

The one thing your cloud plan can't live without

Is it time to redefine your approach to the cloud?



According to the Cisco Global Cloud Index, by 2021 94% of workloads and compute instances will be processed by cloud data centres. For enterprises it's long past the question of if they'll move

to the cloud, but to what extent and when.

From flexible capacity and compute resource to the ability to quickly roll out and scale new services, the benefits of moving to the cloud are well documented.

"At its most optimal, cloud computing enables businesses to focus on performance as directly as possible, with minimal hassle or interruption. New advantages built upon the foundation of cloud computing – agility, mobility, flexibility, and security – emerge when highly scalable and flexible computing technology fuses with existing technology and processes (whether on premises or in the cloud). The aim is to get the computation you want and need, the way you want it, and move on."

Google, Future of Cloud Computing.

For the network, this changes the dynamic from it being simply a connection to the outside world to the life-blood of the business and a link that everyone depends on.

Whether you're a challenger brand disrupting the market place or an established player looking to innovate and grow, connectivity to the cloud can take your business to the next level – if you have the right plan.

Cloud migration plans vary in complexity and scale depending on how much the enterprise wants to migrate or develop – but one key aspect usually gets left to the last minute and it's one that can make or break the entire project.

With so many things to consider, connectivity can be treated as an afterthought; something that can easily be factored in at the end or simply ordered overnight. The risk is that leaving it late can put the whole project at risk or cause significant disruption to the entire business.

In this guide we look at the risks of leaving it too late, outline how and when connectivity should start being discussed and some of the key questions you need to ask if your cloud migration is to be successful, on budget and on time.

Connecting to the cloud over a private network provides a far superior experience compared to using public internet. Particularly for those moving or rolling out mission critical services and applications, a reliable connection to the cloud is essential. Unlike public internet, dedicated cloud connectivity offers a far higher degree of resilience, faster performance, enhanced security and a predictable experience that a business can depend on – all backed up by SLAs.



The risks of leaving it too late

The impact will vary depending on the scale and scope of the cloud migration – but leaving it too late to consider connectivity can put the whole project at risk. The issues can appear early in the process when different departments want to check the latency requirements of a given application or service, or late in the day, when testing reveals that the latency or throughput numbers required don't match expectations.

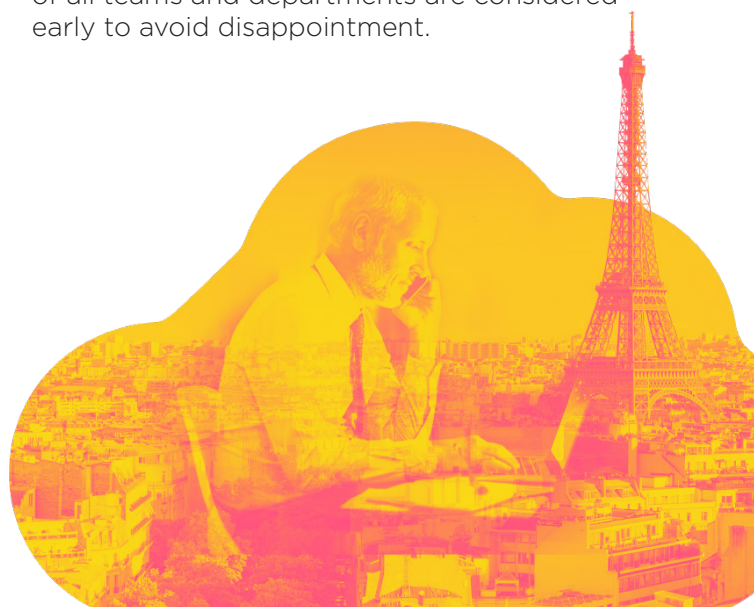
“The shift of enterprise IT spending to new, cloud-based alternatives is relentless, although it's occurring over the course of many years due to the nature of traditional enterprise IT,” said Michael Warrilow, research vice president at Gartner. “Cloud shift highlights the appeal of greater flexibility and agility, which is perceived as a benefit of on-demand capacity and pay-as-you-go pricing in cloud.”¹

Michael Warrilow,
research vice president at Gartner.

- **Missed deadlines**
With cloud migration often impacting large parts of a business, keeping to deadlines is an important aspect of how the project is perceived and evaluated. While some services are now available on demand and can be provisioned quickly, it's not always that straightforward and fully planning connectivity, particularly at multiple sites, can take time. The best scenario is that it's just a case of not leaving enough time, and deadlines can be pushed back by a clearly defined period. The worst is that it impacts multiple aspects of the migration that you already thought were complete.
- **Overbuying capacity or holding back innovation**
With legacy applications, you can plan for an incremental increase in capacity over time – adding more each year at a reasonably consistent level. But cloud applications

don't work within this model and present unpredictable demands from different departments. This makes it difficult to plan effectively and predict what bandwidth you'll need in six or 12 months. By not factoring this into your plans the risk is either overbuying capacity, with obvious cost implications or creating a bottleneck that can stifle innovation and put the IT team under added pressure.

- **Failing to meet key SLAs**
Can your connectivity provider make the guarantees required by the cloud? Or what about the applications and services that will soon be running there – what should the numbers say and what about the reality? If you don't involve the connectivity partner early then it's easy to make assumptions that can challenge or derail the whole project.
- **Security risks**
Moving to the cloud means a new set of security challenges, particularly for those moving applications carrying sensitive or business-critical data. Do you know where your data is going between each office and the cloud? And is that data being carried across a single private network or elsewhere?
- **Not meeting application demands**
Both new and existing applications can present connectivity requirements and challenges that can hold up a migration project – from the need for an internal IP address mentioned earlier, to specific latency requirements of interactive services, it's crucial that the needs of all teams and departments are considered early to avoid disappointment.





When and how to ask the connectivity question

According to Gartner, spend on direct cloud connectivity from WAN will account for 8% of MPLS and Ethernet WAN spend by 2022. As more mission-critical applications move to public cloud environments, cloud connect services will see increasing demand². That's why it's key that this is included in discussions and planning sessions from an early stage in the process – doing so will ensure that the risks in the previous section are minimised and that timescales can be met.

First, it needs to be considered in the business case discussions to ensure that suitable budget is allocated, timescales have been considered and all stakeholders have considered the implications of a cloud move.

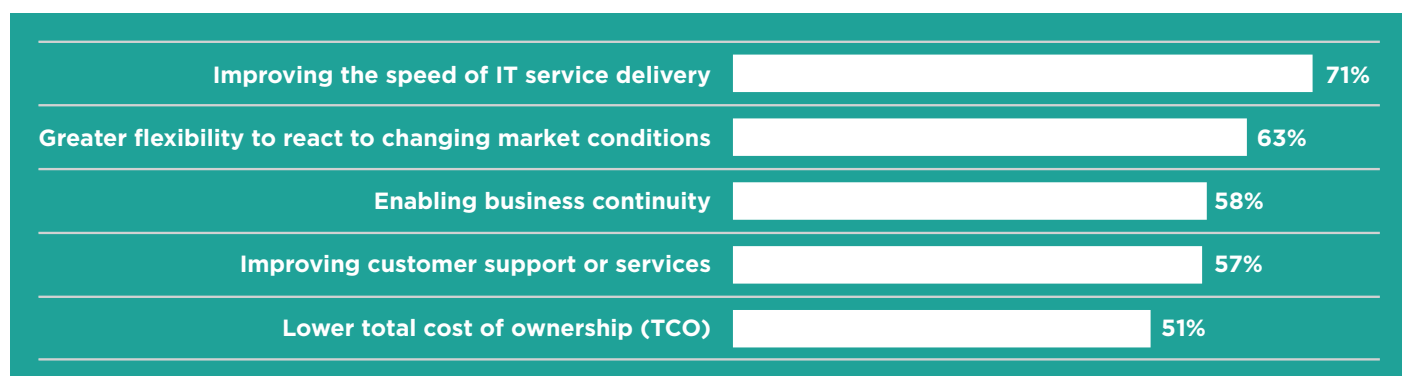
Then, in the early workshops, connectivity needs to be a key agenda item. This is the time to bring

in experts from your cloud and connectivity suppliers – making the most of their expertise to advise on the best approach and what you will need for the migration to be a success. This should include all those involved in the migration, from IT and network managers to department leaders who will be using the applications and services hosted in the cloud.

Suppliers need to be asked about timescales to ensure that the plan meets business requirements without being unrealistic. A detailed audit of existing infrastructure and equipment should be planned to ensure that all impacted systems will be able to communicate with the cloud, and a communications plan established between internal teams to update on progress and collect feedback. Feedback from teams and from the audit should be fed back into the migration plan.

According to the 2018 edition of IDG's biennial Cloud Computing Survey, improving the speed of IT service delivery and greater flexibility are the top drivers for cloud computing investment. The workloads companies are most commonly still planning to migrate are disaster recovery/high availability systems (45%), business intelligence/data warehousing/data analytics (41%), and system management/DevOps (40%). Top priorities for cloud migration in the next 12 months are disaster recovery (24%), development and testing (23%), and system management/DevOps (23%). Top priorities for the next one to three years are business intelligence/data warehousing/data analytics (21%), disaster recovery (21%) and line of business applications like finance and HR (19%).

Whatever the specific drivers for your business, connectivity should be considered as part of each line item to ensure that they are fully met.





Connectivity considerations

According to Gartner, by 2025 80% of enterprises will have shut down their traditional data centre, versus 10% today⁴. Cloud connectivity needs to enable innovation without adding complexity or worry.

All too often connectivity is seen as just a link to the cloud, rather than something that can impact almost every aspect of the services and applications it offers. Wherever you are on the cloud journey, there are several key areas that must be considered if connectivity is to be an enabler of innovation in the business.

- **Get the whole network picture**

The closest interconnect with your cloud partner isn't always the best, particularly for businesses relying on specific latency requirements. If your cloud partner can't guarantee latency over their own network, work with a connectivity specialist to ensure performance numbers are met.

- **Know what your SLAs cover**

It might sound obvious, but if you require an end-to-end SLA for the cloud this means factoring in the connectivity provider. All too often we've seen businesses get towards the end of a migration project, only to realise that they've planned for SLAs that can't be met. Latency needs to be guaranteed to ensure that applications and services work as expected, availability is key if people are to rely on the cloud and delivery times ensure that the project keeps to schedule. Many cloud providers won't provide guarantees on latency or throughput on their own network, which is why it's important to work with a connectivity provider who understands exactly what you need and where.

- **Plan capacity for the unpredictable**

Cloud services and capacity can be quickly ordered and flexed to meet growing demand – so it's not surprising that people expect connectivity to be the same. Unlike traditional applications where bandwidth can be predicted and planned for, moving to the cloud means that the network needs to be able to flex to meet unpredictable demand, provide the control that businesses are used to from legacy models and the automation to make management easier. At this stage you should also think about how the cloud will be used, the future needs of the business and what this means for bandwidth. Rather than overbuying capacity to meet potential demand, find a network partner that can flex and grow the network as required.

- **Audit applications and the internal network**

Internal applications sometimes require an internal IP address – so plan for how to extend the corporate network to the cloud so they still work. For interactive applications, connectivity needs to deliver the right latency so they still work as expected. Internal networks can also be complicated as a result of years of adding to legacy systems, so issues can be misdiagnosed as a feature gap when it's down to a poorly architected network.

- **Link up IT and network teams**

When connectivity is treated as an afterthought it means that the IT and network teams are not closely aligned. This can lead to problems late in the process when the expectations from one side meet the reality from the other. Ensure that both teams are involved at an early stage, and that they are working together.

- **Plan for testing**

Another common problem is testing services on an existing network then discovering issues when it comes to moving to production. Check that your connectivity provider can help with testing as well as having the link ready to go live.



- **Think about the future**

In the cloud it's much easier to upgrade or rollout new services, taking advantage of the latest technologies such as Artificial Intelligence (AI) and blockchain. These can automate key processes, help manage performance without human intervention and speed up transactions – but all require additional bandwidth. Your network needs to be able to cope with the demands of future technologies and your partner should truly understand them.

- **Invest in a partnership**

Your cloud and network providers need to work closely together to deliver the best experience, so invest in those with proven partnership. This will ensure many of the risks can be identified and mitigated early in the process and that deadlines are met.

A successful cloud migration can take your business to the next level and be the difference between you and the competition – but only if you factor in connectivity from the outset. Failing to plan properly can put the whole migration at risk, but those who get it right will offset many of the common mistakes and ensure that IT and network teams are seen as enabling innovation for the business rather than holding it back.



About Colt

Colt aims to be the leader in enabling customers' digital transformation through agile and on-demand, high bandwidth solutions. The Colt IQ Network connects 900+ data centres across Europe, Asia and North America's largest business hubs, with over 29,000 on net buildings and growing.

Colt has built its reputation on putting customers first. Customers include data intensive organisations spanning over 213 cities in over 30 countries. Colt is a recognised innovator and pioneer in Software Defined Networks (SDN) and Network Function Virtualisation (NFV). Privately owned, Colt is one of the most financially sound companies in its industry and able to provide the best customer experience at a competitive price. For more information, please visit **www.colt.net**.



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