



WASHINGTON, DC

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February 13, 2019

**FILED VIA ECFS**

Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

Re: **Broadband VI, LLC**  
**The Uniendo a Puerto Rico Fund and the Connect USVI Fund,**  
**WC Docket No. 18-143**  
**Notice of Ex Parte Presentation**

Dear Ms. Dortch:

On February 11 and 12, 2019, David Zumwalt, COO of Broadband VI, LLC (“BBVI”), Michael Meluskey, CTO and co-founder of BBVI, and undersigned counsel to BBVI met in separate meetings with the following: Commissioner Michael O’Rielly and his Legal Advisor Arielle Roth; Jamie Susskind, Chief of Staff for Commissioner Brendan Carr; and Michael Carowitz, Special Counsel to Chairman Ajit Pai, and Daniel Kahn, Associate Bureau Chief of the Wireline Competition Bureau.<sup>1</sup> The meetings focused on Stage 2 funding procedures under consideration by the Commission in the above-referenced proceeding and BBVI’s proposals regarding the same.<sup>2</sup>

The BBVI representatives provided a brief background on the company and its successful restoration efforts following Hurricanes Irma and Maria in 2017. We then discussed the two-step process for awarding Stage 2 support that BBVI proposes. Step 1 sets basic eligibility

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<sup>1</sup> Ari Storch also participated in the meeting with Michael Carowitz and Daniel Kahn as an advisor to BBVI.

<sup>2</sup> See *The Uniendo a Puerto Rico Fund and Connect USVI Fund, et al.*, Order and Notice of Proposed Rulemaking, FCC 18-157, WC Docket Nos. 18-143. 10-90 and 14-58 (rel. May 29, 2018). BBVI presented its proposals in an ex parte letter submitted November 9, 2018 in the above-referenced proceeding.



requirements. Step 2 establishes a weighted point system that compares one eligible applicant's proposed network resiliency and restoration, network deployment timetable, and network performance against those of other eligible applicants. The BBVI representatives explained that using comparative network criteria is the most appropriate and most expeditious approach available because of the relatively small number of applicants expected to seek Stage 2 funding for the U.S. Virgin Islands and the need to vet resiliency and restoration criteria before the Commission selects an entity to which it will provide support. We also explained that network resiliency and restoration should be given the most weight of the three criteria to promote the hardening of communications networks in a manner that can best withstand the inevitable natural disasters to come.

Copies of the attached presentation summarizing BBVI's proposals, were distributed to the Commission representatives during the meetings. BBVI notes that the attached proposal awarding points based on a network's performance differs slightly from, and supersedes, the comparable proposal submitted by BBVI in its November 9, 2018 *ex parte* letter. Also, the attached presentation makes a minor correction on slide 9 of the presentation distributed at the meetings

Pursuant to Section 1.1206 of the Commission's Rules, this letter is being filed electronically via the Electronic Comment Filing System in the referenced proceeding.

Respectfully submitted,

/s/ Stephen E. Coran  
Stephen E. Coran

/s/ Philip A. Bonomo  
Philip A. Bonomo

Attachment

cc: Commissioner Michael O'Rielly  
Arielle Roth  
Jamie Susskind  
Michael Carowitz  
Daniel Kahn



# Broadband VI

The USVI's choice for innovative internet service delivery since 2002

# Our Business

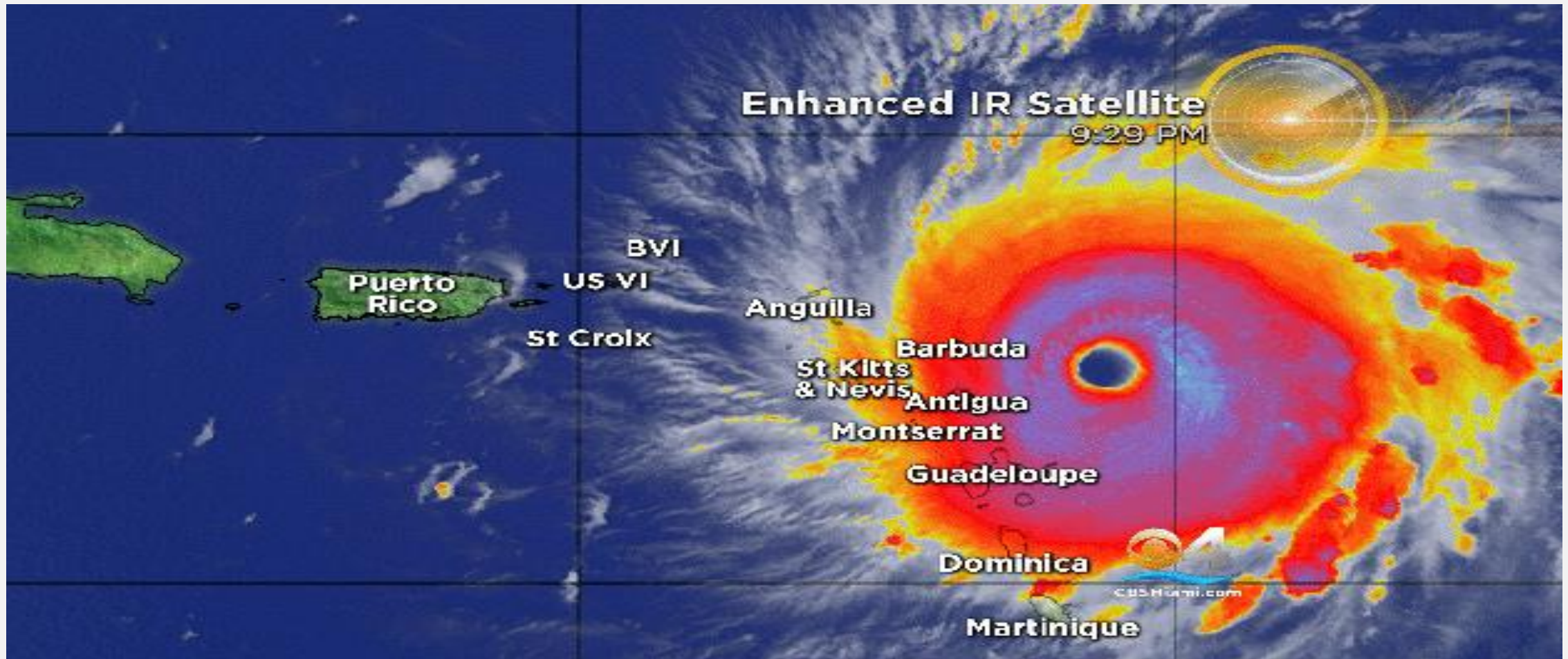
- **Founded in 2002, wireless and fiber/wired infrastructure deployed**
  - internet, WAN services, data/voice/media
- **Top 2 ISP: 9,000+ subscribers, 30%+ of market**
  - Residential, commercial, academic, public sector
- Strategically aligned
  - Open access middle mile fiber, other carrier networks → uptime
  - Economic/workforce development initiatives → community
  - VI government (DPW, GVI) → territory strategies
- Success through private investment, customer focus, and planning

# Our Network

- **Reach/coverage: 95%+ service area**
- **Resilient: designed for failover**
  - Power: utility, generator, battery/solar (multiple sources)
  - Backhaul: sub-sea fiber (discrete paths)
  - Middle mile: licensed spectrum, open access fiber (multiple carriers)
  - Last mile: next gen/5G CPE (to 2.5 Gbps), fiber w/wireless (N+1 failover)
- **Trusted:** post-2017 hurricanes (Cat 5 Irma and Maria), surge in demand as Virgin Islanders “cut the cord” (discontinued ILEC POTS and cable TV) and migrated to Broadband VI for converged services.



# Cat 5 Hurricanes Irma & Maria, Sept 6 & 18, 2017





# Irma/Maria Damage



# Response to 2 Cat-5 Hurricanes (in 12 Days)

- Service restoration:
  - **First service within days; 60%/3 months; 80%/6 months, 100% in 8 months**
- Triage/priorities:
  - Food (supermarkets – essential supplies, SNAP, credit cards)
  - Fuel (gas stations – vehicles/generators)
  - Supplies (hardware stores – building materials for repairs)
  - Medicine (doctors/pharmacies/hospitals – medical care)
  - Logistics (airports/seaports – movement of people/materiel)
  - Funding (insurance adjusters – claims processing)
  - Other businesses/residential



# Response to 2 Cat-5 Hurricanes (in 12 Days)

- Mutual aid:
  - Our volunteers helped rebuild, used personal boats to move critical supplies inter-island, and assisted competing providers at tower sites
- Network upgrades:
  - Phased in expanded investment in fiber interconnection
  - Positioned wireless CPE for 100 Mbps/1 Gbps+ connectivity
    - Cambium 450m/b (100 Mbps), IgniteNet (2.5 Gbps), SIAE 80HDX (10 Gbps)
- Lessons Learned:
  - Like Miami-Dade building code standards which arose in response to hurricane damage, higher standards for resilience must be applied to the buildout of new (or restoration of existing) network infrastructure in the USVI. Rebuilding non-resilient networks wastes resources and will fail.

# Connect USVI Fund – Opportunities

- After ~30 years of high-cost support to the Territory's ILEC, funds can be redirected to supporting a network that can survive a storm
- Close the Digital Divide: provide opportunities for Virgin Islanders through better connectivity (including before, during and after a storm)
- Economic development/diversification: attract globally-competitive businesses with fiber-based Gigabit speeds, create demand-driven employment and workforce development in knowledge-based industries

# Stage 1- Broadband VI

- Awarded >\$931K in Stage 1 funding
- Became an ETC on September 5, 2018
- Paperwork filed with USAC
- Using support to supplement ongoing network restoration

# Stage 2 Proposal – 2-Step Application Process

- Step One: Basic eligibility
  - Must be a provider of voice and/or broadband services in the USVI *prior to* Hurricanes Irma and Maria
  - Designated ETCs only
  - Demonstrated ability to construct a broadband and/or voice network in the USVI
  - Financially qualified: audited financials, letter of credit or performance bond
- Step Two: Comparative criteria – applicants meeting basic eligibility requirements will have applications considered on a comparative basis



# Stage 2 Proposal – Comparative Criteria

- Selection on a price-per-location-served basis is problematic, due to difficulty in ascertaining USVI “locations”
  - Many residences and small business structures were destroyed by the hurricanes
  - Significant displacement of population away from the USVI
  - USVI relies on historic (pre-US) “estate” address nomenclature, not traditional street addressing
- **Recommendation: selection based on a 100-point scoring system for:**
  - a) network resiliency and restoration,**
  - b) network deployment timetable, and**
  - c) network performance**

Category	Points
Network Resiliency and Restoration	50
Network Deployment Timetable	20
Network Performance	30
<b>TOTAL</b>	<b>100</b>

# Stage 2 Proposal – Resiliency/Restoration (50 pts\*)

- Most important comparative category due to the USVI's susceptibility to natural disasters
- Favors buildout plans featuring underground elements that a) can survive a major hurricane (e.g., fiber in the ground), *and* b) offer discrete (e.g., multiple) network and path diversity for resiliency
- Buildout plans which rely on exposed elements (e.g., aerial fiber on poles) should be disfavored

\* **Up to 10 additional points** awarded for demonstrated ability to restore 80%+ services within 180 days

Deployment Technology/ies	Resiliency/Diversity	Points
Underground fiber	Discrete Networks	40
	Discrete Paths	30
	None	20
Underground fiber middle-mile + fixed wireless last-mile	Discrete Networks	25
	Discrete Paths	15
	None	5
Aerial fiber	Discrete Networks	15
	Discrete Paths	5
	None	0

# Stage 2 Proposal – Timetable (20 pts)

- Not as important as resiliency/restoration; a network poorly serves its community if it cannot a) withstand a hurricane, or b) be quickly restored following a disaster
- Should favor buildout timetables that commit to an accelerated 6-year milestone schedule

Time Period	Build-out %
Year One	0%
Year Two	0%
Year Three	40%
Year Four	60%
Year Five	80%
Year Six	100%

# Stage 2 Proposal – Performance (30 pts)

- Basis for award – the same speed tiers used with the Connect America Fund Phase II program, with some differences in point values
- Plans which include high-latency elements should be disfavored

Performance Tier	Speed (Mbps)	Usage Allowance	Points
Minimum	10/1	150 GB	0
Baseline	25/3	150 GB	10
Above Baseline	100/20	2 TB	20
Gigabit	1 G/500	2 TB	30



# Our Commitment

## Broadband VI:

- has hurricane-resilient subsea and middle mile network infrastructure, and **will continue to augment for resilience**
- **will build last-mile connectivity that is resilient** enough to survive a major hurricane
- **can meet the timetable we propose**, and has the knowledge and experience to get it done
- has Gigabit speed capability today in its subsea, middle mile, and certain end-user locations, and **is committed to delivering Gigabit speeds network-wide**





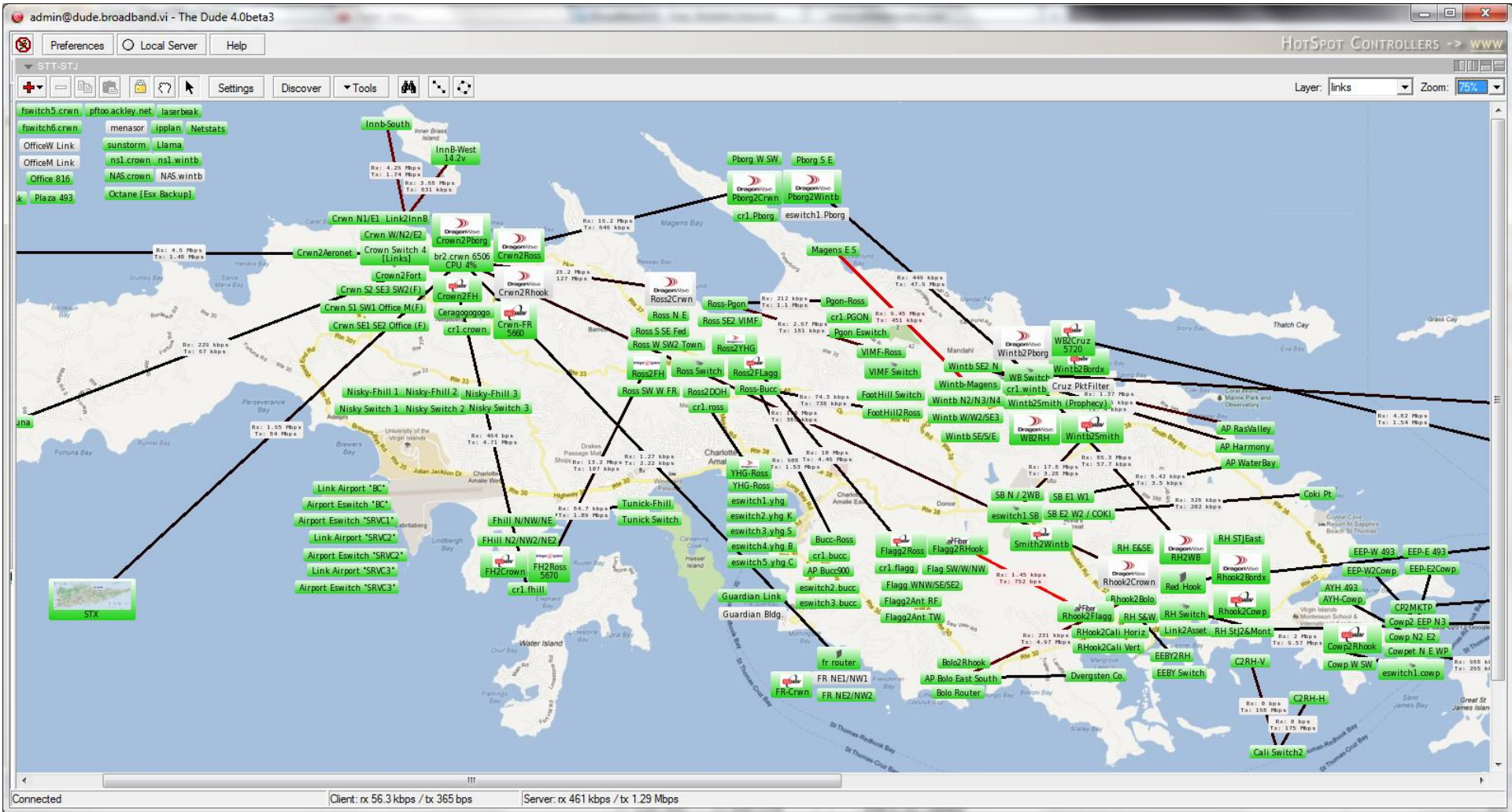
**THANK YOU**



# Supplemental Materials

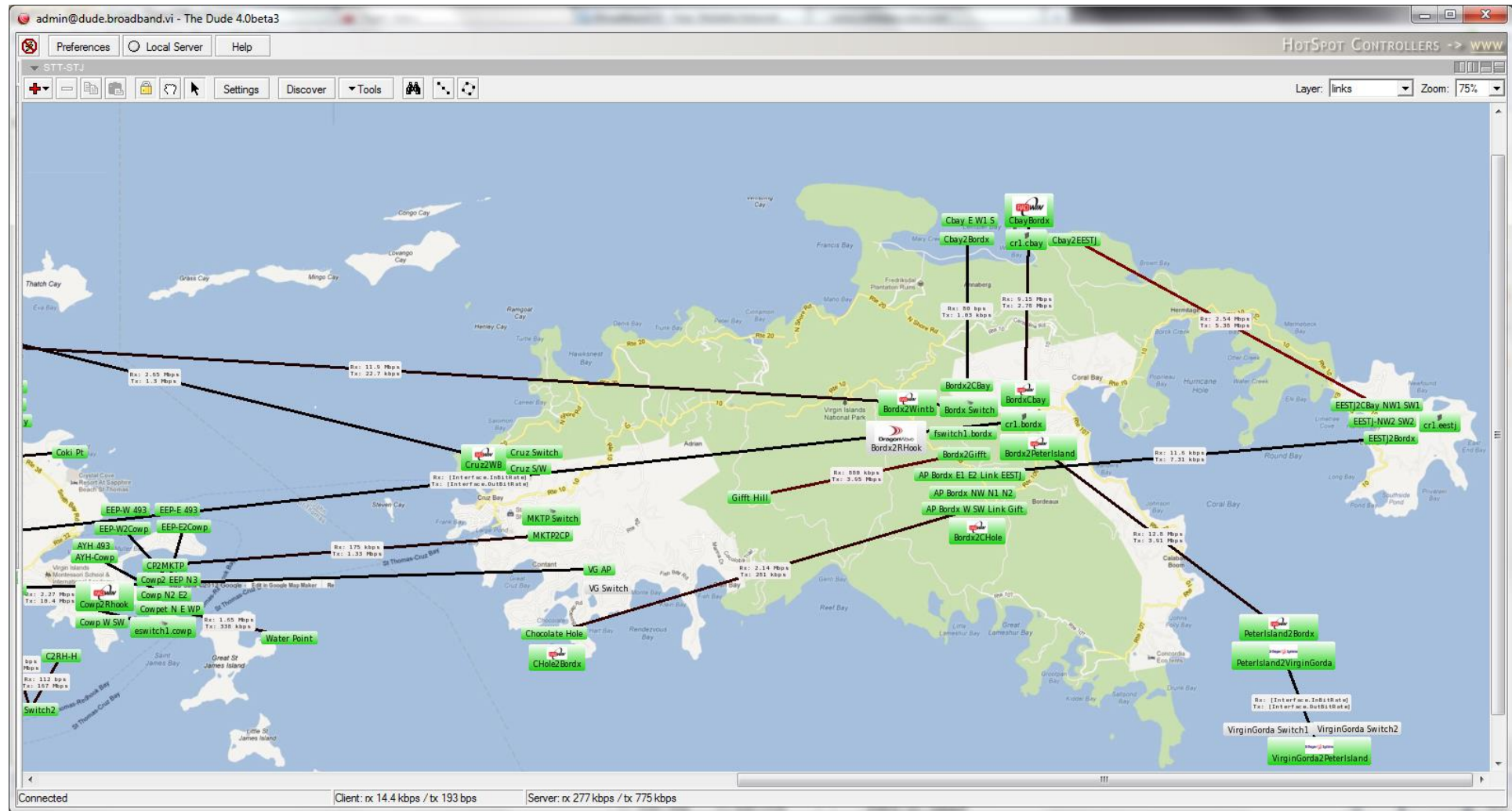


# Our Network – St. Thomas

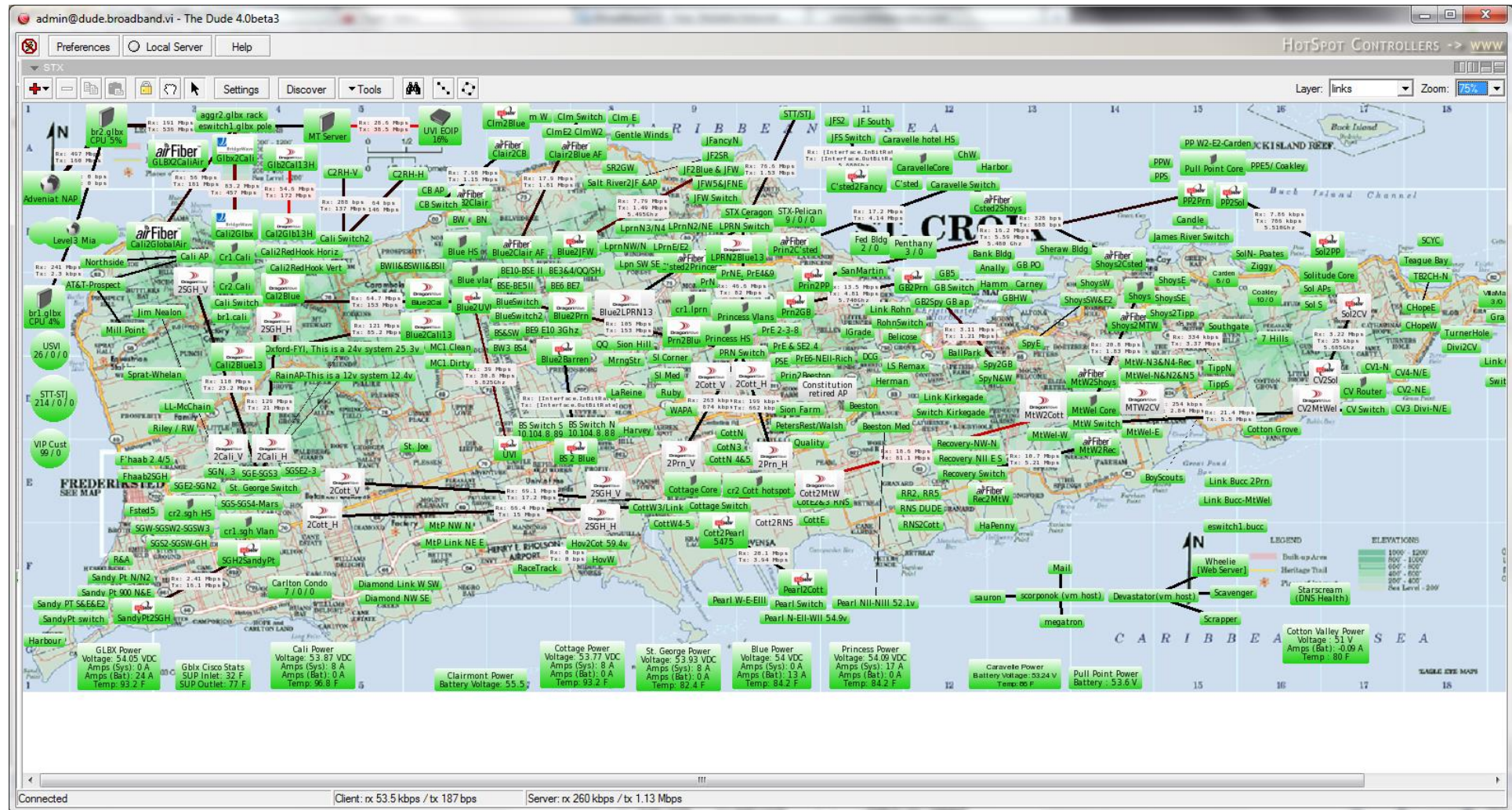




## Our Network – St. John

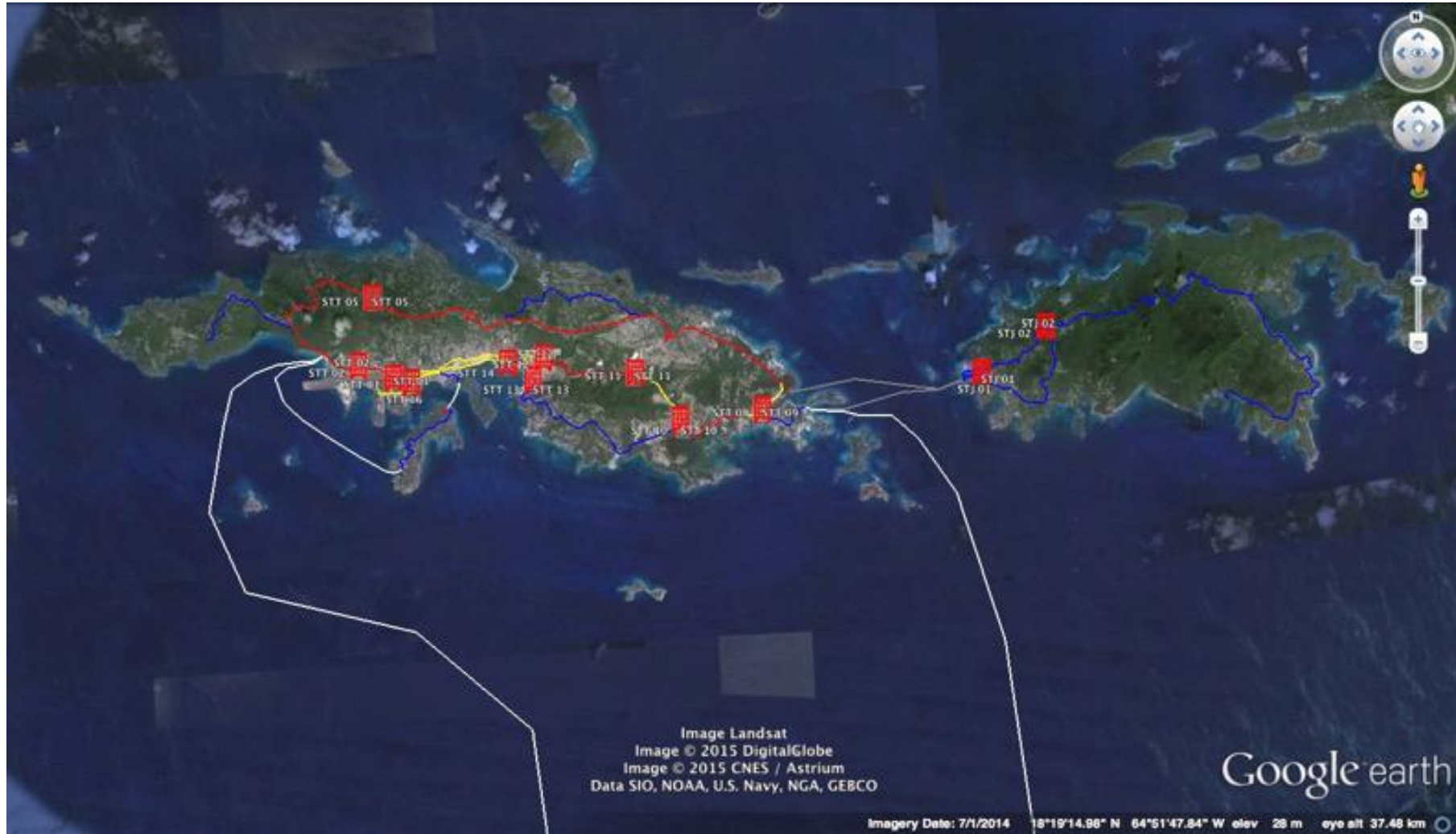


## Our Network – St. Croix

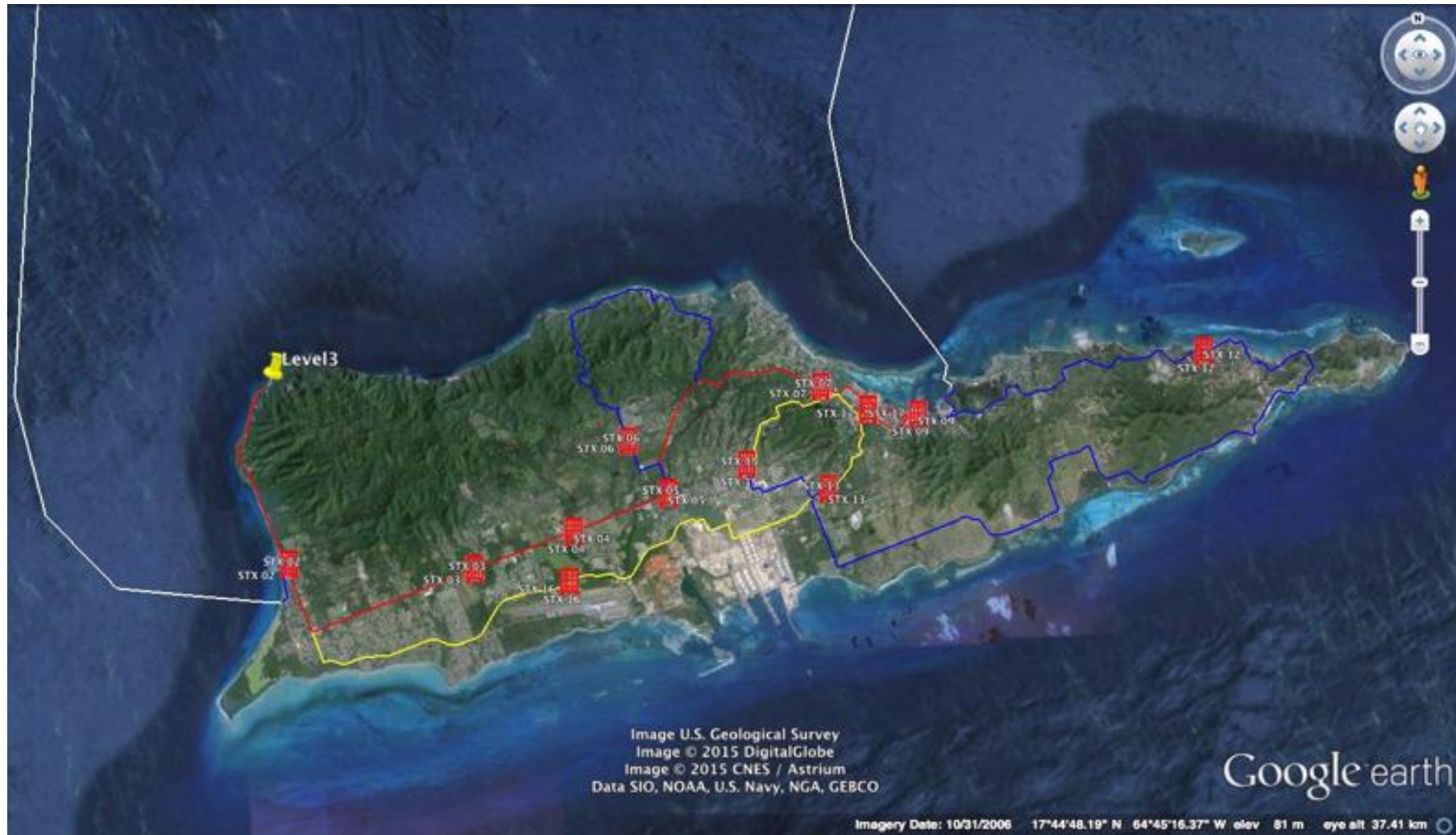




# viNGN Middle Mile – St. Thomas/St. John



# viNGN Middle Mile – St. Croix

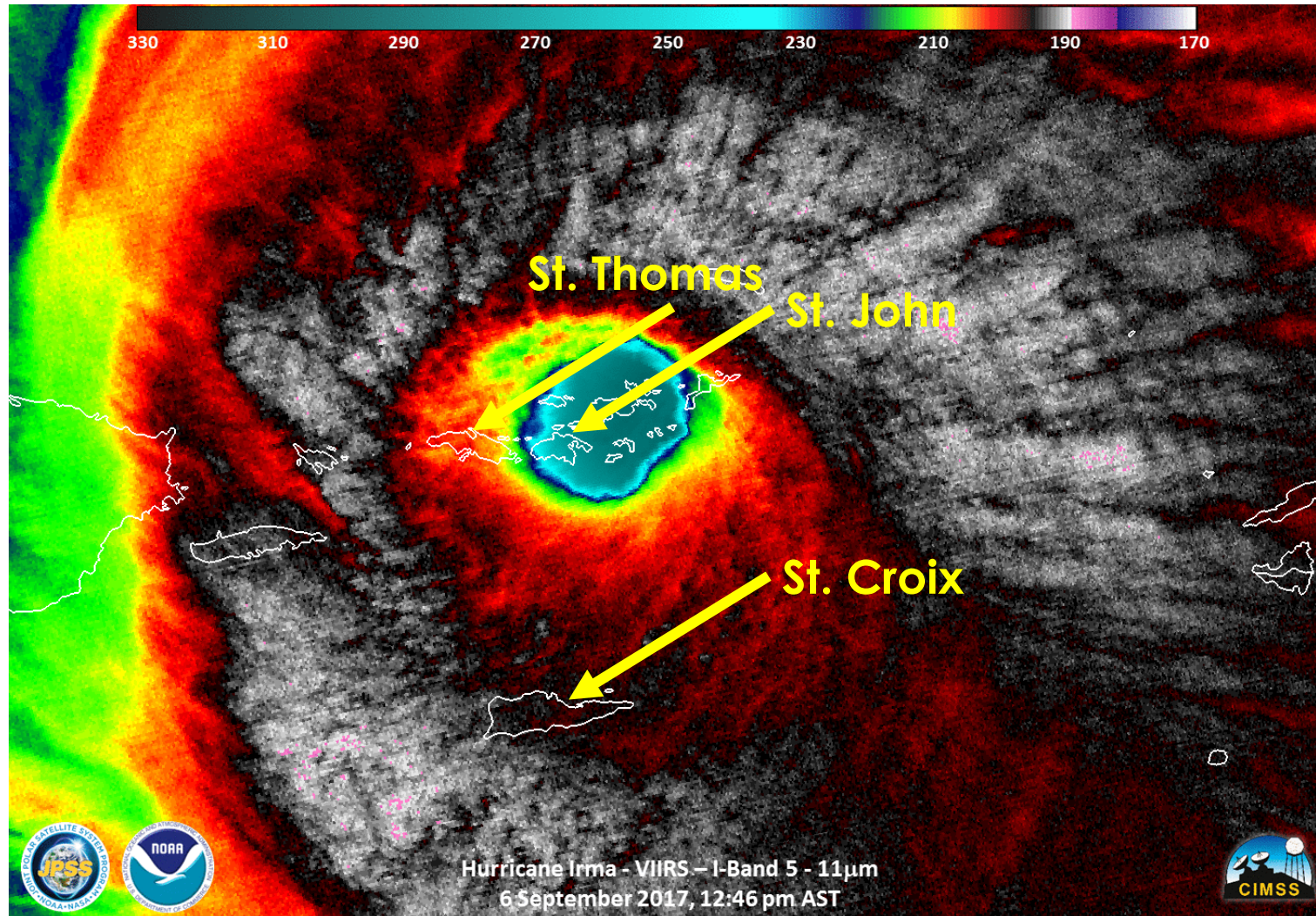


# 2017 Major Hurricanes Irma, Maria

Back-to-back Category 5 storms, widespread devastation/disruption, response, recovery efforts

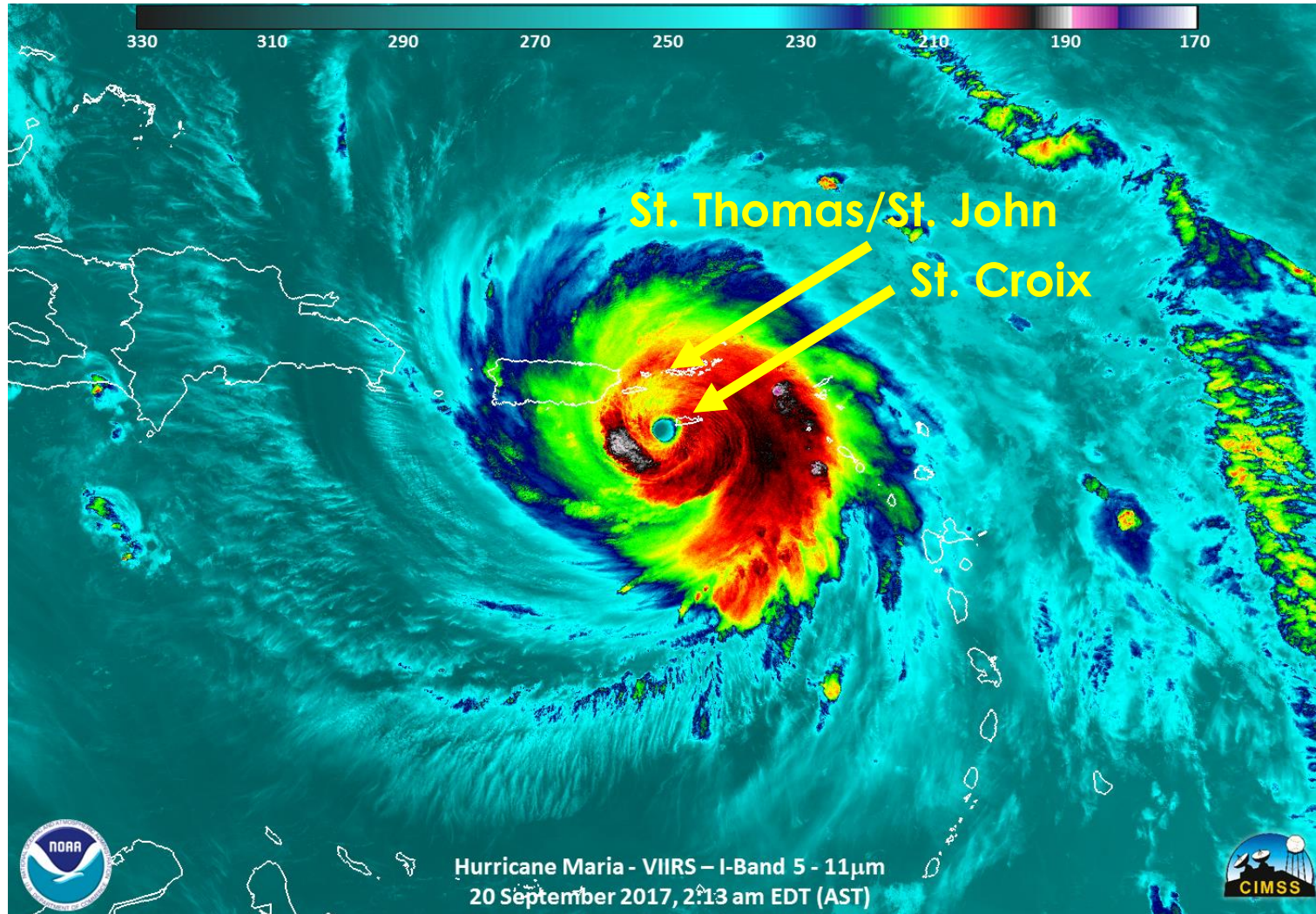


# Cat 5 Major Hurricane Irma, Sept 6, 2017





# Cat 5 Major Hurricane Maria, Sept 19-20, 2017





# Our Network – St. Croix (2 months post-Hurricanes)





# Broadband VI Fiber Expansion

Why Fiber? Our Network Design Philosophy. Our Partnering Philosophy,

# Why Optical Fiber?

## Broadband VI Fiber Philosophy

- PON (passive optical network) fiber supports Gigabit, 10Gbps, and soon 40Gbps speeds
- Capital investment efficiency:
  - Fiber is built for the future, has a long useful life (25+ years typically), and is capacity-upgradeable through replacement of optical terminal equipment (5-7 years typically)
- Fiber can support future growth in customers and bandwidth demand

*Pictured: cross section of microduct in road*





# Build for sustainability

## Broadband VI Network Design Philosophy

- Hardened: use sub-sea and middle mile Access Points served by generators with automatic transfer switches and DC power plants with battery backups
- Resilience: use fiber ring technology that automatically reroutes traffic in case of failures or damage; offer failover options to customers
- Carrier-class: design for “four 9s/five 9s” service availability (99.99%-99.999% of time)
- Utilize underground (vs. aerial) fiber when possible; no exposure to wind and limited exposure to water
- Leverage viNGN open-access middle mile network
  - *Broadband VI is the largest ISP utilizing this fiber network (mix of aerial and underground fiber)*





# Leverage partnerships

## Broadband VI Partnering Philosophy

- Engineering – an established, USVI-experienced engineering services provider with a strong project portfolio (including Google Fiber)
- Construction – the leading USVI underground utility contractor with experience on all 3 islands
- Paving – a leading USVI-experienced paving/road works company
- Middle-mile open-access fiber
- Other service providers (peak load installation/repair, customer care, and network support services)
- Our Goal: to be the ISP best known for reliability, customer service, innovation, and the ability to always weather the storm.

