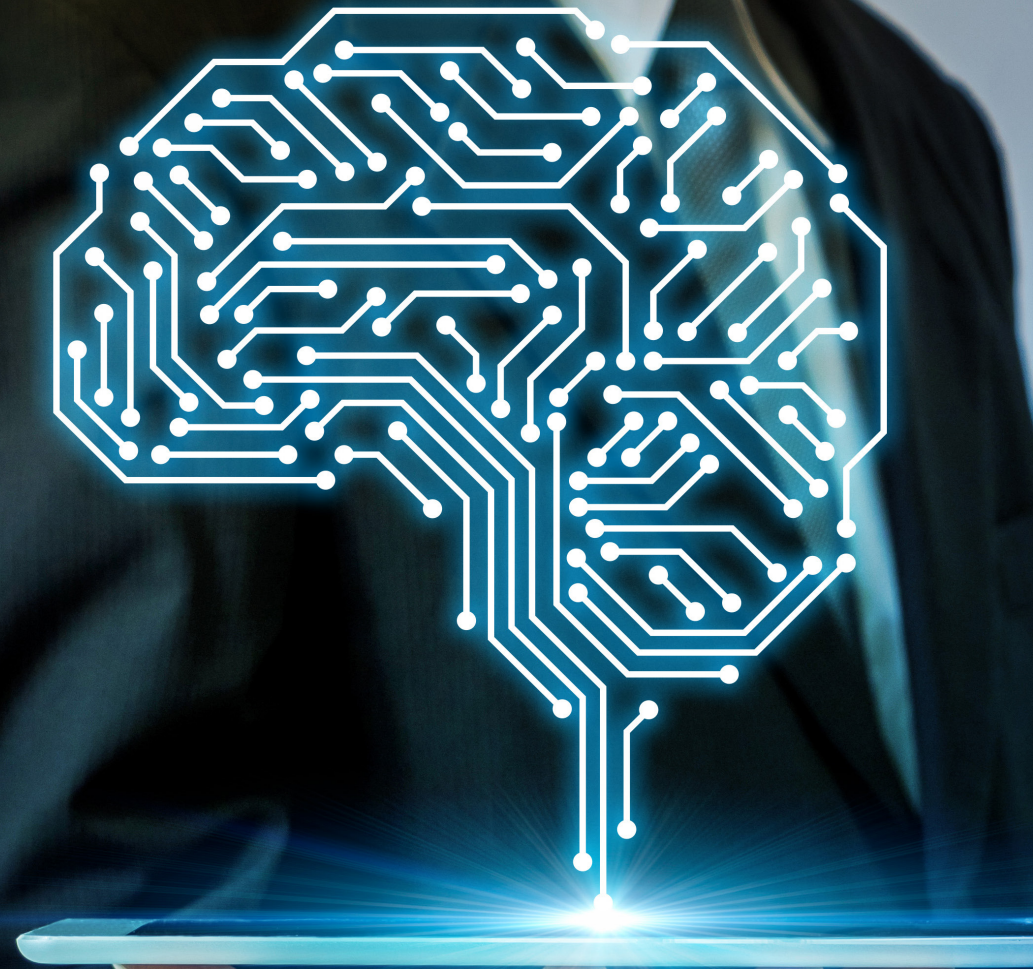


Understanding the Pivot to **DIGITAL**

A Real-World Approach to
Managing Hybrid IT Ecosystems



Life Is On

Schneider
Electric

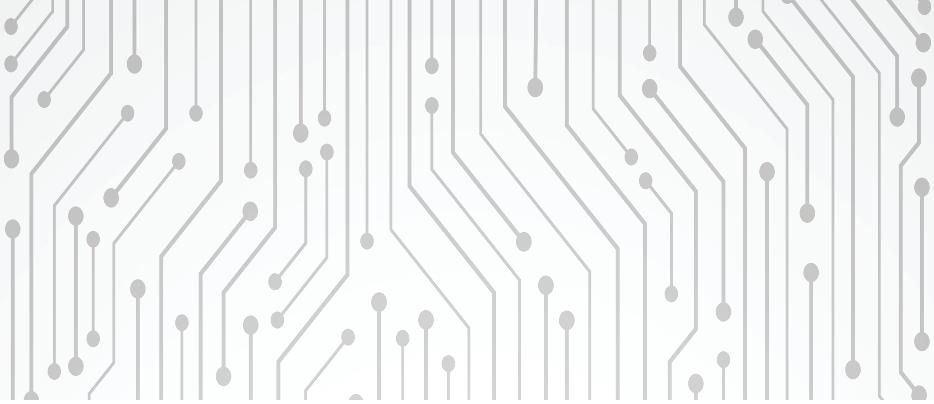


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In this eBook, we’ll explore the evolution of the enterprise data center, impacts of cloud-powered digital solutions, and how to manage hybrid IT solutions.

A Look at our Data Center and Digital Landscape

Operators of enterprise data centers face a rapidly evolving technology landscape and a cloud-powered wave of disruption that is changing business models, connectivity, workload management and much more. Driving this change is the growing availability and adoption of opex-based ‘off-premises’ services, such as public cloud, X-as-a-service and colocation data center offerings. Yet not all workloads are being, or can be, outsourced. This means that operators are increasingly managing ‘hybrid’ IT environments – that is, a mix of off-premises services and privately owned, internal ‘on-premises’ data center capacity.

In fact, Gartner predicts that by 2020, 90 percent of organizations will adopt **hybrid infrastructure management** capabilities. However, this isn’t easy. With a hybrid IT environment can come complexity, confusion, and even infrastructure fragmentation. And, if you leave this poorly managed, your users, business, and most of all customers will certainly start to notice.



In managing hybrid IT, you need to ask yourself the following two important questions:

1. How is having workloads in different environments changing the requirements for hardware, software, networking and operational procedures?
2. Which management strategies and tactics are proving successful?



Considerations and Points to Remember in Working with Cloud and Hybrid IT

In a recent 451 Research study, several infrastructure leaders at different enterprises in the US, UK and Asia-Pacific described how their capacity locations are changing, and their different approaches to managing them, including the challenges and the lessons learned.

While the experiences, strategies and use of innovative technologies by these enterprises in managing hybrid IT environments varied greatly, there were clearly some common themes. Some of the key takeaways from the report include:

- Risk, cost and IT service performance were the most common vectors in assessing the suitability of different data center environments, on a workload-by-workload basis.
- Enterprises that are managing hybrid environments are investing in:
 - Software for greater visibility into on- and off-premises data center environments.
 - Management software tools.
 - Standard operating procedures.
 - Recruiting and retaining staff.
- As executives in the study show, it is possible with hybrid IT environments to reduce data center capital and operating costs while maintaining or even improving on high levels of availability.
- Standardized capacity management and operational processes, new approaches to off-premises capacity in incremental steps, and ongoing assessment mechanisms per location are among the most successful strategies in managing hybrid IT environments.

In conducting this research, something else became very clear—there really is no one right answer. As your organization works more closely with a data-driven, digital world, it'll be critical to understand where your data center fits in, how to extend capabilities, and where effective management solutions can help. This pivot towards cloud does not have to be an all-in scenario. Rather, it's key to understand management capabilities, where your resources should reside, and how cloud can help facilitate a hybrid IT ecosystem.

The best way to really visualize hybrid IT and management is to look at an actual use-case.

How a Large US-Based Retailer Effectively Standardized Hybrid IT Operations

In this real-world use-case, this retailer is standardizing and simplifying, from hardware and software to operational procedures, in order to successfully expand its off-premises capacity.

“We believe we are always going to be hybrid. We'll always have a small footprint inside our internal data center, but we are looking to expand as much as possible in the cloud.”

ORGANIZATION SNAPSHOT

Industry: Retail

Revenue: \$500m+

The Strategic and Business Vision for Cloud and Data Center Operations

During its peak season, this retailer leases additional equipment in its two on-prem data centers to accommodate greater IT demand—an effective but costly strategy. During the next five years, it plans to migrate one of these data centers to a colocation facility and use more public cloud to meet peak demand.

Their Challenges to Pivoting to Digital and Adopting a Hybrid IT Ecosystem

For this customer, their IT applications are mostly homegrown and interdependent, meaning that when one is moved to a different data center, several other applications must move with it (to limit latency).

Here's the challenge with that: This requires more physical IT hardware than can be handled by its distributed server rooms at its retail locations. With public clouds, the retailer lacks real-time visibility of its capacity—providers' online portals are not always responsive, which can lead to inadvertent overprovisioning. Forecasting software and hardware licenses in public clouds is also a challenge.



Designing a Roadmap to Cloud, Digital Readiness, and Innovation

To make their digital future a reality, the retailer is simplifying and standardizing, as much as possible, across its different environments. It plans to streamline its legacy applications, and it mandates that all new applications are cloud-native so they can run in public environments. It is adopting converged IT systems on-prem and at its colo, to reduce costs and simplify maintenance.

The retailer is also implementing software-defined networking, enabling it to reduce networking switches, sometimes from five to

just one. It is also shortening IT equipment leases, from five years down to two- and three-year leases, to more cost-effectively support its consolidation and outsourcing moves.

For visibility on-prem, the retailer deploys commercial data center infrastructure management (DCIM) monitoring and asset management software, as well as separate RFID management. It uses the same RFID system at its colocation data center to enable consistency across its power and cooling KPIs and other metrics.

Operational process consistency has also been key. A version of its on-prem standard operating procedures is written into its SLAs with colocation and cloud suppliers.

Perhaps the retailer's most beneficial tactic has been ongoing and multi-disciplinary communication and planning. Managers of networking, servers, data center facilities and operating systems meet on a weekly basis. They regularly review feedback, including feedback around capacity requirements, from business users and application development and service-delivery teams.

How Hybrid Helps, and Key Lessons Learned

A lesson learned is that colocation and public clouds are not always an affordable option. Also, having different types of data center capacity requires more versatile, often more tech-savvy,

staff. Additional training and higher compensation have been required. However, cloud is still an important part of the 2-3-year strategy, which means it is absolutely critical to delivering good management capabilities today.

Developing strict operational processes is key and ensuring that these requirements are part of SLAs and operations-level agreements (OLAs) with colocation and cloud service providers is crucial.

Embracing Hybrid IT: Final Thoughts

The shift from privately owned, internal ‘on-premises’ data center capacity toward off-premises resources is well underway. Yet when we asked a large number of enterprises about their different types of IT environments, it was also clear that the extent of the migration of workloads off-premises is only partial – most enterprises use a mix of on- and off-premises capacity. Even within

“You have to know [off-premises] is not going to be cheaper... and you lose a huge amount of control. To gain some of that control back, all you can rely on are your SLAs and OLAs.”



on-premises environments, there is typically a mix of server rooms or server closets and larger data center facilities.

As the report indicates, by 2019, organizations anticipate that just under half (46%) of enterprise workloads will run in on-premises IT environments, with the remainder off-premises. Clearly, hybrid IT environments have become the norm. This is affecting data center managers and operations in various ways. As executives revealed in the study, legacy applications are typically unsuited to run off-premises, which is driving more enterprises to modernize existing workloads wherever possible and to develop net new



applications built for the cloud. Other forces that are shaping enterprise strategies around the best execution venue for workloads include:

- Cost
- Data sovereignty and governance
- Security
- IT performance (latency)
- Control

Tactics for successfully managing different environments can vary, from DCIM software development and deployment to arbitration clauses in third-party service-level agreements.

Looking ahead to the next few years, existing complexities within both data center and cloud will likely be compounded by an anticipated wave of new distributed IT, driven by the Internet of Things, distributed cloud and other emerging edge computing workloads.

New data center form factors, as well as new cloud computing and networking approaches, will be required. However, in working with a good hybrid IT management model, it is possible to reduce data center capital and operating costs while maintaining or even improving on high levels of availability—using standardized capacity management and operational processes, ongoing assessment mechanisms per location, and new approaches to off-premises capacity in incremental steps, among other strategies.