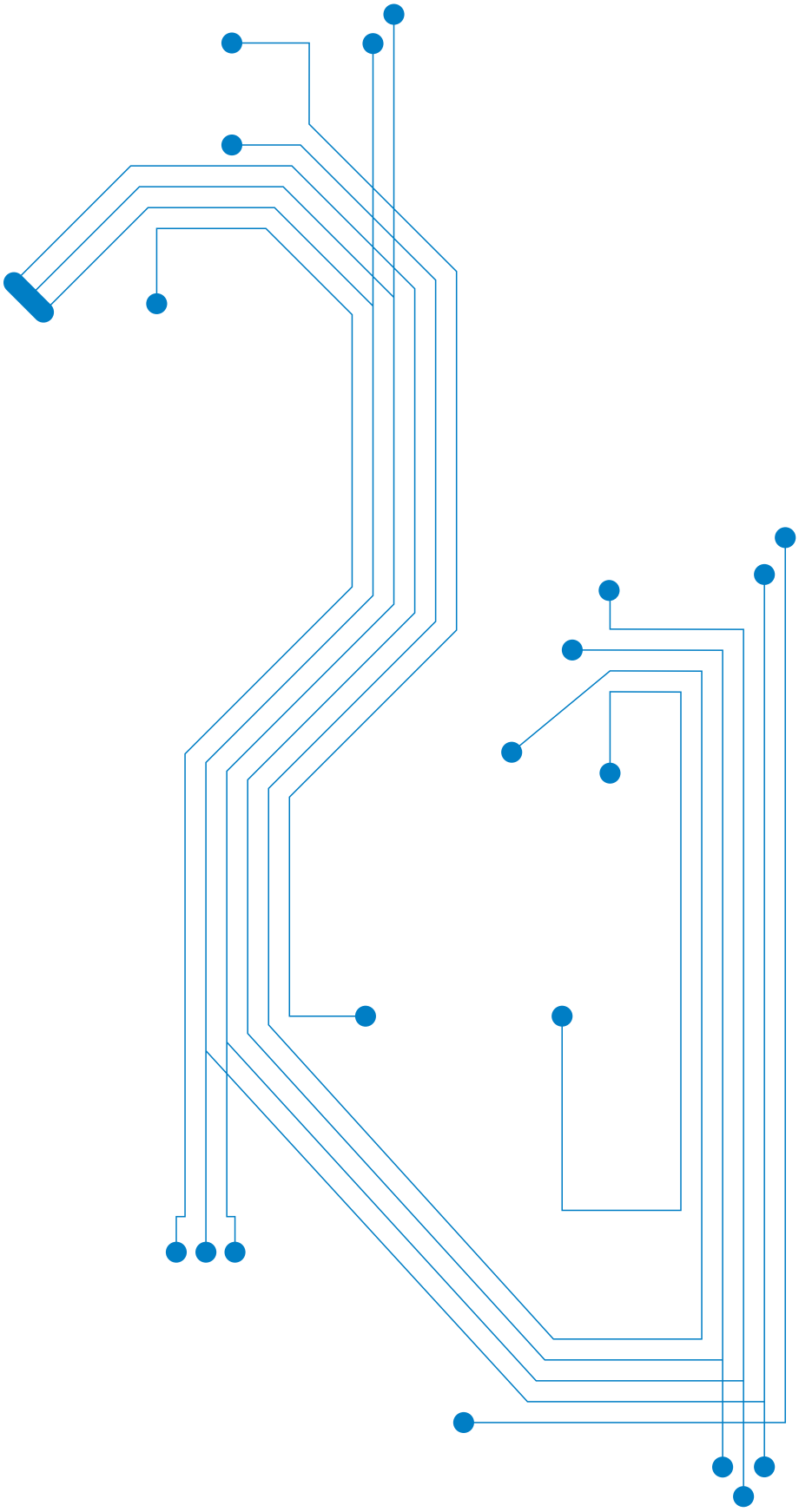
TELESTE

Case study / Sappa (Svesat) AB

IPTV Headend and IP Backbone solution in Ulricehamn

Use of IPTV headend in Ulricehamn to receive over 100 TV services (Svesat Choice Solution) and the ability to feed the services out via IP backbone to other cities. The same digital TV solution is offered also via EDGE QAM.



Sappa (Svesat) AB

Svesat is a Cable-TV and SMATV operator, which started their operations in the year 2000 in Gothenburg, Sweden. Svesat was founded in order to take care of maintaining Viasat's SMATV networks in the country.

During the past years Svesat has grown steadily and is now 100% owned by SPA (Swedish Program Association) and has today over 50 000 Cable-TV customers connected to their networks. Svesat has today 24 CATV companies in their organisation. These companies can handle everything from planning, providing, installing and servicing Cable-TV and SMATV networks. The companies are located throughout Sweden, from Malmö in the south to Luleå in the north.

In 2005 Svesat won their first Cable-TV network project with 10 000 subscribers in Borås. The project was to build up a Playout HE for Borås Energi, which got a deal to deliver Cable-TV and broadband services to the Borås Community housing company. Svesat won the bid with a solution based on Teleste ATMux HE, which preceded Teleste Luminato.

In 2008 Svesat started up their Svesat Choice concept, which offers over 100 digital TV services. Svesat is now the operator of Svesat Choice in 14 cities in Sweden where they offer the concept. The company is also offering broadband services via Docsis technology in some of these networks .

In March 2010 Svesat, Svesat Choice and SPA gathered under one brand called Sappa

Extending selection of TV services

Ulricehamn Energi became interested in distributing TV services and expressed their desire to join the Svesat network. In order to establish a connection between two separate networks, Svesat invested in a 1550 nm transmitter from Teleste to feed their channels over darkfiber to the network in Ulricehamn. This enabled Ulricehamn to receive digital TV services from Svesat and offer them to their customers.

In 2008 Ulricehamn wanted to expand the number of digital services that was originally included in the Svesat offering. As a consequence, Svesat begun to draw up a new concept to be able to offer over 100 digital channels to its customers – the concept became known as Svesat Choice.

Service delivery over IP backbone network

Ulricehamn is one of the node points in an IP backbone network called Västlänk that covers the Västra Götaland area with over 24 City Carrier networks connected to it.

Svesat's plan was to build up an IPTV HE in Ulricehamn with over 100 TV-services and feed the services over the Västlänk to both Borås and Alingsås, where Svesat already had an HE ingesting mostly analogue TV-services. These three networks would then have a total of 15 000 connected subscribers.

The major benefit of this solution is to have just one IPTV HE where the reception of all the TV services could be centralised. Smart card operations and TV service upgrades would then take place only in one place and not in three separate HE's.

The business challenge

The challenge for Svesat was to get the cost level low enough for the transmission over the IP backbone. One of the advantages of the solution was that as the customers were City carriers their backbone network prices were favourable. However, the transmission prices of other City Carriers that were not involved with any cable TV could be very high.

In addition, for being cost-effective Svesat needed a supplier that would have a good knowledge of IP technology and video transmission over IP backbone network.

Teleste headend solution

Svesat chose Teleste due to its new Luminato HE platform. Its major advantages were:

- A pure IP based HE platform
- Smallest form factor – 1U high and can handle up to 12/24 DVB-S2 receivers in one chassis
- Low power consumption, max. 100 W for a full chassis – making it a “green” product
- Competitive price

The long-term relationship between Svesat and Teleste has engendered other big and successful projects like:

- Bornet (ATMux HE platform and FTTB network- 2005)
- Skellefteå Kraft (ATMux HE platform and FTTB network - 2007)

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TV service creation

The Luminato HE receives and ingests the following TV services:

- 25 analogue TV services – base packages
- 3 FM services
- 119 Satellite services from 4 different satellite positions
  10 HDTV services with a payload between 15-25 Mbit/s
  109 SDTV services with a payload between 2-10 Mbit/s

Each service is ingested from the Luminato SFP interface as a clear MPEG-2 SPTS multicast IP stream.

The services are fed to a 24-port switch, which is connected to:

- Cryptoguard CA system
- Management switch
- Management computer
- 24 QAM EDGE QAM – Teleste Virtuoso

All digital services are multiplexed to different 64QAM multiplexes in Teleste Virtuoso. In total they use 22 x 64QAM muxes to feed out 119 TV + 3 FM services. Cryptoguard is then adding scrambling to the multiplexes in Virtuoso.

Service delivery

Västlänk IP backbone is connected to the switch GbE uplink ports (2), from where the services are ingested to other locations.

The total amount of payload in the backbone is around 700 MBit/s.

The transmission via the backbone is based on two ways:

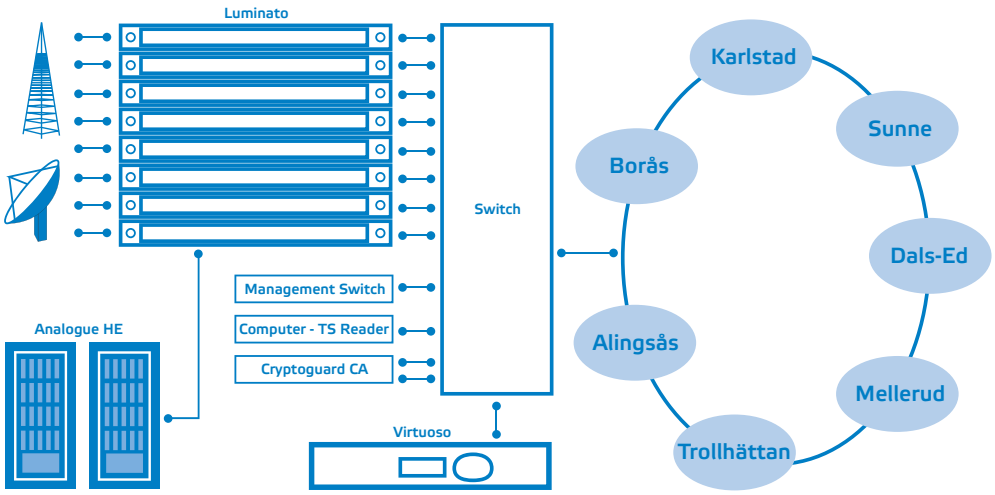
- Via a leased DWDM wavelength:
  Advantage: No limitation on bandwidth
  Disadvantage: No redundancy if fibre is broken

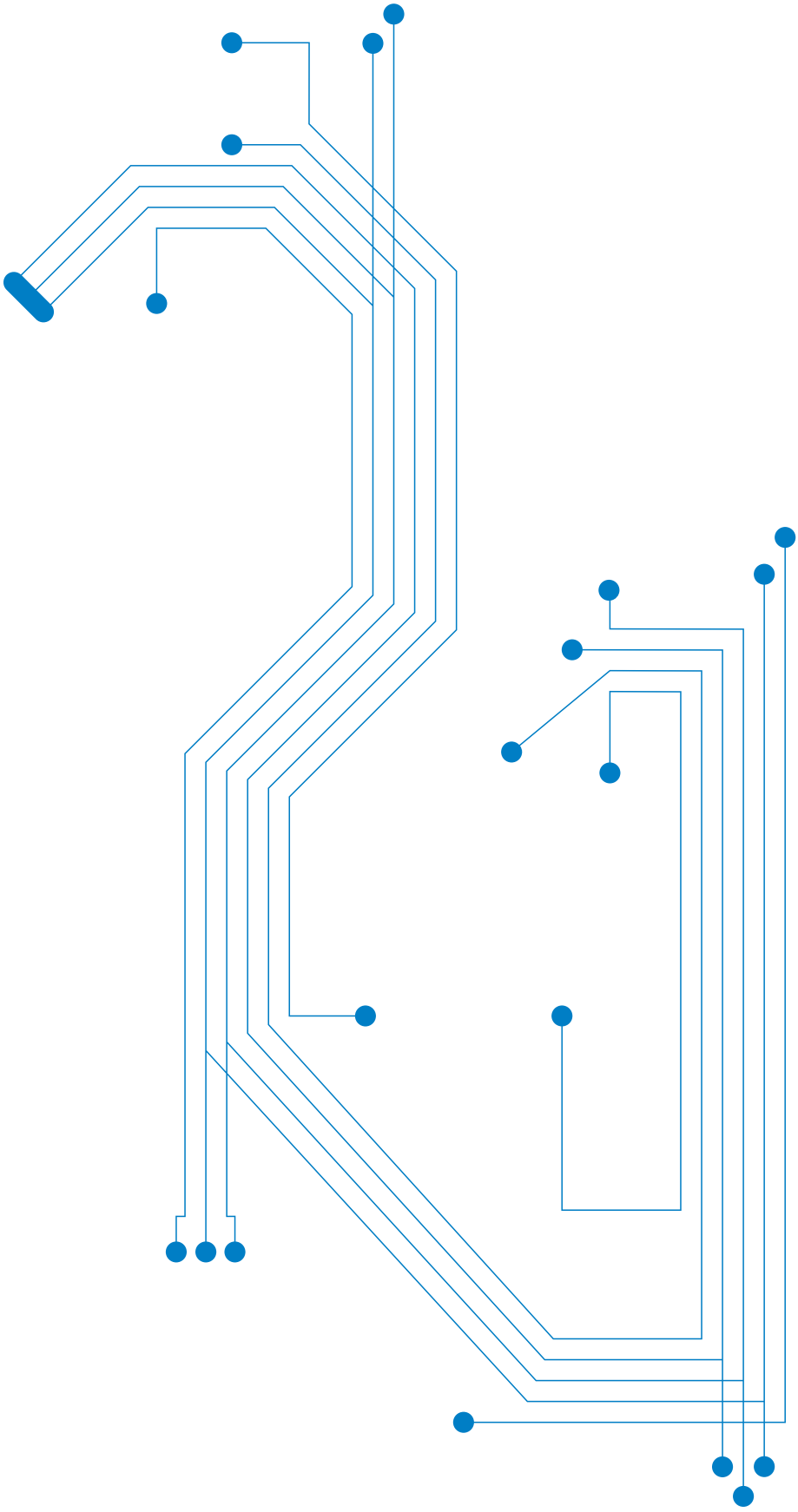
- Rent capacity via a routed network
  Advantage: Redundancy available
  Disadvantage: Bandwidth limitations

Today, the amount of local networks connected to the backbone has grown from the original 3 to 8 Cable-TV networks. The number of connected local networks can be expected to grow further from the situation today.

The break-even point for Svesat to invest in a new EDGE QAM is 1000 customers connected to the network and buying digital services from Svesat Choice.

Ulricehamn IP based HE solution and backbone where each HE has a switch and a 24xQAM Virtuoso for ingesting the services.





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