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Accelerating digital innovation: The business value of building cloud-native apps on a hyper-converged platform

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IN AN ERA OF ON-DEMAND CONNECTIVITY AND DECENTRALISED WORKING, organisations are quickly realising that apps not only hold the key to engaging customers but also optimising internal processes.

However, complexity in the form of legacy software, app governance, data management and lack of integration between the private and public cloud, are slowing the time-to-market of new apps and key updates. This prevents organisations from being able to keep up with the rapidly changing needs of consumers.

One of the underlying causes of this increase in complexity is that there has been an explosion in apps used throughout the workplace. According to the IDC[1], there will be 750 million applications launched by 2026, meaning that workplaces are cluttered with siloed and segmented digital tools that serve to reduce productivity and raise operating costs.

50%

of data will be generated at the network's edge in just three years.

With most departments in an organisation now using an average of 40-60 applications[2], enterprises today generate more data than ever before, and all of it needs to be analysed in order to generate maximum value.

Unfortunately, few organisations have the visibility necessary to implement app governance to process the data they generate. This creates a wedge between IT teams who want to minimise complexity in the environment and business teams who want to continuously deliver high-value apps that optimise customer engagement and retention.

Part of the problem is the inflexibility of legacy technology and the difficulty of moving apps and workloads between the public and private cloud.

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The lack of cloud flexibility is a significant barrier to innovation. Businesses need the freedom and flexibility to choose how to deliver their apps as they scale, switching between on-premises infrastructure and public or private cloud to reduce costs or boost performance. It's the only way to ensure efficient and friction-free delivery of virtualised and cloud-native apps at speed.

750 million

applications launched by 2026

Hyperconverged infrastructure (HCI) provides a direct solution to these challenges by combining servers and storage into a single distributed platform so that businesses can build cloud-native apps without the need to manage separate storage networks and servers.

In summary, this approach enables businesses to:

- **Increase freedom and flexibility**
- **Deliver data-driven innovation**
- **Empower and unite workforces**

Freedom and flexibility

Deploying HCI that's purpose-built for hybrid cloud environments can streamline the app development process and enhance operational simplicity. When considering that approximately 80% of total IT spend is devoted to operational expenses, unifying and simplifying app management into one hyperconverged solution can reduce this burden so that developers can focus on creating higher-quality apps.

Modern enterprises require infrastructure that's purpose-built for the cloud with automation and self-service usability. Automation is integral to lean innovation because it enables IT teams to scale to meet changing demands rapidly, whether there's a surge in orders or a global pandemic so that organisations can control costs effectively.

Automation is such an effective factor in digital flexibility that by 2024, enterprises will lower operational costs by 30%[3] by combining hyperautomation technologies with redesigned operational processes.

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At the same time, HCI enhances app governance by providing application performance monitoring, so businesses can plug security gaps, monitor compliance status, and decrease the risk of downtime.

Moreover, HCI solutions are vendor agnostic (except those that are appliance-based), which means you can seamlessly move applications and workloads across any vendor's hardware or cloud environment. This provides an agile foundation for supporting hybrid and remote working opportunities.

Above all, increased flexibility serves to simplify the app cycle, enabling IT teams to move apps between public and private clouds without wasting time on retooling or rearchitecting. This process can be optimised even further by using AI or ML and other cloud services to integrate apps more efficiently.

HCI also lays the foundation for embracing edge computing by enabling organisations to place apps wherever it makes sense, whether on-premises, public cloud, hybrid cloud or at the edge of the network.

This enables IT teams to update or replace outdated legacy applications, freeing businesses from the added running costs.

Furthermore, hardware component-level commonality is also important when considering the application and operating system portability. Having common Intel Xeon Scalable processors between on-premises and public cloud infrastructures eliminates the need to refactor.

The Nutanix Intel technology mix enables existing applications to migrate to the cloud without any code changes and enables the next generation of application development to be built.

In summary, the five key business outcomes from using HCI are:

- **Lower operating costs** - Due in part to a leaner IT team and more efficient use of resources.
- **Faster transformation** - Shorten the time to innovation and get products to market.
- **Less risk and unplanned downtime** - Benefit from greater app resilience

and more effective governance with 85% less unplanned downtime.

- **Stronger return on investment** - Generate more revenue from being more cost-efficient – up to 477% ROI in 5 years.

- **Greater operational agility** - Decrease operation costs by 62% and benefit from faster, more seamless mobility.

Data-driven innovation

Data is the new currency for innovation, but it's getting tougher to analyse and extract full value from it. The amount of data organisations generate is growing 20-30% annually - making it costly to store. Meanwhile, 80% of this newly created data is classified as unstructured, which makes it difficult to derive insights from.

Likewise, much of this data is fragmented, generated not just on-premises, but also in the cloud, and at the edge of the network, with researchers anticipating that in just three years, 50% of data will be generated at the network's edge.

This is a problem, particularly when considering that in three years, off-storage management will be done by non-experts, including data owners or generalists, who will have to try to make sense of what this data means.

As the data enterprises generate becomes more complex and decentralised, data storage and processing requirements will increase. This means IT teams will need to invest in more sophisticated infrastructure to process it, which will consume more time and money.

Therefore, enterprises will need to innovate to leverage this data more effectively and to discover more efficient ways to deliver high-quality apps to customers. HCI supports this by offering organisations unified data management capabilities so they have greater control and visibility over structured and unstructured data so they can understand what it means and generate insights faster.

Faster access to insights empowers your organisation to move with greater speed and agility so you can keep up with changing consumer expectations,

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while built-in tools and automation serve to protect your data from ransomware attacks and other cybersecurity threats.

Today, organisations like the National Aeronautics and Space Administration (NASA) and the United Network for Organ Sharing (UNOS) use Nutanix HCI to process monumental data sets ranging from earth science data to the organ donation waiting list.

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NASA uses HCI as part of its Earth Science Data Systems (ESDS) Program to distribute earth science data collected from NASA research, missions, and initiatives to members of the public on-demand, while UNOS uses Nutanix HCI to process more data so it can connect patients with donated organs much faster.

In summary, the key business outcomes of deploying HCI are:

- **Better, more personalised customer experiences**
- **New revenue streams and monetisation models**
- **Faster access to insights and time to innovation** - with DBAs cutting database provisioning time by 90%. With Nutanix, TELUS Spark released new services in 4-6 hours rather than 2-4 days
- **Reduced costs due to increased efficiency and uptime** - RBL Bank cut database storage by 90TB
- **Higher data security and less risk**
- **Rapid app scaling**

Modern application platform

Building modern applications requires a platform that is flexible and secure.

Businesses need to leverage technology like Kubernetes, which allows IT

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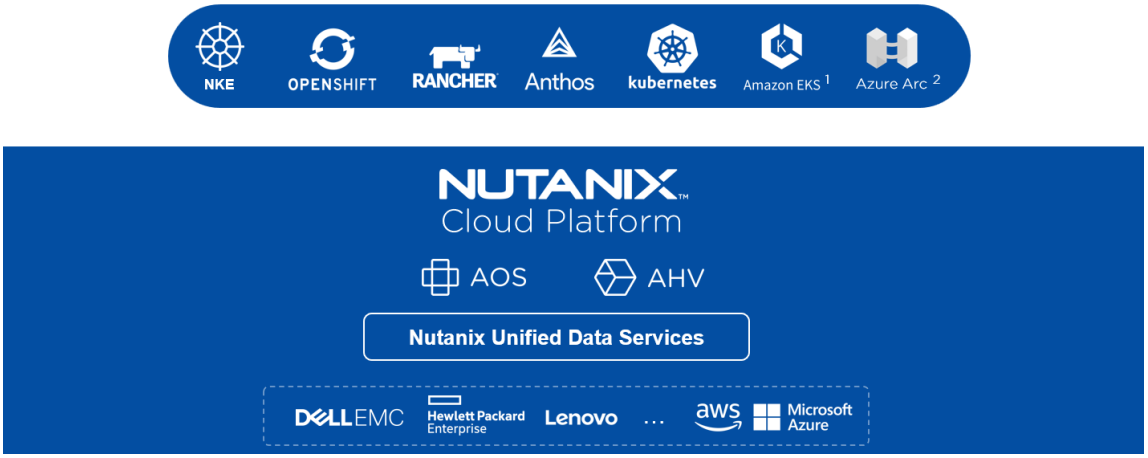
One Platform for ANY Kubernetes Solution



teams to automate the configuring, deploying, and scaling of microservice-based applications that are implemented using containers.

The technology allows businesses to be more flexible, for example in being able to cope with demand spikes.

But Kubernetes isn't always simple to leverage. It requires rapid scaling and resilience. It also requires a different approach to storage. Multicloud only adds to this complexity.

In general terms, businesses building modern applications can be undermined by overwhelming technology choices and a lack of certified, interoperable solutions to unify application and infrastructure operations.

However, HCI delivered from Nutanix and Red Hat OpenShift answers these challenges.

The platform unlocks the following benefits:

- **Flexibility to choose yet simple to operate.**
- **Bring Kubernetes online in minutes,** via cluster API automation leveraging Nutanix AHV and integrated persistent storage.

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- **Automate infrastructure deployment** through advanced automation.
- **Manage databases at scale with NDB automated provisioning,** patching and orchestration.
- **Abstract away infrastructure dependence,** regardless of location on-prem or in the cloud removing risk and saving money through streamlined operations.
- **Cloud-like user experience.**
- **Built-in native Kubernetes support available** as well as other container platforms like SUSE Rancher, AWS EKS-A, and Red Hat OpenShift.
- **Support services also available** for Azure Arc-enabled Kubernetes.

Organisations' ability to innovate will be determined by their teams' ability to analyse market and customer behaviour to create relevant and personalised app-driven experiences. HCI delivered from Nutanix and Red Hat OpenShift supercharges this process so customers can turn an idea into business value in a matter of minutes.

Whether modernising existing applications, developing new cloud-native applications using data analytics and artificial intelligence and machine learning (AI/ML), or integrating software from independent software vendors (ISVs), Red Hat OpenShift provides the consistency and flexibility to choose the applications that make the most sense for the business.

Nutanix and Intel

If you want to find out more about how HCI can help enhance your business, get in touch with a Nutanix specialist to discuss your hybrid cloud strategy and how you can benefit from a hyperconverged infrastructure. ◆

Find out more on the Nutanix website.

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