

# VigorIPPBX 3510 Series

# DrayTek

www.draytek.com

- Consolidate management for M.A.C. (Move; Add; Change) extensions
- Ideal IP office via the integration of PSTN/ISDN/VoIP trunking
- Secured communication between your multi-site/teleworkers via central firewall and VPN gateway
- Up to 100 IP end-points/extensions (local & remote) for cost-effective communication
- Up to 32 VPN tunnels for remote data access / voice communication 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

The VigorIPPBX 3510 series serves as an IP PBX, central firewall and VPN gateway for multi-site offices and tele-workers. With its rich-featured IP PBX and the optional FXO/FXS/ISDN TE/ISDN NT interface card, the device increases the utilization of IP for the multi-site business operations. The robust firewall and up to 32 simultaneous VPN tunnels help you gain competitive advantages and strengthen productivity.

## Utilization of IP

The VigorIPPBX 3510 uses voice and IP technology to provide you with a converged communication solution. Through its easy-to-use Web UI, up to 100 IP phones can be registered at this IP PBX system. Moreover, via Internet, the remote users can also register at VigorIPPBX 3510 for their SIP-based voice communications. Keep colleagues (even remote workers) and customers in touch. You hence increase connectivity by call management, voice trunking, networking and more.

Not only saving money of traditional telephone communications, but also improving customer service for your business.

## Enhance your competitive advantage

The VigorIPPBX 3510 can optimize efficient communications without compromising frequency and people you specify. For a company itself, it can add more extensions by registering IP account on VigorIPPBX without adding cost onto existing PSTN/ISDN PBX. Your employees, suppliers, customers and partners can communicate at lower or even zero cost.

Even if you need to set up a remote office without DSL connection; you can use 3.5G USB modem as primary connection temporarily for Internet as well as VoIP. The establishment of liaison is easy and fast.

Let's grow your business processes and customer loyalty all together.

## Security without compromise

The VigorIPPBX 3510 series also provides high-security firewall options with both IP-layer and content based protection. The DoS/DDoS prevention and URL/Web content filter strengthen the security outside and inside the network. The enterprise-level CSM (Content Security Management) enables users to control and manage IM (Instant Messenger) and P2P (Peer to Peer) applications more efficiently. The CSM hence prevents inappropriate content from distracting employees and impeding productivity. Furthermore, the CSM can keep office networks threat-free and available.

With CSM, you can protect confidential and essential data from modification or theft.

## Be accessible wherever you are

The SIP-based voice communications can be trunked via the SIP service providers and IP PBX SIP server of VigorIPPBX. The VigorIPPBX 3510 is equipped with premium voice quality for concurrent calls. You can hear crystal voice even the voice routed from abroad.

The integration of FXO interface card with PSTN PBX will allow remote site to dial into IP PBX and then get a PIN code to dial through PSTN PBX to local call or foreign calls vice versa. Use this functionality; your employees can work from home via soft-phones.

## More extendability

With a dedicated VPN co-processor, the hardware encryption of AES/DES/3DES and hardware key hash of SHA-1/MD5 are seamlessly handled, thus maintaining maximum router performance. For remote tele-workers and inter-office links, the VigorIPPBX 3510 supports up to 32 simultaneous VPN tunnels (such as IPSec/PPTP/ L2TP protocols).

Let high-performance multi-VPN connection to secure your communication.

## High user-friendliness and efficiency

Its well-structured Web User Interface offers user-friendly configuration. The WUI also provides IP layer QoS (Quality of Service), NAT session/bandwidth management to help users control and allocate the bandwidth on networks. The auto-provisioning lets efforts for deploying DrayTek VigorPhone 350 be minimized to little.

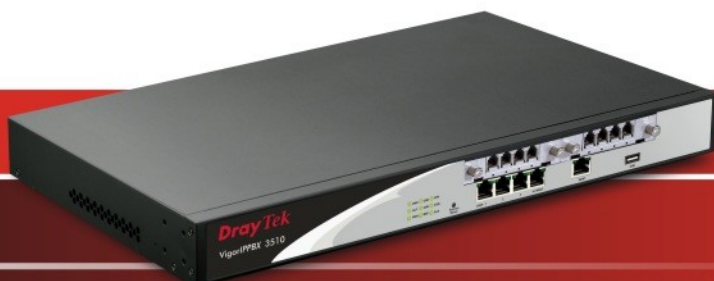
Just "Plug & Play" to add extensions for the new blood of your company!

## More benefits

The platform of VigorIPPBX 3510 is able to let you choose 4-port ISDN BRI card (4 ISDN TE or 2 TE/2 NT interface card) in terms of your voice environment. The ISDN phone can connect to NT - interface of 2 TE/2 NT interface card. The ISDN line can be connected to TE-interface. If you have ISDN PBX, you can connect one of internal extension to TE-interface of 4-port ISDN TE card. The call routing of VigorIPPBX 3510 will enable ISDN MSN mapping to IP extensions for forming compound extensions.

It provides policy-based load-balance, fail-over BoD (Bandwidth on Demand) and also integrates IP layer QoS, NAT session /bandwidth management to help users control and allocate the bandwidth on networks.

It allows users to access Internet and combine the bandwidth of the dual WAN to speed up the transmission through the network. Each WAN port can connect to different ISPs. Even if the ISPs use different technology to provide telecommunication service (such as DSL, cable modem, etc.). If any connection problem occurred on one of the ISP connections, all the traffic will be guided and switched to the normal communication port for proper operation.



(Features in more benefits section can be added by future upgrade or customized in certain cases).



IP PBX



Dual-WAN



Voice Mail



VPN

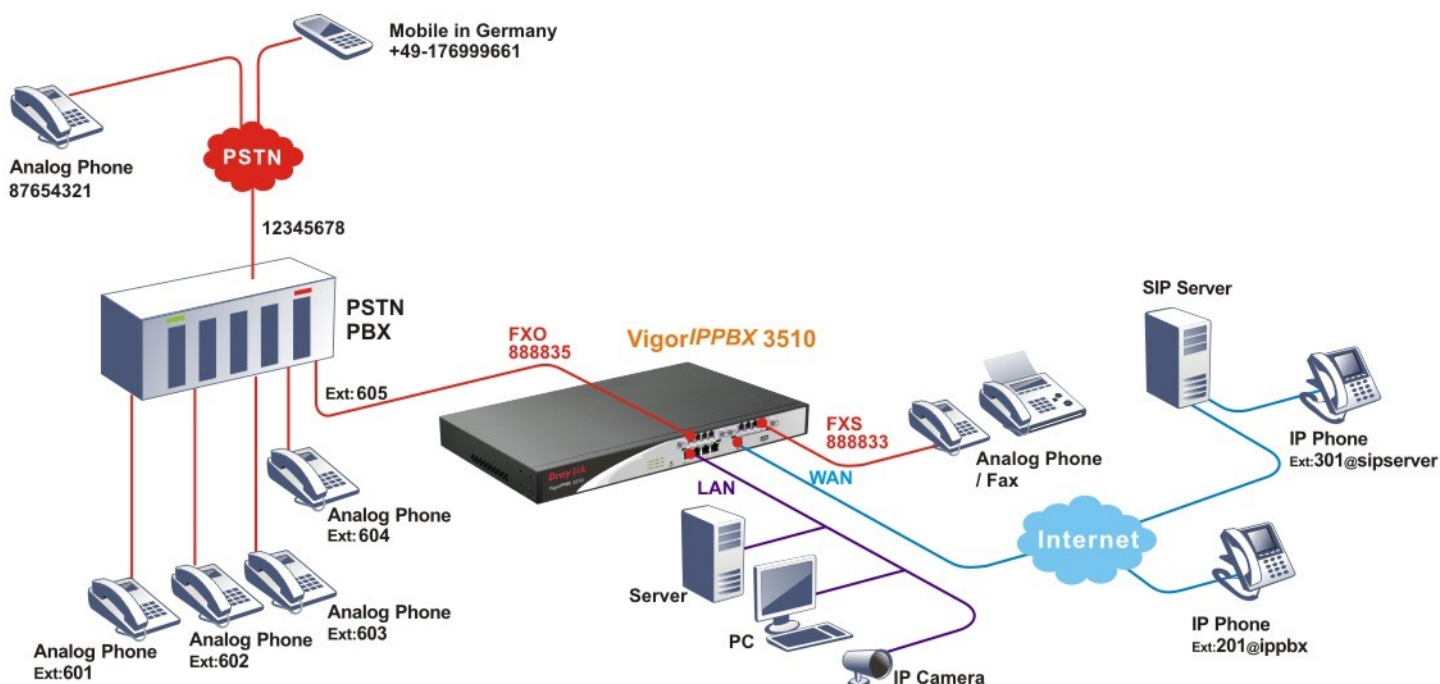


Support USB Modem

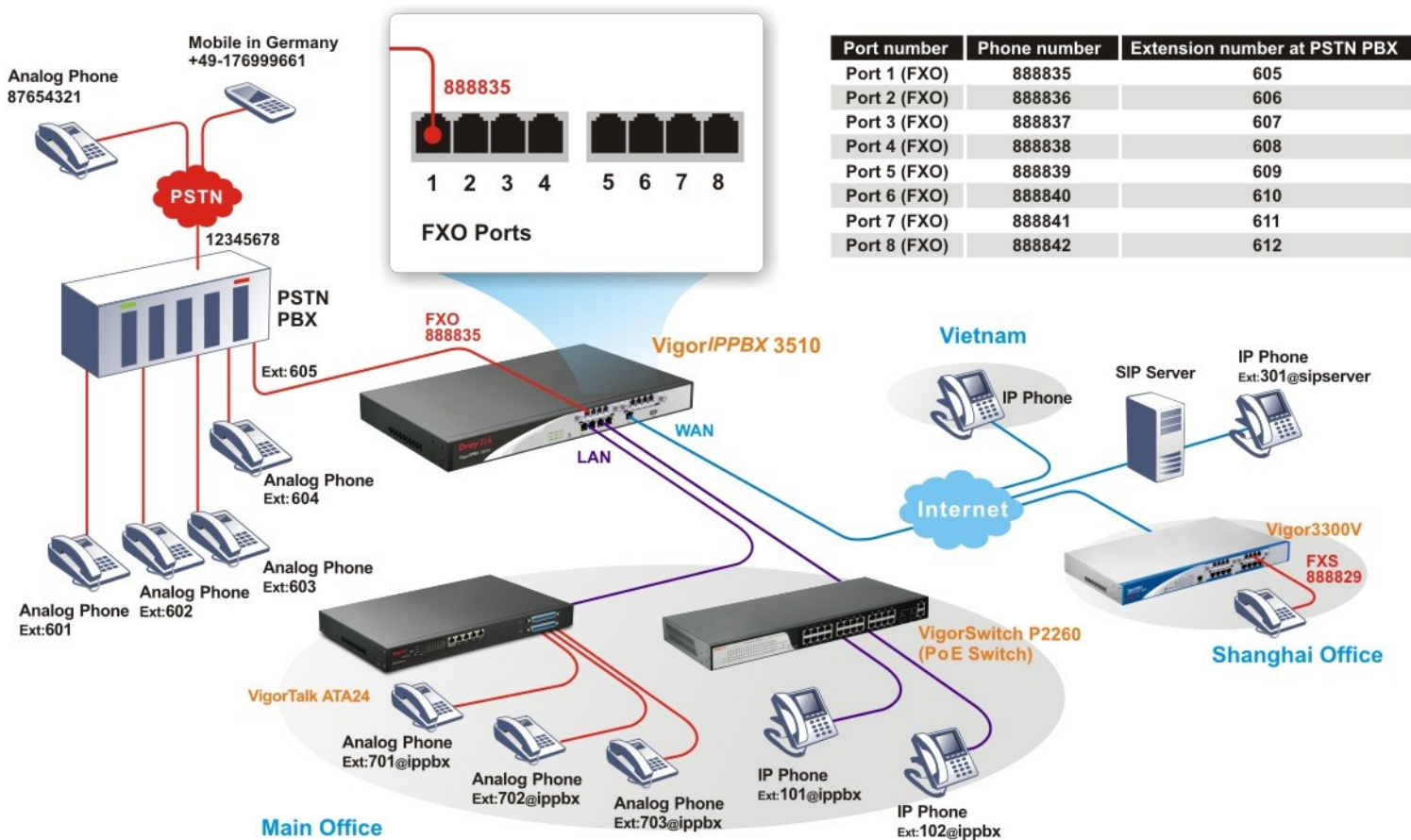


Firewall

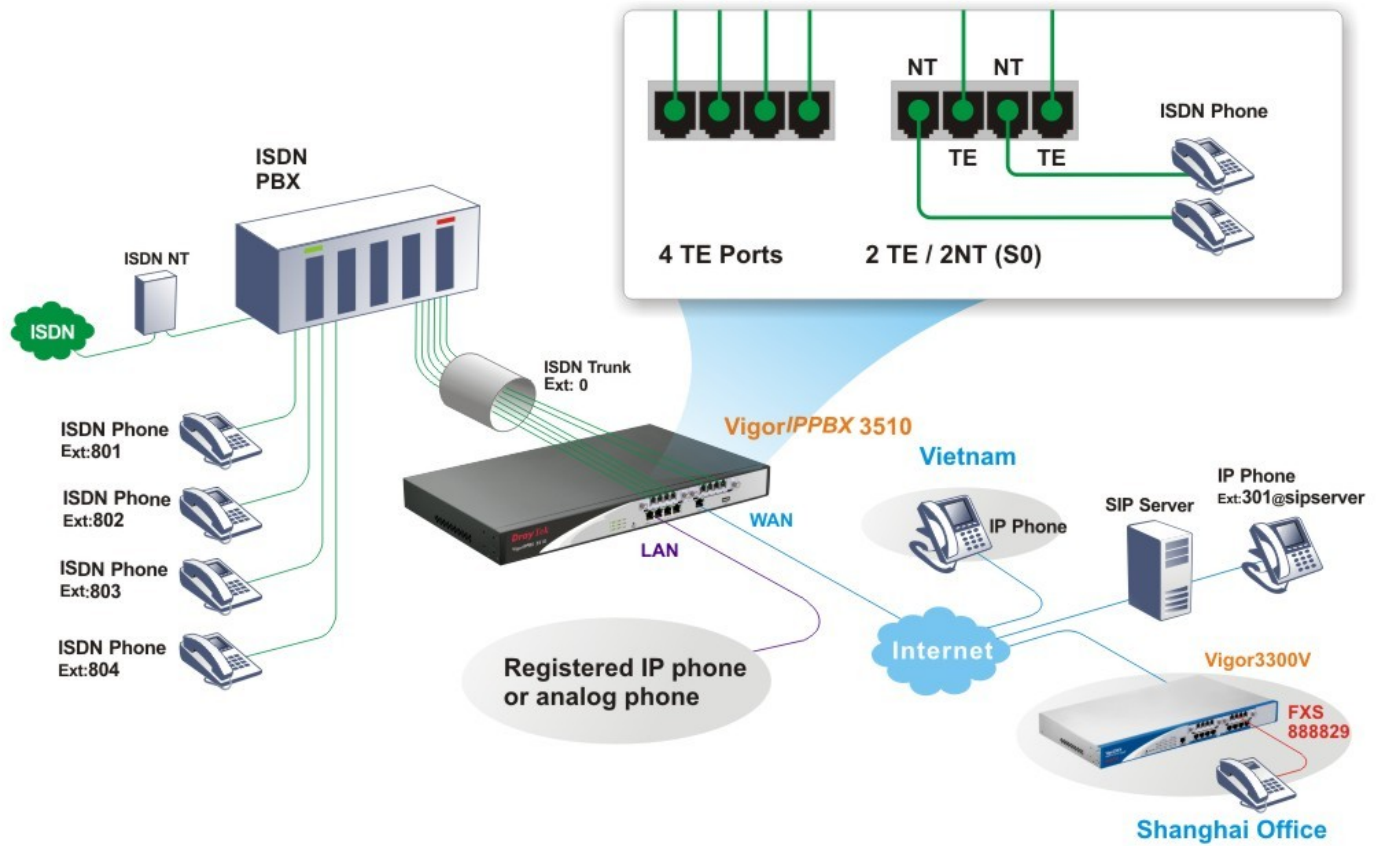
## Versatile PSTN and VoIP trunking



## Cost-effective extendability by integrated analog telephone adapter (for 24 conventional analog phones) & PoE-switch for IP-based phones



## ISDN



## Interface card

4-port FXS module



4-port FXO module



Analog

S0/TE module



ALL TE module



ISDN

## Technical specification

### IP PBX Features

6 SIP Accounts

100 Accounts (extensions)

Registration and Authentication

Auto Attendant

Hunt Group (10)

IVR

Time Scheduling

Dial Plan (Digit Map)

Extension Monitor

Call Detail Records

Call Barring

Call Park

Call Pickup

Call Transfer

Call Forwarding

DID

Extension Privilege Assign

PIN Code Control

In/Out Band Call Through FXO Interface

User Defined Prompts

Voice Message to E-mail

Voice Mail

MWI (Message Waiting Indication)

Music on Hold

BLF (Busy-Lamp Field)

Work with DrayTek Soft Phone

**ISDN features**

- ISDN Failover (Loop through) [available on 2 TE/NT (S0) interface module].
- ISDN On-Net/Off-Net
- 10 MSN (Multiple Subscriber Numbers) on each ISDN S0 port for VoIP call.
- Signaling compliance: ITU-T Rec. Q. 920, Q921, Q930, Q931.

**FAX/Modem support**

- Tone detection
- G.711 pass-through
- T.38 for FAX\*

\*planned available later than firmware 3.5.5

**WAN protocol**

- |                 |  |
|-----------------|--|
| <b>Ethernet</b> | • PPPoE, PPTP, DHCP client, static IP, L2TP, BPA |
| <b>ISDN</b>     | • DSS1 (Euro ISDN), PPP, ML-PPP(64/128Kbps)      |

**Dual WAN**

- |   |  |
|---|--|
| <b>Outbound policy based Load balance</b> | <ul style="list-style-type: none"> <li>• Allow your local network to access Internet using multiple Internet connections with high-level of Internet connectivity availability.</li> <li>• Two dedicated Ethernet WAN ports (10/100Mb/s).</li> <li>• WAN fail-over or load-balanced connectivity.</li> </ul> |
| <b>Bandwidth on demand</b>                | • Service/IP based preference rules or auto-weight.  |

**VPN**

- |   |  |
|---|--|
| <b>Protocols</b>                            | • PPTP, IPSec, L2TP, L2TP over IPSec   |
| <b>Up to 32 sessions simultaneously</b>     | • LAN to LAN, remote access (teleworker-to-LAN), dial-in or dial-out.  |
| <b>VPN throughput</b>                       | • 50Mbps   |
| <b>NAT-Traversal (NAT-T)</b>                | • VPN over routes without VPN pass-through.  |
| <b>PKI certificate</b>                      | • Digital signature (X.509)  |
| <b>IKE authentication</b>                   | • Pre-shared key; IKE phase 1 aggressive/standard modes & phase 2 selectable lifetimes.  |
| <b>Authentication</b>                       | • Hardware-based MD5, SHA-1  |
| <b>Encryption</b>                           | • MPPE and hardware-based AES/DES/3DES   |
| <b>RADIUS client</b>                        | • Authentication for PPTP remote dial-in   |
| <b>DHCP over IPSec</b>                      | • Because DrayTek add a virtual NIC on the PC, thus, while connecting to the server via IPSec tunnel, PC will obtain an IP address from the remote side through DHCP protocol, which is quite similar with PPTP.       |
| <b>Dead Peer Detection (DPD)</b>            | • When there is traffic between the peers, it is not necessary for one peer to send a keep-alive to check for liveness of the peer because the IPSec traffic serves as implicit proof of the availability of the peer. |
| <b>Smart VPN software utility</b>           | • Provided free of charge for teleworker convenience (Windows environment).  |
| <b>Easy of adoption</b>                     | • No additional client or remote site licensing required.  |
| <b>Industrial-standard interoperability</b> | • Compatible with other leading 3rd party vendor VPN devices.  |

**Bandwidth management**

- |   |   |
|---|---|
| <b>Traffic shaping</b>                            | • Dynamic bandwidth management with IP traffic shaping.   |
| <b>Bandwidth reservation</b>                      | • Reserve minimum and maximum bandwidths by connection based or total data through send/receive directions. |
| <b>Packet size control</b>                        | • Specify size of data packet.  |
| <b>DiffServ codepoint classifying</b>             | • Priority queuing of packets based on DiffServ.  |
| <b>4 Priority levels(inbound/outbound)</b>        | • Prioritization in terms of Internet usage.  |
| <b>Individual IP bandwidth/session limitation</b> | • Define session /bandwidth limitation based on IP address.   |
| <b>Bandwidth borrowing</b>                        | • Transmission rates control of data services through packet scheduler.                                     |
| <b>User-defined class-based rules</b>             | • More flexibility.   |

**Content filter**

- |                              |   |
|------------------------------|---|
| <b>URL keyword blocking</b>  | <ul style="list-style-type: none"> <li>• Whitelist and Blacklist.</li> <li>• Java applet, cookies, active X, compressed, executable, multimedia file blocking.</li> </ul> |
| <b>Web content filter</b>    | • Dynamic URL filtering database.   |
| <b>Time schedule control</b> | • Set rule according to your specific office hours.   |

## Firewall

<b>Stateful Packet Inspection (SPI)</b>	<ul style="list-style-type: none"><li>• Outgoing/Incoming traffic inspection based on connection information.</li></ul>
<b>Content Security Management(CSM)</b>	<ul style="list-style-type: none"><li>• Appliance-based gateway security and content filtering.</li></ul>
<b>Multi-NAT</b>	<ul style="list-style-type: none"><li>• You have been allocated multiple public IP address by your ISP. You hence can have a one-to-one relationship between a public IP address and an internal/private IP address. This means that you have the protection of NAT (see earlier) but the PC can be addressed directly from the outside world by its aliased public IP address, but still by only opening specific ports to it (for example TCP port 80 for an http/web server).</li></ul>
<b>Port redirection</b>	<ul style="list-style-type: none"><li>• The packet is forwarded to a specific local PC if the port number matches with the defined port number. You can also translate the external port to another port locally.</li></ul>
<b>Open ports</b>	<ul style="list-style-type: none"><li>• As port redirection (above) but allows you to define a range of ports.</li></ul>
<b>DMZ host</b>	<ul style="list-style-type: none"><li>• This opens up a single PC completely. All incoming packets will be forwarded onto the PC with the local IP address you set. The only exceptions are packets received in response to outgoing requests from other local PCs or incoming packets which match rules in the other two methods. The precedence is as follows : Port Redirection &gt; Open Ports &gt; DMZ</li></ul>
<b>Policy-based IP packet filter</b>	<ul style="list-style-type: none"><li>• The header information of an IP packet (IP or Mac source/destination addresses; source /destination ports; DiffServ attribute; direction dependent, bandwidth dependent, remote-site dependent.</li></ul>
<b>DoS/DDoS prevention</b>	<ul style="list-style-type: none"><li>• Act of preventing customers, users, clients or other computers from accessing data on a computer.</li></ul>
<b>IP address anti-spoofing</b>	<ul style="list-style-type: none"><li>• Source IP address check on all interfaces: only IP addresses classified within the defined IP networks are allowed.</li></ul>
<b>Object-based firewall</b>	<ul style="list-style-type: none"><li>• Utilizes object-oriented approach to firewall policy.</li></ul>
<b>Notification</b>	<ul style="list-style-type: none"><li>• E-mail alert and logging via syslog.</li></ul>
<b>Bind IP to MAC address</b>	<ul style="list-style-type: none"><li>• Flexible DHCP with 'IP-MAC binding'.</li></ul>
<b>WDS security</b>	<ul style="list-style-type: none"><li>• The use of authentication and encryption techniques on a Wireless Distribution System (WDS) link between compatible access points.</li></ul>

## System management

<b>Web-based user interface (HTTP/HTTPS)</b>	<ul style="list-style-type: none"><li>• Integrated web server for the configuration of routers via Internet browsers with HTTP or HTTPS.</li></ul>
<b>DrayTek's quick start wizard</b>	<ul style="list-style-type: none"><li>• Let administrator adjust time zone and promptly set up the Internet (PPPoE, PPTP, Static IP, DHCP).</li></ul>
<b>User administration</b>	<ul style="list-style-type: none"><li>• RADIUS user administration for dial-in access (PPP/PPTP and ISDN CLIP).</li></ul>
<b>CLI(Command Line Interface, Telnet/SSH)</b>	<ul style="list-style-type: none"><li>• Remotely administer computers via the telnet.</li></ul>
<b>DHCP client/relay/server</b>	<ul style="list-style-type: none"><li>• Provides an easy-to configure function for your local IP network.</li></ul>
<b>Dynamic DNS</b>	<ul style="list-style-type: none"><li>• When you connect to your ISP, by broadband or ISDN you are normally allocated an dynamic IP address. i.e. the public IP address your router is allocated changes each time you connect to the ISP. If you want to run a local server, remote users cannot predict your current IP address to find you.</li></ul>
<b>Administration access control</b>	<ul style="list-style-type: none"><li>• The password can be applied to authentication of administrators.</li></ul>
<b>Configuration backup/restore</b>	<ul style="list-style-type: none"><li>• If the hardware breaks down, you can recover the failed system within an acceptable time. Through TFTP, the effective way is to backup and restore configuration between remote hosts.</li></ul>
<b>Port-based VLAN</b>	<ul style="list-style-type: none"><li>• Create separate groups of users via segmenting each of the Ethernet ports. Hence, they can or can't communicate with users in other segments, as required.</li></ul>
<b>Built-in diagnostic function</b>	<ul style="list-style-type: none"><li>• Dial-out trigger, routing table, ARP cache table, DHCP table, NAT sessions table, wireless VLAN online station table, data flow monitor, traffic graph, ping diagnosis, trace route.</li></ul>
<b>NTP client/call scheduling</b>	<ul style="list-style-type: none"><li>• The Vigor has a real time clock which can update itself from your browser manually or more conveniently automatically from an Internet time server (NTP). This enables you to schedule the router to dial-out to the Internet at a preset time, or restrict Internet access to certain hours. A schedule can also be applied to LAN-to-LAN profiles (VPN or direct dial) or some of the content filtering options.</li></ul>
<b>Firmware upgrade via TFTP/ HTTP/FTP</b>	<ul style="list-style-type: none"><li>• Using the TFTP server and the firmware upgrade utility software, you may easily upgrade to the latest firmware whenever enhanced features are added.</li></ul>
<b>ISDN remote maintenance</b>	<ul style="list-style-type: none"><li>• The system manager can remotely manage the routers through an ISDN remote dial-in with secure call back mechanism.</li></ul>
<b>Remote maintenance</b>	<ul style="list-style-type: none"><li>• With Telnet/SSL, SSH (with password or public key), browser (HTTP/HTTPS), TFTP or SNMP, firmware upgrade via HTTP/HTTPS or TFTP.</li></ul>
<b>Wake on LAN</b>	<ul style="list-style-type: none"><li>• A PC on LAN can be woken up from an idle/standby state by the router it connects when it receives a special 'wake up' packet on its Ethernet interface.</li></ul>
<b>Logging via syslog</b>	<ul style="list-style-type: none"><li>• Syslog is a method of logging router activity.</li></ul>
<b>SNMP management</b>	<ul style="list-style-type: none"><li>• SNMP management via SNMP v2, MIB II</li></ul>

## Routing functions

<b>Router</b>	<ul style="list-style-type: none"> <li>• IP and NetBIOS/IP-multi-protocol router.</li> </ul>
<b>Advanced routing and forwarding</b>	<ul style="list-style-type: none"> <li>• Complete independent management and configuration of IP networks in the device, i.e. individual settings for DHCP, DNS, firewall, VLAN, routing, QoS etc.</li> </ul>
<b>DNS</b>	<ul style="list-style-type: none"> <li>• DNS cache/proxy.</li> </ul>
<b>DHCP</b>	<ul style="list-style-type: none"> <li>• DHCP client/relay/server.</li> </ul>
<b>NTP</b>	<ul style="list-style-type: none"> <li>• NTP client, automatic adjustment for daylight-saving time</li> </ul>
<b>Policy-based routing</b>	<ul style="list-style-type: none"> <li>• Based on firewall rules, certain data types are marked for specific routing, e.g. to particular remote sites or lines.</li> </ul>
<b>Dynamic routing</b>	<ul style="list-style-type: none"> <li>• It is with routing protocol of RIP v2. Learning and propagating routes; separate settings for WAN and LAN.</li> </ul>
<b>Static routing</b>	<ul style="list-style-type: none"> <li>• An instruction to re-route particular traffic through to another local gateway, instead of sending it onto the Internet with the rest of the traffic. A static route is just like a 'diversion sign' on a road.</li> </ul>

## Internet CSM (Content Security Management) featuring

- URL keyword filtering - whitelist or blacklist specific sites or keywords in URLs.
- Block web sites by category (subject to subscription).
- Prevent accessing of web sites by using their direct IP address (thus URLs only).
- Blocking automatic download of Java applets and ActiveX controls.
- Blocking of web site cookies.
- Block http downloads of file types (binary, compressed, multimedia).
- Time schedules & exclusions for enabling/disabling these restrictions.
- Block P2P (Peer-to-Peer) file sharing programs (e.g. Kazaa, WinMX etc. ).
- Block Instant messaging programs (e.g. IRC, MSN/Yahoo Messenger).

## USB

- File System\*
  - Support FAT32/FAT16 file system\*
  - Support FTP function for file sharing\*
  - Support Samba for file sharing\*
- CDR\*
- Voice mail backup\*
- 3.5G as backup (firmware version 3.5.4)

\*planned available later than firmware 3.5.5

## Hardware

<b>LAN</b>	<ul style="list-style-type: none"> <li>• 4 x 10/100 LAN, RJ-45</li> </ul>
<b>WAN</b>	<ul style="list-style-type: none"> <li>• 2 x 10/100 WAN switch, RJ-45</li> </ul>
<b>USB</b>	<ul style="list-style-type: none"> <li>• 1 x USB host 2.0 for storage</li> </ul>
<b>Reset</b>	<ul style="list-style-type: none"> <li>• 1 x Factory reset button</li> </ul>
<b>VoIP</b>	<ul style="list-style-type: none"> <li>• 2 x Interface card slot                     <ul style="list-style-type: none"> <li>• 4-port FXS module</li> <li>• 4-port FXO module</li> <li>• ISDN 2 S0/2 TE module</li> <li>• ISDN 4 TE module</li> </ul> </li> </ul>

## Support

<b>Warranty</b>	<ul style="list-style-type: none"> <li>• 2-year limited warranty, technical support through e-mail and Internet FAQ/application notes.</li> </ul>
<b>Firmware upgrade</b>	<ul style="list-style-type: none"> <li>• Free firmware upgrade from Internet.</li> </ul>