Server Virtualisation

AUSTRALIAN
LEGAL SECTOR
ALLIANCE
PROMOTING SUSTAINABILITY

Summary	
Cost to implement	$ 109,948.94
Cost savings	$ 37,500.00 p.a. (server replacement & electricity)
Environmental impact/savings	*149,358 KWh reduction is energy consumption* *Equivalent to 107 Tons of CO_2*
Implementation Issues	*Implementation and changeover has to be done out of business hours.*
Author	*Dinesh Rajalingam* *IT Manager* *Russell Kennedy*

Overview

The move to a Virtual Datacentre not only saves significant electricity and cooling costs but also allows for faster disaster recovery and reduced maintenance of the server environment.

Programme details

In July 2010 Russell Kennedy began a datacentre review to identify hardware upgrades/replacements as part of this process it was found that the majority (23 of 27) servers needed to be replaced due to age and performance.

As a result of these findings the firms IT department investigated the potential to virtualise the datacentre rather than replacing the aging fleet of servers. This provided the firm with the opportunity to consolidate 27 physical servers to 3 physical (host) servers.

Russell Kennedy decided upon VM Ware as the platform for virtualisation after considering all the available technologies. The project was run by the firms IT department in conjunction with Thomas Duryea Consulting.

Virtualisation Challenges

The major challenge faced by the firm during the process of virtualising the datacentre was minimising the disruption to normal business activity whilst undertaking such a major back end change.

This was achieved by a mixture of out of hour's outages and rebuilding existing servers in the new environment then performing a cut over to the new system from the existing systems. By taking this approach the IT department was able to virtualise all major systems (PMS, Email) with no downtime or data loss.

Virtualisation Benefits

Russell Kennedy was able to see tangible benefits from the virtualisation of the datacentre almost immediately. The most obvious benefits were seen in two areas, the maintenance/deployment of new servers and the reduction in power consumption.

Prior to this project when a new server needed to be deployed it involved the purchase of the hardware, configuration of the hardware for the purpose and the installation of the software (operating systems and application). Typically this process could take up to 3 weeks from the order date to the server being ready for testing.

It now takes between 30mins and 1 hour to deploy a new server with all software to the test environment. This has resulted in a significant saving in man hours and also the reduced carbon footprint from the hardware procurement process.

Maintenance downtime has also been reduced as systems are more resilient and can be moved between host servers to allow patching (software updates) to occur without an outage being called.

The largest gain so far from this project has been to the firm's energy consumption, there has been a 44,000 KWh reduction in only 7 months after the virtualisation of half the physical servers. Once all the physical servers have been virtualised the firm will have no trouble meeting with the projects expected 149,000 KWh (107 tonnes CO_2) saving per annum.

This reduction in energy use has been derived not only from reducing the physical power consumption of the servers but also the reduced heat signature of the datacentre that in turn reduces the cooling requirements.

Another major benefit to be derived from virtualisation is the reduction in datacentre size, whilst this may not be applicable for an existing datacentre it should be considered when relocating or building new datacentres.

As the physical size requirements are much lower with a virtual environment, it will allow an organisation to build smaller more energy efficient datacentres and free up space to be utilised for other purposes.

More information

- *Dinesh Rajalingam*
  IT Manager
  Russell Kennedy
  drajalingam@rk.com.au
- *Thomas Duryea Consulting:* **http://www.thomasduryea.com.au**
- *VM Ware:* **http://www.vmware.com**