



Clouds in the Caribbean Sky

*Data Sovereignty, Security and Privacy for
Local Online Services*

WHAT DOES "CLOUD" MEAN TO US?

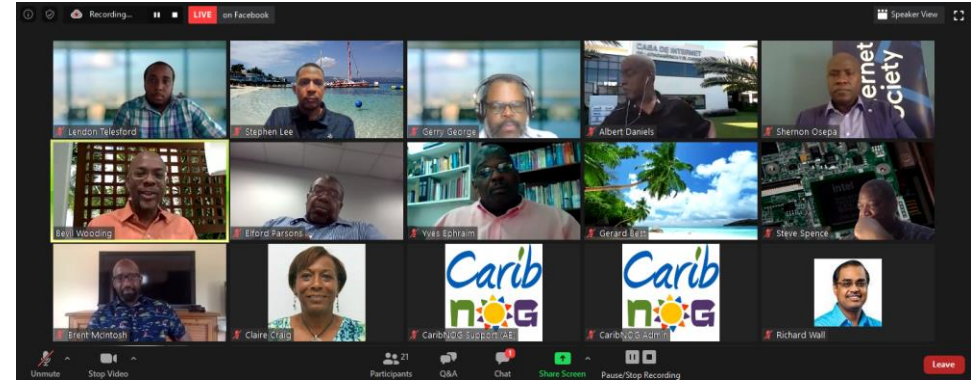
Google



amazon alexa



WIKIPEDIA



zoom



Microsoft 365



WHAT DOES "CLOUD" MEAN...

To Consumers

- *Wide accessibility*
- *Disposable computing*
- *Low cost*
- *Simplicity*
- *Transferred operations responsibility*

WHAT DOES “CLOUD” MEAN...

To Governments

- *Platform for citizen services*
- *Improved processes and greater efficiencies*
- *Standardization of infrastructure*

WHAT DOES “CLOUD” MEAN...

To Service Providers

- *Speed to market*
- *Global presence*
- *Scalability*
- *Redundancy*
- *Reduced operations cost*

A large, fluffy white cloud is centered in the upper half of the image, set against a clear, vibrant blue sky. The cloud has soft, irregular edges and a bright white center, suggesting a sunny day.

Clouds in the Caribbean Sky

HOW CAN THERE BE A “CARIBBEAN CLOUD”?

NIST DEFINITION (SP 800-145)

Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction

<https://csrc.nist.gov/publications/detail/sp/800-145/final>

CLOUD CHARACTERISTICS

On-Demand
Self-Service

Broad
Network
Access

Resource
Pooling

Rapid
Elasticity

Measured
Service



*A Convenient
View...*

CLOUD = PHYSICAL LOCATION

Google Cloud Platform

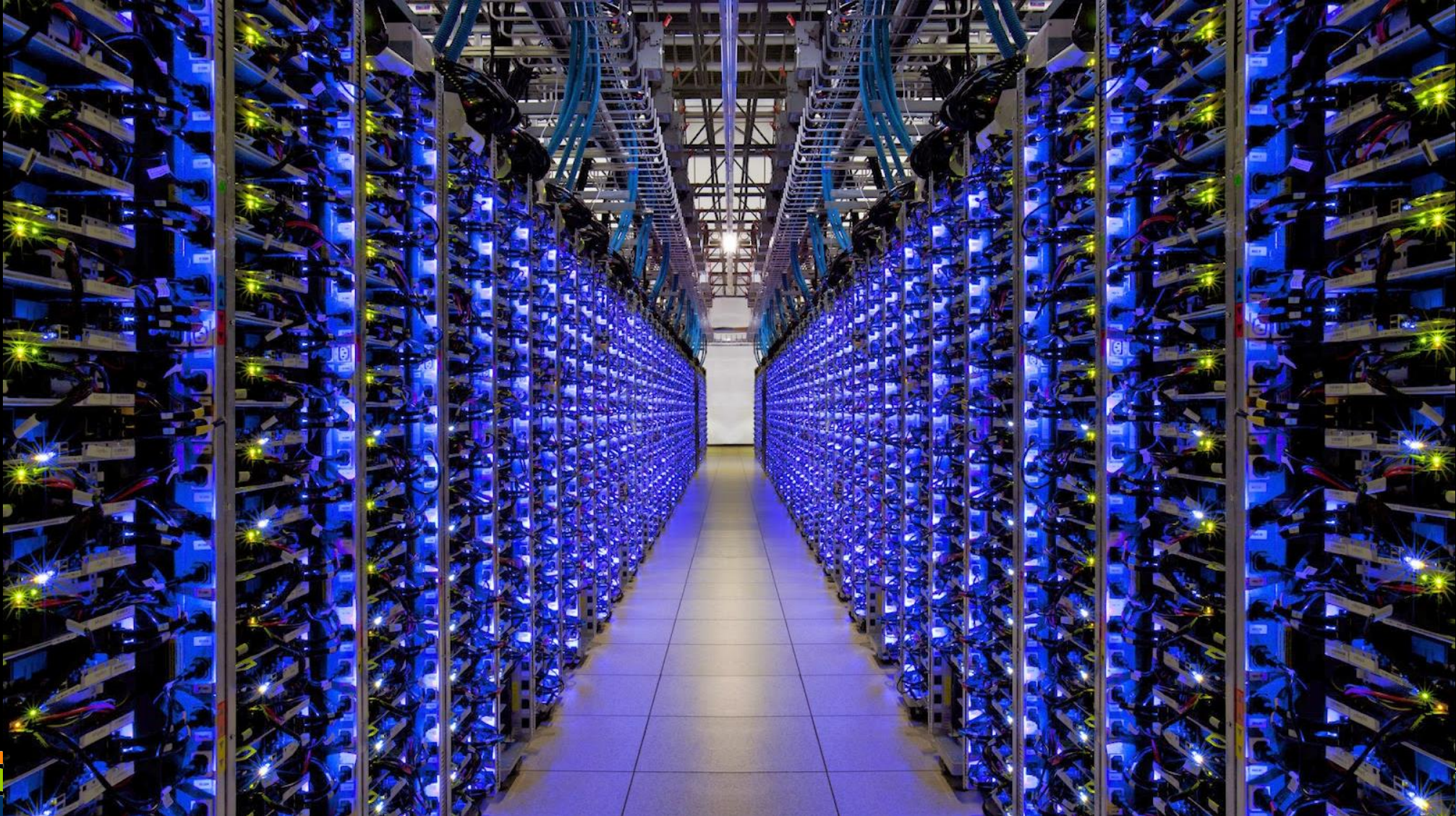
Located in the Americas,
Europe and Asia

- *22 Regions*
- *61 Zones*
- *100+ Points of Presence*

<https://peering.google.com/#/infrastructure>



GOOGLE DATACENTER



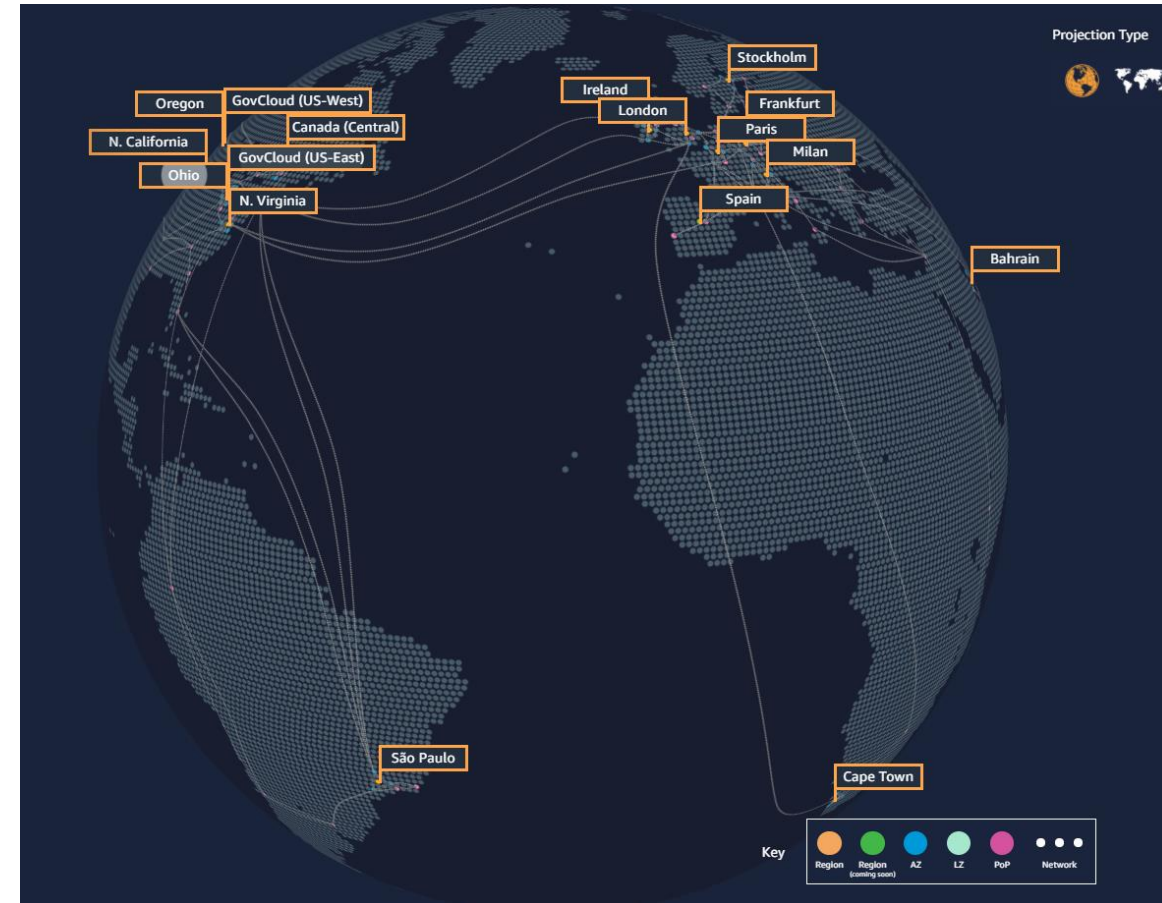
CLOUD = PHYSICAL LOCATION

Amazon Web Services

Located in the Americas,
Europe, Asia and Africa

- *24 Regions*
- *77 Availability Zones*
- *216 Points of Presence*

<https://www.infrastructure.aws>



CLOUD = PHYSICAL LOCATION

Azure Global Network

Located in the Americas,
Europe, Asia and Africa

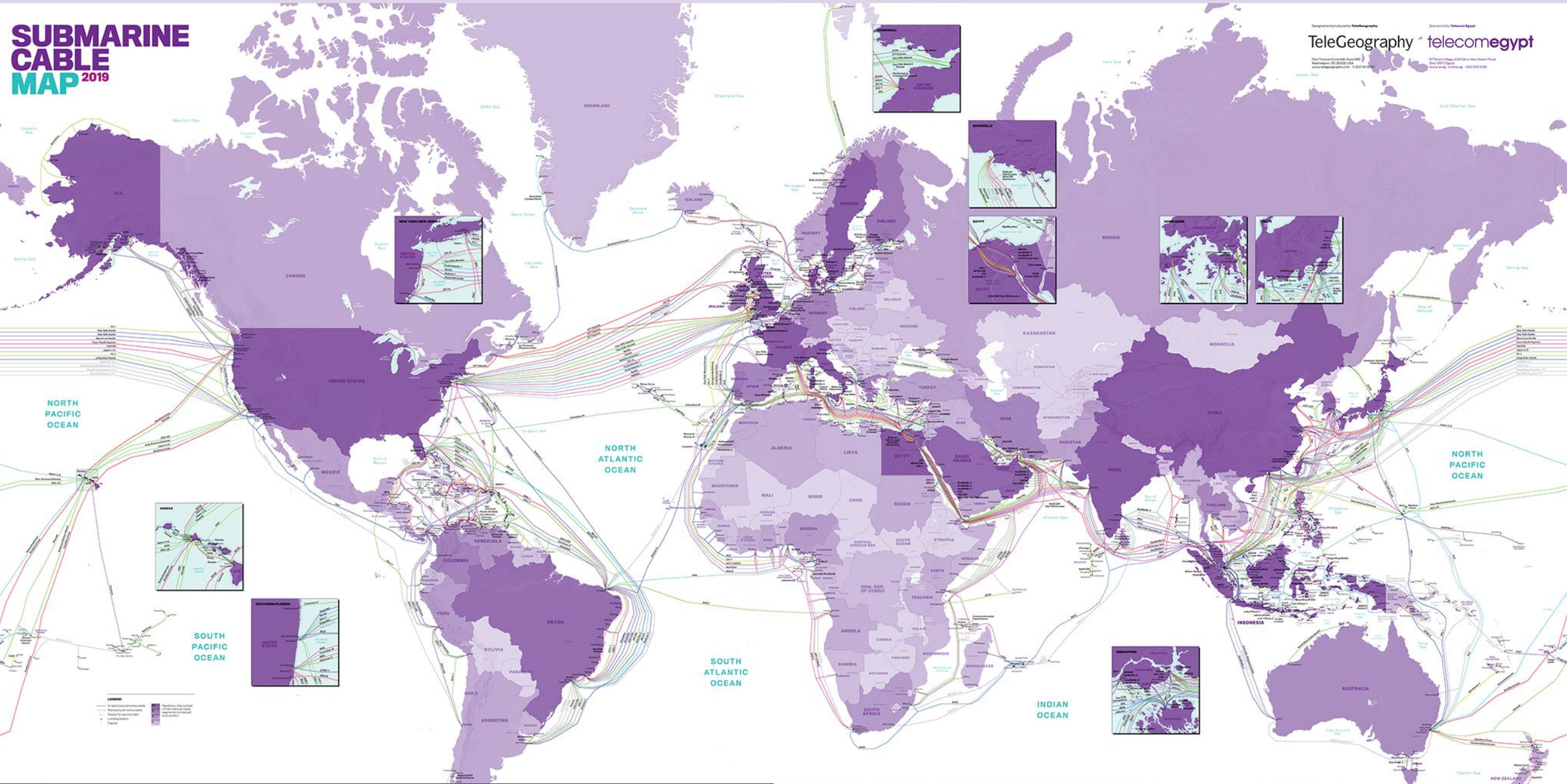
- *60+ Regions*
- *170+ Points of Presence*



<https://docs.microsoft.com/en-us/azure/networking/microsoft-global-network>

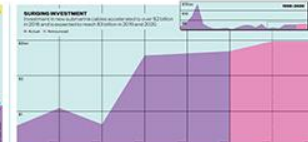
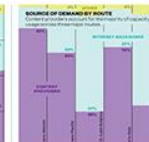
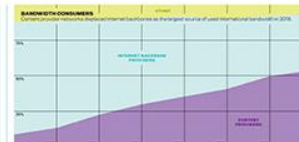
SUBMARINE CABLE MAP 2019

Designed and produced by TeleGeography
 TeleGeography telecomegypt
 8700 North Central Expressway, Suite 900
 Washington, DC 20004, USA
 www.telegeography.com ©2019 TeleGeography



<https://submarine-cable-map-2019.telegeography.com>

INVESTING IN THE CABLES





Clouds in the Caribbean Sky

DATA SOVEREIGNTY AND PRIVACY ISSUES

BUILD REQUIREMENTS

Connectivity

Power

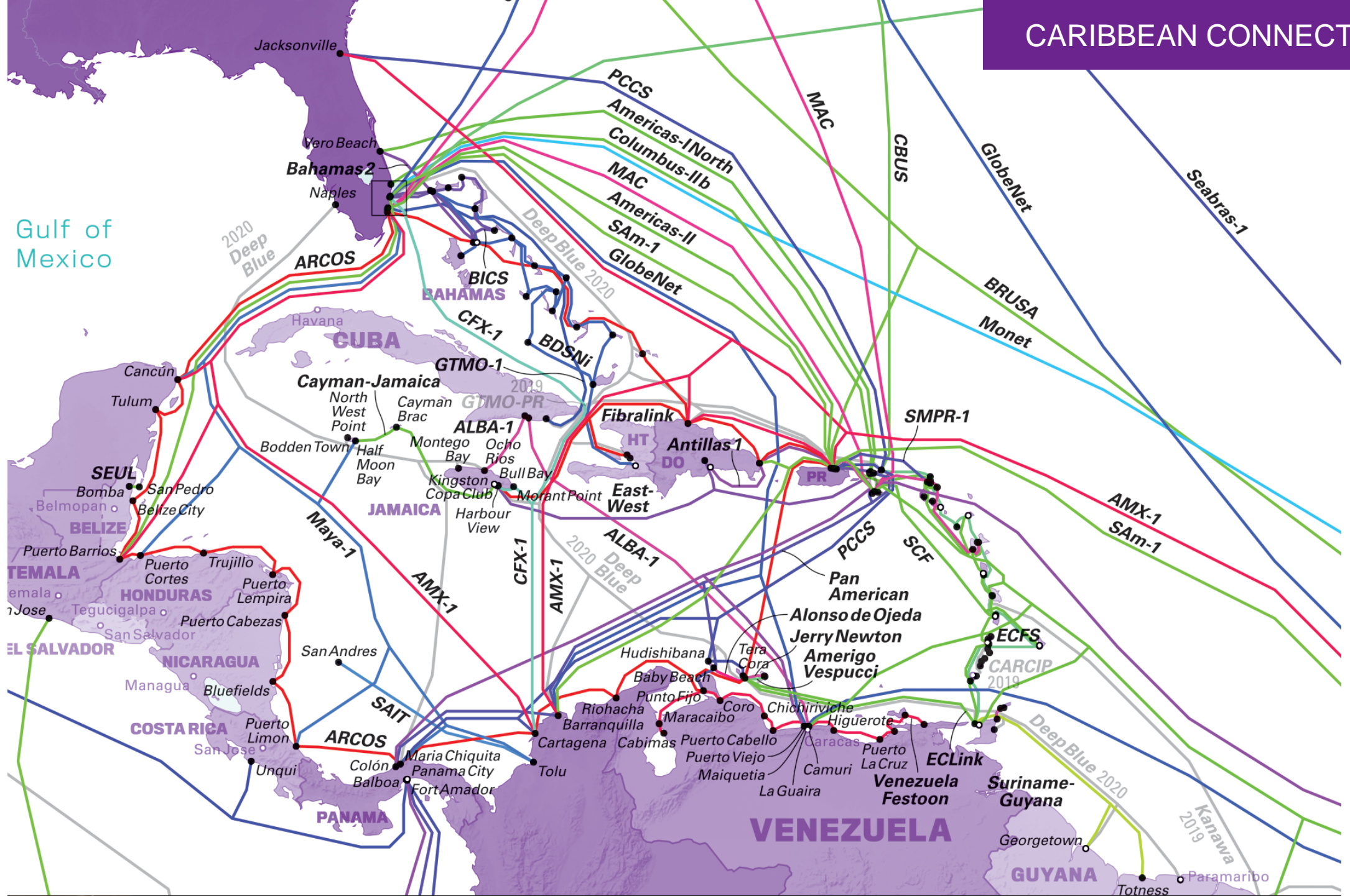
Colocation

Hardware &
Software

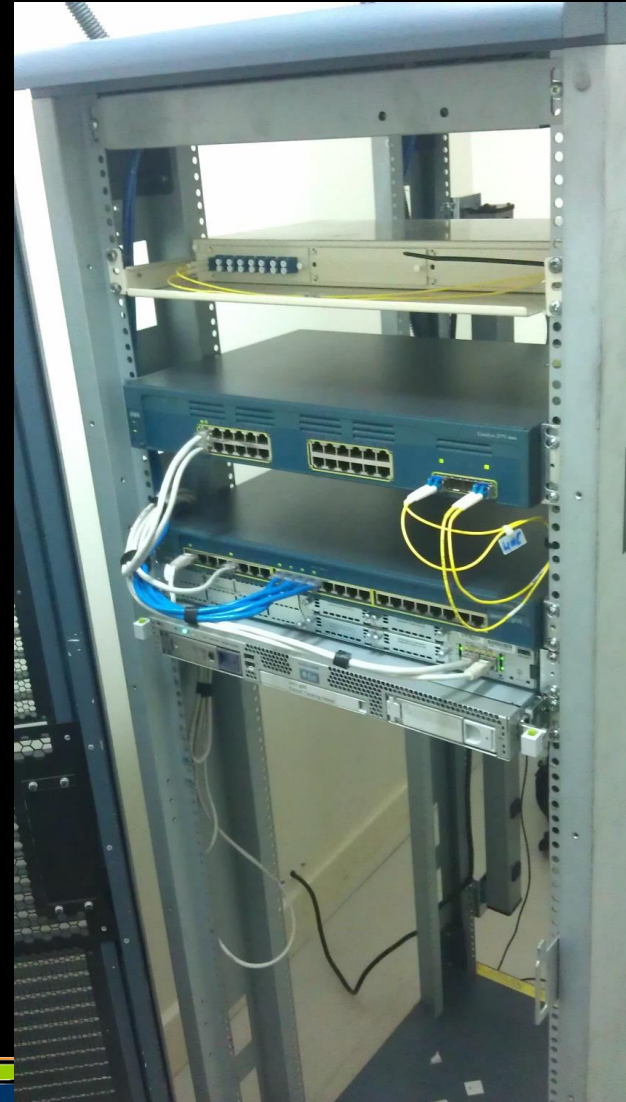
Operations
Capacity

Services

CARIBBEAN CONNECTIVITY



GREX 2012



SLIX 2016



GREX 2019



CLOUD CARIB

Locations

- 📍 Nassau, the Bahamas
- 📍 Freeport, the Bahamas
- 📍 Jamaica
- 📍 Barbados
- 📍 Panama
- 📍 Ecuador
- 📍 Paraguay

<https://www.cloudcarib.com/services/data-centre-services/cloud-facilities>



REGIONAL SCAN

- Internet Exchange Points
 - *Grenada, Belize, BVI, St Lucia, Curaçao, St Marteen, Dominica, Trinidad*
- Commercial Data Centers
 - *Cloud Carib, Fujitsu, Blue NAP Americas, SMEs*
- Telecom Service Providers
 - *TSTT, Flow, Digicel*
- Private Operators
 - *Governments, financial institutions, educational institutions, hospitality*

CONSIDERATIONS

- For Service Providers
 - *Local and regional expertise*
 - *Infrastructure cost, especially at scale*
 - *Business model*
 - *Enabling environment*

CONSIDERATIONS

- For Consumers
 - *Services desired*
 - *Level of automation*
 - *Level of scale*
 - *Acceptable service levels*

*What is an acceptable level of
“cloud” service, and how much are
we willing to pay?*



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