

State-of-the-Art Headquarters Includes Centralized Physical Security



EXECUTIVE SUMMARY

Alexander Forbes

- Financial Services
- Johannesburg, South Africa
- Approximately 4,000 Employees

BUSINESS CHALLENGE

- Design energy-efficient building and data center
- Increase efficiency of physical security operations in multiple offices
- Maximize agility as business needs and technology evolve

NETWORK SOLUTION

- Built converged IP network
- Implemented Cisco Physical Access Control and Cisco Video Surveillance solutions
- Virtualized servers on Cisco Unified Computing System (Cisco UCS)

BUSINESS RESULTS

- Achieved four-star Green Star South African rating for energy efficiency
- Centralized management and monitoring of physical security systems across 14 offices
- Accelerated time to deploy 200 cameras and 160 access controls by 30 to 40 percent

Alexander Forbes reduced energy consumption and building costs by virtualizing video surveillance and access control systems.

Business Challenge

Alexander Forbes is a leading provider of retirement funds consulting and administration, financial and multi-manager services for individuals and institutions, and health and wellness programs for institutions. The company has 4000 employees in its head office, 14 branch offices throughout South Africa, and additional offices in Africa and Europe.

In 2011, Alexander Forbes embarked on an ambitious plan to build a state-of-the-art headquarters building in Johannesburg. Replacing two older buildings, the striking new facility would contain almost 400,000 square feet, comprising seven floors of office space and six floors of parking for approximately 3000 employees. “We had the rare opportunity to design an IT infrastructure without being hampered by existing technology, and we wanted to make the most of it,” says Brad Eliot, group chief information officer for Alexander Forbes. “Our goals were to keep costs down and to gain the agility to adopt new IT advances as our business needs changed.”

The company took special care in planning the new facility's physical security systems, seeing the project as a way to centralize the management and monitoring of physical security systems for all 14 branches in South Africa. Access control is particularly important in those branch offices that share buildings with other tenants. Previously, each branch had its own physical access control and video surveillance systems. "Some employees who traveled between offices employees had to keep track of eight different access cards," Eliot says. Activating, deactivating, and replacing lost cards was time consuming and costly.

Finally, Alexander Forbes wanted the building to qualify for a four-star Green Star rating from South Africa's Green Building Council. "Energy has become a top concern in South Africa, both because of rising costs and commitment to environmental sustainability," says Eliot. One way the company could achieve this goal was to integrate the physical access control system with building management systems. "The idea was to automatically shut off lighting and cooling systems when the last person left a floor," says Eliot.

Network Solution

After learning about Cisco Smart+Connected™ Real Estate during an executive briefing at Cisco, Eliot decided to implement a converged infrastructure, used for physical security systems and building management systems as well as voice, video, and data. The company engaged Dimension Data, a Cisco® Gold Certified Partner, to help plan and design the new facility's IT infrastructure.

IT innovations in the new building include:

- **Converged IP network built on Cisco switches and routers.** "Most buildings today have up to seven disparate networks, but we have managed to consolidate to two networks: one for all IP services and a separate network for fire control systems, to meet government regulations," says Eliot. Cisco Catalyst® switches provide power over Ethernet (PoE) to devices that connect to the network, eliminating the need to purchase and manage hundreds of power supplies and power cables.
- **Centralized video surveillance:** Cisco Video Surveillance Manager captures real-time video feeds from 160 video surveillance cameras from Cisco and other vendors. "We liked that the Cisco solution works with any standards-based camera, so that we're not restricted as we extend the solution to our regional offices," Eliot says. In the new facility, a combination of pan-tilt-zoom and dome cameras provide full indoor and outdoor coverage, including hallways, lobbies, courtyards, parking lots, and fire escapes. Security officers monitor the video in real-time during business hours, storing the video for a predefined period in case they need to investigate an incident. A web-based management interface enables them to view real-time and archived video from any device in the building.
- **Centralized physical access control:** Cisco Physical Access Manager controls approximately 200 doors at the head office. Doors are locked all the time, and employees present their badges to enter areas where they are permitted. Some branch offices share space with other tenants, and in this case, the company needs to control access to its offices and data center to protect confidential financial information. To simplify role-based access, Dimension Data integrated Cisco Physical Access Manager with Microsoft Active Directory so that administrators do not need to separately enter employee hires and terminations into the physical access control system. The centralized system also controls access in the company's Cape Town branch, the first of the branches to connect to the centralized system.

- **Virtualized data center, conserving space, power, and cooling:** Alexander Forbes has virtualized more than 1000 applications, including the Cisco physical security applications. The majority of the group's production applications fit on just 25 Cisco Unified Computing System™ (UCS®) B-Series Blade Servers in seven chassis. "Virtualizing our physical security applications and other applications on Cisco UCS has increased data center power and cooling efficiency while decreasing engineering workload," Eliot says.

Branch offices use Cisco Wide Area Application Services (WAAS) to optimize existing WAN bandwidth and accelerate file transfers. Later, the same technology will enable head office personnel to retrieve video from branch offices over the network without costly bandwidth upgrades.

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—Brad Elliot, Director, Group Chief Information Officer, Alexander Forbes

Business Results

Improved Efficiency for Physical Security Organization

A single team at the head office can monitor all physical security systems in the new facility and the Cape Town office, soon to be joined by the other 13 offices, over the WAN. "Centralized monitoring increases accountability in the event of an incident," Eliot says. "We'll no longer have different teams monitoring video surveillance feeds and access-control information in different offices, and potentially applying different policies."

The facilities management team gains earlier awareness of potential security incidents, because the Cisco Video Surveillance solution sends an alert when a video surveillance camera in the data center or other sensitive areas detects motion. "Authorized personnel can log on to view the live feed from any web browser, even from home, to see what caused the movement," Eliot says. "In the past, they would have had to notify onsite security personnel to investigate."

The centralized Cisco Physical Access Control solution also helps Alexander Forbes produce proof of compliance with physical access requirements during audits by regulatory agencies. "The system collects data from more than 200 doors with no noticeable delays, even during peak times at the beginning of the work day," says Eliot.

IP-based physical security solutions are also fostering a more collaborative relationship between the IT and physical security organizations. If an environmental alert sounds, for example, the IT team can perform the initial false-alarm assessment before the physical security team investigates.

Accelerated Completion of IT Infrastructure in New Building

Implementing a single converged network instead of seven separate networks helped Alexander Forbes complete the new building on time. The company saved more time during construction by not having to bring power cables to 200 door controllers and 160 video surveillance cameras. Instead, these devices receive power over Ethernet from Cisco switches. "I estimate we implemented the IT architecture 30 to 40 percent faster because of Cisco technologies," Eliot says. "We would not have made the tight deadline if we'd had to implement separate networks."

Lowered Costs for Construction and Future Floor Plan Changes

Providing power over Ethernet also lowered costs, saving US\$75 for each of 360 video surveillance cameras and door controllers, or \$27,000. The savings will multiply each time Alexander Forbes changes the floor plan over the lifetime of the new building. The company can freely move devices such as wireless access points, Cisco Unified IP Phones, video surveillance cameras, and door controllers, because they need only an Ethernet connection, not a power outlet.

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Lowered Data Center Space, Power, and Cooling Costs

Although the new data center has the same square footage as the two data centers it replaced, it can support triple the server capacity. The reason is the Cisco Unified Computing System, which has the memory capacity to support a high number of virtual machines on each blade server. The company operates up to 60 virtual machines on a single Cisco UCS B200 Blade Server with better performance as when they were housed on standalone servers. With its built-in redundancy, the Cisco Unified Computing System also eliminates a single point of failure for the company’s physical security systems. If one blade server fails, a network administrator can move it to any other available server in the system with VMware vMotion, in just a few minutes.

Next Steps

Now Alexander Forbes is planning to add the cameras and door controllers in branch offices to the Cisco Physical Security solution. Centralized security personnel will monitor and manage the devices over the WAN.

To further increase energy efficiency, the company plans to use Cisco EnergyWise™ technology on its Cisco Catalyst switches to monitor, control, and report energy usage of network-connected systems. The company already monitors IP phones, and will later add lighting, heating, cooling, and wireless access points.

PRODUCT LIST

- Cisco Video Surveillance Manager
- Cisco Video Surveillance IP Cameras
- Cisco Physical Access Control
- Cisco Unified Computing System with Cisco UCS B200 M2 and M3 Blade Servers
- Cisco Catalyst Switches with EnergyWise Technology

For More Information

- To read more about Cisco Physical Security solutions, go to www.cisco.com/go/physec.
- To learn more about Dimension Data, visit: www.cisco.com/go/dimensiondata.com.



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