Mastering the Art of WAN: What WAN Is & Which Kind Your Business Needs

The 5 best types of WAN connections available to modern businesses

Gone are the days when all you needed to run a successful business was a storefront, enough cash to make change, and a physical ledger to track transactions.

Running a successful business in the modern world involves many different levels of connections. Your *customers and partners* need to be able to connect with you, *you* need to be able to connect with your *employees*, and *distribution and manufacturing* need to be in touch with each other (and you).

These connections are what keep your well-oiled machine of a business running and thriving.

To drive all of these connections, most companies utilize 2 types of networks to keep everything moving.

A **local area network (LAN)** is when all of the technology and wiring resides within a single location that allows information to be passed from across different terminals and users at that site. This ensures that all employees at a given site can share documents, information, or talk to each other from the comfort of their own desk.

The second integral piece of the network for any business is their **wide area network (WAN)**. While the LAN keeps employees at any given site connected to *each other*, the WAN keeps them connected to the rest of the world.

Not only do WAN connections allow multiple sites within the same network to communicate with each other, it also allows enables access to the internet, cloud based applications, voice traffic for phone calls, and allows

users to access information and servers in data centers. Everything the business needs access to that isn't on-site at a specific location completely depends on the WAN.

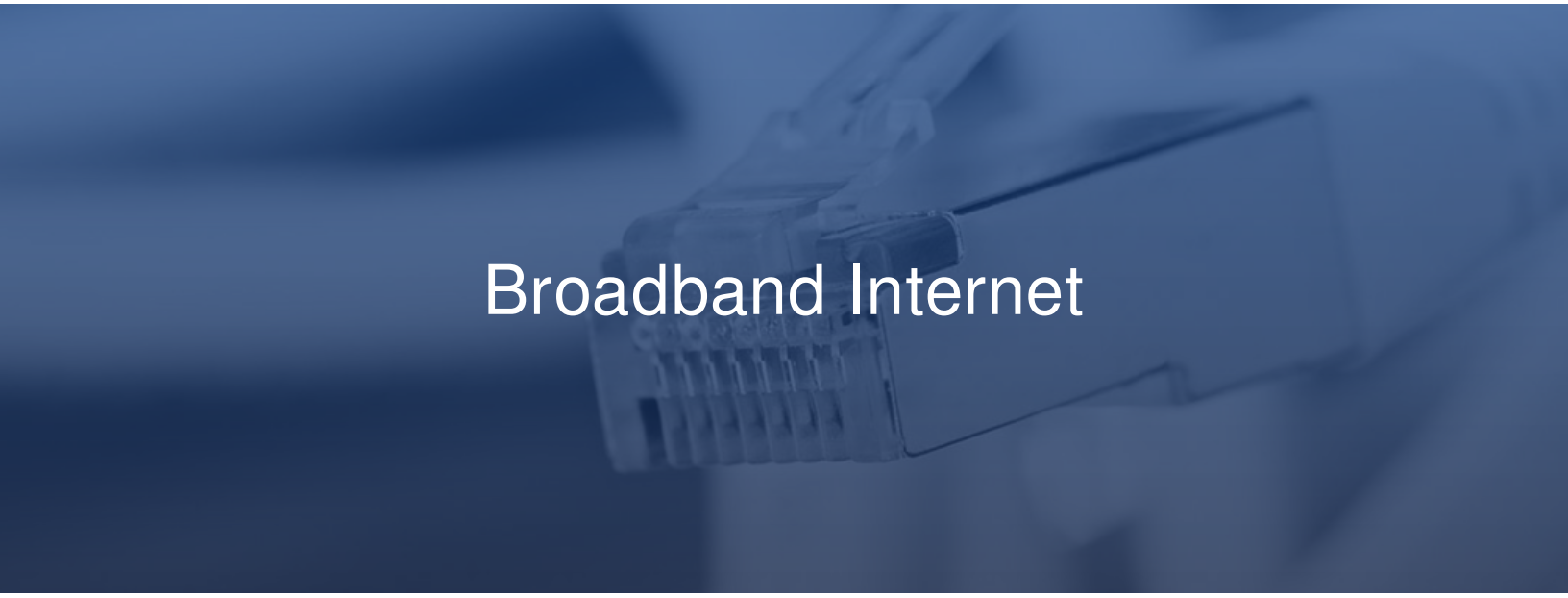
While WAN is clearly essential for all modern businesses, not all WANs are created equal.

Depending on the nature of the data your users interact with on a daily basis, there are many ways to construct a WAN that best suits your needs and keeps your information secure. All options have pros and cons, and prices will vary from option to option. It's possible for a company to leverage multiple WAN technologies due to some remote sites having limited options available to them.

Continue reading for a brief look at some of the most common types of WAN connections available to your business.

Dedicated internet access (DIA) is a symmetrical connection (same upload and download speed) where the end customer is guaranteed full access to the amount of bandwidth they're contracted for. This connection isn't the cheapest option available to customers needing to go straight to the internet, but the service level agreements (SLA's) attached to them allow users peace of mind knowing they'll get what they pay for.

When carriers have issues, DIA and MPLS connections get the most attention due the SLAs attached to them. The carrier will be on the hook for rebates to these customers should they not have these connections up and running in accordance with the agreements, meaning they'll put much more emphasis on these networks when issues arise than others.



Broadband Internet

Broadband internet asymmetrical connections (higher download speed than upload speed) come at a great value but with little guarantee of their performance. This type of internet connection is what you most likely have at your home and comes at a fraction of the cost of DIA.

But buyers beware: that savings comes at the cost of reliability and a constantly fluctuating amount of actual throughput.

For example, you may pay for 100/10Mb, so at any given time you might get all of that — or you might only get 10/1Mb. It doesn't matter how much bandwidth you're actually getting, how often or how long it goes down, or how much latency and jitter you see on it on a regular basis. There will be no refunds and a lot of customers will have to experience issues before the carrier shows even a passing interest in resolving the issue.

The basis of broadband connections is that the carrier is purposefully overselling their own network. They might sell 50Gb worth of traffic on a 10Gb backbone. This allows them to keep the cost down and offer a *decent* internet connection as long as all users aren't on the network at the same time. During peak hours there will be significant decreases in available bandwidth because so many users are fighting for bandwidth and there's less available.

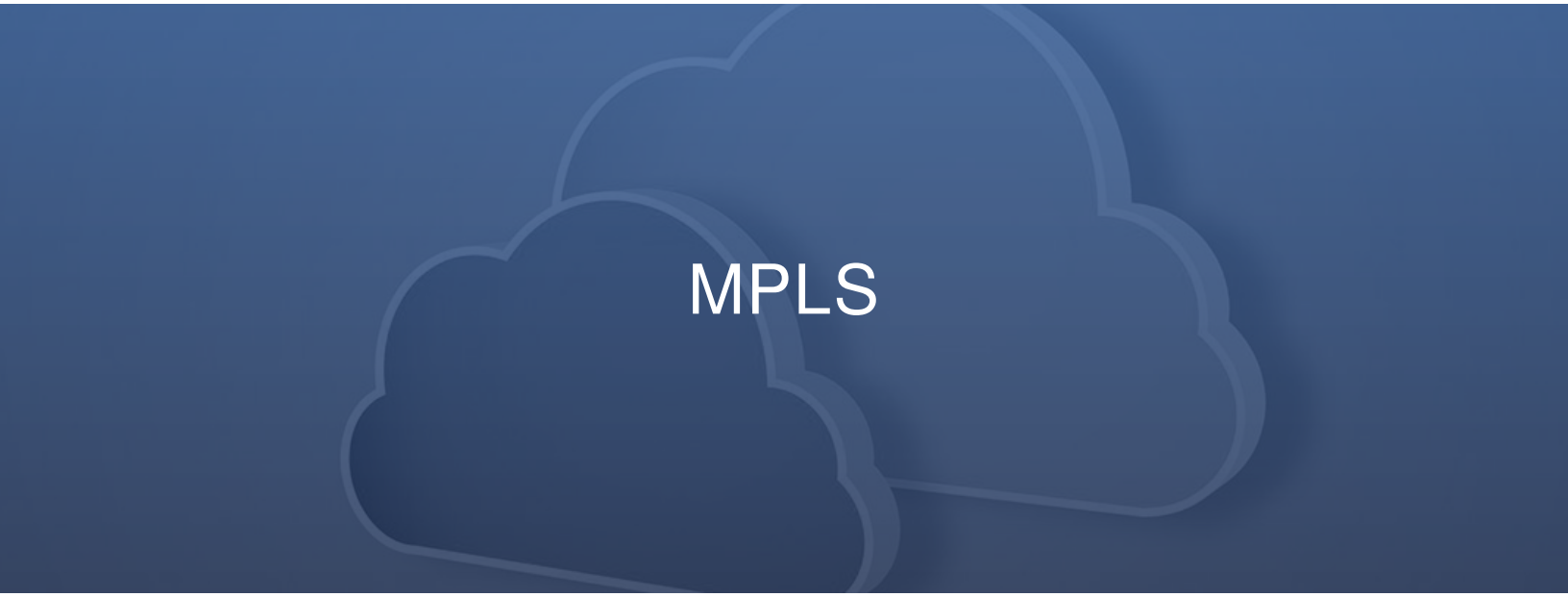
These connections are a great value and can be leveraged as a great fail-over connection. But due to the lack of SLAs and slow time to recovery when there are issues, broadband isn't usually the best solution as a primary network connection.

4G/5G

While 4G solutions may get a bad reputation as being unreliable and fluctuating, most of the time it provides a significant amount of bandwidth for the average business and is as reliable as broadband connections, if not more.

For starters, the wireless “last mile” offered by this technology makes it harder for careless road construction or Joe Backhoe to take down, and it’s almost always diverse from the primary connection. If the number of end users is low enough, it can even be considered as a primary connection.

The primary concern for this type of connection is that they are metered. It’s important to take this into consideration when leveraging 4G or 5G technology to make sure that overage charges are minimized. Buy an appropriate sized data plan, restrict traffic should users fail-over to this connection, and be conscious of what applications are the largest users of data.



MPLS

Multiprotocol label switching (MPLS) networks have been popular in enterprise and certain industries for some time. Utilizing a frame-relay, MPLS network essentially allows companies to extend their LAN by passing information from site-to-site, without allowing it to hit the public internet.

Another distinct advantage of MPLS networks is their ability to easily tag data from certain applications and prioritize it. By placing a virtual tag on every piece of data, MPLS networks can identify which applications the data is attached to and ensure that the most business critical applications get priority on the network so that end users can stay productive.

From a cost perspective, businesses will pay more for the port costs associated with MPLS connections as well as the taxes and fees associated with them. In recent years, MPLS pricing has inched closer and closer to DIA pricing, but the taxes and fees alone will continue to make it one of the most costly solutions.

Bursting onto the scene in the last few years is a technology known as software-define wide area network (SD-WAN). While this solution is often sold as a cost saver, the true value is in its ability to leverage different types of WAN connections, aggregate their bandwidth, and optimize business-critical traffic. Basically, SD-WAN offers all the benefits of an MPLS network and then some — without having to only leverage MPLS connections.

Many SD-WAN providers allow businesses to use a hodge-podge of connections, ranging from DIA and broadband, to MPLS connections. When used in conjunction with MPLS, SD-WAN is commonly used as a backup or replacement. Rather than limit yourself to the MPLS infrastructure available in your given market, you can leverage the most competitively priced reliable bandwidth available while still being able to prioritize traffic and aggregate bandwidth.

While managed SD-WAN solutions usually consists of a sizable one-time investment, most providers can offer it as an amortized offering with the same term as your circuits. Whether you choose op-ex or cap-ex, the true

value in SD-WAN is its ability to secure much more bandwidth for your users while spending roughly the same amount of money.

Add to this the optimization and prioritization features that SD-WAN offers and it becomes easy to see why it has become such a disruptor in the market in recent years.

Conclusion: Which WAN Type is Right for You?

Your company's WAN is essential and an incredibly valuable tool that deserves to be treated as such, rather than commoditized. Do your business a favor by fully exploring your options, identifying what's most important to you, and finding a solution provider who can offer you a great value and a guaranteed solution.

About Enable IP

EnableIP is a telecom solutions provider founded by Wired Networks' founder Jeremy Kerth and head engineer Steve Roos after they realized there was a deep market need for helping mid-size businesses establish better uptime rates for their Wide Area Networks (WANs). Armed with the best-in-class carriers and partners, Jeremy and Steve set out with a bold plan: **Guarantee better uptime rates than the industry standard of only 99.5%.**

Their bold plan became a reality. EnableIP's solutions guarantee clients 99.99% (even 99.999%) network uptime. But we don't stop there. Many telecom providers promise high availability network solutions but fail to deliver because they're in the business of providing services, not solutions.

That's the EnableIP difference: We deliver highly available networks by providing a complete system (called "Cloud Assurance") that ensures 99.99% or above uptime.

We deliver this bold promise by:

- ✔ Owning the entire customer experience. From pricing, contracting, ordering and provisioning to installing, servicing and billing—we do it all! This means no stressful negotiations, confusing setups, or finger pointing if something goes wrong. We actually *deliver* on our promise.

- ✔ We manage the entire system, and monitor and manage issues as they occur so you can focus on your business—not your network.

The Enable IP solution is like no other. Contact us to get started and experience the difference of a system that truly delivers on its 99.99% network uptime promise.