

# PRX Traffic Manager

Datasheet  
PRX-1000, PRX-1G, 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 criterias. The integrated QoS management allows prioritization, shaping and blocking of classified traffic. Extensive accounting features provide in-depth application- and subscriber-aware network visibility.

## Key Features

- Layer-7 protocol detection with DPI and behavior analysis
- VoIP, P2P, IM, media streaming, tunnel, 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
- Over 700,000 packets per second
- Over 20 million concurrent connections
- Over 700,000 new connections per second
- Permit legal and illegal file sharing
- Regular signature updates
- Fast integration as transparent bridge
- Integrated bypass and hot standby for hardware failover
- Web GUI for flexible administration

### The Bandwidth and Performance Challenge

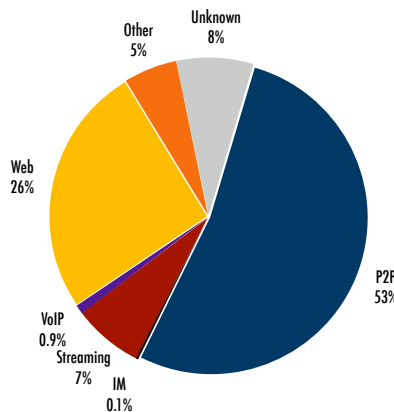
Bandwidth intensive applications such as peer-to-peer-based file sharing (P2P) use up a disproportionately high amount of network resources. This drives up communication and infrastructure costs and adversely affects the quality of important business applications such as ERP and CRM systems, as well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

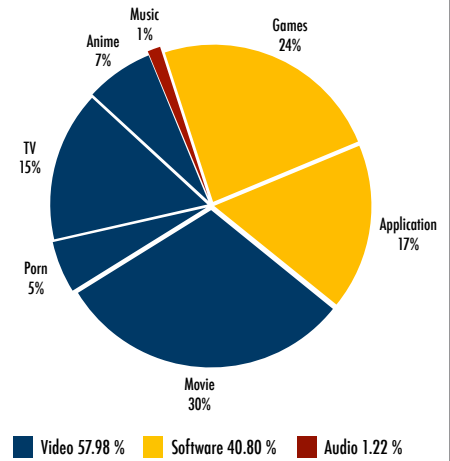
Uncontrolled and unmanaged availability of P2P, Internet telephony (VoIP, Skype), instant messaging (IM) and video streaming applications is known to pose serious security threats and decrease staff productivity due to the often non-work-related nature of these applications.

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.

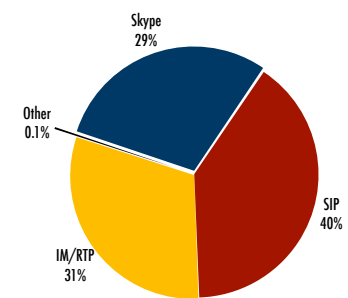
Relative Protocol Distribution



Traffic Volume per Content Type Germany (University), BitTorrent



Protocol Distribution – VoIP



Source: ipoque Internet Study 2008/2009

### PRX Traffic Manager Solution

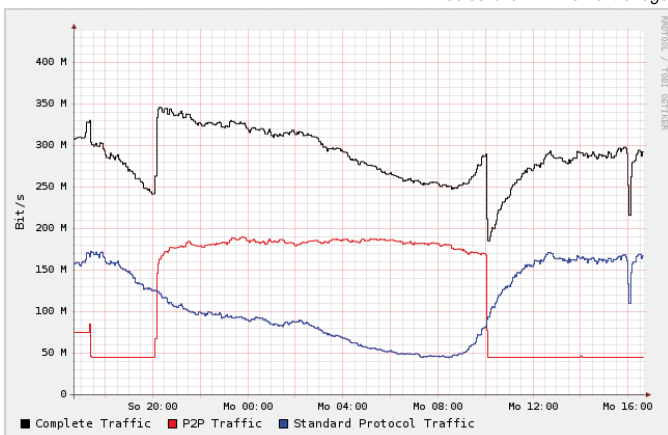
PRX Traffic Manager uses ipoque's layer-7 deep packet inspection and behavior analysis technology to detect even the most elusive protocols, even if they use advanced obfuscation, port hopping, encryption and other techniques to hide from detection.

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

With support for over one hundred protocols covering hundreds of applications, PRX Traffic Manager is able to detect and manage the large majority of the overall network traffic. This includes all standard protocols used for Web, e-mail and file transfer as well as all important protocols used for P2P file sharing (e.g. BitTorrent, eDonkey, Gnutella), Internet telephony based on Voice over IP (VoIP) (e.g. SIP, Skype, H.323), media streaming (e.g. Flash, RTP, RealMedia), instant messaging (e.g. IRC, MSN, Yahoo), tunneling (e.g. SSL, OpenVPN, Tor) and online gaming (e.g. Half-Life, World of Warcraft, Xbox). The integrated QoS functionality of PRX Traffic Manager can enforce priority and guaranteed bandwidth for all applications using these protocols.

### Ultimate Performance

PRX Traffic Manager has been optimized to meet the performance requirements of the most demanding network environments. Performance scales up to fully loaded Gigabit links. Its internal design avoids packet queuing yielding latencies below 0.1 millisecond on normally loaded and below 1 millisecond on fully loaded links.

PRX-1G and PRX-5G support three network links per system and can handle asymmetric network traffic on these links.

### High Availability

The built-in bypass switch for all copper interfaces maintains network connectivity during firmware updates or in case of a system failure. Two PRX Traffic Managers can be installed in a daisy-chain, active-active hot standby configuration. The secondary system maintains all state information and automatically takes over if the primary system fails.

### Simple Installation and Operation

PRX Traffic Manager operates as a transparent bridge for a seamless integration into existing network environments. The Web-based management console allows simple configuration.

### Statistics, Logging and Accounting

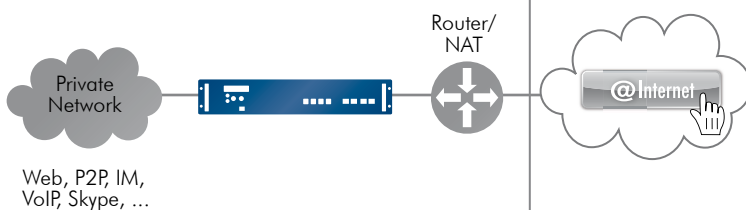
The management console provides graphical usage statistics per link, subscriber group, application and application class for configurable time intervals ranging from one hour to one year. A number of predefined reports help to regain control over the network, detailing the network usage from different perspectives.

All statistical data can be automatically exported at different aggregation levels (i.e., per link, per subscriber, per user group) for subsequent processing in external accounting systems. Optional application-level connection logging to an external syslog server provides fine-granular service usage information.

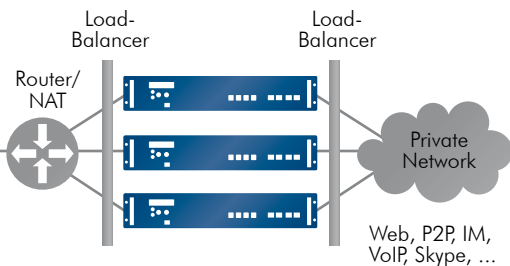
### Support

Flexible support options include regular signature updates, e-mail, phone and remote installation support. 24x7 support with 4 hours reaction time is available. ipoque offers customization services to meet specific requirements not available in off-the-shelf products.

#### Basic Deployment



#### Load-Balancing Deployment\*



\* with external Load-Balancer

PRX Traffic Manager – Deployment Scenarios

	PRX-1000	PRX-1G	PRX-5G
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#### Performance

Throughput	400 Mbit/s	2 Gbit/s	4 Gbit/s
Packet Rate (Packets/s)	200,000	550,000	700,000
Number of Active Connections	1.7 million*	4 million*	20 million*
New Connection Rate (Flows/s)	200,000	550,000	700,000

#### Configuration Limit

Subscribers	65,536*	250,000*	500,000*
Policy Classes	50	75	100
Rules per Profile	500	1000	1000
Active Rules per System	655,000	2.6 million	5 million
Subnets	100	100	100
Subnet Exceptions	50	100	100
Profiles	20	50	50

#### Interfaces

Network Ports (Internal/External)	2x 10/100/1000Base-T	6x 10/100/1000Base-T	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	Yes (copper)
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 DB-9	Serial RJ-45	Serial RJ-45

#### Hardware

Size (W x H x D in mm)	1U rack mount, 426 x 43.5 x 431.8	1U rack mount, 427 x 458 x 44	2U rack mount, 600 x 424 x 88
Weight (kg)	10	13	25
Power	100-240V, 50/60Hz, 250W	350 W ATX Power Supply	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, Jabber/Google Talk, MSN, Oscar, Yahoo, Paltalk, PoPo, 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, SoftEthernet, SSH, Tor, VPN-X, VTun

#### Options

Reporting	enables export of reporting data including: <ul style="list-style-type: none"> <li>○ per application, per subscriber statistics</li> <li>○ top talker statistics for applications and subscribers</li> </ul>
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\* 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.