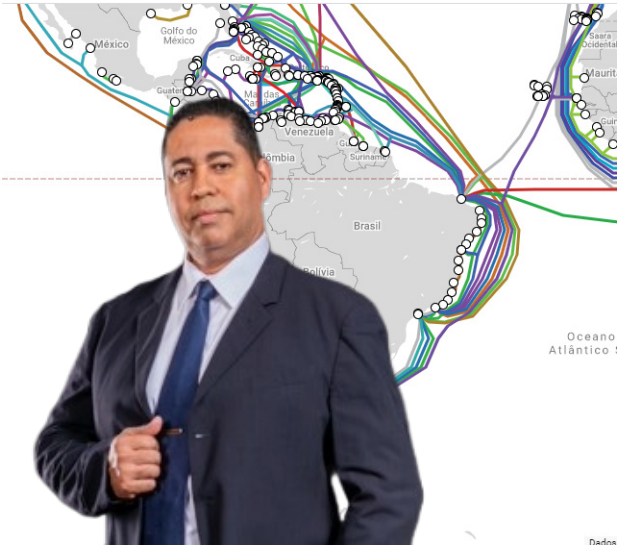
BLUE NAP AMERICAS
CONNECTING IDEAS

Regulating the submarine cable system in the Caribbean Region

Helping realize a CARICOM single ICT Space

A close look at the map of all the submarine data cables in the world will show that many fiber-optic cables - which form the essential connectivity infrastructure for the global internet - run from continent to continent, and most of them junction in the US. An even closer look at the Caribbean region will reveal that the individual islands are interconnected in a big loop that also connects the nearest point in the US, which is Florida. However, it is noticeable that hardly any cables run through the middle of this area. Historically this makes sense. The internet was a US-invention, and it has always been necessary for everything to be connected to the country.



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But because of global digital transformation, this connectivity gap has now become a problem. Additionally, there are growing concerns related to data sovereignty, as US government agencies can monitor all this data traffic.

Submarine cable systems provide access to the internet and are therefore of critical importance to the developing island nations in the Caribbean. They prevent the islands from becoming isolated and contribute to their economic development and growth. Interconnectivity between the Caribbean islands helps establish a single CARICOM market and economy and a single CARICOM/Caribbean IT space, increasing the appeal of the Caribbean investors and businesses, which will create more jobs.

Caribbean Data Center Association

To facilitate digital transformation in the Caribbean region and address challenges such as the expansion of the submarine cable network in the region, the Caribbean Datacenter Association (CDA) was founded by Blue NAP Americas and Datasur in 2023. By unifying operators, sharing resources, and making technology accessible to more users across the Caribbean region, the CDA seeks to revolutionize the digital landscape in the Caribbean, driving economic growth and empowering communities. When negotiating new contracts with submarine cable owners, the CDA-members will collaborate to secure the best possible deals for all parties involved.

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Why the submarine cable system is important

Considered the central nervous system of the global internet, submarine cables are the central nervous system of the global internet, making submarine cable networks extremely strategically important; as such, they are considered part of the critical infrastructure of any society and especially of small developing Island states as located in the Caribbean. The islands can leverage the benefits of wider submarine cable connectivity to develop digital economies that help grow export earnings and employment opportunities within the Caribbean.

Hurdles

New submarine cables will deliver massive benefits for the region, especially as the existing cable system is facing challenges. Many of the cables that are currently in use are nearing the end-of-life stage or have already reached that stage some time ago. This means that these cables have an increased risk of failing. They need to be replaced by new cables as soon as possible to ensure connectivity is not disrupted. However, replacing or laying new cables is a sizeable and highly expensive exercise and a big hurdle to overcome.

Another challenge is cable ownership. Laying new submarine cables usually entails the biggest investor is also the largest shareholder (percentagewise). And they have a big say in who can use the cable and at what cost, resulting in high IP transit costs. IP transit costs refer to the fees charged by Internet Service Providers (ISPs) for traffic to pass through their network and connect to the wider internet.

In an ideal world, ownership would be divided equally amongst investors to create healthy competition in attracting customers. By increasing this ISP competition, investors are forced to offer competitive pricing to attract customers. This in turn will result in lower IP transit costs and will strengthen the position of a single CARICOM/Caribbean IT space as a market of relevance. Without a competitive cable system market, innovation in the Caribbean will be stifled.

Unfortunately, we do not live in an ideal world and major investors claim the biggest percentage of the cable capacity, if not the entire cable. Redirecting data through another cable will lead to higher latencies (e.g. small delays in the delivery of data packets). As the world is increasingly evolving into a real-time global economy, where micro- and even nanoseconds represent the difference between success and failure and between profit and loss, this poses challenges. Also, it is likely that alternative cable routes ultimately are owned by the same investor or group of investors. Sometimes it is possible to engage in business with smaller cable owners within a group of investors, but it is unlikely that they can offer comparable solutions at the equal - and already high - price as the major owners. In addition, some cable owners do not want to conduct business with each other, making it very difficult to establish direct routes from island to island.

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Physical Risks

Some parts of the Caribbean are prone to hurricanes and are geologically active, the latter meaning that the submarine cables in the region are subject to volcanic eruption and earthquake risk. These weather-related and geological events can potentially damage submarine cables or even break them, making geo-redundancy and the ability to re-direct data (via additional submarine cables) important goals. The incident in March 2024, when several African countries suffered major internet outages from submarine cable issues highlights the importance of this form redundancy.

Are satellites an alternative to submarine cables

Are there any secure, affordable and reliable alternatives for submarine cables enabling data communications? A solution that comes to mind is satellite connectivity. While some satellites can provide internet connectivity at - relatively - high data speeds, they are unable to offer the bandwidth that is required for a high-quality communication infrastructure. To illustrate, satellites can offer bandwidths of maybe 300 megabit per second. Datacenters need data speeds of multiple of Gigabits per second or even Terabits per second. Satellite data speeds do not even come close to the bandwidth required for modern, high quality data communication. This is something only fiber optic submarine cables can provide.

Conclusion

The Caribbean region still has some hurdles to overcome when it comes to updating and upgrading the current submarine cable network. Our local government has committed to digitization and the creation of a single, unified market and has joined CARICOM to achieve these goals. By regulating the current ISP-market and strategically investing in new marine cables we can contribute to fulfilling these ambitions.