



Unleash the cloud's potential with cloud networking



Although the cloud is established as a business essential, networking issues threaten to derail many of its benefits. Multiple clouds and incompatible networks can affect performance, agility, and security. We investigate how a new approach to cloud networking can realize the cloud's full potential.

Organizations worldwide are choosing public cloud services to increase agility, launch new services, and access new markets. According to Gartner, global end-user spending on public cloud services will grow 22% to \$597 billion in 2023, up from \$491 billion in 2022.¹ This growth is further driven by the next phase of digital business, including generative AI.

Increasing complexity

But the increase in cloud use is also increasing complexity, particularly for multinational companies with a hybrid infrastructure, including private cloud, multiple cloud providers, and heterogeneous connectivity technologies. In fact, 80% of enterprises using infrastructure as a service (IaaS) cloud have adopted a multicloud approach, according to Gartner.²

Often multinationals will use alternate hyperscalers to meet different requirements. For example, one might be more suited for AI and data analytics, while another is better for developing mobile or customer-facing applications. In addition to managing workloads in different environments, enterprises also face the challenge of connecting this data effectively and securely.

“Half of all large enterprises will be using a hyperscaler's cloud WAN service within their network to connect to cloud services.”³

IDC

Managing global cloud networks

These challenges are intensified by the extensive changes seen in enterprise networks, with many increasingly choosing the internet as an underlay network and managing it with an overlay such as SD-WAN. In addition, IDC predicts that by 2024, half of all large enterprises will be using a hyperscaler's cloud WAN service within their network to connect to cloud services.³

However, the functionality of cloud-native networks can be limited, and they are not interoperable between hyperscalers. This leads to increased complexity and a lack of visibility into how the network operates end-to-end across different clouds and ISPs. For example, how can companies eliminate bottlenecks and ensure a high quality end-user application performance if an application is stretched across multiple regions, clouds, and services?

The problem is exacerbated if network and cloud teams function in separate silos, with little or no alignment in strategy and operations. Companies need strong governance to resolve operational issues and a common vision of their network setup across transport and the cloud.

A lack of oversight also creates security issues, with the multiplication of different touchpoints, regions, and technologies making it difficult to ensure everything is secured. According to Forrester, this is a significant concern, with 74% of enterprises estimated to experience a data breach at least once over the last 12 months.⁴



A new approach to cloud networking



Enterprises need a framework of services that enables the end-to-end design, deployment, and unified operations of a network in multiple cloud environments. It needs to address the following pain points companies are experiencing.



Connectivity: connecting applications across on-premises, public cloud, and edge networks



Security: maintaining a consistent security posture that is agnostic to where applications and end-users are located



Visibility: observing and analyzing connectivity, traces, logs, and metrics across heterogeneous networks



Cost control: analyzing network and infrastructure costs to optimize cloud networking operations continuously



Application performance: ensuring optimal application performance

Solving customer problems

At Orange, we offer end-to-end cloud networking that comprises of consulting, design, deployment, infrastructure-as-code, run, and support. Our cloud networking approach has helped many customers overcome their pain points. Do any of the following typical concerns resonate with you?

1 Increased security risk

“As our cloud footprint grows, we struggle to keep track and secure our network configurations on all the different cloud providers we use. We don’t want to be the next company in the news as a victim of data breach.”

This challenge can be addressed at the infrastructure design stage. As part of this process, our team will identify all the cloud services and the perimeter of your cloud infrastructure. Once this is defined, we would deploy gateways, such as from Aviatrix, throughout the infrastructure to enforce the same security policy across all different sites and networks.

2 Lack of agility

“On average, it takes us three months to ensure the right routing and security rules are in place to start migrating an application to the cloud due to lack of network orchestration functionality. This is delaying our projects and making us incur additional hosting charges.”

Running a hybrid network without adequate oversight and orchestration can make adding new services difficult. For example, as mentioned earlier, running multiple, incompatible native cloud networks will require significant manual configuration. We first conduct a technical discovery exercise to understand what elements form part of the cloud infrastructure. This exercise lets us recommend the technical configuration of all touchpoints and set up automated processes for network configuration.

Our service desk can then easily handle any change requests, such as adding a new application, and automatically configure all the network touchpoints required. So, instead of three months to launch a cloud service, enterprises can get a real-time view of the impact of any changes and predict the impact of any application migration.

3 No visibility over spending

“I have no idea how much I am currently spending for networking to the cloud and between clouds. This lack of visibility and cost optimization puts me at risk of running out of budget for my projects.”

Although cloud services allow enterprises to reduce their capital expenditure via on-demand pricing, there is a real risk of over-provisioning and not using everything you have purchased. This has strengthened the discipline of cloud FinOps.

However, all FinOps projects should also consider network spending. The increase in network complexity probably means that some networks are not being used sufficiently, and perhaps traffic is not routed across the best-performing networks. Our cloud FinOps consultancy will help deliver financial visibility across the entire infrastructure and a set of best practices to optimize their use.



4 Difficulty troubleshooting




“It took us weeks to troubleshoot a networking issue on a critical application hosted across multiple clouds, and this downtime severely affected our business.”

This is a classic operational problem that network providers solve daily and links into our service management expertise. We will design a service model and provide a single service level agreement (SLA) across the entire environment. By having insight into the end-to-end infrastructure, we can carry out a root cause analysis of any failure and improve the performance of all components involved in running the service.



Why Orange

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

To learn more about our cloud networking approach and how we can help you, please visit <https://www.orange-business.com/en/business-needs/build-a-secured-digital-infrastructure>

1. Gartner Forecasts Worldwide Public Cloud End-User Spending to Reach Nearly \$600 Billion in 2023 (<https://www.gartner.com/en/newsroom/press-releases/2023-04-19-gartner-forecasts-worldwide-public-cloud-end-user-spending-to-reach-nearly-600-billion-in-2023>)
2. Gartner Cloud End User Buying Behavior Survey 2020
3. IDC FutureScape
4. Security Survey published by Forrester in September 2022