

How do YOU use eduroam?

IAM Online

Monday, May 18, 2020

Presenters:

Saira Hasnain, University of Florida

Sharon Pitt, University of Delaware

Jeff Egly, Utah Education and Telehealth Network

Moderator:

Mike Zawacki, Internet2



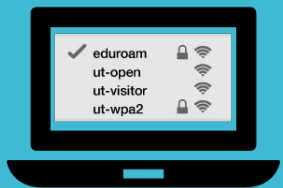
What is eduroam?

- **Federated authentication service for global wireless access** for the research and education community
- Participating institutions provide access to their wireless networks to users from other eduroam connected institutions
- Users are authenticated by their home institution



How eduroam Works

Brian, a LSU Student, is visiting University of Tennessee and joins eduroam



Brian has secure, seamless, and instant WiFi



Brian's credentials (brian@lsu.edu) are securely sent to eduroam



UTK grants Brian network access



eduroam routes the information to LSU



eduroam routes the information to UTK



Brian's credentials are verified by LSU

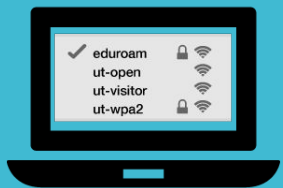


LSU confirms Brian's credentials to UTK



How eduroam Works

Brian, a LSU Student, is visiting University of Tennessee and joins eduroam



Brian has secure, seamless, and instant WiFi



Service Provider
Wifi hotspot,
broadcasts
eduroam SSID

Brian's credentials
(brian@lsu.edu)
are securely sent to eduroam



UTK grants Brian
network access



eduroam routes
the information to LSU



eduroam routes
the information to UTK



Identity Provider
Home Institution,
Provides user
credentials,
authentication

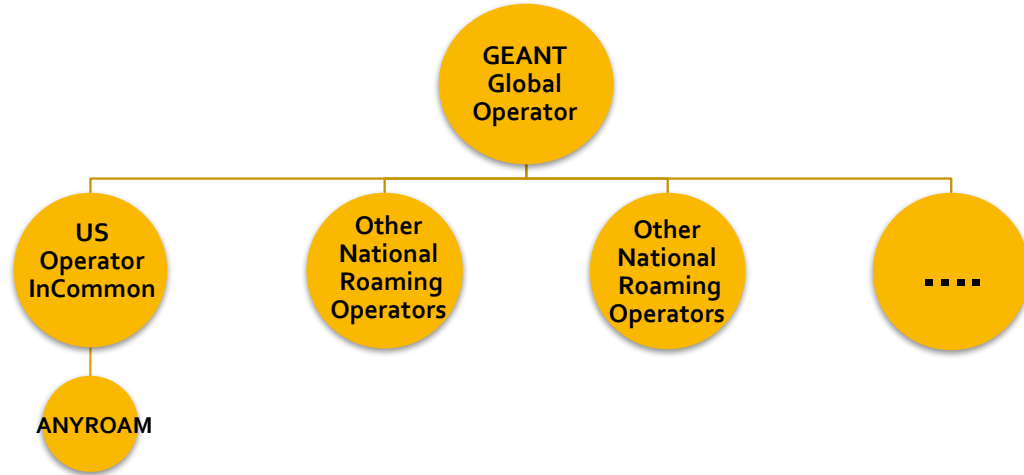
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eduroam Service Providers



Global Operator

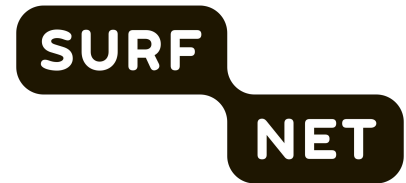
GÉANT

- National Research and Education Network (NREN) of Europe
- Similarities with Internet2
 - Serves a membership of universities, national labs, research organizations, cultural institutions
 - I2 supports Regionals; GÉANT supports other EU NRENS
- Global reach in mission
- Funded through member dues and EU Commission allocations



International Roaming Operators (ROs)

- CANARIE, SURFNet, and other international NRENs
 - GEANT is the eduroam global operator (policy and technical leadership)
 - Currently 101 ROs across the world
- ROs are eduroam service owner in their respective countries or regions
- Work with the Global eduroam Governance Committee on policy and governance matters



Global eduroam Governance Committee

- **Africa:** Mohamed Aliouat, (ARN, Algeria), Kennedy Aseda (KENET, Kenya), Samuel Ouya (snRER, Senegal).
- **Asia-Pacific:** Hideaki Goto (Tohoku University, Japan), Neil Witheridge (AARNet, Australia), Deokjai Choi (Chonnam National University, Korea).
- **Europe:** Wenche Backman-Kamila (Funet/CSC, Finland), Paul Dekkers (SURFnet, Netherlands), Miroslav Milinović (Srce, Croatia).
- **Latin America:** Luis Castro (CUDI, Mexico), Claudio Chacón (CEDIA, Ecuador), Jean Carlo Faustino (RNP, Brazil).
- **North America & Caribbean:** Ann West (Internet2, USA), Chris Phillips (CANARIE, Canada), Reeve Ramharry (UWI, Trinidad & Tobago).

The GeGC includes non-voting technical experts:

- Stefan Winter (RESTENA, Luxembourg)
- Philippe Hanset (ANYROAM, LLC, USA)

InCommon (operated by Internet2)

- eduroam service owner (roaming operator) in the US
- Marketing and communication for eduroam service
- Manages business function
- Provides support for connectors
 - Escalates issues to ANYROAM as needed
- Participates in the Global eduroam Governance Committee
- Develops and provides training and education
- Engages stakeholders on service delivery

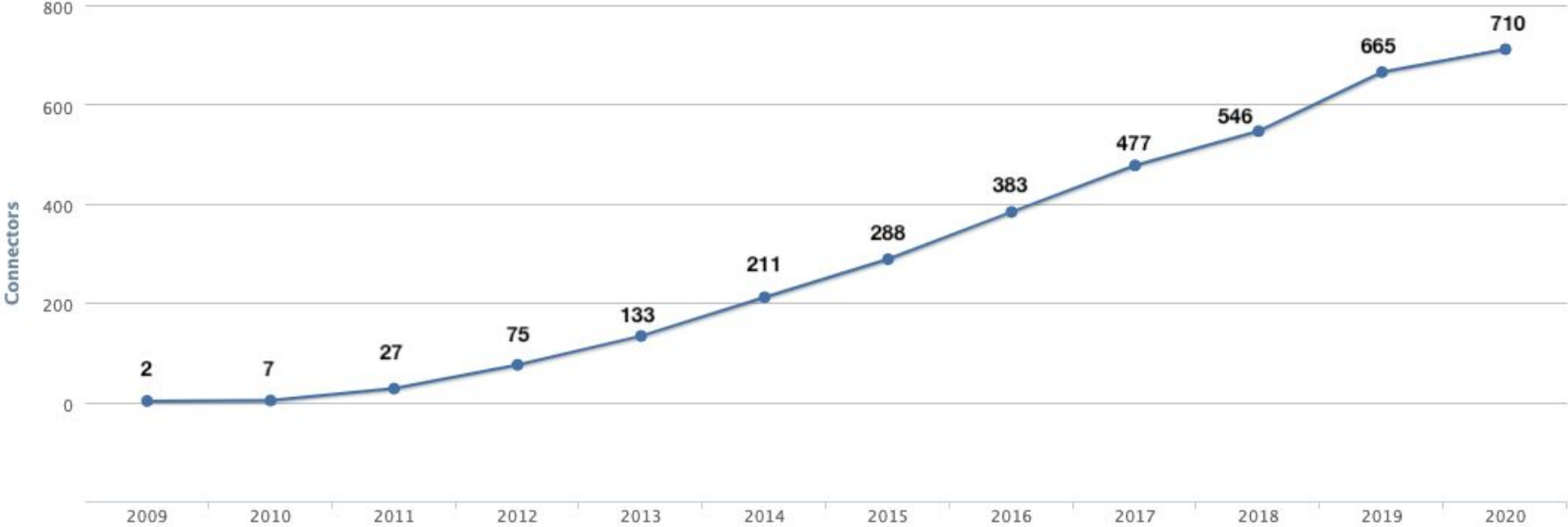


ANYROAM (Contractor)

- Contracted by InCommon to provide technical operations in the US
- Created and operates the eduroam administrative interface and reporting
- Provides 2nd level technical support to InCommon's connectors



eduroam connector growth



eduroam R&E Customer Growth



UF

IAM Online – How are you using eduroam?

UF Information Technology

Rise to Five



The UF Story

Saira Hasnain
Associate CIO & Sr. Director

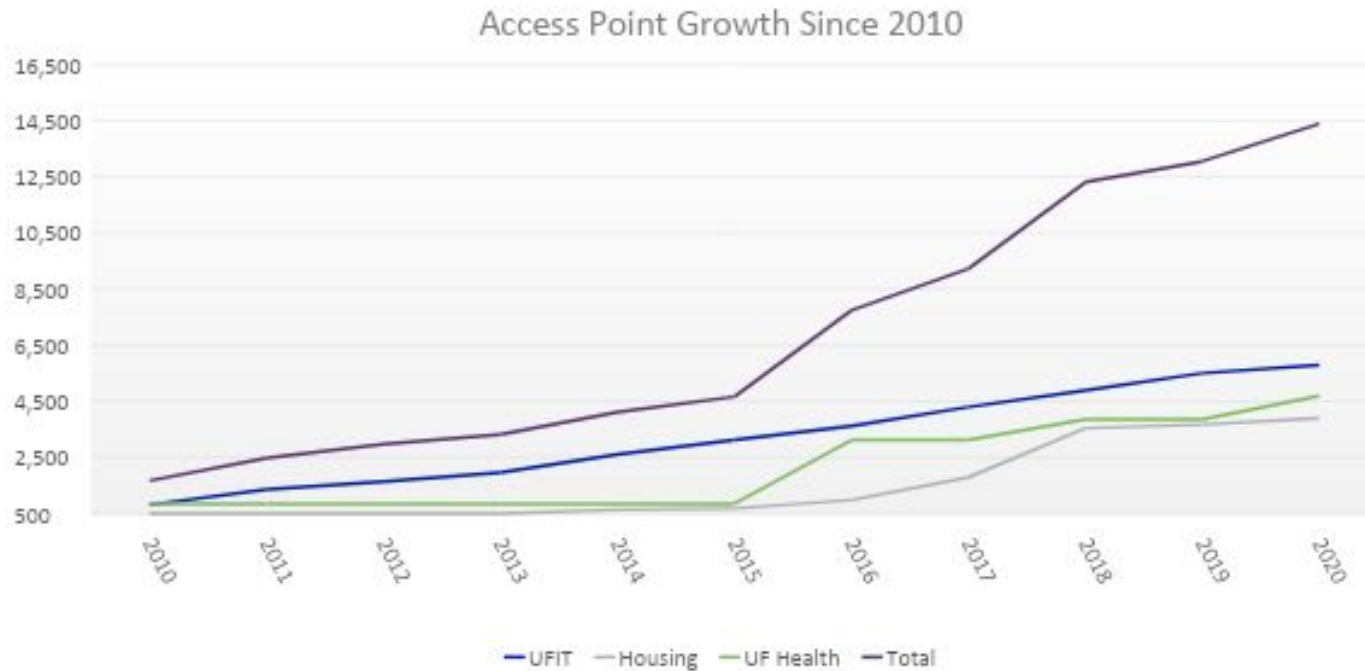
May 18, 2020

How are You Using eduroam – The UF Story

- I. UF's Connectivity Landscape – Pre COVID-19
- II. UF's Connectivity Landscape – During COVID-19
- III. UF's Connectivity Landscape – Post COVID-19
- IV. eduroam at Gainesville Regional Airport
- V. eduroam on RTS Buses

UF's Connectivity Landscape – Pre COVID-19

Connectivity Landscape – Wireless

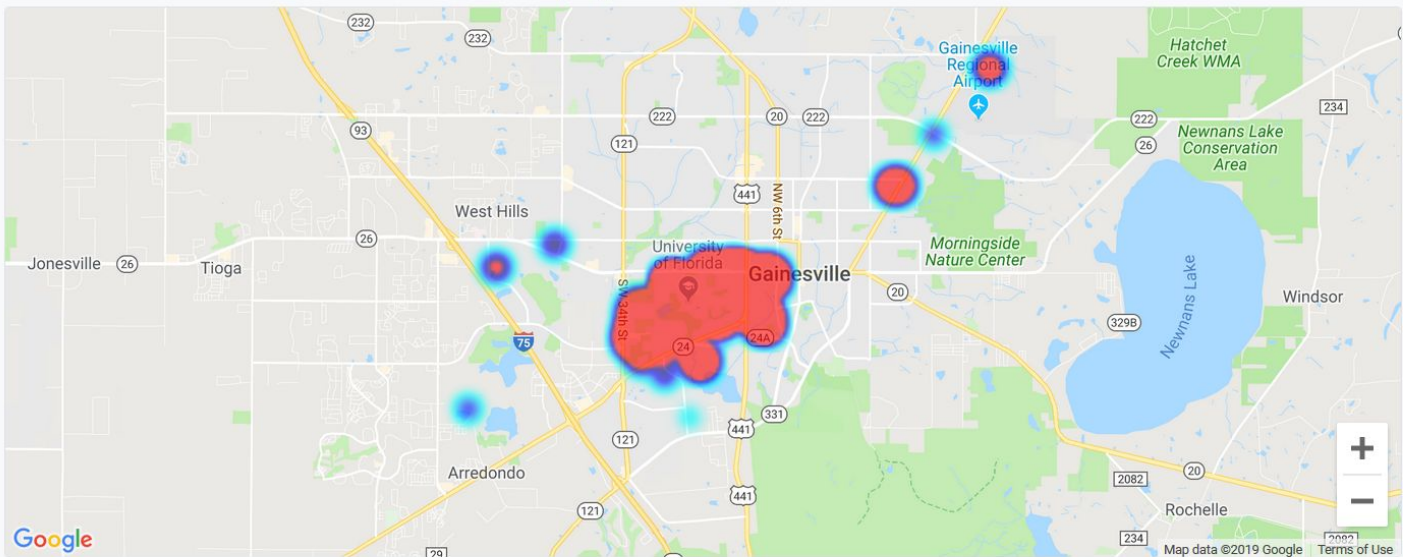


Connectivity Landscape - Wireless



A Day at UF – City to Airport

2/4/2019, 9:00:32 AM



Controls

Start Time:

Feb 4, 2019, 6:41 AM

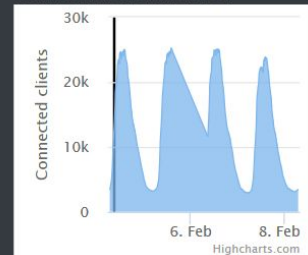
End Time:

Feb 8, 2019, 6:41 AM

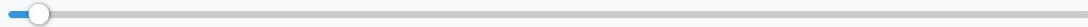
Stats

These reflect the access points bound within the currently-visible map region.

Connected clients: 12537



2/4/2019, 6:50:32 AM



2/8/2019, 6:40:32 AM

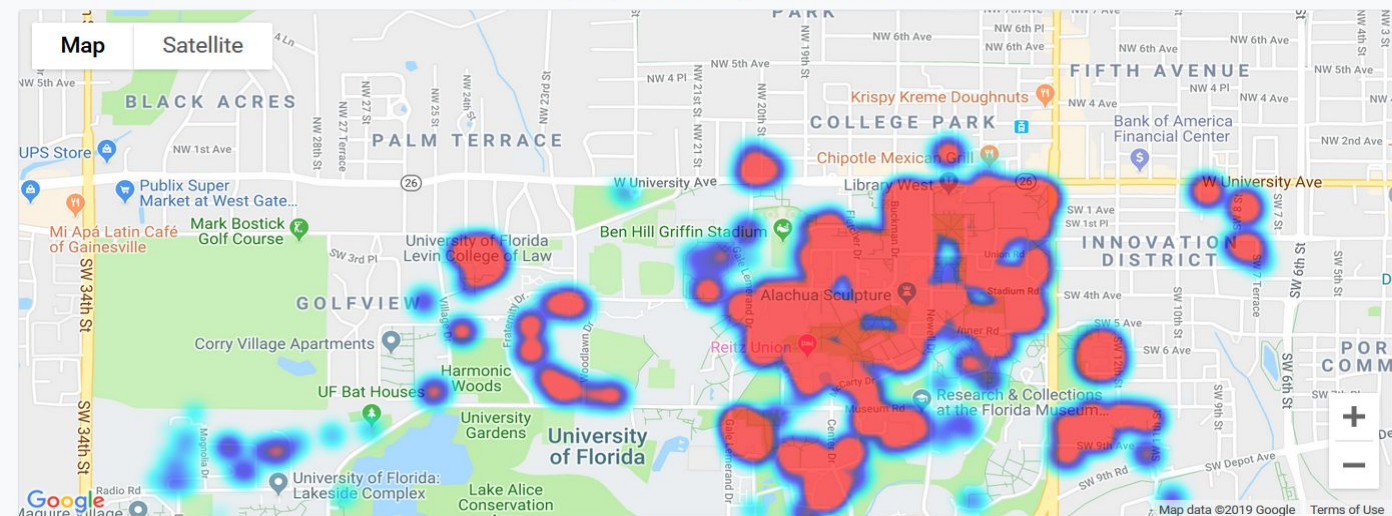


Speed: 1

A Day at UF – Around Campus

UF Wifi Heatmap

2/6/2019, 4:10:32 PM



Controls

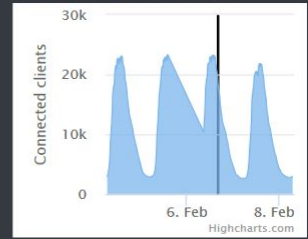
Start Time:
Feb 4, 2019, 6:41 AM

End Time:
Feb 8, 2019, 6:41 AM

Stats

These reflect the access points bound within the currently-visible map region.

Connected clients: 18191



2/4/2019, 6:50:32 AM



2/8/2019, 6:40:32 AM

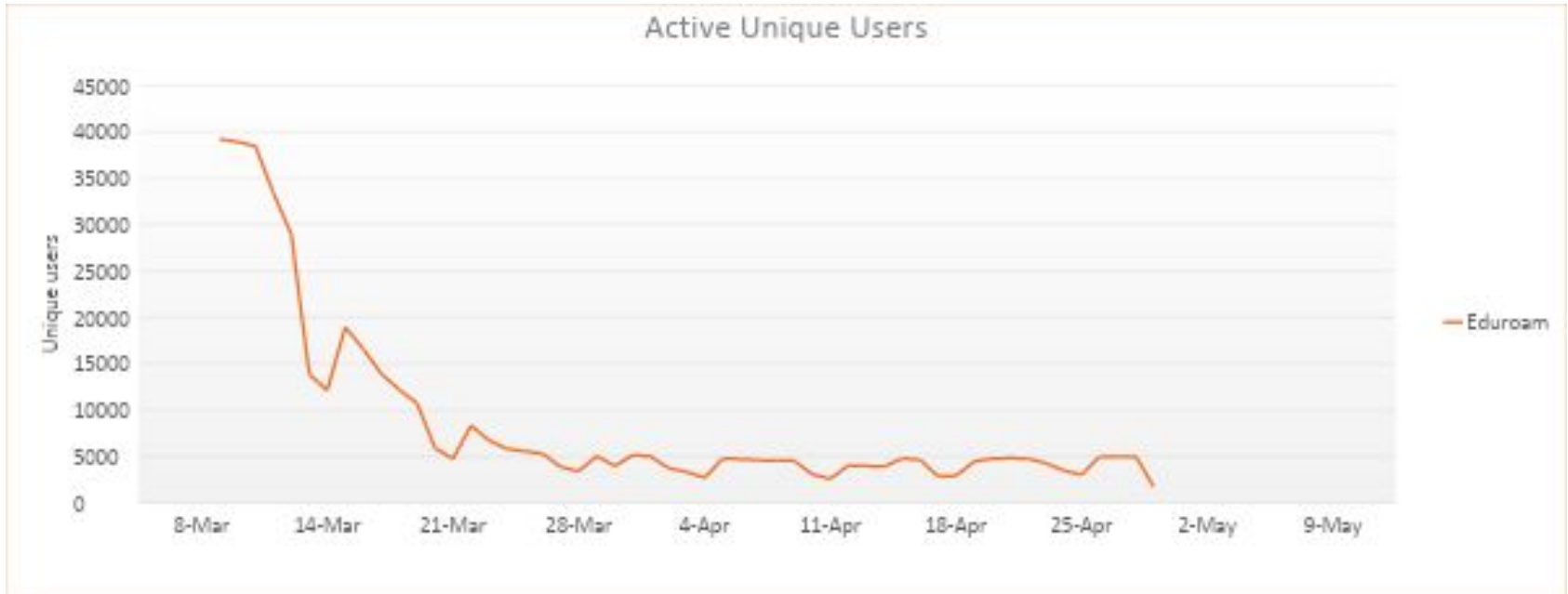


Speed: 1

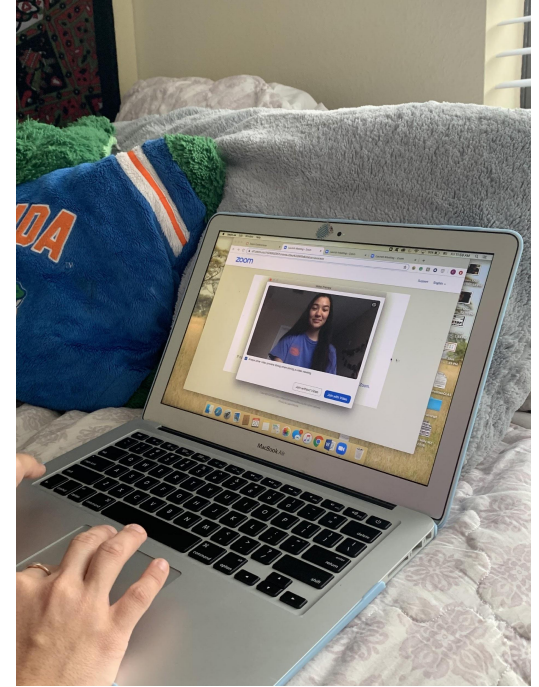
UF's Connectivity Landscape – During COVID-19

Connectivity Landscape – Wireless

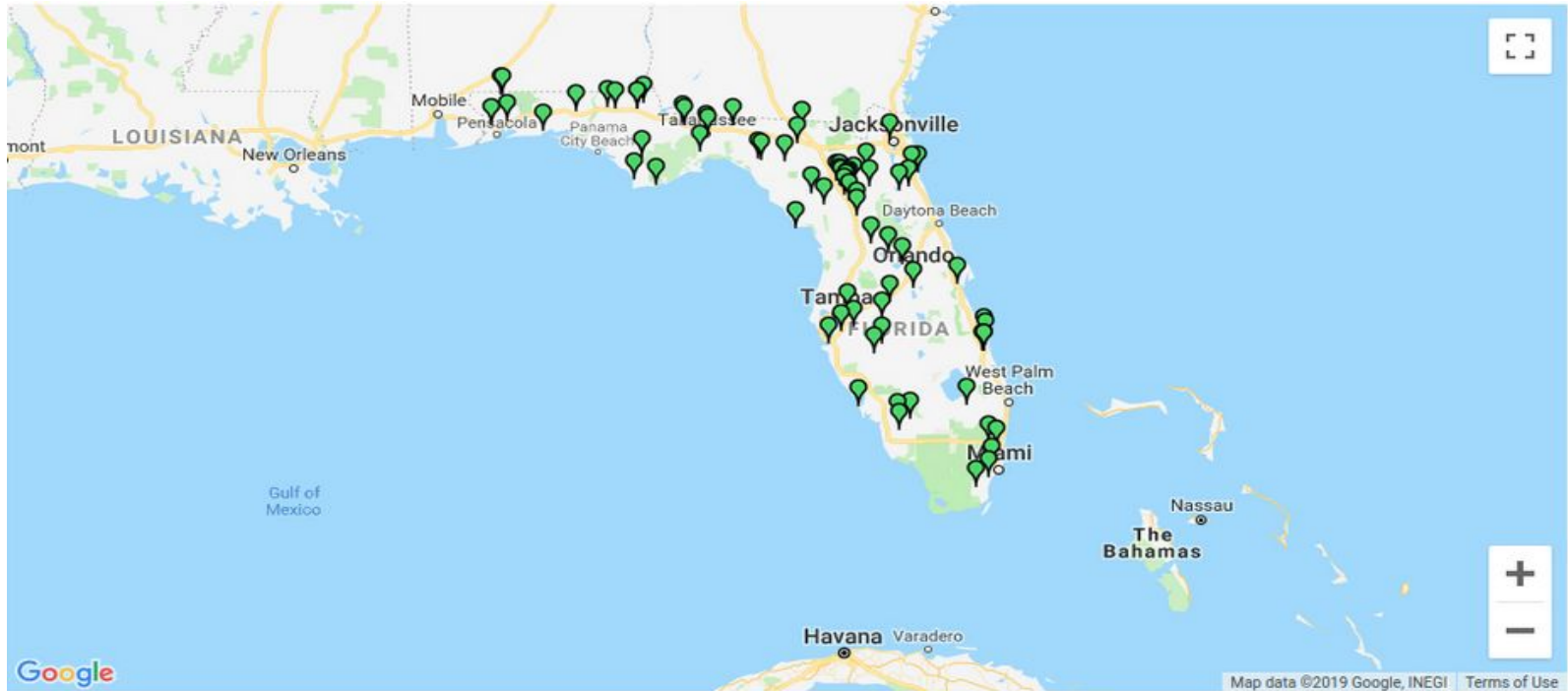
03/09/20 – 04/30/20



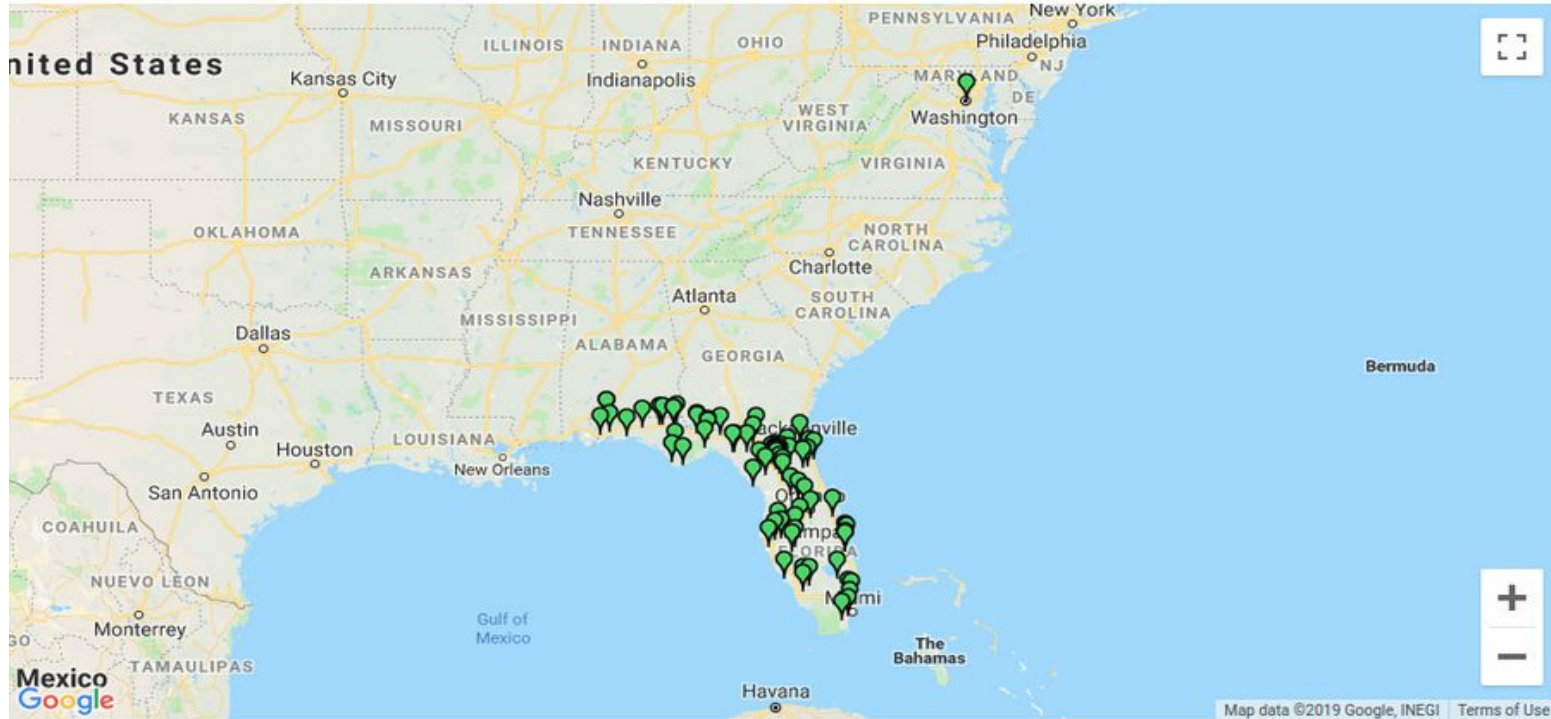
Connectivity Landscape – From On Campus To Off Campus



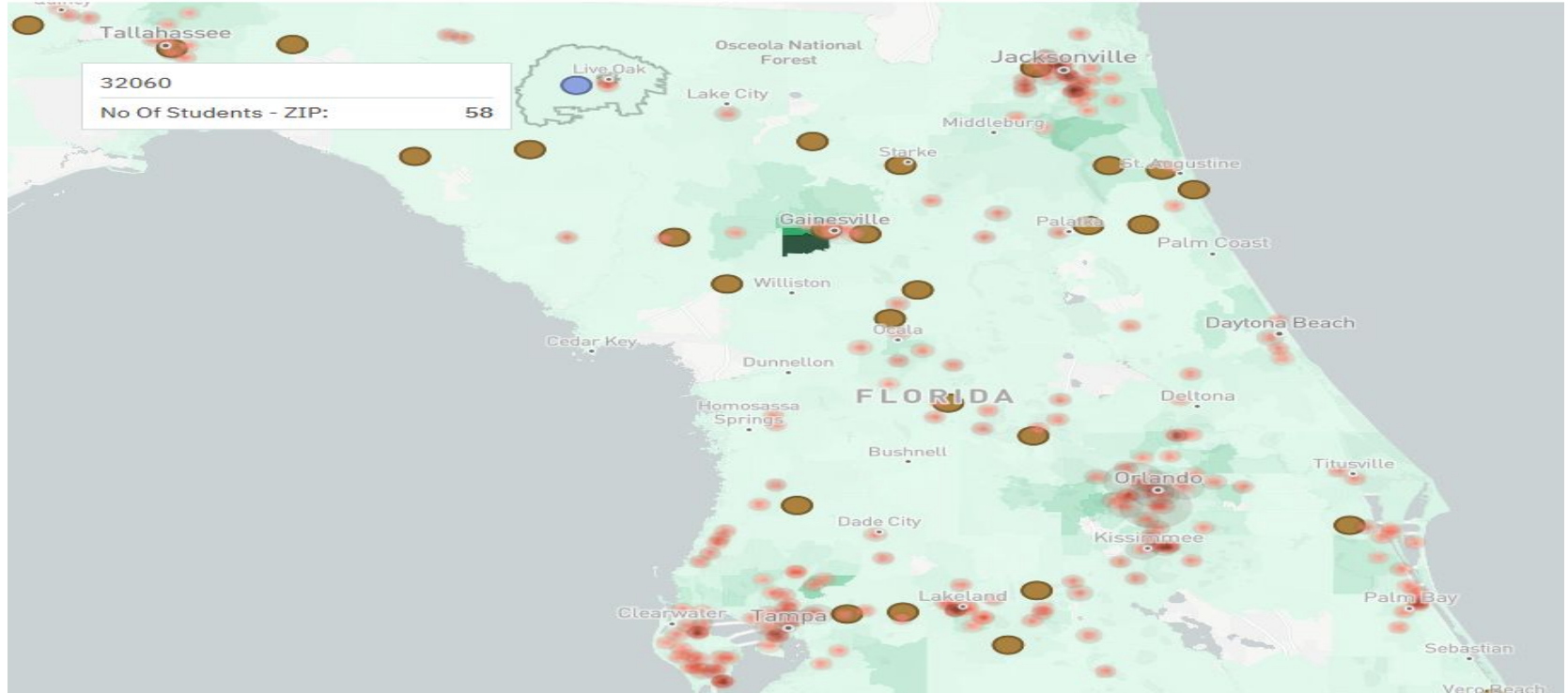
UF's eduroam Point of Presence - I



UF's eduroam Point of Presence - II



UF's eduroam Point of Presence & Student Proximity



UF's Connectivity Landscape – Post COVID-19

UF's eduroam – Expanding To Open Spaces & Beyond Campus Boundaries

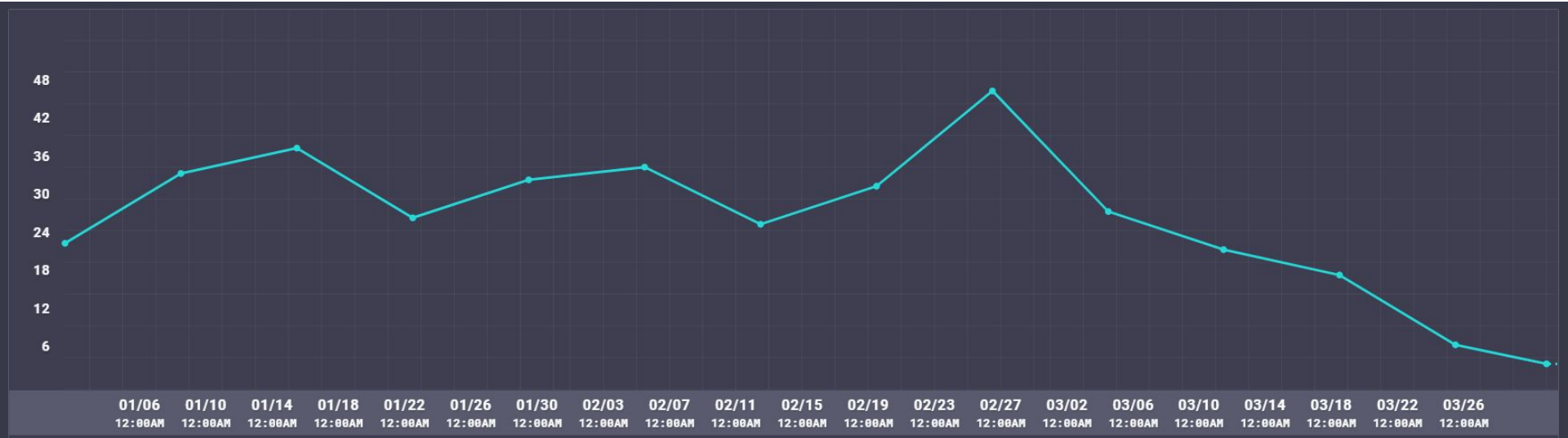


eduroam At the Gainesville Regional Airport

eduroam @ Gainesville Regional Airport

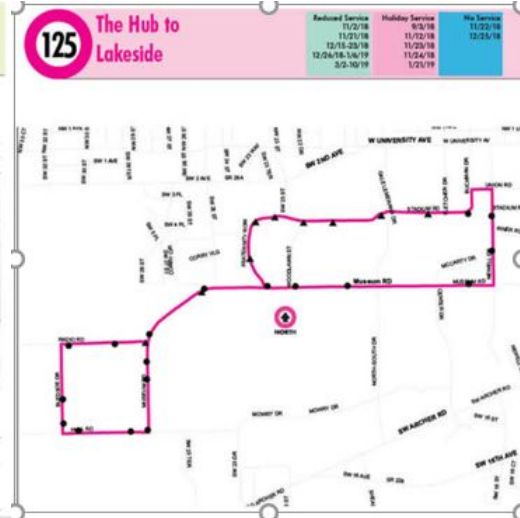
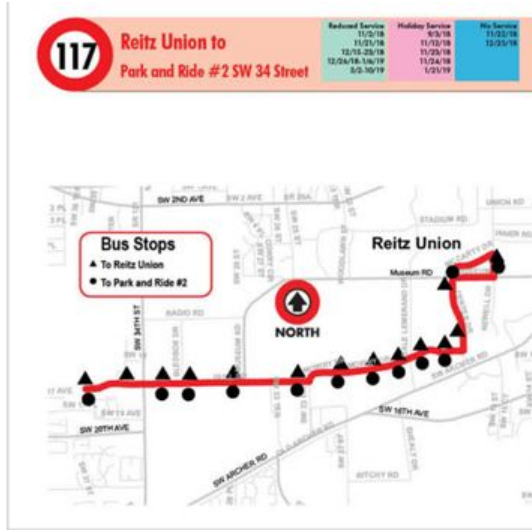
- Simple setup.
- A couple of access points and a switch
- Faculty notice when it is down and call the CIO
- Formalized the relationship with a formal MOU and SLA
- Negotiated a bandwidth increase with the airport
- It works flawlessly

eduroam Wireless Users Gainesville Airport



eduroam on RTS Buses

eduroam on RTS Buses – Proof of Concept I



Cisco, Pepwave, Cradlepoint, AT&T and Verizon

eduroam on RTS Buses – What we Discovered?

- Total # of Buses: 132
- Spares: 110
- In Service: 22
- Touching campus: 80
- One time cost per bus
- Recurring cost per per
- One time backend infrastructure investment
- Recurring cost backend infrastructure
- Opt in versus auto connect
- What will the students use it for?

eduroam on RTS Buses – What will the students Use it For?

- During COVID-19 it became clear that connectivity is of essence.
- The buses can serve as mobile hotspots that you can bring to the area where needed on demand relatively faster than getting a new connection installed.
- Alachua county did similar things with the school busses and drove them to areas where connectivity was sparse.

eduroam on RTS Buses – Proof of Concept II



Clever Device DIGI WR Router, Cell Service Provider: TBD

Questions

Use of eduroam at the University of Delaware

Sharon P. Pitt

Vice President for Information Technologies and CIO



“Normal” eduroam use

- Recommended Wi-Fi solution for all staff and students
- In normal times, other eduroam connectors join our eduroam guest network from almost 30 countries and almost 200 locations
- In normal times, our community visits the campuses of eduroam members in over 400 locations and almost 40 countries.
- But these are not normal times



Using eduroam after COVID-19

- Enables our most **at risk** students to access secure Wi-Fi in the State of Delaware and on UD campuses
- Allows members to access eduroam Wi-Fi at safe, separated, drive-up locations
- A map is provided: How is this different from the eduroam national map?
 - An exact location is provided
 - Restrictions about use are provided
 - A photo of the location can be provided
 - Information can have a shelf life

<http://css-rdms1.win.udel.edu/covid19wifi/>



eduroam “hotspots”

- Any broadband connection/enterprise access point can become a potential eduroam service area
- UD’s Information Technologies (UDIT) and Delaware school districts held Zoom meetings to brainstorm on how to assist college students
- Network technicians in “hotspot” areas pointed APs at parking lots.
- The desire to help out “Delaware students” (Not UD students) expanded
 - Negotiated with local K-12 and public library and county leaders



public Wi-Fi locations across Delaware

m

Wi-Fi

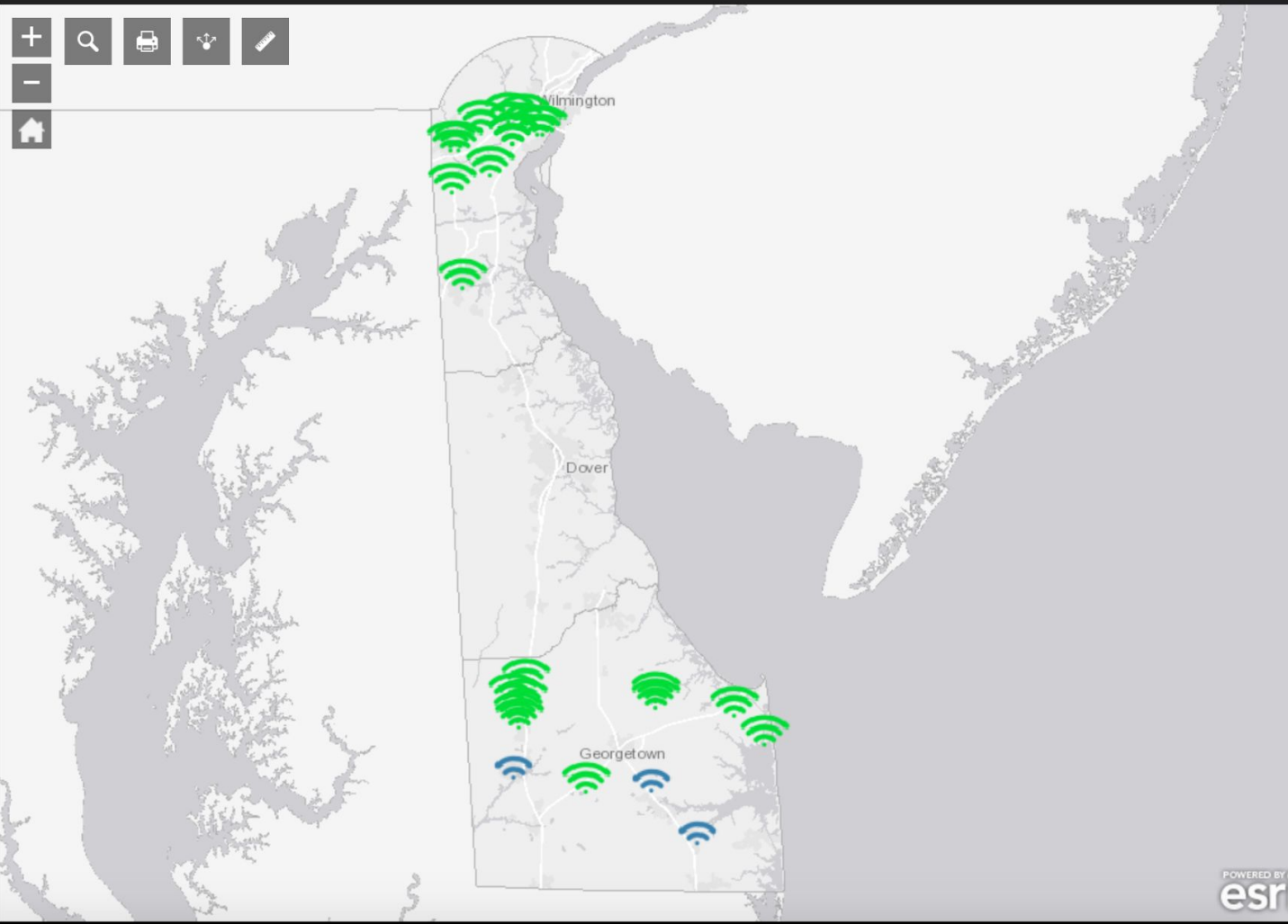
virus (COVID-19) update

UD, incl. other campus locations

uggestions/Errors for Delaware
and public Wi-Fi locations



collaboration with K-12 districts across Delaware.



public Wi-Fi locations across Delaware

m

Wi-Fi

[virus \(COVID-19\) update](#)

[UD, incl. other campus locations](#)

[uggestions/Errors for Delaware
and public Wi-Fi locations](#)



collaboration with K-12 districts across Delaware.

A screenshot of a mobile browser displaying a map of Delaware. A dark blue overlay box is centered on the screen, containing a disclaimer about public Wi-Fi hotspots. The browser's address bar shows the URL 'css-rdms1.win.udel.ei'. The status bar at the top indicates 'Verizon' service, '8:18 AM', and '92%' battery. The map background shows the state of Delaware with some green markers.

+

Verizon 8:18 AM 92%

AA Not Secure — css-rdms1.win.udel.ei

Please be aware that not all public Wi-Fi hotspots are listed and some have limited hours, click on the Wi-Fi symbols for more information about each location. Eduroam locations will be updated as they come online. We encourage you to use a secured connection whenever possible. These locations indicate access to parking lots only, the buildings are NOT open. Please continue to follow social distancing guidelines at these locations.

UNIVERSITY OF DELAWARE

OK

POWERED BY esri

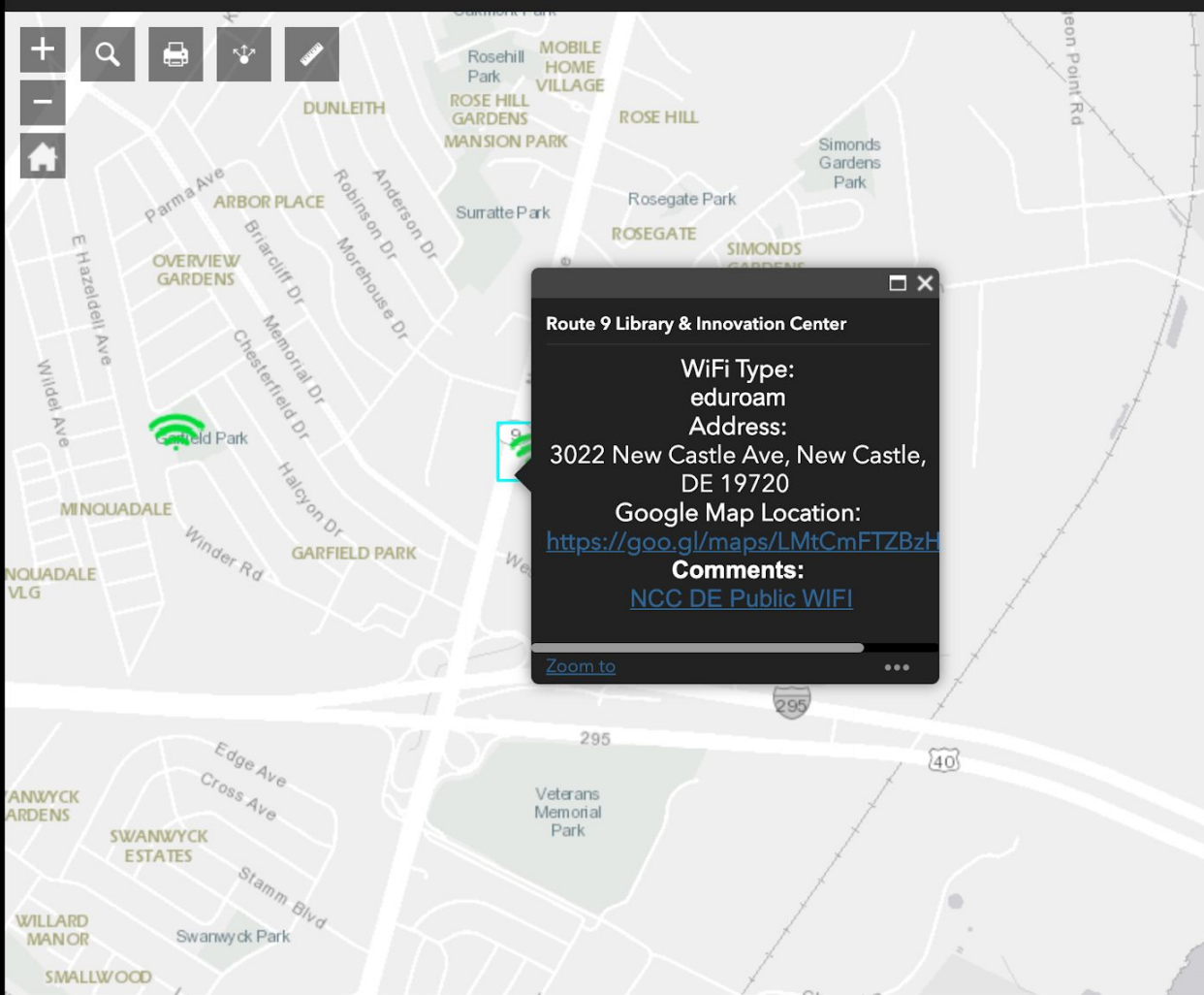
eduroam and public Wi-Fi locations across Delaware



eduroam



Public Wi-Fi



Route 9 Library & Innovation Center

WiFi Type:
eduroam

Address:
3022 New Castle Ave, New Castle,
DE 19720

Google Map Location:
<https://goo.gl/maps/LMtCmFTZBzH>

Comments:
[NCC DE Public WIFI](#)

[Zoom to](#)

About

[UD Coronavirus \(COVID-19\) update](#)

[Experience UD, incl. other campus locations](#)

[Report Suggestions/Errors for Delaware eduroam and public Wi-Fi locations](#)



Implemented in collaboration with K-12 districts across Delaware.

Beyond campus - Rules for use of eduroam “hotspots” in DE

- Use of complimentary public Wi-Fi and eduroam is for academic purposes only
- Users are asked to stay in vehicles within the designated area for accessing Wi-Fi
- Building staff may ask any vehicle/person to leave if they determine violation of any of these rules or if the parking lot is needed for another unforeseen purpose
- No technical support is expressed or implied with the service



Beyond UD use of “hotspots”

- eduroam agreement requires our institution to allow all eduroam members to access the service
- The new process allows us to define specific locations to ensure safety, as well as meet the full spirit of the eduroam agreement
- Also serving needs beyond UDelaware, including BostonU, CedarvilleU, Franklin and Marshall, Haverford, St. Lawrence University, TulaneU, University of Florida, William & Mary, Virginia Tech...and many more



What set-up is required for “hotspots”?

- Partner site
 - Enterprise-grade access points
 - Minimum 30Mbps upload and download
 - Point signal at desired drive-up location for maximum coverage
- UDel and Partner sites
 - Work together to implement firewall rules and shared encryption key for radius authentication
- UDel
 - Configure anyroam.net portal to add Partner access points



What else?

- Have a Mark Cabry
- Collaboration and Communications
- Authorization to deploy, to communicate and to add to the map (from the governor, school superintendents, county supervisors, & more)



Next steps

- Working on a National Coronavirus Wi-Fi access map





Utah Education and Telehealth Network

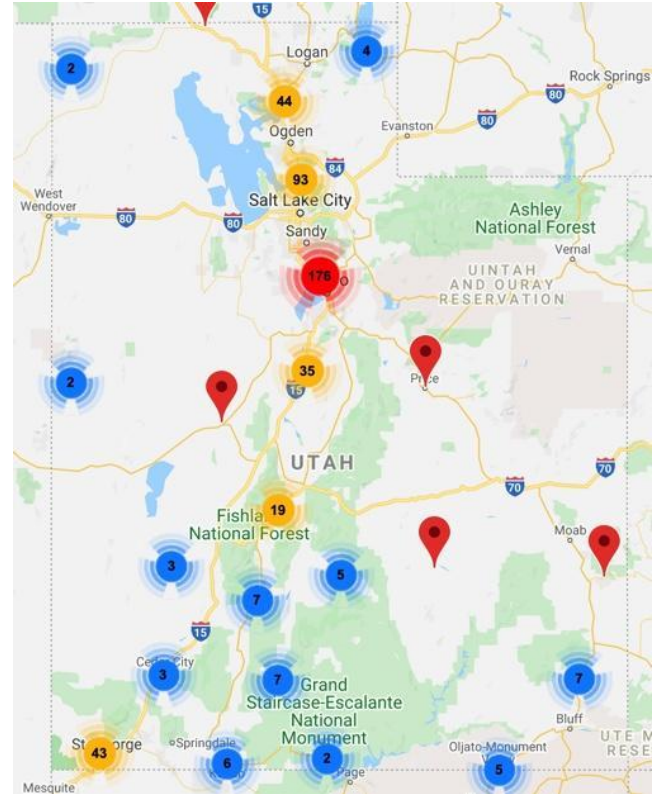
We network for education and healthcare



Utah Education and Telehealth Network

eduroam in Utah

- **STATEWIDE ACCESS:**
- Higher Education IdP/SP
- K12 IdP/SP (UETN-Internet2 Project)
- SP

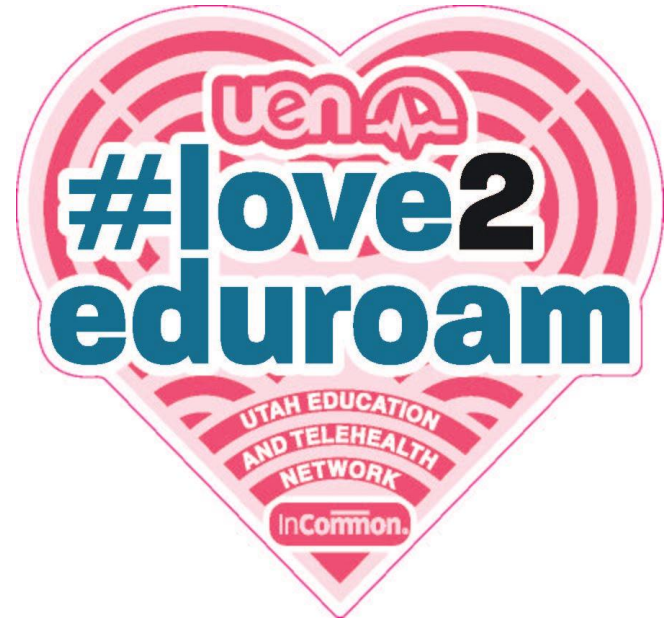




Utah Education and Telehealth Network

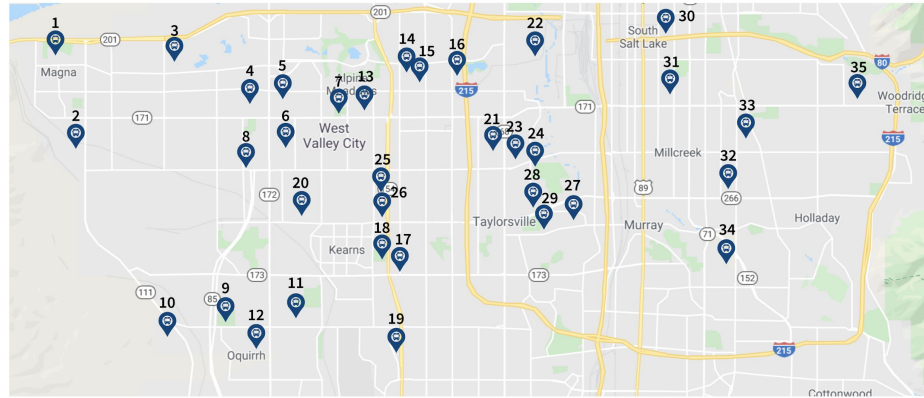
COVID-19

- **EXTENDING EDUROAM ACCESS:**
- In the Community
- Mass Transit
- Navajo Nation

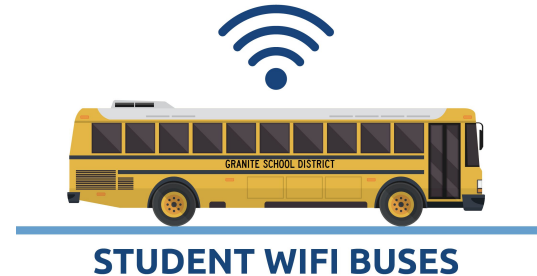




Utah Education and Telehealth Network



- **GRANITE SCHOOL DISTRICT:**
- Heat Map
- WiFi/4G Equipped Buses



We network for education and healthcare

uen.org

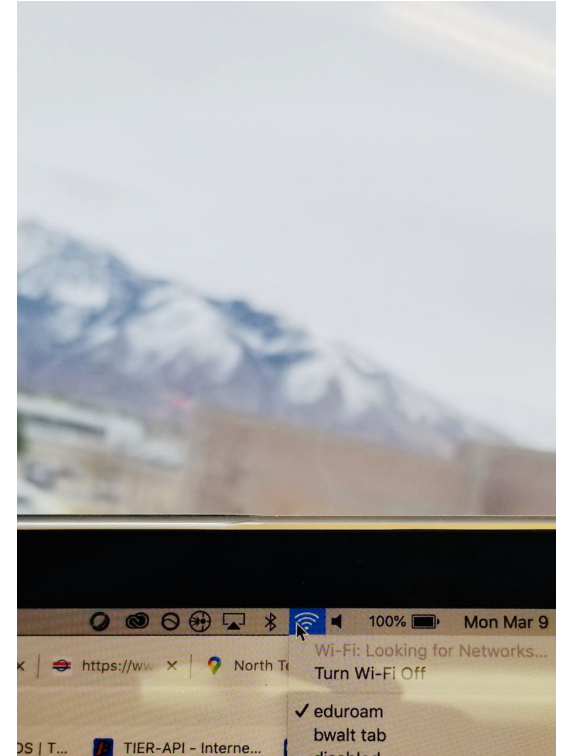
utn.org



Utah Education and Telehealth Network

COVID-19

- **MASS TRANSIT:**
- UTA Frontrunner





COVID-19

- **NAVAJO NATION:**
- Utah State University
- San Juan School District



*Bidziilgo nitsiníkees
Be strong in your thinking*



Utah Education and Telehealth Network

THANK YOU!

We network for education and healthcare

uen.org utn.org

June IAM Online Hiring for Identity and Access Management

June 10, 2020 - 2 pm ET | 1 pm CT | Noon MT | 11 am PT

Challenges and opportunities for both CIOs and identity management professionals in higher education.

InCommon Trusted Access Platform Training

<https://incommon.org/academy/software-training/>

Software Component	Virtual Training Dates
Groupier	June 2-3, 2020
midPoint	June 16-18, 2020

InCommon Virtual BaseCAMP

July 20-24, 2020 (Noon - 4 pm ET each day)

Workshop providing:

- An introduction to identity and access management basics
- An introduction to the InCommon Federation
- An overview of the community-built InCommon Trusted Access Platform services and software

Program and registration information: <https://meetings.internet2.edu/2020-basecamp/>

IAM Online Evaluation

<https://www.surveymonkey.com/r/IAMOnline-eduroam>