



## Capacity strategy for a globalized landscape





## Traffic drivers: why enterprises need more bandwidth

Well-established forms of collaboration and entertainment from in-office working to broadcast television have been gradually replaced by IP-based alternatives in recent years. COVID-19 accelerated this trend, creating a ‘data tsunami’ that intensified demand for bandwidth and now requires MNOs and telcos to scale their capacity.

### 1. Cloud migration is accelerating and evolving

One of the main drivers for bandwidth consumption has been the widespread migration of business operations and communications to the cloud. And while cloud migration isn’t novel to this year, 2020 witnessed a significant acceleration in adoption. Catalyzed by remote working and collaboration over cloud platforms as a result of the pandemic, **over a trillion dollars** is expected to be spent on cloud migration this year alone<sup>1</sup>. 2020 saw strong growth in multi-cloud deployments - where enterprises use different cloud platforms for different needs. To deliver Quality of Experience (QoE) while catering for the complexity of multi-cloud environments, MNOs’ and telcos’ capacity provisioning capabilities must become much more sophisticated.

### 2. Digital and streaming services are driving traffic

Another catalyst for bandwidth usage has been increased consumer uptake of over-the-top (OTT) streaming services such as Netflix and YouTube, as well as communications platforms such as WhatsApp, WeChat, Zoom and Microsoft teams (all of which have seen major growth). This was compounded by the global pandemic, with many streaming platforms seeing a sharp increase in usage in 2020. During this period, **the average US consumer went from having three streaming services to four, and the number of consumers with at least one streaming service rose to 80% (compared to 73% before the pandemic)**<sup>2</sup>. In 2021, WhatsApp **boasts 2 billion monthly users, Facebook Messenger has 1.7 billion, and We Chat has 1.2 billion**<sup>3</sup>. For MNOs and telcos, these huge traffic drivers are creating unprecedented strain on network capacity.

<sup>1</sup> <https://www.statista.com/statistics/203291/global-it-services-spending-forecast/>

<sup>2</sup> <https://variety.com/2020/digital/news/streaming-video-subscriptions-churn-covid-19-deloitte-1234642672/>

<sup>3</sup> <https://www.statista.com/statistics/258749/most-popular-global-mobile-messenger-apps/>

## What do these trends mean for MNOS?

To address the needs of today's organizations, whether through enabling migration to cloud platforms or facilitating OTT traffic, telcos and MNOs must provide high-quality bandwidth capacity. End users must be able to access websites, communications, and cloud-based platforms with the highest quality of experience (QoE). More still, this quality of service must be delivered consistently at global scale to provide a seamless experience wherever users are located.

Providers must also consider how they can deliver on more challenging use cases while maintaining quality of service. Customers demanding private connectivity to a cloud service require dedicated connections between end user and the cloud server, for example. A more challenging use case that is on the rise at present is support for multi-cloud deployments which involves additional complexities in supporting connections between the cloud servers themselves, as well as to the business premises.

To achieve revenue and profitability growth even as they scale to address demand, telcos and MNOs must start their planning at the data transit infrastructure level, as well as tools and processes they have to manage it. The infrastructure selected needs to address their requirements for capex, opex, ease of management, scalability, and QoE.



## What are the challenges for providers like MNOS?

### 1. MNO capabilities and enterprise needs are mismatched

There is a fundamental mismatch between MNOs' infrastructure and the needs of cloud providers or large enterprises migrating to the cloud. Cloud service providers and large organizations generally operate at global scale. They serve customers in multiple markets and use cloud data centers – making international data transit a necessity. For instance, with **Google Cloud hosting just six data centers in Europe** in 2021, the majority of European companies with platforms hosted by Google will need their data traffic to cross borders<sup>4</sup>. This issue is further complicated when we consider the move towards multi-cloud strategies which not only require direct connections from user to the Cloud Service Provider, but between the Cloud Service Providers themselves.

On the other hand, telcos and MNOs are set up to provide excellent connectivity within a single market or, at most, a handful of regions. As such, provision of reliable and efficient connectivity to internet destinations outside their market entails the establishment of additional infrastructure. The conventional way to do this is by establishing individual bilateral agreements, though this is labor intensive to establish and requires significant investment and expertise to operate. Alternatively, telcos / MNOs could work with an IP transit provider, but this is expensive and only offers standard access with limited control. Neither of these options are cost-competitive or sustainable in the long run.

<sup>4</sup><https://cloud.google.com/about/locations>

## 2. High consumer expectations on QoS affect MNO strategy

While demand for bandwidth is increasing in volume, there is also a higher expectation for quality of experience. Companies, especially those with extensive cloud deployments, now expect the same features and quality in their network as with a dedicated enterprise service. Aside from speed, this means that network interruptions of even a second will drive away customers.

The biggest consideration for MNOs and telcos looking to deliver optimal quality of experience is latency. Not all traffic requires the same levels of latency though. Applications such as gaming and streaming video, which have both exploded in the last year, are extremely sensitive to latency. On the other hand, applications such as file backup and internet access would be appropriate for lower latency at a lower price point.

For service providers, these expectations mean going beyond establishing simple point-to-point connectivity, but considering the design of the network itself. They must examine how they can gain greater control over routing to deliver the right QoE without significant upfront infrastructure costs, ongoing management and operational expenses.



# Considerations for providers when developing a capacity strategy in today's context



## 1. Routing control

Ensuring good QoE, especially for customers using complex multi-cloud deployments, requires flexible capacity and control over routing. Applications like algorithmic trading, for example, are highly sensitive to even microsecond level delays – and for such use cases, telcos and MNOs need the ability to provide more premium, direct connections between the business premises and data center. At the same time, they should be able to offer the appropriate QoE for other applications which might be more sensitive to price but are not jitter-sensitive, for example.

In such cases, solutions like remote peering offer control over the user experience without the need to set up a dedicated presence at different internet exchanges or housing/ colocation facilities. By working with a global capacity partner, telcos and MNOs can access high-speed routes through major data centers without the need for multiple agreements and setups in every single IX or datacenter.



## 2. Cost / bit

Upgrading capacity infrastructure can be a costly process for telcos and MNOs, not just in dollar terms but time as well. By partnering with a global capacity provider, the pressure on staff and other internal resources is reduced, as they handle all network connectivity and agreements. This reduces the staff and resources required to build and maintain the network.

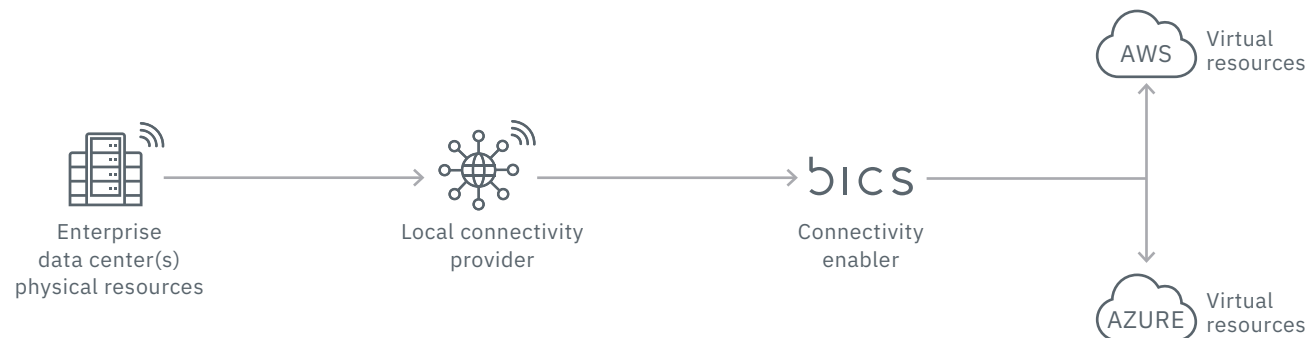
Essential to reducing costs is streamlined management, and automation of capacity provisioning is transforming the playing field in this regard. Automating set up provides customers with fast and easy access to direction connections at low cost: which will be a key differentiator for providers. Automation also improves the customer experience, providing telcos and MNOs with better visibility and flexibility to address their QoE issues and match their demand.



### 3. Capabilities

To bring to market a complete offer for enterprises that is flexible enough to match all their needs in the global arena, the IP network must have a broad range of capabilities to enable telco offerings. For complex multi-cloud deployments where, for example, one platform is used for storage, another for AI, and a third for data, direct connections need to be made between each. Establishing such a series of connections will depend on the network provider having the right expertise as well as the right capabilities.

For mission critical applications, where outages must be avoided, these capabilities may be stretched even further. Where satellite-based backup or private infrastructure may be required, a capacity partner is the best option for telcos and MNOs to provide their customers with a satellite platform infrastructure or bypass public internet in a cost-effective framework.





#### 4. Addition of new capabilities

As use cases grow in volume and complexity, capacity infrastructure must enable telcos and MNOs to access and offer new capabilities. Importantly, many of these new use cases or capabilities are only possible through automation. Whether telcos want to reduce time to resolution for QoS issues or have greater flexibility in adding or cutting capacity, automation is essential to unlocking these capabilities.



#### 5. How customers are reaching the cloud

As MNOs and telcos provide their customers with greater cloud connectivity, they must equally consider how customers are being connected to it. Ethernet has become a truly worldwide standard interface for international connectivity services, but providers need to embrace the full capabilities of Ethernet technologies if they are to enable their customers to provide voice, video, and data traffic reliably, conveniently, and economically. In this respect, Carrier Ethernet architecture may be the best approach for many providers, enabling the creation of a single next generation and multi-service Wide Area Network for customers.

## Why operators need global capacity partners

Wholesale capacity providers, with their international footprint, presence at major internet exchanges, high-quality networks and relationships with global cloud service providers are the right player within the capacity ecosystem to support telcos and MNOs as they capitalize on the bandwidth opportunity.

But the role of a wholesale provider is no longer limited to bandwidth and connectivity. They are ideally positioned to enable new communications services and solutions for network operators. They have the relationships, the technical capabilities, and the existing network infrastructure in place to make this a reality. And their private networks present a truly valuable asset for mission-critical communications that can't be left to the 'best effort' alternative offered by the open internet.

By partnering with reputable and flexible wholesale capacity providers, MNOs can match the increasingly global nature of businesses (specifically when it comes to the cloud) and maintain QoE without eroding margins. Network operators and their wholesale capacity partners must work together to drive innovation, launch new services, reach new markets and ensure a global presence.



## Why choose BICS for capacity services

BICS is one of the world's most advanced capacity providers, offering a range of bandwidth and capacity services that enable operators to access transport services worldwide the IPX community, internet and cloud connectivity, remote peering services, and a range of value-added services. A highly flexible and customized operational model, and expert consultancy enable operators to maintain control as they scale to address the needs of their customers.

The BICS global infrastructure is built upon a 100 Gbps-capable optical network with direct connections to 100+ countries, capacity on 25+ submarine cables with 200 landing points, 120+ points-of-presence and access to 50 internet exchange points.

For more information, please visit:  
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