Connecting the Caribbean's Unconnected

Submarine cable networks can help address the challenges and opportunities in providing robust broadband in the Caribbean.

By Andy Bax / *Seaborn Networks*

The nations of the Caribbean region are among the most isolated, with countries scattered across an area of more than 2.75 million square kilometers. The majority are small, developing countries that have greater internet connectivity challenges than mainland nations. Limited connectivity poses societal challenges and hinders economic growth and the development of a robust, sustainable, enterprise-driven market.

Just as nations were beginning to invest significant capital in broadband infrastructure developments, COVID-19 crippled the Caribbean, along with the rest of Latin America. Some would argue the region was hit harder than other parts of the world. The pandemic highlighted the need for critical infrastructure and connectivity around the globe, especially for island nations.

The developed world enjoys seamless connectivity with low access costs. In contrast, in the Caribbean, there is greater need for digital access to enable distance learning, telemedicine, financial transactions and public services – which is expensive. The requirement for infrastructure advancements and more investment is particularly important for the region as it gears up for 4G expansion in its continued buildout of current networks and for securing a 5G spectrum for the next generation of telecom requirements.

Broadband connectivity is undoubtedly a cornerstone in promoting the continued socioeconomic development in the Caribbean, specifically concerning internet infrastructure and access services. Broadband can provide telecom (voice and text messaging) services and the necessary bandwidth for streaming, gaming and enterprise services, such as banking and corporate financial transactions critical for economic growth.

The effort to provide adequate broadband gained some traction this year as some Caribbean nations restarted economic development plans that include telecommunications infrastructure rollouts from years before 2020. In these plans, fixed broadband leads growth, mostly supported by the expansion of fiber optic networks. Even so, for the Caribbean, unique challenges to accessing 21st-century networks on an equal, sustainable basis remain.

> In Caribbean island nations, there is greater need for digital access to enable distance learning, telemedicine, financial transactions and public services. The effort to provide adequate broadband has gained some traction this year.

Undersea cable storage

Undersea cable

ADDRESSING UNIQUE CHALLENGES

As a region, the Caribbean has a population of more than 60 million people. If it were a single country or several countries connected by land, then developing a competitive, sustainable telecom environment would be a certainty and would have happened many years ago. But that's not the case. The Caribbean is a region of more than 30 nation-states, the vast majority of which are isolated from their neighbors by the ocean.

Most Caribbean nations do not have a viable business model they can use to build international access lines to the rest of the world. The nations' differing priorities and urgent local requirements have made collaborating on gaining international connectivity almost impossible.

SPEED AND COVERAGE

The biggest shortcomings of mobile and fixed-line broadband services today are what they have always been: speed and coverage. When it comes to speed, there can be a wide disparity between the maximum speed advertised for a fixed broadband internet plan and what customers experience. Second,

upload speeds in the Caribbean tend to be lower – usually, a small fraction of the maximum download speed advertised. This means that the quality of videoconferencing, cloud-based applications and gaming can be poor and inconsistent.

Coverage also remains a challenge. For fixed-line broadband, the quality of service and the download speeds available are consistently lower in rural areas than in more heavily populated Caribbean towns and cities.

The cost of basic international internet access for local operators is a key driver of both challenges. When capacity is insufficient and service is prohibitively expensive on a wholesale basis, it limits the access speeds and quality of service local operators can provide. In places where international access is a major drain on the financial resources of local operators with a limited customer base, the ability to deploy capital toward network improvements and expansion into rural areas is also restricted.

COMPETITION-DRIVEN REGULATIONS

The Caribbean has experienced ongoing changes in telecom regulations, with national regulators focused on efforts

to improve competition and facilitate investment. Currently, only a handful of countries still have monopolistic telecom environments. Most have deregulated their sectors but may still lack true market competition.

Caribbean governments have made some headway in recent years in supporting the development of broadband networks to meet their countries' requirements for consumers and enterprises. As a result, the policy environment required to enable the development and use of internet infrastructure – particularly legal frameworks that promote affordable services via healthy competition – is underdeveloped in most countries and still focuses only on basic voice communications.

CALLING FOR COOPERATION

Intergovernmental cooperation and leadership are key to delivering sustainable, high-quality telecommunications infrastructure in the Caribbean. Private enterprise in the region is ill-equipped to deliver the next-generation network needed across the region to address the basic communications needs of the population and drive local and regional cloud adoption to deliver educational,

health and social improvements to a region financially and socially scarred by the pandemic of the past 18 months.

The development of a Caribbean-wide network *by* the region and *for* the region can be a reality in today's communications landscape. The cooperation of Caribbean nations in developing, implementing and operating a regionwide communications network can enable regional and international development banks and organizations to support the effort.

Sustainable economic development for the region depends heavily on its ability to communicate globally on an equal footing with the developed world. With such a large number of island-based nations involved, cooperation and an integrated approach across regional governments offer the only realistic chance of success.

OPEN-ACCESS INFRASTRUCTURE

Enhanced connectivity and direct access to international communications gateways can provide low-latency routes with enhanced data delivery and IP and Ethernet services to consumers. This could increase subscriber growth and broaden opportunities for Caribbean nations. According to industry reports, consumer spending on telecom services and devices is under pressure because of large-scale job losses and the subsequent restriction on disposable incomes. However, the essential nature of telecom services, both for general communication and as a tool for remote work and entrepreneurial ventures, could even out these pressures.

For internet infrastructure, most Caribbean countries are currently served through what effectively is a monopolistic environment, in which the dominant local service provider is also the owner and operator of the only fiber-based international access to the country. Within this framework, the number of cables landing in any specific island nation is irrelevant if the framework doesn't exist in the local market for open access and equal opportunities for competition.

Most submarine fiber cables serving

> Now is the time for Caribbean governments to replace the region's aging communications infrastructure. Submarine cables are one of the most environmentally friendly platforms to deliver sustainable growth and development across countries, regions and continents.

the Caribbean are more than 20 years old. The cost to replace these networks with infrastructure for the next generation is beyond the capabilities of even the most dominant providers in the market. Urgent action is required to ensure that the Caribbean doesn't fall further behind in the quest for digital equality.

Leveraging a whole-government approach across the region to put in place the critical infrastructure for the next 20 to 30 years with equal and open access for all operators and providers will rebalance the technical capabilities of every nation involved. Local service providers will be able to concentrate all efforts and capital on delivering better services across a broader customer base, including rural and underserved areas – without the necessity of passing those costs on to end users.

The gap between the haves and the have nots has never been as starkly apparent as during the pandemic of the past 18 months. The ability to communicate with family, colleagues, customers and the government is a basic right that many people in the Caribbean have been denied simply because technology let them down.

Key to bridging that gap is a sustainable communications infrastructure platform that delivers internet to people's homes and businesses and stimulates local entrepreneurs to look beyond their national borders. The Caribbean needs a regionwide network that creates the environment for cultural, educational and health-based initiatives without

damaging the environment and exacerbating climate change. It needs a network that enables governments to work collectively in pursuit of better health care, education, data privacy and local and regional cloud initiatives to support the fundamental needs of the region's people.

Submarine cables are one of the most environmentally friendly platforms to deliver sustainable growth and development across countries, regions and continents. Now is the time for the governments of the Caribbean to step forward and take on the challenge of replacing the region's aging international infrastructure. If they do, they will no doubt receive the support they need to financially and technically achieve their goals.

Think of this as the modern version of "one small step for mankind." That first step is as simple as reaching out to neighboring governments with the same challenges and aspirations and starting a dialogue. Is it an easy problem to fix? No. But if the past year and a half has taught anything, it's that government plays a vital role when it comes to fixing problems that are too big and difficult for people to take on by themselves. ❖

Andy Bax is the COO of Seaborn Networks, which operates and maintains submarine and terrestrial cable infrastructure.