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> ## Innovative high school engages Lexel for ICT virtualisation project
> With an ICT environment that includes more than 500 computers, Otahuhu College recognised that server virtualisation was the best way to solve performance, storage and fault-tolerance issues.

SUMMARY

Otahuhu College is known as a change leader in New Zealand education circles. The college was a leading school in implementing the National Certificate of Educational Achievement and has a history of innovative use of information and communication technology (ICT).

Recently, the college demonstrated its commitment to forward thinking by partnering with Lexel, a specialised ICT solutions company, to ensure the successful migration to a virtual server environment. Being awarded the project demonstrated the high level of trust Lexel had earned during a five-year relationship with Otahuhu College.

Server virtualisation is a hot topic in the IT world and a relatively new concept. It solves three big problems – under-utilisation of a physical server's processing power, overcrowding in the data centre and inadequate disaster recovery. By utilising specially designed software, each physical server can be configured to run multiple virtual servers at the same time. Each virtual server then acts like a unique physical device, capable of running its own operating system and applications. Better still, virtual servers can be easily moved between physical servers, even when running and without impact on users.

Chris Foote, Executive Officer at Otahuhu College, recognised that moving to a virtualised server environment was a way to achieve greater reliability, faster fault recovery and easy scalability as the college's needs grow. It would also give students and teachers the day-to-day benefits of higher computing performance.

Lexel's implementation of the new system was carried out during the school's Christmas break. By the time teachers and students arrived at the start of the new school year, the implementation was complete and the solution was working perfectly.

LEXEL

THE CHALLENGE

The seed for Otahuhu College's virtualisation project was planted when Chris recognised that the school was not getting full advantage of the resources available in the server farm. Outages were a constant problem and some of the ageing servers were stretched to capacity, while others were under-utilised. The school was also desperately short of data storage space – a considerable amount of data was not getting backed up. Furthermore when problems occurred, such as failure of the email server, recovery relied on getting the hardware fixed. There was no in-built tolerance for faults.

"Previously we had 24 servers running in the server room - it was so hot I had to increase the air conditioning" said Chris Foote.

Otahuhu College had a long-standing procurement relationship with Lexel, but had never progressed the partnership beyond the acquisition of new computers. Chris Foote recognised that the virtualisation project would be an opportunity to take advantage of Lexel's advanced consultation, design, implementation and support capabilities, which were at a level far above what the traditional smaller school resellers could provide.

LEXEL'S SOLUTION

Lexel Sales Manager Peter Young and his team worked closely with Chris Foote and Lexel's network designers to formulate a plan for Otahuhu College to move into the virtual server world. When the proposal was presented, Lexel paid special attention to value versus dollars invested, so that the school could get a true picture of long-term savings that the new system would achieve.

"We recommended a solution that would require two new HP rack severs, with ease of adding additional physical servers later, and one large central storage device. So instead of installing systems and data back onto each server's local hard disk, the college now had one central storage device and that looks after all the servers. Then all servers are virtualised using VMware virtualisation software" said Peter.

The solution is an excellent example of how Lexel deploy their 'foot in both camps' advantage, using their corporate methodology (reduce risk, improve performance, contain costs and enable growth) to provide superior ICT services for the education sector.

Hewlett-Packard technology implemented by Lexel at Otahuhu College:

- HP MSA 2000i SAN
- 2x HP Rack DL380s Servers
- 2 Tiers of storage (production and archive)
- 2x HP Procurve switches for separate iSCSI backbone switching
- Backup Tape Library
- Backup Software, Backup Exec
- VMWare virtualisation software

The total cost of the project was comfortably accommodated by Otahuhu's ICT budget. "Because we're a larger reseller, we have access to levels of pricing and negotiation ability that smaller resellers don't have. Through server consolidation, we were able to reduce upgrade costs and deliver an end-to-end solution within budget and without compromise" said Peter.

The entire implementation process was tightly controlled by one of Lexel's project managers, to ensure that every aspect of the job was delivered and signed off by all parties in line with the college's expectations.

CONCLUSION

As well as the overall benefit of business continuity, Otahuhu College is experiencing the productivity advantages of an integrated network that shares essential resources, such as CPU, memory and disk space. Added to that is highly-efficient Tier 2 storage for archiving and a backup tape library to accommodate the school's need to retain and manage large amounts of data. Underpinning the entire solution is Lexel's 24x7 support, which offers immediate advanced helpdesk support and on-site call-outs for issues that are beyond the college's internal ICT resources.

Not only does Otahuhu College now run a best-practice network that's highly available and fault-tolerant, they also have the benefit of a clearly defined upgrade path for the years ahead.

"Lexel work very hard at maintaining the relationship and keeping contact to make sure that we always get the best solution and offer possible. Since they've been involved, the integrity of our network has improved immensely. We very rarely have any severe incidents or outages" said Chris Foote

The Otahuhu College experience demonstrates that as schools' networking and back office requirements become more complex, there's a need to move beyond traditional and smaller education ICT resellers.

"Small providers don't always have the technical clout, skills and support systems to be able to pull off with any certainty the more complex solutions, such as virtualisation. Because Lexel is a major player in both the corporate and education sectors, we can give schools the best of both worlds" said Peter Young.

KEY BENEFITS OF VIRTUALISATION

- Fewer physical servers, which reduces hardware costs and solves floor space problems in the data centre

- By having each application within its own 'virtual server' you can prevent one application from impacting another application when upgrades or changes are made

- You can develop a standard virtual server build that can be easily duplicated when a new server is needed

- You can deploy multiple operating system technologies on a single hardware platform i.e. Windows Server 2003, Linux, Windows 2000, etc

- You receive greater uptime with virtual servers being easily moved between physical servers, even when running and without any impact on connected users

Lexel is a New Zealand owned provider of ICT services and solutions to business. We focus on maximising business performance by using industry leading expertise and solutions to streamline IT infrastructure. Twenty-two years in the IT business, Lexel is a known and trusted partner.

We specialise in providing solution consulting, infrastructure design, implementation, project management, outsourcing, support services and procurement. To allow us to deliver this wide range of services, Lexel Systems has partnered with the main technology providers in New Zealand and we have secured the highest level of certifications possible with each of these partners.

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