

# TOP FIVE IT INFRASTRUCTURE PITFALLS AND HOW TO AVOID THEM

Create a Solid Digital  
Foundation for Your Business



Intelligent investments in a modernized IT infrastructure build a foundation that ensures the most flexible future without the risk of obsolescence. Learn how to avoid the 5 common pitfalls organizations often make with their IT Infrastructure and the potential implications.

# The Role of IT Infrastructure Is Changing

In an evolving digital landscape, much about the way IT works has changed—and infrastructure is no exception. Once a tool to support business processes, modern infrastructure is now the foundation the entire business runs on. It's not just important—it's central to building success.

Much like infrastructure, modern applications also play a crucial role. Users rely on applications to perform basic job functions, while IT teams rely on applications to increase productivity and throughput. In turn, applications require a strong, reliable IT infrastructure to keep them secure, agile, and highly available.

## Legacy IT infrastructure can't meet these needs—but a modern solution can.

From low utilization and siloed operations, to a lack of visibility and high costs, a hardware-centric inflexible architecture can't meet the demands of the digital world. A software-defined approach to infrastructure prepares you for future business needs with a unified digital foundation and a common operational model. It lets you seamlessly address business scenarios and capabilities using your core infrastructure without losing time or adding complexity.

## But wait—don't make these mistakes:

Before you start building your software-defined infrastructure, save yourself some time, money, and headaches by taking the time to review several common missteps.

# 5 Common Infrastructure Pitfalls

A modern approach to infrastructure can position your business for success—but setting it up isn't always easy. Common mistakes could render your foundation unsteady, creating security concerns, downtime, inefficiencies, and unnecessary complexity.

Here's what you'll want to avoid:

- 1 Adopting a rigid approach to applications
- 2 Inadequate planning for cloud
- 3 Reactive budgeting
- 4 Ignoring the IT skills gap
- 5 Confusion over vendor lock-in

# 1 Adopting a Rigid Approach to Applications

In the digital landscape, everything changes fast—and your approach to applications must be flexible and scalable enough to adapt.

When you tie your apps to specific hardware, and don't enable mobility across environments, that rigidity almost certainly guarantees that your apps will become obsolete—sooner rather than later. It also hinders your overall progress, and creates inefficiencies that can keep the business from operating or competing effectively.

It's important to build an IT infrastructure that will support both present and future needs of your apps. A flexible approach will ensure that the applications you're using today will still be able to run tomorrow, no matter where you may choose to run them.



# Rethink Your Approach to Apps

Is your infrastructure set up for maximum flexibility and future expansion—or not? Consider whether your IT organization is doing any of these things:



## Ignoring the risks of a hardware-centric approach to infrastructure

Hardware-dependent applications can run into performance issues or inconsistencies. They require continual IT involvement to run efficiently, which causes delays and backups. Even worse, hardware-centric models have a long history of creating inflexible, siloed operations that don't allow IT teams to adapt fast.



## Failing to future-proof your apps by removing as many hardware dependencies as possible

Depending entirely on hardware holds your applications back. Taking a software-defined approach better positions you to meet changing demands, allowing your apps to move seamlessly across environments and giving you the freedom to change approaches without compromising availability.



## Separating infrastructure decisions from business objectives and the role of apps

Because infrastructure and apps are crucial to business success, decisions about them must be aligned with business goals. Failing to ensure that your apps, infrastructure, and business goals all support a common outcome will likely yield unpleasant surprises. To ensure the correct alignment, IT professionals need to build productive relationships with their business counterparts. The ability to collaborate and plan with all parts of the organization allows teams to develop a prioritized list of common objectives and goals.

## 2 Inadequate Planning for Cloud

The journey to cloud looks different for every company. Current and future goals, team dynamics, and prior investments all play a role. Sometimes you need to just create new efficiencies in the data center to enable app portability and better prepare for the future. Other times you want to take a bigger step and rethink your entire infrastructure.

Before making the journey to the cloud, your IT organization needs to fully understand it—and have a plan, not only for the apps, but for the new operational model that comes with it. Otherwise, you risk losing money on premature or unplanned investments and unprepared people and processes.



Gartner predicts that by 2020, **90 percent of organizations** will adopt hybrid infrastructure management capabilities.<sup>1</sup>

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1. Gartner, Predicts 2017: Infrastructure Services Become Hybrid Infrastructure Services, 2017

# Planning Your Cloud Journey

As you develop a plan for adopting the cloud, keep these things in mind:



## Know what you're aiming for

For a cloud strategy to succeed, it needs to be built around the principles of ongoing choice and flexibility.



## Realize that extending to public cloud doesn't automatically simplify infrastructure

When you extend virtualization strategies across the entire stack through common hardware managed by existing tools and skill sets, you enable a unified approach. Without that underlying architectural strategy, you may be headed for increased complexity and cost, not the simplified, streamlined environment you planned on.



## Plan for the unknown

Many cloud decisions quickly derail when the reality of the usage, consumption, and management models does not match expectations. Enabling your apps and infrastructure to embrace any type of hybrid cloud scenarios or usage models is key to planning for a moving target like cloud.

**Remember:** *Cloud is a strategy, not a destination.*



## 3 Reactive Budgeting

Many IT organizations have existing infrastructure and hardware investments that they aren't ready to retire, but they also feel the pressure to make new purchases to support changing needs. Here's some good news: You can do both.

### A reference architecture-based approach allows you to:

- Leverage existing investments
- Lower total cost of ownership
- Improve business and operational efficiency
- Minimize risks or improper configurations or misaligned resources

Using a reference-based approach can be as simple as adopting the latest in compute virtualization and adding storage virtualization on top of existing compute virtualization—while keeping your options open for additional virtualization in the future. That way, you can budget for flexibility and ambiguity, while developing a solid readiness strategy. You don't have to give up the element of choice or investment protection, and can flexibly blend what you have with the forward-focused innovation that you need.

A **reference architecture** is like a guide on how to properly design, deploy, and manage your new infrastructure in a standardized way. It provides recommended structures and integrations for infrastructure, and often includes a common vocabulary with which to discuss implementations and best practices on the optimal delivery method for specific technologies.

## 4 Ignoring the IT Skills Gap

Thanks to the rapid adoption of new technologies, the IT skills gap is growing. As organizations expand into cloud-native technologies, security, IoT, and data science, the skills and knowledge gaps quickly become apparent.

They've never been asked to do these things before, which is why many IT organizations simply don't have the most relevant, timely skills on their existing teams. The reality of innovation is that acquiring or building expertise in these areas can't happen fast enough. If you want the business to succeed, don't ignore the skills gap—rather, work to narrow it.

A 2017 survey of 600 U.S. IT and business executives revealed that:



**57% of large firms**

**44% of medium firms**

**23% of micro-sized firms**

} Believe the IT skills shortage is growing.<sup>2</sup>

2. CompTIA, Assessing the IT Skills Gap, May 2017

# Bridging the Gap Starts by Shifting Perspective

As you look at your own team, focus on developing skills in the following areas to get ahead:

- Automation
- Networking
- Security
- Cloud operations
- Application management
- Cross-departmental collaboration, problem-solving, and business acumen

The skills gap is a great opportunity to reassess what's working and what's not, and take a proactive approach to future challenges. It allows you to take a fresh look at your teams and organizational structure, and determine how you can empower everyone to innovate and contribute to the success of the business. Learning new things and gaining new skills benefits both individual practitioners and the business, creating a win-win.

## 5 Confusion over Vendor Lock-in

Vendor lock-in continues to be one of the top concerns for organizations exploring any type of cloud strategy. That's because lock-in traditionally limits negotiating power and options when it's time for a change. However, with the right provider or architectural strategy, users can expand into a variety of different cloud types such as private, public, or hybrid, as the needs of their business or workloads change—all without having to re-architect.

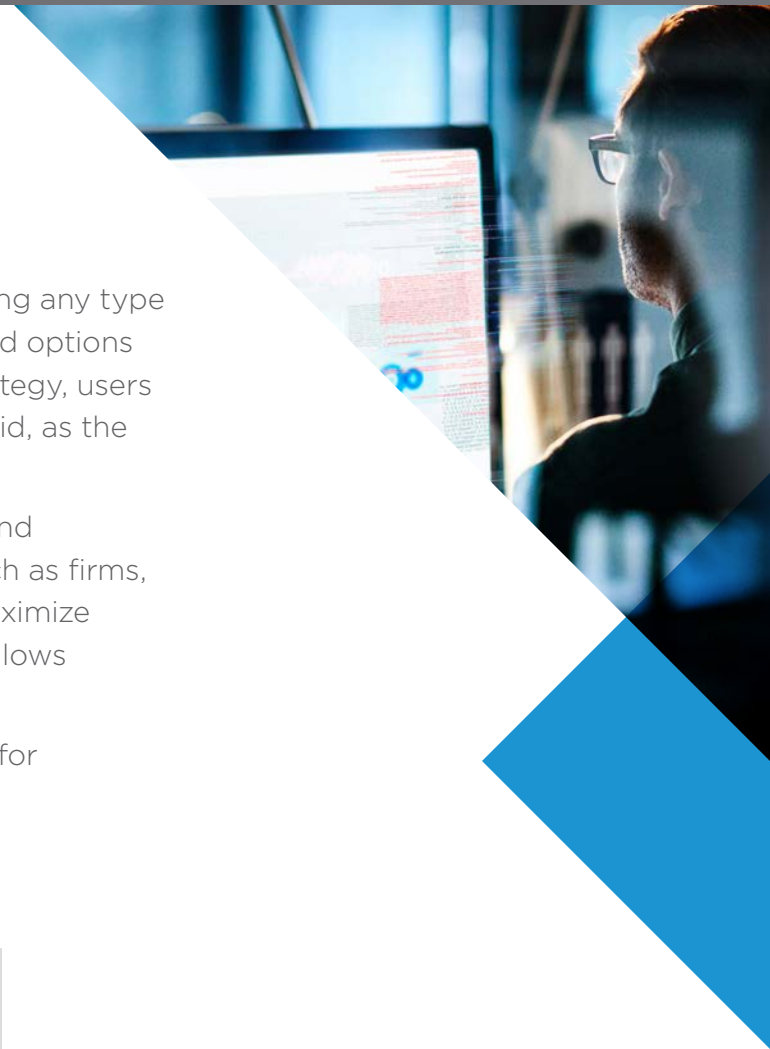
The flip side of lock-in is standardization, which is the process of implementing and developing technical standards based on consensus between diverse parties such as firms, users, interest groups, standards organizations, and governments. It can help maximize compatibility, interoperability, safety, repeatability, and quality. Standardization allows customers to have choice, whereas lock-in removes customer choice.

In that way, standardization gives organizations the ability to plan and negotiate for something different, if it's ever needed.

### STANDARDIZATION

### LOCK-IN

Enables negotiating flexibility	Limits negotiating flexibility
Provides choices and options	Restricts or fully eliminates choice
Allows for the widest range of business/operational scenarios	Provides only a narrow set of business/operational capabilities



# VMware Solutions for the Software-Defined Private Cloud

As you build your modern infrastructure, it's crucial to choose the right platform provider. A valuable partner can help you avoid common pitfalls in the near term, and position your business for success in the future.

VMware enables organizations to manage and run consistent infrastructure and operations across data centers and public clouds. With solutions that bridge the gap between on-premises and cloud, VMware lets you deliver applications with the speed and agility you need to support business growth.

VMware software-defined private cloud solutions are built on a software-defined architecture of natively integrated compute, network, and storage virtualization technologies with a comprehensive cloud management platform that delivers automation and self-driving operations. And when you standardize on a VMware platform, you can plan and engage with more than 4,300 VMware Cloud Provider™ Partners for the tools and solutions you need to move your business forward.

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