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It's Time to Walk Away from SANs and Adopt HCI

NUTANIX



Eight Reasons Why HCI is Better for Business-Critical Apps and Databases

Industry analysts predict over **750 million new applications will exist by 2026, more than the combined number developed over the past 40 years.** IT teams today are looking for ways to deliver these new applications and services with the speed and operational efficiency of public cloud services like AWS, Microsoft Azure, and Google Cloud Platform (GCP).

In the past, traditional IT infrastructure—with separate storage, storage networks, and servers—did the job of helping IT teams accomplish mission-critical objectives. Unfortunately, legacy infrastructures cannot accommodate the demands of many modern enterprise applications and the accelerated pace of business.

The silos created by traditional infrastructure add complexity to every step, from deployment to management, making it difficult to respond quickly to constantly shifting business priorities. There's an urgent need for a more dynamic and scalable infrastructure that enables IT professionals to work smarter, not harder.

For more than a decade, hyperconverged infrastructure (HCI) has simplified datacenter operations and enabled faster scaling at a lower cost compared to traditional infrastructure. Industry analysts, Gartner, IDC and others, have observed that HCI has become the preferred solution for enterprise workload and database deployments as well as business analytics and intelligence. With HCI, businesses can simplify deployment at the edge when replacing direct-attached storage servers and provide more efficient infrastructure to run business-critical apps.

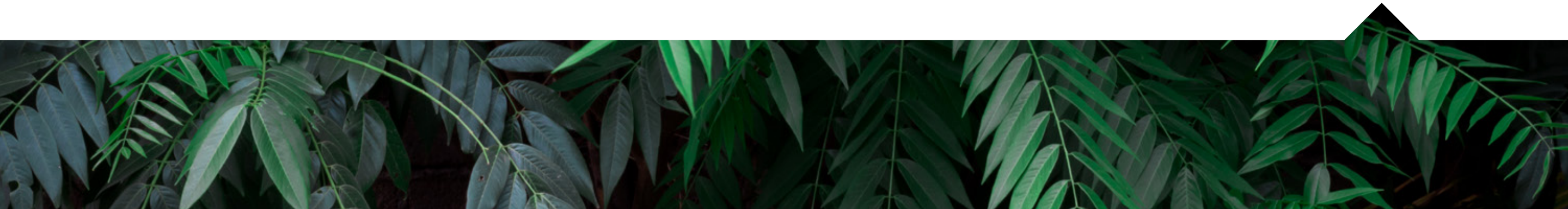
Workloads driving HCI edge deployments include IoT, business, security, and business analytics and intelligence applications. An ideal HCI solution enables businesses to operate their datacenters as private clouds while seamlessly integrating private and public clouds into a unified hybrid multicloud.

Consider the following eight important reasons why businesses large and small are replacing their aging SAN infrastructure.

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01. One-Click Operational Simplicity

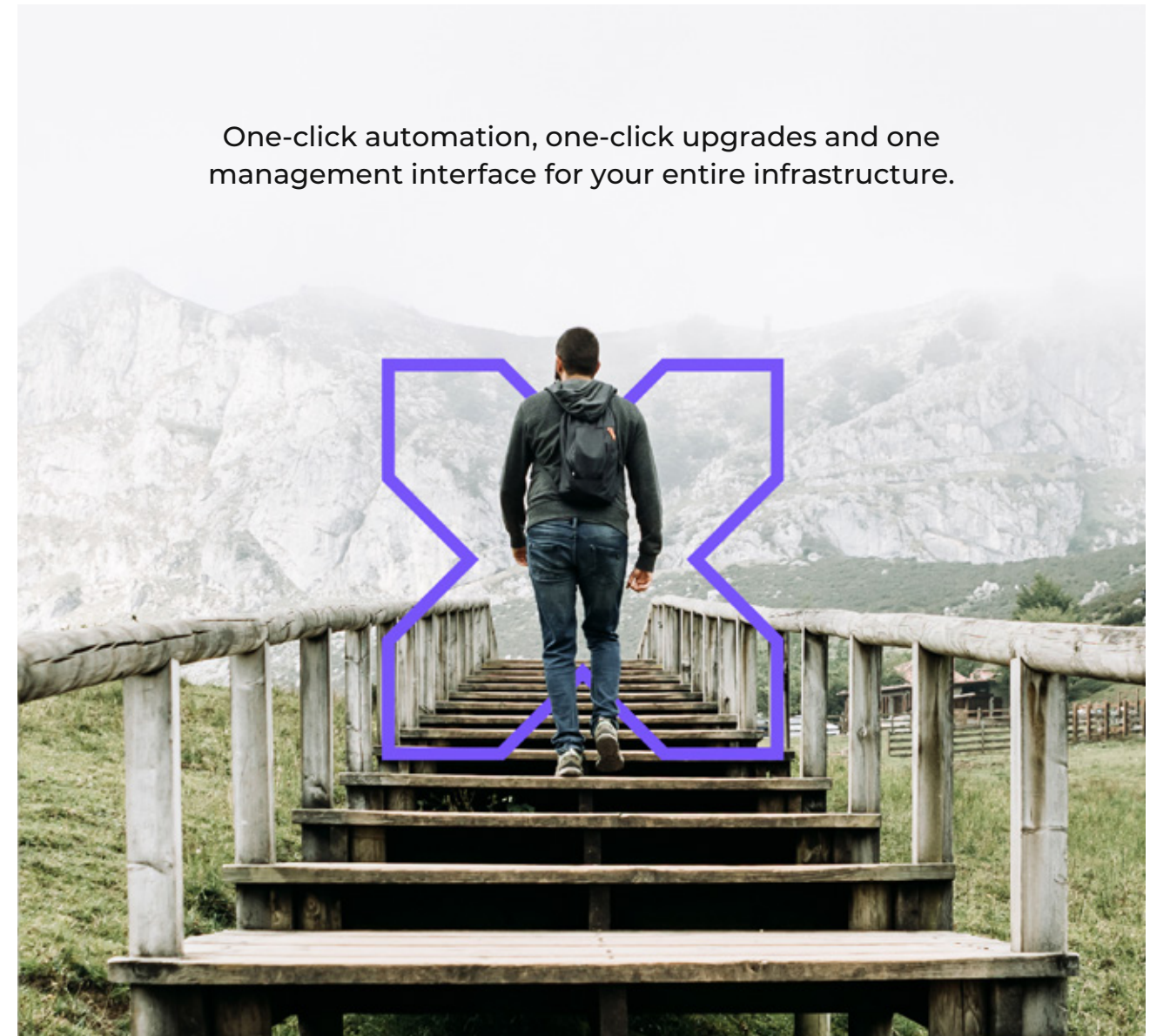
Traditional infrastructure is composed of multiple layers, each with its own dedicated user interface (UI). These UIs each have a learning curve, which necessitates dedicated specialists for each area. Therefore, many common tasks require extensive collaboration and orchestration across teams, which can slow down initiatives and make it harder to promptly deliver new apps.

HCI integrates these disparate layers into a single infrastructure platform and user management interface. This enables IT generalists to complete tasks without waiting for specialists or filing tickets. Advanced HCI leverages built-in intelligence to automate deployments at multiple geographically distributed locations simultaneously. It also automates IT upgrades from firmware up through the HCI and hypervisor software layers with integrated lifecycle management.

Immediate benefits include AI-driven machine learning capabilities, such as automatic capacity forecasting, proactive virtual machine (VM) right-sizing, and automation geared for specific apps without the need for complex setup or integration.

This means you have one-click automation, one-click upgrades, and a single interface to manage your entire HCI. This dramatically reduces the time and effort needed to deploy and manage your entire infrastructure, enabling IT organizations to refocus their efforts on critical, high-impact business initiatives.

The result is dramatically reduced time and effort needed for deploying and maintaining infrastructure, enabling IT teams to focus on needle-moving initiatives.



02. Superior TCO and Scalability

One of the most challenging and expensive aspects of designing and implementing traditional infrastructure is the uncertainty of planning how many resources will be needed over the lifecycle of the solution. Some organizations overprovision to ensure that resources are available should they be needed, which leads to overspending and cost inefficiencies.

Many HCIs utilize recommendation engines to help eliminate guesswork for the best workload configurations. For exceptional scalability, organizations can simply add what they need, when they need it, by purchasing additional resources in precise increments. This is often referred to as a pay-as-you-go model.

Compute and storage can also be scaled in different ratios or can be scaled independently when requirements for one type of resource grow faster than others. HCI also scales performance and capacity linearly and predictably due to a core architecture that automatically redistributes data as new nodes are added.

This delivers improved cost efficiency, allowing IT teams to optimize the placement of their investments. In short, HCI brings the flexibility and scale of the cloud to your on-premises storage infrastructure, allowing you to scale non-disruptively and pay as you grow with just a few clicks.

Simply add what you need when you need it.




03. Performance Optimization

Consistent and predictable performance is key to support business-critical databases and applications. This is especially important when data growth is constant, and businesses require continuous access around the clock.

An extraordinary benefit of HCI increases storage performance linearly with storage capacity whenever more compute and storage resources are added. As a result, applications experience consistently high performance as they grow and expand over time. This is where data locality comes in. When data is written by an application, one copy is stored on the same node as the application so it can be retrieved without requiring network access. This ensures the lowest possible latency and prevents network congestion.

Data locality and integrated storage processing also enable HCI to take advantage of new storage hardware innovations like NVM Express and storage-class memory.



The performance of applications consistently improves as they grow and expand over time.

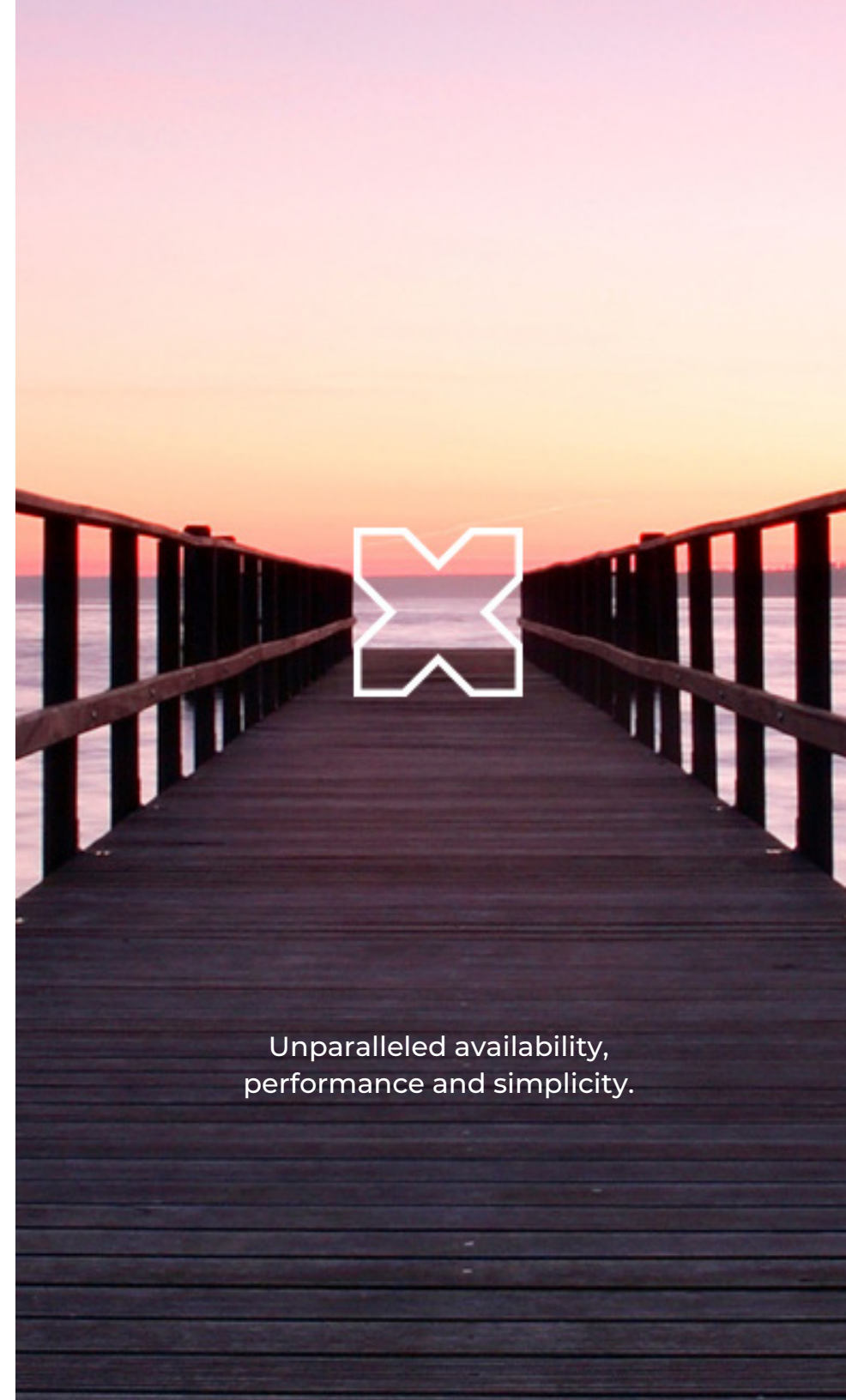
04. Continuous Availability From the Ground Up

No one questions the need for sound business continuity and disaster recovery (BCDR) solutions in support of business-critical workloads. However, all companies face competing priorities. Should the budget be allocated for new virtual desktop infrastructure (VDI) to meet increasing demands in support of remote workers? Should it be used to implement an insurance policy in case of disaster, ransomware, or downtime?

HCI ushered in a new BCDR model by enabling applications and workloads to run on a single platform that spans the entire enterprise while providing unparalleled availability, performance, and simplicity. By unifying infrastructure into a single data fabric and a single management plane, companies can run and protect their applications at any scale with multiple layers of integrated protection, regardless of location.

Advanced HCI architectures distribute infrastructure services across every node in a cluster and use distributed computing algorithms – instead of specialized hardware – to keep services always up and running, enabling more than five nodes of availability. Clusters are protected from drive, node, and rack failure with automated self-healing algorithms that rebuild from replicas that are intelligently placed within the cluster. Moreover, data is continuously fingerprinted and scrubbed for consistency, and administrators can choose the number of simultaneous failures to protect against, workload by workload.

Finally, if disaster strikes, VMs can be brought up at other data centers or even in the public cloud, using VM-level replication with application consistency and runbook automation for fast and easy recovery. To meet compliance requirements and to protect against ransomware attacks, integration with ecosystem backup technologies makes it easy to store immutable backups for tamper-proof protection.



Unparalleled availability,
performance and simplicity.

05. A Single Consolidated Platform for all Workloads and Use Cases

Businesses everywhere are grappling with a wide range of applications and workloads that run across different environments. In a traditional 3-tier environment, applications create unique requirements that often require dedicated silos of infrastructure that are optimized to solve specific problems.

For example, if your organization implements VDI, it is likely deployed on dedicated infrastructure to prevent issues such as boot storms or recompose operations from negatively impacting your critical database workloads. Likewise, remote offices often have significantly different infrastructure requirements from the datacenter. Cloud-native workloads that are built in-house often reside in the cloud to optimize agility and simplify deployment.

With HCI, you can easily manage and run multiple workloads that have different requirements on one unified platform while maximizing performance, resource efficiency and cost. HCI also provides a simple, scalable and intelligent software-defined storage solution to consolidate file, object and block storage within the same unified platform. As a result, IT teams become more proactive, work smarter, and can dedicate more time to consequential projects that move their business forward.



Manage and run all workloads on one unified platform while maximizing performance, resource efficiency and cost.

HCI has rapidly emerged as the foundation for hybrid multicloud IT operations.



06. The Simplest Path to Hybrid Multicloud Infrastructure

In today's era of digital innovation, many organizations must support cutting-edge software services while continuing to manage legacy applications that remain central to business operations. The need to respond quickly to changing business requirements makes public cloud services extremely attractive. However, deployment models differ greatly between traditional infrastructure and public clouds. There is a pressing need for a single platform that can span private, public, and edge clouds. This enables operators to manage traditional and modern applications side-by-side using a single unified platform.

HCI has rapidly emerged as a foundation for running hybrid multicloud IT operations. It has evolved to optimize in-house application development and gives organizations the ability to move data and applications between on-premises, edge datacenters and public clouds. With the right HCI, the onramp to the hybrid multicloud is infinitely easier to navigate.



07. Integrated Security and Data Protection

Today's cyber-attacks are more refined and harder to detect, and sensitive data is more vulnerable than ever. As organizations continue to add newer environments, applications, and cloud architectures into complex IT networks, they're unknowingly exposing an array of risks.

Relying on perimeter firewalls to keep bad actors off networks is no longer sufficient. Tasks like incident response, regulatory compliance, vulnerability scanning, malware analysis, digital forensics, and firewall configuration are time-consuming enough. To add to this, traditional infrastructure stacks are composed of products from multiple vendors, and each component of the stack needs to be secured and kept in compliance independently.

Today, companies need proactive security and data protection. This can be achieved through an HCI that integrates a security-first approach to safeguard organizations from hidden cyberthreats at every layer.

A unified infrastructure reduces the attack surface and integrated microsegmentation can impede the spread of cyber threats. Automated patching makes it easy to quickly respond to zero-day vulnerabilities and ensure compliance. Data-at-rest encryption can be implemented with self-encrypting drives (SEDs) and external Key Management Servers (KMS), or completely in software without SEDs or KMS. With nothing additional to install or manage, HCI enables you to add FIPS-compliant data-at-rest encryption in minutes. Full-stack security protection out of the box keeps your environment secure without burning through your budget.

HCI creates a trusted security-first approach for your infrastructure to protect against threats at every layer.




08. Protect Your Freedom to Choose and Maximize Flexibility

Most SAN products are proprietary solutions designed to run purpose-built software on purpose-built hardware. This limits your choice in platform flexibility – including how and where you can run applications and workloads – and impedes your ability to extend to the cloud.

Conversely, software-driven HCI can be deployed on-premises, at the edge and in the cloud. This gives IT the flexibility and agility to deploy applications and workloads on platforms and in environments best suited for business. Popular HCI technologies support a variety of hardware and hypervisors and have the flexibility to scale with dynamic business requirements.

HCI protects freedom of choice for enterprise IT professionals – for storage and data services such as file, block, object, as well as container services. It is flexible enough to be deployed as a foundation for private clouds and easily extends to public clouds and the edge, for unified operations across the entire hybrid multicloud computing environment.



HCI is a flexible software-centric solution that runs on a wide range of hardware platforms, in private, public clouds and the edge.

It's time to walk away from SAN and adopt HCI.

HCI offers a pragmatic and forward-looking approach to infrastructure and puts IT in a better position to support business objectives as the pace of digital transformation accelerates.

Gartner has consistently identified Nutanix as a leader in HCI and for good reason. Instead of just packaging traditional three-tier architecture into an inflexible form factor, Nutanix Cloud Platform (NCP) delivers a secure, resilient and self-healing HCI that supports all applications and workloads across on-premises, edge and public clouds as well as multiple hypervisors and containers with varied compute, storage, and network requirements.

Interested in trying it out?

Just go to nutanix.com/test-drive and access your own test cluster remotely. In just a few clicks, spin up a cluster within minutes in the cloud and access it through your browser.

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