Ensuring Internet Resilience and Enhanced Connectivity During Disasters

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In the Caribbean, where natural and man-made disasters can disrupt critical communication infrastructure, ensuring resilient and reliable internet connectivity is paramount. This presentation explores policy and technological solutions to safeguard the region's internet access during times of crisis.

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Collaborating to enhance disaster preparedness preparedness and maintain critical communication.

Ensuring Internet/Communication Resilience During Disasters

Man-made Disasters

Man-made disasters have an element of human intent, negligence, or error involving a failure of a man-made system. Man-made disasters are usually contained to a specific location/area/network, whereby supporting infrastructure and services may not be directly or indirectly affected.

Natural Disasters

A natural disaster is an event caused by a natural hazard, which refers to a natural process or phenomenon that is not of human making such as Hurricanes, Earthquakes, "fire" etc. The effects of Natural disasters are not usually isolated to a particular area/location/network, whereby in this case supporting infrastructure and services could be affected both directly and indirectly.

Preparedness is Key

Knowing the type of disaster, you are dealing with will determine the appropriate response. This preparedness is not limited to physical means but should include external/international arrangements to complement "local" resources.

Technological Solutions for Enhanced Connectivity

The reality is that there is no other way to re-establish connectivity other than by technological solution.

The goal here is to use alternative and/or similar technology to create redundancy and/or re-establish connectivity in the event of a disaster, which does not require a complex supporting infrastructure for its deployment.

The more autonomous these solutions/networks are the better as it will be operating within an environment that is not stable.

Satellite Communications (VSAT)

Satellite communications, also known as VSAT (Very-Small-Aperture-Terminal), offer an autonomous solution that does not require a complex supporting infrastructure for deployment.

Mobile Hotspots and Wireless

Mobile hotspots and wireless infrastructure provide robust local network solutions that can be rapidly deployed during emergencies.

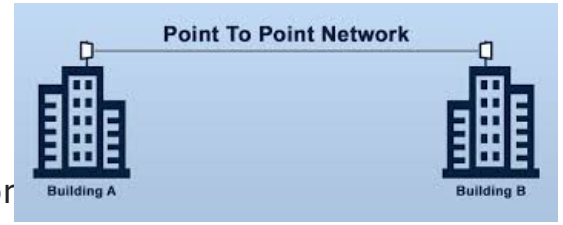
Technological Solutions for Enhanced Connectivity (cont.)

Fixed Wireless Networks

Point-to-point and point-to-multipoint fixed wireless systems offer reliable local network solutions that can be used to re-establish connectivity.

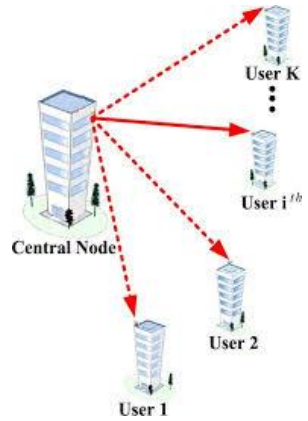
Point-to-Point Solution

Point-to-point wireless networks can be used to establish direct connectivity between two locations, providing a reliable solution for re-establishing communication.



Point-to-Multi Point Solution

Point-to-multipoint wireless networks allow for the distribution of connectivity to multiple locations from a single access point, offering a flexible solution for wider area coverage.



Technological Solutions for Enhanced Connectivity (cont.)

Mobile alternative energy transmission site

Mobile alternative energy transmission sites can be deployed to provide temporary power and connectivity in areas where the primary infrastructure has been disrupted.

Communication Response Plan

The main objectives of the communication response plans are :

1 Rapid Restoration

- Conducting a rapid assessment of the existing infrastructure to determine next steps after the disaster has accrued.
- Ensuring rapid restoration of communication networks after a disaster.
- Deploying alternative/ emergency infrastructure as part of rapid restoration process.

2 Maintain Access

- Maintaining access to critical information and services during and after a crisis.
- Making sure that that relevant resources are available for the maintenance of critical infrastructure, for example electricity from the main plant, broadband connectivity to the outside world or a steady supply of diesel for the generators and in some cases, security.

3 Key Components

- Enabling emergency communication protocols, both within organizations and external.
- Identifyng the key players for the execution of tasks.
- Making sure the availability of key components for the re-establishment and/or establishment of communications. These components ranges from generators, wireless equipment , vehicles, tools and some case cheques/bonds for emergency purchases.

Scenario Planning Exercise

Objective

- Develop a communication response plan for a disaster scenario based on past events.

Group Activities

- Identify vulnerabilities, propose technological solutions, and present plans to address potential challenges.

Collaboration

- Policymakers, government officials, disaster management professionals, and civil society work together to enhance the response to the disaster.

Outcome

- Improved preparedness and the ability to maintain critical communication during emergencies.