

PRX Traffic Manager

Datasheet
PRX-10G

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-10G Traffic Manager is a carrier-grade bandwidth management solution scalable up to six Gigabit Ethernet or six 10 Gigabit Ethernet links enabling operators to monitor and control network traffic per application and per subscriber. It features load balancing, high availability with automatic hardware fail-over and optional NEBS compliance.

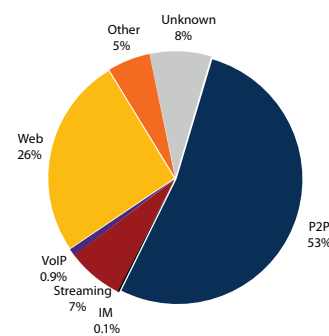
PRX Traffic Manager detects applications with a combination of layer-7 deep packet inspection (DPI) and behavioral traffic analysis. All major protocols used for peer-to-peer file sharing (P2P), instant messaging (IM), media streaming, Internet telephony (VoIP), tunneling and online gaming are supported.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

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 service 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.

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.



Source: ipoque Internet Study 2008/2009

Key Features

- Subscriber-level bandwidth and policy management
- 75 Gbit/s throughput
- Layer-7 protocol detection with DPI and behavioral analysis
- VoIP, P2P, IM, media streaming, tunneling, gaming, Web, e-mail protocol support
- Detection of encrypted protocols like Skype, BitTorrent, eDonkey/eMule, Winny and VPNs
- Proven IBM technology
- 6x 10-GigE or 6x GigE links
- 14 active load-balancing blades with automatic fail-over
- Support for asymmetric network traffic
- Online firmware updates
- IBM predictive failure analysis technology*
- Energy efficient
- Optional NEBS compliance and 48V DC power supplies
- 6 million subscribers
- 10 million packets per second
- 10 million new connections per second
- 240 million concurrent connections
- Permit legal and block illegal file sharing
- Regular signature updates
- Fast integration as transparent bridge
- Web GUI for simple administration

PRX Traffic Manager Solution

PRX Traffic Manager uses ipoque's layer-7 deep packet inspection and behavioral analysis technology to detect even the most elusive protocols, no matter if they use advanced obfuscation, port hopping, encryption or 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 Bit Torrent trackers to allow providers to offer legal P2P services with no copyright infringements.

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.

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, user group, application and application class for configurable time intervals. 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 user, per user group) for subsequent processing in external accounting systems. Optional application-level connection logging, either internal or to an external syslog server, provides fine-granular service usage information.

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 10-gigabit links. Its internal design avoids packet queuing yielding latencies below 0.1 millisecond.

Scalability and High Availability

The PRX-10G based on IBM BladeCenter technology provides unparalleled scalability and hardware fail-over capabilities. Packet processing blades can be added as the network load rises. Packets from up to six links are distributed over the available blades. In case of a blade failure, the remaining blades take over and the failed blade can be replaced. All components are hot-pluggable. Hot-standby blades are also supported.

Support

Flexible support options include regular signature updates, e-mail, phone and remote installation support. 24x7 support with 4 hours reaction time is available. BladeCenter parts can be replaced based on IBM's worldwide support network. ipoque offers customization services to meet specific requirements not available in off-the-shelf products.

PRX-10G

Performance

Throughput	75 Gbit/s ^{1,2}
Packet Rate	10 million ^{1,2}
Number of Active Connections	240 million ²
New Connection Rate	10 million ^{1,2}

Configuration Limits

Subscribers	6 million ²
Policy Classes	100
Rules per Profile	1000
Active Rules per System	60 million ²
Subnets	100
Subnet Exceptions	100
Profiles	60

Interfaces

Network Ports (Int./Ext.)	12x 10 Gigabit Ethernet XFP 12x Gigabit Ethernet 10/100/1000 Base-T or SFP
Management Port	10/100/1000Base-T
Console Port	integrated KVM switch

Hardware

Size	7-9U rack mount, NEBS-3 compliant: 8-12U
Weight (kg)	60 –150
Power	Up to 4 redundant, AC 200-240V, 2000W, optional: DC -48 to -60V
Certifications	optional: NEBS Level 3

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, VCAST, 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, SDDP, 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, Hamachi/VPN, IPsec, OpenVPN, SoftEther, SSH, Tor, VPN-X, VTun

Options

Reporting	enables export of reporting data including: <ul style="list-style-type: none"> ○ per application, per subscriber statistics ○ top talker statistics for applications and subscribers
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¹ ISP-Mix/C packet size distribution

² Depends on number of packet processing blades