Dutch Government Deploys Efficient Wireless Network

City of Amsterdam launches borderless Cisco network to improve employee productivity while reducing costs.

EXECUTIVE SUMMARY

Customer Name: City of Amsterdam - Development Alliance

Industry: Government

Location: Amsterdam, Netherlands

Number of Employees: Approximately 1,600

BUSINESS CHALLENGE

- Provide secure, user-friendly, reliable wireless access throughout and around government agency buildings
- Reduce costs associated with wireless network operations
- Support online access from personal mobile devices

NETWORK SOLUTION

- Standardize on Cisco wireless networking solutions for wide array of digital devices used anywhere on government properties

BUSINESS RESULTS

- Facilitated centralized network management for better responsiveness and efficiency
- Allowed employees to use any device, anywhere to connect to Wi-Fi network
- Cut costs by eliminating use of external telecom providers

Business Challenge

A historic port city, Amsterdam is the Netherlands' financial, cultural, and government capital. The city's metropolitan population of more than two million residents is supported by a number of government agencies that provide both essential and ancillary services throughout the region.

Like many municipalities, Amsterdam's government agencies are challenged to strike the right balance between providing an array of useful citizen services and managing spending of taxpayer dollars. Six departments have joined to form the Development Alliance, in an effort to share resources for more efficient delivery of services. The departments employ approximately 1,600 workers, spread across two campuses currently, with more to follow in the near future.

The two campuses house more than 50 buildings, and the city wanted to lower costs by reducing office space without sacrificing employee access to the data and information that they needed to do their jobs effectively. "We wanted to find a reliable wireless network infrastructure capable of supporting dense network traffic as we consolidated workspace." says Eric Bish, network and system engineer at City of Amsterdam, the city's official government entity. "At the same time, it was imperative that we could manage it centrally and provide seamless connectivity for employees and visitors alike from anywhere on our campus."

Because of the construction and layout of the buildings on campuses, providing a strong, reliable wireless signal could be challenging. “Employees from different departments want to collaborate for enhanced productivity and service delivery,” Bish says. “The new wireless network had to enable better mobility for employees, allowing them access to important online business applications from any connected device, government issued or personal, from flexible workspaces and the most hard-to-reach spots on campus.”

Network Solution

Working closely with its networking and security partner, Axians, City of Amsterdam deployed a robust wireless Cisco network to connect employees and guests in and around agency buildings to the online applications that they use most. The network features upgraded core networking built on Cisco Nexus® 5000 and 2000 Series core switches and two Cisco Catalyst® 5500 Series Wireless LAN Controllers supported by Cisco® Mobility Services Engine, with Cisco Catalyst 3750x Series switches populating the access layer. Cisco Access Control Server (ACS) provides user validation and authentication to multiple Active Directory forests. Mobile devices, such as the Apple iPhones, authenticate using a user-based certificate to segment management of user credentials for laptops and desktops from smartphones and tablets.

> “Cisco network technologies automatically balance loads and optimize bandwidth allocations to help ensure we can support increased user traffic and density.”
> **— Eric Bish, Network and System Engineer, City of Amsterdam**

The Cisco Nexus 5000 Series switches are designed for a broad range of physical, virtual, storage access, and high-performance computing environments. The switches provide City of Amsterdam the flexibility to meet and scale its data center requirements gradually to handle increased traffic density as office space is reduced, and leverage cut-through architecture to support 10 Gigabit Ethernet connections for faster delivery of essential data to any user endpoint.

“As office space decreases, we’ll have more users concentrated on network services at any given time,” Bish says. “Cisco network technologies automatically balance loads and optimize bandwidth allocations to help ensure we can support increased user traffic and density.”

> “The Cisco Mobility Services Engine and strategically deployed wireless access points enable us to provide dependable wireless connectivity across campus and actively track who’s on the network for better visibility, security, and performance.”
> **— Eric Bish, Network and System Engineer, City of Amsterdam**

City of Amsterdam is deploying Cisco Prime Network Control System (NCS) to manage the day-to-day operations of its network. NCS is the telecommunications and data services industry’s most comprehensive management platform, delivering unified user, access, and identity management services and complete visibility into endpoint connectivity in a centralized location. This visibility provides management with the kind of information to detect areas of possible congestion or spots with weak signals.

Wireless access for flexible workspaces throughout government buildings will be delivered through Cisco Aironet® 3600 Series wireless access points with CleanAir™ technology. The access points, managed with Cisco Catalyst 5500 Wireless Controllers, help identify and troubleshoot sources of interference that degrade wireless services, enabling the city to provide consistent, reliable wireless connections in hard-to-reach areas.

“The Cisco Mobility Services Engine and strategically deployed wireless access points enable us to provide dependable wireless connectivity across campus and actively track who’s on the network for better visibility, security, and performance,” Bish says. “Now employees can roam between buildings and access the network from anywhere, at any time for greater efficiency, productivity, and superior services to citizens.”

PRODUCT LIST

Network Management

- Cisco Nexus 5000 Series Switches
- Cisco Nexus 2000 Series Switches
- Cisco Catalyst 5500 Series Wireless Services Module 2
- Cisco Catalyst 3750x Series Switches
- Cisco Wireless Control System
- Cisco Prime Network Control System
- Cisco Mobility Services Engine

Wireless Access

- Cisco Aironet 3600 Series Access Points with CleanAir Technology

Business Results

Upgrading to a borderless Cisco wireless network has helped City of Amsterdam significantly reduce its operating costs while improving network performance and wireless availability for employees and guest users. The network infrastructure is lean and efficient, making it easier to manage using fewer controllers and simplifying overall network operations to lower total cost of ownership. “The reduction in office space placed greater demands on our network, but saves the City of Amsterdam more than €10 million annually,” Bish says. “A Cisco wireless network enables us to support increased network demands while contributing to the city’s fiscal initiatives.”

In addition, IT managers can help to ensure consistent uptime and network performance, leveraging deeper real-time visibility into endpoint connectivity and integrated troubleshooting tools to keep operations running smoothly. “Deploying the Cisco network has enabled us to support as many as 150 users per floor, who sometimes use both a laptop and a smartphone, as well as countless users in flexible workspaces inside and outside campus buildings,” says Bish. “Support calls to the helpdesk have been reduced because of the network’s reliability, and troubleshooting has been greatly accelerated because of the centralized network control.”

With consistent service and reliable access, the Cisco wireless network has helped extend the reach of City of Amsterdam’s network, and expanded the opportunities that employees and guests have for collaborating and conducting business outside of traditional meeting rooms. For example, now staff can arrange meetings in outside spaces or in corners of the buildings that previously offered no network access.

The Cisco network offers high-performance 802.11 wireless network in all areas of the campus, and the deployment of wireless access points with CleanAir technology will help mitigate wireless interference for greater accessibility for more users on more devices. “Allowing employees from different departments to work together side-by-side on their own devices anywhere on campus is a big step forward in promoting greater productivity and better delivery of government services,” Bish says. “A Cisco wireless network enables us to support the increased network demands while contributing to the government’s savings.”

For More Information

To find out more about the Cisco Wireless Solution, go to: http://www.cisco.com/en/US/products/hw/wireless/index.html.

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