Government Organization Benefits from Cohesive Wireless Connectivity

Unified wireless architecture helps India's National Informatics Centre accelerate collaboration and productivity.

EXECUTIVE SUMMARY

Customer Name: National Informatics Centre (NIC)
Industry: Government
Location: New Delhi, India
Number of Employees: 3500

BUSINESS CHALLENGE:

- Establish self-optimizing, mobile BYOD, secure wireless network to support self-healing architecture and mobile BYOD initiative
- Mitigate effects of wireless interference and prevent network attacks
- Provide secure guest access management

NETWORK SOLUTION:

- Cisco unified wireless architecture to provide unified wired and wireless policy and management
- Wireless Intrusion Prevention System to support self-healing architecture
- Self-optimizing wireless network to mitigate effects of wireless interference and prevent network attacks

BUSINESS RESULTS:

- Cohesive mobility for WLAN services
- Improved collaboration and productivity by allowing employees to work their way
- Centralized management, planning, and troubleshooting

Business Challenge

The National Informatics Centre (NIC) of the Government of India, a premier science and technology organization, is responsible for the active promotion and implementation of Information and Communication Technology solutions in the government. The organization works to support information and communication technology (ICT) applications in the government sector, specifically network backbone and e-governance support to central government, state governments, Union Territory (UT) administrations, districts, and other government bodies. NIC offers a wide range of ICT services including a nationwide communication network for decentralized planning, improvement in government services, and wider transparency of national and local governments.

The center assists the central and state governments in implementing IT projects that include: (a) centrally sponsored initiatives and central sector initiatives, (b) state sector and state-sponsored projects, and (c) district administration–sponsored projects. NIC helps ensure that the latest technology in all areas of IT is available to its users.

Given its area of operations and the multiple stakeholders involved in each of its projects, NIC was looking to upgrade its core network infrastructure. Due to the large number of mobile employees who needed to access the corporate network for operational and development purposes, providing connectivity on a wired network was impractical. Many BYOD mobile workers also wished to access the corporate network through their tablets, iPads, or smartphones.

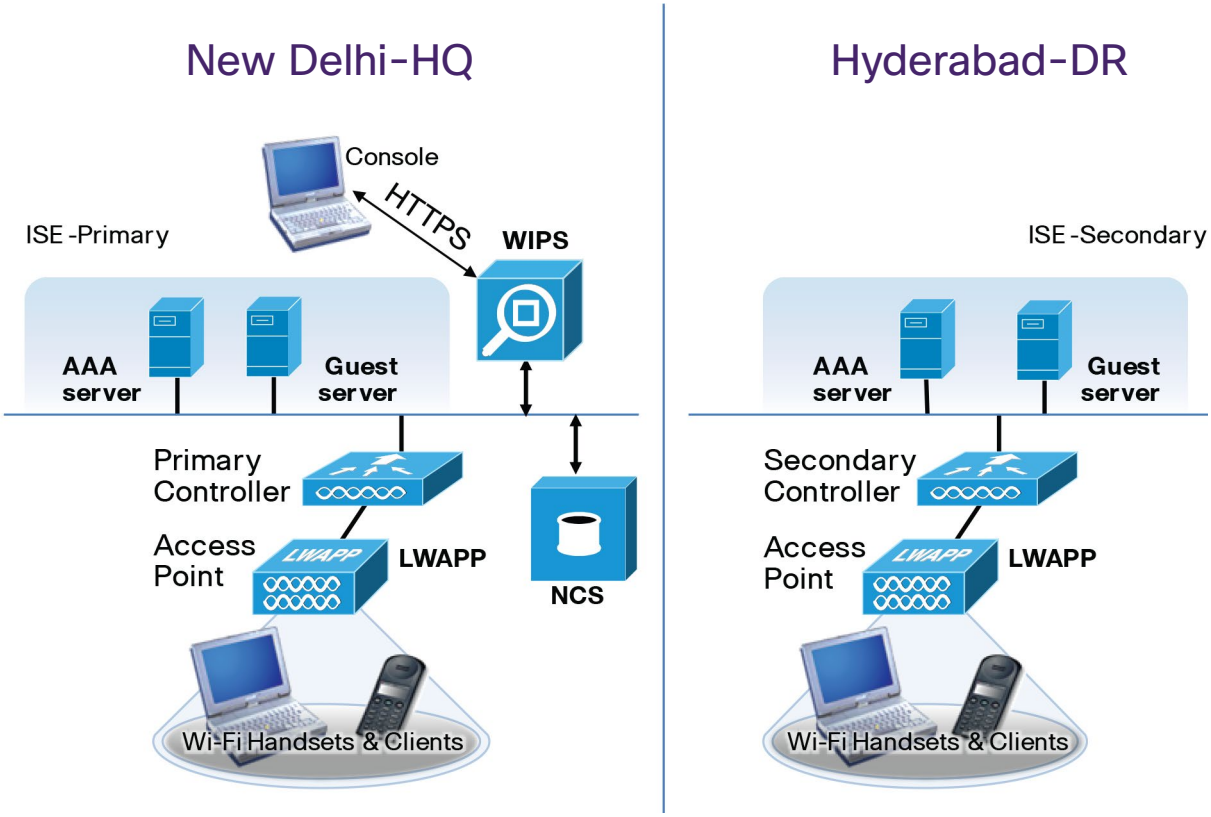
As a result, NIC decided to provide wireless connectivity across the various offices in different states and at its headquarters, for users with the same profile. NIC was looking for a wireless solution that would enable centralized network management and incorporate security policy and monitoring.

> "The wireless solution has enabled the large population of our mobile employees to connect to the corporate network while on the move, through their device of choice, be it tablets, iPads, or smartphones."
>
> **– R. S. Mani, Senior Technical Director, NIC**

NIC also needed to provision for guest access to its wireless network and integrate its existing directory server for authentication. Due to its vast user profile, the solution had to help ensure that the network could handle wireless security threats, on-wire attack, over-the-air attack, rogue AP, and denial-of-services attacks.

NIC's existing core is supported on 2.5 Gbps /10 Gigs, connecting all the states' centers, which further connects NIC offices in 600 districts of India with a connectivity of 1 Gbps.

Figure 1. NIC Wireless Architecture



The NIC Wireless Network Solution

NIC was looking for a solution that would provide secure wireless network connectivity and help enable secure guest access management. The solution had to provide for roaming for similar user profiles across various locations of NIC. The wireless solution also had to allow employees to connect to their corporate network as they moved from office to home. NIC sought a Bring Your Own Device (BYOD) solution that would help manage employee-furnished devices, providing the right mix of policy and security, so that employees could access critical information natively on their device of choice.

NIC also preferred a wireless network infrastructure that would be a self-healing, self-optimizing architecture and mitigate the effects of wireless interference to prevent network attacks from denial of service. A centralized management of the wireless network that came with required security policy would be an added benefit.

The solution had to provide easy, secure guest access to the wireless network, but it also had to integrate cohesively with the existing directory server at NIC. This would ensure easy authentication as well. While looking for a suitable solution, NIC also evaluated various competitive solutions and chose Cisco because the integrated solution provides for security and easy integration.

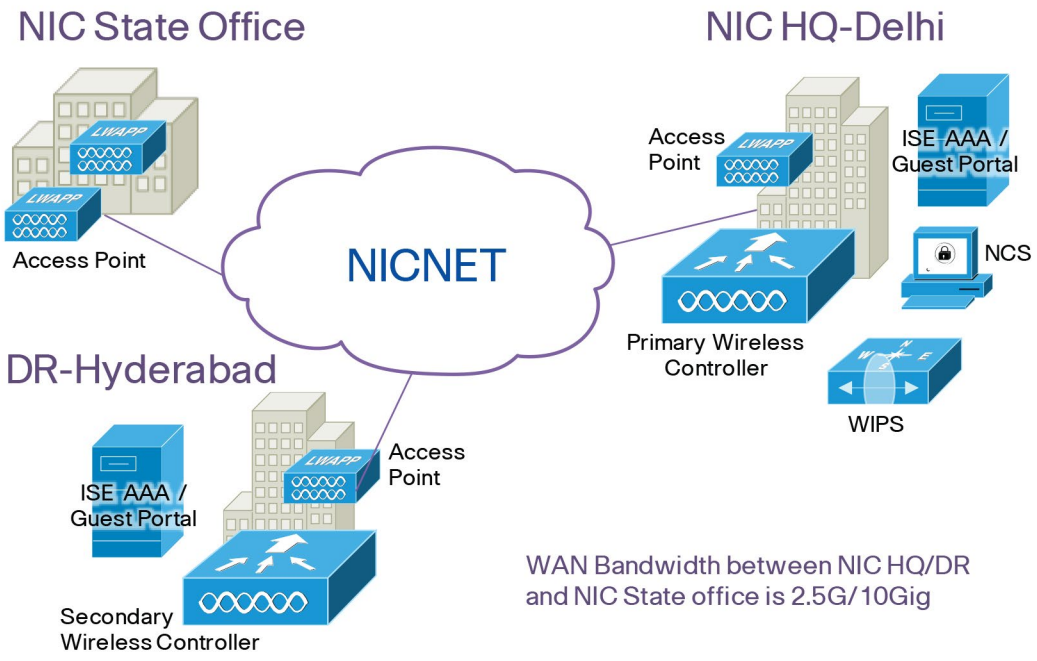
Business Results

The Cisco® unified wireless architecture integrated with the existing Cisco Catalyst switching infrastructure and provided a unified wired and wireless policy based on Cisco Identity Services Engine and management of Cisco Network Control System (NCS) at NIC. The wireless intrusion prevention solution helped mitigate the effects of wireless interference and prevent network attacks from denial of service, rogue access point, and spontaneous wireless bridges.

The Cisco solution provided cohesive mobility for WLAN services, helped ensure centralized network management, and offered a set of troubleshooting tools as well. Security management through the Cisco Wireless Intrusion Prevention System (wIPS) helped address wireless security threats. All of this, in turn, helped accelerate business collaboration and productivity, in addition to enabling easy management and provision of guest accounts. "The wireless solution has enabled the large population of our mobile employees to connect to the corporate network while on the move, through their device of choice, be it tablets, iPads, or smartphones," says R. S. Mani, senior technical director, NIC.

Although the solution has been implemented recently, NIC is already witnessing an increase in employee collaboration and ease of working, which has, in turn, improved employee productivity.

Figure 2. NIC Wireless Network



PRODUCT LIST

- Cisco Aironet® 3600 Series Lightweight Access Points
- Cisco 5508 Wireless LAN Controller
- Cisco Network Control System (NCS)
- Cisco wireless Intrusion Prevention System (wIPS)
- Cisco Identity Services Engine (ISE) Guest Access Server/AAA
- Cisco Catalyst® 2960 Series Switch with Power over Ethernet (PoE)

Next Steps

Post-deployment, the wireless network infrastructure at NIC will operate through NIC Delhi as the hub location. The primary wireless controller and secondary controller are located at DR NIC Hyderabad office, covering wireless access in NIC headquarters and other state NIC centers across India.

For More Information

- To find out more about Cisco Government Solutions, go to: www.cisco.com/go/government
- To find out more about Cisco BYOD Smart Solutions, go to: www.cisco.com/web/solutions/trends/byod_smart_solution/index.html
- To find out more about the Government of India, National Informatics Centre (NIC), go to: www.nic.in / india.gov.in

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