Don't let your data center infrastructure hold you back:

It's time to consider hyperconverged infrastructure (HCI)

Does your data center struggle to keep up?

In today's application-centric world, IT departments must react quickly to support the needs of the business. But if you're one of the many organizations that rely on traditional infrastructure where data center resources are siloed, keeping up with those needs can be incredibly challenging. Disparate compute, networking, and storage components not only make integration and supporting modern applications more difficult, it also creates a host of additional challenges:

Manual configuration

IT must often configure infrastructure manually – which is not only time-consuming, it's also error-prone and can create a lot of additional work.
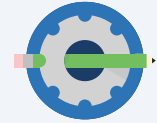
Less time to innovate

IT staff must spend their time "keeping the lights on" with tasks like storage and infrastructure provisioning rather than driving innovation.

Difficulty scaling

Siloed infrastructure doesn't give IT the flexibility it needs to rapidly scale environments or repurpose infrastructure as priorities change.
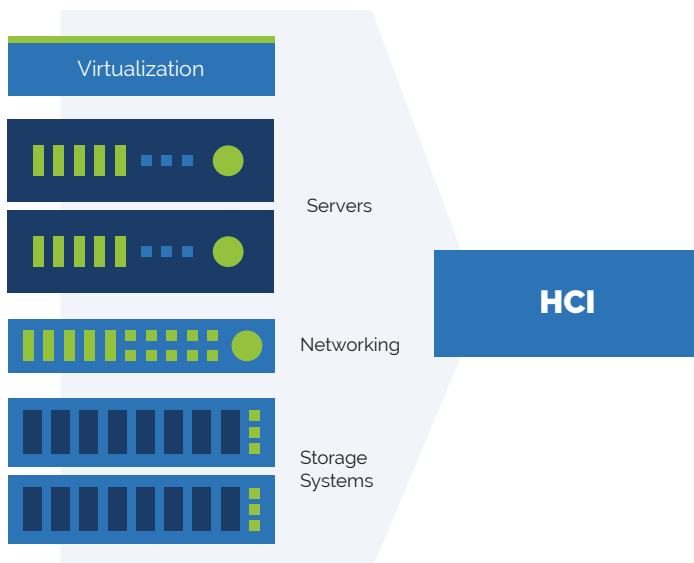
Specialized skillets

Traditional infrastructure often requires specialists for things like storage, and it's not always feasible to keep dedicated staff with these skillsets.

To overcome challenges like these and be ready for the role that the cloud and the edge will play in the future of your IT environment, you need an infrastructure that improves scalability, productivity, and agility within the data center. In this eBook, you'll learn why organizations of all sizes are turning to hyperconverged infrastructure (HCI).

An overview of hyperconverged infrastructure

HCI tightly integrates data center components to create highly flexible building blocks that can effectively replace your traditional 3-tier infrastructure. Instead of siloed components, you can rely on an infrastructure that converges the entire data center stack and uses software-defined innovation to help you overcome key IT and business challenges.

Virtualization

Servers

Networking

Storage Systems

HCI

Organizations are relying on HCI to:

- Bring cloud-like agility to on-premises infrastructure
- Lower traditionally high infrastructure costs
- Keep pace with rapid data growth
- Simplify storage operations
- Improve data center scalability
- Respond to business needs faster
- Better support their digital transformations

HCI may not be a "new" architecture, but it has taken a big step forward over the past few years thanks to advances in software. Let's continue by taking a closer look at some of the solutions that are out there.

Not all HCI solutions are created equal

Today, HCI is the infrastructure of choice for organizations that need to be nimble and ensure their data centers are cloud-ready. That claim is backed up by a recent survey where 73% of respondents[1] said they were considering, planning, or already implementing HCI within their organization.

Unfortunately, not all HCI solutions are created equal as many of the solutions on the market today have critical shortcomings:

New siloes and complexity: Some solutions combine generic servers with software-defined storage to produce a compute platform. But without incorporating the network, it creates new islands of infrastructure and systems management.

Inflexible, modular scaling: Many first-generation HCI solutions scale in a fixed, modular fashion. This is fine for applications that have uniform scaling requirements, but most modern apps don't work like that.

Application support: Some solutions are limited to specific hypervisors and are limited in performance, making them less ideal for databases and cloud-native apps that need strong, consistent performance.

Data management and security: Most HCI solutions don't offer extensive data lifecycle management features and lack the security that's required when moving data across modern storage environments.

Underwhelming performance: Network connectivity between nodes is essential to performance and resiliency – and many solutions lack a high-performance fabric, SDN, or virtualized I/O capabilities.

Place your trust in a best-in-class vendor like Cisco

Cisco is one of the only vendors that fully addresses these shortcomings in their HCI offering – and it was built to deliver the power and simplicity of hyperconvergence to any application, on any cloud, anywhere. In fact, Cisco HyperFlex was named a leader in **Gartner's Magic Quadrant for HCI** for the second year in a row.

Any application

Tested and validated for numerous applications – virtualized and containerized

Any cloud

Tools for multi-cloud mobility including deployment, monitoring, and app placement

Anywhere

True global scale that reaches to your network edge to support any use case

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What are other organizations wanting to improve in their on-premises infrastructure?

In a survey[1] conducted by 451 research, respondents identified what attributes they needed to improve within their on-premises infrastructure to meet future needs.

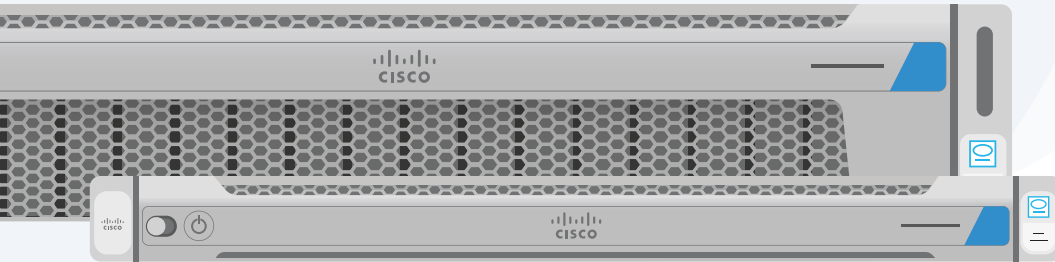| Attribute	Percentage
Speed/Performance	46%
Scalability	44%
Cost (CapEx)	41%
Resiliency	37%
Self-service infrastructure and application provisioning	36%

HCI delivers on all these fronts and much more. Read on to learn more about Cisco's best-in-class solution and its benefits.

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Cisco HyperFlex:
Hyperconvergence for the core, cloud, and edge

Cisco's HyperFlex is built on Cisco's leading UCS platform. It includes hybrid, all-flash, all-NVMe, and edge configurations, an integrated network fabric, and powerful data optimization features that bring the full potential of hyperconvergence to a wide range of workloads and use cases.

Multi-cloud services: Enable any application tier to be deployed, monitored, and managed anywhere.

Complete hyperconvergence: HyperFlex unifies network and compute technology in a next-gen data platform.

Independent scaling: Scale nodes, computing, and capacity independently in clusters as your needs change.

Multiple hypervisors: Extensible file system supporting multiple hypervisor choice without compromising performance.

Simplified data management: Integrated functionality includes instant provisioning, cloning, snapshots, replication for DR, and encryption.

Dynamic data optimization: Incoming data is distributed and optimized across nodes as well as storage tiers with data deduplication and compression.

In an IDC study, HyperFlex was found to help organizations better support business operations while also delivering more cost-effective and efficient IT operations[2].

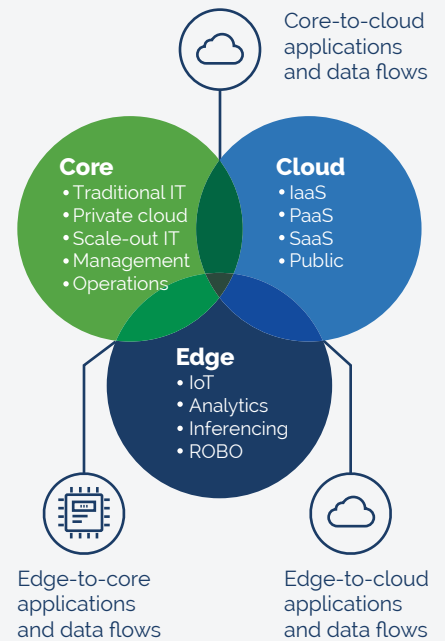## Let IE help you modernize your data center with HCI

If your data center infrastructure is no longer working for your organization and its needs, Internetwork Engineering (IE) can help. We have the people, process, and tools that will make it simple for your organization to modernize its data center with Cisco HyperFlex.

Real-world perspective and practicality from decades of experience across multiple industries.

Proven results using HyperFlex to help organizations modernize their data center and increase IT value.

Extensive expertise across Cisco's entire solution portfolio, from the data center to the endpoint.

The future of the data center will be distributed – be ready with HyperFlex

Core-to-cloud applications and data flows

Core
• Traditional IT
• Private cloud
• Scale-out IT
• Management
• Operations

Cloud
• IaaS
• PaaS
• SaaS
• Public

Edge
• IoT
• Analytics
• Inferencing
• ROBO

Edge-to-core applications and data flows

Edge-to-cloud applications and data flows

The future of the data center will blend core data centers, cloud services, and edge workloads in a seamless ecosystem. Cisco HyperFlex supports multiple hypervisors and virtualized environments, Docker containers with Kubernetes, multi-cloud services, and edge deployments to efficiently and economically deploy, monitor, and manage applications.

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Learn more about the benefits and business value of HyperFlex

Additional resources

Visit our resources page to check out solution overviews, infographics, and videos to see why HyperFlex outperforms the competition.

Read an IDC report

Learn why all HCI platforms are not created equal, and more about the value that HyperFlex is providing to other organizations.

Schedule a demo

Ready to see HyperFlex in action? Schedule a demo and learn how your organization can benefit from modernizing its data center with HCI.

About Internetwork Engineering (IE)

At IE, we are people connecting people. Since 1996, IE has been connecting people to their customers, coworkers, suppliers, patients, citizens, and students throughout the Southeast, creating more meaningful interactions with the people you care about most. Our mission is to provide technology solutions that inspire innovation and achievement, knowing that the right technology at the right time has the power to transform industries, countries, and lives.

IE INTERNETWORK ENGINEERING

CISCO Partner Gold Certified

[1]451 Research, Delivering the Cloud Experience on HCI, 2019
[2]IDC, Business Value of Improved Performance and Agility with Cisco HyperFlex, 2019