

Virtual SmartNode™ VoIP CPE

Model vSN



SmartNode devices are field-proven CPEs that run Patton's proprietary OS. The same feature-rich software used for the CPEs is also available for use in virtualized environments for a high level of scalability and service availability.

VoIP Security

Network separation with SIP Back 2 Back UA, intrusion protection, DoS prevention, trust peer, Signaling encryption (SIP-TLS), Stateful Firewall

Session Control

Dynamic SIP Session allocation for a high number of calls. SessionRouter allows flexible call routing and numbering plan adaptations, CLIP/CLIR, hold, transfer, and much more.

SIP Normalization

SIP-SIP Interworking – Normalizing different, vendor specific SIP implementations – “dialects”. Demarcation point, separation between networks

Network Monitoring & Assessment

Network monitoring probe* for QoS measurements and proactive alerting to minimize problems. SLA assurance at demarcation point

Load Balancing

Call load distribution across multiple network links.

IP Routing & Networking

IP Routing Protocol support; GRE, VRRP, RIP, L2TP, etc.

High Availability

Stateful call failover includes proactive dead-call detection. SBC redundancy and failover to secondary, virtual instances

Proprietary Software

Utilizes proprietary Trinity™ software for added security

Patton's Virtual SmartNode (vSN) delivers the features you need for advanced voice network applications that need to be easily scaled up and down. At the same time, it eliminates hardware limitations which are required for the performance of the application.

The Virtual SmartNode provides the comprehensive feature set needed for you as an enterprise or service provider looking to virtualize your infrastructure.

Secure your VoIP infrastructure by encrypting signaling streams using the Virtual SmartNode.

DoS prevention, trust peer, toll fraud prevention, stateful firewall QoS, voice quality assessment and monitoring and much more, is part of the virtualized Patton SmartNode* as well as IP routing, including IPv4 and IPv6 networking features.

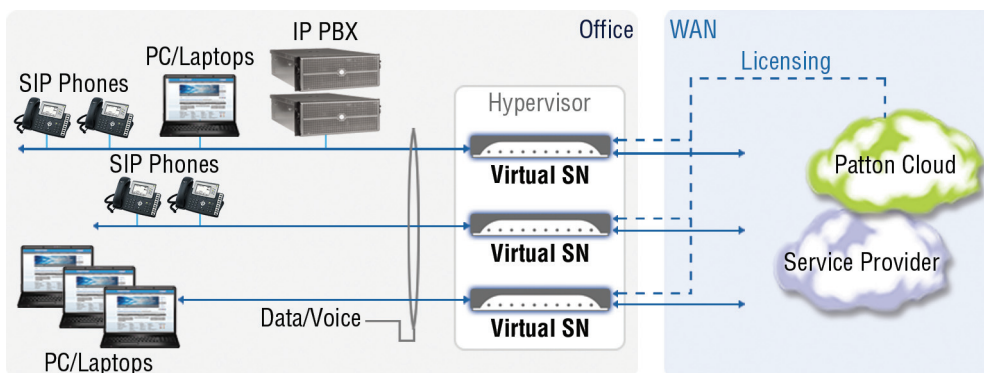
SmartNodes are the leading and field proven CPEs running Patton Proprietary OS. The same, feature rich software used on the purpose build hardware devices, can also be used in virtual environments for a high level of scalability and service availability.

Contact us for more information at sales@patton.com.

Applications

The Virtual SmartNode is designed to run in virtualized enterprise networks, telephony service provider datacenters, cloud provider infrastructure, etc. Addressing varying call capacity needs from clients can easily be done, scaling up and down the required licenses on the virtual SmartNode using a floating license model through the Patton Cloud. The Patton Cloud automatically distributes the obtained licenses to where they are needed (vSN and other Patton devices).

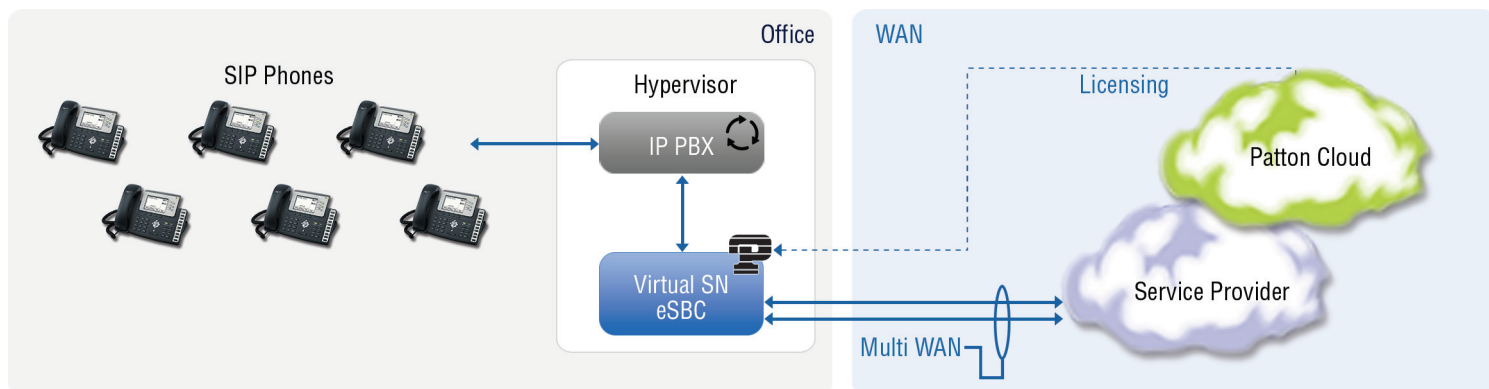
This enables you to easily scale up/down SBC services on Virtual SmartNodes but also on regular SmartNode devices.



Virtual SmartNode™ VoIP CPE

Use Cases

Virtual SmartNode SIP Trunking



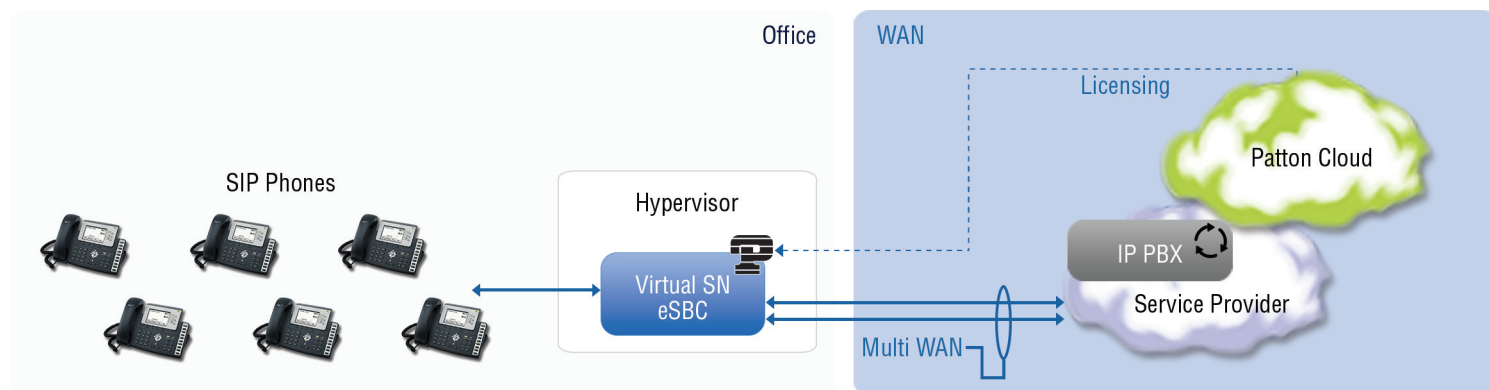
Application Details

Usual eSBC features delivered to SME
LAN telephony protection
Service demarcation
SIP normalization
Quality of service
Survivability
Conversion: SIP IPv4 to IPv6 • SIP UDP to TCP • SIP
TLS to UDP

Benefits

Harmonized installation
No need for pCPE (purpose-built CPE)
Simplified installation
Scalable, flexible, reliable
High availability through virtualized hardware

Virtual SmartNode Hosted PBX



Application Details

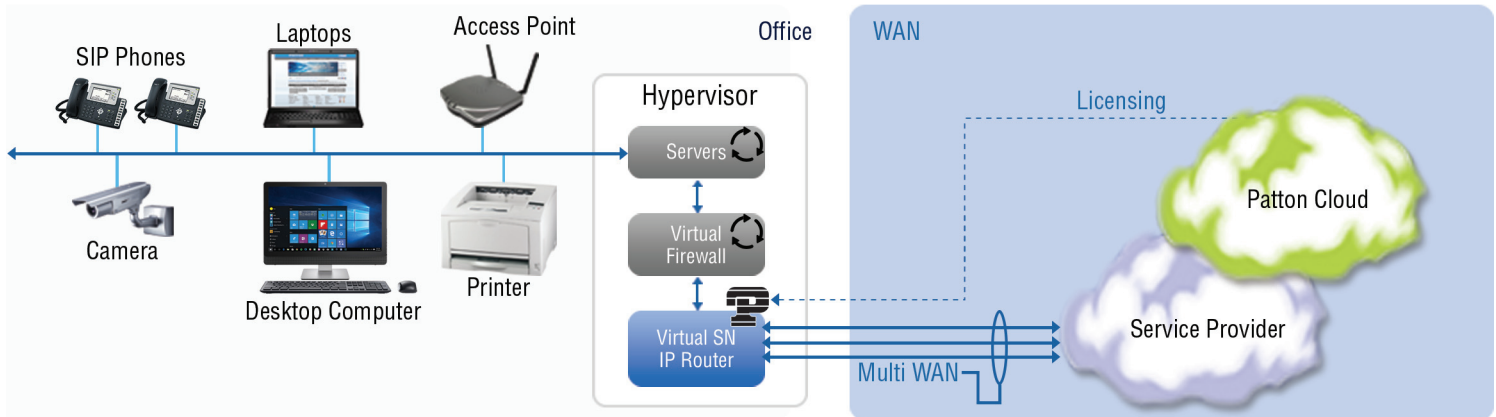
Service demarcation
SIP normalization & Interop
Quality of service
Survivability—Multi WAN
Station to station calling—WAN outage
Conversion: SIP IPv4 to IPv6 • SIP UDP to TCP • SIP
TLS to UDP

Benefits

Harmonized installation
No need for pCPE (purpose-built CPE)
Simplified installation
Scalable, flexible, reliable
High availability through virtualized hardware

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Virtual SmartNode IP Router



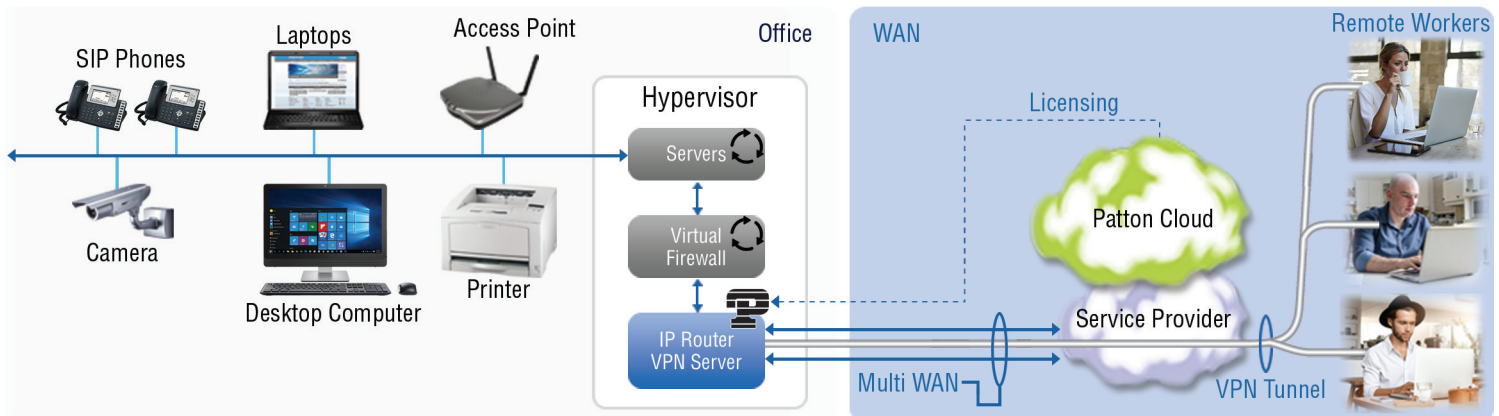
Application Details

- Multi WAN link support & management
- Load balancing
- Survivability
- High availability (HA)
- Network address translation (NAT) & network address and port translation (NAPT)
- DHCP server
- Access control list (ACL)
- IPv6 support
- VRRP, GRE, RIP, BGP, etc.

Benefits

- Simple & automated setup
- Scalable—You define the CPU and memory
- Flexible—Adapts to customer needs
- Add/remove features as needed
- Central management through Patton Cloud

Virtual SmartNode VPN Server



Application Details

- Secure remote workers, remote offices integration
- VPN links termination & aggregation—IPsec (Client Side only*), OpenVPN
- Access to main office infrastructure (printers, servers, etc.)
- Multi WAN link support & management
- Access right management

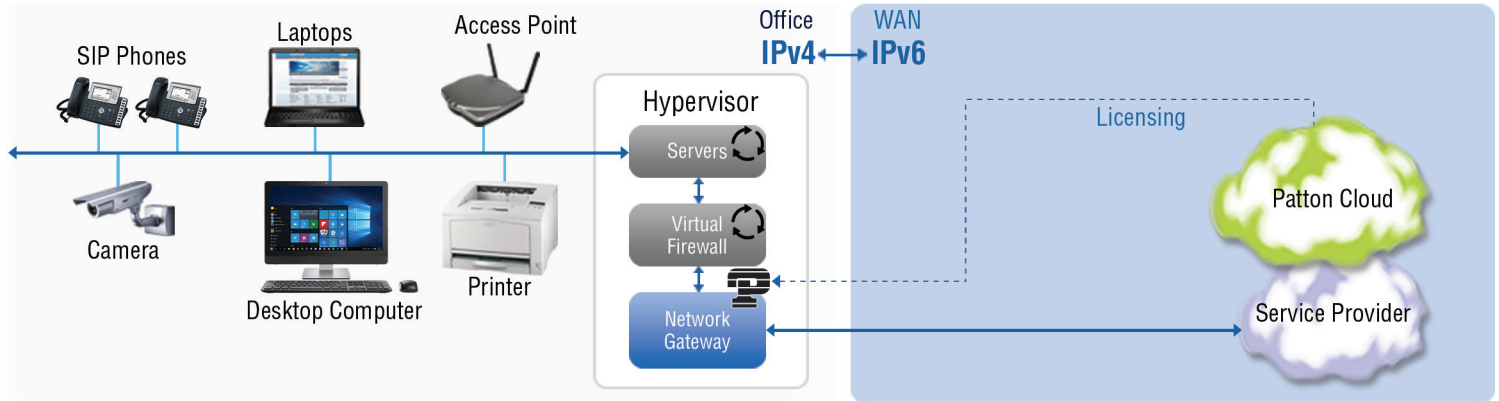
Benefits

- Simple setup
- Scalable—You define the CPU and memory
- Flexible—Adapts to customer needs
- Add/remove features as needed
- Central management through Patton Cloud

* IPsec server side on roadmap

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Virtual SmartNode IPv4 to IPv6 Network Gateway



Application Details

- IPv4 to IPv6 interop
- WAN—LAN network separation
- Access control list (ACL)
- Multi access link management (IPv4 or IPv6)
- Dual Stack IPv4/IPv6
- DHCPv4 & v6
- Various routing protocol support

Benefits

- Simple & automated setup
- Scalable—You define the CPU and memory
- Flexible—Adapts to customer needs
- Add/remove features as needed
- Central management through Patton Cloud

Specifications

Voice Signaling

- SIPv2 & SIPv2 over TLS
- SIP over IPv4 & IPv6
- SIP call transfer, redirect
- Overlap or en-bloc dialing
- DTMF in-band, out-of-band
- 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)
- Transparent Clearchannel (RFC 4040)
- AMR-NB (4.75, 5.15, 5.9, 6.7, 7.4, 7.95, 10.2, 12.2 kbps)
- iLBC at 13.33 & 15.2 kbps

Call Routing & Services

- Regular expression number matching
- Regular expression number manipulation
- Least Cost Routing
- Call load distribution
- Number blocking
- Short-Dialing
- Digit collection

- Distribution-Groups and Hunt-Groups
- Seamless call failover
- Detection of RTP loss
- SIP Back-to-Back User Agent
- SIP Registrar*

Security

- Network separation
- SIP back to back UA*
- TLS*
- Open VPN* / IPSec* / L2TP*
- DoS detection & prevention
- Intelligent ACL
- SIP trusted peer

IP Networking

- IPv4 & IPv6 Dual Stack
- Routing Protocol support GRE, VRRP, BGP, RIPv1&v2
- Policy, Packet and packet length Based Routing
- IP Multi-Netting, VLAN, Secondary IP
- Network Address and Port translation (NAT/NAPT)
- IPv4 & IPv6 DHCP Client & Server

Quality of Service

- PacketSmart™ Network Assessment & Monitoring*
- Voice priority, DownStreamQoS™
- Traffic Management, shaping, policing
- IEEE 802.1p, IEEE 802.1Q, 4096 VLANs (Tag insertion/deletion), TOS, DiffServ Labeling

Management

- Dynamic resource licensing model (leased / floated)
- Changeable MAC address
- Web/HTTPs, CLI with Telnet and SSH access
- Web Wizard
- Fully Documented CLI
- Telnet and HTTPs access
- TR-069, TFTP, HTTP, HTTPS configuration up- and download
- TR-069, TFTP, HTTP, HTTPS firmware upgrade
- SNMPv1-3 agent
- Radius, Tacacs+
- 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

Licensing

- Each vSN instance requires 1 license
- Software feature licenses can be obtained from Patton Cloud
- See www.patton.io for more details

Performance Requirement

- 500 Mhz per 250 calls

Virtualized Machine System Requirements

- CPU: 64bit x86 architecture (single core or more)
- Hypervisor (KVM, VMware, VirtualBox, Hyper-V)
- RAM: min 1024MB
- HDD: min. 1014 MB
- Network: at least 1 Ethernet adapter (virtual)

Weight

- 0g (0 oz)



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