



At the University of Innsbruck in Austria, IT personnel struggled with a large volume of peer-to-peer file sharing (P2P) traffic such as BitTorrent and eDonkey that was using up to 60% of the overall network capacity and slowing down other applications. The existing bandwidth management system proved incapable of handling the high volume of traffic and failed to reliably detect encrypted P2P protocols. Read in this case study how ipoque's PRX-2000 Traffic Manager has solved the problems and restored the quality of service in the network.

In the past, a great deal of traffic at the University of Innsbruck was bandwidth-consuming P2P traffic, which was clogging the network and making it impossible to work efficiently. The heavy usage incurred increasing infrastructure and communication costs and affected the quality of service of other applications. Michael Redinger of the Central Information Technology Services at University of Innsbruck is responsible for the planning and development of communication and security systems in the network area. He remembers: "We had up to 60 percent P2P traffic which slowed down all other applications. Additionally, most of the files included copyright-protected material." Especially for connections to the student dorms, traffic regulation is important because the university has to split the available bandwidth between users and can only provide relatively slow 2 Mbit/s per 100 users.

### **ipoque's PRX Traffic Manager Replaced PacketShaper 10000**

The challenge at the University of Innsbruck was to reliably detect the relevant protocols, especially the encrypted BitTorrent format, and throttle P2P file sharing to a minimum, at an overall throughput of 200 Mbit/s. Before the university began working with PRX Traffic

Manager, they had been using another bandwidth management system. However, Packeteer PacketShaper 10000 not only had performance problems, but also difficulties with the detection of P2P protocols. "PacketShaper's detection could not cope with encrypted P2P protocols. PRX Traffic Manager did that effortlessly. Additionally PacketShaper's performance was much less than specified in the data sheet. It could not handle the high number of concurrent connections we have," Redinger explains.

### **The ipoque Solution: Effective and Easy to Handle**

ipoque has provided a solution to proactively prevent undesired usage of the available bandwidth in the network. At the University of Innsbruck, P2P traffic now is rigorously throttled in order to avoid network congestion, to ensure a high quality of service (QoS) and to reduce communication costs. PRX Traffic Manager detects applications with a combination of layer-7 deep packet inspection (DPI) and behavioral traffic analysis. All major protocols are supported, including encrypted and unencrypted P2P file sharing, instant messaging, media streaming and Internet telephony. The integrated QoS management allows prioritization and bandwidth management

### **Challenges:**

- Constantly growing traffic at data rates above 200 Mbit/s
- Many concurrent network sessions overwhelming the existing system
- Over 60% P2P traffic, of which over 20% encrypted
- Delays and bad quality of service caused by P2P traffic



### **The ipoque Solution:**

- Reliable application classification with DPI and behavioral analysis
- Reliable detection of encrypted P2P, especially BitTorrent and eDonkey
- Effective traffic management, specifically detecting and limiting P2P traffic
- True gigabit wire speed
- 1.7 million concurrent connections and 300,000 new connections per second

of classified traffic. Extensive accounting features provide in-depth application- and subscriber-aware network visibility. PRX Traffic Manager has an integrated hardware bypass which is automatically activated in case of a system failure guaranteeing uninterrupted network connectivity at all times and the device is completely transparent to network users. Redinger especially liked the easy handling of PRX Traffic Manager and the competitive price of the traffic management solution. "Maintenance costs of ipoque's PRX Traffic Manager are very competitive and therefore it is more economic than other devices in the long term. Purchase costs amortize after only two years."

## Conclusion

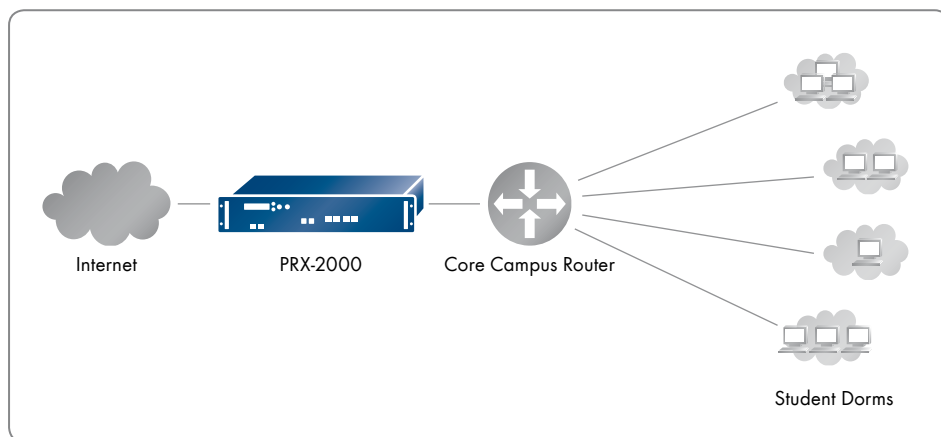
PRX-2000 Traffic Manager has been deployed between the Internet and the internal network. The University of Innsbruck has been using it for almost two years now. P2P is throttled to very low data rates thus avoiding network congestion and ensuring QoS for critical applications. Components like firewalls, which are quickly overloaded if P2P is not curbed, benefit from this, too. "PRX Traffic Manager improves the quality of experience for our users. There are no more delays and efficient working is possible again," says Redinger. At the same time, copyright infringements are no longer an issue.

## Key Benefits:

- Reduced communication and infrastructure costs
- Improved quality of service
- Return on investment: fast amortization of purchase costs
- Easy installation, operation and maintenance

## Replaced System:

- Packeteer PacketShaper replaced by ipoque PRX-2000 Traffic Manager



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## About University of Innsbruck

University of Innsbruck is a well-known Austrian university (22,000 students and 3,500 staff members) with a tradition that reaches back to 1669. The Central Information Technology Services is the central hub and pivotal point for the university's IT services. It is responsible for providing services and support ensuring security.

More information at <http://www.uibk.ac.at>

## About ipoque

ipoque is the leading European provider of deep packet inspection (DPI) solutions for Internet traffic management and analysis. Designed for Internet service providers, enterprises and educational institutions, ipoque's PRX Traffic Manager allows to effectively monitor, shape and optimize network applications. These include the most critical and hard-to-detect protocols used for peer-to-peer file sharing (P2P), instant messaging (IM), Voice over IP (VoIP), tunneling and media streaming, but also many legacy applications.

More information at <http://www.ipoque.com>