

Transform your network: Cloud-enabled networks for Public and Private sectors

Ebook





Contents:

1. The value of cloud connectivity
2. Get connected: 5 steps to cloud connectivity
3. Cloud-ready networks for the Public & Private sectors
4. Transform your network: Best practices
5. Cloud networking is the future of global connectivity



The value of cloud connectivity

Before the cloud, most networking infrastructure investments were spent on ensuring available, reliable and high performance connectivity to on-premise data centres, as well as providing on-going resources to support the services and expensive energy bills that kept the whole operation running 24/7. Other expenses included physical space, 24/7 maintenance, planning for obsolescence and trained technical staff - where any of these items could increase with company growth or a spike in customer activity fuelled by a new product or service.

That was then. Today however, more and more of us are embracing the cloud. There are now numerous, well-recognised business drivers for companies to adopt a cloud strategy, including commercial, compliance, operational and business continuity demands, as well as the ability to remain agile in today's competitive marketplace.

With new and migrated productivity and IT workloads running in the cloud, cloud computing provides tremendous value to organisations, delivering cost-effective access to a comprehensive range of innovative business services and applications. It's the driving force behind increased collaboration and productivity, where your teams can access, edit and share documents anytime, from any device, anywhere, so they're able to do more together, and do it better.

Many businesses have significantly reduced CAPEX by shifting infrastructure investments from on-premise data centres to cloud hosted data centres, as well as enjoying robust and cost effective disaster recovery.

This has been of particular value to public sector organisations, where CAPEX has been slashed and shrinking OPEX budgets are driving organisations to adopt utility models. It also fits in line with the Government's 'Cloud First' policy, where all local government agencies are expected to consider and fully evaluate potential cloud solutions for all technology decisions.

The benefits of cloud

- **utility-based** - OPEX models to lower barriers to entry and drive utilisation
- **scalable** - bandwidth that is easily scaled up or down to accommodate changing business needs
- **secure** - private (secure) connection to cloud providers that bypass the internet
- **available** - geographical resilient design and operational expertise reduces risks and enhances service availability levels

However, the cloud and its capabilities do not exist in a vacuum. To ensure maximum value from cloud, enterprises must examine certain criteria, including the best network connectivity model and service provider for their business requirements.

What is cloud connectivity?

Cloud connectivity is the network connection between the cloud and end user.



Get connected: 5 steps to cloud connectivity

Asking - and answering - the right questions will help uncover a manageable path to connectivity, enabling cloud efficiencies right now, while ensuring businesses are prepared for future business growth and demand.

We've identified 5 key steps to start your cloud connectivity journey:



Step 1

Device readiness

Consider all your individual business drivers and how your organisation is planning to succeed in the next 3 years. Do you want to own expensive IT assets with inflexible service models and no upgrade paths? Or do you only want to pay for the service you use when you need it. Make sure your endpoint devices such as laptops, mobiles and tablets, have the capability to connect to cloud-enabled infrastructure.



Step 2

Ensure your applications are cloud ready

Identify all the applications you use across the business and determine which ones can be effectively deployed into a public or private cloud. You may need to rebuild some legacy apps to become cloud ready and take advantage of the cloud capabilities that are provided by the platform-as-a-service (PaaS) layer on which it will run.



Step 3

Virtualise your infrastructure

Say goodbye to the one server, one application model. Virtualisation enables one single server to function as multiple “virtual machines,” where each virtual machine is able to operate in different environments. You can consolidate multiple servers onto fewer physical devices, which helps reduce your hardware and maintenance costs and lowers your company's energy bill.



Step 4

Assess your bandwidth needs

How fast and how often must data be accessed - and from where? The ability to access information quickly can make a difference in how a business operates, how a customer is served, or how a patient is treated. You can determine your bandwidth needs, by looking at a number of factors including employee numbers and Internet consumption, to ensure your cloud solution provides enough Internet bandwidth to cover your current requirements today and any future growth projections.



Step 5

Define your approach

Every organisation is different. The public Internet is a convenient way to deliver cloud-based applications to a large number of people, but it doesn't always fit the privacy and performance requirements of some organisations. Compare public, private and hybrid clouds, including a look at the different levels of security and management, to find the best fit cloud solution for your business needs.



Cloud-ready networks for Public & Private sectors

So, you are ready to make your move to the cloud. Or perhaps you may wish to keep some applications on-premise and shift some to the cloud as opposed to a full cloud solution?

In today's modern business environment, many organisations are increasingly relying on a hybrid approach - the use of traditional hosting, cloud and on-premises models - but integration, networking and connectivity can be a challenge.

A shift to the cloud resolves a number of issues that challenge both Public and Private sector organisations:

- large dependency on local resources in out of date computer rooms, not fit to host 24/7 application infrastructure
- costly and time consuming to maintain physical hardware
- depreciation of assets and end of life (EOL) hardware
- maintaining trained and certified local resources to support on premise infrastructure
- large CAPEX models to replace and retain on premise service
- legacy support processes to maintain infrastructure and dependence on IT systems

No matter which type of cloud service you adopt, it's vital that your chosen connectivity provider can deliver full API integration capabilities - to future proof your cloud connectivity. We recommend your chosen connectivity partner should offer:

- contract flexibility to avoid being locked into terms
- bandwidth flexibility to scale services up and down as needs change
- integration with cloud service providers so that service activation, such as consumption of virtualised services and bandwidth activation, is easy
- security - the cloud provider must give assurances on data integrity once your data is in the cloud



Best practices

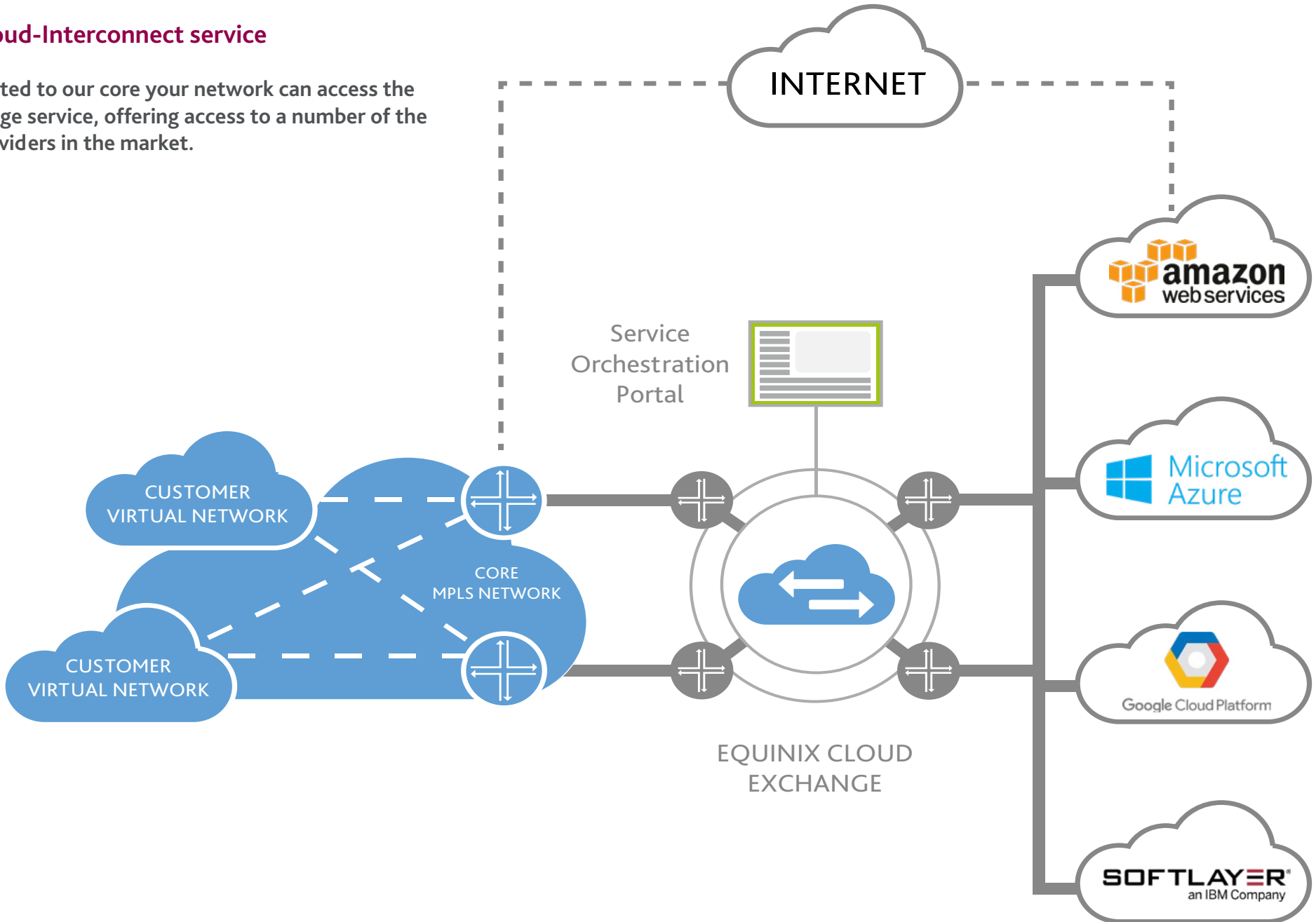
Best practices for cloud connectivity success:

- determine your current network topology and where your traffic bottlenecks are, review this against your cloud approach and determine how the network will need to flex allowing the adoption of cloud hosted versus on premise
- exploit cloud hosted applications for standard enterprise; messaging, CRM, collaboration, finance, and payroll
- for legacy applications, virtualise existing physical servers into a single environment and rationalise all legacy hardware infrastructure for servers and data centre switching, and move workloads into the cloud partner
- determine your cloud services portfolio for: the Internet, public cloud, private cloud, PSN and HSCN



Capita's Cloud-Interconnect service

When connected to our core your network can access the Cloud exchange service, offering access to a number of the key cloud providers in the market.



Transform your cloud network

As your cloud connectivity partner, we offer secure and flexible connectivity to a range of services from cloud providers such as Amazon Web Services, Google Cloud Platform and Microsoft Azure. In addition we can provide access to cloud and public networks such as; PSN, HSCN and the Janet Network.

We can help you choose the right public cloud network connectivity method based on business and application requirements for each cloud provider and application, as typically not one cloud network connectivity model meets all use cases.

Capita Cloud-Interconnect

Capita's Cloud-Interconnect service provides customers with a high-performance network connection to a comprehensive range of cloud service providers, such as Microsoft (Azure Express Route) and Google's Cloud Platform.

The Cloud-Interconnect service can minimise the risk and reduce the expenditure required to deliver and maintain a cloud connectivity solution to one or many cloud compute providers. It delivers a secure, agile and reliable cloud connectivity solution that will align to your organisation's continually evolving cloud compute requirements.

Underpinned by a central cloud exchange service, that reduces complexity and simplifies operational processes, the number of discreet connections and bandwidth is easily scaled to meet your cloud requirements.



“Connect your business to an ever growing ecosystem of cloud service providers”

Cloud for Public Sector organisations

We help local government agencies remove legacy GCSX connectivity, healthcare organisations migrate from legacy N3 services to HSCN and provide direct access to PSN and HSCN services. Our PSN and HSCN services are based on a flexible and customisable architecture to meet the customer’s specific network topology and traffic needs.

Comparison of different cloud network connectivity solutions:

	Internet	Cloud Interconnect	Direct WAN
Cloud ecosystem			
Performance and SLAs			
High availability			
Provisioning time			
Security			
Price per megabit			
Initial setup costs			



Source: Gartner (January 2016)

“By 2019, 30% of enterprise public cloud connections will be non-Internet-based, through cloud interconnects or direct WAN connectivity, up from approximately 5% today.”

(Source: Gartner)

As captured by the Gartner table, connecting to the cloud via Capita’s core network ensures maximum security and availability of the cloud service when compared to using an Internet-based connection. The added benefit of the hybrid model adopted by Capita is that by utilising both public (Internet) and private, (Direct WAN) the connection can be provisioned from the current network at a lower cost and services consumed much quicker, but with robust SLAs and performance metrics.



Cloud networking is the future of global connectivity

Across the globe, cloud has become a highly appealing solution for businesses of all sizes, who are increasingly managing and deploying IT infrastructure, applications, and services in web-based environments.

As more and more enterprises adopt cloud, it's becoming ever more clear that network connectivity must be a major consideration to ensure performance, reliability and ROI.

Direct connectivity is key to optimising access to cloud services and infrastructure that businesses require. However, it should be noted that cloud efficiencies vary from one customer to another - it's not a one-size-fits-all proposition to embrace or not.

Focus on the end game - getting cost-efficient access to data and applications that drives collaboration and productivity and creates a pace of change for both today and the future.

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