discover a **better way**
to communicate

NetComm SmartVoice
V400/V800 Multi-port VoIP Gateways

NetComm®
www.netcomm.com.au

- **Cut your business phone bills using a risk-free VoIP solution**

- **Integrates with your existing PBX phone system for call control and PSTN access**

- **Call hunting feature for outbound remote access calls* (FXO) and in-bound calls (FXS)**

- **Allows branch offices to benefit from free calls using their VPN**

- **T.38 fax support, IVR feature, Hotline/Warmline, call hold/transfer/forward**

The **NetComm SmartVoice** suite of VoIP Gateways is designed to harness the potential of an existing business telephone system

VoIP or Internet Telephony is a growth technology that allows businesses to benefit from significant savings on their phone bills.

The SmartVoice range integrates with your existing analogue PBX. All that is needed is a broadband Internet connection and an account with an Internet Telephony Service Provider. SmartVoice delivers an easy way to add cost saving VoIP technology without the need to replace your entire phone system.

The SmartVoice range represents a **risk-free** way to incorporate VoIP/Internet Telephony into your business. If the broadband or Internet Telephony Service is experiencing problems your phones simply fall-back to standard PSTN functionality and will not compromise your ability to make and receive phone calls.

A unique feature of the SmartVoice gateway series is the **call hunting** function which applies to FXS and/or FXO ports on the gateway. This allows an incoming call to an FXS port to search or "hunt" for an available port to connect to – if FXS port 1 is busy it will try FXS port 2 and so on, then pass the call to the PBX. Alternatively, a remote user wanting to make interstate or international calls using the office Internet Telephony account, can ring into an FXO port and the gateway will hunt for an available port if the first port is busy. **Call hunting** can be set using a priority or random setting.

Who can benefit from a NetComm SmartVoice VoIP Gateway?
Branch Offices
- A SmartVoice Gateway can IP-enable an analogue PBX and allow inter-connection with the head office and other branch offices via VPN.
- It also delivers a low cost telephony solution for interstate and international external calls.

Small to Medium Businesses (SMB)
- Any Small to Medium Business can upgrade their existing PBX equipment to add Internet Telephony.
- A SmartVoice Gateway can be used as part of a new PBX solution to deliver both PSTN and Internet Telephony functions.

Why install a NetComm SmartVoice Gateway?
- **Risk free**: A SmartVoice gateway is the risk free way to implement VoIP. If your broadband or Internet Telephony Service experiences difficulties, the PBX falls back to standard PSTN and your business can continue to make and receive calls.
- **Low cost**: compared to completely replacing your phone system with an IPPBX, a SmartVoice gateway is the cost-effective way to add Internet Telephony
- **Easy to Integrate**: A SmartVoice gateway simply facilitates Internet Telephony access – the call management and control is retained by the PBX
- **Easy to use**: the installation of a SmartVoice gateway is transparent for users – they simply use the phone as normal, but the business benefits from massive savings in call costs.

* Features are only applicable in models which have an FXO port(s)

The building blocks of a **SmartVoice VoIP Gateway**

## Integration into a LAN/WAN
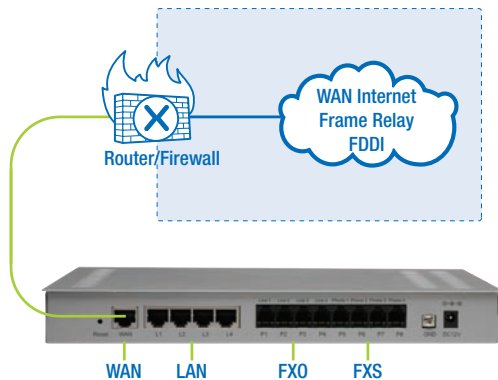
A SmartVoice gateway works with all popular transmission technologies including Cable/DSL, Frame Relay and FDDI (Fibre). Within a data network environment, your SmartVoice gateway sits behind a modem/router, and your firewall needs to be "VoIP aware".

The SmartVoice Gateway operates in two modes:
Router Mode (default): the LAN and WAN are on different subnets and Network Address Translation (NAT) occurs twice through the SmartVoice gateway and the router.

Bridge Mode: if speed is an issue for remote users, bridge mode can be used where devices are treated as though connected directly to the router/switch.

Toll Bypass
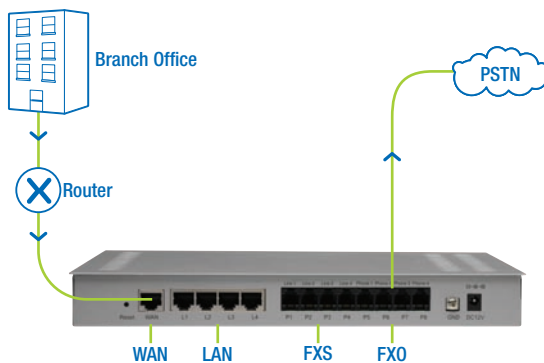
One of the key applications for a SmartVoice Gateway is toll bypass – ideal for a business with offices in multiple cities. For example, a business has their head office in Sydney and branch offices in Brisbane and Melbourne

Application 1 – Inter-Office Communication:
The offices can ring each other for free over the VPN and eliminate long distance charges for everyday communication

Application 2 – Long distance calling to external numbers
The Brisbane office wants to call an external phone number in Melbourne – the call is routed to the Melbourne SmartVoice gateway over the VPN and then hands-off to the local PSTN, in effect making it a local call from Brisbane.

Remote User Solution
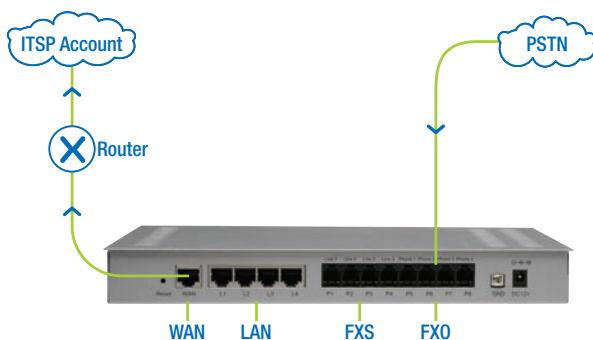
A SmartVoice Gateway allows your business to move beyond the boundaries of a single location and gives remote staff such as teleworkers or mobile sales reps access to your office's Internet Telephony Service.

A user simply calls in via a mobile phone or standard PSTN phone to an FXO port on the SmartVoice Gateway. After entering the security password, you can pick up the dial-tone for the Internet Telephony Service to call out to interstate or international phone numbers.

Integration with an Analogue PBX
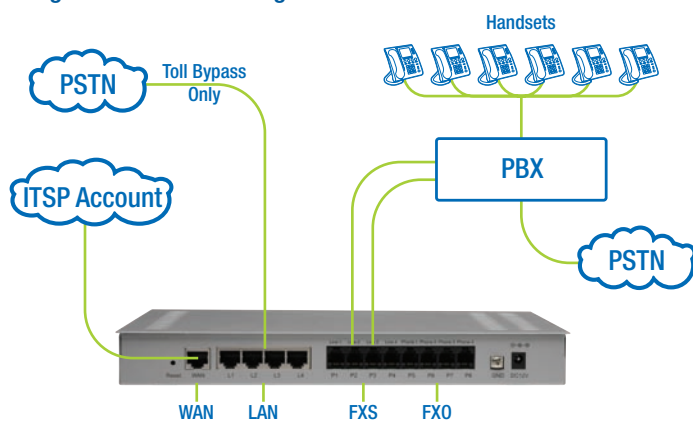
A business with an existing analogue PBX can use a SmartVoice Gateway to add Internet Telephony services to the phone system without the need to replace any equipment. The SmartVoice unit simply integrates with the PBX and acts as a "gateway" for routing calls from a phone extension through to an Internet Telephony Service Provider. This provides your business with the ability to make calls through either a regular telephone service (PSTN) or an Internet Telephony service. Most importantly, the business retains all of its phone functions managed by the PBX and is transparent to all users.

V400 Series - 4 port

V440 – 4FXS ports + 4 LAN

V404 – 4 FXO ports + 4 LAN

V422 – 2FXS + 2FXO ports + 4 LAN

V431 – 3FXS+1 FXO ports + 4 LAN

V800 Series - 8 port

V880 – 8 FXS + 4 LAN

V844 – 4 FXS + 4 FXO + 4 LAN

V808 – 8 FXO + 4 LAN

TECHNICAL SPECIFICATIONS

WAN
- One 10/100Mbps auto-negotiation, autocrossover RJ-45 Ethernet port
- Support static IP, PPPoE, Bigpond Cable and DHCP address assignment and dynamic DNS (DDNS)
- QoS: IP TOS (Type of Services) and DiffServ (Differentiated Services) for both SIP signalling and RTP
- NAT Traversal: Port Forwarding, STUN, UPnP and Outbound Proxy
- NTP: (Network Time Protocol RFC 1305), Accepts up to 3 Time Servers for redundancy
- Time Zone Support
- MAC Address Clone
- RTP Packet Summary: packets sent, packets received, packet loss - for voice quality analysis

LAN
- Four 10/100Mbps auto-negotiation, autocrossover RJ 45 Ethernet ports
- Supports router and bridge mode (NAT mode and Non-NAT mode)
- DHCP server
- 800 Series: module for 802.11x Wireless LAN (for future release)

ADVANCED FIREWALL AND DENIAL OF SERVICE (DOS) PROTECTION
- NAT (Network Address Translation) and PAT (Port Address Translation)
- DMZ, Virtual Server & Port Forwarding
- Traffic Filtering based on MAC address, IP address, TCP/UDP Port number and URL string pattern
- Prevents attacks based on TCP, UDP, IP and ICMP protocols
- Prevents attacks such as SYN Flood, IP Spoofing, Ping of Death, Tear Drop, etc.

PORT CONFIGURATION
400 SERIES:
- V404 – 0FXS/4FXO, 1WAN, 4LAN
- V422 – 2FXS/2FXO, 1WAN, 4LAN
- V431 – 3FXS/1FXO, 1WAN, 4LAN
- V440 – 4FXS/0FXO, 1WAN, 4LAN
800 SERIES:
- V808 – 0FXS/8FXO, 1WAN, 4LAN
- V844 – 4FXS/4FXO, 1WAN, 4LAN
- V880 – 8FXS/0FXO, 1WAN, 4LAN

LED INDICATORS
- 400 Series - Front Panel LED: LAN ports 1~4, WAN, Voice ports 1~4, Alarm, Run, Power
- 800 Series – Front Panel LED: Voice ports 1~8, LAN ports 1~4, WAN, WLAN, Alarm, Run, Power

GENERAL SPECIFICATIONS
- Power Adaptor: AC 100V~240V 50/60Hz input, DC 12V output
- Temperature Operation 0 °C ~ 45 °C
- Storage -25 °C ~ 75 °C
- Humidity up to 90% RH, non-condensing 400 SERIES:
- Dimension (W/D/H) all models: 202 x 172 x 35 mm
- Weight all models: 0.43kg 800 SERIES:
- Dimension (W/D/H) all models: 302 x 179 x 45 mm
- Weight all models: 1.2kg

VOICE FEATURES
- SIP (RFC3261) compatible
- Voice codecs: G.711 a/μlaw, G.726, G.729A, G.723.1
- CNG (Comfort Noise Generation)
- VAD (Voice Activity Detection)
- Silence suppression/detection
- G.165/G.168 echo cancellation
- Adjustable Jitter Buffer and programmable Gain Control
- Fax Support: T.30 (G.III)/Real time T.38/ Secured T.38 FAX relay
- In-Band DTMF, Out-Of-Band DTMF relay (RFC2833, SIP INFO)
- Multiple SIP Proxy server entries (same provider) with failover mechanism**
- Polarity reversal detection (FXO/PSTN) and generation (FXS)
- DTMF, FSK (Bellcore & ETSI) Caller ID detection and generation.
- Support Caller ID Restriction (CLIR)
- FXO hang up detection: Busy Tone cadence auto learning/detection*
- Support PSTN-to-VoIP (transit in) / VoIP-to- PSTN (transit out) applications*
- Call control for transit-in/transit-out with self-defined security privileges
- Recordable greeting message for transit-in calls
- Digit Map for dialling plan support and call barring
- Speed Dial
- Local phone book for peer-to-peer calling

- E.164 Numbering & ENUM support
- Hot-Line, Warm-Line support
- Single Number / Account (representative number) for multiple ports
- Group Hunting function
- Dual Network Support Proprietary server and protocol enables small businesses to build private SmartVoice network and use standard SIP network at the same time
- Supplementary call features:**
  - Call Hold, Call Waiting, Call Pickup
  - Call Forward - Unconditional, Busy, No Answer
  - Call Transfer - Unattended, Attended
  - Three Way Calling (Media Server required)
- Failover mechanism (FXS relay to FXO/PSTN):
  - Network failure
  - Service unavailable
  - Power loss
- Analogue interface
- Connector: RJ-11
- Signalling protocol: Loop Start

CONFIGURATION & MANAGEMENT
- Configuration methods:
  - Web Browser
  - IVR
  - Telnet
- Status reports:
  - Port status
  - Registration status
  - Ping tests
  - STUN/UPnP status
  - Hardware/software information
- Firmware Upgrade through TFTP, FTP and proprietary image server
- Configuration Backup/Restore
- Reset button (with restore factory default function)
- Optional Auto Provisioning Server (APS) for mass deployment
- SNMP V1 / V2c (optional)

*Features are only applicable in models which have an FXO port(s) **The availability of these features may depend on your service provider's network

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