WESTERN POWER SWAPS TRU64 FOR RED HAT AND SURGES AHEAD IN PERFORMANCE AND COST SAVINGS

FAST FACTS

Industry	Utilities, Government
Geography	Western Australia
Business Challenge	Decrease technology costs by avoiding expensive hardware replacement fees and improving performance and manageability.
Migration Path	Tru64 Unix to Red Hat Enterprise Linux
Software	Red Hat Enterprise Linux 4.6, Red Hat Enterprise Linux 5.1, Oracle 9i
Hardware	30 x HP DL385 (AMD Opteron)
Benefits	Increased performance by nearly 500 percent, achieved significant cost savings of approximately $140,000 per machine and gained reliable support from a trusted vendor

BACKGROUND

Western Power is an electricity networks corporation owned by the Western Australian Government. It transports electricity from power stations to towns and cities and then distributes it to homes and businesses. This is done via a large network of power lines known as the South West Interconnected System (SWIS), designed to meet the needs of customers and developers and to bring electricity to new areas.

While companies that produce electricity as generators, and companies that sell electricity as retailers, have access to the network, Western Power is responsible for maintaining this network and restoring power after interruptions.

"Western Power supplies energy to more than 840,000 households and businesses throughout the state," said Julian Rouse, systems administration manager, Western Power.

"Our mission is to conduct a safe, efficient, and importantly reliable operation. As the backbone of the business, our technology infrastructure is paramount to that."

CHALLENGE

Western Power had been a long time Compaq Tru64 Unix user, but with HP's acquisition of Compaq, the organisation was prompted to re-evaluate its existing server environment. It was faced with aging hardware, but needed to keep server replacement costs to a minimum.

In designing a new strategic platform for the long term, improving current software performance and improving manageability were key priorities for Western Power.

"Reassessing our strategic platform initially involved a comparison between HP-UX and Compaq TRU64 offerings, but when we looked at what our major energy application provider was doing, our attention quickly turned to Linux," said Rouse.

Western Power's ENMAC energy management solution, developed by GE, is responsible for providing centralized, controlled, secure, safe access to the distribution network, in real-time, for maintenance and fault restoration purposes. With GE testing and then porting the software application onto Linux, it made perfect sense for Western Power to consider Linux for its new platform. This would ensure that it could achieve the best possible performance from the solution.

SOLUTION

Western Power investigated Novell SUSE and Red Hat Enterprise Linux for its infrastructure upgrade. With the knowledge that GE was already testing ENMAC on Red Hat, the organisation soon realised that only Red Hat could guarantee optimum performance, ease of management and first-class support.

"While we evaluated the leading Linux offerings on the market, Red Hat had already established itself as the enterprise Linux market leader, and that gave us a great deal of confidence," commented Rouse.

As Rouse recalled, another factor in choosing to work with Red Hat was Red Hat Network, an easy-to-use systems management platform that brings greater efficiency to package updates and other ongoing maintenance tasks.

"With Red Hat, we also knew that we had instant access to the right support if and when we needed it, rather than being referred to downloads from a public website. Plus, the power of the developer community meant that the Linux kernel was constantly evolving and being further improved—and that was an attractive proposition."

By August 2007, Western Power commenced its migration to a Red Hat Enterprise Linux platform as part of an overall ENMAC update. The migration started with 18 HP DL385 (AMD Opteron) test and development servers and extended to a further 12 production servers, running a mix of Red Hat Enterprise Linux 4.6 and Red Hat Enterprise Linux 5.1. A total of more that 30 servers in development, test and production.

Through its migration to Red Hat Enterprise Linux, Western Power became one of the first GE customers to run the ENMAC energy management solution for distribution on Linux.

BENEFITS

For Western Power, the migration to Red Hat Enterprise Linux resulted in a migration to higher performance and lower running costs. Unix loads typically run on Linux using commodity-class hardware that costs up to 75 percent less than what is required by Unix systems. Through experience, Western Power has been able to realise these cost savings.

According to Rouse, "Running Red Hat Enterprise Linux on more cost-effective commoditised hardware has seen the kernel outperform any previous build. This is great because the difference in cost between the HP servers we're now able to use, compared to TRU64 Unix servers, is in the order of several magnitudes."

"Furthermore, we've been able to halve our hardware cost per node, because the 64-bit kernel has enabled us to tune our hardware for both excellent memory and disc performance, allowing us to be able to run both Oracle and EMAC on the same box, whereas previously this required separate tiered machines" Rouse added.

Rouse estimates that, to date, Western Power has experienced CAPEX cost savings of approximately $140,000 per machine, along with a 50 percent increase in total system headroom due to an average CPU usage drop and an impressive performance gain of 500 percent.

Western Power also looks forward to further savings on an ongoing basis. With the move to commodity hardware and virtualisation, it will be able to decrease annual hardware maintenance costs by up to 80 percent.

"There's no doubt that Red Hat Enterprise Linux is our operating system of choice, and as we embark on overhauling our middleware application, our next focus will be on extending our investment in open source with the introduction of JBoss into our environment," said Rouse.

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