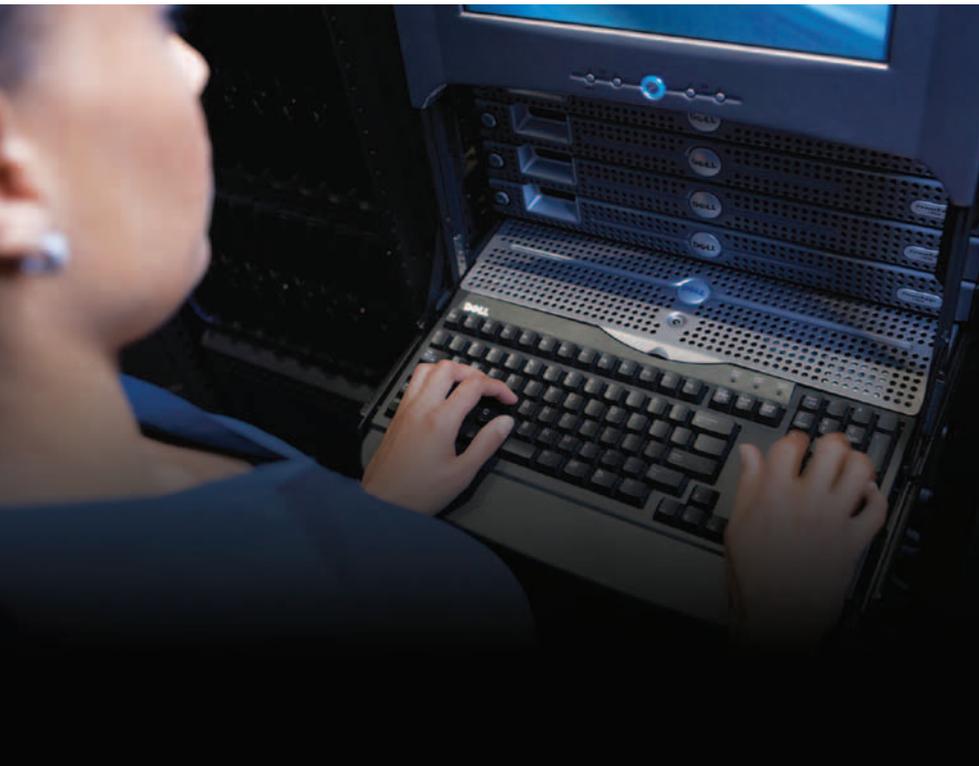# Biodiversity organisation in South Africa delivers greener IT with around 76 per cent fewer servers

- **Data consolidation and management**
- **Green efficiency**
- **Virtualization**

> "We've consolidated servers by around 76 per cent by choosing a virtualized Dell PowerEdge blade solution."
>
> *Simo Mpungose, IT Director, South African National Biodiversity Institute*

Customer profile

Company:	South African National Biodiversity Institute (SANBI)
Industry:	Government
Country:	South Africa
Employees:	750
Website:	www.sanbi.org

Business need
SANBI wanted to deliver greener IT as part of a programme to reduce the organisation's carbon footprint. It also planned to simplify IT management, increase performance and improve services to clients.

Solution
It collaborated with Dell Consulting Services to deliver a virtualized solution featuring Dell™ PowerEdge™ blade servers running Windows Server® 2008 R2, with Hyper V™ and Dell storage. It also chose Dell Support Services to maximise the solution's performance.

Benefits
- **SANBI cuts carbon footprint with around 76 per cent fewer servers**
- **Customer reduces IT outages by around 80 per cent**
- **Employees raise productivity with more reliable systems**
- **IT cuts management time by around 40 per cent**
- **SANBI can expand more easily with highly scalable storage**

Established in 2004, the South African National Biodiversity Institute (SANBI) is responsible for championing biodiversity across South Africa. While the country occupies just two per cent of the world's land, it is home to nearly 10 per cent of its plants and seven per cent of its reptiles – making it the third most bio-diverse country in the world. Part of the South African Government Department of Environmental Affairs, SANBI is playing a key role in conservation, research and education programmes that are respected worldwide.

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SANBI looked for a sustainable IT solution to help manage and deliver growing amounts of data. Selwyn Willoughby, Director of Biodiversity Information Management at the South African National Biodiversity Institute, says: "The question was how could we control this data more effectively and reduce our carbon footprint?" The IT team eventually got the chance to take on the challenge with a project to standardise software on Microsoft technology and consolidate the server and storage environments. Simo Mpungose, IT Director at South African National Biodiversity Institute, says: "This was not only an opportunity to deliver greener IT, but a chance to simplify management, increase IT productivity and improve services to our internal customers."

SANBI deploys ideal Microsoft platform with Dell Consulting team

The organisation gained the expertise it needed to deliver a Microsoft-based platform by working with the Dell Consulting team. The Dell team helped Mpungose and his colleagues build a strong business case for delivering the Microsoft platform on a virtualized solution, running Windows Server® 2008 R2 with Hyper-V™ software. First, it organised a number of workshops to discuss the project's technical and business requirements. Mpungose says: "We gained great insight into virtualization and how to administer Microsoft solutions across the network. The Dell consultants demonstrated a high level of expertise in creating virtualized Microsoft environments."

Apart from the technical requirements for the new infrastructure, the Dell consultants also discussed how end users would be affected by the developments. Mpungose says: "We clearly saw the importance of change management after speaking to Dell."

The Dell consultants then assessed the best way to virtualize the infrastructure. They spoke to the IT team and completed a Virtualization Readiness

Technology at work

Services

Dell Consulting Services
– Workshop, Assessment, Design & Implementation
– Virtualization Readiness Assessment

Dell Support Services
– Mission Critical option

Hardware

Dell™ PowerEdge™ M710 blade servers with Intel® Xeon® processors 5650

Dell PowerEdge M1000e modular blade enclosure

Software

Windows Server® 2008 R2 – Hyper-V™

Microsoft® Exchange Server 2007

Microsoft System Center Configuration Manager 2007

Microsoft System Center Operations Manager 2007

Active Directory®

Microsoft Forefront Threat Management Gateway 2010

Carbon footprint cut with around 76 per cent fewer servers

IT outages reduced by around 80 per cent

Assessment using software-based tools to determine the environment's current and future requirements. "We were able to make well-informed decisions about virtualization based on the work of our Dell consultants," says Mpungose.

Customer delivers its largest IT project on schedule with Dell support

After preparing a successful business case and securing funding, the IT team implemented the solution. It worked closely with Dell technicians, and a Dell Project Manager who carefully coordinated activities at the organisation's three datacentres and nine offices. To maximise efficiency, the Dell technicians were divided into two teams: one to focus on operations in Cape Town and the other to focus on work around Pretoria. Mpungose says: "Thanks to careful planning by our Dell Project Manager and the rest of the IT team, we completed the largest IT project in the history of SANBI on schedule." Willoughby adds: "Everybody was happy with the engagement. It reflected the excellent collaboration between SANBI and Dell."

IT personnel optimise performance after expert training

SANBI's IT personnel worked alongside the Dell consultants, who showed the IT team how to operate and manage the infrastructure on a daily basis. They also liaised closely with Dell technicians while rolling out Windows XP across the organisation's 700 desktops. Mpungose says: "We saw that a couple of viruses on the old infrastructure threatened to cross over into the new Microsoft environment, but we worked closely with Dell

consultants to stop it from happening." Dell consultants also arranged for the IT team to receive formal training in Microsoft solutions to complement the guidance they'd received on the job. Collin Smit, Technical Manager, South African National Biodiversity Institute, says: "When the deployment work was completed, our IT personnel immediately began to maximise the performance of our virtualized solution. This was possible thanks to the emphasis that Dell placed on knowledge transfer."

SANBI cuts carbon footprint with around 76 per cent fewer servers

Mpungose and his team have achieved one of their key goals – greener IT – as a result of the new solution from Dell. "Our IT is better aligned with SANBI's drive to cut carbon emissions," he says. The IT team has significantly reduced the number of physical servers supporting the infrastructure by deploying just four virtualized Dell™ PowerEdge™ M710 blade servers with Intel® Xeon® processors 5650, running Windows Server 2008 R2 with Hyper-V. Mpungose says: "We've consolidated servers by around 76 per cent by choosing a virtualized Dell PowerEdge blade solution." Willoughby adds: "It highlights the valuable role that IT plays in building more sustainable working practices."

The physical servers support approximately 41 virtual machines, which run a number of Microsoft applications, such as Microsoft® Exchange Server 2007. The Dell PowerEdge blades – which are located at datacentres in Cape Town and Pretoria – are housed in a Dell PowerEdge M1000e modular blade enclosure. "Our Dell PowerEdge

> "We've cut outages by around 80 per cent with our Dell solution."
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> *Simo Mpungose, IT Director, South African National Biodiversity Institute*

M710 blade servers offered great energy efficiency and virtualization performance. Combined with the Dell PowerEdge M1000e blade enclosures, we gained a highly consolidated solution that will expand easily with future growth," says Mpungose.

IT supports strategic expansion with highly scalable storage

Mpungose and his colleagues can also manage data expansion more effectively after implementing a flexible storage solution. As part of the project, SANBI deployed a Dell storage area network, which can support up to 64 server hosts and offers as many as 60 storage drives. For SANBI, where employees are storing more multimedia files, this flexibility is particularly important. "We can meet our rising storage requirements with the Dell solution so our work at SANBI can continue without fear of out-growing capacity," says Mpungose.

Business reduces IT management time by around 40 per cent

With its virtualized Dell solution, SANBI has greatly simplified the process of controlling its IT. For example, the SANBI IT team uses Microsoft System Center Configuration Manager 2007 and Microsoft System Center Operations Manager 2007 to administer the new environment. With System Center Configuration Manager, it can assess, deploy and update

servers quickly — and with System Center Operations Manager, it's easier to check the health and performance of the overall infrastructure. Smit says: "We can operate our IT systems much more proactively than in the past. We've reduced administration time by around 40 per cent with our Dell solution."

Employees improve productivity with around 80 per cent fewer outages

Personnel have increased efficiency now that the infrastructure is more reliable. "We've cut outages by around 80 per cent with our Dell solution," says Mpungose. "Our staff are more productive, because there's less system downtime." According to Willoughby, many employees have commented on improved network performance. "People are more productive when they work from the network. They feel better supported," he says. Access to applications is also simpler through Active Directory®, with employees no longer having to remember multiple passwords to reach different parts of the network. "Employees save time because they only have to sign in once to get to what they need," says Mpungose.

SANBI maximises technology performance with responsive Dell support

The organisation has protected its investment by choosing Dell Support Services Mission Critical option, with four-hour onsite support. With this in place, Mpungose knows that Dell will respond to any issues quickly. "We wanted the best support possible for our new infrastructure because it's key to our work here at SANBI," he says. "With Dell Support Services, I knew we could protect our investment and optimise performance over its lifecycle." SANBI is in the process of rolling out Microsoft Forefront Threat Management Gateway 2010 with the help of Dell. The software will allow employees to use the internet for business without worrying about malware and other threats. "Our relationship with Dell goes from strength to strength. It really understands the needs of our business," says Mpungose.

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