

## Vigor/PPBX 2820 Series

- Up to 50 IP Phone Registrations/extensions for cost-effective communication
- Up to 32 VPN tunnels for remote data access security
- Voice Mail to E-mail function for not missing each important message
- 2<sup>nd</sup> WAN port (Ethernet) for policy-based load-balancing or fail-over
- 2 ISDN ports simultaneously configurable NT/TE mode to meet various communication needs via cost-effective VoIP
- 3.5G USB capability for activating Internet connection anytime
- Advanced 802.11n technology delivers exceptional speed and range (n model)
- Highly compatible Wi-Fi networks let you enjoy free unlimited phone calls by using Wi-Fi phone (n model)

SOHOs, you don't need to have a deep packet for the comprehensive IP Telephony solution. DrayTek's Vigor/PPBX 2820's enterprise-level VoIP voice streams over multi-locations connectivity as well as reduce infrastructure complexity and strengthen productivity.

### Integration of Telephony

Your endless wiring nightmares as configuring new extensions in the legacy PBX system are going to end. Just plugging/unplugging for the configuration! This is what Vigor/PPBX 2820 embedded browser-based admin-function can do for multiple IP-based phones located under different LAN. The simplicity is opposed to costly services charged by legacy PBX vendors. The unified data applications and voice network of Vigor/PPBX 2820 lets demands on the voice packet prioritization of the LAN infrastructure to assure quality of voice. Hence, the IP-only system results in economies such as the reduced cost of adds, changes and moves the labor of wiring a single converged network.

Your monthly basic VoIP fee charged by ITSP could sound reasonable; however, you may complain about those al carte expense caused by call transfer, call waiting music and so on. Vigor/PPBX 2820 delivers a new architecture for flexible-extension-logic communications by using the Session Initiation Protocol (SIP) to establish voice connections between users and combines the rich-features of the PBX with networking advantages combined with trunking and scalability.

In addition to save your monthly fees, the IP PBX function can provide up to 50 extensions setup to let all registered IP phones in the LAN or remote sites around the world have unlimited free calls through Internet. Moreover, Vigor/PPBX 2820 is able to establish multiple networking architectures corresponding to your current desire and future needs of growing communication. Its ISDN/PSTN compatibility lets you move from simple VoIP solution such as IP phone and Softphone to integrate with comprehensive networking infrastructure, such as ISDN and Analog phone line any time you need.

Not enough for your desirable cost-effective communication? Don't worry; Vigor/PPBX 2820 has more to offer. Its Digit Map function allows you to set up rules for particular call destinations through the most cost-effective way to reach them. For instance, you can route local calls via your PSTN/ISDN line (if you have a free calls package) whereas international calls can go via your preferred VoIP provider. Digit Map's flexibility can align with your local service package to give you the most economical calls all the time.

Let's think what's the fundamental thing about making a call? You would say "Just don't miss it", right? Vigor/PPBX 2820 router has voice mail to e-mail functionality that allows you to make immediate responses to those important messages even though you are 1,000 miles away from the office.

### Secured Networking

You are satisfied with Vigor/PPBX 2820's Telephony functionalities. But your next question would be "How about Security". Vigor/PPBX 2820 provides up to 32 VPN tunnels and object-based firewall to secure your networking communication.

**VPN:** By adopting hardware-based VPN platform and hardware encryption of AES/DES/3DS, Vigor/PPBX 2820 router increases the performance of VPN greatly, and offers several protocols (such as IPSec/PPTP/L2TP) with up to 32 VPN tunnels.

**Firewall:** Vigor/PPBX 2820's flexible object-based firewall secures your network via DoS/DDoS prevention and URL/Web content filter to strengthen the security outside and control inside. In addition, Vigor/PPBX 2820's object-based design used in SPI (Stateful Packet Inspection) firewall provides the painlessly easy firewall policy setup process for users.

### Dual WAN / USB 3.5G-backup and load balancing

Your business continuous and disaster recovery are also taken care by Vigor/PPBX 2820. In addition to the primary ADSL interface, the Vigor/PPBX 2820 has additional WAN port connecting to a second xDSL modem or any other Ethernet-based Internet feed for your backup Internet access and load balancing. Furthermore, all traffic will be switched back when normal service is resumed to your primary line. So, you won't worry about ITSP's system downtime. The second WAN port also further ensures your voice quality through its stable connectivity.

On the other hand, Vigor/PPBX 2820's USB 3.5G capability lets you get Internet access before your local ISP service available and have another connection backup.

(Note: Choose either USB 3.5G connection or Ethernet connection for WAN 2)

### Featuring USB storage

You can leave Vigor/PPBX 2820 as media-sharing server while you are away home or office! Then the hard-drive or flash-based USB storage device will act as FTP server and the users can access it by any FTP client from LAN or WAN. If you are an editor or journalist, you can let newspapers or magazine download your reports as well as high-resolution photos while you are chasing latest news. If you are film-lover, USB hard-drive can be attached to Vigor/PPBX 2820 router to download file without turning on your PC. Vigor/PPBX 2820 lets you easily back up files or access saved media files!





# VigorIPPBX 2820 Series

## IP PBX Features

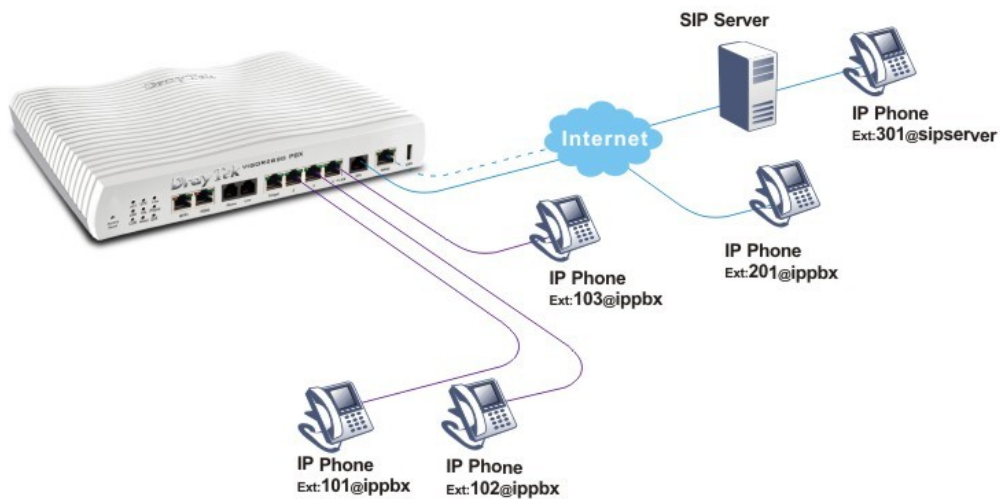
- 50 Accounts (Extensions)
- Registration and Authentication
- BLF (Busy-lamp Field)(Work with VigorPhone 350)
- Hunting Group
- IVR
- Calendar
- Dial Plan (Digi Map)
- Extension Monitor
- Call Detail Records
- DID
- Extension Privilege Assign
- PIN Code Control
- Call Barring, Call Park, Call Pickup
- In/Outbond Call Through FXO Interface
- In/Outbond Call Through ISDN-TE Interface
- User-defined Prompts
- Automated Attendant
- Voice Message to Email
- Voice Mail
- MWI (Message Waiting Indicator)
- Music on Hold
- Work with DrayTek Soft Phone

## VoIP

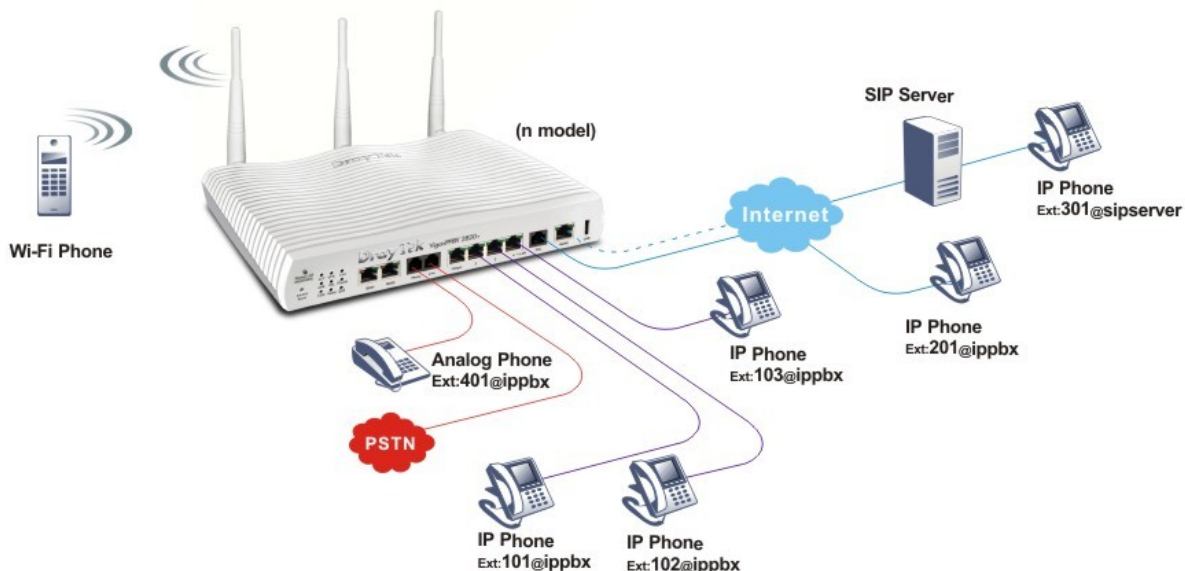
- Protocol: SIP, RTP/RTCP
- 6 SIP Registrars
- G.168 Line Echo-cancellation
- Automatic Gain Control
- Jitter Buffer (180ms)
- Voice codec:
  - G.711, G.723.1, G.726, VAD/CNG, iLBC\*
- DTMF Tone :
  - Inband/Outband (RFC-2833)/SIP Info

	VoIP	ISDN S0	Wireless
VigorIPPBX 2820n	•	•	•
VigorIPPBX 2820	•	•	

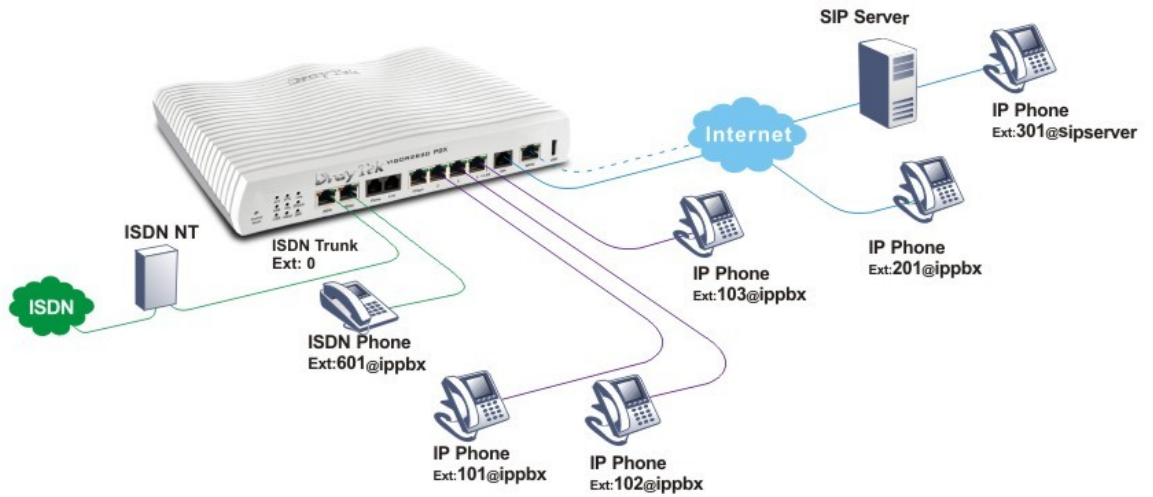
## Extendable IP telephony through registrar of VigorIP PBX and SIP service providers



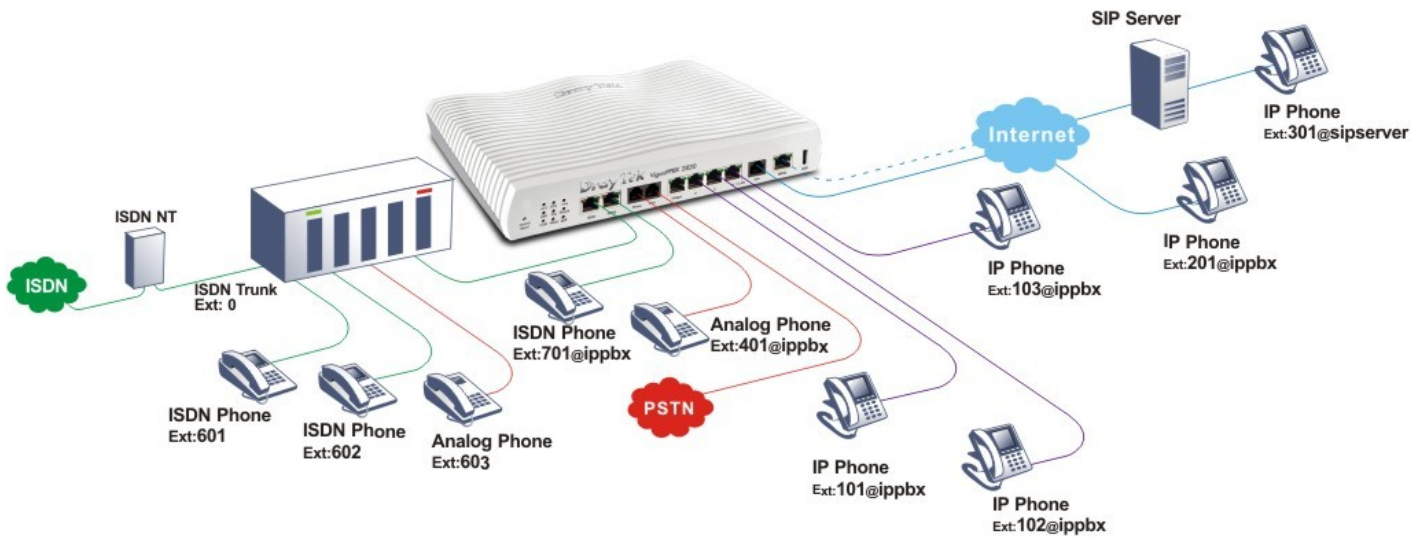
## Scalable communications through integration of traditional PSTN network with SIP-based telephony



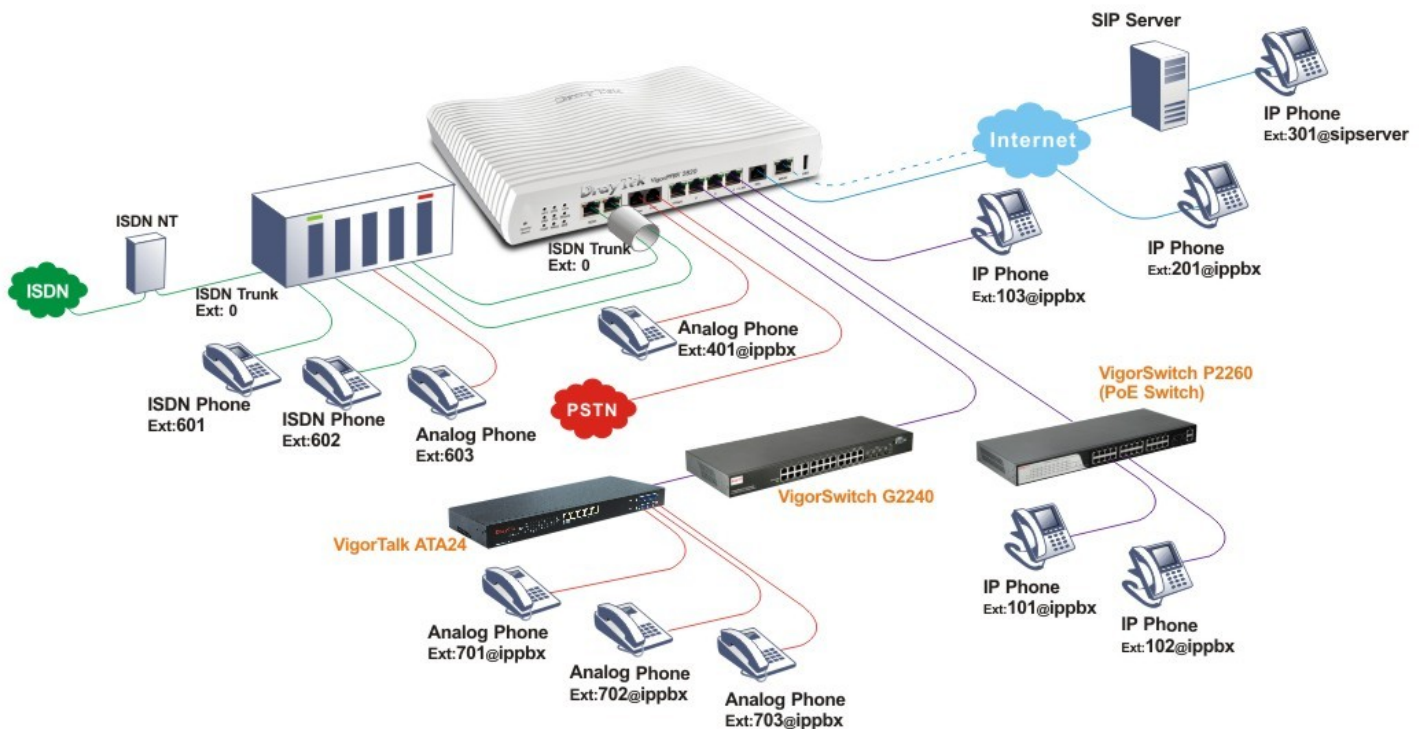
## Deployment of ISDN network with SIP-based telephony



## Versatile integration of SIP-based telephony by implementation of ISDN PBX and the PSTN network



## PoE-switch provides power-saving IP Phone for manageable IP telephony





## Vigor/PPBX 2820 Series

### VPN

- Up to 32 VPN Tunnels
- Protocol : PPTP, IPSec, L2TP, L2TP over IPSec
- Encryption : MPPE and Hardware-based AES/DES/3DES
- Authentication : Hardware-based MD5, SHA-1
- IKE Authentication : Pre-shared Key and Digital Signature (X.509)
- LAN-to-LAN, Teleworker-to-LAN
- DHCP over IPSec
- NAT-traversal (NAT-T)
- Dead Peer Detection (DPD)
- VPN Pass-through

### Network Feature

- Port-based VLAN
- DHCP Client/Relay/Server
- IGMP Proxy
- Dynamic DNS
- NTP Client
- Call Scheduling
- RADIUS Client
- DNS Cache/Proxy
- UPnP
- Routing Protocol:
  - Static Routing
  - RIP V2

### Bandwidth Management

- QoS :
  - Guarantee Bandwidth for VoIP
  - Class-based Bandwidth Guarantee by User-defined Traffic Categories
  - DiffServ Code Point Classifying
  - 4-level Priority for Each Direction (Inbound/Outbound)
  - Bandwidth Borrowed
- Bandwidth/Session Limitation

### Wireless Access Point (n Model)

- IEEE802.11n Compliant
- Wireless Client List
- Wireless LAN Isolation
- 64/128-bit WEP/WPA/WPA2
- WPS
- MAC Address Access Control
- Access Point Discovery
- WDS (Wireless Distribution System)
- 802.1x Authentication
- Hidden SSID
- Multiple SSID
- Wireless Rate-control
- IEEE802.11e : WMM (Wi-Fi Multimedia)

### Firewall

- CSM (Content Security Management) for IM/P2P Application and URL/Web Content Filter
- Multi-NAT, DMZ Host, Port-redirection and Open Port
- Object-based Firewall
- SPI (Stateful Packet Inspection) (Flow Track)
- DoS/DDoS Prevention
- IP Address Anti-spoofing
- E-mail Alert and Logging via Syslog
- Bind IP to MAC
- GlobalView Web Content Filter powered by 

### Dual-WAN (Ethernet / 3G)

- Outbound Policy-based Load-balance
- BoD (Bandwidth on Demand)
- WAN Connection Failover

### ISDN

- Two configurable ISDN NT/TE
- Euro ISDN Compatible
- Automatic ISDN Backup (Port2 Only)
- Support 64 /128Kbps (multilink-PPP) / BoD (Bandwidth on Demand)
- On-Net/Off-Net
- Remote Dial-in / LAN-to-LAN Connection
- Remote Activation

### Network Management

- Web-based User Interface (HTTP/HTTPS)
- Quick Start Wizard
- CLI (Command Line Interface, Telnet/SSH)
- Administration Access Control
- Configuration Backup/Restore
- Built-in Diagnostic Function
- Firmware Upgrade via TFTP/FTP/HTTP/TR-069
- Logging via Syslog
- SNMP Management MIB-II
- TR-069 Management
- TR-104 Management

### USB

- 3.5G (HSDPA) as 2<sup>nd</sup> WAN
- Printer Sharing
- File System :
  - Support FAT32/FAT16 File System (FAT16 can't support long file name)
  - Support FTP Function for File Sharing
  - Support Samba for Windows File Sharing

### ADSL Compatibility

- ANSI T1.413 Issue2
- ITU-T G.992.1 G.dmt
- ITU-T G.992.2 G.lite
- ITU-T G.992.3 ADSL2 G.dmt.bis
- ITU-T G.992.5 ADSL2+
- Annex L (READSL)
- Annex M
- Multi-PVC

### ADSL WAN Protocols

- RFC-2684/RFC-1483 Multiple Protocol over AAL5
- RFC-2516 PPP over Ethernet
- RFC-2364 PPP over AAL5
- PPPoE Pass Through LAN/WLAN
- PPPoE/PPPoA Relay
- Transparent Bridge for MPoA

### Ethernet WAN Protocol

- DHCP Client
- Static IP
- PPPoE
- PPTP
- L2TP

### Hardware Interface

- 1 x 1000Base-TX and 3 x 100Base-TX LAN Switch, RJ-45
- 1 x ADSL2/2+ Port
- 1 x 100Base-TX WAN Port, RJ-45
- 1 x Phone, RJ-11
- 1 x Line, RJ-11
- 2 x Configurable (NT/TE), RJ-45
- 1 x Factory Reset Button
- 1 x USB Host 2.0 (for Printer/3G USB Modem/Storage)
- 3 x Detachable Antennas (n Model)
- 1 x Wireless on/off & WPS Button (n Model)