

# Providing a healthy network with HP 3PAR Utility Storage

Medibank Health Solutions ensures availability and performance for its healthcare services with HP 3PAR Utility Storage and HP BladeSystem.

“This solution offers us the technology roadmap we require over the next 3 to 5 years, with a relationship we happily endorsed over the past decade.”

Charles Gonzalez, Head of Infrastructure Services, Medibank Health Solutions



## Objective

Provide a flexible, scalable storage solution to meet the performance demands of a rapidly growing business

## Approach

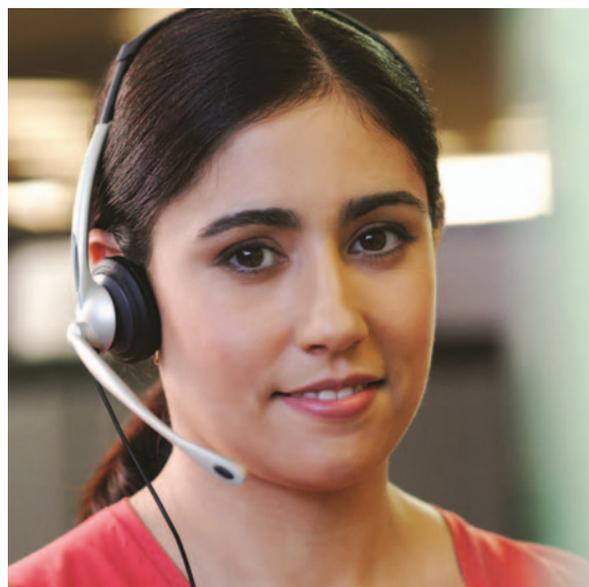
Deploy a robust storage environment and energy-efficient server infrastructure using HP 3PAR Utility Storage, HP BladeSystem with HP ProLiant c-Class Server Blades, HP storage and server management tools, and VMware virtualization software

## IT improvements

- 99.999 percent uptime with highly available storage solution
- Robust end-to-end network performance
- Faster provisioning for better performance
- Reduce allocated storage consumption by 80 percent

## Business benefits

- Provide quicker, more proactive maintenance to support 24x7 services
- Ensure ongoing service for more than 3 million healthcare interactions a year
- Provide reliable service to keep remote workforce productive



## Keeping people up and running

Medibank Health Solutions, formerly McKesson Asia-Pacific, was acquired by Medibank Private, Australia's largest private insurance company, in 2010. As a subsidiary of Medibank Private, it provides 24x7 telephone and Web-based healthcare service solutions and walk-in wellness clinics to government organizations and businesses across Australia and New Zealand. The company's 2,500 employees develop and support programs to help doctors, nurses, and other healthcare professionals assess and direct patients to ensure they make informed healthcare decisions and receive the correct level of care. Medibank Health Solutions handles more than 3 million healthcare interactions a year.

## HP customer case study:

Converged Infrastructure with HP 3PAR Utility Storage, HP BladeSystem, and HP Virtual Connect enables business growth

**Industry:** healthcare



Reliability, Availability, Service



## About Medibank Health Solutions

Australia's **Medibank Health Solutions** offers innovative and cost-effective healthcare solutions on behalf of over 4,000 businesses and government organizations. Its team of 1,500 medical and allied health professionals provides telephone and online support 24x7 across Australia and New Zealand, and it continues to add services at a rapid pace.

## Growing pains

Over the last three years, Medibank Health Solutions experienced significant growth. As other industries faced hardship in tough economic times, the demand for healthcare services—and the programs that support those services—continued to rise. “We grew from 500 employees to 2,500 employees in three years,” says Charles Gonzalez, head of infrastructure services at Medibank Health Solutions.

The company needed those extra employees to support its expanding healthcare solutions, including its core software application, CareEnhance Call Center (CeCC), a clinical-decision support system that provides the base for many of its 24x7 health-advice services. Medibank Health Solutions also developed a cloud-based managed health solution for health service companies that did not want to invest in their own infrastructure. In addition, the company supported a large number of staff who worked from home or other remote locations and needed reliable network access to a number of business productivity and healthcare applications to be productive at their jobs.

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**“The HP Thin Provisioning technology enables Medibank to provision storage efficiently and then back fill the storage with physical disks as required.”**

Paulo Mpliakas, Senior Account Manager, Triforce Australia

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Such sudden growth took its toll on the company's infrastructure, particularly in the network storage area. As a long-time HP customer, Medibank Health Solutions had deployed HP 4400 Enterprise Virtual Array (EVA) for its storage solution. “When we procured the HP EVA4400, it was the right solution for us,” Gonzalez explains. “But our business was growing at such a rapid pace that we quickly met its limitations and started to experience capacity and performance issues.”

To see how it could maximize the performance of its storage solution, Medibank Health Solutions invested in HP Storage Essentials Storage Resource Management Software. “It was clear from the performance metrics that we were getting the best performance we possibly could from the HP EVA4400, and that we needed to look at a next-generation enterprise storage solution,” says Gonzalez.

## Search for a cure

To help find a storage solution that could meet the performance and scalability requirements of its growing business, Medibank Health Solutions worked with HP Premier partner Triforce Australia, whom it had already commissioned to help build a new data center site. The frontrunners for the storage solution were a NetApp FAS6200 series and HP 3PAR Utility Storage.

“Medibank Health had three challenges that it wanted to address,” says Paulo Mpliakas, Senior Account Manager at Triforce Australia. “The first was performance; the second was the ability to deliver new services quickly with little downtime; and the third was the ability to provision storage quickly and effectively to support mixed workloads on the network.”

“We also had a very specific timeframe for moving to the new data center,” adds Gonzalez. “In the end, the NetApp solution required much more time to build. A key reason we chose HP was its ability to meet our time requirements. Timing wasn't everything, however. “Capabilities such as HP 3PAR Thin Provisioning really attracted us,” says Gonzalez.

## A strategy for treatment

Medibank Health worked with Triforce to develop a reference architecture to ensure the new data center could support the company's rapidly expanding healthcare services. It needed a storage infrastructure that could support server virtualization deployments that use VMware, Citrix, and Microsoft® technologies. “After we created the reference architecture for the data center, we linked that back into the storage requirements for the various roles within the IT infrastructure,” says Mpliakas. “When we scoped and designed the storage solution, we ensured that it could provide the performance Medibank needed, and that it was scalable.”

Once the plan was in place, work began. Triforce engineers integrated all of the network and storage components at Triforce's integration center. An HP engineer and Medibank's storage and networking teams pre-provisioned and tested the systems. When everything was ready, they broke everything down and moved it to the new data center site. “We had an aggressive 9 week rollout strategy that we worked out per appliance and per department to migrate to the new data center and minimize downtime,” says Gonzalez. “We essentially operated a hybrid model between the two data centers while we cut over services, so we were able to perform the move with minimal impact to the business.”

## Prescription for a Converged Infrastructure

Medibank Health Solutions replaced its HP EVA4400 storage solution with a high-performance HP 3PAR T400 Storage System. It deployed 8 drive chassis that have capacity for up to 40 disks per chassis and configured its two-tiered arrays with 48 300 GB high-performance Fibre Channel drives for critical applications and 16 2 TB nearline (enterprise SATA) drives. "It was an absolute no-brainer for us to choose the HP 3PAR solution and become one of the first firms in Australia to implement it. It is a proven technology, and we were comfortable with the roadmap," says Gonzalez.

**"We now have the scalability and flexibility that we need as a firm as we grow over the next 3 to 5 years, and we believe the HP 3PAR storage has given that to us."**

Charles Gonzalez, Head of Infrastructure Services, Medibank Health Solutions

To help reduce upfront storage capacity purchases, the company deployed HP 3PAR Thin Provisioning Software. "The HP Thin Provisioning technology enables Medibank to provision storage efficiently and then back fill the storage with physical disks as required," explains Mpliakas. The company was able to reduce allocated storage consumption by 80% with thin provisioning. In addition, it purchased licenses for the HP 3PAR Thin Conversion Software and the HP 3PAR Thin Persistence Software to help ensure that its storage stays thin over time.

The company also deployed the HP 3PAR Dynamic Optimization Software, which gives its storage team the ability to alter volume service levels such as RAID level or drive type with a single command through the CLI. In addition, when the team adds new disks, existing volumes are autonomically striped across existing and new drives to optimize performance.

In addition to HP 3PAR storage, Medibank deployed HP Converged Infrastructure technologies to improve performance and scalability in the new data center. The company deployed HP ProLiant BL460c G7 Server Blades to run its VMware and Citrix servers, and HP ProLiant BL685c G7 Server Blades to support its Microsoft SQL database. The server blades are installed in 5 HP BladeSystem c7000 Enclosures and connected by HP Virtual Connect FlexFabric 10Gb/24-port Modules to ensure performance and throughput are optimized. "With Virtual Connect, we can configure traffic to maximize available bandwidth, so the solution is more resilient overall," says Mpliakas.

## Customer solution at a glance

### Hardware

- HP 3PAR T400 Storage System
- HP BladeSystem c7000 Enclosure
- HP ProLiant BL460c G7 Server Blades
- HP ProLiant BL685c G7 Server Blades
- HP Virtual Connect FlexFabric 10Gb/24-port Modules
- HP 8/40 Power Pack+ 24-ports SAN Switches

### Software

- HP 3PAR Thin Provisioning Software
- HP 3PAR Dynamic Optimization Software
- HP 3PAR Thin Conversion Software
- HP 3PAR Thin Persistence Software
- HP 3PAR Virtual Copy Software
- HP 3PAR System Reporter Software
- HP Storage Essentials Storage Resource Management Software
- HP Insight Control 6.3
- VMware ESX 4.1
- Microsoft SQL Server 2008
- Microsoft Windows® Server 2008 R2 Hyper-V
- Citrix XenDesktop

### Operating systems

- HP 3PAR InForm Operating System
- Microsoft Windows Server 2008 R2 Enterprise

### Network protocols

- 10 Gigabit Ethernet
- 1 Gigabit Ethernet

### Services from HP

- HP Technical Installation Startup Service
- HP Startup 3PAR T-Class 4 Node Service

## Quicker, more proactive maintenance for system health

The HP 3PAR T400 Storage System features a high-speed, full mesh, passive system backplane architecture that joins the 4 controller nodes to form a cache-coherent Mesh-Active cluster, which enables a highly available, high-performance storage system. Medibank can perform proactive maintenance on one controller at a time and ensure consistent network uptime, which the healthcare providers require to deliver services 24x7. "Downtime in our business is not tolerated," says Gonzalez.

"With 4 controllers in the HP 3PAR array, Medibank can upgrade, maintain, manage, and do what needs to be done to each controller one at a time while maintaining three online and still maintaining full cache persistence," says Mpliakas. "What that means is that the people on the other end who are using the database or the call center software or the nurses and doctors working from home don't experience any degradation in service, and that's obviously critical for the business and particularly the people in service delivery."

Medibank Health has also already experienced the benefits of the HP 3PAR InForm Operating System that runs on all HP 3PAR arrays and provides simplified autonomic provisioning and management to help reduce errors in the system. When a critical threshold is reached, the InForm OS triggers an alert that is sent to the CLI, Management Console, and the HP 3PAR service processor, which notifies the HP 3PAR centralized support center. These alerts trigger automated actions and notify the administrator that action has been taken or needs to be scheduled. "This sort of 'phone home' support mechanism that the 3PAR InForm Operating System provides has been called into play a few times," says Mpliokas. "It's a good value-add that the other mid-range or lower-end arrays from other vendors don't have."

Gonzalez adds, "Proactive work is paramount for the types of business that we run, and the HP 3PAR autonomic provisioning and management give us the real ability to be proactive in the event that something occurs on the network."

## Better tools for diagnosis and management

Medibank Health Solutions has found the HP 3PAR storage easier to manage than its previous solution, mainly because it can perform storage management tasks through the unified interface of the HP 3PAR Management Console. "The usability of the all-in-one 3PAR Management Console is key for us," says Gonzalez. "With our previous solution, we needed multiple tools to pull different metrics and to perform different management tasks. As large as our 3PAR array is, it also requires less management overhead, and we expect to see real cost savings over the next 6 to 12 months."

The company also deployed the HP 3PAR System Reporter Software to monitor performance and capacity usage across storage servers. In addition, to reduce capacity associated with frequent disk-based snapshots and create virtual copies for backup requirements that it can mount and use instantly, it deployed the HP 3PAR Virtual Copy Software. "With the Virtual Copy software, the storage team can take a large number of snapshots and have them available to roll back to various degrees as needed," explains Mpliokas. "With some competing products in the market, you have to reserve space for the copies, but not with the HP 3PAR storage."

## Converged Infrastructure solutions promote growth

By deploying an HP Converged Infrastructure solution that includes HP BladeSystem, HP Virtual Connect, and HP 3PAR Utility Storage at its new data center, Medibank Health Solutions was able to upgrade its data center and storage solutions to provide scalable solutions to promote growth with minimal impact to its daily business. While it looks forward to seeing a quick return on its investment in the near future, the real impact is immediate. Gonzalez says, "We now have the scalability and flexibility that we need as a firm as we grow over the next 3 to 5 years, and we believe the HP 3PAR storage has given that to us."

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