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*Andrew Crabb
Chief Information Officer
TelstraClear*



TelstraClear

INDUSTRY Telecommunications

SOLUTIONS *Enterprise Platform, Virtualization*
Hardware — Hitachi Universal Storage Platform®
Software — Hitachi Storage Services Manager, Hitachi Universal Replicator, Hitachi ShadowImage® Heterogeneous Replication, Hitachi TrueCopy® Synchronous and Hitachi Device Manager
Services — Provided by Hitachi TrueNorth Channel Partner Revera

Hitachi Data Systems Storage Virtualization Solution Provides Seamless Data Transfer and Unprecedented Disaster Recovery for TelstraClear

Formed in December 2001 following a merger between TelstraSaturn and CLEAR Communications, TelstraClear combines highly skilled telecommunications support with New Zealand's most advanced IP network offering. Facing the ongoing challenge of integrating what had been entirely separate technology systems into a single core, the new company saw the solution it needed in the virtualization capabilities of Hitachi storage.

TelstraClear boasts 1,500 staff in its Auckland, Wellington and Christchurch offices, and 400 contractors reaching out into regional centers such as Hamilton and Palmerston, who provide telecommunications services and support to corporate and government clients, as well as a large consumer base. Since its formation, TelstraClear had continued to operate across two separate data centers in Auckland and Wellington, as well as a range of smaller data repositories spread across regional bases.

Although its principle storage systems were built around Hitachi technology, the company also ran equipment from other

storage vendors. The storage configuration remained operational, but TelstraClear was keen to streamline storage management and prepare its systems for emerging storage virtualization technology.

"When we upgraded the storage system, we wanted to consolidate the technology and create a more flexible back end to meet changing demands," explained TelstraClear chief information officer Andrew Crabb. "Storage management had been spread across the organization, and we needed to bring it under one umbrella."

Another key challenge was to source a technology that would be able to operate across

TelstraClear's diverse back-end systems, which featured a combination of Sun Solaris, Linux and UNIX, as well as a flotilla of IBM® blade servers running Microsoft® Windows®.

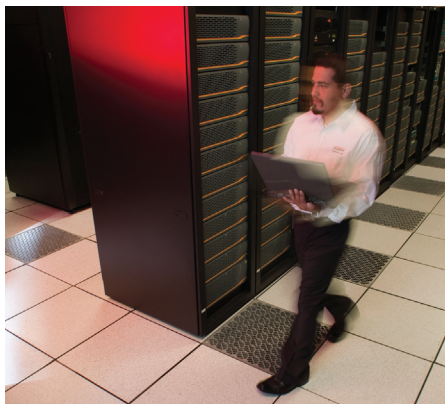
"The dynamics around our storage systems and management needed simplifying, but we needed a technology that would operate across a multivendor environment," Crabb said. "The intent was also to move from our existing storage onto a new platform that would meet the changing demands of customers as well as the business."

Finding Flexibility

TelstraClear began the journey by talking to a range of different storage vendors about their technologies to gain greater insight into the storage market. Crabb's team also worked closely with the business owners within TelstraClear in order to ensure any new technology would meet their current and emerging requirements.

Combining this information as a base, TelstraClear put together a competitive tender seeking both the technology and the support it needed to make a seamless transition into a centralized storage environment.

"The whole process took a year, from the time we started talking to the vendors, through to the request for tender, getting the responses back and grading them," Crabb



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added. "We implemented a rigorous grading process for the different offerings, and the Hitachi solution came out ahead when judged according to different criteria."

A key driver of the change in storage strategy was to enable data replication for a core suite of applications between two geographically diverse centers. The Hitachi Universal Storage Platform® hardware combined with a range of Hitachi business continuity and storage management software technologies met these needs above the other vendors.

TelstraClear selected Hitachi TrueNorth Channel Partner Revera, a storage and infrastructure specialist, as the project partner and set about installing the storage platform and Hitachi Storage Services Manager end-to-end management software.

One of the key factors in Revera's migration approach was the ability to do the migration with no service impact to the business. By exploiting the virtualization capabilities of the Hitachi Universal Storage Platform and Hitachi software tools and employing a sound migration methodology this was achieved. This was no mean feat for a 24/7 operation.

Over a period of about two months, 25TB of data was moved onto the newly installed hardware in Auckland and Wellington, leveraging a series of carefully planned migrations of data, storage connectivity and ultimately application services. The migrations were completed successfully, without any impact to customers.

"Thanks to Revera, the Hitachi migration technology and Cisco MDS 9500 Series Fabric Switches, we were able to plug our existing storage equipment into the new equipment and seamlessly migrate our most valuable technology asset, our data, from one platform to the Universal Storage Platform," Crabb said.

No Turning Back

Using a combination of Hitachi software, the new system has now enabled TelstraClear to replicate its data across both sites, from Auckland to Wellington — a distance of just under 500 kilometers. This has not only streamlined data management but also provided the business with unprecedented levels of disaster recovery.

Hitachi Storage Services Manager software acts as the main console for the Hitachi heterogeneous storage infrastructure management, delivering auto-discovering hosts, switches and disk storage systems as well as analysis tools. Hitachi Universal Replicator software delivers simplified asynchronous data replication across internal and external storage attached to the Hitachi Universal Storage Platform family. Hitachi TrueCopy® Synchronous software provides a continuous, nondisruptive, host independent remote data replication solution for disaster recovery or data migration over any distance. Finally, Hitachi Device Manager software provides centralized management of distributed Hitachi environments while Hitachi ShadowImage® Heterogeneous Replication software provides a nondisruptive, host independent data replication solution for creating copies of any customer accessible data within a single Hitachi storage system.

TelstraClear proves the value of this technology every year by running production disaster recovery exercises for its suite of core applications.

"There were two key elements that sealed the deal on the Hitachi technology: one was the ability to migrate the data without causing a major impact on the business's operations; the other was the ability to install exactly the same equipment in both Auckland and Wellington and replicate specific data across both sites," explained Crabb.

"The Hitachi storage virtualization technology enabled us to make the transition without impacting customers in any way," Crabb said. "Using Hitachi Universal Replicator software, we automatically replicate all company data across both Auckland and Wellington sites; if either point fails, the switchover is so seamless users would hardly notice."

Making Plans for the Future

TelstraClear's new storage infrastructure will ultimately improve the customer experience and has enabled the company to significantly reduce the total cost of storage ownership.

"We've gone from an enterprise storage system that was end of service life and becoming expensive to maintain to a tiered approach that is more efficient and cost-effective to run," Crabb said. "The tiered storage approach makes it easier for us to move data around the system and improves overall performance."

According to Crabb, the increased reliability of the disaster recovery processes and the efficiency improvements precipitated by the tiered storage environment have provided TelstraClear with a solid technological base on which to create new products and expand its service offerings. These include flexible business offerings, innovative IP telephony offerings, cut price international calling options and the opportunity to provide high level offerings on a trial basis.

Ultimately, according to Crabb, the implementation will help keep the company at the front of the market, where it is already recognized for fastest Internet speeds and high standards in terms of service provision to business customers and consumers alike.

"The Hitachi technology and Revera integration has given us an outstanding hardware platform on which to develop our products going forward," Crabb said. "It provides a very solid storage foundation, so we can dedicate resources that used to be spent on storage toward more strategic goals."

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