



## Chapter 14 - Service Provider Case Study: European ISP (EISP)

### ***Major European Service Provider Marries Low Cost to High Speed Without Compromising Quality of Service as Customers Demand Freedom from Control over Internet Usage***

An insidious problem currently vexing service providers across Europe revolves around service-level promises that are going unmet, resulting in high churn rates throughout the continent. To compete for subscribers, providers are promising specific broadband rates at low costs, but independent evaluations of the actual service being delivered show repeatedly that customers are not getting what they are paying for and expecting.

The problem is not limited to the European market, but is being experienced in most countries as ISP competition heats up globally. With subscriber sophistication growing and bandwidth-hungry applications proliferating, service providers now face the challenge of eschewing the placement of “controls” on service — which subscribers see as unfair limitations on the access they are paying for — while still managing the usage of their networks in a cost-effective way.

This chapter shows how one European ISP — which, for this case study, we will call EISP — is using intelligent IP service optimization to increase its subscriber base, deliver high speed at low cost, offer innovative service packages, and still ensure its subscribers’ Quality of Experience (QoE).

#### **Challenges from P2P and False Competitive Claims**

Several years ago, the problem of peer-to-peer (P2P) application proliferation and use began to pose serious threats to EISP’s ability to deliver cost-effective customer QoE. In addition to taking on the European industry leader in a head-to-head strategic challenge, the company was also facing severe competitive threats from new players whose claims of high-speed at low-cost seemed outside the standard business model for service providers.

Independent investigations showed that some of the new companies were promising service levels that they were not delivering, while other oversight agencies demonstrated that some companies were “controlling” what their customers could do. Public backlash swept the continent, and EISP faced both a technical and a public perception challenge.

**Essentials: QoE, Bandwidth, Service Innovation, and Low Cost**

EISP understood that to solve the public perception problem, it was first necessary to remedy the technical situation. Adding more bandwidth and throwing huge capital outlays at expanded infrastructure were temporary solutions at best and would lead the company down an expensive and inefficient path with no end in sight. Restricting service was also not an option because users in Europe were already clamoring against the concept of “control” as a major incursion on Internet freedoms.

In 2003, as the company worked to lay the framework for improved service delivery, a dramatic and coincidental increase in DoS attacks against ISPs shook the service provider industry throughout Europe. In fact, other European ISPs were brought to their knees by such attacks on numerous occasions, in some cases to the point of shutting down permanently.

Faced with the need to manage bandwidth and charged with ensuring their services were resilient, all at costs that were competitive with the unethical low-cost providers — and now also having to deal with the new threat of the DoS attacks that were crippling the industry — the company turned to the cost-effective approach of “managing” their network in more efficient ways.

After reviewing a number of companies, EISP chose Allot Communications as their agent of change because it perceived that Allot’s approach of intelligent IP service optimization could help fix all of these problems at the same time — deal with P2P volumes, ensure fair bandwidth allocation, deliver improved service at a competitively low cost, and protect against the DoS attacks.

**Freedom to Download but Managed Uploads, plus a 6-month ROI**

In 2004, the company installed Allot Communication’s NetEnforcer 1000 series bandwidth management devices, and used them to manage traffic, especially P2P traffic generated by non-subscribers. Allot’s deep packet inspection (DPI) capabilities enabled the granular management of P2P traffic and allowed EISP to detect the specific P2P applications and upload sessions that were devouring so much bandwidth.

Since P2P uploads are most often destined for someone on another network, upload speed does not impinge on customer satisfaction the same way that slowed P2P downloads negatively affect a customer’s perceived QoE. So, under the Allot solution, EISP’s subscribers were still able to *download* as freely as before, including all P2P downloads, *but* the volume of *upload traffic* generated by the subscriber was now being carefully managed.

The decision to add the Allot NetEnforcer to the network quickly led EISP to a new level of subscriber satisfaction because it was able to ensure that subscribers got the bandwidth they were paying for with the QoS guarantee they were expecting. Moreover, the solution couldn’t have made more business sense: through a combination of reduced churn and the addition of new subscribers, *EISP realized a complete ROI within a short 6 months.*

**DoS Attack Deterrence and Bandwidth Needs Assessment**

The company also used Allot’s solution to deter DoS attacks in two ways. First, EISP began to dynamically monitor the number of connections per IP address through traffic management techniques using a template mechanism and to identify

conditions where the number of connections exceeded prescribed limits, such conditions triggering actions to prevent a DoS attack before one got fully underway. Secondly the company used Allot's solution within its infrastructure to protect Domain Name Services (DNS) servers from DoS attacks.

So, in addition to allowing EISP to manage outgoing P2P traffic, which had a direct positive impact on the company's subscribers' QoE from the very first day of installation, the Allot Communications' solution has also improved the security of the network by letting EISP dynamically control the number of connections at any given time.

EISP also uses the traffic management analysis data to dissect its bandwidth needs and to make informed decisions about infrastructure expansions and utilization. As a result, the company has been able to grow its tiered services offerings so that its more sophisticated subscribers can find exactly what they want — from today's Triple-Play to tomorrow's new services — all from one provider.

### **Subscriber Growth spurts**

Within a few years ripe with double-digit growth spurts, EISP has grown significantly, and the company now boasts an amazing subscriber base of 1 million, of which 85% are residential customers and 15% are businesses or enterprises. EISP today offers 32 Gigabit links for tiered ports (controlled by Allot's NetEnforcer), and along with an array of tiered service levels, it now has an unmatched record for QoE that leads the continent in subscriber satisfaction.

To accommodate its ever-growing subscriber base, EISP has recently upgraded to the Allot Communications' NetEnforcer 2500 series of bandwidth management devices, with which the company can now accommodate more connections and faster links.

In short, the Allot solution helped EISP meet the technical and public perception challenges it faced in today's market, and has helped position the company — and its growing list of subscribers — to meet the challenges of an evolving industry deep into the twenty-first century.

### **Chapter Summary**

Intelligent IP service optimization is leading the service provider industry as the solution that works for today's — and tomorrow's — networks. This case study of a major European service provider with 1 million subscribers shows how Allot Communications' traffic and subscriber management capabilities can solve the challenges posed by P2P traffic and help deliver the QoE that today's sophisticated subscribers expect — all at a competitive cost.

Today's service providers face ever-emerging traffic management challenges, as networks balance the benefits of the triple-play with the QoS and QoE expectations of subscribers. Intelligent IP service optimization can help providers meet the needs of increased bandwidth, assured QoE, and cost efficiencies while still meeting the service offering demands of a growing subscriber base.

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