



In Africa, Internet access is a scarce and valuable resource, as terrestrial solutions are seldom available and the cost of satellite access makes services much more expensive than in other markets. The cost of bandwidth often prohibits network expansion and subscribers are forced to share the limited resources on the network. These circumstances are especially challenging for carriers as peer-to-peer (P2P) file sharing traffic increases. P2P traffic consumes ever more bandwidth, resulting in bottlenecks for business critical applications. At TVCABO, ipoques PRX-1000 Traffic Manager solves massive performance problems by throttling P2P traffic during peak hours.

Internet Access as a Valuable Resource

In some regions of Africa, it is sometimes still difficult to get Internet access. In these countries, the Internet is viewed as a scarce and valuable resource. Although all African countries have Internet connectivity, operators there face many challenges: the usage is relatively low and communication costs are more expensive than in developed countries – mainly due to the lack of infrastructure. ISPs have to use satellite Internet services because terrestrial Internet access is not available. Since satellite links are incredibly expensive compared to terrestrial solutions, carriers are forced to pass these costs on to their subscribers, making bandwidth a valuable and highly contested resource.

This is the situation, TVCABO, a cable provider in the southwest African nation of Angola, is confronted with. TVCABO gets its access to the Internet from two satellite uplinks. "We are trying to get terrestrial Internet access. But this is difficult in a country like Angola. Electrical problems occur on a regular basis – every household has to have a generator by

law. One week without energy is not unusual," Amandio Goncalves, IT director of TVCABO, describes the circumstances in the country. Offering reliable network communication is a big challenge here.

The average data rate per user is only about 10 - 20 kbit/s. Subscribers of TVCABO share approximately 1,000 Mbit/s of available bandwidth. That is an average bit rate of around 143 kbit/s, which is adequate for most people but will definitely not be suitable for subscribers who want to transfer large files, video or music. TVCABO has two categories of users. There are, on the one hand, the branch offices of big companies, who need to stay in contact with their headquarters abroad, mainly via VPN. On the other hand, there are the private customers, who mostly do Web browsing, but more and more they also use P2P.

Increase of P2P

The increase of P2P traffic is especially critical in countries like Angola, where bandwidth is limited. Since P2P tends to use all the bandwidth it



Challenges:

- Limited bandwidth
- Expensive satellite uplinks
- Almost 70% P2P traffic of private users causing network congestions and delaying critical applications of business clients
- More bandwidth not possible due to infrastructure limitations

The ipoque Solution:

- Reliable application detection with DPI and behavioral analysis, esp. P2P
- Throttling of P2P, prioritization planned
- 1.2 Gbit/s throughput

can get (even if only a few users are actively sharing files), the bandwidth remaining for other services is increasingly scarce. At times, up to 70% of the traffic in TVCABO's network is P2P-related. With such little bandwidth to begin with, the effect on the overall network performance is devastating.

"Internet traffic management for us is a question of necessity. We do it to stabilize our Internet connections, not because we like to curb P2P," Goncalves says.

The ipoque Solution

With its PRX-1000 Traffic Manager, ipoque offered exactly the capability TVCABO needed: an effective, powerful and fail-proof system for Internet traffic management. All kinds of P2P protocols are throttled to a minimum during the day in order to avoid overloading the network and to reduce communication costs. Between midnight and 7a.m., file sharing is not curbed. This encourages file sharers to download at night when enough resources are available, while business clients and other customers can make productive use of the Internet during the day.

ipoque's PRX Traffic Managers combine deep packet inspection (DPI) technology with bandwidth management. They enable effective analysis and optimization of applications. The integrated QoS management allows prioritization and bandwidth control of classified traffic. Extensive accounting features provide in-depth application and subscriber aware network visibility.

"Complaints sank to zero"

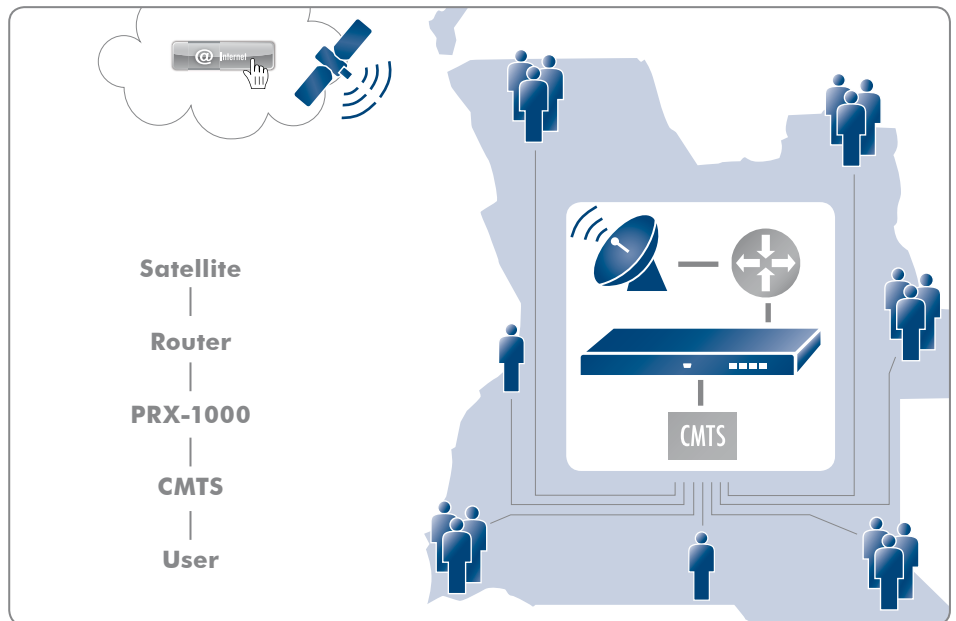
TVCABO just recently started working with PRX Traffic Manager, although Goncalves himself knows the devices as he already used them in other companies. TVCABO's customers are very satisfied with the solution. Goncalves states that complaints about poor performance sank to zero. Nevertheless, he already plans on further improving the services: "We are planning to extend our work with ipoque and start prioritizing the traffic." This would mean that P2P file sharing would not only be possible during the night, but any time other traffic doesn't need the whole available bandwidth.

Key Benefits:

- High visibility of network usage
- Guaranteed performance and QoS for important services
- Improved subscriber satisfaction

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Amandio Goncalves, IT Director, TVCABO



About TVCABO Angola

TV Cabo Angola is a reference company in Angola, set up in partnership, 50% with the Angola Telecom and Visabeira Angola and remains at the forefront in terms of technology and service. TV Cabo is the owner of a modern infrastructure network operator and cable television. Using the most advanced technologies and by a modern two-way digital network, TV Cabo Angola provides a distribution service signal cable television and multimedia services, including broadband Internet and other interactive services, multimedia and complementary.

More information at <http://www.tvcabo.co.ao>

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>