Internet Failover Basics

5 key considerations about planning a backup internet connection for your business

Over the years, the EnableIP team has acquired many great pearls of wisdom from family and friends, ranging from “It’s better to be an hour early to a minute late” all the way to “Don’t eat at a Mexican food restaurant where the hostess looks happy to see you.”

Needless to say some advice was more useful than others.

But one of the pearls that takes on a whole new meaning when talking about networks is this:

“Two is one, and one is none.”

All too often, the best laid plans go awry because contingency plans aren’t put into place and followed. When it comes to wide-area-networks (WANs), many customers get so caught up in the “race to zero” and finding the cheapest solution that they forget no single connection is bullet-proof. Any number of events could lead to interruptions in service.

For this reason, it’s incredibly important that sites have *multiple* connections available to allow their users to continue to be productive in the case of single circuit outages. When planning a secondary WAN, there are some very important factors to take into consideration to make sure your company’s money is being well spent.

Consideration #1: Bandwidth Needs

Most companies have a good idea of how much bandwidth is needed at each site based on the applications that will be used and the number of employees the network needs to support. Ongoing monitoring of how much bandwidth is actually being utilized is vital in planning for future sites as well as right-sizing circuits at existing sites to make sure users are working seamlessly.

When planning for backup circuits, it's important to know not only what average utilization is, but also, how much of that utilization is business-critical and how much can be delayed until the primary circuit has come back online. Knowing this information will help companies avoid buying more bandwidth than they need while still making sure that their users can accomplish the tasks that keep the business profitable.

Consideration #2: Business-Critical Traffic

In an era where cloud technology is becoming more essential and integrated by the day, most companies have at least 1-2 cloud-based applications they absolutely can't lose access to without having an immediate

negative impact on their bottom-line. Identifying exactly which applications these are and how much bandwidth they need is step one in choosing the right type and size of circuit to use as a fail-over solution.

Under outage conditions, most companies can identify 3-5 applications that must be available and thus close down other lanes of traffic to prioritize the most important traffic. A shortlist of what tools and applications users *absolutely* cannot do without is something all companies should identify.

Consideration #3: Non-Critical Traffic

Just because an application doesn't fall into the category of business-critical does not mean that it isn't important. If your company has 3-5 applications that users can't be productive without, there are probably 3-5 more applications that fall into the "nice-to-have" category.

If these nice-to-have applications require fairly low bandwidth, then it's probably worth including access to them and planning for them when procuring a back-up solution. If they require high bandwidth, then they may be something your users have to learn to live without for short periods of time.

Having a full understanding of how these applications will affect your users (should they lose access), as well as what the bandwidth footprint is, will help determine how non-essential applications are handled in the event of a single circuit outage.

Consideration #4: No-Fly Zone

While the discussion so far about your applications may be a little vague due to a diverse assortment of applications and business uses out there, there are certain types of traffic that we can probably all agree should be blocked when a WAN is in disaster mode.

For instance, all video and audio streaming not tied to company training should probably be blacklisted. Similarly, social media isn't a vital necessity for most companies (and in many cases, it's nothing but a productivity killer). While general internet usage is convenient, a more controlled approach may make sense when bandwidth is at a premium.

It isn't unusual for companies to white-list business-critical applications and websites during an outage and block all other network traffic. While this approach will probably be considered an annoyance to some employees, it's better they be annoyed than unproductive.

Consideration #5: Network Diversity

While redundancy is important (and by definition fail-over is a form of redundancy), another overlooked factor that's incredibly essential is diversity. Ordering two broadband circuits from the same provider doesn't offer

you any diversity whatsoever. If one circuit goes down, then *both* connections will still go down since they're on the same carrier and share the same conduit all the way to your edge.

Ordering a DIA circuit and a broadband circuit from the same carrier results in similar issues. While you may gain some form of diversity since one of them will (most likely) be fiber and the other will be coax (or similar), you still have a single carrier providing all of the bandwidth to your site. Any issues at the carrier's core or regional/localized problems will still lead to your users not having access to the tools they need to be productive.

Carrier diversity is step one, but it's also important to pay attention to how your secondary WAN connection is coming into your building. Even if it's a diverse carrier, if it shares conduit with (or is in conduit right next to) your primary carrier, then a single back-hoe can still take you down. **Ideally, you want a connection with a diverse last mile into the building.**

At this point, businesses with rural sites may be getting skeptical, but full diversity should *always* be the end goal. In an ideal world, you will have *multiple circuits*, from *multiple carriers*, with *varying points of entry* and *types of entry* into your building — that never meet until they hit your edge networking device.

It's not always easy to accomplish, but there's a lot of value in pulling it off when possible.

Continue reading: Benefits of 4G Failover Solutions for Businesses (With 4G, your last mile is ALWAYS diverse since it's wireless!)

The Takeaway

"If you fail to plan, you plan to fail."

Yep, this was another pearl we've picked up over the years, and we think it can be applied to almost any facet of life — including your network.

Choosing to only have a single WAN connection at your site is a risky decision that usually costs you more in the end as you will eventually face an outage that leads to a site full of users with nothing to do. Even more frustrating is spending extra money on a backup solution but still having your users lose access to the tools

they need because you didn't take the time to choose a circuit that offered the amount of bandwidth needed or wasn't diverse from your primary solution.

Identifying and implementing a good backup network isn't a difficult thing to do, but it's certainly easy to get wrong. Sometimes the best way to get it right is to find a partner who has extensive experience in identifying and implementing primary and backup networks.

Are you ready to get serious about network failover? Plan to succeed with EnableIP.

About EnableIP

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.

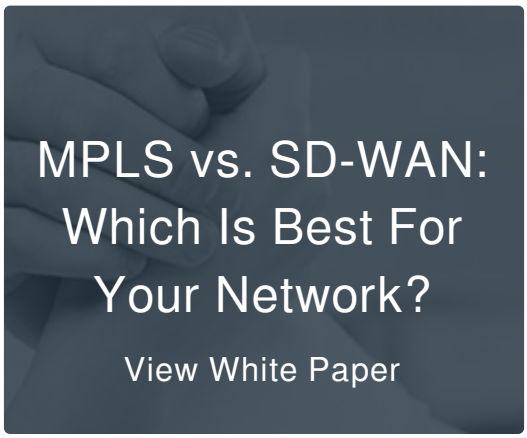
That's the EnableIP difference: We deliver highly available networks by providing a complete system (called "Cloud Assurance") that ensures 99.99% or above uptime.

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 EnableIP 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.

More Resources



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WAN UPTIME EXPERTS

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