

# Case Study Herbert Geer – the journey to server virtualisation



Herbert Geer is an Australian commercial law firm with more than 300 staff and offices located in Melbourne, Sydney and Brisbane.

Herbert Geer's dedicated team provide legal services across a range of specialist areas to a wide range of clients.

## The starting point

Herbert Geer's Bourke Street Melbourne office had 65 servers containing hardware close to the end of its life. The servers were extremely low on disk space and were resource intensive as far as ongoing maintenance.

In considering a server upgrade, Herbert Geer implemented extensive testing over a period of two years using several free VMware virtual servers.

## Going virtual

Following extensive testing, in 2009, Herbert Geer adopted a total of five Sun virtual servers (three for the Melbourne office, two for the Brisbane office), replacing approximately 25 physical servers over a three month period.

This superior technology completely changed the face of server deployment, recovery and administration.

Furthermore, there was the supported benefit of reducing the firm's environmental impact, including:

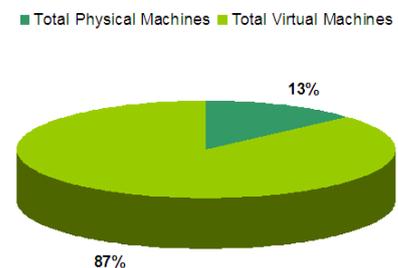
- reduced power use and therefore CO<sub>2</sub> emissions
- reduced need for purchase of hardware resulting in using fewer resources
- less power use, meaning less heat load movement.

## A steep learning curve

The installation, migration and data replication between sites was a large undertaking and the main challenge was in the transition stage. The potential disruption to normal business activities was avoided by undertaking upgrade work out-of-hours, plus a WAN upgrade was performed in order to cope with the data replication for disaster recovery to the Brisbane site.

## herbertgeer's current environment

Virtual Machines: 65      Physical Machines: 10



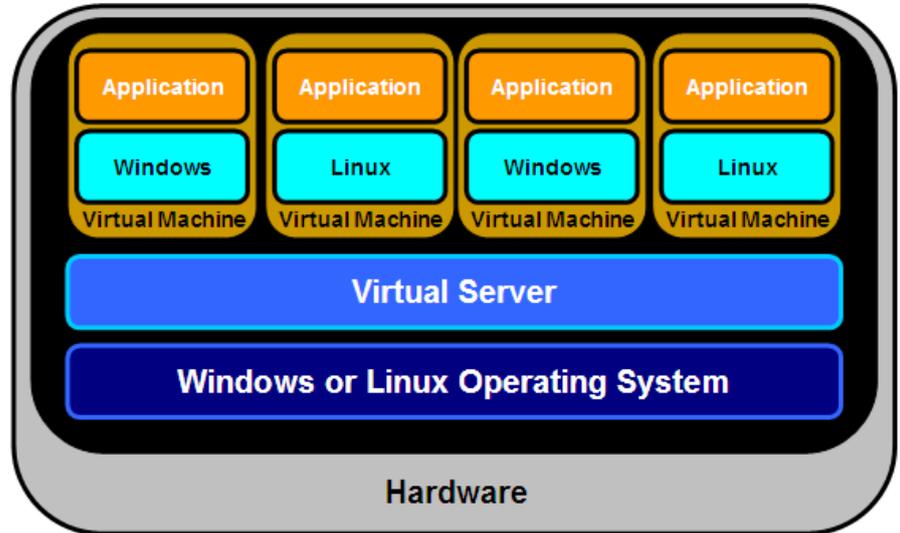
<b>Signatory status</b>	
Date joined CitySwitch	31 October 2008
Tenancy size	4,492
NABERS Commitment rating	★★★★
Website	www.herbertgeer.com.au
<b>Key outcomes</b>	
Annual saving	\$10,415 per annum
Green CO <sub>2</sub> savings per annum	52.7 Tonnes
Technology	Quadcore CPU

# Big rewards for information technology upgrades

## The top-line benefits included:

- reduced power demand
- reduced hardware management and maintenance
- increased office space
- reduced requirement for air cooling
- maximised “uptime” (time a system is fully functional)
- reduced staff overtime
- lowered program licensing costs
- reduced heat output
- the availability of disaster recovery ensuring high rate of data availability
- maximised physical resources, optimising the hardware investment.

## Server virtualisation model



## A statistical overview

A six year old 1RU server produces 1076 BTU/Hr. Therefore eight physical machines produce 8608BTU/Hr.

A new 1RU quad core server only produces 775 BTU/hr running eight virtual machines. In comparison, a person produces 250 BTU/ hr, while a Webber “Q” produces 8500BTU/ hr, almost the same as six physical servers.

## The savings

Based on single CPU servers, a conservative cost breakdown of before virtualisation costs:

➤ 65 x 1 CPU = \$12,285/ yr

And after virtualisation costs:

➤ 10 x Quadcore CPU = \$1,870/yr

This amounts to a saving of at least \$10,415 per year (based on \$.125 per kW / hour, 1 CPU \$189 pa, quad CPU \$187 pa).

## Environmental impact

Conservatively based on single CPU servers, an estimate of 101,625KG of G/house gas savings have been made per year.

This equates to taking 10.3 passenger cars off the road for one year, or 52.7 tonnes of CO<sub>2</sub>e.

## The benefits of storage virtualisation

- use of a Storage Area Network (SAN) storage provides a pool of disk storage
- traditional storage of 1-to-1 is replaced by 1-to-many, resulting in increased amount of available storage.
- Use of a direct-attached storage (DAS) is limited by its chassis.

## Get involved

Join CitySwitch and discover how small changes can make a big difference to Australia’s future environmental health– and that of the planet.

Visit [www.cityswitch.net.au](http://www.cityswitch.net.au) for more information or call the CitySwitch Program Manager in your state. Contact details are listed on the website.

CitySwitch is a national tenant energy efficiency program. Previously known as the 3CBDs Greenhouse Initiative, the program works with tenants to improve office energy efficiency, thereby reducing the CO<sub>2</sub> emissions that contribute to climate change.

## CitySwitch Green Office partners

