feature that works with inode's subscriber-configuration server for no-touch service deployment. Before shipping a SmartNode CPE to inode, Patton loads each unit with a customized startup configuration. When inode's customer powers up the SmartNode, it automatically downloads the customer-specific configuration from the inode service network. The feature dramatically reduces deployment costs. There is no need for a technician to visit the customer premise for neither installation nor technical support.

"Patton-Inode gave us direct access to their engineering and support people. Special features were never a problem. Their fast turn-around times and friendly, flexible support were key factor in the success of Inode's VoIP service deployment."

*Michael Bretterkieber
Director of Core Development
inode*

ISDN Data. Many businesses rely on legacy ISDN data services for such applications as remote PBX management, and the file-transfer program known as Leonardo, often used in document publishing. Because of Patton's collaborative engineering, inode is now the world's first VoIP provider to deliver ISDN data services over a SIP-based VoIP network.

inode numbers (2004)

Revenue: 37,000,000 Euros

Market Share	
Unbundled Broadband Internet	62%
Customer Counts	
Broadband Internet Customers	60,000
Unbundled Broadband Internet Customers	37,000
Voice-over-IP Customers	10,000

About Patton

Patton is a multi-national manufacturer of voice and data-communications equipment for carrier, enterprise, and industrial networks worldwide. Incorporated in 1984, Patton markets a catalog of more than 500 products including SmartNode™ VoIP solutions that support SIP, H.323, and MGCP for analog and ISDN telephony; ForeFront™ multi-service access infrastructure solutions for TDM and IP service delivery (T1/E1, G.SHDSL, xDSL, dial-up); IPLink™ CPE solutions for last-mile/local-loop access (WAN routers, modems, remote access servers, NTUs, CSU/DSUs); CopperLink™ Ethernet Extenders, EtherBITS™ device servers; and a full range of network-connectivity Micro-Products (interface converters, short-range modems, multiplexers, surge protectors).



Extending, Converting & Converging

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