

BEYOND THE BUZZWORD

HYPER-CONVERGED INFRASTRUCTURE

A Softchoice guide to separating the
buzz from the business value



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What's all the buzz about?

The not-so-secret mantra for every modern IT department is simple: "Do more, with less."

It's no wonder then, that there has been so much hype around hyper-converged infrastructure (HCI). Organizations are hungry for a solution that will make their cloud and hybrid cloud projects easier, speedier and more successful. HCI is the made to measure solution to meet this need.

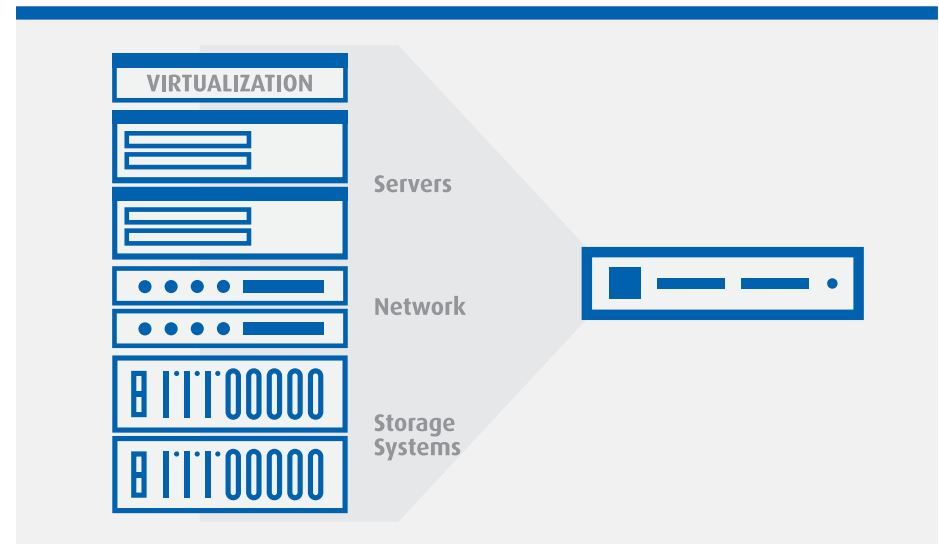
That's not to say it is the perfect solution for every business or every use case. As with all major technological innovations, you must be able to sift the buzz, from the real, applicable business benefits, and then make up your own mind.

That is what this guide will help you with.

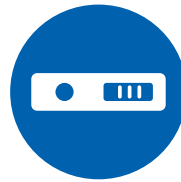
As you will see, hyper-converged infrastructure promises enormous benefits to the enterprise looking to modernize its infrastructure — quickly and easily. But there are numerous considerations to make, before you should invest, such as:

What is HCI, really? Who needs it? Why do they use it? And crucially, how do you deliver it successfully?

Get the answers and find out what all the buzz is about!



What is Hyper-Converged Infrastructure?



Hyper-converged infrastructure (HCI) combines compute, storage and networking with software virtualization, into a single physical appliance. Think of HCI as your “data center in a box.” Unlike traditional three-tiered data centers, which are strung together using multiple physical appliances, HCI gives you everything you need at once, in an easy, scalable package.

Convergence + Deep Virtualization = Hyper

HCI’s deep, internal virtualization is a key distinguishing feature. Compare this to the similarly named “converged infrastructure” systems. Converged systems also combine preconfigured hardware and software in a single system for simplified management. However, in converged systems, compute, storage and networking are discrete and can be separated or modified as needed. With HCI, this is not the case. In HCI, the software-defined elements are implemented virtually, with seamless integration into the hypervisor environment. This deeper, ubiquitous abstraction layer allows organizations to easily expand capacity by deploying additional modules, on demand and with greater agility.

“Hyper-converged systems will be the fastest-growing segment of the overall market for integrated systems, reaching almost \$5 billion, which is 24 percent of the market, by 2019.”

—Gartner

Why are organizations using hyper-converged infrastructure?

A key ingredient for agile infrastructure, Hybrid IT and innovation



With the shift to hybrid IT, organizations are aiming to achieve the efficiency of the public cloud without sacrificing existing investments in applications, operations and infrastructure. With the right HCI solution, organizations will be able to make the switch to hybrid environments, all while speeding the delivery of IT resources, improving efficiency and strengthening data protection. The bottom line: HCI is your foundation for enabling a more innovative, progressive IT department — one that serves the needs of a modern enterprise.

Key benefits of HCI:

Speed and scale: When traditional IT models can barely keep up with the demand for modern IT, HCI is the answer. Instead of taking seven to ten weeks to deploy a new application, HCI radically simplifies provisioning down to just a few minutes. When DevOps goes the “shadow IT route,” it’s often because the developers are tired of waiting for IT to spin up a new workload. With HCI, those painful wait times are a thing of the past.

Cost savings and efficiency: Many organizations see HCI as a cost saver in the long run, compared to traditional technologies and processes. In theory, HCI requires less physical equipment to purchase, less cooling and power, and fewer resources to manage it all. It reduces the data center footprint by combining storage, networking, compute and back up into a singular unit. Thanks to deep virtualization, you are also able to more efficiently monitor, scale and shrink your workloads to flexibly handle the peaks and valleys of demand.

Simplicity and control: Complexity is a core challenge of moving to multi-cloud and mixed environments. Hybrid IT is supposed to be faster and more efficient, but it is all for naught if you are overwhelmed by numerous dashboards, disparate processes and incessant juggling between on-premise and off-premise assets. HCI helps solve this predicament, allowing your business to enjoy the scale of public cloud, without giving up the familiar control of your own hardware environment. When coupled with virtualization and automation, HCI enables you to manage your data center with fewer resources, fewer manual and repetitive tasks, and fewer headaches.

Data protection and recovery: HCI also adds powerful capabilities to manage, control and recover data to improve your overall cybersecurity practices. With the help of virtualization, microservices and object-level recovery, HCI has built in features to speed and simplify data protection, loss prevention and deliver instant recovery.

Who should consider hyper-converged infrastructure?



Improving IT agility is not an either/or scenario. Technologies such as HCI provide a compelling option to businesses of all kinds, and all sizes, to incrementally begin the path to an agile infrastructure. However, based on your unique business needs and characteristics, when you should prioritize HCI will vary.

In the list below, we have compiled some of the most common use cases for HCI. Think of these as starting points to begin your journey to an HCI-powered modern IT organization. If any of these seem relevant to your needs, then you should continue investigating HCI.

Entry points for HCI:

Multiple branch offices: Organizations that must support multiple, geographically dispersed branch offices are also migrating to hyper-converged infrastructure, because of its modular design and ease of deployment. Leveraging software-defined features, an administrator who works in head office can manage branch office infrastructure as easily as if it were down the hall.

Test and dev: Organizations looking to speed up and add efficiency to their testing and development environments are looking to HCI. Test and dev environments must mirror production environments. Hyper-convergence works well here because it instantly contains the exact same compute, network and storage resources as production. Plus, it has the added benefit of discouraging non-condoned test and dev environments (shadow IT) because it can be provisioned quickly, and with ease.

Heavily invested in the virtual desktop: Hyper-converged infrastructure is popular with organizations that support significant levels of virtual desktop infrastructure (VDI). With HCI, IT administrators can easily monitor, spin up and host new virtual desktops as needed, cutting down on the costly, time-consuming and repetitive tasks of VDI.

Hosting tier-one applications: For organizations with an exceptionally high demand for high-availability on their mission-critical workloads, HCI is an attractive solution. Plus, hyper-converged infrastructure typically includes storage redundancy and the ability to mirror entire nodes or clusters, adding an extra layer of reassurance.

Multitenancy and virtualization: Multiple, disparate environments, across cloud and private data centers, lead to complexity, chaos and excess costs. HCI helps bring simplicity to your data center, reducing labour and resources needed for upkeep.

Self-Assessment Worksheet:

	1 POINT	2 POINTS	3 POINTS	SCORE
How often are you deploying virtualized desktop environments?	Rarely	Occasionally	Frequently	
Is ongoing maintenance becoming more complex due to the sprawl of varying configurations across your environment?	Rarely	Occasionally	Frequently	
Is your exposure to security and compliance breaches increasing?	Rarely	Occasionally	Frequently	
Does even the simplest patch management process require intensive testing to ensure exceptions are addressed, adding more time and overhead to achieve a business outcome?	Rarely	Occasionally	Frequently	
Is your ability to serve growing business demands being hampered by slow provisioning speeds and cumbersome ongoing management?	Rarely	Occasionally	Frequently	
How often are you provisioning resources for branch offices, or other geographically distant workplaces?	Rarely	Occasionally	Frequently	
How often are you running into delays with Test and Dev environments and processes?	Rarely	Occasionally	Frequently	

How did you do?

If you scored 10 points or more, HCI is strongly indicated for your business.

When is the best time to invest in HCI?

“Our advice is identify upcoming disruptions to your infrastructure and use these events to have a business-level conversation about HCI.”



There is no bad time to modernize IT. But there are times where your chances of success and the ability to gain the support of the business are best.

With HCI, the resistance to change is significant and understandable. Today's organizations continue to respond the same old way to new business demands. They are typically stuck maintaining a three-tiered architecture manually across each management layer. With no natural advocate for hyperconvergence – and IT personnel organized to support three-tiered architectures – the status quo trudges on.

Seize the disruptive moment

To overcome this resistance, our advice is identify upcoming disruptions to your infrastructure — inflection points, such as major hardware or software upgrades — and use these events to have a business-level conversation about HCI.

For example, major refresh cycles and end-of-life scenarios, such as vSphere 5.5 or Windows Server 2008, are creating widespread needs to modify underlying infrastructure. The question is, will you make an incremental upgrade leveraging the same three-tiered systems? Or will you turn this opportunity into something greater?

Missed opportunity

Unfortunately, few IT leaders recognize the opportunity these events represent to drive software-defined, hyper-converged approaches. This is a missed opportunity, and IT leaders must avoid seeing these situations as “just another infrastructure project”. Instead, they must use these changes to evolve end-to-end deployment and operational processes.

Buzzkill: Why IT resists hyper-converged infrastructure

Here are some of the most common concerns we hear when speaking with clients about HCI:



Fear: We can't afford an upgrade to HCI.

Reality: Maintaining the status quo comes with its own costs. Before saying "no" to HCI, organizations must conduct a thorough business case, including the upside of innovating IT for faster, more agile and efficient service.



Fear: We don't want to move away from a trusted three-tier model.

Reality: You should look at your infrastructure approach in the context of larger business needs. HCI might be intimidating because it is new. But failing to evolve if the demands on the business are greater than ever, should be equally frightening.



Fear: I don't want to lose my job.

Reality: Infrastructure modernization is an opportunity to learn new skills and take on greater, more strategic roles in the organization. While it adds efficiency to traditional, three-tiered provisioning, it requires human expertise, configuration and optimization.

How do you migrate to hyper-converged infrastructure?



To break free of traditional three-tiered architecture approach, IT leaders must take advantage of the inflection points described above. But they must do so in a thoughtful way. This means not only evolving the underlying infrastructure but the processes that support the business as well. On top of all this, IT needs a data-backed business case to show how HCI aligns to larger strategic initiatives and innovations, such as hybrid IT.

The good news is there is a proven approach every business should take to bring clarity and build the strong business case for HCI. This approach will allow you to prove the value, bring momentum to your project, and ensure a successful, long-term rollout of the right solution.

Upfront data center audit: As a starting point, organizations must collect data to determine the lifespan and capacity of existing assets. Use this information to identify upcoming, urgent opportunities to upgrade (such as end of life events). You must also paint a clear picture of your existing usage, understanding where you are likely to exceed capacity, and where you are frequently overprovisioned.

Determine need: Next, refer back to why businesses actually need HCI. Are you frequently provisioning new virtualized environments? Is your DevOps frequently complaining of provision delays? Is your ability to rapidly recover lost or stolen data a major, ongoing concern? Survey your teams to get answers.

Identify starting point: You can go big, or go small with your first forays into HCI. Both are equally valid and will depend on your priorities and the upfront work you have accomplished. Refer back to our list of common entry points and align your strategy to a business objective. Test and Dev might make the most sense, so might moving your mission-critical apps. It all depends.

Cost/benefit analysis: When you are facing a major inflection point, such as a hardware upgrade, now is the perfect time to perform a cost/benefit analysis. First develop a detailed understanding of your current costs and actual needs. Once you have a detailed real-time picture, create a short list of the vendors, technologies and partners who can provide HCI. You might need to work with an experienced partner or stakeholders to help you correctly define your total cost of ownership. Remember to factor in soft costs, and identify higher-level business initiatives that will be made possible thanks to HCI.

Get methodical: You will not move everything to HCI overnight, nor should you. Where possible, continue to leverage existing resources and plot the course towards a modern architecture by expanding virtualization and HCI throughout the data center. A methodical approach is the most effective. Once you begin, slowly identify more opportunities to move new workloads to HCI, while maintaining and optimizing existing infrastructure and investments.

Partnering with Softchoice

Expert guidance to choose and execute the right solution.

There is no shortage of challenges, complications and hard work when it comes to planning and deploying for an HCI investment. This is where Softchoice can help.

When you work with Softchoice, you will gain a comprehensive view of your applications – including underlying compute, storage and network architectures. This will allow you to identify opportunities to modernize infrastructure and introduce hyper-convergence and automation to drive greater efficiency. Armed with data-driven insights to evaluate vendor solutions, you will create a strategy that goes beyond costs and timing to include adoption of the technology itself. With ongoing mentorship, you will accelerate innovation and improve quality of service while continuously optimizing the performance of your applications.

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