Extending HCI to More Workloads

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Overview

As businesses move to more data-centric business models, they are capturing and analyzing more data than ever before. To meet the much faster pace and scale of business in the new "big data" era, CIOs are modernizing IT infrastructure at a rapid rate. As part of this evolution, they are focusing on increasing agility, improving manageability, and better enabling scalability.

In looking to modernize infrastructure, IT managers are focusing on software-defined infrastructure as well as new **artificial intelligence/machine learning**, **orchestration** and **automation technologies** that simplify management and improve overall efficiencies. As IT managers adapt to the real-time orientation and increased data scale of business operations, **they are facing challenges** with performance, availability, and the need to integrate both private and public cloud–based services into their concept of a unified data center infrastructure.
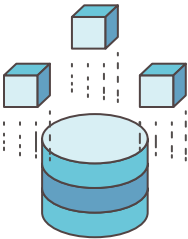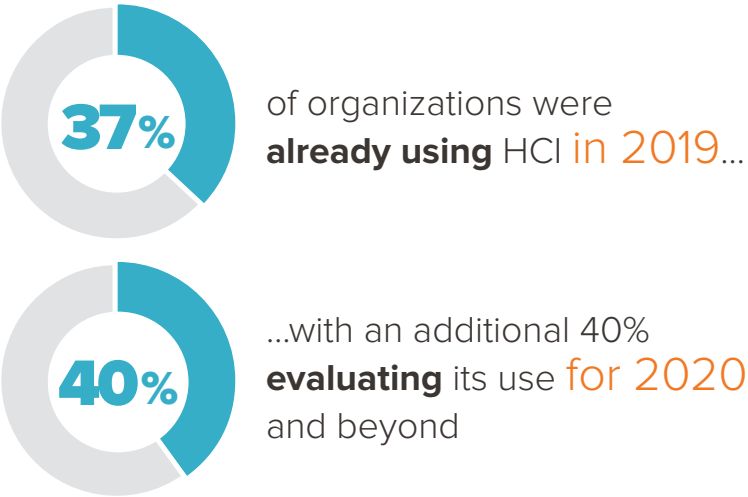
65%
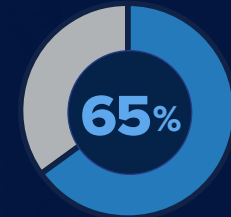
By 2023,
65% of organizations will aggressively modernize legacy systems with extensive new technology platform investments
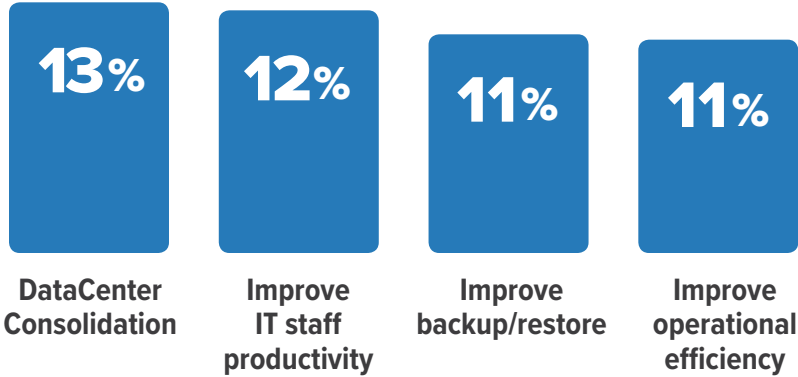
HCI Figures Prominently in Infrastructure

Legacy IT infrastructure is more hardware-defined, less agile, demands more administrative expertise, and is more expensive. As businesses modernize their infrastructure to address these shortcomings, they are at the same time moving away from dedicated storage administration teams and more in the direction of IT generalists, exacerbating the need for easier management.

Hyperconverged infrastructure (HCI) delivers on the requirements for modernized IT infrastructure, and will be one of the fastest growing enterprise storage market segments over the next several years. The "HCI experience" includes rapid deployment, small footprint in modular form, VM-centric data services, unified management of server and storage infrastructure, easy scaling, streamlined infrastructure, and low cost (both for purchase and for ongoing management).

37% of organizations were **already using** HCI in 2019...

40% ...with an additional 40% **evaluating** its use for 2020 and beyond

TOP DRIVERS ON HCI DEPLOYMENTS

13%
DataCenter Consolidation

12%
Improve IT staff productivity

11%
Improve backup/restore

11%
Improve operational efficiency
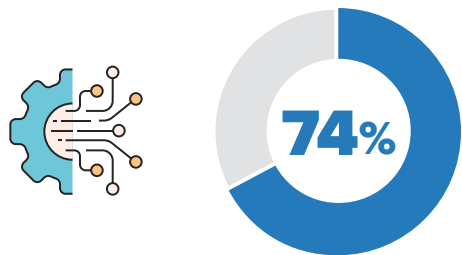
The Capabilities of HCI Need to Evolve

For customers overwhelmed with the increasing complexity of datacenters, HCI delivers a simpler customer experience. As customers look to deploy it with a broader set of workloads, HCI is evolving to deliver improved resiliency, performance and efficiency.

Interest in Autonomous Operations

74%

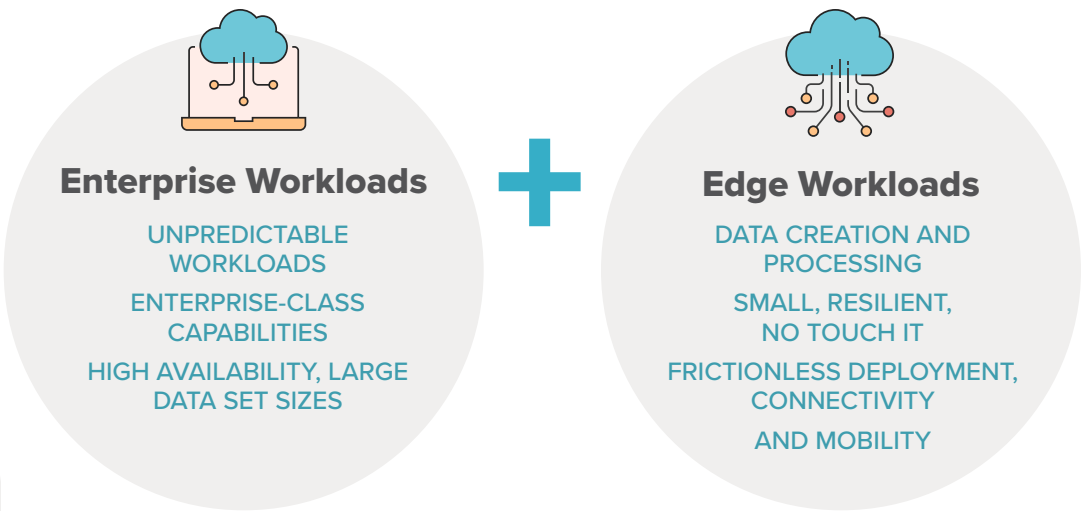of organizations is **very or extremely** interested in improving automated operations

Customers are seeking to move to more automated operations

Digital enterprises need to be always-on, always-fast, and always agile while infrastructure operations today are too reactive and time consuming

HCI helped with Day 0 and 1, but challenges persist with Day 2 and beyond. Need new capabilities to enable less reactive and more proactive and scalable operations

EVOLUTION TO ADDRESS NEW WORKLOADS AND USE CASES

Enterprise Workloads

UNPREDICTABLE WORKLOADS

ENTERPRISE-CLASS CAPABILITIES

HIGH AVAILABILITY, LARGE DATA SET SIZES

+

Edge Workloads

DATA CREATION AND PROCESSING

SMALL, RESILIENT, NO TOUCH IT

FRICTIONLESS DEPLOYMENT, CONNECTIVITY

AND MOBILITY

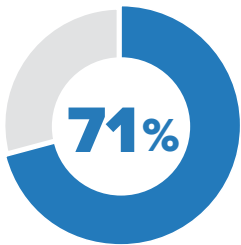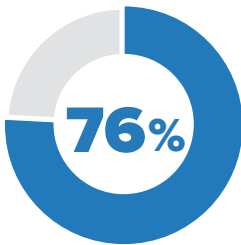## HCI EVOLUTION

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Broadening the Appeal of HCI for Enterprises

Interest in Using AI/ML to Drive Autonomous Operations
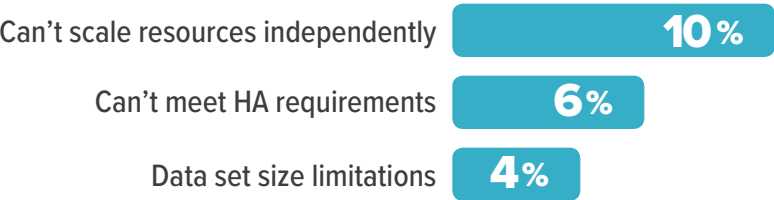
71% **very or extremely** interested in AI to drive autonomous operations

High Availability Requirements

76% of business-critical workloads require **"four nines" of availability or greater**

Top Three Reasons To Not Deploy HCI

Can't scale resources independently **10%**

Can't meet HA requirements **6%**

Data set size limitations **4%**

Customer requirements for HCI to accommodate larger, more demanding enterprise workloads

Use intelligence to automate, simplify management, and improve support

Extended features to support business-critical workloads

Scale compute and storage resources independently for more efficient resource allocation

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Capabilities Needed to Enable Edge Workloads

55 Billion devices will be connected worldwide with millions of locations **by 2022**

By 2023 **70%** of enterprises will run varying levels of processing at **the IoT edge**

The 5-Year CAGR (2019-2024) for edge data growth is **32.5%**

The 5-Year CAGR (2018-2023) for edge infrastructure spending on compute and storage will grow at **13.0%** per year to hit **$21.2B**

Customer Requirements to Address Edge Workloads

Data capture and processing using newer more efficient technologies

HA in the smallest physical footprint with built-in data protection

Local resiliency, No Touch IT

Security

Frictionless Deployment, Connectivity, Operations

Use intelligence to automate, simplify management, and improve experience

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Leveraging AI to gain Autonomous Operations

Administrators are tasked with continuing to meet governance requirements as infrastructure scales. AI/ML-driven autonomous operations can effectively manage many of the more mundane yet critical operational tasks, freeing administrators to focus on more strategic projects while improving the reliability.

74%

86%

74% are very or extremely interested in **autonomous operations,** and 86% highly value **the use of AI to achieve it**

- HPE InfoSight is the industry's most mature AI-driven cloud-based predictive analytics platform
- Predicts and prevents problems before users even know there was an issue
- Prevents customers from ever seeing a known issue through advanced signature detection
- Full stack analytics across infrastructure with correlated insights to protect every app
- AI-driven support delivers faster response and time to resolution, no more finger-pointing, and an amazing experience
- HPE InfoSight validates upgrade, performance and capacity planning, assists in best practice dissemination, and optimizes workload placement
- HPE InfoSight enables Intelligent HCI

HPE InfoSight Results

24/7
Global monitoring across deployed systems

1,250 Trillion
Data points analyzed

Over 1.5 Million
Hours saved in lost productivity for enterprises

Intelligent HCI: Enabled to Accommodate all Workloads

The workload requirements between these two constituencies are very different

Enterprise Workloads

HPE NIMBLE STORAGE DHCI
Disaggregated HCI

- For more demanding apps and mixed workloads that need simplified infrastructure
- 99.9999% data availability and sub-millisecond latency
- Independent scaling with maximum efficiency
- Midmarket, Enterprise, and Service Provider
- AI-Driven with HPE InfoSight

Edge Workloads

HPE SIMPLIVITY
Edge-Optimized HCI

- For environments that want the simplest and most efficient all-in-one appliance including data protection
- High availability in as few as 2 nodes
- Remote, multi-site management
- Small-Medium Business and Enterprise Edge
- AI-Driven with HPE InfoSight

Extending HCI to Enterprise Workloads

HPE NIMBLE STORAGE DHCI
Disaggregated HCI

**Simple to deploy** — Simple setup in 15 minutes from rack-to-apps with server and storage automation

Simple to manage — VM-centric data services and resource management

Simple to scale — Auto-discovers new resources, transparently upgrades, and one-click software upgrades

Simple to support — Predictive support automation and problem prevention with VM intelligence
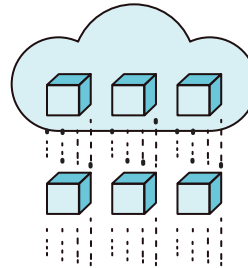
- Manage your infrastructure for business-critical apps and mixed-workloads at scale with disaggregated HCI
- Support workloads that require high performance, sub-millisecond latency, and automatically balance workloads depending on actual conditions through Quality of Service (QoS)
- Deliver absolute resiliency with over 6-nines of measured data availability
- Scale storage and compute independently to help eliminate overprovisioning and lower VM license costs
- Maximize resource utilization and lower total cost of ownership with industry-leading data efficiency
- Transform your infrastructure with HPE InfoSight that predicts and prevents issues before they cause a disruption or major issue; when a support call is needed, a single call goes directly to a L3 support engineer who can help with the full stack

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Extending HCI to the Enterprise Edge

HPE SIMPLIVITY
Edge-Optimized HCI

Easy to deploy — Low-entry price point and packaging for compact, highly available, all-in-one HCI with built-in data protection

2-Node high availability — Achieve resiliency with 2 nodes in small footprint with built-in data protection and disaster recovery features to help keep data safe at the edge
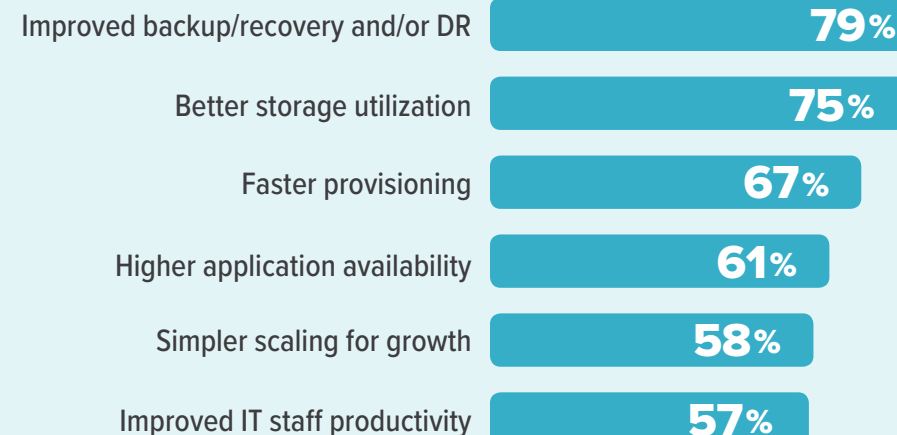
Simple to manage — Remote, multi-site infrastructure management with integrated data services and backup/recovery through VMware vCenter

Efficient data movement — global dedupe, space efficient replication and rapid multi-site DR for fast recoveries in low bandwidth settings

HPE SimpliVity Drives Compelling Improvements For Customers

Improved backup/recovery and/or DR	**79%**
Better storage utilization	**75%**
Faster provisioning	**67%**
Higher application availability	**61%**
Simpler scaling for growth	**58%**
Improved IT staff productivity	**57%**

Source: IDC Primary Research, 2016

Message From the Sponsor (HPE)

Intelligent HCI

Reimagine HCI with two optimized platforms that deliver an intelligently simple experience for every application. Where others have limitations, HPE delivers the HCI experience without compromise.

HPE NIMBLE STORAGE DHCI
Disaggregated HCI for flexible scaling and business-critical workloads

HPE SIMPLIVITY
Hyper-efficient HCI for general-purpose workloads and edge