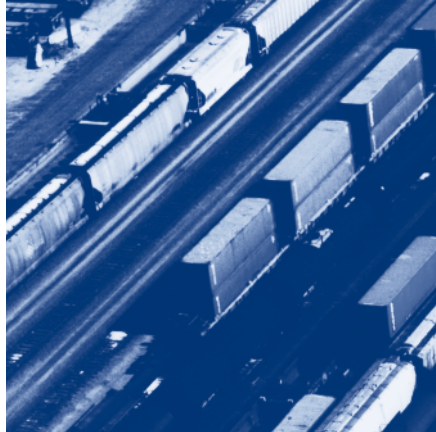


CBH Group Turns to Virtualization to Cut Costs and Support New Business Initiatives

Agreement delivers flexibility and training



KEY HIGHLIGHTS

INDUSTRY: TRANSPORTATION

CHALLENGE

Consolidate a diverse information technology infrastructure spanning myriad platforms, servers and storage systems. Provide a highly scalable infrastructure to meet business goals.

SOLUTION

VMware Infrastructure delivers a dynamic, flexible, cost-effective solution that scales to support growth.

RESULTS

- Consolidated data to head office
- Virtualized 36 servers and commissioned a further 22 virtual servers. The virtual machines are running on 10 physical servers at a 6:1 server consolidation ratio with enough capacity to support additional virtualization
- Reduced server commissioning time from a minimum three to four hours (presuming hardware is available) to 10 minutes
- Avoided investment in the region of A\$500,000 in datacenter power upgrades
- Applied patches and upgrades with guaranteed rollback
- Redirected investment of A\$60,000 earmarked for VMware licenses into higher-spec hardware due to ELA provisions
- Supported new grower initiatives

"If you are looking at virtualization, VMware is number one on the list of products you should consider. Our experience has been so positive we are looking at virtualizing other areas of our infrastructure. VMware has been a real success story at the CBH Group and there are no regrets about the path we have taken."

Brad Harvey, ICT Infrastructure Manager
CBH Group

Growth and expansion force infrastructure rethink

Based in Western Australia, the CBH Group stores, handles and markets grain. Controlled by more than 5,000 grower-shareholders, the organization's primary business includes the bulk export of wheat, barley, lupins and canola to more than 20 destinations.

The Western Australian harvest averages about 10 million tons per year, of which 95 percent is exported, representing about 40 percent of Australia's annual average production. With annual revenue regularly exceeding A\$500 million and assets of A\$1.2 billion, the CBH Group is in a strong financial position.

In recent years, the CBH Group has diversified to complement its foundation storage and handling operations and increase its resilience to drought and market downturns.

In 2002 it merged with Grain Pool of Western Australia, a grain marketing business which holds the license to export barley, lupins and canola from Western Australia. A Grain Pool subsidiary, AgraCorp, markets grain such as wheat, triticale and oats. In 2005, AgraCorp started operations in South Australia and Victoria, where it trades as CBH Grain. In 2004, the CBH Group also commenced a flour milling joint venture in South East Asia with the Salim Group. Another CBH subsidiary, Bulkwest, provides design, manufacturing and turnkey construction services to the CBH Group as well as external domestic and international customers.

Managing a disparate infrastructure

This combination of organic growth, mergers and acquisitions and joint ventures meant that by 2005 the CBH Group was operating a diverse information technology infrastructure spanning myriad platforms, servers and storage systems.

The costs of this complexity were exacerbated by the fact that some legacy systems did not come with adequate documentation. Multiple disaster recovery processes supported the systems, many of which were based on hardware reaching end of life.

In addition, the CBH Group's geographic diversity meant it sometimes had to call on non-ICT staff to perform critical IT tasks, while repairs in remote locations were time-consuming and expensive.

"When I came on board three years ago, I could see we needed an alternative unless we wanted to continue growing the size of our IT support department," said Brad Harvey, ICT Infrastructure Manager, CBH Group.

"We had a couple of smaller projects that needed additional server hardware. This would have had an immediate impact on our datacenter power and airconditioning. Newer hardware may have several times the capacity of five years ago, but it also consumes additional power."

The CBH Group needed to re-architect its infrastructure to meet business goals that included:

- a more stringent governance framework surrounding data management
- greater emphasis on online transactions
- adopting a 24x7 business presence
- reduced tolerance for downtime
- tighter security practices
- containing operating costs.

"We evaluated a range of options, including replacing end-of-life servers with new hardware, upgrading underperforming servers and rebuilding servers that lacked documentation, but these all opened a potentially very expensive can of worms," said Harvey.

The organization had already implemented VMware virtualization as a development tool. Harvey decided that if the CBH Group invested in enterprise-class hardware, he would extend the reach of the technology into its production environment.

The CBH Group then deployed VMware Infrastructure as part of a broad revamp that included expanding its storage area networks

DEPLOYMENT ENVIRONMENT

- VMware Infrastructure 3.5 including:
 - ESX 3.5
 - High Availability
 - Distributed Resource Scheduler
 - VMotion
- Virtual Desktop Infrastructure
- 10 IBM System x3850 M2 enterprise servers with four quad-core Intel Xeon processors and 128GB RAM
- Two IBM DS4800 SAN Controllers presented via IBM Volume Controllers
- Guest operating systems: Microsoft Windows Server 2003, Microsoft Windows XP, Red Hat Enterprise Linux
- Virtualized production applications: SAP ERP components, Treasury Management System, Microsoft SharePoint Server

(SANs), centralizing ICT management to head office, using wide area network acceleration technologies to ensure the user experience is not compromised and deploying SAN management tools to replicate data to a 'hot' disaster recovery site.

"We have now virtualized 36 of our 180 Windows servers to date without investing any further funds in our datacenter, uninterruptible power supply or power capacity," said Harvey. The CBH Group has since commissioned a further 22 virtual machines to support business demand.

Virtualization delivers power and server savings

By virtualizing hardware that is close to end of life, the CBH Group has maximized savings. "Now we do not have to purchase specific hardware for specific projects," said Harvey. "Our goal is to virtualize servers unless there is a compelling reason not to do so and we plan to virtualize the remainder of our fleet by about 2010.

"Through virtualizing old servers first, I would estimate we've saved about A\$500 or A\$600 per year per server in maintenance costs," he added. "More importantly, our existing power supplies were reaching capacity and we would have needed to upgrade just to sustain the physical infrastructure we had.

"Now we have slightly lower electricity bills as we have fewer servers chewing power, the new environment is not adding to our datacenter heat and we've reduced the load on our uninterruptible power supply and generators."

Deploying VMware has also enabled the CBH Group to transform its datacenter architecture from one production datacenter/one disaster recovery facility to one primary datacenter/one secondary datacenter.

"Because we can migrate virtual servers between the two sites as necessary we now have a 'hot hot' operation rather than a cold disaster recovery facility," said Harvey. "When we are undertaking SAN maintenance we can simply migrate the machines to hardware in the other datacenter without any impact on the user experience."

In addition, by centralizing data to head office, the CBH Group now does not have to locate complex servers at remote sites. This in turn means that site recovery operations such as tape backups are no longer required, and if a server component breaks it is a simple matter to ship a replacement server to that site. "Centralization was only viable because of virtualization," said Harvey.

It would have cost in the region of A\$500,000 to upgrade the CBH Group's power supply by replacing existing power supplies and equipment and generator cabling and increasing the power feed into the building.

The CBH Group had reinforced its virtualization infrastructure with an enterprise licensing agreement (ELA) with VMware tailored to meet its support, maintenance and upgrade requirements.

"As part of the deal, VMware incorporated a prepaid training component that assists our staff to achieve certification in the vendor's virtualization technologies," said Harvey. "The agreement is in line with our model of negotiating direct support agreements with our top tier vendors rather than partners."

Supporting a new online transaction model

The ELA negotiations coincided with the development of a new CBH Group project, Grain Express, designed to streamline grower receivables by focusing on the physical delivery of grain and by servicing all marketing transactions either by the LoadNet secure online portal or the Grower Service Centre. This project was launched to the market on July 1, 2008.

"This project involves a change in the way we do business with growers, with a greater emphasis on online transactions," said Harvey. "Our existing infrastructure could not have supported the projected load.

"However, the ELA we negotiated with VMware enabled us to ramp up capacity without investing the additional A\$60,000 that would have been required to buy the licenses to meet our needs. Instead, we were able to invest in higher-capacity hardware."

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