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Introduction

Enterprise networks used to be...simpler. Relying on one single provider for your global MPLS was very common, in contrast with today's dynamic ecosystem involving a variety of WAN technologies and a multitude of vendors.

But why the change? To start, today's workforce is way more diverse: office-based, remote, hybrid. Then, there are the applications, most of which moved (or are in the process of moving) from on-premise to the cloud or back again to on-premise. Surprisingly enough, basic considerations for secure and efficient cloud connectivity are also often overlooked. And with security measures like SASE and zero-trust frameworks becoming crucial, it's clear that designing a global WAN isn't as simple as it used to be.

For global organizations, the list goes on. Local regulations, where your applications are hosted, the nature of your data, choosing the right provider, etc. All these layers and players need to be considered when designing your WAN architecture and sourcing the services that best match your organization's needs.

This white paper breaks down the key considerations and challenges when designing and implementing your global WAN. Our aim is to give Network Managers and Procurement teams the insights needed to overcome these complexities and stay ahead in today's digital age. So, let's get to it.

Taking the data-driven route

The saying goes, 'Knowledge is Power'—and we agree. Whether you are connecting clouds, large sites, or small branches, designing a modern WAN requires research and a number of data points to ensure it meets your needs. Having better insight into the connectivity space and a fully transparent, easy-to-compare overview could offer businesses a major advantage.

Key benefits:

- Informed decision-making: Matching business requirements with data-driven insights from market data, vendor information, or even previous customers' experiences enables organizations to adapt, capitalize on opportunities, and thrive.
- Guaranteed performance: CIOs and WAN Managers could ensure a more reliable network when selecting vendors with a

- proven track record of network performance and third-party external monitoring providers.
- Operational efficiency: Connectivity is a lifeline for businesses. Full visibility along the process—from service design to daily operations—combined with rapid troubleshooting will help you meet timelines, minimize downtime, and maximize productivity.

There's a caveat, though. The world of global connectivity can be very opaque. Every day, enterprises are challenged with a multitude of vendors, different terminologies, and new and changing technologies that add complexity to the decision-making process.

Common challenges:

- Connectivity solution selection: The evolving nature of connectivity, coupled with varying business requirements, complicates the process of finding the best solution for your business. Further, as organizations adopt cloud-based applications and infrastructures, establishing robust connectivity to cloud resources becomes a critical challenge. Even more in multi-cloud environments.
- Vendor landscape dilemma: With so many vendors offering a wide variety of connectivity solutions (often lacking a clear understanding of diversity), organizations face the task of navigating through a maze of options.

Choosing the right vendor(s) demands careful consideration, taking a toll on your procurement resources.

- Comparing global reach vs local expertise
- Choosing between telco providers vs managed service providers
- Evaluating technologies, reliability, scalability, and cost-effectiveness
- Comparing non-standard SLAs or terminology
- Understanding their ability to navigate through local requirements and regulations

Do you need dedicated access, or will business broadband be good enough? Will the same apply to your sites in California and Dubai? Is this the most efficient path between your clouds. And who should you partner with?



Expression of these challenges is a first, but important, step when gathering information to navigate the complexity of sourcing global connectivity.

In the next pages, we'll define some of the key criteria to include in your decision-making process. Then, we'll go through the type of vendors you can source from, looking at their strengths and gaps for you to make your own choice.

Solution design toolkit

Your essential guide for making informed connectivity decisions

As you design your new, future-proof WAN architecture, you will hear about the many solutions existing under the sun. DIA. Broadband. Ethernet. Wireless. Satellites. And the list keeps going. All with their own features and benefits. All with their own limitations.

This is why it is important to collect some key data about your business, its requirements, and goals before you start.

Having worked with hundreds of global enterprises, the following list includes some key considerations and questions we've learned to help you inform your decision-making process.

What type of connectivity are you currently looking for?

Most SASE / SD-WAN networks will require an internet-based underlay for the solutions to operate. Other sites may require private connectivity solutions, like point-to-points, to fulfill the business's requirements.

What are you connecting?

Are you looking to connect to an office? If so, what size is the office in terms of users, and how much do these users require/use the connectivity? Are they sending text emails or massive TB files? Are you connecting a factory or a data center? Different types of sites require different types of connectivity.

What is available on the address of the site?

Looking for potential connectivity providers already present in the building can be very beneficial in the search for an optimal solution, where quick delivery is a top priority. If it's a new site or a remote area, how much are you willing to wait? Laying cables may take time, while some wireless options could be delivered on day one.

How much bandwidth (up and down) is needed on the site?

This depends heavily on the type of site combined with the applications or users using the connection. Would you need this bandwidth to be symmetrical, or are slower download speeds also acceptable?

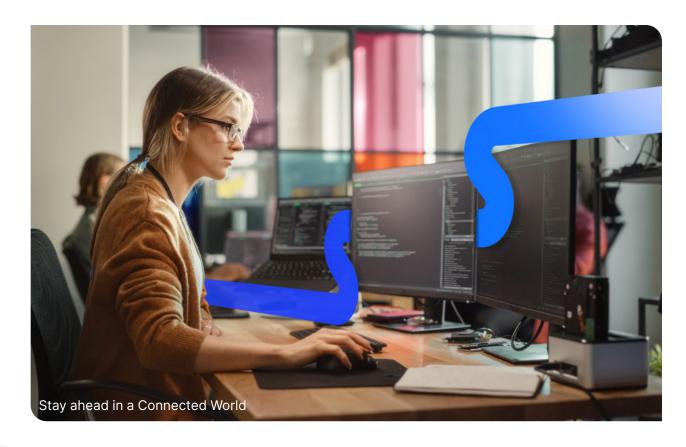
Is high availability needed on the site, and if so, at what level?

Don't forget to check your diversity requirements. Is the site critical, with no room for downtime? Normally, 2, but preferably 3 or 4 connections are needed to ensure the highest amount of uptime. Verifying the vendor's ability to provide a diverse service is an absolute key criterion to look into before deploying a solution.

Do you require guarantees?

Most vendors will provide a form of SLA on their connectivity solutions. But how trustworthy are they in keeping their promise? Getting compensated after an SLA breach is nice, but you will much prefer a connection that has the highest uptime over any financial compensation.

Take this toolkit for making a more informed and educated decision when preparing for your WAN design. Also, when selecting your vendors. Which is what we'll cover next.



Ways of sourcing connectivity

They come in all shapes and sizes

After properly assessing requirements, the next step is to find a partner who can provide the connectivity solution you really need.

From global players and well-known brands to the smallest papa-and-mama shops, each network provider has its pros and cons. Shall we get right into it?



Global carriers

Global carriers, like AT&T or BT, have built a name for themselves in the networking and technology space. They offer a wide portfolio of connectivity solutions, making them seem like the obvious choice in your global WAN strategy.

Or not. Do not underestimate cultural fit. Often, large global companies will not fully focus on medium-sized or smaller organizations. Or smaller projects. Further, they will want to sell mostly connections that can be delivered on their own network (on-net access), resulting in sub-optimal connectivity in areas where the carrier is not strong.

Other things to consider when dealing with a global carrier are a high cost and a low-touch support team.

O Check for: cultural fit, on-net and off-net coverage vs your site locations.



Managed services providers (MSPs):

It's very likely that you are either implementing or renewing your SD-WAN or SASE solution with a Managed Service Provider (MSP).

Some MSPs will offer connectivity as part of their offering. These MSPs tend to be neutral, as they do not own network infrastructure, and a bit more transparent, but (underlay) connectivity is not their strongest power, especially on a global scale where they have no presence or local knowledge. Also, when looking for MSPs, avoid ending up in a vendor/technology lock-in for both underlay and overlay network solutions.

O Check for: vendor coverage that matches your underlay needs, avoid vendor lock-in.



Local ISPs

Working with local connectivity vendors like ISPs can be very agile and quick. They are also experts in their region/country and can navigate permissions, regulations, and local bureaucracy.

The downside is that you will need to go through the same process of getting to know their offering, assessing their quality, and onboarding them into your financial systems. Depending on your geographic spread, this could mean setting up relationships with dozens (if not more) of local ISPs, each with a different number to call for support and a different invoice every month. Also, consider the cultural differences (and languages) that you'll need to deal with.

Oheck for: procurement resources and planning for sourcing and comparing between local ISPs. It may be very time-consuming when several countries are involved.



ISP aggregators

Connectivity aggregators provide you with a neutral model where they can provide a multitude of solutions for connectivity challenges. Depending on the geographic locations of your sites, the choice can be limited as some aggregators have a focus area where they are strong.

If your scope is global, consider a true global aggregator for optimal results. Another pro of using aggregators is the flexibility they offer when selecting the right connectivity vendor. Further, they will help you simplify global connectivity by standardizing the support process (one support contact) as well as centralized invoicing (one invoice).

One more thing. Do check whether your aggregator really takes care of your full service or are they just functioning as a marketplace. In the latter case, you will still have to deal with all aspects surrounding provisioning and support and will not have centralized invoicing.



Ocheck for: a transparent and neutral model that should put your requirements first. Also, make sure they have a global knowledge to cater to all your sites' needs and the full lifecycle of your connectivity.

With your toolkit in hand and an understanding of the different sourcing strategies, you are almost ready to onboard your global WAN journey. To help you simplify this process, there's one thing we'd like to cover.

The ultimate solution

An aggregator with a plus

Getting this far into the process, there is still something missing to make your connectivity journey even easier. How do you get access to transparent data and the market insights you need? How do you simplify dealing with local vendors and multiple invoices? Once deployed, how do you manage it and ensure it is performing as it should? Those questions are the reason we created GNX+.

But first, who is we?

We are GNX, a global provider of internet access and private connectivity solutions. Here to help modern businesses navigate the complex world of global connectivity.

We make connectivity simple. Stepping away from traditional, conservative, and non-transparent ways of working, we give enterprises and Managed Service Providers full insight and control to design, source, and manage their global underlay—with access to our portfolio of Global Internet Access, Point-to-Point, and Cloud Fabric services in 190+ countries through our platform, GNX+.



GNX+



The cherry on top is GNX+, our carrier-neutral and automated platform that lets you compare different connectivity services from thousands of providers. Much like browsing different travel deals when planning a trip, we'll show you all the options and information available - for technology, speeds, price, and more - to help you decide on connectivity that best suits your needs.

Plus more (at the end, it's about simplifying the entire process). GNX+ gives you a clear view of your entire network setup, with management, monitoring, and support functions right at your fingertips. It's like having your own personal network expert, making the complex world of connectivity like it should be: straightforward and simple.





Kev features

- Direct access to 1,500 local ISPs, allowing you to browse from GNX's vetted list of vendors, based on your requirements. You will have access to pricing, SLAs, lead times, and more for you to compare, select, and order.
- Monitoring & support with real-time insight into your services and network's performance, with the ability to raise and manage support tickets with our 24/7 NOC.

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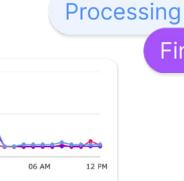
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• Invoice management, all your connections under one single contract and monthly invoice, in your currency of choice.

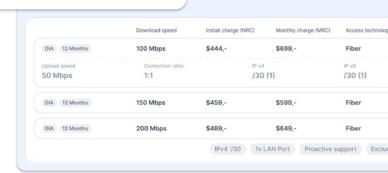
- Service lifecycle management, to manage changes, new services, renewals, and endof-service requests.
- API and e-bonding integrations, for a seamless experience through your portal of choice.



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Firm offer

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Get in touch

Shall we explore your next steps on your global connectivity journey? Our passionate team of experts is available 24/7 to ensure you get your solution exactly right. Request a free consultation or a demo of GNX+, and let's get right on it.

GNX. Straightforward Connectivity.

