NATIONAL CONSORTIUM OF
TELEHEALTH
RESOURCE CENTERS

Connecting Closer To Home - Why Broadband and Telehealth Need Each Other

August 15, 2024

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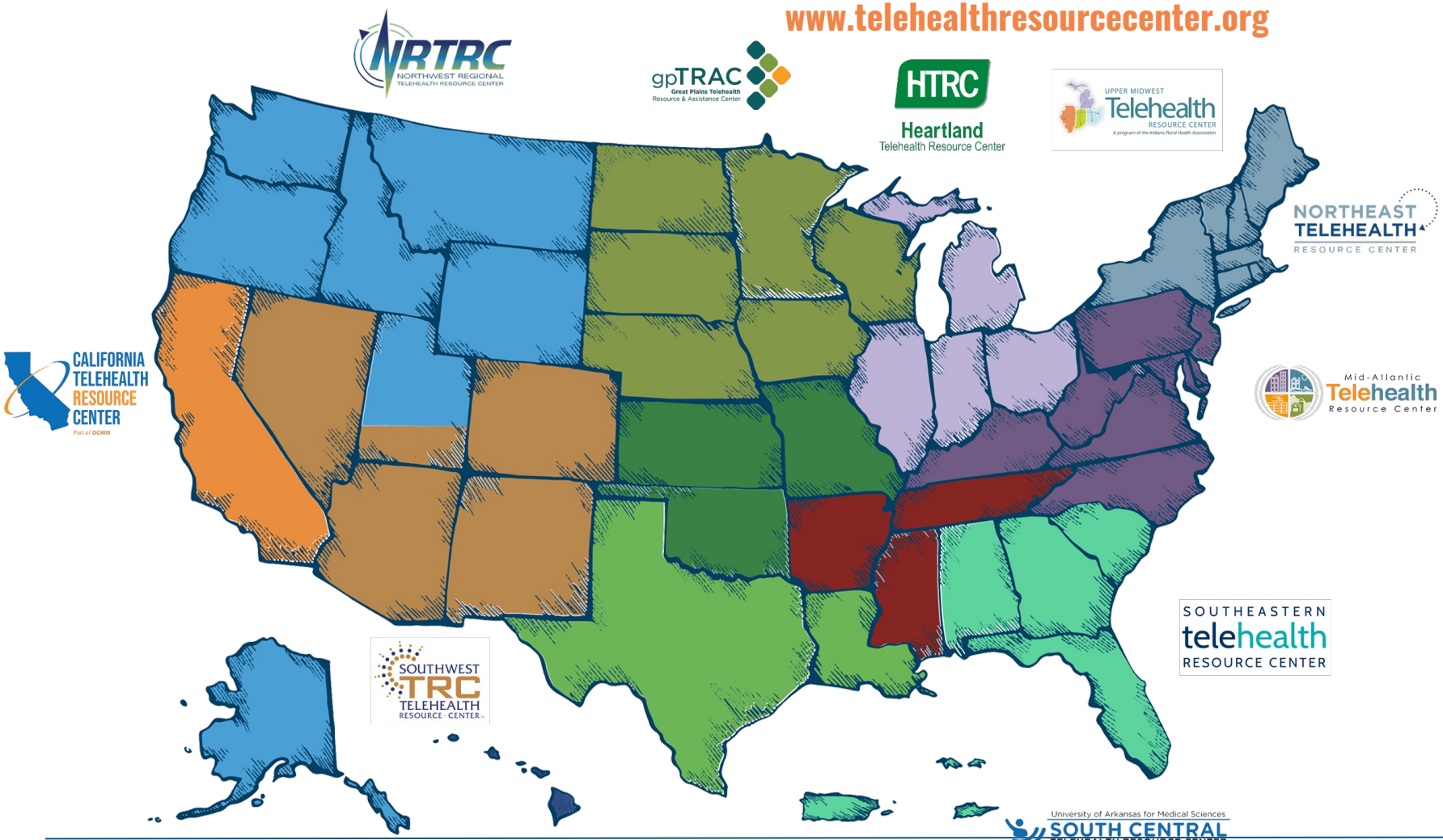

NRTRC	gpTRAC	NETRC
CTRC	HTRC	UMTRC
SWTRC	SCTRC	MATRC
PBTRC	TexLa	SETRC

12 REGIONAL RESOURCE CENTERS

TTAC TelehealthTechnology.org

CCHP

2 NATIONAL RESOURCE CENTERS

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- If we do not reach your question, please contact your regional TRC. There may be delays in response time: https://telehealthresourcecenter.org/contact-us/
- Please fill out the post-webinar survey.
- Closed Captioning is available.
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Connecting Closer to Home:

Why Broadband and Telehealth Need Each Other

Jordan Berg
Principal Investigator
Telehealth Technology Assessment Center
jjberg@anthc.org

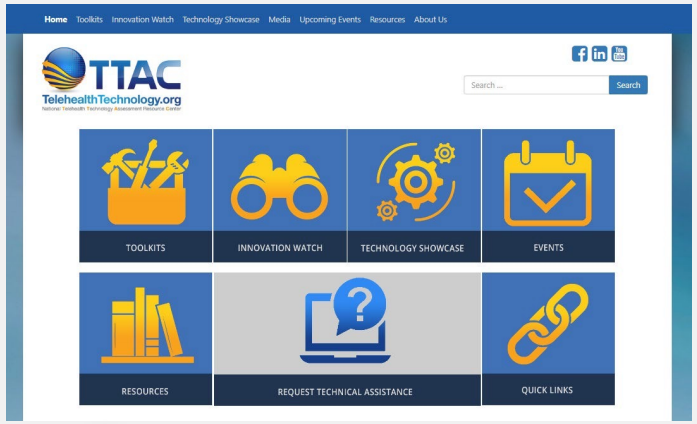
Presented for the
NCTRC Webinar Series
August 15, 2024

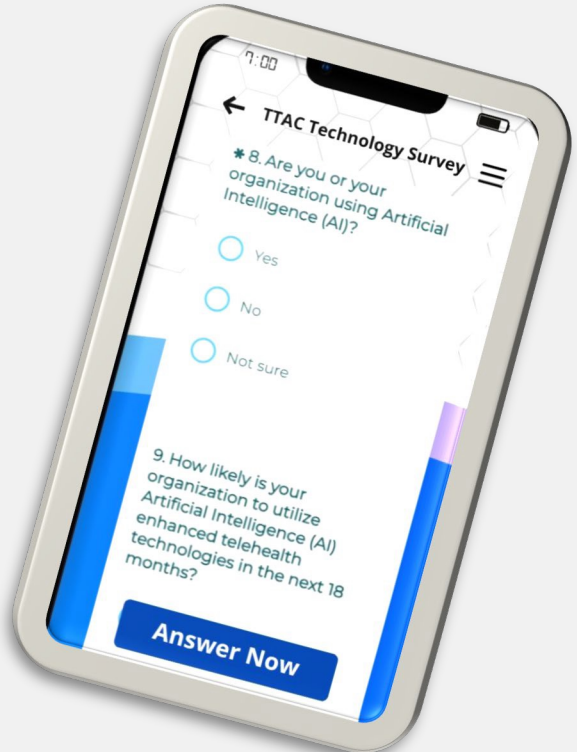
Who is TTAC?

- TTAC is federally funded through the **Office for the Advancement of Telehealth (OAT)**
- TTAC provides Technology Assessment services to the 12 regional TRCs as well as the other national TRC.

What do we do?

- **Individual and Organizational Technical Assistance**
- **Website Resources:**
  - Innovation Watch
  - Technology Toolkits
- **Special Projects:**
  - Telehealth Technology Survey
  - Telehealth Broadband Pilot Program
- **Telehealth Technology Showcase**



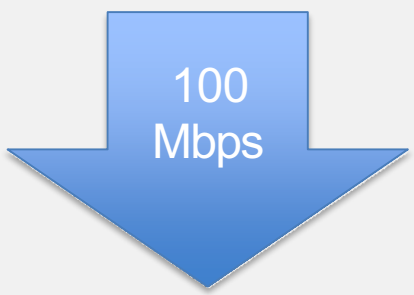


Overview

- What is Broadband
  - FCC Definition
  - Types of Broadband Connections
- Importance of Broadband in Digital Health
- State of Broadband in Digital Health
- Measuring the Gaps
  - Common Concerns
  - Broadband Mapping
  - Telehealth Broadband Pilot Program
- Resources
- Questions

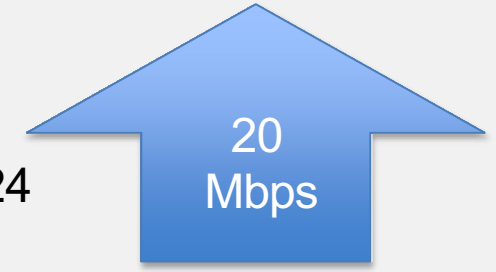
What is Broadband?

"Internet access that is ***always on*** and **faster** than the traditional dial-up access"
(US National Broadband Plan, 2009)



Download Speed

FCC Broadband Definitions as of March 14, 2024



Upload Speed

https://docs.fcc.gov/public/attachments/DOC-401205A1.pdf

What is Broadband?

Types of Broadband Connections:

- Fiber-Optic
  - Very fast speeds
  - Symmetrical
  - Limited availability
- Cable
  - Fast speeds
  - Non-symmetrical
  - Good availability
- DSL
  - Variable speeds
  - Affordable
  - Non-symmetrical
  - Good availability

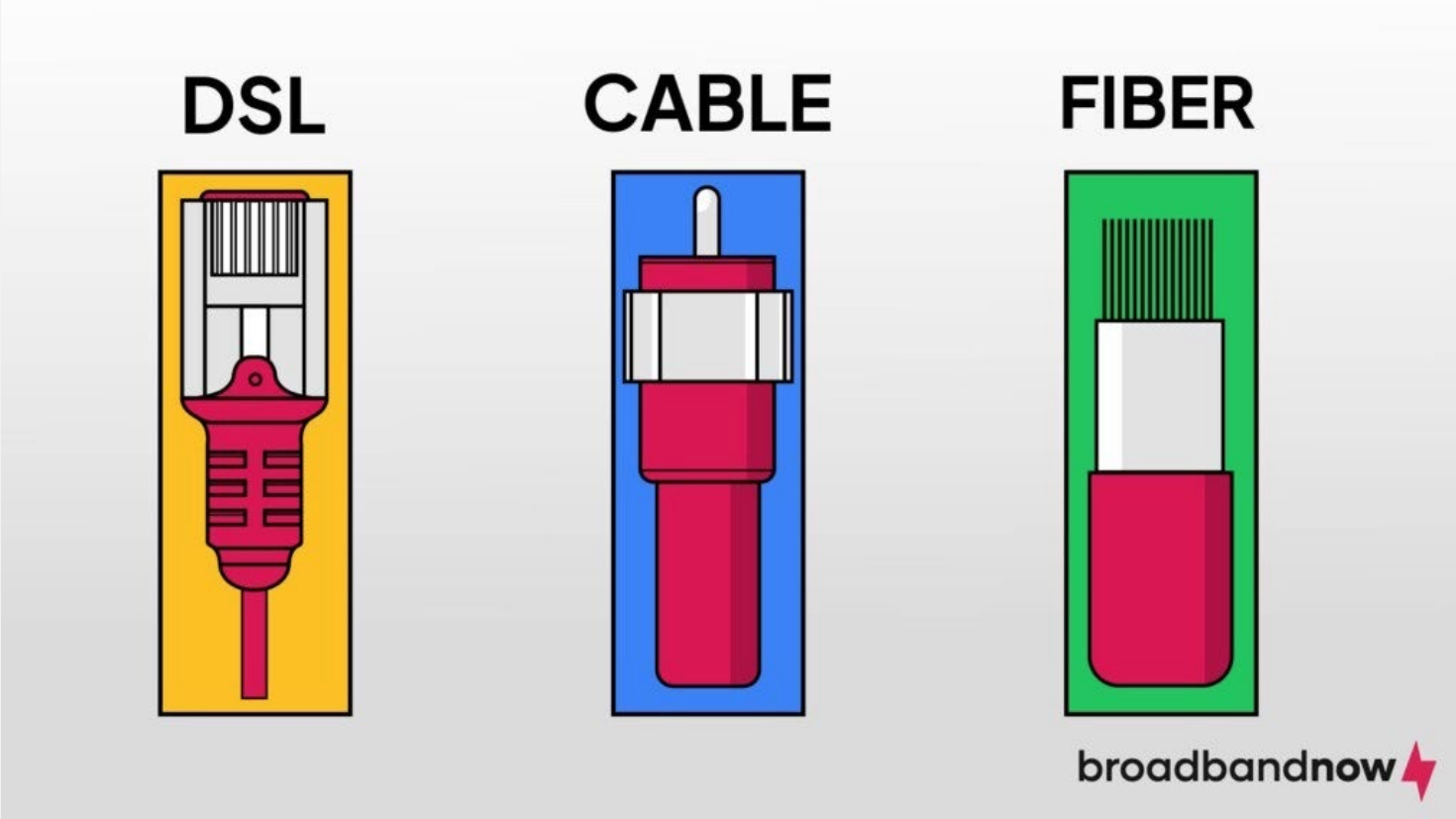


Image source: https://broadbandnow.com/guides/dsl-vs-cable-vs-fiber

What is Broadband?

Other Broadband Connections:

- Satellite
  - Useful for rural locations
  - Issues with latency
  - Types of satellite networks
    - GEO
    - LEO
- Cellular
  - Accessible through mobile devices
  - Highly variable

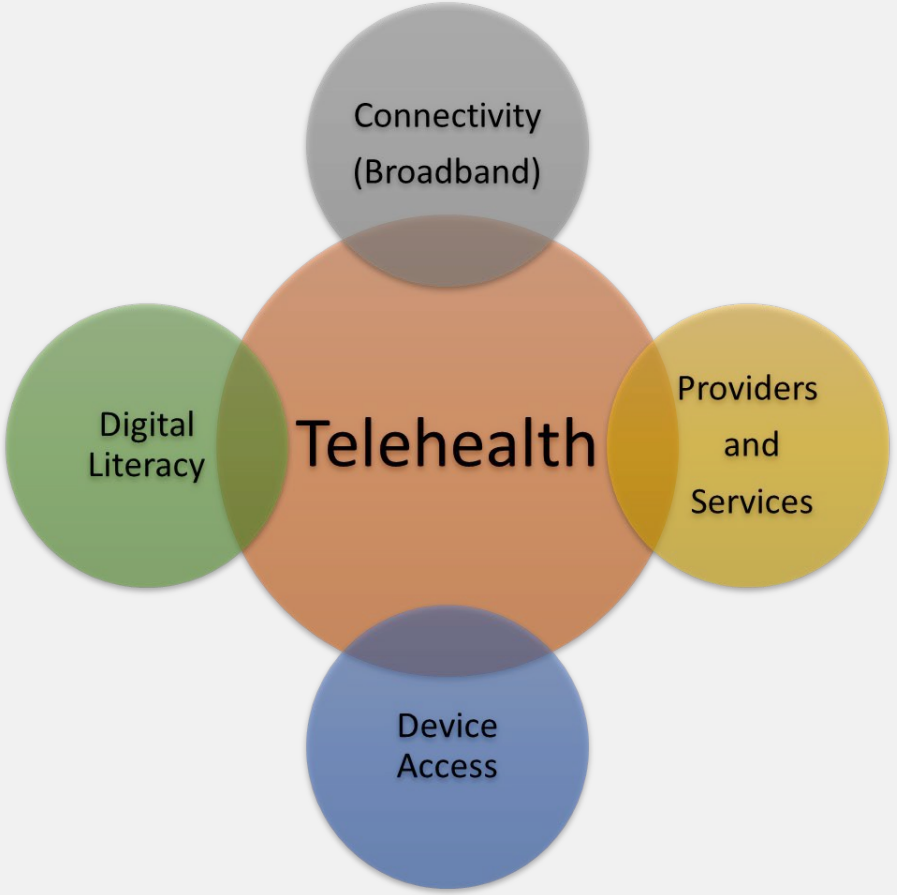
4G

5G

Importance of Broadband in Digital Health

Fast and stable Internet:

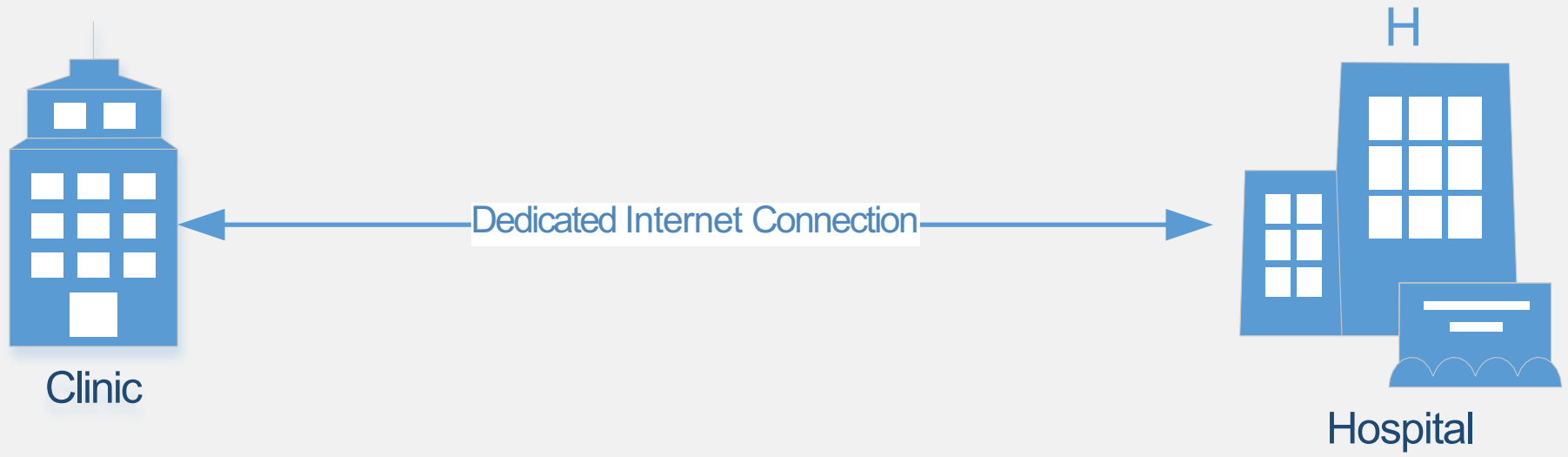
- Supports care **when** it is needed
- Enables care **where** it is needed
- Is a **pre-requisite of telehealth**
- Improves **access**
- **Enhances care**



Importance of Broadband in Digital Health cont.

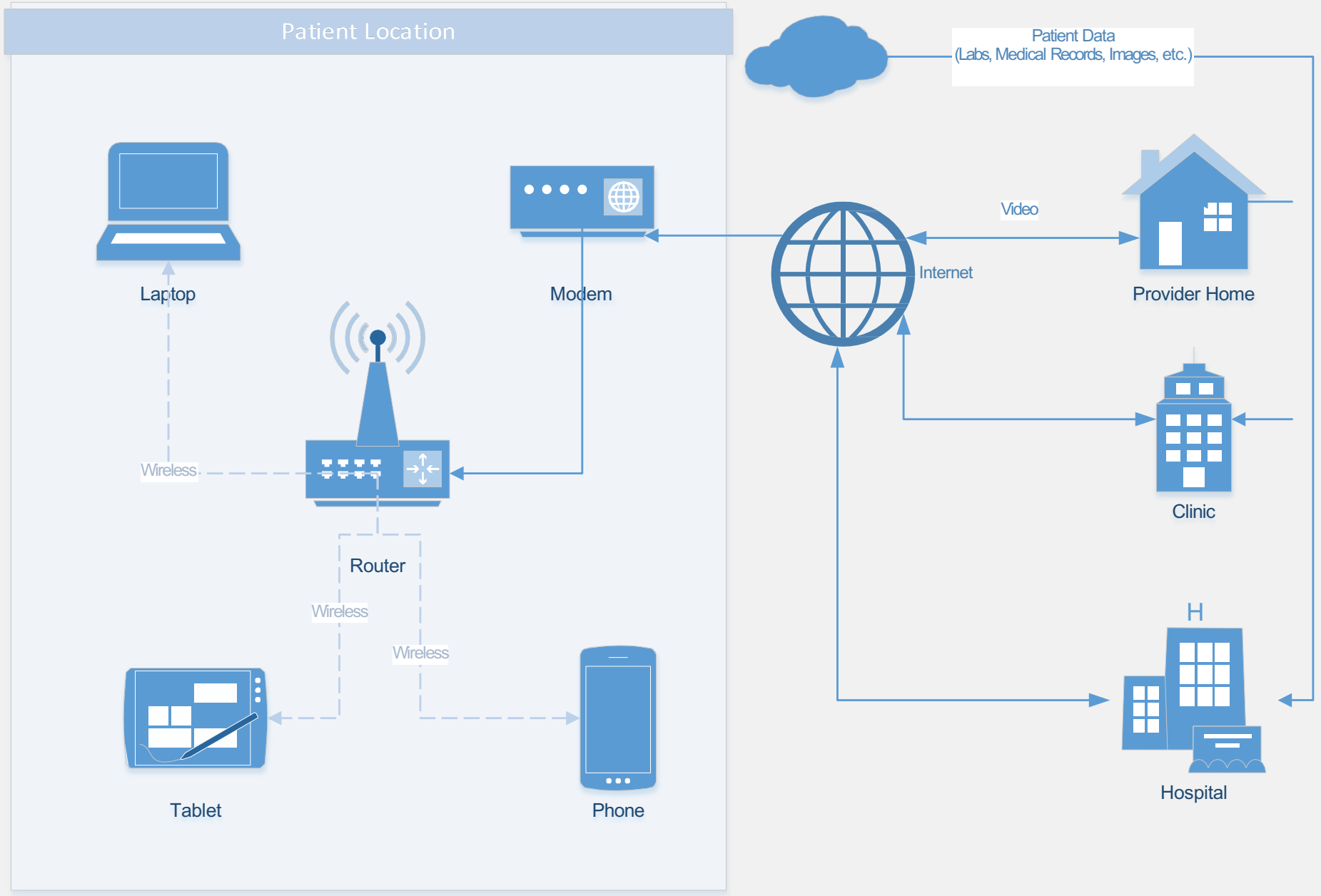
The way it was…

- Dedicated Endpoints
- On Premises Servers
- Integrated Hardware
- Custom Software
- Dedicated/Subsidized Circuits
- Staffed at both endpoints



The way it is…

- General endpoints
- Web-Based or Cloud Hosted solutions
- Peripherals with cloud storage
- Various Provider(s) locations



Importance of Broadband

Key Challenges:

- Residential vs Institutional Networks
- Challenges of Connecting to Personal Devices
  - Wireless Networks
  - Cellular Plans
  - Software updates/configurations
  - Digital Literacy
- Managing the Endpoint Experience

State of Broadband

Number of People in United States Who Don't Have Broadband Access

- FCC Data 2021 – 14.5 million
  - https://docs.fcc.gov/public/attachments/FCC-21-18A1.pdf
- Broadband Now 2023 – 42 million
  - https://broadbandnow.com/research/fcc-broadband-overreporting-by-state
- Microsoft 2020 – 120.4 million
  - http://aka.ms/BroadbandMaps

State of Broadband

Common Concerns:

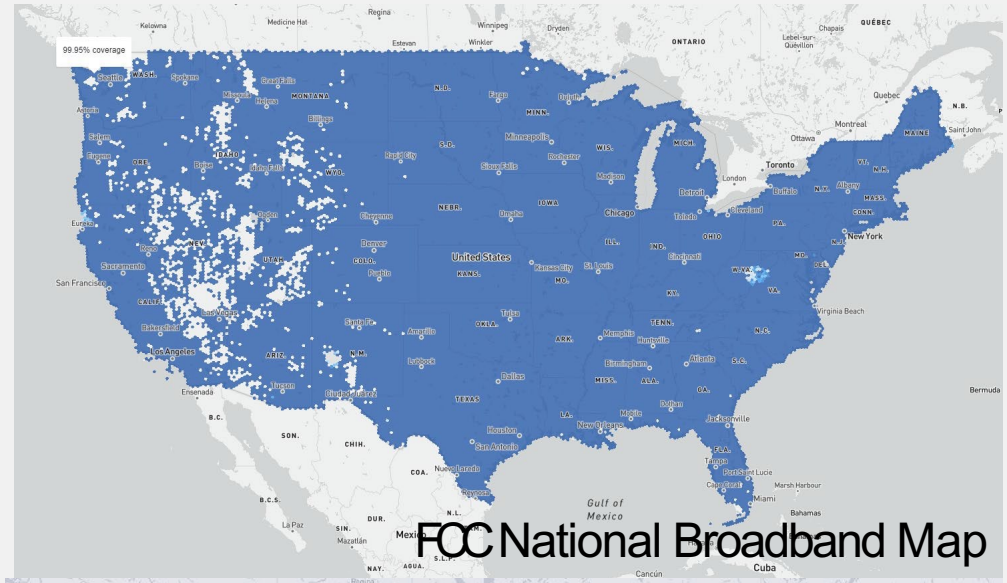
- Rural and Tribal America lag behind in access to broadband
- Key Limiting Factors include
  - Accessibility to service
  - Cost
- Lack of digital access reinforces disparities

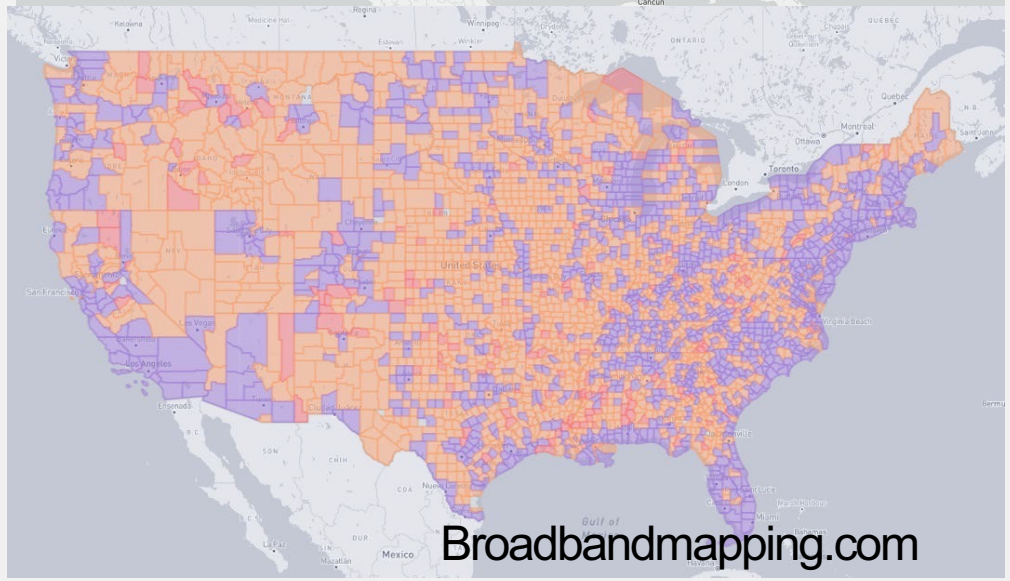
State of Broadband-Investment

- Affordable Connectivity Program (previously EBB)
  - Ended June 1, 2024
  - $14 billion spent to reduce cost of broadband access for qualifying households
- Broadband Equity, Access, and Deployment (BEAD) Program
  - Provides $42.45 billion for broadband expansion
  - Funding for each of the 56 Eligible Entities determined
  - Challenge process has concluded and final applications are being processed
- Digital Equity Act
  - $2.75 billion in 3 grant programs
    - State Digital Equity Planning Grant
    - Digital Equity Capacity Grant
    - Digital Equity Competitive Grant

Measuring the Gap cont.

- Mapping Resources
  - FCC Broadband Map
    - https://broadbandmap.fcc.gov/home
      - Fabric Map- Locations that have or could have fixed internet services
      - Broadband Availability Map- Map of broadband services, if any, provided by ISPs on Fabric map locations
  - Broadbandmapping.com
    - https://broadbandmapping.com/
      - Uses public data sets to map speed test data to state, county, and tribal map locations.
      - Filterable by ISP, and timeframe





The Telehealth Broadband Pilot Program(TBPP)

Identified Partner Communities

Alaska Native Tribal Health Consortium

Alaska:

- Aleutians West Borough
- Bristol Bay Borough
- Dillingham Census Area
- Nome Census Area
- North Slope Borough
- Northwest Arctic Borough

West Texas:

- Crosby County
- Fisher County
- Haskell County
- Jones County
- Lamb County
- Mitchell County

Texas Tech University

Central Michigan University

Central Michigan:

- Gladwin County
- Manistee County
- Missaukee County
- Montmorency County
- Osceola County
- Oscoda County

Southern West Virginia:

- Calhoun County
- Clay County
- Jackson County
- Kanawha County
- Nicholas County
- Roane County
- Ritchie County

West Virginia Primary Care Association

- Evaluation Partner
  - University of Arkansas Medical School - Rural Telehealth Evaluation Center (RTEC)

- Software Development Contractor
  - Exactly Labs

The Telehealth Broadband Pilot Program(TBPP)

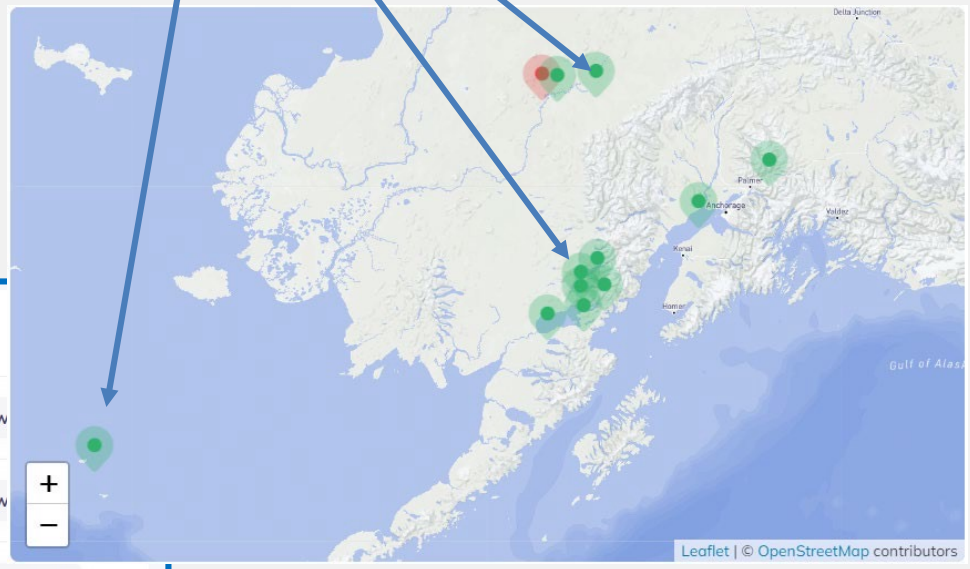
We think internet is on or off

In reality, it flickers

Pods

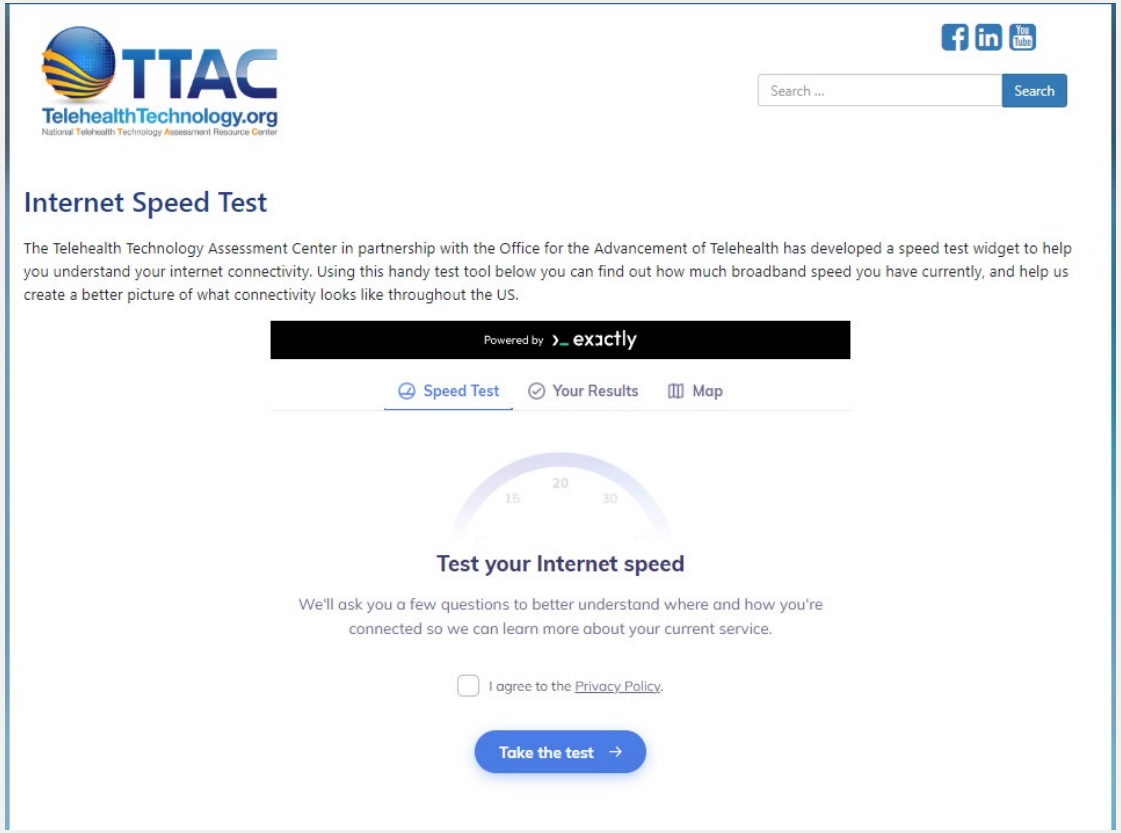
Pods for Scale

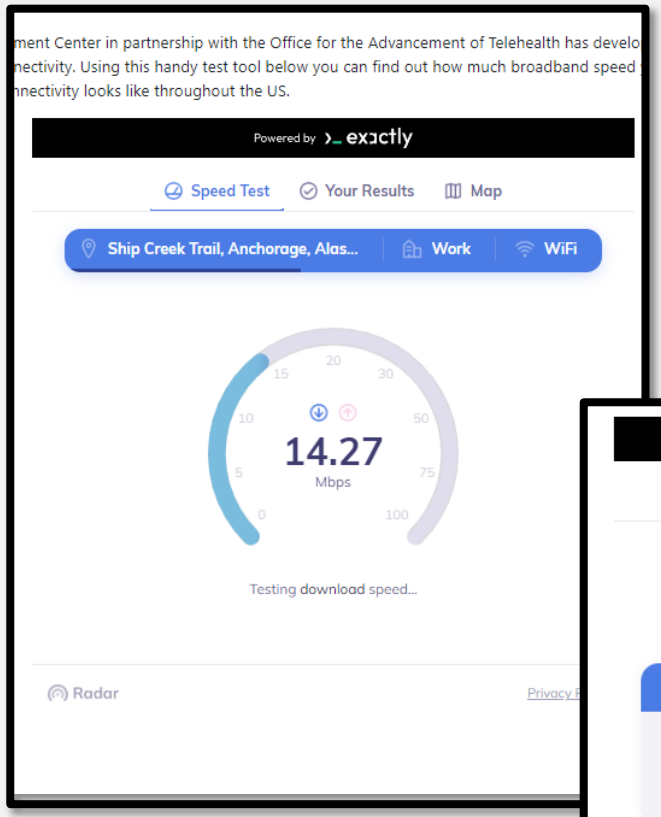
Pods

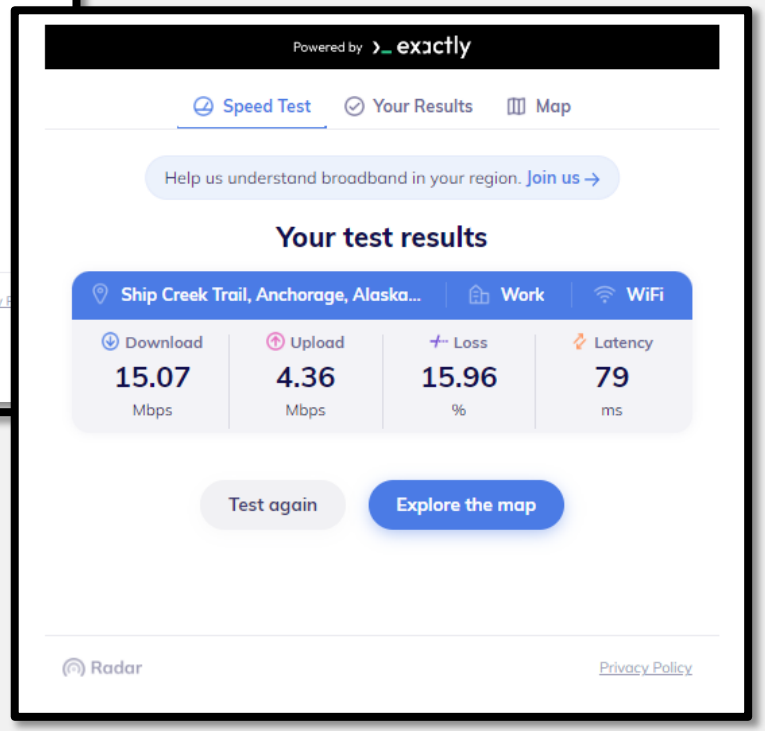


Time	Type	Download	Upload	Latency	Loss	Jitter	
Apr 05, 2024	Ookla	26.935 Mbps	27.653 Mbps	24.87 ms	0.00%	2.15 ms	View
Apr 05, 2024	Ndt7	26.942 Mbps	25.683 Mbps	58.0 ms	0.0%	N/A	View
Apr 05, 2024	Ookla	26.952 Mbps	27.944 Mbps	22.48 ms	0.00%	0.63 ms	View details
Apr 05, 2024	Ndt7	26.452 Mbps	24.041 Mbps	58.0 ms	0.0%	N/A	View details
Apr 05, 2024	Ookla	26.99 Mbps	27.69 Mbps	23.23 ms	0.00%	1.9 ms	View details
Apr 05, 2024	Ndt7	26.758 Mbps	26.533 Mbps	58.82 ms	0.0%	N/A	View details

Speed Test Widget:





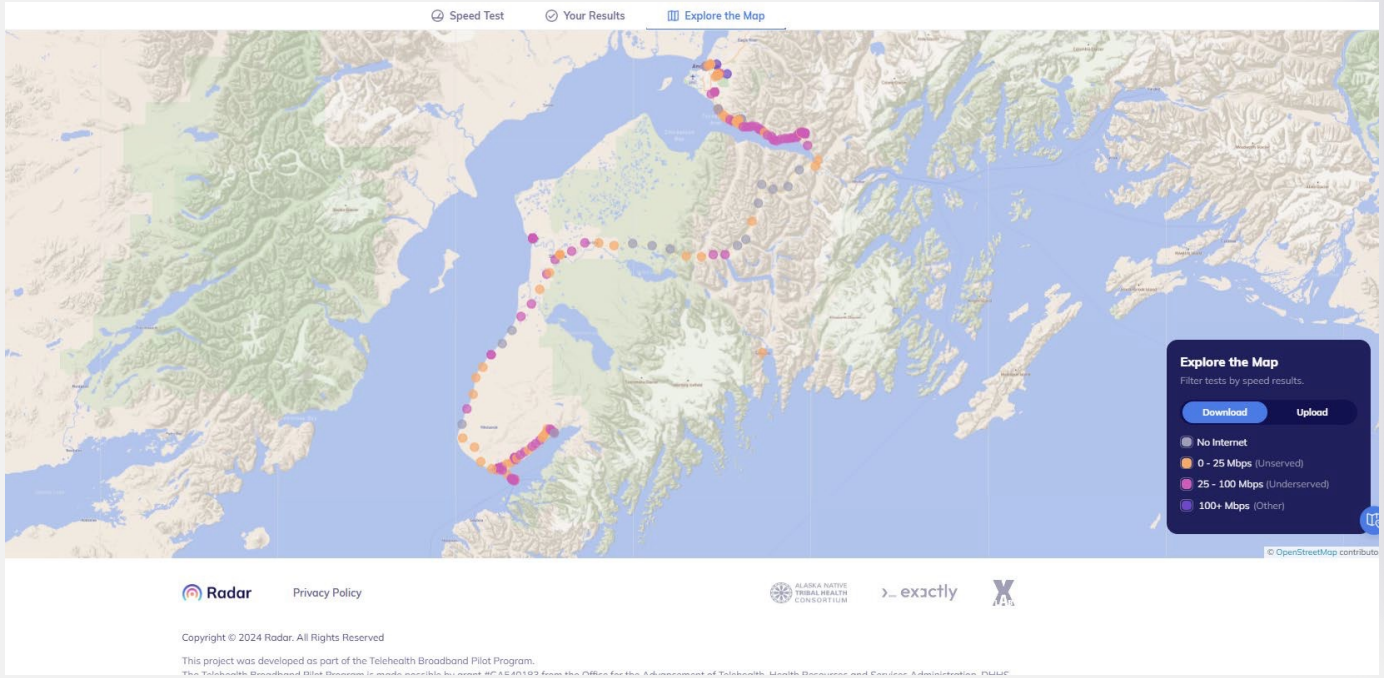


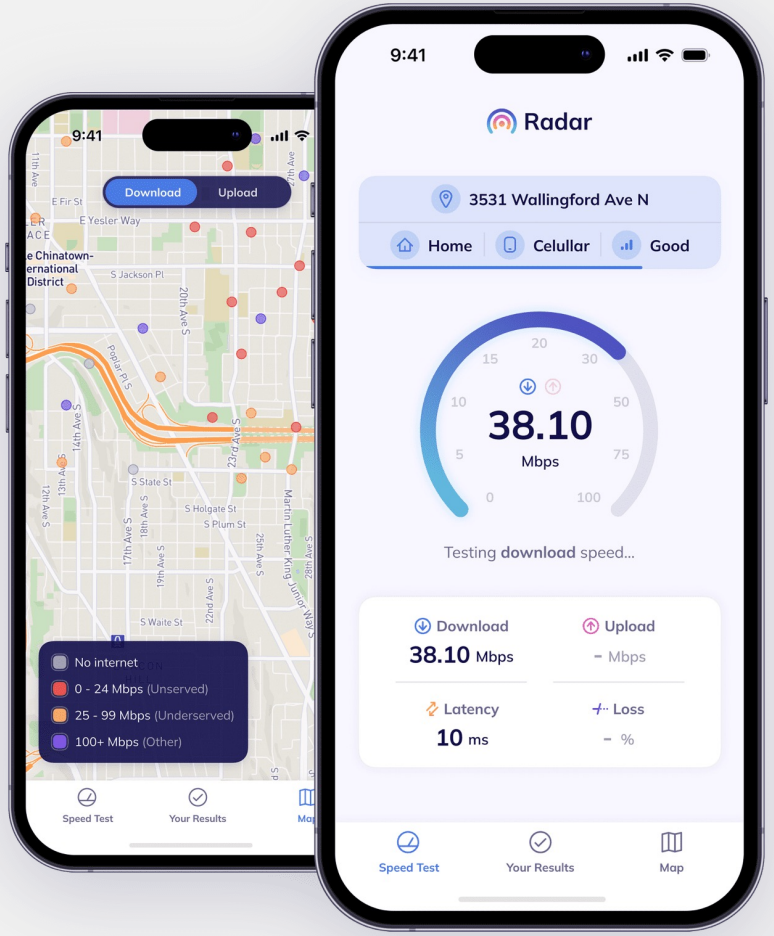
Mobile App:

Download on the App Store

GET IT ON Google Play

- Android and IOS
  - Android – Supports Background Mode
- Measures Cellular Speeds and Signal Strength

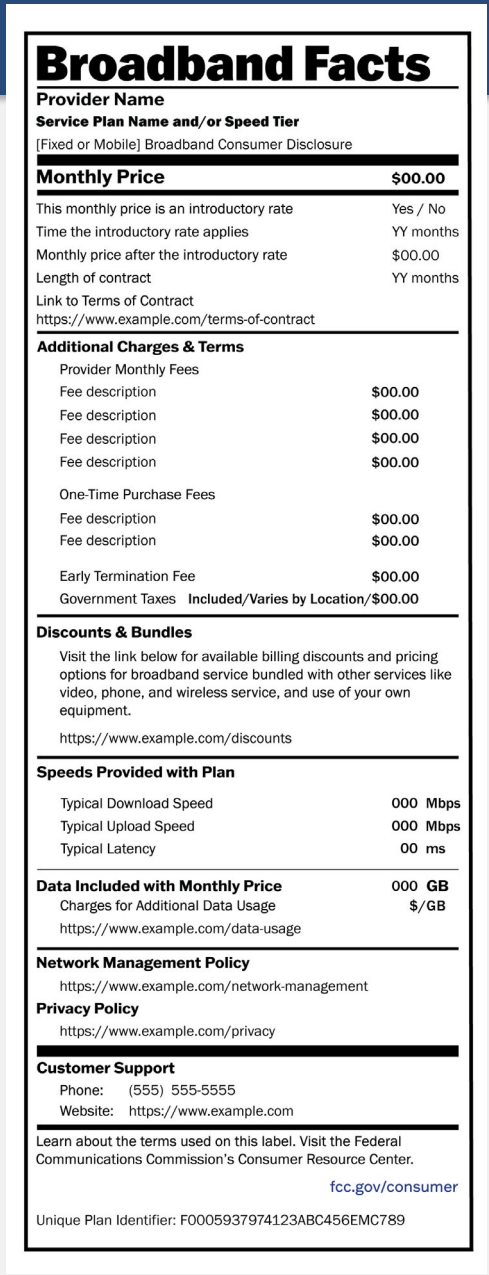




Resources

Where should you go to learn more?

- Internet for All
  - List of active programs and funding opportunities
  - www.internetforall.gov
- Broadband Consumer Labels:
  - ISP mandated "Nutrition Labels" for internet plans
  - www.fcc.gov/broadbandlabels
- State Broadband Leaders Network (SBLN)
  - NTIA's list of state broadband initiative groups
  - https://broadbandusa.ntia.gov/resources/states
- Digital Equity Act Programs
  - Details and resources to understand and apply for Digital Equity program funds
  - https://broadbandusa.ntia.doc.gov/funding-programs/digital-equity-act-programs
- Resources for those without Internet:
  - Telehealth Access Point Locater



Broadband Facts

Provider Name
Service Plan Name and/or Speed Tier
[Fixed or Mobile] Broadband Consumer Disclosure

Monthly Price	**$00.00**
This monthly price is an introductory rate	Yes / No
Time the introductory rate applies	YY months
Monthly price after the introductory rate	$00.00
Length of contract	YY months
Link to Terms of Contract https://www.example.com/terms-of-contract	

Additional Charges & Terms

Provider Monthly Fees	
Fee description	$00.00
Fee description	$00.00
Fee description	$00.00
Fee description	$00.00
One-Time Purchase Fees	
Fee description	$00.00
Fee description	$00.00
Early Termination Fee	$00.00
Government Taxes	Included/Varies by Location/$00.00

Discounts & Bundles

Visit the link below for available billing discounts and pricing options for broadband service bundled with other services like video, phone, and wireless service, and use of your own equipment.

https://www.example.com/discounts

Speeds Provided with Plan

Typical Download Speed	000 Mbps
Typical Upload Speed	000 Mbps
Typical Latency	00 ms

Data Included with Monthly Price	000 GB
Charges for Additional Data Usage	$/GB

https://www.example.com/data-usage

Network Management Policy
https://www.example.com/network-management

Privacy Policy
https://www.example.com/privacy

Customer Support
Phone: (555) 555-5555
Website: https://www.example.com

Learn about the terms used on this label. Visit the Federal Communications Commission's Consumer Resource Center.

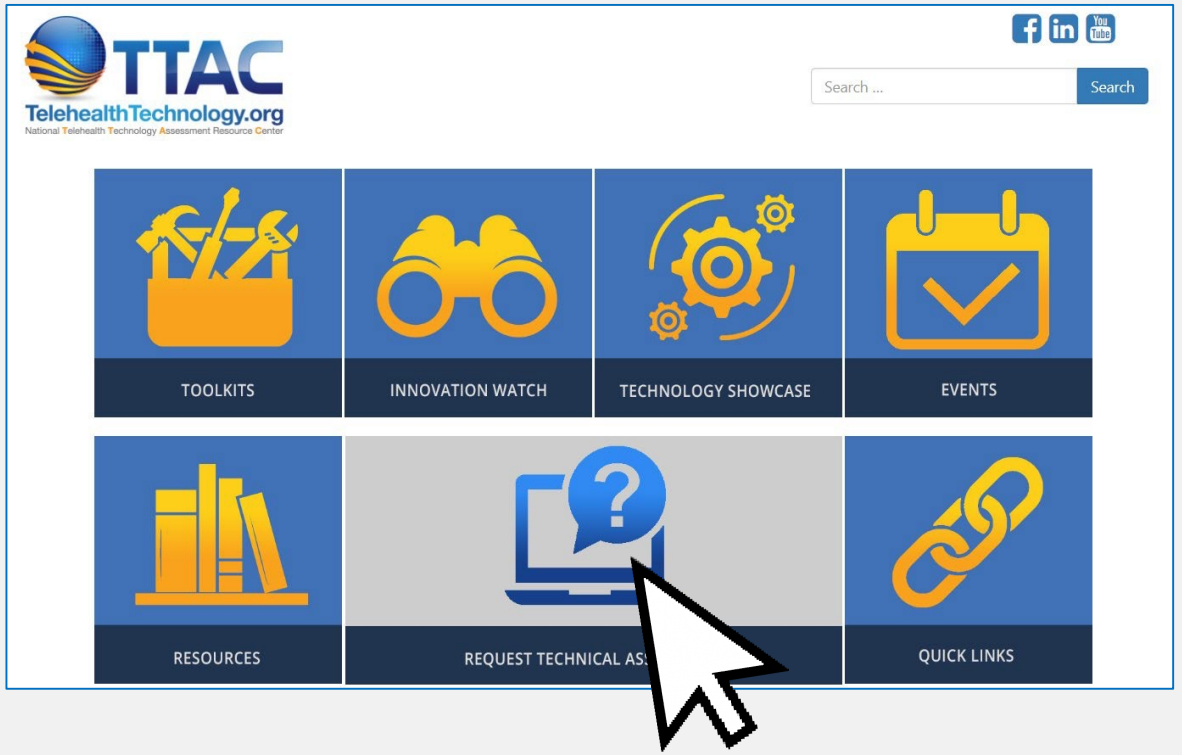
fcc.gov/consumer

Unique Plan Identifier: F0005937974123ABC456EMC789

Have Questions???

1 www.telehealthtechnology.org

2



3 Ask us your technology questions.

Thank You

Contact Us:

www.telehealthtechnology.org

Our Next Webinar

The NCTRC Webinar Series

Occurs 3rd Thursday of every month.

Telehealth Topic: Heartland Telehealth Resource Center (HTRC)
Hosting TRC: Expanding Rural Access – Key Insights from Implementing Telehealth Access Points Across Oklahoma
Date: September 19, 2024
Times: 11 AM – 12 PM (PT)

***Registration information is available on the NCTRC website.**

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https://www.surveymonkey.com/r/XK7R72F

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