
Connecting your cloud footprint
orange™
Business

Introduction

Cloud computing is the cornerstone of enterprise infrastructure today. Most enterprises use a mix of private and public environments from several providers, creating infrastructures based on interconnecting clouds that meet their specific needs and business objectives, at least theoretically.

Yet having multiple clouds brings with it multiple challenges. With every new deployment it becomes increasingly difficult to have visibility into your connections worldwide, control costs and safeguard networking traffic, and secure your employees wherever they are.

This is because each new service is an expansion of your cloud footprint. It will require new ways of configuring networks, integrating with existing solutions, and ensuring the new environment is secure without hindering data flow, workloads, and applications. In short, it adds complexity.

How can you overcome these challenges to ensure that your cloud investments deliver the agile, scalable infrastructure required? The answer is through cloud networking.

In this ebook, we explore how cloud networking can help companies simplify their interconnecting cloud environments, the different approaches enterprises can take, and some pitfalls to avoid.

Understanding cloud challenges

Cloud computing offers significant opportunities. Put simply, it is the digital, agile, and scalable foundation required to deliver the sort of unique experiences that businesses today must create.

So it's no surprise that businesses are deploying cloud environments rapidly. Inflationary demands and the rise of data-hungry technologies are extending a trend accelerated by the pandemic.

Most companies currently use the Internet, SD-WAN, or MPLS to access and connect their cloud workloads. The results can be varied. They need to cope with hybrid infrastructures that combine private clouds and on-premises environments with various cloud providers (some delivering specialist, niche platforms) and connectivity.

It is a complex, ever-evolving melting pot that can limit visibility and throws up multiple challenges. That's even before we consider how silos often emerge between teams operating clouds and those running the networks.

Four main issues

And it is these problems that businesses are struggling to overcome as they seek to get more from their infrastructure investments. There are four main issues:

1. **Managing the complexity of multiple clouds and network configurations**
2. **Reducing operational overheads and making connectivity more scalable across various clouds and networks**
3. **Guaranteeing network and application performance and improving troubleshooting while managing multiple providers**
4. **Securing the infrastructure by centralizing the management of security between different environments and regions**

Those challenges can be summed up as:

- **Increased security risk**
- **Lack of agility**
- **No visibility over spending**
- **Difficulty troubleshooting**

Want to find out more about how these issues are affecting enterprise deployment of cloud environments? Click here to download our factsheet on customer pain points and how cloud networking can help solve them.

Cloud networking holds the answer

Each of the challenges detailed in the previous section are caused by how clouds and networks interconnect. Cloud networking holds the answer to solving them.

Individually, these solutions do what is asked of them, delivered as they are by some of the world's largest, most innovative hyperscalers and cloud service providers. Often, what's missing is a way to understand the intricacies of each platform so that they work together. Or it might be that the business has disrupted an existing configuration by introducing a new solution.

As one analyst put it, "There's a greater need to simplify the connectivity to multiple clouds."[1]

Framework of services

Cloud networking comprises a combination of cloud and connectivity expertise and services. It's not a solution but a framework that includes end-to-end design, deployment, and unified operations for networks connecting multiple cloud environments.

When delivered correctly, cloud networking helps companies be more agile, have greater flexibility in their infrastructure deployments, and manage the total cost of ownership of their cloud environments. It achieves this by tackling the four core challenges businesses face with multicloud deployments.

1. **Connects applications across on-premises, public cloud, and edge compute**
2. **Supports a consistent security posture that is both application and client-location agnostic**
3. **Enables the observation and analysis of connectivity, traces, logs, and metrics across a variety of different networks**
4. **Ensures application connectivity performance remains at the highest possible level**

In doing so, cloud networking can meet the needs of businesses. An IDC study highlighted that what matters to enterprises is:[2]

- **Quality of service/support (54%)**
- **Network reach (41%)**
- **Security offering (39%)**
- **Technology innovation (38%)**

It is clear that while the core network offering remains important, it has to be secure, well-supported, and it be innovative to keep up with the workloads and applications that rely on the network.

To deliver this, a cloud networking framework needs to be tailored to the needs of the individual enterprise, and in particular, its cloud and network maturity.

Enterprise cloud and network maturity

There is no one-size-fits-all solution to cloud networking. The best answer depends largely on your cloud and network maturity.

Cloud adoption might be predicted to generate $3 trillion in EBITDA value by 2030,[3] but this will not be delivered by any one platform. Businesses use cloud for a variety of reasons:

- **To optimize, drive efficiencies, manage cost, and limit risk**
- **To accelerate time to market, unlock new business models, and realize value through solutions such as data analytics**
- **To lay the groundwork for emerging technologies and future innovations**

The result is that they deploy several different environments, from private and public clouds to on-premises and edge. Within these categories are niches and specialisms that cater to the specific needs of mission and business-critical applications and data.

How they connect these platforms varies. As noted above, Internet and SD-WAN abound, along with legacy MPLS networks and cloud-to-cloud connectivity.

Eliminating silos

Then there is how it is all managed. Larger enterprises may have separate teams dedicated to cloud and networking. Still, if there isn't a mutual understanding of what the other requires or any form of interaction, then silos can appear. The various platforms can make it hard to upskill cloud teams on specific providers. As one enterprise customer said, "It is hard to master cloud and networking at the same time."

Let's be clear; many of the businesses wrestling with these issues were early adopters of cloud. Their infrastructure has grown organically as they've focused on new opportunities and sought to support it with the relevant technology. There has been no one-size-fits-all approach. As such, any cloud networking solution must be mindful of the individual requirements of an enterprise's setup and maturity.

The many faces of cloud networking

Broadly speaking, there are two main approaches for cloud networking to cater for different levels of cloud maturity: hyperscaler and multicloud networking services.

Cloud WAN

Hyperscaler, or cloud-native networks, sees companies use a hyperscaler's cloud WAN service within their network to connect to cloud services. It's a popular option, as many enterprises are using hyperscaler environments, so in one way, it makes sense to invest in a network extension of the deployed. Unsurprisingly, IDC predicts that by 2024, half of all large enterprises will follow this approach.[4]

However, there are limits to this approach: cloud-native networks can lack functionality, and there is no interoperability between different hyperscalers. Therefore, enterprises are limited to only using environments from a limited number of providers or finding an additional overlay.

Multicloud networking services

Multicloud networking software uses dedicated providers such as Aviatrix, Prosimo, and Alkira to deliver connectivity, alongside Cloud on Ramp and SD-WAN. As solutions designed to provide cloud networking, this approach has the interoperability missing from going down the hyperscaler route.

What's missing from the multicloud networking software approach is that it is only focused on providing connectivity. So any deployment needs to be part of a holistic, end-to-end approach that includes design, deployment, and unified operations across multiple cloud environments.

Choosing the right cloud networking solution

Whichever route an enterprise takes, it should focus on getting the right solution for its unique issues. Everyone is at a different stage in cloud maturity, and it's the same regarding cloud networking.

Some don't have a strategy and are struggling with silos between networking and cloud departments. Others are starting to deploy high-level best practices as they manage a variety of workloads hosted on public clouds. Then there are those well-advanced organizations with an established architecture looking to optimize and operate at scale.

Of course, there are some common themes. Almost all the engagements we encounter at Orange Business require support in defining the right multicloud network architecture for the organization in question. For more advanced businesses, who already have some cloud networking deployments, there is also often a discussion around global transit networking to improve existing configurations.

But whether it's a problem that many face or something unique to their organization, to ensure that every business can adopt cloud networking, they must work with a partner who can meet their needs rather than impose an off-the-shelf solution. At Orange Business, we take a consultative approach that allows us to co-create a tailored strategy for our beginner, advanced, or expert customers.

Discovery

The discovery audits the current business and IT challenges, strategy, and drivers before making a cloud readiness assessment that informs scenarios and planning. Our consultants, solution experts, and presales engineers work with the customer's team to define use cases, outline benefits, identify risks, and build the business case for a proof of concept, pilot, or deployment. This includes a roadmap with key milestones.

Delivery

What sets us apart is that we deliver as well. That might be combining standard cloud connectivity and configuration with professional services or unifying and integrating connectivity and cloud services that we will run on the customer's behalf. It could even be a completely customized cloud networking solution that we take from proof of concept through a pilot and scale into a managed service solution.

Whatever it is, it combines our heritage in networking and understanding of connectivity with our long-standing partnerships with both hyperscalers and cloud networking software providers. This ensures that customers have access to the environments and cloud networking that meets their needs, rather than what we want to sell.

Cloud networking delivers real results

Our approach has allowed many enterprises in industries as varied as food and drink, electronics, and chemical manufacturing to benefit.

One global leader overcame insecure, inefficient, and uncontrolled communication between its data centers and the virtual networks provided by the hyperscaler. To tackle this, the company turned to Orange Business, which created a common transit network layer to deliver seamless and secure connectivity and implemented an automated and auditable infrastructure. This was all supported by ongoing network performance monitoring and managed services.

Elsewhere, a media and entertainment giant was struggling to handle the traffic between its Azure Virtual Networks and its regional data centers. It used Orange Business to design and implement a bespoke solution to improve connectivity between data centers and Azure Virtual Network. This had the added benefit of being scalable so that new Azure regions could be added in the future.

Cloud networking for cloud reality

When businesses talk about cloud computing, it often masks the reality of their deployments; multiple clouds from multiple providers, all supporting different applications, workloads, and data. Ensuring that they are interconnected effectively, that there is clear visibility of costs, and that there are no gaps in the security perimeter, are all critical if enterprises can truly harness and benefit from cloud computing.

Cloud networking plays a critical role in unlocking those benefits. As a framework, it offers a way of connecting clouds, optimizing application performance, improving security, and managing total cost of ownership. With the right partner, enterprises can manage their existing estate and deploy new environments, safe in the knowledge that they can incorporate new platforms without upsetting their current setup.

Why Orange Business for cloud networking

As a vendor-agnostic network operator and digital integrator, we manage and orchestrate networks worldwide across all hyperscalers and infrastructure. We cover:

- In-house hybrid, multicloud, connectivity, and security
- Full journey and lifecycle, from ideation and strategy to design, build and run
- Extensive experience in solving network and digital challenges of thousands of large customers across the globe

Get in touch to learn more about our cloud networking approach and how we can help you.

Sources:

1. https://www.techtarget.com/searchnetworking/news/252528816/Multi-cloud-networking-trends-to-watch-in-2023
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3. https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/projecting-the-global-value-of-cloud-3-trillion-is-up-for-grabs-for-companies-that-go-beyond-adoption
4. IDC FutureScape

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