



NETWORK INFRASTRUCTURE IS NOW THE FOURTH UTILITY

Access to the Internet is almost more important than electricity

By **Gil Santaliz**, Founder and CEO, NJFX



Telecommunications, and the infrastructure that supports the idea of being connected, has almost become as important as utilities such as electricity. If electricity fails, there are plans for backup power. But, if you lose your IT network, then operating a business becomes impossible. If your connectivity is based on only two or three traditional carriers, then it is time to ensure your understanding of whether or not those carrier assets are actually physically diverse.

Today, many scenarios allow common points or what we call “overlaps” in interconnection that create the potential disaster of a single point of failure. The facilities that house these interconnection points are not always purposefully built. Too often they are located in urban environments with unprotected manholes, which make them susceptible to manmade and natural disasters.

As we move into the IoT world, we need the connectivity to be reliably available everywhere. We need devices enabled to coordinate financial transactions, based on real-time information. We need security and life-saving healthcare monitoring applications. And, we need enterprises to be able to offer customers access to goods and services. The luxury of access, what was once simply nice to have, is now a must-have. Just a little more than a decade ago, smartphones were nonexistent. Today’s phones are more powerful than any computer you may have had in your home or at work before. They are becoming the network hub for our daily routines of work productivity, transportation, banking, family connection and daily recreation.



NJFX Interior



Sarah Kurtz, Gil Santaliz and Felix Seda outside NJFX

If unreliable connectivity means your business/brand is not available, it affects consumer loyalty to stock price. Brands are based on trust that they are always and reliably available. We expect the Internet to work, whether it's an app or a smart device. The Internet is the only access to the applications our industry uses to disseminate and collect data. The only way to make sure it works all the time and every time is by having the right infrastructure. Enabling reliable, consistent connectivity requires not only more infrastructure, but also diversity in that infrastructure. Creating this requires layering multiple subsea routes with multiple terrestrial backhaul routes from any network hub that matters.

Connectivity is Key

Data centers, colocation and carrier hotels are a part of the equation, but there is an argument to be made that a data center is only as good as the connectivity available. There also is the question of the US' East Coast long-haul fiber routes connected into outdated older buildings acting as hubs. These routes date back to the dawn of the Internet, and in some cases, even the dawn of telecommunications. A 100 years ago, we were communicating via telegraph across one ocean. Today, data travels globally at the speed of light.

This globalization means applications are hosted all over the world. You might not even know where your favorite app

originates—until it doesn't work. A small example is the damage in December 2020 to one building of a major telecommunications provider in a large US city. The result was an outage that affected four states. Next time, the damage could be even more widespread—continents could be effected.

Today's enterprise customer no longer can trust a traditional carrier to say "yes, you're covered." There are certain questions that need to be asked, like "How does your network work globally?" and "If you have a problem, will I have a problem?" There has been no shortage of problems. Most recently, with the pandemic, we've seen the need for increased global connectivity. We've also seen the need for remote hands, meaning technicians who can troubleshoot and resolve any issues from continents away. We've seen natural disasters, acts of terror and domestic turmoil in our major cities. There must be a constant review of plans and scenarios for the unforeseen. It's imperative that customers can serve their endusers under any circumstance.

NJFX was first created as a solution to eliminating choke points. For example, if one or two New York City buildings are compromised, the effects could be catastrophic globally. With NJFX, if the carrier designs their routes to bypass choke points, then there can be an entrance/exit point for North America that is not touching the major hubs like New York City, Newark or Philadelphia.

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Recipe for Interconnection Success

Cities like Ashburn and Richmond in Virginia, Atlanta, Dallas and Phoenix, as well as suburban campuses, have been developed for hyperscale data centers that need diverse connectivity. They get this directly from the cable landing stations (CLS), which are now spreading across the East and West Coasts in the US. These CLSs have the ability to be the real network hubs by becoming a secure Tier-3, campus. But they do require the magical ingredients: elevation, reliable utility power and at least five diverse backhaul routes. The best backhaul route can be in the form of a subsea festoon cable system along the coast that interconnects CLSs with a true secure long-haul route, supporting the highest security in the ocean, which is just off the US continental shelf.

The final magical ingredient is the most important: a healthy ecosystem where the owner and operator of the campus doesn't compete with the networks integrating best of breed network options. Add into the mix multinational enterprises that need to know how their network operates, including cloud access points and Internet exchanges. Now, you have created a hyperconnected, carrier-neutral network hub and the basis of the new age of the CLS.

Traditionally, the cable landing site was a place for subsea cables to make landfall and used to serve one purpose: to house cable endpoints to connect one or two terrestrial routes. The colocation campus was to be next in the CLS evolution and is a place where land and subsea cables meet, along with providing options for data center services.

The Evolution of the Cable Landing Station Campus

Two decades ago, New Jersey was a leader in data center space, but since then that needle hasn't moved much. Although there is a substantial data center community strategically located in New Jersey, the focus has shifted to Northern Virginia and other states with tax incentives. Currently, the world's largest data center markets are exempt from state sales and use taxes under certain circumstances. These tax breaks are available in at least two dozen states. Bringing such incentives to New Jersey would make it much more competitive.

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Right now, there are only two places on the planet where such a global connectivity hub exists. One is Marseille, France. The other is NJFX in New Jersey. The NJFX CLS campus is 64 feet above sea level, with a power substation 20 feet away. The facility is carrier-neutral with 26 active networks that offer connectivity anywhere in North America terrestrially, plus Europe and South America via four submarine cable systems. Carrier neutrality is what makes this model work. The facility provides access to many routes, which can be utilized to avoid any traditional single point of failure. Spare bore pipes and front-haul routes allow for continued growth of the ecosystem, with the potential for additional subsea cable systems. If network infrastructure is the fourth utility, then the connected carrier-neutral CLS campus will become the ultimate model of an essential and critical hub. ☺



NJFX Lobby

About the Author

Gil Santaliz is the Founder and CEO of NJFX, as well as the visionary behind developing NJFX as North America's preminent international hub for subsea communications, interconnecting many international carriers across three continents with multiple predictable, private backhaul and U.S. termination options. Santaliz developed the concept of "Tier 3 by the Subsea", a purpose-built facility for high- and low-density data center space as well as colocation of subsea systems interconnecting global backbone networks to unique metro fiber assets providing safe, diverse and unique backhaul options. This is a paradigm shift from traditional backhaul to the nearest metro without consideration of potential bottlenecks found in congested areas such as New York and Northern New Jersey.

DID YOU KNOW: NJFX was first created as a solution to eliminating choke points. For example, if one or two New York City buildings are compromised, the effects could be catastrophic globally.

INFORMAL INTERACTIONS WITH GIL SANTALIZ

Gil Santaliz is an avid golfer and loves to hit the course whenever he gets an opportunity. In the picture on the left, Santaliz is with pro golfer Tom Watson, an American professional golfer on the PGA Tour Champions, formerly on the PGA Tour, winning eight major championships and heading the PGA Tour money list five times. Santaliz's second passion after golf is wine!