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| Customer Solution Case Study | | |
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|  |  |  | Online Bank Boosts IT Efficiency by 20 Percent with Upgrade, Strengthens Innovation | |
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| Overview  **Country or Region:** Australia  **Industry:** Financial services—Banking  Customer Profile  ING DIRECT pioneered branchless banking in Australia and offers savings, checking, and other products through online and phone channels. ING DIRECT is based in Sydney and employs 950 people.  Business Situation  ING DIRECT wanted to reduce IT costs to shift more funding to innovation. It wanted to make better use of the servers that it had, increase IT staff efficiency, and improve IT service availability.  Solution  The company is upgrading to the Windows Server 2012 operating system to take advantage of high-availability features, virtual machine replication and live migration, and other efficiencies.  Benefits   * Improve IT efficiency and support business innovation * Extend high availability and improve recovery time from hours to minutes * Enhance security * Improve job satisfaction |  |  | “By standardizing on Hyper-V, … [we can] reinvest our valuable time and resources into finding unique opportunities to create exceptional service for our customers.”  Wesley Naidoo, Enterprise Technical Architect, ING DIRECT Australia |
|  |  | ING DIRECT Australia is an online bank that competes against much larger banks. To spend more on innovation, it has to continually trim operating costs. To help its IT operation deliver savings to the business, ING DIRECT is upgrading to the Windows Server 2012 operating system and Microsoft System Center 2012. By taking advantage of the increased virtualization density and IT management efficiencies that this software makes possible, ING DIRECT will improve IT efficiency by 20 percent in the near term and double or triple server consolidation levels and savings in the future. It can also extend high availability to more workloads by using replication and live-migration features built into Windows Server 2012. ING DIRECT can better secure its data centers with Windows Server 2012 and give its IT staff a rewarding job environment by letting them work with the latest technology. |
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Situation

ING DIRECT Australia is a direct bank that offers savings, home loan, transactional banking, and superannuation products. It interacts with its customers through online channels, telephones, and mobile devices, as well as through third parties. ING DIRECT is the fifth largest home lender in Australia and employs around 950 people in its Sydney head office and its contact center in Tuggerah.

The success of ING DIRECT is mirrored around the globe, where more than 21 million customers in Canada, Spain, France, Italy, UK, Germany, and Austria have made ING DIRECT one of the world's largest direct banks. ING DIRECT is part of ING Group, one of the world’s largest financial institutions, operating in more than 40 countries.

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ING DIRECT is what Wesley Naidoo, Enterprise Technical Architect for ING DIRECT Australia, calls a challenger bank. “We’re not a very big organization, and we’re not the biggest bank in Australia,” Naidoo says. “Our company focus is on providing exceptional customer service and attracting and retaining customers. To do that, we have to constantly innovate—offer new and better services than the competition. What this means for IT is that we have to make our environment as efficient as possible so we focus our time and resources on business innovation. Right now our time is skewed the other way: significant time spent on current operations and not enough on innovation.”

Underutilized Servers

As of June 2012, ING DIRECT had more servers than employees—about 1,100 across two data centers. The good news was that 90 percent of those servers were virtualized—half using VMware software and half using the Hyper-V virtualization technology included in the Windows Server 2008 R2 operating system. Still, the company’s data center servers were vastly underutilized. “We have a very traditional infrastructure, which is to say all of our hardware is overprovisioned,” Naidoo says. “Even though we were virtualized, all of our production, test, and development servers were dedicated to a single purpose and workload, and if they weren’t being used at the moment, the servers were idle.”

The company’s second data center served as a disaster recovery location, and it was full of servers that sat idle most of the time. While this second location provided ING DIRECT with redundancy in the event of a disaster, the IT staff essentially had to provision duplicate servers for most new applications, which was time consuming and expensive.

Availability Problems, High Costs

Only core services and applications were duplicated at the disaster recovery site, because it was costly to provide redundancy for every single application. “We think of availability in human terms,” Naidoo says. “For example, our customer is at a supermarket, their arms are full while shopping with the kids. They want to make a payment, but at that moment the transaction fails. What does that mean to them? Ideally we want to make sure all our customers’ ‘moments of truth’ are covered 100 percent of time. Where we don’t need extreme availability—99.999 percent—such as for an employee timesheet system, we have been willing to incur downtime. However, it would be nice to provide continuous uptime for all of our services.”

ING DIRECT was paying a great deal for VMware licensing while also paying for a Microsoft Enterprise Agreement. “We wanted to simplify our virtualization environment, and we wanted to use our Microsoft license more fully,” Naidoo says. “We’re trying to reduce complexity, reduce operating costs as much as possible, and free up our resources to focus on our business for change and improvement. Where we had overlapping technologies, we wanted to go with one that gave us the most value.”

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Solution

ING DIRECT had originally standardized on VMware, because it was traditionally the virtualization technology of choice among financial institutions that required the highest levels of stability and performance. However, in 2011, the bank worked closely with its local IT partner, Dimension Data Australia, a gold-level member of the Microsoft Partner Network, to build a private cloud environment using Hyper-V in Windows Server 2008 R2. This environment was used to provide the bank’s development and test environment, called Bank in a Box. By June 2012, this environment had 500 virtual machines running at any one time on 30 blade servers, with capacity for 1,800 virtual machines.

“We were very impressed with Hyper-V in our development and test environment,” Naidoo says. “We felt we were doing a disservice to the organization by not making greater use of Hyper-V. When Dimension Data and a Microsoft representative talked to us about participating in the Rapid Deployment Program [RDP] for Windows Server 2012, we were very excited. We knew that the new Hyper-V release had some significant advances that could help close the gap between it and VMware. We also wanted to evaluate Hyper-V Replica for multisite replication and use the RDP as a springboard for broader modernization efforts.”

Test Operating System on Production Hardware

ING DIRECT set up a proof-of-concept environment using two Cisco UCS B230 blade servers running Windows Server 2012 Datacenter and created a number of Hyper-V virtual machines. For its production environment, ING DIRECT used Cisco UCS B200 blade servers and added an HP ProLiant DL380 server in its disaster recovery location.

“Cisco and Microsoft have a strong alliance going way back,” says Sam Ghali, Senior Systems Engineer at ING DIRECT Australia. “When we had issues with hardware drivers, we were able to get them resolved quickly.“

Adds Naidoo, “The UCS product line is part of our platform going forward. It is built for virtualization and has a very flexible architecture. It allows us to make the most of Windows Server 2012 by supporting high-density workloads and providing lots of CPUs and memory. We want to be able to repurpose our environment as our business demands, and UCS gives us that flexibility.”

ING DIRECT engaged Dimension Data to help with the RDP proof of concept. Dimension Data helped ING DIRECT set up the test servers and deploy Windows Server 2012 and provided advice on the best test approach. “Dimension Data has been invaluable,” Ghali says. “We’d already experienced great help from Dimension Data experts with our development and test environment. We really enjoyed working with them to learn and understand all the new features of Windows Server 2012.”

Evaluate High-Availability and Other Features

A feature that greatly impressed ING DIRECT was Hyper-V Replica, which provides asynchronous replication of virtual machines across different storage subsystems and across sites to provide business continuity. “We haven’t seen a capability like this included in any other product,” Naidoo says. “Hyper-V Replica does not require special licensing, specialized hardware, or other costs. We have many workloads that need a disaster recovery capability, and Hyper-V Replica is the perfect way to cost-effectively protect low-tier to middle-tier workloads.”

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During the RDP, ING DIRECT used Hyper-V Replica to create a replica of a production workload in the disaster recovery site—and then forgot about it. Later, there was a problem with a production cluster that ran this particular workload. When the IT staff went to check on the service, it was working smoothly; Hyper-V Replica had automatically transferred the workload to the disaster recovery location. “When we saw this, we were stunned,” Ghali says. “We had forgotten that we had set up the replica and were thrilled that the workload had been protected. The employee using the service didn’t even realize that his workload had moved over to the other location; it was completely transparent.”

ING DIRECT also evaluated and will be using the following Windows Server 2012 features:

* **Hyper-V live migration**, which supports simultaneous virtual machine migrations with no downtime, in and outside a cluster. “We were able to do Hyper-V live migration without shared storage to a different site, which was pretty impressive,” Ghali says. “With VMware, you have to acquire additional software to do this.”
* **Transparent failover.** With the transparent file server failover capability in Windows Server 2012, a workload running on an active/active cluster remains available even when the particular node that it is running on fails unexpectedly. Transparent failover delivers higher server utilization and thus lower server costs, because ING DIRECT has the ability to share capacity across all nodes in a cluster and needs fewer backup servers.
* **Storage Spaces.** Windows Server 2012 includes a feature set called Storage Spaces that enables ING DIRECT to use industry-standard storage to build highly scalable, continuously available storage solutions. This delivers a substantial reduction in costs associated with purchasing and operating enterprise-grade storage solutions such as storage area networks.
* **Network Interface Card (NIC) Teaming.** NIC Teaming provides network fault tolerance on physical servers and virtual machines by using at least two network adapters by any vendor, without the need for a third-party teaming solution. With NIC Teaming built into the operating system, ING DIRECT has a solution that is easier to deploy and manage and is fully supported by Microsoft.
* **Server Core installation option.** Server Core is a scaled-back installation that presents a smaller malware attack surface. By using Server Core, ING DIRECT can easily convert between Server Core installation and Full installation, more easily manage its environment, and improve security.

Add Management Tool, Move into Production

ING DIRECT is working with Dimension Data to deploy Microsoft System Center 2012, which provides comprehensive data center management capabilities. “We’ve already used System Center 2012 Configuration Manager to migrate from the Windows XP to the Windows 7 operating system, and we are ecstatic about it,” says Tom Hsu, Wintel Systems Engineer at ING DIRECT. “We will be soon using the Virtual Machine Manager component. We have a road map that will eventually have us taking advantage of all the capabilities of System Center 2012.”

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ING DIRECT is currently running several production workloads on Windows Server 2012 and is in the process of upgrading all its servers to the latest operating system. “We’re waiting for a chance to look at how System Center 2012 and Windows Server 2012 work together, but we’re quite confident of the ability to switch our entire virtualized environment to Hyper-V,” Naidoo says.

Benefits

By upgrading its data centers to Windows Server 2012 and pairing it with System Center 2012, ING DIRECT Australia will be able to trim data center costs significantly and put these savings to work advancing innovation. It will also be able to extend high availability to more workloads and reduce disaster recovery time from hours to minutes. With more flexible deployment options, ING DIRECT can minimize malware attacks. And by letting its IT staff work with the latest software, the company increases job satisfaction.

Improve IT Efficiency and Support Business Innovation

By taking advantage of the capabilities built into Windows Server 2012 and the management efficiencies provided by System Center 2012, ING DIRECT expects to improve IT service efficiencies by 20 percent in the near term. “We can automate and orchestrate everything that we need to do with this platform,” Naidoo says. “It frees our people to work on core projects that benefit the business. Deploying virtual machines is about 60 percent faster with Windows Server 2012; building a cluster has gone from three or four days to one day. Combining these efficiencies with the server consolidation benefits provided by Cisco UCS blade servers and Hyper-V, we could double or triple our data center consolidation and savings down the road.”

The savings from eliminating unneeded licensing will be an added bonus. “These savings can be significant for our business,” Naidoo adds. “The more we can remove costs from operations and put the savings into value-generating work, the more successful the business will be. By standardizing on Hyper-V, we will derive more value from our Microsoft Enterprise Agreement and simplify our technology portfolio. This provides the ability to reinvest our valuable time and resources into finding unique opportunities to create exceptional service for our customers.”

Extend High Availability, Improve Recovery Time from Hours to Minutes

By using Hyper-V Replica, transparent failover, and live migration, ING DIRECT can increase the availability of virtualized workloads and extend high availability to all workloads at no additional cost. “We want to invest in platforms that increase our availability, that help us insulate our customers—internal and external—from data center problems,” Naidoo says. “When we see something like Hyper-V Replica included in the operating system, we are thrilled. We can increase the resilience of our IT services and restoration times at no additional cost.”

The customer at the supermarket? He or she will still enjoy highly available banking services. But so will the employee trying to file a time sheet or expense report. ING DIRECT can affordably extend high availability to all workloads without relying solely on expensive third-party software or redundant hardware.

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Additionally, thanks to the new availability features, ING DIRECT has much faster recovery times when moving workloads from primary to secondary locations. “With Windows Server 2012, we can improve from hours to minutes in a disaster recovery scenario,” Naidoo says. “We expect to completely eliminate the current eight hours of planned system downtime experienced each year due to virtual machine and virtual hard drive migration activities.”

Enhance Security

By deploying Windows Server 2012 using the Server Core installation option, ING DIRECT can keep its operating system “footprint” as small and secure as possible. “The larger the software surface area, the greater the exposure to attacks,” Naidoo says. “With Server Core, we can keep it very lean. When it comes time to apply security updates, there’s less to update. Our management tools can be much lighter and leaner, and we’re not wasting valuable CPU time scanning unneeded operating system services.”

Improve Job Satisfaction

Perhaps of the most significant benefits to ING DIRECT management is the human factor of keeping the company’s technology on the cutting edge. “We’re techies at heart,” says Naidoo. “We get a lot of satisfaction working with cool technology, and our staff has a real appreciation for fine craft. By upgrading to Windows Server 2012, our staff will be working with some first-rate technology and be able to do some very innovative things. It’s a key reason why people stay with us. We want to make sure we’re investing in our people, and they reciprocate by giving us great work.”

Windows Server

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| Software and Services   * Microsoft Server Product Portfolio * Windows Server 2012 Datacenter * Windows System Center 2012 * Technologies * Hyper-V | Hardware   * Cisco UCS B200 and B230 blade servers * HP ProLiant DL380 servers   Partners   * Dimension Data Australia |

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For more information about Dimension Data Australia products and services, visit the website at: www.dimensiondata.com

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Windows Server drives many of the world’s largest data centers, empowers small businesses around the world, and delivers value to organizations of all sizes in between. Building on this legacy, Windows Server 2012 redefines the category, delivering hundreds of new features and enhancements spanning virtualization, networking, storage, user experience, cloud computing, automation, and more. Simply put, Windows Server 2012 helps you transform your IT operations to reduce costs and deliver a whole new level of business value.

For more information please visit:

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