WHITEPAPER

INTELLIGENT STORAGE

Infrastructure for the growing data demands of the digital economy

LEXEL

INTELLIGENT STORAGE: Infrastructure for the growing data demands of the digital economy

At the end of March 2020, in the space of a few days New Zealand businesses found themselves having to reconfigure and adapt to, for many, an entirely new way of working. The lockdown brought into effect by the COVID-19 pandemic made working from home essential for every non-essential business that had the means of continuing to operate.

As we write this, the full extent of COVID-19's impact on New Zealand businesses, and the wider economy is still unknown. But moving forward there are a number of things we do know. Businesses are looking to reduce costs where possible, reduce risk and drive revenue through the services and products that they deliver.

For several years we've seen businesses implement digital transformation initiatives. Modernising their IT infrastructure to drive the performance, availability, scalability and agility[1] necessary for market differentiation and to meet the demands of the ever-expanding digital economy. Initiatives that right now are proving instrumental in those businesses endeavours to remain agile in the face of disruption.

In this whitepaper we explore the key considerations for data in today's landscape, and outline how New Zealand businesses can reduce risk and drive revenue by putting the right infrastructure in place. Discussion will explore the requirements for such infrastructure, before focusing on HPE Nimble Storage dHCI, built with HPE ProLiant servers powered by Intel® Xeon® Scalable processor and how it meets those requirements.

Contents

Hewlett Packard Enterprise

intel XEON GOLD inside

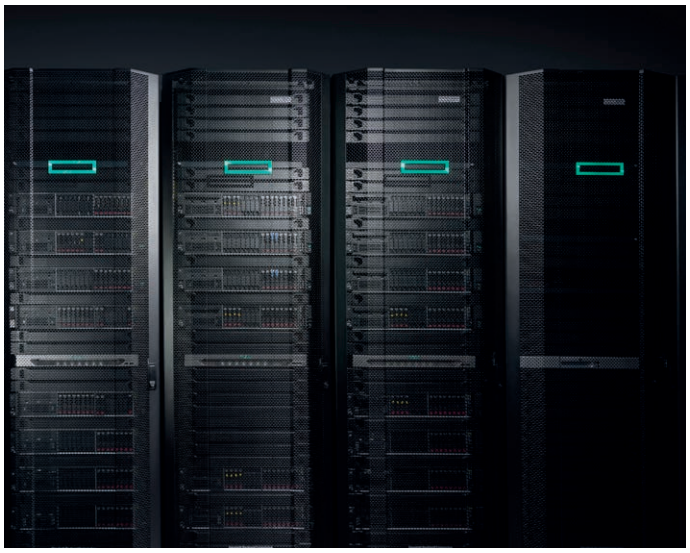
Growing data demands of the digital economy

IT infrastructure has evolved dramatically in recent years, fostering new and dynamic business models, increased complexity across the IT stack, and an explosion of data. As organisations continue to undertake digital transformation initiatives, more data is being collected, analysed and stored than ever before.[1] In 2020, it's projected that there will be around 40 trillion gigabytes of data spread across the world.[2] For some perspective, if someone wanted to download all of that data, it would take approximately 181 million years to complete.[2]

Correctly managing and accommodating for this exponential growth has become a key capability for organisations looking to leverage their most valuable commodity. The key being to garner the necessary agility from their IT infrastructure that helps maintain data availability without compromising the ability to protect it from loss.

Existing infrastructure and legacy workloads present another consideration in the data storage conundrum. How do you best support legacy workloads while trying to integrate and have them work in tandem with new next-generation and cloud-native applications?[1] Different types of workloads garner different requirements from inside the IT stack. To minimise complexity as much as possible, the ability to be agile and flexible is key. The rise of hybrid IT can be strongly attributed to this need. By leveraging both the public and private clouds, alongside on-premises infrastructure, organisations have the necessary platform to house workloads in their ideal location for availability and scalability. But what to do with the legacy systems?

> Intelligent storage can resolve **86% of storage-related problems** automatically.[5]



Supporting legacy workloads requires the right on-premises infrastructure that can also accommodate for streamlined cloud portability functions. Simply moving a siloed workload into another silo would defeat the purpose. It's because of this that we've seen the rise of software-defined storage architectures like HPE Nimble Storage dHCI, built with HPE ProLiant servers powered by Intel® Xeon® Scalable processor. Software-defined storage solutions provide that level of flexibility to accommodate all the different types of workloads, while simultaneously delivering the scalability to handle future demands.[1]

Protection is key

As an organisation's most valuable commodity, the importance of protecting data is not lost on business and IT leaders alike. The growing threat landscape poses numerous risks in the fight to protect data, while evolving and changing compliance regulations are creating new restrictions and requirements for best-practice data storage. And with workloads spread across a multitude of locations, identifying the right architecture and strategy to remain compliant and secure is critical to reducing risk as best as possible.

Security risks

Cybersecurity risks are compounding by the day, becoming increasingly sophisticated and more difficult to thwart. The traditional approach to cybersecurity was to react when an issue occurred and utilise solutions that could detect known threats. However, with the rise of artificial intelligence (AI) and machine learning, the level of sophistication is now so high that unknown threats pose risks to organisations each and every day. To stay ahead, organisations need to also leverage AI and machine learning tools inside their infrastructure to proactively thwart the unknown threats.

In its most recent report detailing the true costs of a data breach, the Ponemon Institute found the average cost of a data breach globally sits at $3.92 million, with the average time taken to identify and contain a breach consuming 279 days.[3] The costs of such a breach don't always take effect immediately, often impacting an organisation years after the fact. The Ponemon Institute found that while an average of 67 percent of breach costs were incurred in the first year, 22 percent came a year after, and 11 percent incurred financial ramifications more than two years after a breach.[3]

Regulatory compliance

The obligations to comply with data retention and privacy regulations are growing by the year. Of course, there are certain industries where these compliance regulations are more rigorous, such as healthcare, finance and banking, but even organisations operating outside of these industries have growing regulatory considerations to contend with.

One crucial aspect for compliance lies in the need for data retention. Across the world organisations are often required to keep certain types of data for a minimum specified amount of time before it can be disposed of. In these instances, the data must remain unaltered, and uncompromised. Examples include the EU's General Data Protection Regulation (GDPR) and Australia's Notifiable Data Breach Scheme, a policy in which New Zealand is currently in the process of developing something similar.

This compounds the need for robust storage infrastructure as it dictates organisations having to maintain a large collection of data for long periods of time that isn't necessarily being utilised to drive business growth. Private cloud and on-premises infrastructure give organisations the ability to handle these requirements, providing the infrastructure and integration necessary to both handle the day-to-day operations of the organisation and house workloads in their ideal location, while also enabling the right access control and data lifecycle management capabilities to move archived data between locations if called upon.

> Intelligent storage can reduce **cloud storage and transfer costs by 20X**.[5]

Make management simple

There are only so many hours in a day, and therefore only so many tasks that an IT administrator can action. But with budget constraints a constant challenge for organisations, it's incredibly difficult for IT teams to maintain a strong foothold across their increasingly complex environments. As business grows, data grows. And as data grows, day-to-day operations grow with it. IT teams are in a constant struggle to do more with less, and as a result they're looking to solutions that can garner ease of use and simplified management to streamline particular tasks that in turn can create windows of time for administrators to focus on innovation initiatives that drive revenue growth.

Software-defined infrastructure gives administrators and organisations this ease of use. Self-managing capabilities found in software-defined architecture delivers a high level of agility for managing large collections of workloads with differing requirements. Intelligent storage platforms that house AI and machine learning can also be leveraged to automate certain tasks, as well as inform administrators of better management methods and protocols that can save time and streamline operations across increasingly complex hybrid environments.[1]

> Intelligent storage can **reduce storage infrastructure costs** up to 30%.[5]

Hybrid environments pose a number of challenges for managing workloads to meet performance and availability targets. Consideration needs to be given to provisioning, data mobility across locations, scaling, meeting service level agreements (SLAs) and data protection. With the implementation of the right infrastructure, such as HPE Nimble Storage dHCI, built with HPE ProLiant servers powered by Intel® Xeon® Scalable processor for example, organisations can leverage policy-based management tools to greatly simplify all of the aforementioned considerations. And through simplifying data management across the organisation, operational costs are reduced while also fostering more time for innovation and new revenue streams.

Intelligent storage drives insights

As we highlighted earlier, data is growing at an exponential rate. Organisations are storing data at an unprecedented rate, and in many instances, they have more data than they know what to do with. The declaration that it's your most valuable commodity can not be understated, but the difference between market-leading organisations and those hovering in the middle of the pack lies in their ability to analyse and generate tangible insights that deliver new services and revenue streams.

This is where intelligent storage really comes into its own. With the right infrastructure organisations can leverage AI and machine learning to minimise disruption, unlock hidden data insights in minutes, and greatly reduce the complexity of hybrid environments. Think of it as an invisible team of analysts that continuously build on what they've learnt previously to generate better outcomes for the organisation.

With built-in context-aware intelligence and cloud-based data management tools from HPE, the right intelligent storage platform can deliver:[4]

- Streamlined, large-scale management of virtual workloads for cloud administrators.
- Data insight in minutes.
- Streamlined infrastructure management.
- 99.9999% guaranteed availability to reduce risk and maintain productivity.
- Up to 30% reduction in costs through elimination of over-provisioning and cost-alignment with business-critical needs.

With AI and machine learning at its core, intelligent storage is the infrastructure designed to meet the growing data demands of the digital economy.

HPE Nimble Storage dHCI

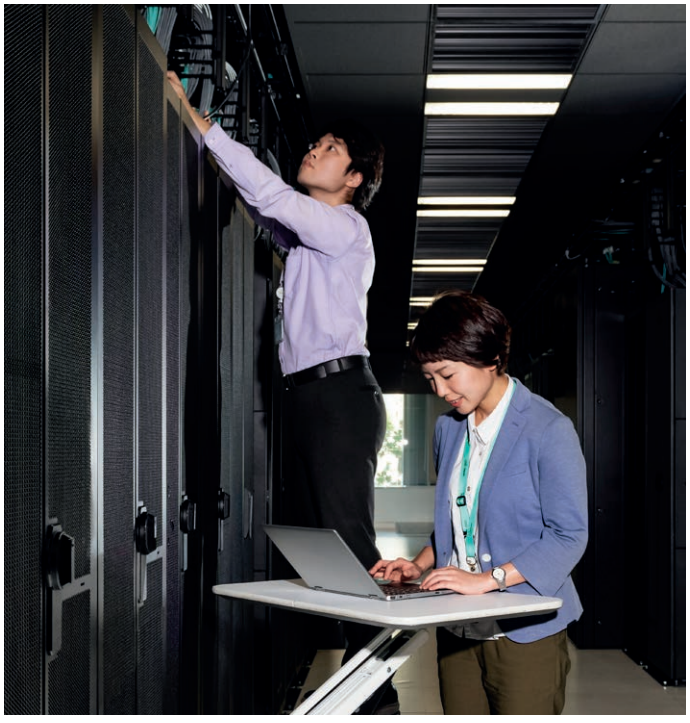
HPE Nimble Storage dHCI takes the form of Hewlett Packard Enterprise's new disaggregated hyperconverged infrastructure (HCI) platform, built with HPE ProLiant servers powered by Intel® Xeon® Scalable processor, and HPE Nimble Storage arrays. It allows organisations to disaggregate and scale compute and storage independently of one another, delivering high levels of flexibility perfect for the unpredictable nature of the digital economy. The platform offers a plethora of benefits for organisations looking to leverage the right infrastructure on-premises to complement their hybrid cloud strategy and efficiently address their growing data demands.

Integrated with HPE InfoSight which is HPE's cloud-based predictive analytics platform, organisations can leverage extensive monitoring and analytics through AI and machine learning tools for ease of management across the environment, delivering higher levels of customer serviceability.[12] This pre-emptive nature also allows organisations to predictively identify problems before they become major issues, and diagnose the resolution process. VMware vCenter integration alongside the overall design in alignment with HPE InfoSight makes ease of management a key feature of this platform.

> Intelligent storage can **reduce storage operational expenses** by 79%.[5]

With data services that include thin provisioning, triple-parity RAID, snapshots and inline data reduction to name a few, the platform delivers 99.9999% availability,[1] enabling optimal levels of productivity to meet SLAs and avoid downtime. The platform delivers up to 21x data reduction capabilities as well, enabling organisations to get the absolute most out of their available storage capacity. While the scalability of the platform means it's simple to increase or decrease capacity in line with demand.

Hybrid cloud integration means data mobility between locations is simple, and migrating virtualised legacy workloads can be automated through the platform. The key characteristics of the platform allow organisations to house more business-critical workloads on agile, resilient and flexible infrastructure that delivers high levels of automation and meaning the platform is simpler to manage than traditional storage systems.[1]



Lexel is your partner on the journey to intelligent storage

Every organisation across New Zealand has differing and unique infrastructure and workload requirements. At Lexel, we're committed to helping you select and implement the best storage solutions for your organisation to create a truly integrated hybrid IT environment.

By leveraging the right infrastructure, we can help you:

- Achieve seamless integration between on-premises infrastructure, private and public clouds.
- Automate time-consuming storage infrastructure tasks.
- Mitigate risk with enhanced data protection.
- Drive revenue with agile, scalable storage infrastructure.
- Reduce costs with data reduction capabilities to maximise storage capacity.
- Drive innovation through tangible insights.

Our team of infrastructure professionals have the expertise and experience to help you build the ideal on-premises infrastructure to compliment your position in the cloud. Through our partnerships with Hewlett Packard Enterprise (HPE) and Intel®, we deliver the perfect blend of hardware, platform, and services to help you eliminate the silos and leverage the most from your data, minimise risk, and drive revenue.

Our team will help you remove the need to manage disparate workloads across individual silos and deliver an integrated platform for better performance and protection, at the right price.

With Lexel, HPE and Intel® as your intelligent storage partners, we can work with you to create a solution that meets your needs for agility and flexibility today, and the scalable and secure performance you need to tackle the growing data demands of the digital economy in the future.

Get in touch with us today and take the first step on your journey to intelligent storage.

Hewlett Packard Enterprise

intel XEON GOLD inside

Contact us

Head Office
72 Paul Matthews Road, Albany
Auckland 0632, New Zealand

Tel: +64 9 414 1777

lexel.co.nz

References

1. IDC, Whitepaper, HPE introduces a New Disaggregated HCI Architecture with HPE Nimble Storage dHCI, Sponsored by HPE, Eric Burgener, October 2019

2. Big Data Statistics 2020, techjury, Christo Petrov, March 22, 2019 - https://techjury.net/stats-about/big-data-statistics/#gref

3. Cost of a Data Breach Report 2019, Ponemon Institute, 2019

4. How to build an intelligent data strategy, Buyer's guide, © Copyright 2019 Hewlett Packard Enterprise Development LP. a00074732ENW, July 2019

5. Intelligent Data Platform – Harness the transformative power of data across hybrid computing environments

LEXEL™

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. Thirty years in the IT business, Lexel is a known and trusted partner.

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

Hewlett Packard Enterprise

intel XEON GOLD inside™