CASE STUDY

Telia IPTV Service Delivery

Assuring IPTV quality and improving operational efficiency with Netrounds

About Zitius Service Delivery AB, now Telia Company:

- Established in 2003
- Acquired by Telia in 2014
- Offers open network communications to metro and rural networks, real estate companies, house owners, and cooperatives
- Has agreements with more than 20 service providers
- Client list includes 7 out of Sweden's 10 largest real estate companies
- Over 100,000 households connected via fiber networks and another 10,000+ households via DSL

Overview

The Swedish network operator Zitius Service Delivery AB, now part of Telia Company, was faced with the challenge of preventing operating costs from getting out of hand as the number of IPTV subscribers over its networks was growing. The company had a hard time finding the precise locations of network problems and quality issues took too long to solve.

Telia turned to Netrounds to implement continuous performance insight and better fault localization. Using Netrounds, Telia adopted a more proactive approach and was able to troubleshoot more effectively. As a result, the company managed to significantly improve its operational efficiency and service quality.

Challenge: What does it take to make IPTV profitable?

IPTV places extreme demands on both networks and staff; however, the average revenue per customer is comparatively low for this service. The key challenge in making IPTV profitable is to prevent operating costs from getting out of hand as the customer base grows. One alternative to handle these extreme demands is to hire more staff, but this will not help keep the operations cost-efficient. During the first years of delivering IPTV, Telia faced a variety of technological challenges while expanding their network and customer base.

"A stumbling block for a start-up Internet operator is that even if you have few customers initially, you need to prepare both your network and your organization for IPTV, which is a major task", says Ola Friis, CTO of Zitius, now a part of Telia Company.

To deliver a traditional Internet service, almost any standard network equipment can be used. With IPTV, on the other hand, switches and routers are subjected to a far heavier traffic load.

"The first few customers typically don't demand that much of their equipment. Problems usually appear when customers start signing up in greater numbers. It is also much harder to troubleshoot problems with IPTV compared to ordinary Internet services because IPTV is a more complex technology," Friis says.

Telia had noticed very clearly how new patterns of user behavior affected their networks much more profoundly than in the past. While the number of TV subscribers was steadily growing, there was also a noticeable increase in traffic volume for other means of digital distribution. On one occasion, Telia observed how traffic load suddenly peaked in an unprecedented manner. The reason for this proved to be the release of a new and very popular PC game for download.

"Such events have a powerful impact on network operators like us, but they are also essentially beyond our control. Functions for traffic prioritization are of course important in the network, but even using such techniques we may find our IPTV quality compromised by unforeseen events. So it's not enough just to perform an isolated measurement and rely on those results indefinitely; a network operator needs to have systems that continuously monitor what is going on in the network," he says.

In the past, Telia used one or two hardware-based measurement probes for ad hoc troubleshooting, but after conducting such sessions, they still had a hard time determining whether any of the problems had arisen in their own network, and if so, where. Complex issues took far too long to solve. Long-term, this was not a tenable situation.

The challenge is to prevent operating costs from getting out of hand as the customer base grows. To succeed at this is vital to profitability. In our experience, a successful IPTV venture requires a large-scale mass market as well as effective tools for network monitoring and troubleshooting.

Ola Friis
CTO, Zitius (now Telia)

Solution: Full quality insight, proactive efforts, and effective troubleshooting with Netrounds

Telia decided to introduce Netrounds for monitoring and troubleshooting of IPTV. Before selecting a supplier, Telia evaluated various solutions available on the market.

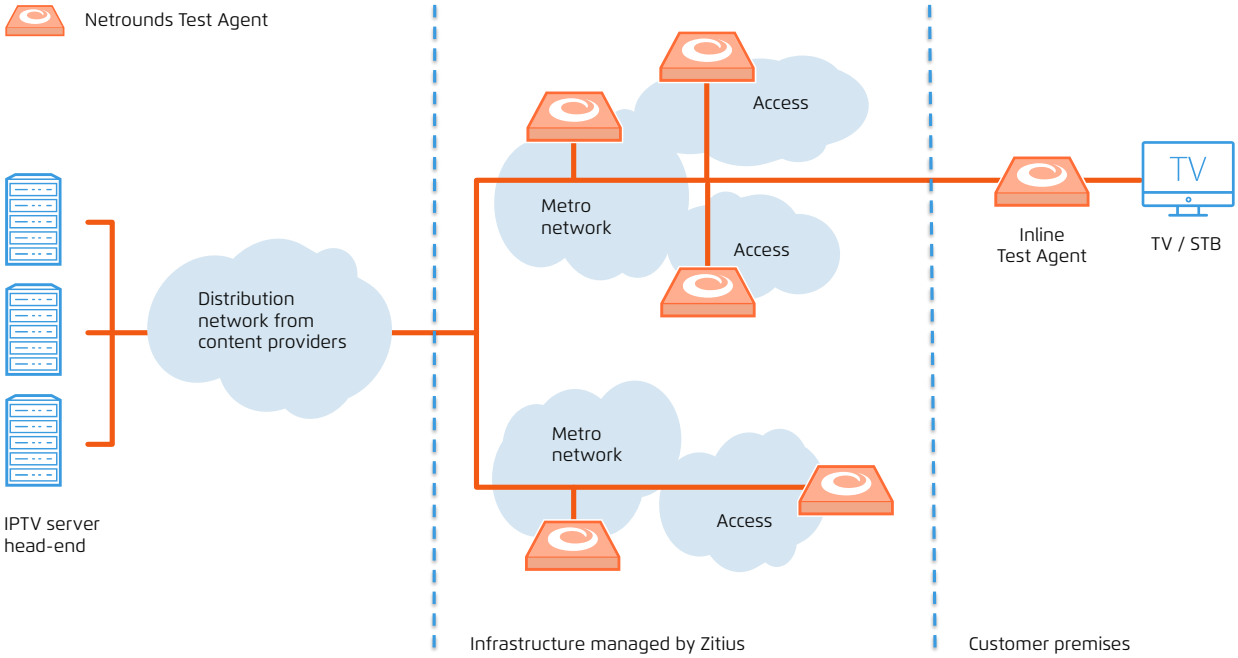
Friis explains: "We chose Netrounds because the system meets our requirements and because it's miles ahead of the competition in terms of value for money. What we especially like is the simplicity of the product. Since Netrounds is offered as a service, including support and upgrades, we are relieved of server and database maintenance, version handling, and so forth.

As Netrounds takes care of this for us, we can focus on our customers and our core business. Furthermore, Netrounds has a good understanding of our market and an appreciation of our ideas and needs – and they often convert these insights into new product features."

Telia opted to place powerful Preinstalled Test Agents at central locations in its various metro networks. To facilitate precise locating of faults, Telia chose to also deploy Test Agents at strategic points in its access networks and in customers' networks.

Netrounds deployment

Below is an example depiction of Netrounds Test Agents deployed in the Telia, formerly Zitius, environment:



Telia now uses Netrounds to assure high quality of its IPTV delivery, and the staff consults the system on a daily basis to obtain a full overview of the network status and service performance. Thanks to improved knowledge of how the traffic is impacted over time, the company has been able to redirect its ways of working towards preventive efforts.

The increased coverage resulting from the use of the smaller Netrounds Test Agents has also improved Telia's ability to troubleshoot effectively.

"In case of faults of a localized nature we use one of the portable Netrounds Test Agents to get at the roots of the problem, which quite frequently resides in the end customer's equipment," says Ola Friis.

Some time before deploying Netrounds, Telia was faced with a serious issue that took nearly two months to resolve because of the difficulty of identifying and pinning down the fault.

"When trying to trace such an elusive problem, you often get a fair share of unproductive mudslinging among the parties involved in the investigation. Recently we had a similar incident that we were able to solve within a couple of days, communicating in a positive spirit with everyone else involved. Netrounds was crucial to reaching this quick solution," Ola Friis explains.

Result: Increased operational efficiency, service quality and profitability with Netrounds

Since adopting Netrounds, Telia's ability to prevent performance problems and troubleshoot effectively has improved tremendously. Due to the full performance insight provided by Netrounds, quality issues are now addressed before they are noticed by the end customers, which prevents customer churn.

The precise locating of faults also means that Telia is now saving lots of time when troubleshooting unexpected problems. By using Netrounds, Telia has found a way to prevent operational costs from getting out of hand and remain highly profitable.

Starting out as a fairly immature and untested technology, today's IPTV solutions have become increasingly stable and reliable.

Friis describes how Telia is constantly searching for new methods of ensuring good service delivery, with a goal of delivering perfect quality from end to end.

"Attaining this goal requires comprehensive supervision of the network. We must be able to track second by second what is happening. We require constant and immediate feedback to know if the steps we take – anything from upgrading our switches to installing new UPSs – have the desired impact. In this work of ours, Netrounds is a very important tool which we are extremely satisfied with," Ola Friis concludes.