

Lyse Tele—'Triple Play' Services with Metro Ethernet



"The Cisco metro Ethernet solution is the perfect vehicle to help Lyse expand its business portfolio and further our strategic objective to increase revenue per customer. It is helping us to secure customer loyalty through the provision of high-value, 'triple play' Internet, digital television, and telephony services."

Toril Nag
Chief Executive Officer
Lyse Tele

Lyse Tele leverages its infrastructure experience to create a high-speed optical network offering communications, Internet and digital television.

Background

Norway is traditionally quick to embrace new technologies, and broadband access is no exception. However, the limitations of broadband over the existing copper network means that access speeds and geographical reach are hindering the full potential of broadband for both business customers and consumers. However, Lyse Tele—an innovative local player—has developed a groundbreaking 'real broadband' offer of its own, taking advantage of the high speeds afforded by optical networks.

Challenge

Lyse Tele is a subsidiary of Norwegian utility Lyse Energi. In seeking to generate new revenue and more attractive service

bundles, the parent company created the Lyse Tele brand in 2002. Lyse Tele would exploit three opportunities: it would leverage Lyse Energi's expertise in digging and laying cable; it would capitalize on the existing duct and pipe infrastructure; and it would team up with partner Cisco Systems® to implement a metro Ethernet solution offering the first 'triple play' services anywhere in Europe.

Solution

The unrivalled mix of Cisco® business experience and industry-leading technology in the metro Ethernet market helped Lyse Tele develop services comprising 2 to 10 Mbit/s Internet access, telephony, and digital television. Implemented by Eterra, a Cisco Gold-certified partner company, the solution is comprised of the Cisco Catalyst® switch, gateway, and gatekeeper products. Partners include Tandberg Television for video services and IBM for software integration.

Results

Six hundred residential customers in Stavanger in southwest Norway are currently enjoying revolutionary telecommunications and entertainment services, delivered directly to their homes. Lyse Tele's aim is to increase this number to 4000 customers by the end of 2003, but the



service is in such demand that its cautious initial estimate of a return on investment (ROI) in seven years looks likely to be improved upon significantly.

A True Multiutility

Although Norway is a country with a relatively low population, its consumers have always embraced the latest technologies. Internet penetration is at around 70 percent of the two-million households. The average amount spent on telecommunications in Norway is 1,900 euros, and demand for residential broadband services is increasing.

However, there are practical limitations to broadband over the traditional copper network. Quite apart from geographical reach, there are limits to upstream connection rates which seriously curtail the true potential of broadband. There was no doubt that the demand was there—the problem was how to provide a truly effective and attractive service.

In 2001, Lyse Energi, a Norwegian utility operating in southwest Norway around the city of Stavanger, began to recognize that it could leverage its expertise in digging and laying cables and take advantage of a wide network of heating, electricity, and duct pipes to roll out a completely independent optical fibre network.

Lyse Energi understood that it could use its experience and existing pipe network to lay optical fibre to Norwegian consumers in its market, and that it could do so for relatively low cost compared to the potential payoff.

Real Broadband, Real Revenue Opportunities

To embark on this project, Lyse Energi created Lyse Tele in early 2002. The company hired the best people to create a strong and independent brand with the financial muscle and large customer base of a well-known local utility.

Toril Nag, chief executive officer (CEO) of Lyse Tele, recalls: “Stavanger is Norway’s fourth-largest city, with a population of 110,000. We already had relationships with these residents from day one, and our aim was to expand our offer to deliver a ‘true broadband’ service. Our strategy was simple—by developing this unique and powerful offer, we recognised we could capitalise on our strong brand credibility and build competition-proof customer loyalty.”

With experience in working with infrastructure stretching back to its creation as a company in the early twentieth century, with effective customer service vehicles already in place, and with dark fibre already present in its power distribution network, all that Lyse Tele required to build its offer was a partner to help it complete the architecture and roll out the new service. That partner was Cisco Systems®.

Metro Ethernet Partner

“Our parent company, Lyse Energi, had a relationship with Cisco stretching back to 1996,” says Nag. “Through this relationship, I quickly heard about the Cisco world-leading activities with service provider partners in the metro Ethernet space.

“A metro Ethernet solution would enable us to control equipment cost and operational expense, upgrade bandwidth requirements without hardware changes, reduce churn, and generate a more stable, profitable customer base,” she continues. “In addition, we would be able to enter the market rapidly and grab market share, seize competitive advantage, boost competitive differentiation and extract maximum value from our existing infrastructure.”

End-to-End Expertise

In the face of the long experience and end-to-end capabilities in the metro Ethernet space that Cisco brought to the partnership, the competitors (Alcatel and Extreme Networks) were soon out of the running. Nag again: “We were invited to the Cisco Executive Briefing Centre in London, where a discussion took place to flesh out some of the challenges associated with such a project. As a result of these discussions, a bigger opportunity presented itself.”

Rather than merely providing Internet access services to compete with the existing ADSL offering over copper (albeit providing faster access speeds), what was envisioned was Europe’s first true ‘triple play’ solution—one that would offer Lyse Tele customers an impressive package of telecommunications, Internet, and digital television services at a single low monthly rate.

An agreement between Lyse Tele and Cisco was signed in September 2001 for a pilot programme, offered to 30 residents, which would test the capabilities of the solution and ascertain reactions of real users. With guidance from Cisco, the pilot programme was operating in one month and subscribers were benefiting from a host of new services, including both-way Internet connectivity at speeds of up to 10Mbit/s, flat-rate voice-over-IP (VoIP) packages, video on demand (VOD), and access to 40 channels of broadcast TV.

Commitment and Enthusiasm

Lyse Tele capitalized on its ‘rights of way’ access—laying fibre through a variety of gas, electricity, and direct heating ducts—in order to provide the connections into subscribers’ homes. The digging work was completed in less than a week, with the assistance of subscribers who dug trenches and laid cables themselves, in return for a 50 percent reduction in the 400 euros provisioning fee for fibre termination.

One of the most innovative companies working with Cisco at that time was a Milan-based company called FastWeb. In December 2001, after the successful pilot scheme, Nag asked Cisco to arrange

a visit to learn from this company's experience and help formulate Lyse Tele's own strategy. On Nag's return, **Lyse Tele signed an initial 1million euros contract with Cisco for the supply of its metro Ethernet solution suite**, including the award-winning Cisco Catalyst switch.

Pilot Triumph

To minimize risk, Lyse Energi requested a further pilot phase supported by a period of marketing the new offer with a view to convincing as many as possible to sign up in advance of service delivery. There were 1500 addressable subscribers for the pilot, and Lyse Tele needed to persuade 40 percent of this number to sign up in advance for the services.

"Our challenge was to sell the concept without budget and without a fully developed product. The answer we found was in developing a local, community-based sales campaign that involved, among other activities, Lyse employees actually babysitting while parents attended Lyse presentations in local schools," Nag recalls. For all its quirkiness, this strategy paid off and by April 2002, Lyse Tele had 460 advance subscribers and the chance to move forward with its plan.

Bundled Value-Added Services

For subscribers, the Internet solution comprises a 2Mbit/s or 10Mbit/s connection, five e-mail addresses, firewall protection, the Lyse Tele broadband portal, and the dedicated server space for personal Web sites.

'Triple play' subscribers also have access to 17 television channels (extendable to 40) and digital radio with a full electronic programme guide alongside pay per view and video on demand. There is also a built-in e-mail and Web access capacity in each set-top box—allowing customers to send and receive e-mail from the TV and connect to the local newspaper and Webcams in their local areas.

In addition, IP telephony offers free calls to others on the Lyse Tele network and other calls at the standard public switched telephone network (PSTN) rate. A mobile phone offer provides one free call to another Lyse Tele mobile per day.

The provisioning fee of 400 euros for fibre termination to each household is halved if the subscriber chooses to participate in digging trenches, and so far this offer has been taken up almost universally. Monthly fees vary from 60 to 130 euros, depending on the service bundle.

Powerful and Reliable Platform

The core network design was carried out in partnership with the Cisco Professional Services team. The functional layers of the overall infrastructure are the access layer, the distribution and aggregation layer, the metropolitan backbone, and the national backbone interconnecting nodes.

Lyse Tele has used as much of its own dark fibre as possible, but also rents from Nordic service provider Song Networks where necessary. The solution is comprised of Cisco Catalyst 6509 switches in the core, and Cisco Catalyst 4006 access switches in the broadband Ethernet distribution network. The overall topology is based on a Layer 3 star configuration utilizing 48-port 100BASE-FX multimode fibre modules. Multimode fibre connects POPs to each subscriber. Network Address Translation (NAT) delivers Internet access, and the architecture is secured with dual Cisco PIX[®] firewalls.

Lyse Tele's H.323-based VoIP offer is supported by the Cisco AS5350 Universal Gateway, and Cisco high-performance gatekeeper features on Cisco 3640 routers. Customers can connect both existing analogue and IP phones to residential home gateways. Digital television and VOD distribution are handled through the Cisco IP Multicast solution.

Invaluable Business " Know-How"

"The contribution Cisco made to the project went far beyond helping us build a powerful and reliable platform for service delivery," says Nag. "The company's unequalled experience made it a valuable business partner, too.

"Cisco offered us the use of its testing facilities in Reading [UK] to allow evaluation of partner equipment and its compatibility with core technologies. Additionally, the Cisco team helped us test the new services and consider features and pricing plans, significantly reducing the risk normally associated with such large-scale rollouts," she concludes.

And business has been brisk. "We are already finding ourselves fighting to keep up with demand—particularly throughout the Norwegian winter where the frozen ground makes it harder to lay fibre quickly," she explains. "Already though, our estimates of ROI in seven years seem pessimistic, and it looks likely that we will see profit much sooner than that."

Big Endorsement

Customers are definitely satisfied. Tore Kristoffersen lives in Sola, near Stavanger. "I had the service installed in **November 2002,**" Kristoffersen recalls. "The installation took no time at all and was very simple with hardly any disruption."

The service covers 2Mbit/s Internet, TV, and phone, and **the family pays only 100 euros per month for these services.** “My kids really like the video on demand and digital TV,” Kristoffersen says. “The picture and sound quality is fantastic, and it isn’t affected by weather, for example, because it’s digital. My wife now takes advantage of the fast Internet connection to work at home for half the week and simply accesses her company intranet at the click of a mouse. It’s given us much more flexibility in our lifestyle.”

“Phone calls to other Lyse customers on the same network are free, which is a blessing considering the time my children like to spend talking to their friends,” Kristofferson adds. “The service has saved me at least 20 percent on my telecommunications, TV, and Internet bills.”

A Successful Partnership

Creating the right partnerships has been an essential element of Lyse Tele’s strategy for its metro Ethernet offering. In addition to Cisco, the company is working with other Cisco partners such as Eterra for the Cisco equipment and integration; Telsey Telecommunications, a service provider ecosystem solutions partner and technology

partner, for the voice home gateways; Kreatel, a video solutions partner, for the set-top boxes; Tandberg Television, a video solutions technology partner, for the VOD portal and content; Bitband Media Streaming Solutions, a video solutions partner, for the VOD servers; and IBM, a systems integrator, for consulting and software integration.

Lyse Tele is optimistic about the future for its ‘triple play’ metro Ethernet-based services. Based on the success of the project, the company hopes soon to gain the Cisco Powered Network designation, which is available to select service providers that operate networks built end to end with Cisco equipment, and is currently in discussion with Cisco to become a member of the programme.

Nag concludes: “With help from Cisco, we are already planning to sign up 4000 more customers in 2003, and have already started additional infrastructure rollout in eight neighboring areas. We are moving quickly to secure our market position, and we are also looking at the possibility of partnering with other local utilities to franchise our ‘triple play’ offer.”



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