

The background of the slide shows a group of people, primarily women, gathered around a table. They are looking at a tablet or laptop screen. The scene is dimly lit, suggesting an indoor setting like a library or a community center. The overall tone is collaborative and focused.

Connect2Recover

Building back better with broadband

**Webinar: Identifying Country-level Connectivity Gaps and
Building Resilience To Future Pandemics**

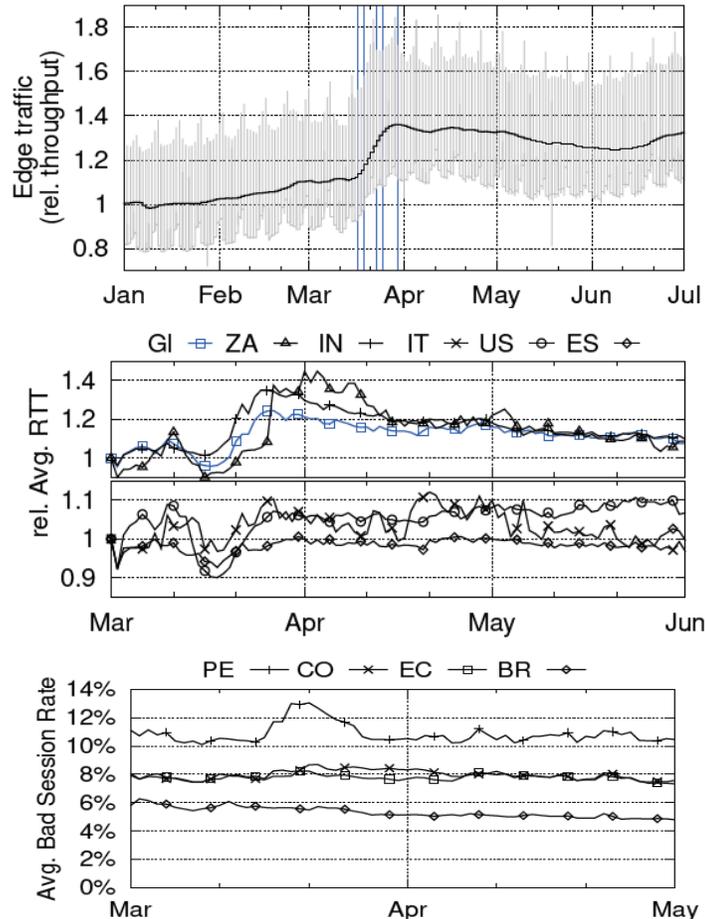
15 March 2021

Building resilience for future pandemics

Paul Garnett, CEO and Founder

The Vernonburg Group

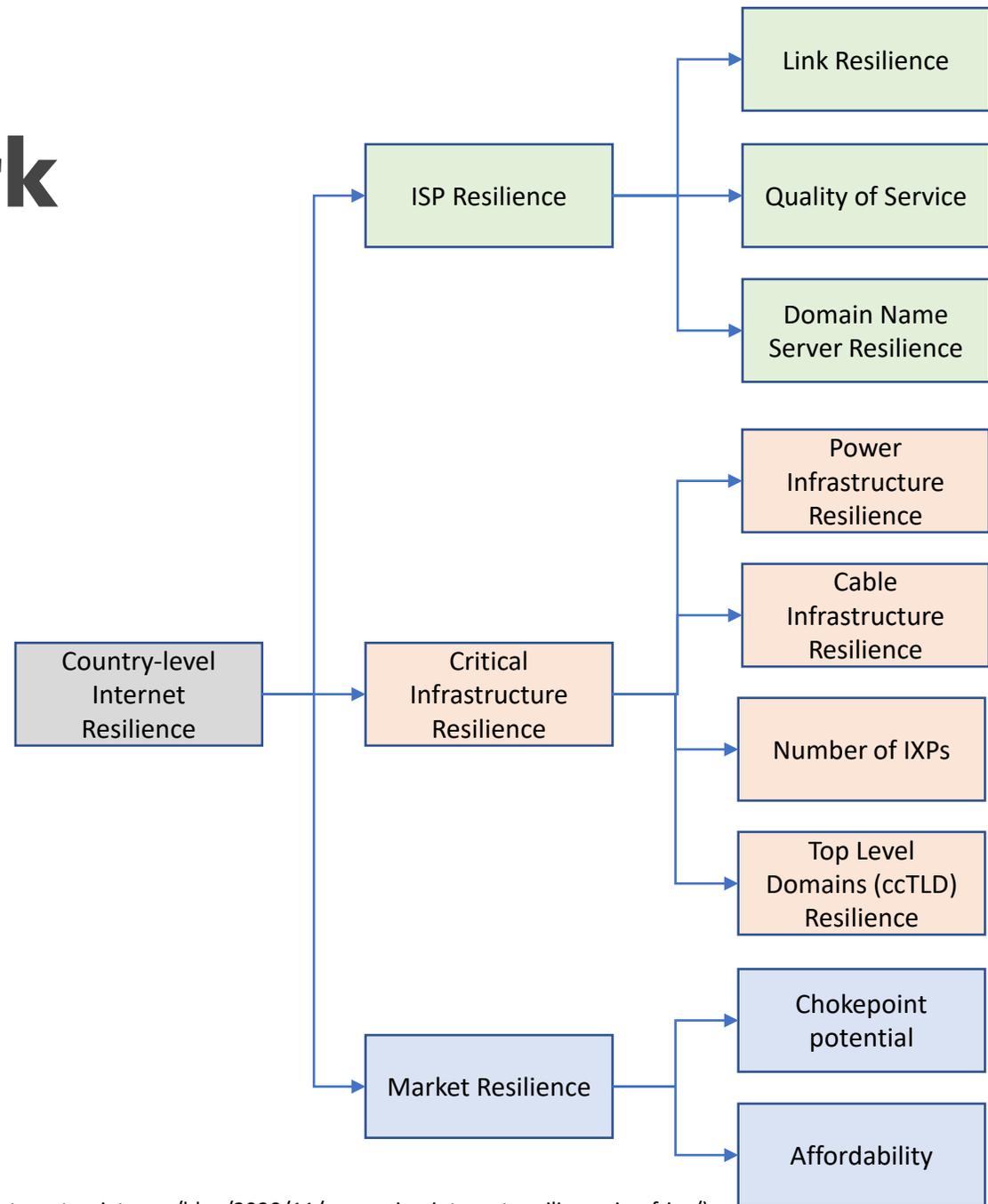
How the Internet handled COVID-19 - Facebook study



- View of the Internet seen from Facebook's edge network
- Edge traffic grew by up to 38.7% driven mostly by increase in video
- North America and Europe showed little signs of stress
- India, parts of Sub-Saharan Africa and S. America showed network stress
 - High network round trip times (30% increase in India)
 - Degraded video experience (Bad session rate increased from 10 to 13% in Peru)
- Network stress possibly caused by overutilization of CDNs (countries with few CDNs) and congestion of ISPs (particularly mobile carriers in emerging markets)

Taxonomy of Network resilience

- Network/ISP Resilience: the ability of a network to continue providing an acceptable level of service in the event of an outage or during crises. Depends on Physical Links, Logical/Peering Links, Performance/QoS, and DNS
- Critical Infrastructure Resilience: comprises the resilience of the power infrastructure, the Internet cables infrastructure (both terrestrial and undersea), the availability and efficiency of Internet Exchange Points (IXP), as well as Top Level Domain infrastructure
- Market Resilience: the ability of the market to self-regulate and provide affordable prices to end-users by maintaining a diverse and competitive market.



Digital Technologies

Increase Resiliency and Mitigate Future Impacts

Connectivity	Devices	Applications/Services
<ul style="list-style-type: none"> -First Mile <ul style="list-style-type: none"> -Submarine Cables -Landing Stations -Satellite Dishes -Cross-border Microwave -Middle Mile <ul style="list-style-type: none"> -Fiber Backbone -Microwave Links -Interexchange Points -Content Dist. Networks -Last Mile <ul style="list-style-type: none"> -Mobile Network -Fixed Network <ul style="list-style-type: none"> -Fiber/Copper -Fixed Wireless -HAPs & Satellite 	<ul style="list-style-type: none"> -Mobile Devices <ul style="list-style-type: none"> -Smartphones -Featurephones -Tablets/Laptops <ul style="list-style-type: none"> -Low-Cost Devices -Broadband Connectivity <ul style="list-style-type: none"> -Routers -Modems -IoT Devices 	<ul style="list-style-type: none"> -For Emergency Response <ul style="list-style-type: none"> -Emergency Alerts -Nearest connectivity app -For Productivity <ul style="list-style-type: none"> -Education -Healthcare -Agriculture -Business -For Entertainment <ul style="list-style-type: none"> -Netflix -YouTube -Prime Video -Facebook -WhatsApp -WeChat -Xbox Live

Sample Responses to the COVID-19 Pandemic

Emergency Communications

- Mobilization of National Emergency Telecommunication Plans (including emergency alerts)
- Deploying resources to handle traffic increases
- Allocation of toll-free numbers for emergency services

Affordability

- Discounted services and devices for low-income consumers
- Commitment not to shut off service for unpaid bills
- Free connectivity at community centers
- Free outdoor public Wi-Fi hotspots
- Free 4G/Wi-Fi routers for students
- Zero rated education and other content
- Reducing sale tax on broadband services
- Free device charging schemes

Availability

- Accelerating network deployments in rural areas
- Release of additional capacity on mobile, fixed wireless, and satellite networks
- Expedited deployment of fixed wireless networks
- Extending connectivity for healthcare providers and schools
- Waiver of rights-of-way fees

Spectrum Policy

- Rapid issuance of spectrum temporary authorizations
- Accelerated allocations and assignments
- Extension of spectrum license terms
- Minimizing licensees' regulatory and reporting obligations

Content Distribution

- Government information and advisories
- Television and radio stations disseminating health, safety, and educational content
- Creation of local news platform.
- Applications to disseminate health information.
- Commitments from platform companies to limit spread of COVID-19 disinformation

Policy and Regulation

Re-energizing efforts to close the global connectivity gap and pre-positioning all of society to be ready for what's next

- Reinvigorating efforts to develop and update National Broadband Plans
- Developing definitions and targets for broadband, availability, and adoption, overall and for traditionally disenfranchised groups like women and girls and persons with disabilities
- Utilizing a multi-stakeholder approach to improve collection of data on mobile and fixed broadband and narrowband availability, adoption, and usage
- Implementing efforts to increase availability of mobile and fixed broadband and narrowband connectivity
 - Opening up more licensed, license-exempt, and shared spectrum, enabling mobile, fixed, satellite, and HAPs connectivity
 - Implementing clear and enforceable competition policies and investing in infrastructure to spur the market
- Implementing demand stimulation activities
 - Service and device affordability, basic and advanced digital skills, and locally relevant content and applications
- Every national authority should have a National Emergency Telecommunications Plan in place



Join the Connect2Recover initiative at:
connect2recover.itu.int

