Servium

8 REASONS
THE FUTURE OF HCI IS DISAGGREGATED

Opinion White Paper

As much as recent global events have presented businesses with unforeseen challenges, they have also opened up opportunities for radical change. At the mercy of tighter budgets but determined to deliver digital transformation, many organisations are beginning to get more creative in how they approach their IT. However, it's not only the emerging shift to remote working that's being taken into consideration. Improvements to datacentre infrastructure are also coming to the forefront as businesses pursue their digital agendas and seek the benefits of simpler management and greater efficiencies to help assist their recovery and simultaneously reimagine how they do business.

Importantly, the digital world is evermore becoming a hybrid one, with cloud now a core staple of many infrastructures. As business-critical applications and datasets continue to grow and diversify, it's important to know they're being hosted in the environment that's right for them. The resulting surge in cloud uptake has led many to seek software-defined solutions for their on-premises infrastructure in order to achieve a cloud-like experience at home, while also simplifying cloud-to-cloud mobility.

Offering speed, simplicity, and the promise of software-defined, hyperconverged infrastructure (HCI) is often the go-to solution for businesses seeking improved scalability and agility. According to Gartner's Magic Quadrant for Hyperconverged Infrastructure, 70% of enterprises will be running some form of HCI by 2023, compared to less than 30% in 2019. This climb is unsurprising, given the impressive automation, ease of management, and cost savings HCI makes possible – in many ways it seems like the ideal solution. Naturally, HCI has been lauded as THE answer to building hybrid cloud infrastructure. However, in spite of the hyperbole, it isn't always the best choice.

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WHAT YOU DON'T KNOW ABOUT HCI

As a platform for growth, the most attractive attribute to IT teams is also its biggest flaw – it doesn't scale efficiently. Made up of rigid building blocks that offer the same amount of storage and compute within each array, it's not possible to scale resources separately. Instead, you're locked into scaling both simultaneously regardless of whether you need them. Moreover, HCI doesn't perform well when faced with the demanding apps and heavy datasets many businesses rely on, such as ERP platforms, business intelligence, and even some CRM systems. So, while HCI might be a great choice for predictable workloads that scale linearly, it's not ready to support the unpredictable growth of business-critical workloads.

These inefficiencies mean HCI actually leads to very poor utilisation of infrastructure. In fact, around 70% of the technology is utilised on provisioning critical functions like resiliency. Unfortunately, this issue doesn't become evident until you've already purchased the solution, by which point it's too late. And it's not only the infrastructure's inefficiencies that make it a costly investment – typically purchasing traditional HCI requires having to buy everything new. That means all-new hyperconverged arrays and important software licensing where critical components such as your hypervisor cannot be repurposed and need to be replaced. Suffice to say, HCI is not all it's cracked up to be.

But efficiency doesn't need to be sacrificed for the sake of simplicity. Instead, a new kind of solution is making it possible to enjoy the best of both worlds.

WHY HCI DOESN'T LIVE UP TO THE HYPE

- Scales inefficiently
- Not built for unpredictable growth
- Poor utilisation of infrastructure
- Requires rip and replace

Introducing disaggregated HCI

A term coined by IDC in 2019, disaggregated hyperconverged infrastructure (dHCI) is a system that allows compute and storage resources to be scaled independently of one another. This means organisations gain the flexibility of supporting unpredictable and business-critical workloads while maintaining all the ease and simplicity of a hyperconverged solution. dHCI offers businesses the chance to begin taking their first steps towards "hyperconvergence 2.0", the next generation of HCI solutions, helping them focus less on managing their infrastructure and more on accelerating their business.

IF YOU'RE CURRENTLY CONSIDERING HCI, BEFORE YOU PRESS ON THERE ARE 8 REASONS YOU SHOULD PAUSE AND LOOK AT NIMBLE dHCI:

1. Intelligently simple
2. Absolutely resilient
3. Efficiently scalable
4. Reduced TCO
5. Predictive analytics
6. No forklift upgrades
7. No isolated storage
8. Primed for cloud

HPE NIMBLE STORAGE dHCI TRANSCENDS TRADITIONAL HCI

HPE has helped pioneer dHCI with their Nimble Storage family of solutions. dHCI disaggregates compute and storage and integrates hyperconverged control to give customers an incredibly simple experience on a flexible architecture. Built on the world's best-selling ProLiant server and integrated with the industry's most advanced artificial intelligence (AI) for infrastructure, Nimble Storage dHCI takes hyperconvergence to a whole new level.

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1 – THE ULTIMATE IN SIMPLICITY

Nimble dHCI is simpler to operate than most traditional HCI solutions. Thanks to important integration with VMware vCenter, centralised management ensures the deployment and configuration of nodes is quick and easy. In fact, HPE claims it's possible to go from rack to apps in only 15 minutes, which could result in impressive time savings of up to 96% versus other HCI solutions.

2 – AWE-INSPIRING RESILIENCY

Offering 99.9999% availability guaranteed, Nimble dHCI is all-flash and always-on. Unlike HCI, it has no single point of failure, and has been designed to withstand triple data loss with no outage. This robust built-in data protection promises resiliency that's ready for anything, including your business-critical apps. And at 200 microsecond latency, performance is not traded away for resilience.

From rack to apps in only
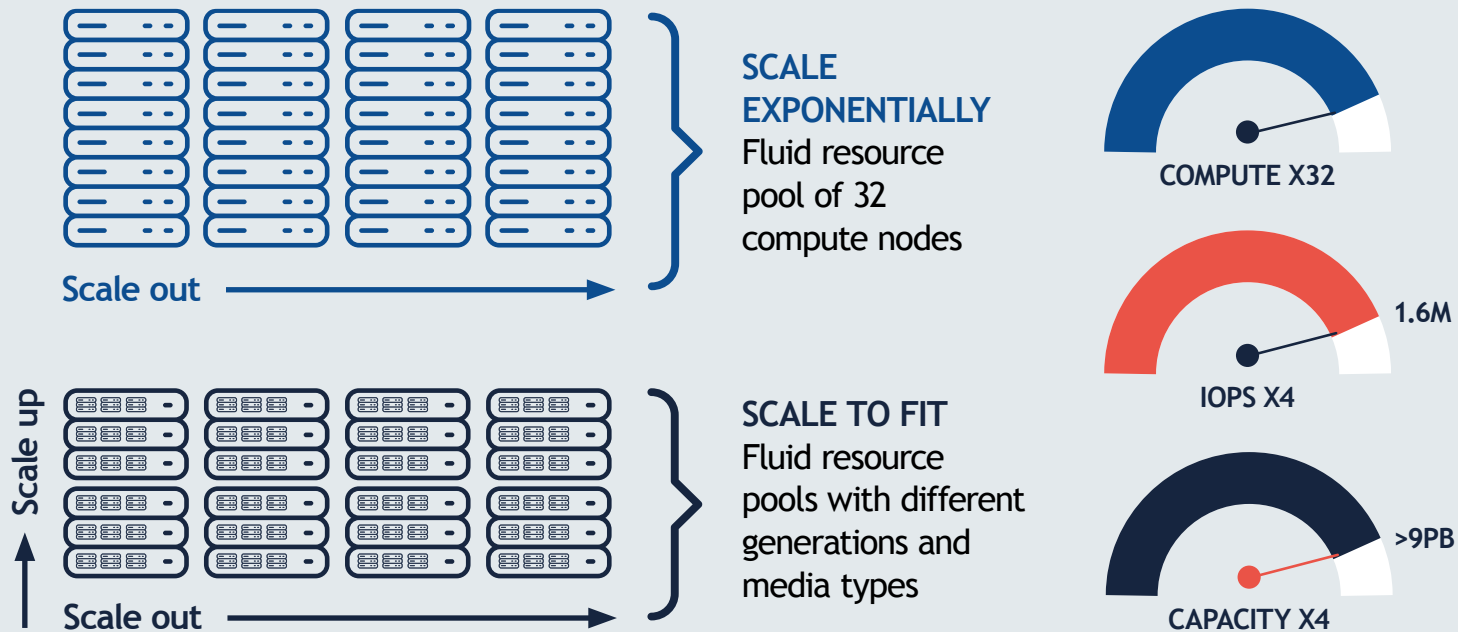
15

minutes

99.9999%

availability guaranteed

3 - EFFORTLESS SCALABILITY

Because Nimble dHCI scales more efficiently than traditional HCI, it means there's no need to overprovision your resources. Storage and compute can be scaled independently, so you're not tied into the expense of purchasing both together. You can scale performance by adding more SSDs whenever you need them or by live swapping controllers, and increase capacity without any disruption whatsoever.

Scale out

SCALE EXPONENTIALLY
Fluid resource pool of 32 compute nodes

Scale up

Scale out

SCALE TO FIT
Fluid resource pools with different generations and media types

COMPUTE X32

1.6M

IOPS X4

>9PB

CAPACITY X4

4 – ASTOUNDING COST SAVINGS

The seamless scalability made possible by Nimble dHCI means it's more economical than traditional HCI too. It requires fewer rack units and licences to achieve the same amount of TB capacity, leading to an impressive reduction in total cost of ownership (TCO) as well as a smaller datacentre footprint.

5 – UNRIVALLED GLOBAL INTELLIGENCE

Integrated with InfoSight, HPE's AI-based intelligence platform, Nimble dHCI harnesses machine learning to provide exceptional automation and predictive analytics. InfoSight cross-validates data across the infrastructure stack to identify, diagnose, and remediate issues, assist with capacity planning, offer suggestions to help optimise performance, and much more. And because of the triaging InfoSight makes possible, whenever you need support you'll go straight through to a third-line HPE expert.

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6 – INSTANT LIFECYCLE UPDATES

Whenever new software becomes available, Nimble dHCI makes it possible to upgrade your infrastructure stack with a single click. Some updates can even be automated so your team spends even less time keeping the lights on. The best part is it's all done via vCenter, so you don't have to keep switching between management interfaces.

7 – NO ISOLATED STORAGE

A large issue HCI presents is that regardless of whether you have lots of free storage available in your environment, there's no way of offering this to any external servers. With Nimble dHCI, you can provision for other servers to your heart's content. Impressive data compression and deduplication functionality also offers an average data reduction of 5:1, helping you get the most out of your available storage capacity.

8 – BUILT FOR CLOUD

Nimble dHCI is a self-managed, self-healing private cloud. It automates the deployment of resources and dynamically allocates these to support the virtual machine (VM) as the workload demands. Purpose-built to run both VMs and container-based workloads, it offers developers exactly the same management experience across all clouds. What's more, its Container Storage Interface (CSI) helps you keep tabs on your containers within orchestration platforms such as Kubernetes. For those making the move to hybrid cloud, data mobility between clouds is made easy thanks to integration with HPE Cloud Volumes and hyperscalers such as AWS.

NIMBLE STORAGE VERSUS NIMBLE dHCI: WHAT'S THE DIFFERENCE?

While Nimble dHCI is based on Nimble Storage arrays and shares many similarities with the storage-only solution, there are a few key differences between them. Importantly, Nimble Storage is not a HCI platform. It's traditional block storage, whereas dHCI is a preintegrated and predefined hyperconverged environment that enables compute and storage to be scaled independently. Nimble dHCI also offers a lot more automation and intelligence than Nimble Storage alone, particularly with regards to InfoSight. Where InfoSight is built into Nimble dHCI and can be managed under a single pane of glass, elsewhere Nimble Storage and InfoSight are two separately managed entities. Impressively, customers can replicate data between Nimble Storage and Nimble dHCI, enabling you to enjoy converged backup and recovery alongside HCI.

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NIMBLE dHCI IS A WIN-WIN FOR PROLIANT USERS

HPE Nimble dHCI leverages Gen 9 and Gen 10 ProLiant servers, which is fantastic news for existing ProLiant customers using these machines. It means that instead of buying everything new as you would need to for a HCI solution, you can simply repurpose your existing investments. In fact, making the switch is so easy, all it requires is the transformation of your existing servers into an integrated dHCI stack. The only thing you have to purchase is the storage array itself.

One of the most compelling benefits of the switchover is integration with InfoSight. 86% of the issues you typically triage are auto-resolved, it helps reduce ongoing storage expenses by as much as 79%, and you benefit from aggregated insight collected from thousands of devices across the globe to tune performance. You gain enhanced AI-Ops Nimble support on top of this, and when you do need to call you'll be straight into a HPE expert who can fix your issue.

86%
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Up to
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WHY UPGRADE TO NIMBLE dHCI?

- Potential to reuse some existing tech
- Highly cost-effective
- Gain InfoSight intelligence
- Enhanced AI-Ops support

TAKE YOUR FIRST STEP TOWARDS HYPERCONVERGED 2.0

dHCI has been designed to overcome the imperfections of traditional HCI. Whether you're a ProLiant user or not, Nimble dHCI offers exciting opportunities to improve performance, scale resources, and create efficiencies. It helps your business put an end to fire-fighting thanks to the world's first datacentre AI, seeing you benefit from unrivalled data resiliency and a genuinely optimised environment with zero wasted resources. Disaggregated HCI is unquestionably the future of hyperconverged.
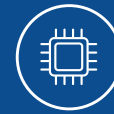
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If you're just starting out on your journey to hyperconverged, we can help you better understand how Nimble dHCI could work for your business by running a HPE Assessment Foundry for an in-depth analysis of your current estate.

Alternatively, if you're an existing ProLiant customer, it's easy to find out if your servers would be a good fit for dHCI using our free Host Validator tool.

Book an assessment of your environment today by contacting your Account Manager, emailing us at hello@servium.com, or speaking to one of the team on +44 (0)303 334 3000.

SERVIUM AND HPE

We've been partners with Hewlett Packard Enterprise for over a decade, a relationship that has seen us gain the highest possible accreditations across their entire portfolio of products and solutions. Complemented by the expertise and resources available through our Services Ecosystem, we've delivered both HCI and dHCI solutions to a wide variety of different environments, so are ideally placed to assist your transition. We also have first-hand experience using HPE InfoSight within our own environment and know exactly how to derive the best possible value from your data.

WE'RE READY WHEN YOU ARE

Get in touch at **www.servium.com/contact**
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