



Aalborg Kommune builds new data centres with the future in mind

HPE solution allows flexibility and scalability for future expansion

Objective

Achieve the flexibility and scalability required to support the growing number of systems demanded by users who rely on Aalborg Kommune's network

Approach

As a satisfied HPE customer, Aalborg Kommune purchased an HPE solution based on an existing agreement. They saw no reason to change vendor

IT Matters

- Reduced the number of switches to be monitored from 24 to 5, easing network management
- Provided a resilient solution, enabling IT to focus on meeting new user demands
- Fully leveraged existing knowledge, protecting investments

Business Matters

- Increased flexibility and scalability, ensuring future user demands can be met
- Delivered a simple to deploy solution, enabling users to benefit from an improved network response without experiencing problems from downtime
- Allowed the expansion of e-administration services, reducing administrative costs and enabling new business



An important government body relies on an HPE solution

The Danish municipality of Aalborg's cramped data centre had no room for expansion to meet the growing demands of its users. Three new state-of-the-art data centres now provide the space and scalability required. The data centre relies on an easy to manage HPE solution for flexibility and resilience, and for meeting users' future demands.

Challenge

Flexible data centre needed

"Managing our data centre network was a challenge. It was designed 15 years ago, before the internet, and not very flexible," says Peter Jakobsen, network systems engineer, Aalborg Kommune. "If the users had asked us to create a new system we might have had to say no because we didn't have the space and the bandwidth."

“We have been using HPE for the last 15 years. We know it well. It’s a stable, easy to manage, cost efficient solution that comes with a lifetime warranty.”

– Peter Jakobsen, network systems engineer, Aalborg Kommune

Jakobsen’s team supports 14,000 users and their 7,500 PCs across 800 locations in the 1,100 km² municipality of Aalborg in Denmark. With two networks – one for administration and one for students – to manage, Jakobsen was certain the old data centre would not serve users’ needs into the future: it had no room for expansion. “It was difficult to install new equipment because of the huge amount of cable,” notes Jakobsen. “We needed a data centre to give us space and where it would be easy to add and remove equipment.”

Expanding e-administration capabilities

The administration of the municipal district of Aalborg had become increasingly dependent on IT services for carrying out its duties. As e-administration capabilities expanded, ensuring delivery of the systems demanded by its seven independent departments was becoming even more crucial. “Everything is done electronically today,” Jakobsen explains.

A crucial part of the IT infrastructure, Aalborg Kommune’s network supports more than 400 applications, ranging from internal systems for supporting healthcare for the elderly and handicapped to public-facing, self-service applications for the municipality’s 203,000 citizens.

Providing room for expansion

The municipal authorities recognised the need for a new data centre to provide enough headroom for expansion. The new data centre needed to deliver security and resilience, reduce power consumption and simplify management of their vast architecture.

They commissioned three new state-of-the-art data centres to replace the cramped, outmoded one located in a basement. Jakobsen described the new facilities, “We built one primary data centre with a lot of space to allow for eventually extending in the future, then a second data centre in another building location 8 km away, for redundancy, and a third data centre elsewhere for backups.”

Solution

Scalability vital for future expansion

Today, the administration knows its two networks and three data centres can cope with the ever-increasing demand from its users.

The network includes 50 stackable Aruba 3800 Series Switches and 4 modular HPE 8212 Series Switches, allowing Aalborg Kommune to achieve the flexibility and scalability vital for future expansion.

Peter and his team deployed the Aruba 3800 switches, two per rack, as top-of-rack switches. Two 10 Gb trunks provide uplift to the HPE 8212 switches, which connect to the core.

“We chose the Aruba 3800 switches for a number of reasons: we needed a real stack environment, it is a high density switch with 48 1 Gb ports and four 10 Gb ports, it has dual power supply for redundancy and it has a lifetime warranty,” explains Jakobsen

“The lifetime warranty is important to us. If a device breaks and is no longer available, HPE provides a similar device – a newer version.”

HPE at the edge

At the network's edge are more than 1,000 devices in 800 different buildings, connected using HPE 2600 Series Switches and HPE 3500 Series Switches. Aruba 5400 Series Switches connect 30 backbone devices.

No reason to change

A satisfied HPE customer, Aalborg Kommune purchased these devices based on an existing agreement. Jakobsen felt no reason to switch from HPE. “We have been working with HPE products for the past 15 years. We needed to do this installation quickly and working with products we trusted and knew inside out really helped. There was just no reason to start again with a new vendor.” Network deployment took just six weeks.

Jakobsen's relationship with HPE is exceptional. “We have helped beta-test HPE ProCurve Manager (PCM) Plus for the past 5 years,” says Jakobsen. “I visited HPE in the US and shared my ideas for PCM+. There are many good ideas in PCM+: it delivers the documentation for your topology – vital for good network management.

“Some of my ideas are being moved to HPE Intelligent Management Center (IMC) because that is the future management platform.”

A network to showcase

The contribution of Jakobsen and HPE Services' knowledge and experience to the design of the network played a vital role in achieving an extremely flexible network with such a high level of resilience.

Jakobsen designed the network to preserve itself and its components in the event of an incident; HPE reviewed his ideas. “The whole design creates redundancy, it is a showcase of the right way to do it,” says Jakobsen.

Benefits

Enhanced flexibility

The Aruba 3800 switches not only have the flexibility of a stackable form factor, they have 10 Gb expandability to support bandwidth-intensive applications, providing investment protection for future needs.

“The flexibility we have is a huge benefit,” advises Jakobsen. “We now have a system that can cope with future demands and can create new systems demanded by the users.

“It is much more flexible when you have to add more equipment: we no longer have to pull new cables because they are already installed in the racks. You just have to add the new equipment, put the network connections into the network switches and it just runs the way it should.

“When you have 10 Gb links it is easier to add extra VLANs and now we have the option to use 10 Gb everywhere – a huge difference to the 1 Gb links we had previously. The 10 Gb fibre is key to making our network design work. Currently we have 450 km of fibre installed across our municipality.”

Case study

Aalborg Kommune

Industry

Government: State
and Local

Customer at a glance

Hardware

- 50 x Aruba 3800 Series Switches
- 4 x HPE 8212 Series Switches

Software

- HPE ProCurve Manager Plus
- HPE Intelligent Management Center

HPE services

- HPE Proactive Care Service

“It is great to work with equipment that is not only easy to work with, but that you can trust and rely on.”

– Peter Jakobsen, network systems engineer, Aalborg Kommune

Easier to monitor and manage

It is now easier to find your way around the network, improving network monitoring significantly. “The way it is structured now, monitoring is easier,” adds Jakobsen. All the racks are designed the same so it’s much easier to find your way around. All the devices have a unique naming structure and unique address, and all the ports on the switches are designed for a specific purpose – so you know where things are.”

Even when a stackable switch is operated with other units, there is only ever a single management interface for the network administrator to deal with. This simplifies the setup and operation of the network. “You only have to manage 1 switch for each stack, meaning I only have to manage 5 switches instead of the 24 I would have had to manage previously.”

Increased recognition

The leading-edge nature of Aalborg Kommune’s project has generated a great deal of interest amongst other Nordic municipalities. “We had a visit from a municipality in Norway,” says Jakobsen. “They were so impressed they took some ideas back with them to implement in their own data centre.”

The network’s users have been impressed too – by what they haven’t seen rather than by what they have. “I believe I have gained new recognition with our users – they have been very surprised,” Jakobsen explains. “We have moved the complete infrastructure from one address to another in a short time and the users were surprised because they didn’t have any problems with downtime.”

Ready for the future

Jakobsen is now looking forward to the future with confidence. “The system is more responsive for the users and we now have a system that can cope with future demands: now that we have the space and the bandwidth we need, we have the ability to create the new systems that the users want,” concludes Jakobsen.

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