

Malaysian Government Agency Transforms Business Operations

Cisco Borderless Network
SALCRA Case Study

Executive Summary

- **Stakeholder Name:** SALCRA
- **Industry:** Government
- **Location:** Kuching, Sarawak, Malaysia
- **Number of Employees:** 800

Business Challenge:

- Optimize flow of information across agency
- Improve network and physical security
- Simplify IT management and operation

Network Solution:

- Deployed Cisco Borderless Network with end-to-end Cisco routing, switching, wireless, security, unified communications, and video solutions

Business Results:

- Improved employee collaboration and productivity
- Increased IT efficiency and reduced costs
- Enabled better service to stakeholders

The Sarawak Land Consolidation and Rehabilitation Authority used Cisco Borderless Network to improve collaboration, productivity, and stakeholder service.

Business Challenge

Established by the Sarawak state government in 1976, the Sarawak Land Consolidation and Rehabilitation Authority (SALCRA) is dedicated to managing rural development and helping citizens of the state of Sarawak in Malaysia on the use of agricultural land more productively. Today, SALCRA oversees more than 50,000 hectares, serving thousands of individual landowners and the operation areas spread over half of Sarawak.

The agency has operated successfully for decades, but over time, the organization's technological limitations began to cause apparent problems for SALCRA employees. The biggest issue: a lack of connectivity between offices, personnel, and systems. Some field offices in remote rural areas, for example, did not even have telephone lines, much less network connections. To share information, employees typically exchanged thumb drives or hard copies of documents, which were delivered just once per day.

"Day-to-day operations could be very challenging," says Datu Vasco, General Manager of SALCRA. "Information could take two to three days to reach its destination, and get lost along the way. Without having full information in hand when we needed it, important decisions were often delayed."

Within the old SALCRA headquarters, as it was in rented premises, the agency operated on a very basic IT infrastructure that already reached its limits.

"Daily operations often felt like firefighting," says Chew Nan Tang, IT executive, SALCRA. "Our infrastructure was based on multiple brands of products. Whenever there was an outage or network issue, vendors always pointed fingers at one another. Even a simple issue could take two or three days to resolve."

Information security was also a constant concern.

"It was very difficult to defend our systems from virus attacks," says Lily Leong, Finance and IT Controller, SALCRA. "With so much reliance on documents and USB drives, it was also difficult to track and control information going out."

If SALCRA was to continue carrying out its vital mission, the organization needed to modernize its infrastructure. In 2007, the Sarawak state government approved the construction of a new, state-of-the-art headquarters. Presented with an opportunity to build the ideal technology backbone in a complete overhaul, SALCRA leaders identified key requirements for the new network.

“Our customers require accurate records, prompt service, and good communication. With the Cisco Borderless Network in place, our staff is now faster, more responsive, and more effective.”

Datu Vasco

General Manager of SALCRA

The IT infrastructure would have to be green, intelligent, scalable, and secure: smart enough to optimize energy consumption, secure enough to provide SALCRA’s stakeholders with peace of mind, and scalable enough to support the organization’s growth far into the future. On an operational level, SALCRA wanted to use technology to optimize productivity, improve communications, streamline information management, and facilitate business growth. That required an infrastructure that could connect anyone, anywhere, using any device, and yet was also highly manageable, cost efficient, and reliable.

Network Solution

To address these diverse requirements and build a technology platform for the future, SALCRA deployed a Cisco® Borderless Network, which combines multiple technologies and services into a single, manageable infrastructure. It lets users access the information they need no matter where they are or what device they are using, securely, reliably, and seamlessly.

SALCRA deployed fiber and satellite connections to enable real-time communications and information sharing with all offsite offices. At the center of the statewide network, the new headquarters, SALCRA deployed an end-to-end Cisco infrastructure. The network includes routing and switching, indoor and outdoor wireless services, information and physical security, unified communications, video services, and comprehensive management systems.

A Robust Network Foundation

At the core of SALCRA’s borderless network is a reliable wired and wireless infrastructure based on Cisco routers, Cisco Catalyst® switches, and Cisco Aironet® wireless access points. Unlike in the agency’s previous office, the solution lets employees access any information they need from anywhere in the facility. Paired with Cisco Unified Communications voice-over-IP applications, employees can easily connect with one another using Cisco wired and wireless IP phones.

The Cisco Catalyst switches provide Cisco Identity-Based Networking Services (IBNS) port-level authentication. That means SALCRA can enforce strong, role-based identity and authorization services regardless of whether users are employees, contractors, or guests, or whether they are connecting from the wired or wireless network. And, SALCRA can control the entire wired, wireless, and security environment using intelligent Cisco network and security management tools.

Video and Security Services

SALCRA deployed the borderless architecture to support video services just as easily as voice and data. The infrastructure supports video conferencing, digital signage, and Cisco wireless IP video cameras that help security personnel monitor the 5.8-acre grounds of the headquarters facility.

“With this solution, authorized personnel can access any camera in the system from anywhere, as long as they have a laptop with an Internet connection,” says Chew Nan Tang.

Also running on the borderless network is the Cisco Secure Access Control Server (ACS) solution, which supports SALCRA’s automated door access system using biometrics, card access, and PIN security technologies. The system allows SALCRA to restrict access to high-security locations and monitor the movement of employees.

Remote Connectivity

SALCRA uses Cisco ASA 5500 Series Adaptive Security Appliance (ASA) platforms both to provide rock-solid firewall protection and to enable secure remote access. The platforms support VPN connections using both IPsec (IPSec) and Cisco AnyConnect browser-based clients. The solution lets SALCRA employees access the business applications and resources they need from anywhere: a stakeholder site, a remote field office, even from home.

SALCRA also deployed the Cisco Unified Personal Communicator (CUPC) solution to enhance the productivity of remote and onsite employees. CUPC integrates voicemail, instant messaging, softphone, and video conferencing into a single solution for PCs and laptops, enabling employees to collaborate more effectively from anywhere they have a network or Internet connection.

A Green Solution

To improve energy efficiency, the Cisco Borderless Network supports an advanced building management system (BMS). The solution allows SALCRA to control power, ventilation, and other building systems in an intelligent and automated fashion, using the IP infrastructure. The Cisco routing and switching infrastructure also uses Cisco EnergyWise technology to measure and control energy consumption across the IP network.

“Being in the plantation management industry, we are keenly aware of how we can affect the environment,” says Lily Leong. “The Cisco EnergyWise energy management helps us keep power consumption under control for the network equipment. We see this infrastructure being a model of green technology that we can tap into today and in the future.”

Business Results

With the opening of the new agency headquarters, powered by the Cisco Borderless Network, SALCRA has overcome the geographic and technical challenges of the past and put in place a versatile foundation to meet its business growth and new business requirements.

“We’ve created an environment where any employee can connect with anyone or any information from anywhere, using any device,” says Chew Nan Tang. “Our staff can check messages, start voice or video conferences, and share documents even while traveling. Communication is much more efficient, and that has increased our workforce productivity and efficiency.”

The borderless network has also reduced SALCRA’s costs by simplifying network management. The Cisco VPN and management solutions enable SALCRA to support “zero-touch” deployments of new services, remote installation and troubleshooting, and automated event management, all of which can be performed by a small team of IT technicians.

“If we have to dispatch an IT support employee to a remote office, it can take up to five hours to reach some sites,” says Chew Nan Tang. “Often, support staff would arrive only to realize that the problem was a very simple issue. It was a waste of manpower and expenses. With our new network, we can support any regional office remotely.”

In SALCRA's headquarters, the Cisco network is helping the IT department work much more efficiently. Incident reports are down to a bare minimum, and most are resolved automatically by the Cisco network management solutions, without requiring human intervention.

"With the integrated network, we don't have to spend days dealing with issues on an ad-hoc basis," says Chew Nan Tang. "Even though we support more services, everything is much simpler. We can focus our IT efforts on planning and implementing new technology capabilities that will benefit SALCRA, rather than just putting out fires."

The Cisco network has also helped make the entire organization more secure, both by locking down physical access and providing stronger defenses against Internet threats.

"Virus threats are always changing, but with the Cisco security solutions, I'm very confident that we can protect our data," says Lily Leong. "In the six months since we moved into the new facility, we have not had any problems."

Although all of these advantages are compelling, they are secondary to the most important benefit of the new Cisco environment: it is helping SALCRA to better serve its employees and the stakeholders.

"SALCRA serves more than 20,000 landowners," says Datu Vasco. "Our stakeholders require accurate records, prompt service, and good communication. With the Cisco borderless network in place, our staff is now faster, more responsive, and more effective."

Next Steps

In the coming years, SALCRA aims to further its goal of promoting socioeconomic development in the state's rural areas by expanding to an additional 100,000 hectares of land. SALCRA also plans to deploy new technologies that take further advantage of borderless network services, including an expanded wireless footprint, wireless asset tracking, and increased video conferencing with regional offices. Additionally, SALCRA will be required to meet Malaysian government commitments to reduce carbon emissions by 40 percent.

All of these initiatives will place significant new demands on the IT infrastructure. But SALCRA's leaders are confident that the Cisco's borderless network will continue to be scalable, flexible, and energy efficient, and more than capable of supporting these new business and technology goals.

For More Information

To find out more about Cisco Borderless Networks, visit: www.cisco.com/go/borderless. For more details on Cisco solutions for government organizations, visit: www.cisco.com/go/government.



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