Promoting Education Through Satellite Connectivity: A Jamaica Case Study

By
Viasat

January 27, 2022

Connectivity and Education

- Introduction to Viasat
  - Founded in 1986 and 3 founders still active
  - Has grown to >$2.5B in sales and 6000 people
  - Vertically integrated global ISP
  - Leads the world in ultra high capacity satellites

    1000 Gbps in 2022
  - Designs resilience and security into connectivity solutions
  - Is active in community and school connectivity and education and telehealth components enabled by connectivity

    Mexico, Brazil, Guatemala, Nigeria, Jamaica

    Has ReadyNet (Jamaica), Intercorp (Peru) and Central American Bottling as regional partners

    Has connectivity throughout most of the Caribbean today and all LATAM and additional capacity later this year

Viasat

Connectivity and Education

- There are three gaps that Connectivity needs to address
  - School Gap
  - Homework Gap
  - Teacher Gap for communication and for continuing education
- All wireless connections have inherent costs associated with delivering GBs
- All wired connections have security, resilience, implementation delays and high costs
- For the first time, new and next generation satellites can deliver GBs anywhere as cheaply as cellular can in dense urban areas and as fast

Connectivity and Education

- Ancillary technologies can be incorporated
  - Multicast content/lessons to cache that can effectively be zero rated for schools/communities and teachers
    - UNICEF, Viasat, PBS and others
  - Extension of connectivity from school to neighborhoods and homes to address homework and possibly teacher gap
    - Use of mesh WiFi and small cell LTE
  - Inclusion of enhanced telemedicine in schools to efficiently and economically address student health issues with remote healthcare professionals
    - Could also supplement national healthcare by creation of neighborhood urgent cares
    - Utah example

Connectivity and Education

- As affordable, resilient technology solutions now exist enlightened policies need addressing
  - Taxes, duties, financial burdens on satellite equipment and services need either reduction or elimination for Government programs and programs in the national interests
    - By making satellite more affordable and competitive other connectivity solutions will become more affordable
  - Low and Mid-band spectrum should be made available on a preferential basis for extending wireless connectivity into neighborhoods and homes from the schools and other Government points of connectivity; satellite spectrum in Ka-band needs safeguarding
    - PPPs can be vehicles such as Altan Redes in Mexico using 700MHz
    - Operator spectrum that isn't being used to cover certain locations could be allocated on a non-interfering basis as FCC programs have done for tribal lands in the US using 2.5Ghz and 3.5GHz
  - As connected schools can connect neighborhoods and households as well as supplement national healthcare programs with enhanced telemedicine, connecting schools should be viewed more broadly and become part of a national strategy to improve the quality of lives
  - With mega-constellations on the horizon regulators should assess whether such systems endanger the safe and equitable use of space before granting access

Viasat around the region: Case Study

- Viasat partnered with ReadyNet per the Ministry of Education's goal to connect schools across Jamaica
  - Collaboration with Jamaican Ministries of Education, Science, Energy and Technology and Spectrum Management Authority
- VSAT license streamlining, and fee reduction led to:
  - 100 sites installed in 48 days
  - Plans to connect several hundred more sites
- Use of Ka band and High-Throughput Satellite technology gives each school 25/5 Mbits/s which allows for simultaneous use of:
  - High-definition video conferencing
  - Multiple video streaming services
  - Connection for on-line education platforms