

# Five Common Pitfalls of HCI and How to Avoid Them



# Prepare for Tomorrow, Today

Whether deploying advanced analytics to optimize offerings, building next-gen online storefronts or creating self-service experiences for customers, businesses today are app-driven.

Many organizations are deploying both traditional and modern apps across a diverse infrastructure landscape that spans data centers, private and public clouds, and edge environments, and want a consistent way to manage them. They're also looking for ways to optimize existing investments for long-term business impact. Traditional three-tier architectures—which are expensive to build, complex to operate and difficult to scale—fall short. And bridging the inconsistencies between legacy hardware and infrastructure as a service in hybrid environments can mean purchasing and implementing additional tools and technologies, and learning how to use them. Now, more than ever, organizations are challenged to meet these needs while leveraging their existing investments.

Hyperconverged infrastructure (HCI) can reduce data center complexity and increase scalability by using virtualization software to abstract and pool underlying resources, then dynamically allocate them to VM-based or containerized applications. By connecting disparate environments in a common way, you can run apps on consistent infrastructure that is managed with consistent operations. Additionally, HCI provides the ability to deliver dynamic capacity, consolidate or migrate on-premises infrastructure, and develop and test new apps on a single model for infrastructure and operations. It offers organizations a way to maximize return on their existing investments in people, processes and technology.



# Avoiding Pitfalls Along the Path to HCI

While modern approaches to HCI take on this full-stack approach—meaning they provide a complete set of software-defined services for compute, storage, networking, security and cloud management—traditional approaches converge only compute and storage. In this limited scenario, you can find yourself wrestling with disparate processes and systems for on-premises private clouds and public cloud environments.

This is why the path from a traditional infrastructure to a hyperconverged one can be complex and not without its challenges. To shorten and streamline the path to a true hybrid cloud while increasing productivity and reducing overall TCO, here's what you'll want to avoid:



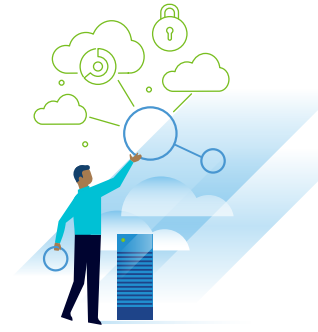
**1.**  
Building something new  
(all over again)



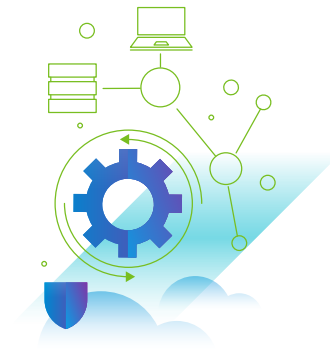
**2.**  
Modernizing for only what you can  
see right now



**3.**  
Separating  
traditional and  
cloud native apps



**4.**  
Changing your  
management  
approach—again



**5.**  
Building for  
manual lifecycle  
management

# 1. Building Something New (All Over Again)

Your organization must decide how to optimize, manage and support its growing portfolio of apps. What are the requirements? How will they be managed and scaled? What kind of environment gives this app what it needs to make the biggest impact on the business?

Modernizing infrastructure to support the needs of traditional and cloud native apps can be a costly and complicated endeavor if you opt for all new tools and technologies that require different processes and skills to deploy and manage. Most have diverse needs and a broad range of existing investments that should be protected. And in an increasingly resource-constrained business environment, organizations need to serve these needs with a common approach.

Instead, **leverage existing investments and eliminate extra infrastructure silos**. By choosing an HCI solution that works with your existing infrastructure, you can avoid buying new hardware. You'll benefit from the ability to deliver dynamic capacity, consolidate or migrate on-premises infrastructure, or develop and test new applications all on a single model for infrastructure and operations. And you'll get the freedom to choose the best environment or destination for applications—on or off premises.



## 2. Modernizing for Only What You Can See Right Now

Deploying HCI can result in immediate cost savings and operational efficiencies for organizations on the modernization journey, and it's an initial step toward readying infrastructure for a diverse cloud environment.

More organizations are running apps in more diverse environments, making common management and operations a key imperative if not now, then in the near future. In a recent global research study conducted by VMware, more than two-thirds of organizations indicated they are actively engaged in public cloud migration. They plan to migrate approximately 20 percent of their apps to the cloud as-is, and migrate and modernize approximately 30 percent to integrate with public cloud services.<sup>1</sup>

**Plan for future phases of the modernization journey.** The infrastructure choices you make today should support and enable the applications you might need to run tomorrow. Ask yourself the following questions:

- What infrastructure solution best meets the needs of the applications?
- What are the unique requirements of each application?
- How might these change over time?

Opt for an HCI solution that affords you the freedom to choose the best environment or destination for applications.



1. VMware, Inc. "The State of Application Modernization and Hybrid Cloud Computing." February 2020.

### 3. Separating Traditional and Cloud Native Apps

When you tie your apps to specific hardware, you lose mobility across environments. This creates inefficiencies and compromises the agility that's needed to meet changing business requirements. That's why you should choose a solution that integrates the entire software-defined stack.

When you **hyperconverge the full stack**, you get guaranteed interoperability and can deploy apps in the environment that makes the most sense: on premises, in the public cloud or at the edge. HCI should be designed for simplicity and scalability, and that means having a consistent infrastructure with consistent operations for both cloud native and traditional apps across environments.



## 4. Changing Your Management Approach—Again

Silos are out. Consistent operations are in. In fact, more than 60 percent of IT organizations want to extend data center tools and processes to the public cloud rather than bring cloud operations tools to the data center.<sup>1</sup> Choosing new technologies that require new skills to manage can cause delays, introduce unnecessary risk and increase costs related to training.

So **go with what you know**. Accelerate your journey and reduce risk by leveraging an HCI solution that your team is familiar with across environments. This way, you can:

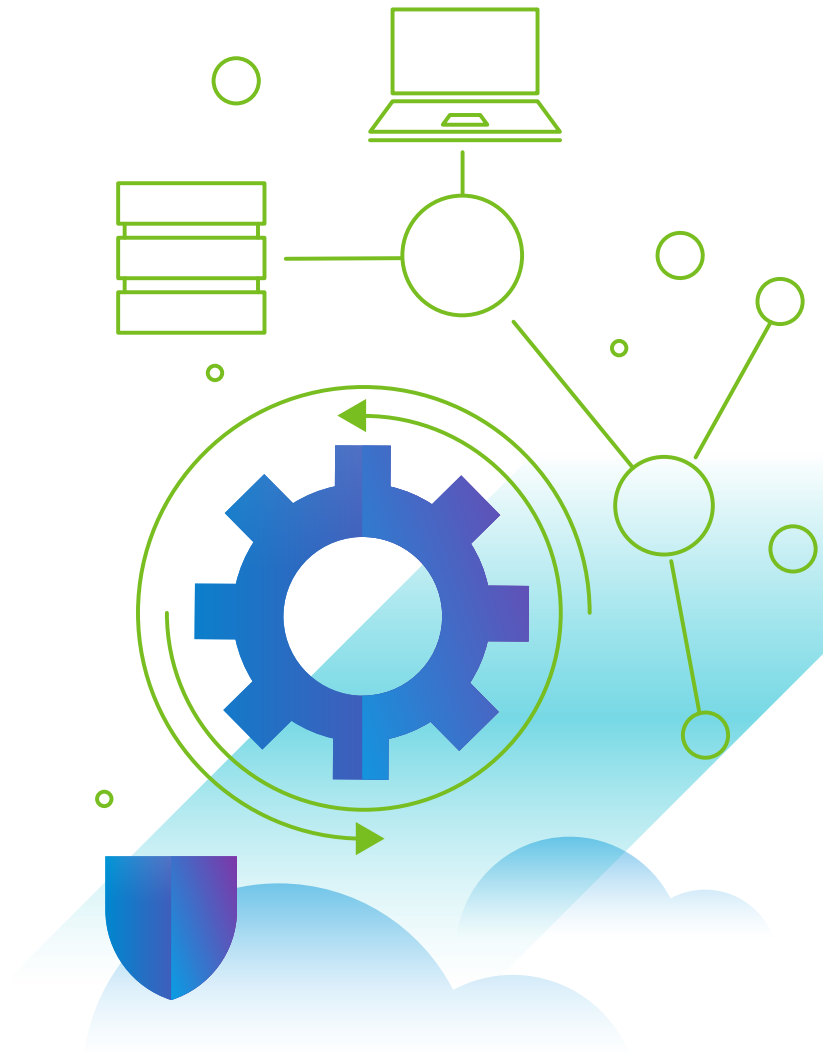
- Control costs by preserving existing investments.
- Minimize disruption to IT processes and the services they provide.
- Eliminate the risk that can result from having to rip and replace systems.



## 5. Building for Manual Lifecycle Management

When asked how they expect their data centers to evolve over the next three years, more than 50 percent of IT organizations cited automating more core IT processes as a key modernization priority.<sup>1</sup> Automation delivers fast, consistent networking and security across both traditional and new applications, regardless of whether they reside in the data center, on public and private clouds, or the edge.

By **automating the IT services lifecycle**, teams can rapidly configure, provision, test, deploy, migrate, update and decommission both infrastructure and applications. Self-service requests can eliminate time-consuming manual processes; risky, error-prone IT tasks; and siloed workflows for a more consistent and rapid delivery.







# HCI Success Starts Here

Organizations looking to become more agile and nimble need an infrastructure strategy that gets away from frequent, expensive and resource-consuming component upgrades. As a result, HCI has rapidly become the infrastructure model of choice for enterprises looking to fully leverage hybrid cloud, modernized applications and the many other business-transformative initiatives that arise today and in the future.

Modern approaches to HCI, such as VMware Cloud Foundation™, provide a complete set of software-defined services for compute, storage, networking, security and cloud management to run enterprise apps—traditional or containerized—in private or public environments.

And with the most customers in production worldwide, the richest ecosystem in the industry and the most flexible solution on the market, you can feel confident that VMware is the right partner to help you shorten and streamline the path to a true hybrid cloud.

## Keep going

Learn how VMware solutions can help you modernize your infrastructure for hybrid cloud and modern applications.

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Get visibility into how your workloads impact each other and help optimize your environment for the easiest path to HCI and hybrid cloud.

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