SONICWALL™

World-class National Science Centre in Johannesburg leads the way in education

SonicWall secures the network, providing fast, reliable connectivity across a very large number of wireless access points.

"Now that the installation is complete and we can see how well the SonicWall solution works we are keen to support SonicWall in the roll out of similar programs. We are happy to use our success as a 'Blueprint' to demonstrate what we hope will become an industry standard across primary, secondary and further educational establishments nationally. SonicWall is a leader in its field, and together with IT Evolution it has provided us with a future proof, safe, fast internet at a very affordable price,"

David Kramer, CEO, Sci-Bono Discovery Centre

Customer profile

Company	Sci-Bono Discovery Centre
Industry	Education
Country	South Africa
Employees	300
Website	www.sci-bono.co.za

Business need

The Sci-Bono Discovery Centre has grown steadily in size since 2004 and had reached a point where its current network could no longer cope with the sheer volume of traffic generated by its 300 plus staff, new educational classrooms and conference and exhibition facilities. It needed a fast, secure, wireless network that could grow organically.

Solution

The centre implemented a network security solution, based on SonicWall firewalls and ACe Access Points to create a secure environment that delivers the speeds required to simultaneously access data from the internet on a continual basis.

Benefits

• Protects the network and enables safe internet access on multiple devices
• Increased productivity and mobility of staff
• Detailed reports and alerts
• CAT 6A network cabling is 40Gbps capable and PoE and Wireless Access Points installed to allow for Future PoE+
• Business continuity across a secure and seamless remote network
• Provides 5 year network and internet security that is easily scalable in the future

Solutions at a glance

• Next Generation Firewalls
  ....
• Wireless Network Security
  ....
• Management and Reporting
  ....

The Sci-Bono Discovery Centre in South Africa supports maths, science and technology education and offers innovative, dynamic learning experiences that contribute to building South Africa's science, engineering and technology capacity.

Open seven days a week, the centre is abuzz with students from Grade R to Matric who witness science come to life through live experiments in the science and ICT labs. As well as 240-seat auditorium there are 384 permanent exhibits. The Sci-Bono Centre also works in line with Gauteng Department of Education to provide Outreach Programs and regular Industry Focus Weeks. It also has conference facilities that regularly host government conferences and exhibitions.

Increased internet usage

The site is built around an open plan warehouse with 30 metre high ceilings displaying large exhibits, such as aircrafts. There is also a new educational block with 8 classrooms for between 40 to 60 students as well as an admin wing of over 300 staff.

As the centre grew it relied more and more heavily on the internet and web based information that could be downloaded onto a variety of mobile devices. Students and staff alike create a huge amount of simultaneous connections and download data on a continual basis in order to complete their studies and examinations online.

The local area network was good but running on ADSL it was extremely slow. In addition, the centre did not have a wireless network. The previous network, which was based around the SonicWall fourth generation architecture, simply could not keep up with demand.

The Sci-Bono Discovery Centre reached out to its incumbent SonicWall Preferred Partner, IT Evolution, to assist with the re-architecting of their network from a Perimeter based design to a Core based Architecture. In addition, the design would need to incorporate the latest SonicWall high-speed Wireless offerings.

A great deal of forward planning was required in order to design an infrastructure that would provide a stable, fast and above all, secure network within this unusual work space, plus cope with the local environment and density of usage on site.

IT Evolution, in conjunction with Loophold Security Distribution, carried out a full audit of the site, plus an assessment regarding the bandwidth required. The final design recommended replacing the current infrastructure with a pair of SonicWall SuperMassive 9400 firewalls in high availability, with 5 years SonicWall Comprehensive Gateway Security Suite services.

Having used a SonicWall firewall for the last 5 years, the IT Team at the centre was happy to accept IT Evolution's recommendations, which were based on SonicWall network solutions. The SonicWall SuperMassive 9400 Firewall was chosen for its patented Reassembly-Free Deep Packet Inspection (RFDPI) performances and clustering capabilities, to deliver industry-leading application control, intrusion prevention, malware protection and SSL inspection at multi-gigabit speeds. The SonicWall SuperMassive Series is designed with power, space and cooling (PSC) in mind, providing the leading Gbps/watt NGFW in the industry for application control and threat prevention. It was therefore the perfect solution to provide such enormous amounts of secure filtered data via the internet to students in the Sci-Bono Discovery Centre ICT Academy, its 300 staff members and conference speakers, exhibitors and delegates in the Sci-Bono Conference & Exhibition Centre.

Comprehensive security against outside threats

The SonicWall Comprehensive Gateway Security Suite includes Intrusion Prevention and Detection, Gateway Anti-Virus, Anti-Malware and Content Filtering and gives the centre all the protection it needs. The appliance is the first line of defense for outside threats.

Prominent ministers within education, members of the executive council, celebrities and even the former first lady of the United States, Michelle Obama has enjoyed running and attending major interactive events at the Sci-Bono Discovery Conference Centre, knowing that they can always rely on secure, fast connectivity.

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Centralized and unified management via SonicWall GMS

The centre also decided to invest in the SonicWall Global Management System, which enables it to record data and statistics, including websites being accessed by the students. It simplifies and consolidates the management of the SonicWall security appliance and reduces administrative and troubleshooting complexities with a unified, secure and extensible platform. It also allows network security to be managed by business processes and service levels rather than on a device-by-device basis.

This makes the operational aspects of the centre's security infrastructure very easy to set up and manage. "We use centralized policy management and enforcement, real-time event monitoring, analytics and reporting to keep a log of all the websites and applications used by our students and staff so that any misuse of the system can be easily identified and reported. This is particularly important as students now complete examinations online," said Motheo Boroko, IT & Facilities Manager at the Sci-Bono Discovery Centre.

The installation was carried out in phases to ensure a smooth transition

IT Evolution, together with Loophold Security Distribution and the local South African SonicWall team, worked closely with the Sci-Bono Discovery Centre to plan the project. The firewalls were installed in the core of the network first. Next the record number of 128 SonicPoints were deployed. The access points needed to be physically mounted in strategic positions throughout the site. This was not an easy task, some of them had to be placed up to 30 meters high on concrete walls, however, this stage of the project took place relatively quickly over the course of just a week or so.

The most complicated part of the project was the fine-tuning of the SonicWall Wireless Access Points. This was particularly challenging as there are so many wireless networks within close proximity of the centre. The optimisation of the wireless network is

an ongoing process, the centre's network performance is constantly monitored, re-evaluated and adjusted to meet the constant changes in their IT Requirements.

"Our priority was to ensure that we fully optimised the SonicPoints so that the students at the academy would have a secure, stable and seamless connection to download information at all times. Due to the sheer volume of applications being used and data being downloaded across a variety of devices we needed to be sure that the optimum amount of bandwidth was utilised per student, per day. The SonicWall SuperMassive solution does exactly that and we still have scope to increase usage if required," said Angus Campbell, Owner & Technical Director at IT Evolution.

A number of SonicPoints have been deployed around the perimeter of the network to form a wireless barrier. This detects and protects the network from other wireless devices and corrects interference, thereby enabling the network to work effectively. "From a security point of view this is good, explained Motheo Boroko, IT & Facilities Manager at Sci Bono, "It stops students logging into other networks whilst onsite – they can now only access the centre's secure wireless network.

We are delighted with the increased speeds and stability and feel one hundred per cent confident that our network is now safe from outside threats. The SonicWall SuperMassive 9400 Firewalls also have ample capacity to grow and accommodate the network as it gets bigger. If in the future we need to increase capacity to boost throughput, it would be easy to simply add an additional SonicWall 9400 to create a firewall cluster, we wouldn't need to change the entire infrastructure."

Security Events blocked by SonicWall during an average month

438,791 IPS Events

99 Virus Events

1 Spyware Event

Products & Services

SonicWall SuperMassive 9400 in HA with CGSS

SonicWall Global Management System

SonicWall SonicPoint ACe

View more case studies at www.sonicwall.com/casestudies

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