



## The Future of the Data Centre in the Cloud Era

**Cloud computing continues to raise questions** about the **future of the data centre**. Businesses are reassessing the number of data centres they have, and where they're located. Many are questioning whether they still need data centres at all. It's possible to harness emerging technologies to create a dynamic, scalable next-generation data centre that's responsive to changing business needs, without overspending or compromising on service levels. Read on to explore how **careful planning can help establish a powerful union** between your **data centre and the cloud**.

As cloud computing enters the mainstream, opinion regarding the future of the enterprise data centre remains sharply divided. The market is sending mixed messages: certain experts and analysts predict that the days of businesses owning and operating their own data centres are numbered. Others maintain that private clouds will dominate, with a few casual workloads running in the public cloud. Yet, with the majority of today's IT budgets being all but consumed by physical data centre infrastructure and operations, such scenarios seem a fair way off.

With so much uncertainty, it's critical that IT leaders are proactive about exploring the opportunities and challenges so they can make timely, informed decisions about creating a high-performing next-generation data centre.

### Shrink, build, or buy?

The need to right-size the data centre is one of the most pressing challenges facing businesses today. The merits of building additional data centre facilities to cope with additional capacity requirements – actual or anticipated – need to be carefully considered, given the hefty capex involved. Then there's timing to consider: building a new data centre is a 20-year investment, yet our industry is in a state of flux and evolving at an unprecedented rate. How can you accurately predict how much data centre space you'll need in two decades' time? Traditional planning approaches that don't include the notion of cloud will likely leave you with excess capacity and idle resources. Contrary to popular belief, a large percentage of businesses have overplanned their data centre facilities considerably and will be looking to shrink – rather than grow – their environments over the next few years.

## Plan to win

Given this level of complexity, it's not uncommon for organisations to enlist the assistance of external partners with the assets and capabilities to help them move to a future-state that meets their business goals. Cloud service providers can help you understand the current market, how technology is changing, and how this will likely affect you in the future. By analysing your business, and using existing insights and data, they'll be able to develop a relatively accurate prediction of your future capacity requirements.

Decisions regarding when to use the cloud, how much to use, and which workloads are optimal candidates for an initial migration, also require a structured approach. As a first step, assess the workloads you're currently running and identify those that are ideal candidates to move out of the data centre and into the cloud. Workloads that aren't cloud-ready can either be run on-premise, or moved to a colocation facility, depending on their nature and business-criticality.

## Get communal

Colocation providers rent equipment, space, and bandwidth to individual businesses. Their facilities include space, power, cooling, and physical security for the server, storage, and networking equipment of their customers. Colocation is a popular option for businesses looking to eliminate the burden of providing logistical support for on-premise data centre facilities. Select your colocation provider with care, however. Consider its reputation, overall viability, and the scalability of its infrastructure. Also, be sure to enquire about service level guarantees to avoid availability issues that may affect continuity of service..

While colocation is an ideal arrangement for many businesses, the transition needs to be carefully managed. Moving to a colocation facility involves more than just moving infrastructure. Ideally, the process should be managed within a formal framework that covers, people, processes, and operations.

## Where in the world...?

In addition to modernisation and right-sizing considerations, there's the question of data centre location. This decision has never been more complex and full of choices. In the past, businesses built their data centres at or near to their offices, close to their employee base. Today, however, many users are mobile, or work from regional, satellite, or home offices. So, it's no longer necessary to have your data centre in the immediate vicinity of your office, or even in the same city. You can use WAN optimisation technology to deliver the performance outcomes you need in terms of latency and network speed.

## Avoiding cloud conundrums

The cost and efficiency benefits of cloud are compelling, so it's no wonder that data centre managers are embracing the notion of moving certain applications to the cloud with enthusiasm. It's important, however, to ensure that such a move doesn't expose the business to risk, disruption, and unforeseen costs. The first step in a cloud migration often involves re-platforming applications: for example, transitioning them from Unix or mainframe-based architectures to an X86 architecture which allows you to move off physical infrastructure using virtualisation technologies. This process can be complex, which is why it makes sense to engage with a cloud partner that has standard methodologies and toolsets to undertake cloud migrations across heterogeneous environments in a consistent manner.

Your selection of a cloud provider should also take into account the processes and managed services offerings for the different types of cloud services they provide. If you're using public cloud services for testing and development activities, you're effectively leveraging a platform as a utility. So, you assume that all relevant processes are in place to keep the utility up and running while you continue to manage your environment yourself. However, if you're looking for an enterprise cloud platform on which to run your critical applications, your expectations need to be far higher. You'll need a greater range of options, higher levels of customisation, and all the processes and security elements that you'd receive in a traditional managed services offering.

## Time for a refresh

While most businesses are testing the waters of cloud computing, few have migrated their entire infrastructure to a public or private cloud environment and many will still require on-premise infrastructure to meet their needs well into the foreseeable future. Significant opportunities exist for organisations to save costs, and become more efficient and agile, by optimising traditional facilities and/or undertaking a technology refresh. Ageing infrastructure costs more to manage and makes it difficult to capitalise on transformational trends such as cloud and mobility. An outdated network architecture will prevent you from delivering the user experience and application performance expected. It will also affect your ability to get the cost savings promised by virtualisation, converged infrastructure, and cloud.

With a modern, optimised data centre infrastructure in place, you can accelerate the delivery of new and existing applications and services to your users, wherever they may be and irrespective of their device of choice. You can also ensure you give users a good experience when connecting to applications, thereby making them more satisfied and productive.

## Waves of change

The pace of technology change has pushed our industry to a tipping point and the data centre market is in the midst of a revolution unlike any seen before. The consequences of not embracing this transformation could be profound. Data centre projects, which have traditionally been long-term, multi-year investments, can no longer be pursued in isolation of – or without taking cognisance of – emerging technologies and trends. What will the data centre look like in 10 or 20 years' time? It's impossible to answer this question with any certainty. But there's no better time to begin evaluating the many options at your disposal and prepare your business to ride these waves of change ... or risk being swept away.

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