Alexander Forbes Limited

International financial and risk services

Upgrade and streamline internal communication processes across the South African and international group/branch offices

Reduce operating costs

Provide richer media content across the group

Become more responsive to meeting customer needs

Implement a strategy that will cater for long-term growth

Converged switched IP network infrastructure with Quality-of-Service, Voice-over-IP, IP Television, IP Telephony, Wireless LAN, Virtual Private Network (VPN) and storage networking capabilities

Business agility

Enhanced functionality

Standards-based, reduced cost-of-ownership

Increased network uptime

With primary operations based in Johannesburg, South Africa and the UK, Alexander Forbes operates in some 30 countries across Africa, Latin America, Asia and Europe and employs over 5000 people. The company, listed on JSE Securities Exchange, provides financial and risk services to small, medium and large organisations, professional and specialist groups, and individual clients. Recognising the tremendous value that information and communication technology (ICT) can deliver in terms of business efficiency, cost-reduction and the flexibility to respond to customer needs, Alexander Forbes has designed and deployed a comprehensive converged IP next generation network, based on Cisco Systems’ solutions.

Like any other financial organisation, network and data security at Alexander Forbes is of paramount importance and is constantly monitored. Security standards are based on best practices and adhere to strict governance processes. Through the adoption of the CISCO SAFE blueprint (a flexible, dynamic blueprint for security), the organisation can ensure the deployment of a security foundation which is proven, scalable and operationally easier to manage across the entire end-to-end network and solution architecture.

The financial services industry – be it retail or corporate banking, capital markets, insurance or risk services – is highly competitive, deadline dependant and incredibly complex. Customer needs can change on an hourly basis, vast sums of money are handled in single transactions and the ability to access and process large volumes of accurate data is vital.

A solid ICT infrastructure is practically indispensable in such a mission-critical environment. However, the general ICT trends in this market have not always been forthcoming. Many financial institutions have (and continue to have) complex and disparate heterogeneous networks; a multitude of applications, each which handles a specific area of the business and rarely integrates or shares data with other areas; as well as old, proprietary private automated branch exchange (PABX) telecommunications systems
Five years ago, Alexander Forbes – the South African-headquartered financial, risk and insurance specialist – was a prime example of such an institution. The company operated a switched local area network across each of its 35 South African campuses. Its wide area network was built on a series of routers and frame relay switches, and its inter-branch telecommunications was handled by the existing expensive multi-line PABX. While meeting the needs of the business adequately at the time, it was clear to Alexander Forbes’ Group IT division (AFGIT) that the prevailing network would provide little support for future growth; it would also facilitate little in terms of proactively changing business models to meet customer needs.

In 2001, the company began researching the solutions available for creating a robust, centralised and manageable end-to-end IP-based infrastructure that could scale to meet future requirements. That solution also had to be based on industry standards, support the rapid and accurate processing of large volumes of company and customer data, and have the ability to expand and augment functionality, software applications and hardware as needs dictated.

The answer lay in taking what was at the time considered a relatively bold step: replacing its entire existing South African infrastructure with one that could accommodate the data centre and storage networking in the future, and one that could route data, voice and video traffic over a single converged network. The answer lay with Cisco Systems.

“Through our association with Cisco and the adoption of their technologies and standards, we have been able to achieve our stated business objectives in a seamless and cost-effective manner.”

Bradley Elliot, IT Director, Alexander Forbes Group

BRINGING CONVERGED IP TO THE BUSINESS – FIRST STEPS

Alexander Forbes’ drive to implement ICT business solutions was based on the premise that the solutions must provide the business with the ability to achieve its strategic objectives. As a result, the key to the success of the implementation was the ability to predict, measure and quantify the level at which that happened.

When initially evaluating the potential to migrate to a converged IP infrastructure, the company’s Group IT division asked the following questions:

- Would the network infrastructure scale to meet the company’s diverse business needs – for example, to provide remote training using a combination of voice and video?
- Could it deliver the intelligent services that are essential for the deployment of business solutions? This is vital as the infrastructure has to differentiate between voice and video, and each data type requires a different approach in how it is delivered i.e. it needs to allocate capacity and recognise individual needs intelligently.
- Was it a standards-based and scalable solution that would grow in functionality as the business needs changed, while assisting in managing the IT cost base?
- Would it help to reduce operational costs?
- Would it provide highly-available solutions for the key business systems and provide AFGIT with the ability to extend the functionality of the deployed solutions to drive out more value to the business?

After being introduced to Cisco’s Architecture for Voice, Video and Integrated Data (AVVID), AFGIT realised it was clear that those questions could be answered. AVVID network infrastructure provides an enterprise foundation that combines IP connectivity with security, high availability and quality of service. Although layering application solutions such as voice or video may require changes to the infrastructure, this architectural approach provides the basis for optimising design principles and practices.

Cisco South Africa subsequently teamed up with Johannesburg-based international systems integrator, Dimension Data – a Cisco Gold Partner – to design and develop a converged IP infrastructure that could meet Alexander Forbes’ specific requirements. This comprised:

- The core converged IP network
- Quality-of-Service (QoS)
- IP Television (IP TV)
- Wireless LAN
- Strategic ‘team-sourcing’ agreement
- Content networking
- Voice-over-IP
- IP Telephony (IPT)
- Storage networking
BRINGING CONVERGED IP TO THE BUSINESS – IMPLEMENTATION AND DELIVERY

The core network
Based on Cisco Catalyst switches and 2600 routers, the basic fabric of the network was constructed to provide the foundation for the entire end-to-end IP-based communications infrastructure. The initial project saw the upgrading of the company’s LAN; this was then extended to the WAN.

Typical business applications deployed across the network include:
- Accounting systems
- Client management
- Provident fund administration
- Pension fund administration
- Financial modelling/risk systems
- Mail exchange
- General office applications

Quality-of-service
By activating the QoS functionality embedded in the switches and routers, the network could increase the traffic delivery efficiency index still further. This was achieved through features such as traffic prioritisation and bandwidth management which helped to minimise delays on the network and ensure the important data reached its destination quickly. Adding end-to-end QoS also laid the foundations for IP-based content delivery and management, while saving on maintenance and operational costs.

Voice-over-IP
The implementation of QoS opened the door for the convergence of inter-branch voice traffic onto its WAN infrastructure. This enabled the network to carry voice traffic between eight local branches, thereby eliminating the need to use the public (and often expensive) telecommunications network. A resulting cost saving of some 78% has since been seen in the company’s mainstream inter-branch calls.

Content networking
The next step was to develop and deploy a content distribution and management platform. Using Cisco CSS11503 content switches as the core technology, the network was able to route Internet, video and other data content to the branch offices, quickly and efficiently. Such content distribution functionality also facilitated the simultaneous and rapid deployment of software upgrades or patches to branch office servers and remote office users. Total management of the network is outsourced to business partner, Dimension Data.

IP telephony
Given the VoIP functionality, it made good business sense to deploy Cisco’s family of IP telephone handsets at the South African branch offices. The phones, all of which are designed to take full advantage of the power of the converged IP network, provide all the services and convenience of a regular handset; however, they also support services such as Extensible Markup Language (XML). XML-based services can be customised to provide users with access to a diverse array of rich company or Web-based content such as stock-pricing, inter-company messaging, etc.

In addition to handsets, AFGIT went one step further towards achieving its goal of convergence. A voice-convergence infrastructure was implemented that enabled the migration of legacy voice technologies onto the IP backbone – achieved, in part, by using the Cisco CallManager solution. CallManager is the software-based call-processing application that extends enterprise telephony features and functions to packet telephony network devices such as IP phones, media processing devices, VoIP gateways and multimedia applications. Additional data, voice and video services such as unified messaging, multimedia conferencing, collaborative contact centres and interactive multimedia response systems interact with the IP telephony solution through Cisco CallManager’s open telephony application programming interface.
**IP TV**

As part of the end-to-end IP infrastructure project, AFGIT was looking for a way of broadcasting multimedia to conference rooms, TV sets or desktops throughout its branches. This was partly to meet the demands of corporate communications (who wanted faster, higher quality and cheaper ways of communicating locally and abroad); and partly to enhance the educational opportunities available to staff through e-learning programmes. Using the Cisco IP/TV 3426 Broadcast Server and the 3412 Control Server, it was possible to deliver a solution that capitalised on the IP infrastructure to address both these needs by delivering content in the compressed MPEG-4 format. The control server also allowed AFGIT to centralise all management of IP TV broadcasts.

**Wireless LAN**

Mid-way through the project, the company moved to new campus headquarters in Sandton, north of Johannesburg. As part of the infrastructure implementation at the new premises, a wireless LAN was created using the Cisco Aironet technology. Wireless allows Alexander Forbes’ staff to work seamlessly, whether this be from/at an Alexander Forbes office or a wireless ‘hotspot’ nationally or internationally.

“Over the past three years Cisco and Alexander Forbes have developed a strategic partnership that has assisted both organisations in extracting shared value from a vendor relationship.”

Steve Midgley, Director: Commercial Line of Business and Channel Operations, Middle East and Africa, Cisco Systems South Africa

**Storage networking capacity**

The current storage solution at Alexander Forbes is based around a storage area network (using Cisco Director Class switches) but a move towards storage/server virtualisation is in the offing. Storage virtualisation solutions will help Alexander Forbes to address key ‘pain points’ related to storage provisioning, data migration/replication, backup/recovery, disk capacity utilisation and storage management costs.

Cisco enables these new solutions, based on open standards, with the goal of delivering a common framework for implementing storage applications in storage area networks. Cisco’s commitment to enhancing technology functionality and Alexander Forbes’ drive towards standardisation will help foster industry-wide interoperability with more flexibility in choosing the best solution for its business/IT requirements, while driving down the total costs associated with managing data.

**Strategic team-sourcing agreement**

Alexander Forbes chose to outsource the maintenance and management of the network and systems to Dimension Data. Not only did this provide expanded opportunities for the Alexander Forbes’ staff that moved across to Dimension Data, it also guaranteed the network’s operational performance and uptime according to stringent service level agreements.
THE BENEFITS OF CONVERGED IP

It is often difficult to quantify the direct and indirect benefits of a technology implementation. It is simple to say that people can communicate more easily, access the information they need or meet customer requests on time. However, putting a figure to those benefits is a challenge.

To meet this, AFGIT developed its IT Value Model. Each component of the Cisco converged IP infrastructure solution was sent through the model which evaluates the internal rate of return, the future value and/or return on investment, the net present value and the payback period. It is through this model that the company can quantify the 78% saving on inter-branch calls using IPT, or the potential 35% reduction in operational costs expected from the deployment of the storage area network. This kind of data is invaluable when it comes to demonstrating the importance and the value of ICT to the group as a whole.

In general, the move to a converged IP infrastructure has provided myriad benefits across the group. Internal communication has not only been streamlined and become more efficient, it is dramatically cheaper – access to the information necessary to meet changing customer demands is available at the click of a mouse and it is delivered quickly, thanks to network QoS; corporate communication has entered the next-generation era through the efficient and cost-effective use of IP TV; and team members can work from anywhere as a result of the wireless corporate network.

Alexander Forbes' interaction with its customers has also changed. Due to the nature of its business, the company tends to interface with the human resources departments or boards of trustees of its customers. The group also offers customers access to information through a secure extranet and other online mediums.

Unlike many companies, Alexander Forbes is not just measuring the impact of this project by looking at the bottom line. The company has seen that it has become more efficient, it has saved time and it has created a working environment more conducive to success and future growth.