Realizing Mobility with Device Flexibility

Customer Case Study

Cisco Medianet architecture helps Danish IT services company offer high-quality video experience securely

EXECUTIVE SUMMARY

Customer Name: NNIT

Industry: Service provider

Location: Copenhagen, Denmark (HQ)

Number of Employees: More than 1800

Challenge

- Increase employee efficiency and business opportunities by building optimal IT environment for secure mobility and video collaboration

Solution

- Cisco Borderless Network, with Medianet, Secure-X, and CleanAir capabilities
- Cisco Identity Services Engine for consistent security policy enforcement across wired and wireless domains

Results

- Optimized HD video streaming for improved collaboration between international offices and with clients
- Greater control of wireless devices for increased productivity and compliance while reducing IT management costs
- Automatic detection of rogue devices and wireless interference for greater security and availability

Challenge

NNIT is a leading Danish IT services company, providing consultancy and outsourcing to customers looking to make software applications, business processes, and communication strategies more effective. It has an extensive customer base in industries such as life sciences, public and finance.

In February 2012, the company moved into a custom-built, five-floor head office in Copenhagen, bringing a business previously distributed across four buildings under one roof. The new premises provides an interactive environment for 1300 employees, as well as facilities to showcase the technologies and architectures that the company deploys for its customers.

The move to the new building was a perfect opportunity for NNIT to construct an integrated network infrastructure that would cohesively deliver wired and wireless services, and be accessible to the wide variety of mobile devices typically used in today's high-tech business environment.

Security was paramount: NNIT is part of the pharmaceutical giant Novo Nordisk A/S and, because it shares a data network with the parent company, it is subject to stringent compliance. The network's ability to deliver high-definition (HD) video conferencing was also a priority. The new NNIT building houses a 1500-person conference center and live broadcast capability, a meeting center with HD video access for 80 people, and 25 regular meeting rooms that are also wired for HD video.

The company makes extensive internal use of video; its project teams and support professionals in Copenhagen collaborate regularly with colleagues in the company's global offices in the United States, China, the Philippines, Switzerland, and the Czech Republic. And video is an increasingly important factor in external communication with customers and partners too.

NNIT needed an infrastructure that would support this degree of collaboration. This was vital to the highest possible standard of user experience, and savings on travel costs, while getting customer propositions to market more quickly and efficiently.

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Jens Barnow
Vice President Infrastructure Application Services
NNIT

Solution

NNIT approached Cisco with the aim of creating an efficient, manageable, and consolidated IT environment based on the latest proven network technologies and reference architectures. The intent was that this environment would also provide a platform for demonstrating the benefits of those technologies for customers in the future.

"We have a long-term partnership with Cisco, so the vision of a technology showcase as a joint venture, reflecting the variety of technologies and devices used by our customers, was very compelling," says Jens Barnow, vice president, infrastructure application services at NNIT.

NNIT implemented a Cisco® Borderless Network, a transformative concept that addresses the traditional restrictions of fixed environments by allowing mobile workers to remain securely connected to their core applications and services, without interruption, regardless of the device they are using or their shifting location. "Our aim was to have a stable, well-suited network using the latest breakthrough features," says Barnow, "which also promoted staff mobility, video collaboration, and a growing number of high-tech users in a bring your own device [BYOD] environment."

Over that Borderless Network architecture, NNIT HD video deployment is benefiting from Cisco Medianet. Designed to automate the deployment, management, and troubleshooting aspects of video communications, Medianet is particularly important for prioritizing different data streams. "With video playing such an important role in collaboration on joint bids, the ability offered by Medianet to automatically differentiate between video streams and reserve and allocate bandwidth to preserve picture quality is critical to success," says Barnow.

The solution comprises Cisco Catalyst® 3750 and 6500 Series Switches, and Cisco Aironet® 3500 Series Access Points with Cisco CleanAir® technology, along with 5500 Series Wireless Controllers. It delivers bandwidths of 1Gbps to the desktop and 400Mbps to wireless devices.

Functionality in the Cisco Catalyst switches is fundamental to delivering the standards of network security, availability, and management required by NNIT. At its center is Cisco Secure-X, providing safe connection of users' own devices to the corporate network. With BYOD increasingly common among many NNIT customers, and in keeping with NNIT internal policy, Cisco Secure-X enforces digital certification and authentication, and compliance with industry-specific regulations.

The Cisco Borderless Network concept brings management of fixed and mobile devices together for the first time, providing a common set of enforcement tools and a simpler management approach. The Cisco Identity Services Engine (ISE), a core element of Secure-X, provides a context-aware security policy that automates the compliance process as well as streamlines service delivery.

As a unified control point, ISE provides an extra layer of security between the device and the network, checking the profile of the device for a valid digital certificate and user privileges before allowing it to log-in to the network. With ISE, employees can work anywhere, as long as they are using an approved device.

"ISE provides an excellent overview of the state of the network and allows us to demonstrate to our customers what happens when a device is not compliant," says Thomas Laurids Pedersen, manager, customer networks at NNIT. "This is about being more in control, with everything now managed from the same set of enforcement parameters. Our internal deployment is itself a great case study on how to deploy a secure wireless network."

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Like many high-tech companies, NNIT has brought wireless to the center of its networking strategy. The Cisco CleanAir technology supports this evolution by actively mitigating potential sources of Wi-Fi interference before wireless network performance starts to degrade.

Results

In its former premises, NNIT could not efficiently manage the use of wireless devices. An attempt was made unsuccessfully to implement wireless security enforcement as an add-on to the wired network. In contrast, the NNIT integrated wireless strategy in the new building is already delivering important benefits. For example, unauthorized devices are denied access to the network, and thanks to the comprehensive ISE functionality, the IT department can respond much more easily and efficiently to changes.

"We now have a network that recognizes individual devices, and that's allowed us to authorize some specific platforms to access the network. And we have seen no problems with integrating them," says Barnow. "It's a great relief that we can plan ahead with the reality of a common network and a common experience for all our users and customers. It's a great solution, in terms of management and functionality."

Identifying and locating rogue wireless devices and Wi-Fi interferers was also an issue in the old building, particularly when employees introduced potentially disruptive appliances that the IT department did not know about, or moved devices to a new spot. Thanks to Cisco CleanAir technology, the network identifies potential interference and changes the radio frequency without any service deterioration or interruption.

NNIT is still at an early stage in exploiting the deeper business benefits of its Cisco Borderless Network architecture, but in the near future sees it as providing an exciting platform for demonstrating best practice to existing and potential customers.

"Already, the response from our customers has been very positive, and they are asking for quotes on projects that involve many aspects of our Borderless Network deployment," says Barnow. "It's helping to differentiate our services and show how elements of the network's functionality can meet different needs. Our customers can see it's a good product and something to build on for the future."

Perhaps the most visible benefit, however, has been the improvement in the delivery of video services to the desktop and the conference suites. Previously, the IT team was unable to prioritize video streams without knowing the IP addresses of the video end-points and manually configuring ports on the LAN switches. Fluctuations in bandwidth availability often led to problems with call set-up and videos freezing in mid-play.

With Medianet, this problem has been eradicated, a requirement that was essential for projects requiring collaboration between NNIT international offices. Employees can now communicate with each other around the world with the ease of room-to-room conversation. And the reporting function provided by the ISE is another highly-visible demonstration of how effectively the Cisco Borderless Network Architecture can be used to satisfy regulatory compliance, while also enabling the smooth delivery of business-critical multimedia applications

For More Information

For further information on the Cisco architectures and solutions featured within this case study, please go to: www.cisco.com/go/borderless

Product List

Switching

- Cisco Catalyst 3750 and 6500 Series Switches for Secure-X security framework

Wireless

- Cisco Aironet 3500 Series Access Points with CleanAir technology
- Cisco 5500 Series Wireless Controller

Management

- Cisco Identity Services Engine

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