Getting Hybrid IT Right

A Softchoice Guide to Hybrid Cloud Adoption
Your Path to an Effective Hybrid Cloud

The hybrid cloud is on the radar for business and IT leaders everywhere. IDC estimates¹ that 80 percent of businesses are already committed to hybrid cloud infrastructures, with the goal of combining both private and public clouds into a single operational shell. Meanwhile, 92 percent of all enterprises using the public cloud are leveraging multiple cloud partners and deployments, or so-called “multi-cloud”.

This rise in popularity is no surprise. The hybrid cloud promises to give businesses a consistent mode of operation for their entire application universe, on- or off-premises. With this simplicity, comes greater security, cost oversight, and agility. Moreover, it enables the “pay as you go” efficiencies many businesses look for in the public cloud, but have often struggled to realize.

While the advantages of a Hybrid IT enterprise are well known, IT leaders may be unaware of the challenges that may arise when building an effective hybrid strategy, and the key considerations to make while pursuing it.

Wherever you are in your hybrid cloud journey, this guide will provide you with insights needed to:

- Understand the best practices and avoid the common mistakes in implementing hybrid cloud strategies
- Create a roadmap to digital transformation using modern applications
- Clarify your specific IT needs and next steps

¹ https://www.idc.com/research/viewtoc.jsp?containerId=259840
What is Hybrid Cloud?

At its core, hybrid cloud is a means of providing IT with consistent infrastructure for the operation of any cloud, whether private or public. With this unified foundation, IT can run, manage, connect and secure the entire application portfolio, on any cloud and to any device. This consolidated approach to IT provides numerous benefits, including:

- **Efficiency**: Extend to cloud on-demand, for true burst computing
- **Innovation**: Simplify and automate legacy IT demands, and drive innovation to customers, end-users, IT, and the business at large
- **Agility**: Deploy quickly and securely, empowering developers with safe self-service
The ingredients of an effective hybrid cloud

An effective hybrid cloud comprises three core elements that work together to create simplicity and efficiency: the platform or control layer, cloud infrastructure, and applications.

**Control Layer**
On the control layer, hybrid cloud technology provides IT with one consistent, continuous platform to monitor, manage, and automate infrastructure and applications. Ideally, this consists of a single view into hardware, networking, storage and software assets, on any cloud, whether private or public.

**Cloud Infrastructure**
The second layer consists of public and private cloud infrastructure. Here, on-premise workloads are virtualized to create a private cloud, offering the same agility and efficiency as the public cloud.

**Applications**
The third layer consists of applications, which exist independently from the underlying infrastructure. As you will learn, where and how you host applications depends on business considerations, costs, performance needs and readiness.
Key use cases of a hybrid cloud:
Easily extend or migrate on-premises environment into public clouds for a broad range of use cases.

Case Study:
Six times faster to market, 40% total costs reduction
The table below shows how one of our customers benefited from VMware’s Cloud Foundation hybrid solution. By reducing the time required for IT to perform traditional operations, like software and hardware deployments and patching, they were able to re-focus on deploying business critical applications and drive 6-8 x faster time to market. The solution reduced total cost of ownership for private cloud deployments between 30-40%.

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Traditional</th>
<th>Cloud Foundation</th>
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<tbody>
<tr>
<td>Architecture Assess, Design and Pilot</td>
<td>60+ Days</td>
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<tr>
<td>Data Center Operations Installation</td>
<td>14 Days</td>
<td>1 Day</td>
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<tr>
<td>Operational Configuration Pre-Planning</td>
<td>2 Days</td>
<td>4 Hours</td>
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<tr>
<td>Network Configuration</td>
<td>1 Days</td>
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<tr>
<td>Storage Configuration</td>
<td>2 Days</td>
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<tr>
<td>Automation Configuration</td>
<td>1.5 days</td>
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<td>SDDC Configuration</td>
<td>3 Days</td>
<td>4 Hours</td>
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<tr>
<td>Environment QA Validation</td>
<td>2.5 Days</td>
<td>2.5 Days</td>
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<tr>
<td>Total Time</td>
<td>86+ Days</td>
<td>4.5 Days</td>
</tr>
</tbody>
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1 day = 8 people-hours  "--" = zero time
Numbers provided by One Cloud early field trial deployment
The Right Way to Build Hybrid IT

A two-pronged approach is optimal for a successful hybrid cloud strategy. First, IT should modernize select applications and business processes for the cloud. This includes prioritizing applications based on business value and point-in-time considerations, such as technical requirements and readiness. Second, IT should transform existing infrastructure and responsibilities to create abstracted, private-cloud control over server, storage, and networking.

Modernizing Applications

Detailed assessment of applications, technical requirements and business factors

Where should this workload go?

Data Center Transformation

Detailed evaluation of hardware, network, security, facilities etc.

Where can this workload go?
Data center transformation

For hybrid success, IT must be able to manage core on-premises workloads and legacy infrastructure using virtualization. Referred to as the software-defined data center, or private cloud, virtualization ultimately enables IT to manage legacy responsibilities and decisions under a single unified view of new public cloud initiatives.

1. Step-by-step approach
You can virtualize core components of your data center at your own pace, including storage, server, and networking.

2. All-in-one approach
You can also find “all-in-one” solutions that fast-track your path to data center modernity, including VMware Cloud Foundation, which includes cloud, storage, and network virtualization, all within a single management console.

DON’T FORGET THE NETWORK! Due to connectivity demands and the risk of lag, networking is often the missing link a successful hybrid cloud. For example, with a software-defined network on VMware NSX, you achieve faster provisioning, fine-grained security, greater compliance, and application continuity and portability to multiple clouds.
Application modernization

Understanding the roadmap for your existing and future business applications is crucial when implementing hybrid cloud. At this stage, you should develop the insights that will enable you to determine the most efficient and beneficial location for each application. Specifically, you need to determine which applications, services, and data should go where in your hybrid cloud.

How to plan your application roadmap

Planning your application roadmap is a complex process. You must identify the readiness, performance demands, costs, and security considerations for each application. As well, you need to weigh those practical considerations against urgent and long-term business goals to determine the most optimal order of delivery.

This process, known as “application rationalization,” involves the following steps:

1. Identify the business objectives and strategic imperatives for hybrid cloud.
2. Align the IT strategy with the future-state architecture needed to achieve it.
3. Develop application and data inventory.
4. Map business processes to applications.
5. Identify readiness of applications – retire, consolidate, maintain, upgrade/enhance.
6. Define deployment decision criteria and apply to the retained applications (consolidate, maintain, upgrade/enhance).
7. Document the deployment model.

Why focus on business objectives?
If your goal is to enable a more agile software team with DevOps, you might want to prioritize making provisioning easier, on-demand, and with the proper oversight. If your focus is on collaboration and mobility, improving end-user productivity will be at the top of your list. Clarifying your business objectives helps you filter to prioritize the many practical considerations that will arise as you continue to plan.

How to profile your applications:
A key step in profiling your applications is applying decision criteria to determine the deployment of applications (step 6 above). Flexibility, security, speed, cost, control, locality, and service levels are the criteria to use in order to decide between a public and private (on- and off-premises) cloud deployment. The team performing this analysis must have a strong understanding of business goals and technology requirements in order to make informed deployment decisions.

On average, just 20% of existing applications will be ready to move the cloud as is. -VMware®

Flexibility – Elasticity requirements must be considered when assessing public and private cloud usage. Seasonal demand for services, such as Black Friday ecommerce activity, drives a significant increase in capacity requirements for a short period of time. Public cloud services are preferable when elasticity is a major concern, since purchasing on-premises capacity to support seasonal demand is not cost-effective. Mature organizations provide “bursting” to public cloud services when privately hosted services exceed defined thresholds.

Security – Traditionally, less sensitive data such as publicly available information have been candidates for the public cloud, while highly sensitive information may be better suited for hosting on-premises or in a private cloud service.

However, security in public cloud services continues to improve, potentially enabling the hosting of highly sensitive information. Your organization should assess the available controls in the public cloud service and design security services to deal with the associated risks, including those related to multi-tenancy.

Speed and Automation – The ability to quickly deploy applications to satisfy business needs is a major consideration when making deployment decisions. The immediate availability of resources and capabilities in public cloud services makes this model desirable when fast deployment is required. Additionally, existing public cloud services can be leveraged to reduce the time to build new capabilities for the business.
Cost – The long-term costs associated with hosting the application is a key factor. You need to be able to compare private cloud services costs (e.g., monthly server cost) with public cloud variable costs, such as outbound Internet bandwidth. The costs of developing and maintaining application capabilities in-house should also be compared with the alternative of using off-the-shelf cloud subscriptions.

Locality – The location of applications and data must be considered when deploying services to public and private clouds. Locality considers the effect of latency on the end-user experience. For example, cross-border latency can have a significant impact on response times. Hosting services in-country for the user community will improve the experience. Additionally, data sovereignty concerns may encourage the hosting of services in a public cloud if a data center is not available.

Service Levels – Service levels associated with mission-critical applications are a major consideration when assessing application deployment, including availability, response times, throughput, etc. Mapping service levels associated with public cloud services and private cloud services to the requirements of applications helps to identify any mismatches.

System Interdependencies – How dependent is a system on other systems in your organization? Knowing system interdependencies is key. You may have a workload that meets all the criteria above. However, if it has multiple integration points that cross the hybrid divide, it may not be suitable for a hybrid cloud solution.

Choose the Right Cloud Model:
Depending on your application, different cloud models will be more effective.

IaaS
Well suited to cases where the application and its required software stack already exist and are well understood by the enterprise. Move the whole set of software into one or more virtual machines with associated storage resources.

PaaS
Well suited to applications built for runtimes and for services supported by a complete middleware platform. This option is particularly well suited to creating new custom applications with minimum effort and risk.

SaaS
Well suited to cases where the enterprise wants to avoid the costs and risks of developing custom applications, where standard off-the-shelf cloud services provide the required business capabilities.
Consolidating and Optimizing Control

Once the private-public cloud foundation and applications are in place, you will need to develop consolidated control, intelligent reporting and automation.

One dashboard to rule them all
Virtualization will let you assemble all software and hardware workloads onto a single management dashboard. Not only does this simplify it and reduce the burden on IT administrators, it gives you a holistic and concise picture of your entire IT enterprise.

Consolidating teams and unifying silos
Eliminate the traditional silos dedicated to server, storage and networking, as well as the “new silos” created by distinct teams focused on distinct cloud-run services. Organize your teams in a way that does not differentiate between cloud and non-cloud applications, but instead aligns to business objectives, processes, and needs. Achieving this might require training, education, or teaming up with a cloud partner to fill in the skills gaps, as needed.

Governance and compliance
You must combine internal and external cloud governance policies, service level agreements (SLAs), and compliance measures into a single framework to avoid overlooking gaps in security and service. This is a critical stage to ensure that you meet your compliance needs, and make clear the levels of service you expect from your cloud partners.

Lifecycle management optimization
With intelligent operations management for compute, storage, and applications across physical, virtual, and cloud infrastructures, you can accelerate decision-making with automated performance management, cloud planning, and capacity optimization. For example, features include scheduling and automating patch and upgrade tasks.
The Path to Failure

Without a holistic approach to hybrid cloud adoption, IT risks several negative consequences. The most common of these include creating more silos and complexity, inefficiency, and unexpected costs, as well as impeding your ability to innovate.

Cloud silos
With every new cloud initiative, IT receives a new dashboard, a new learning curve, and a new web of complexity. With no central dashboard and governance structure, IT resources are scattered across new and existing silos.

Cost ineffectiveness
Without the proper application roadmap and agility, IT risks paying too much for performance levels it does not need. Meanwhile, the complexities of moving workloads back and forth to the cloud sabotages the “on demand” value proposition IT was aiming for in the first place.

Stagnation, not innovation
As IT spends more time managing multiple cloud and on-premises environments, it has no time left to innovate. Hybrid cloud ends up creating more headaches, without achieving the gains you were originally looking for.
Moving Forward

This guide only touches on the challenges that will arise and best practices to keep in mind, as you modernize your business with a hybrid cloud strategy. Softchoice has assembled a number of resources and custom services, assessments and products to help you get Hybrid IT right.

Getting actionable insight
With our Data Center and Virtualization Assessments, Softchoice can help you generate a holistic understanding of your server, storage, networking, and application needs. With these data-driven services, we provide a consolidated view of your current consumption, licensing and upgrading needs, as well as a list of insights and practical steps to guide you forward.

Too many options
With dozens of competing vendors, each with its own compelling sales pitch, navigating your options can be overwhelming. Softchoice has a comprehensive understanding of the market, and offers a thorough investigation of your business goals, in order to simplify your choices. We deliver a custom cost comparison and detailed roadmap to ensure your investments yield the greatest returns, in the shortest amount of time.

Closing the skills gaps
From ongoing managed services to upfront configuration, – and everything in between–, you can rely on Softchoice’s hybrid cloud experts to support your strategy. Highly skilled and experienced staff provides a holistic view and actionable information that can help you accelerate your business goals. Whether you want the support to learn as you go, 24/7 monitoring and resolution, or a completely managed service offering, we can help.

Contact us today to start building Hybrid IT, the right way.