

# EDS Turns to VMware Server Virtualization to Support Australian Customers

VMware virtualization technologies help EDS reduce physical server numbers, and slash greenhouse gas emissions and power consumption for a major client.



## KEY HIGHLIGHTS

INDUSTRY: **PROFESSIONAL**

### CHALLENGE

Reduce environmental footprint of corporate IT resources while increasing efficiency and improving performance.

### SOLUTION

Use VMware virtualization technologies to enable EDS and its clients to reduce environmental impact without compromising corporate objectives.

### RESULTS

- Cut power usage and greenhouse gas emissions
- Reduced server provisioning time from four to six weeks to one day, cutting costs by 50 percent
- Delivered a server consolidation ratio of 25:1
- Reduced total cost of ownership of servers
- Achieved 50 percent reduction in costs per server. This does not include the simplified management of systems and benefits of no planned downtime
- No unplanned outages experienced in a 12-month period – delivering 100 percent server availability to the client's development teams



*“The increasing maturity of virtualization and the growing support from independent software vendors is helping fuel deployment of VMware virtualization across production environments. This means more businesses are redeploying or disposing of inefficient hardware and consolidating their data center infrastructure onto multiple virtual server environments, thus contributing to a reduction in power consumption.”*

David Simpendorfer  
Asia-Pacific ITO Product Marketing Manager, EDS

## Reducing the Environmental Footprint

EDS is one of the world's largest IT services businesses, with a global client list that includes General Motors, UK Ministry of Defence and Kraft Foods. Australian customers include the Australian Taxation Office, Westpac Banking Corporation, Telstra and the Commonwealth Bank of Australia. The company maintains an Australian workforce of more than 6,000 and its portfolio of offerings includes business process outsourcing, information technology outsourcing and application services.

EDS is targeting a 25 percent reduction in greenhouse gas emissions across Australia and New Zealand by 2010. It is also developing a range of service offerings that enable its customers to reduce their impact on the environment.

## VMware Virtualization Reduces Green Impact

VMware virtualization technologies provide one of the major avenues for EDS and its customers to reduce their environmental footprint. Some large Australian businesses are taking advantage of these technologies to consolidate multiple virtual servers onto a reduced number of physical servers.

One key EDS client has elected to use a virtualized environment based on VMware ESX Server. The environment incorporates:

- VMware Virtual SMP to enable virtual machines to exploit multiple processors
- VMware VMotion to move virtual machines from one physical server to another while the virtual environment is running
- VMware P2V to migrate physical servers to virtual machines
- VMware High Availability to ensure availability of applications running on virtual machines.

This has enabled the customer to achieve a server consolidation ratio of 25:1 and reduce its storage and network device requirements.

This environment not only provides immediate reductions in power consumption and greenhouse gas emissions, but provides a sustainable long-term platform to support business growth.

Gartner Group has estimated that energy costs could rise from about 10 percent of an information technology budget to more than 50 percent if left unchecked over the next few years. However, while environmental sustainability is beginning to play an increasing role in an organization's choice of technologies, efficiency and meeting business requirements remain the top priorities.

### Virtualization Delivers Business Efficiencies

As well as being energy-wise, VMware virtualization has given EDS clients in Australia the ability to provision test and development servers in hours rather than weeks. This removes the hurdle of server hardware availability from application development.

EDS has also found the virtual server environment at least 25 percent easier to manage due to its greater stability.

VMware virtualization integrated with EDS' high-availability model has ensured the previously-mentioned client has not experienced any unplanned downtime. The client has experienced this level of availability since August 2006, one month after EDS first implemented virtualization technology. The result is improved confidence in the technology environment and minimization of waste and inefficiency.

EDS is also taking into account environmental concerns when selecting the hardware to host VMware virtualized servers.

For example, the VMware ESX Server environment used to service the client resides on Sun Fire V40z servers with four dual-core AMD Opteron processors and 32GB of memory, while VMware VirtualCenter resides on environmentally-efficient Sun Fire X4200 servers with dual-core AMD processors and 4GB of memory. EDS-managed storage supports VMotion and ESX Server environments, while guest operating systems include Microsoft Windows 2003, Sun Solaris and Red Hat Linux.

To date, EDS has virtualized less than 20 percent of the client's development and testing environment. This is rapidly growing and planning is underway to incorporate some of the production environment.

"The increasing maturity of virtualization and the growing support from independent software vendors is helping fuel deployment of VMware virtualization across production environments," said David Simpfendorfer, Asia-Pacific ITO Product Marketing Manager at EDS.

"This means more businesses are redeploying or disposing of inefficient hardware and consolidating their data center infrastructure onto multiple virtual server environments, thus contributing to a reduction in power consumption."

#### VMWARE VIRTUAL INFRASTRUCTURE

- ESX Server on Sun V40z servers with 4 dual-core AMD880/885 processors and 32GB memory
- VirtualCenter on Sun Fire X4200 servers with two AMD 252 single-core processors and 4GB memory
- EDS managed storage supports VMotion and ESX Server environments
- P2V
- Virtual SMP
- Guest operating systems include Microsoft Windows 2003, Sun Solaris, Red Hat Linux
- Applications include Microsoft Exchange, Microsoft SQL Server, Apache

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EDS customers are also poised to benefit from an internal desktop virtualization project currently in its very early stages. Desktop virtualization enables test and development staff to model the impact of upgrades or changes to desktop operating environments without manipulating hardware. This reduces the number of desktops required for testing, reducing environmentally damaging emissions.

### Less Hardware Equals Lower Emissions

The EDS client's reduced hardware footprint is the source of most of the environmental benefits gained from virtualization. The deployment of 275 virtual machines across 30 hardware devices is capable of ramping up sharply to encompass an estimated 1,000 virtual machines. This is expected to further reduce power requirements and environmental emissions.

In addition, the hardware in place is used more effectively, with average CPU utilization boosted from under 10 percent to above 40 percent currently. The reduced rack space required for that client enables EDS to rationalize data center space, consolidating the area required to meet customer needs.

### A More Sustainable Business

The high availability and strong redundancy of the new environment has already minimized unplanned downtime and built client confidence in the resilience of the system. This is delivering a range of benefits, including confidence that routine data does not need to be replicated in point solutions or on paper, eliminating duplication and waste.

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