

# PRX Traffic Manager

Datasheet  
PRX-1100, PRX-2G, PRX-5G

## Benefits

- Reduced communication and infrastructure costs
- Comprehensive network visibility
- QoS management per application and subscriber
- Restrict unauthorized network access
- Tiered service and pricing models
- Subscriber policy management



PRX Traffic Manager is a comprehensive and cost-effective bandwidth management solution enabling operators to monitor and control network traffic per application and per subscriber.

PRX Traffic Manager detects applications with a combination of layer-7 deep packet inspection (DPI) and behavioral traffic analysis. All major protocols used for peer-to-peer file sharing (P2P), instant messaging (IM), media streaming, Internet telephony (VoIP), tunneling and online gaming are supported. Custom protocols can be defined based on a number of criteria. The integrated QoS management allows prioritization, shaping and blocking of classified traffic. Extensive accounting and reporting features provide in-depth application- and subscriber-aware network visibility.

## Key Features

- Layer-7 protocol detection with DPI and behavioral analysis
- VoIP, P2P, IM, media streaming, tunnels, gaming, Web, e-mail protocol support
- Detection of encrypted protocols like Skype, BitTorrent, eDonkey/eMule, Winny
- Subscriber-level bandwidth and policy management
- 10 Gigabit Ethernet support
- True gigabit wire speed at up to 3 links
- Support for asymmetric network traffic
- 700,000 packets per second
- 20 million concurrent connections
- 700,000 new connections per second
- Permit legal and block illegal file sharing
- Regular signature updates
- Fast integration as transparent bridge
- Integrated hardware bypass
- Web GUI for flexible administration

## The Bandwidth and Performance Challenge

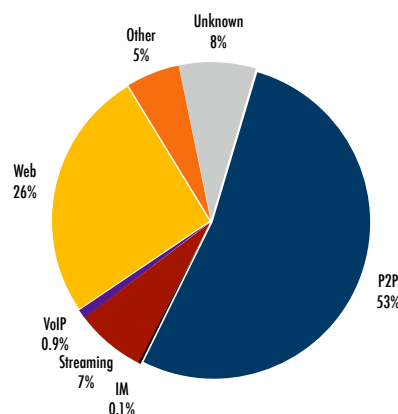
Bandwidth intensive applications such as peer-to-peer-based file sharing (P2P) use up a disproportionately high amount of network resources. This drives up communication and infrastructure costs and adversely affects the quality of important business applications such as ERP and CRM systems, as well as next generation applications like Internet telephony or video on demand.

P2P networks are used on a massive scale to distribute copyright-protected content, which can cause legal consequences for network operators. Many file sharers are also using one-click file hosting services providing direct download links to the shared content (DDL). Specifically, ISP and educational networks often encounter a small percentage of heavy users consuming a large proportion of the available bandwidth.

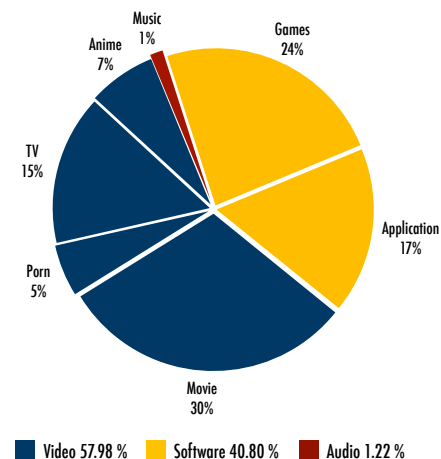
Uncontrolled and unmanaged availability of P2P, Internet telephony (VoIP, Skype), instant messaging (IM) and video streaming applications is known to pose serious security threats and decrease staff productivity due to the often non-work-related nature of these applications.

Traditional Internet gateway products such as firewalls often fail to recognize these applications, as they frequently use stealth techniques like protocol obfuscation and encryption to evade detection. In many instances, such systems are overwhelmed by the large number of parallel connections that are opened by these applications.

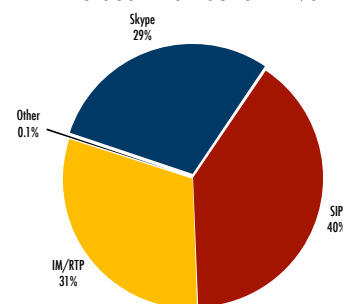
Relative Protocol Distribution



Traffic Volume per Content Type  
Germany (University), BitTorrent



Protocol Distribution – VoIP



Source: ipoque Internet Study 2008/2009

## PRX Traffic Manager Solution

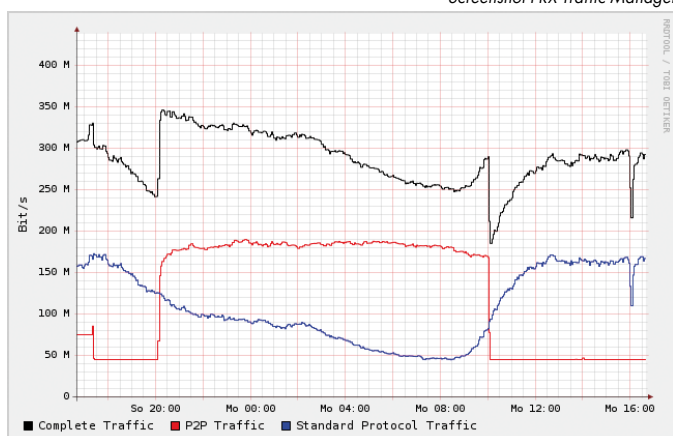
PRX Traffic Manager uses ipoque's layer-7 deep packet inspection and behavior analysis technology to detect even the most elusive protocols, even if they use advanced obfuscation, port hopping, encryption and other techniques to hide from detection.

PRX Traffic Manager provides comprehensive and detailed insight into the network's per-application and per-user traffic. This information can be used to define bandwidth management rules to prioritize, shape, block and log individual applications' traffic, either in total or for individual users or user groups.

Operators can offer tiered network service and pricing models along with flexible and fair bandwidth allocation. Premium applications can be prioritized and bandwidth-intensive P2P or streaming applications can be limited.

PRX Traffic Manager provides a unique white listing feature for BitTorrent trackers so that providers can offer legal P2P services with no copyright infringements.

Screenshot PRX Traffic Manager



### Comprehensive Protocol Support

- 100+ protocols covering 1000+ applications
- All standard protocols for Web, e-mail and file transfer
- All important protocols for P2P file sharing, Internet telephony, media streaming, instant messaging, tunneling, online gaming
- Custom-defined protocols
- Traffic management and statistics for MPLS-labeled, VLAN-tagged and DSCP-labeled traffic
- Tunnel decapsulation for GRE, IP-in-IP and GTP-U tunnels
- Integrated QoS management

### Ultimate Performance

- Optimized to meet the performance requirements of even the most demanding network environments
- Performance scales up to fully loaded gigabit links
- Packet latency below 0.1 millisecond
- PRX-2G and PRX-5G support 3 network links, and PRX-1100 supports 2 links per system and can handle asymmetric network traffic on these links

### Easy to Install and Operate

- Transparent bridge operation for a seamless integration into existing network environments
- Simple configuration via Web-based management console

### High Availability

- Network connectivity maintained through the built-in bypass switch for all 1000Base-T copper interfaces during firmware updates or in case of a system failure

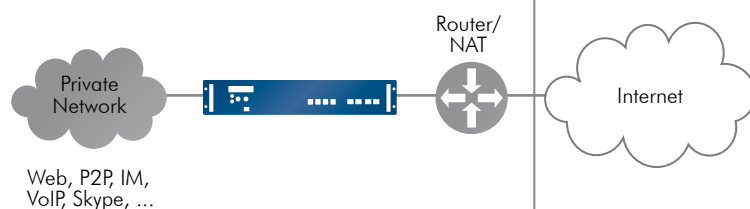
### Statistics, Logging, Accounting and Reporting

- Graphical usage statistics per link, subscriber group, application and application class for configurable time intervals ranging from one hour to one year
- Predefined reports issued to regain control over the network, detailing the network usage from different perspectives
- All statistical data automatically exported at different aggregation levels (i.e. per link, per subscriber, per user group) for subsequent processing in external accounting systems
- Fine-granular service usage information through optional application-level connection logging to an external syslog server

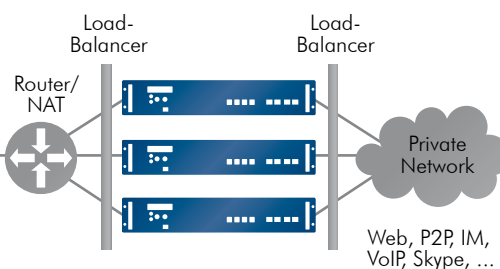
### Flexible Support and Services

- Worldwide 24x7 support with 4 hours reaction time
- Regular protocol signature updates
- E-mail, phone and remote installation support
- Customization services for specific requirements not available in off-the-shelf products

#### Basic Deployment



#### Load-Balancing Deployment\*



\* with external Load-Balancer

PRX Traffic Manager – Deployment Scenarios

PRX-1100	PRX-2G	PRX-5G
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#### Performance

Throughput	400 Mbit/s	2 Gbit/s	4 Gbit/s
Packet Rate	150,000 Packets/s	500,000 Packets/s	700,000 Packets/s
Number of Active Connections	2 million <sup>1</sup>	4 million <sup>1</sup>	20 million <sup>1</sup>
New Connection Rate	150,000 Flows/s	500,000 Flows/s	700,000 Flows/s

#### Configuration Limits

Policy Classes	100	100	100
Class Policy Rules	500	1,000	1,000
Active Subscribers	32,000	250,000	500,000
Active Subscriber Policy Rules <sup>2</sup>	320,000	2.6 million	5 million
Subnets	100	100	100
Subnet Exceptions	50	100	100
Profiles	50	50	50

#### Interfaces

Network Ports (Int./Ext.)	4x 10/100/1000Base-T	2x 10/100/1000Base-T and optional: 4x 10/100/1000Base-T or 4x SFP	2x 10/100/1000Base-T and optional: 4x 10/100/1000Base-T or 4x SFP or 2x 10GBase-CX4 or 2x XFP
Hardware Bypass	Yes	Yes (1000Base-T)	Yes (1000Base-T)
Management Port	10/100/1000Base-T	10/100/1000Base-T	10/100/1000Base-T
Chaining Port	10/100/1000Base-T	10/100/1000Base-T	10/100/1000Base-T
Console Port	Serial RJ-45	Serial RJ-45	Serial RJ-45

#### Hardware

Size (W x H x D in mm)	1U rack mount 450 x 45 x 295	1U rack mount 427 x 44 x 480	2U rack mount 424 x 88 x 600
Weight	4.5 kg	8 kg	25 kg
Power	100-240 V, 50/60 Hz, 100 W	100-240V, 50/60Hz, 250W	Redundant, AC 90-264V, 47-63Hz, 460W, optional: DC -48 to -60V

#### Protocol Support Includes

Peer-to-Peer (P2P) Protocols	AppleJuice, Ares, BitTorrent (encrypted and unencrypted), DirectConnect, eDonkey, KaZaa/FastTrack, Filetopia, Freenet, Gnutella, iMesh, Manolito, Mute, OpenFT, OFF, Pando, SoulSeek, Thunder/Webthunder, WinMX, Winny, XDCC
Voice over IP (VoIP) Protocols	H.323, IAX, MGCP, SIP, Skinny, Skype
Instant Messenger (IM)	Gadu-Gadu, IRC, PoPo, Jabber/Google Talk, MSN, Oscar, Yahoo, Paltalk, QQ
Streaming Protocols	AVI, Feidian, Flash, Icecast, Kontiki, MMS, Move, MPEG, OGG, ORB, PPLive, PPStream, QQ, QuickTime, Real Media Stream, RTP, RTSP, SCTP, SHOUTcast, Slingbox, SopCast, TVAnts, TVUPlayer, UUSee, V CAST, VeohTV, Windows Media Stream, Zattoo
Standard Protocols	Citrix, BGP, DHCP, DNS, EGP, FTP, HTTP, ICMP, IGMP, IMAP, MySQL, NFS, NTP, OSPF, pcAnywhere, POP3, PostgreSQL, RDP, SMB/CIFS, SMTP, SNMP, SSDP, STUN, Telnet, Usenet, VNC, Direct Download Link (DDL)
Gaming Protocols	Battlefield, Half-Life 2 and Mods, Quake, Second Life, Steam, World of Warcraft, Xbox
Tunnel Protocols	SSL, GRE, HamachiVPN, IPsec, OpenVPN, SoftEther, SSH, Tor, VPN-X, VTun, L2TP

#### Options

Reporting	<input type="checkbox"/> enables export of reporting data including: <ul style="list-style-type: none"> <li><input type="checkbox"/> per application, per subscriber statistics</li> <li><input type="checkbox"/> top talker statistics for applications and subscribers</li> </ul>
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<sup>1</sup> The given number of active flows and the number of subscribers are not necessarily supported at the same time. The number of supported active flows can be increased by decreasing the number of subscribers. One subscriber uses as much memory as ten flows.

<sup>2</sup> Up to 10 Policy Rules per Subscriber