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Better Internet Starts with Small Changes

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TTAC

ALASKA NATIVE TRIBAL HEALTH CONSORTIUM

exactly

Our Work

We focused on understanding **internet access in rural communities** and its **impact on telehealth adoption and access.**

- Subcontracted to support **ANTHC / TTAC**
- Project duration: **3 years**

ALASKA NATIVE TRIBAL HEALTH CONSORTIUM

CENTRAL MICHIGAN UNIVERSITY

UAMS

Rural Telehealth Evaluation Center RTEC University of Arkansas for Medical Sciences

TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER

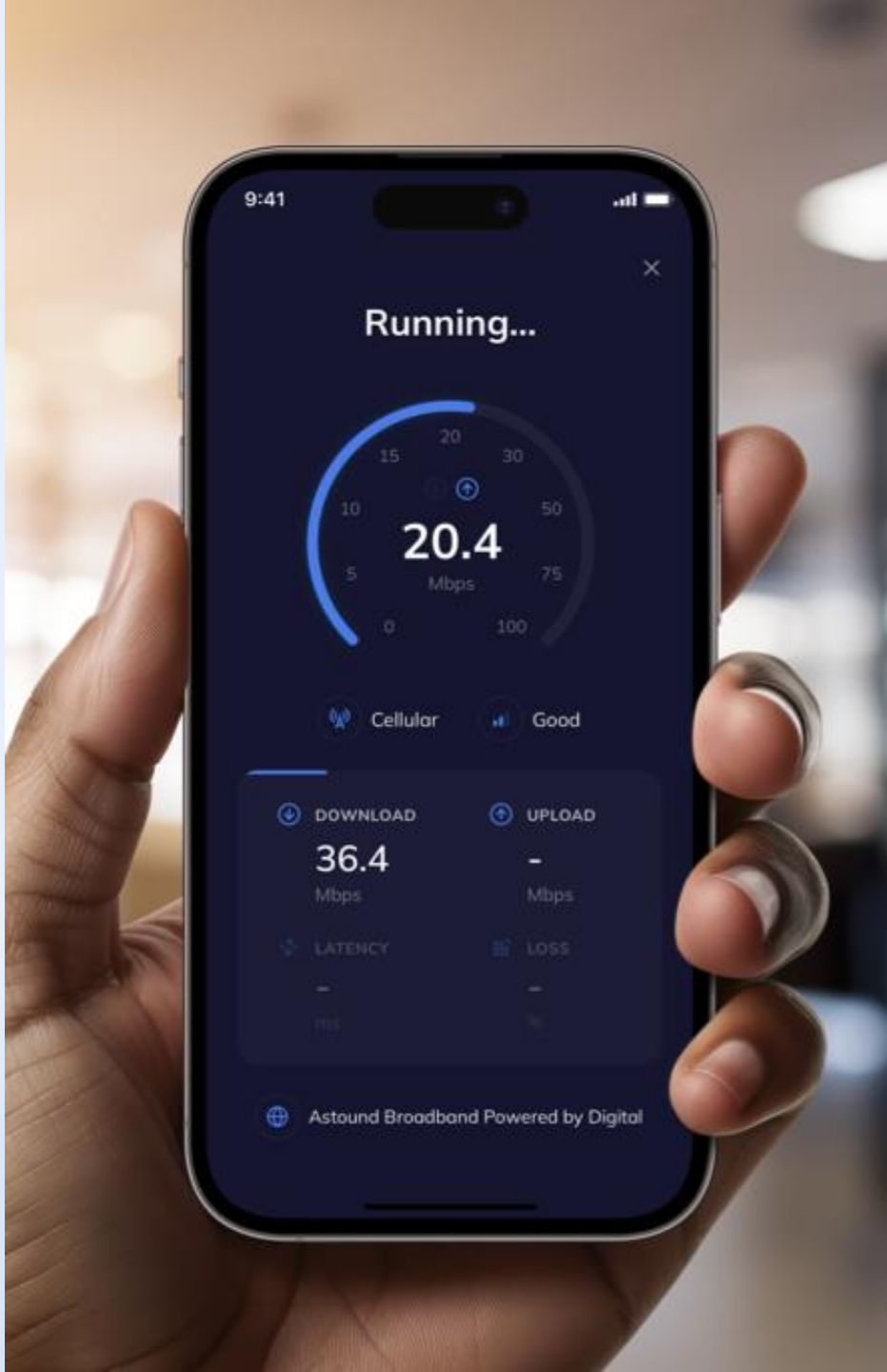
WEST VIRGINIA PRIMARY CARE ASSOCIATION

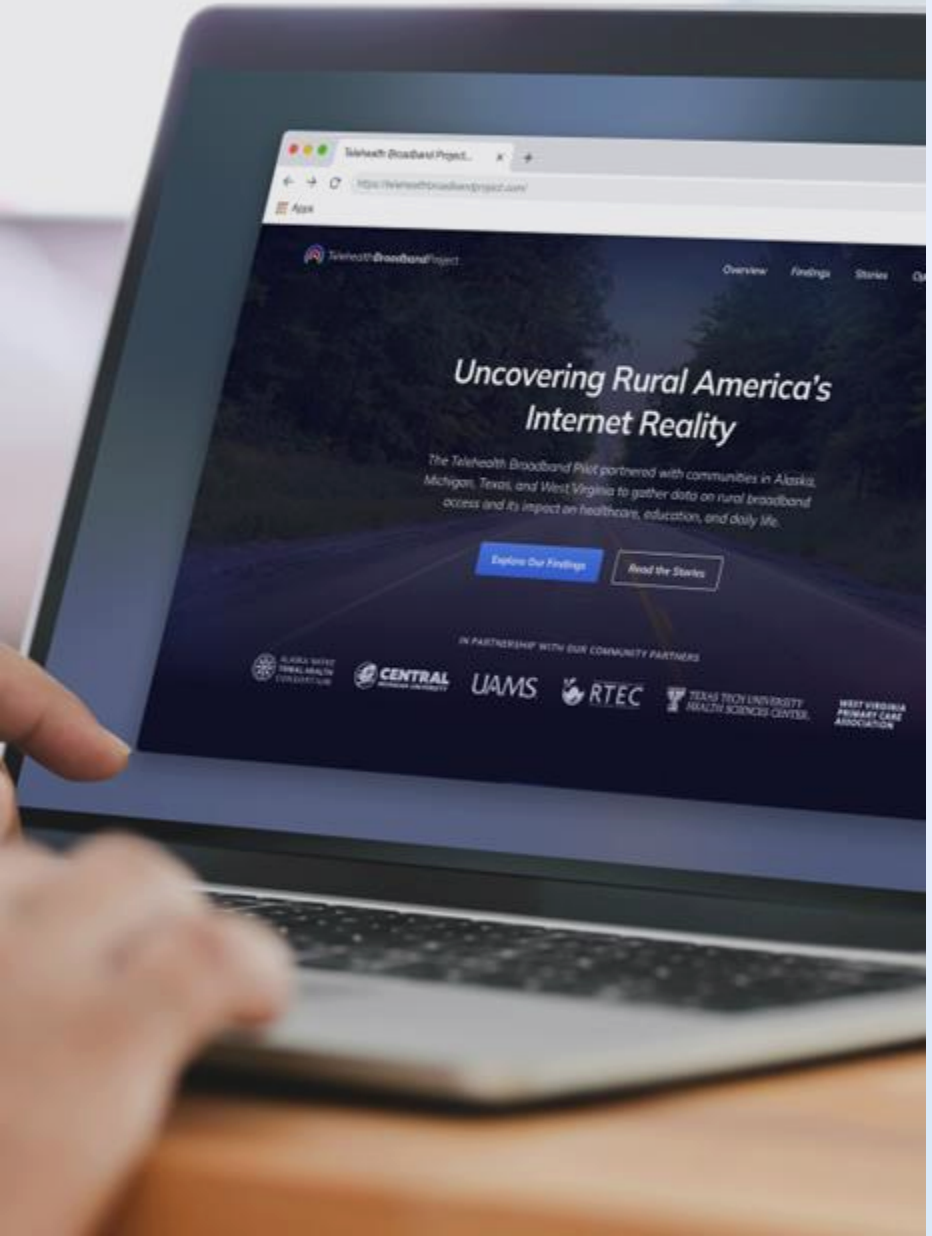
Our Work

600+ locations monitored

Millions of speed tests facilitated

Program to help fix internet issues for consumers, businesses & communities





Telehealth **Broadband** Project

Explore our findings at

www.telehealthbroadbandproject.com

Project Insights

01

Simple fixes often solve complex-looking tech problems.

02

Limited local experience in troubleshooting.

03

Consumers **struggle with ISP selection.**

04

Internet **speeds remain inadequate.**

In Alaska, 89% of our tests fell below 25/3 Mbps.

Is **infrastructure** the only answer?

We identified different fixes in different settings:

Home

Business / Healthcare

Community Wide

1

Gather Information

Identify the issue

Video frequently dropping / Applications failing to work / Full connection outages / Too slow (but how?)

Reproducibility is key when possible

Document if not reproducible

2

Identify the Problem

External Tools

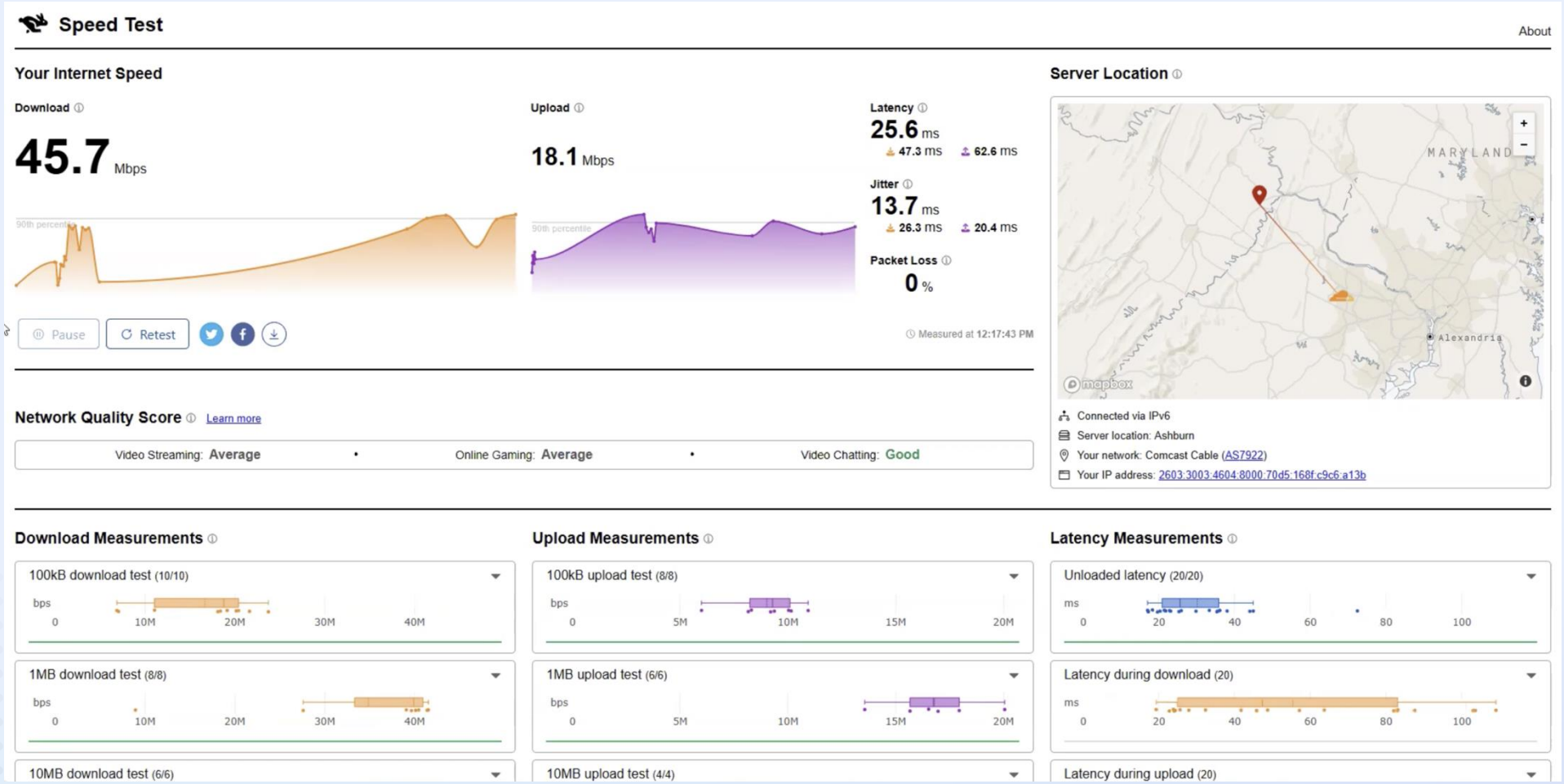
- Cloudflare Speed Test
- Ubiquiti Wifiman
- FCC Broadband Map + Broadband Labels

Radar Toolkit

- Pods / Site monitoring
- Cellular monitoring
- Broadband Map
- Speed tests for specific communities

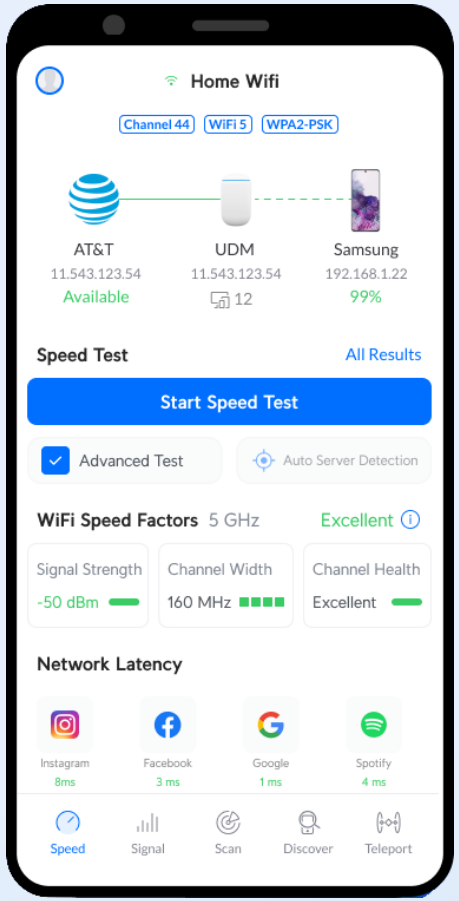
External Tools

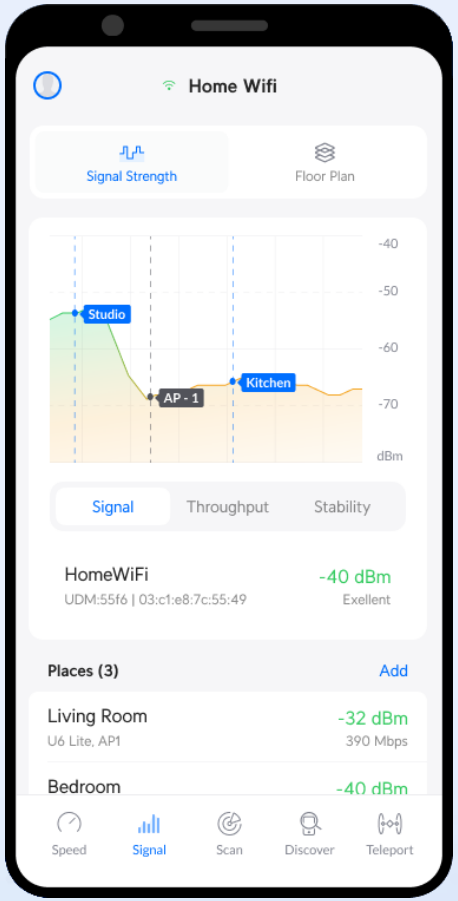
Cloudflare Speed Test

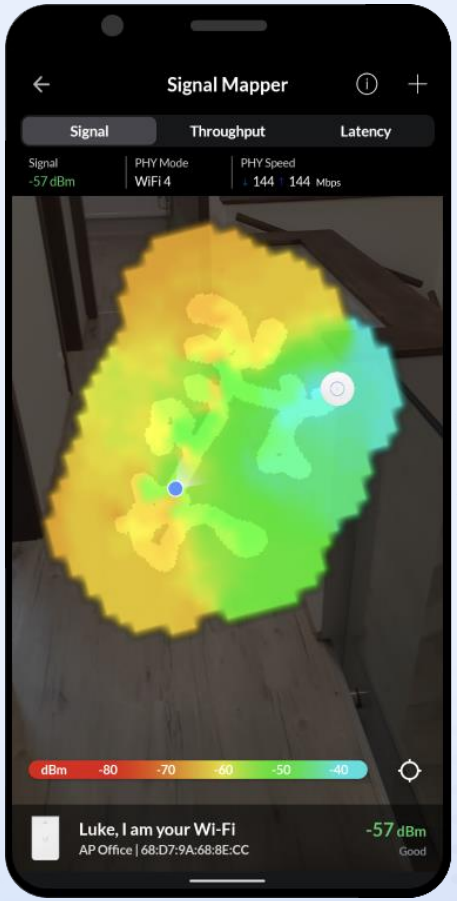


https://speed.cloudflare.com

Ubiquiti Wifiman

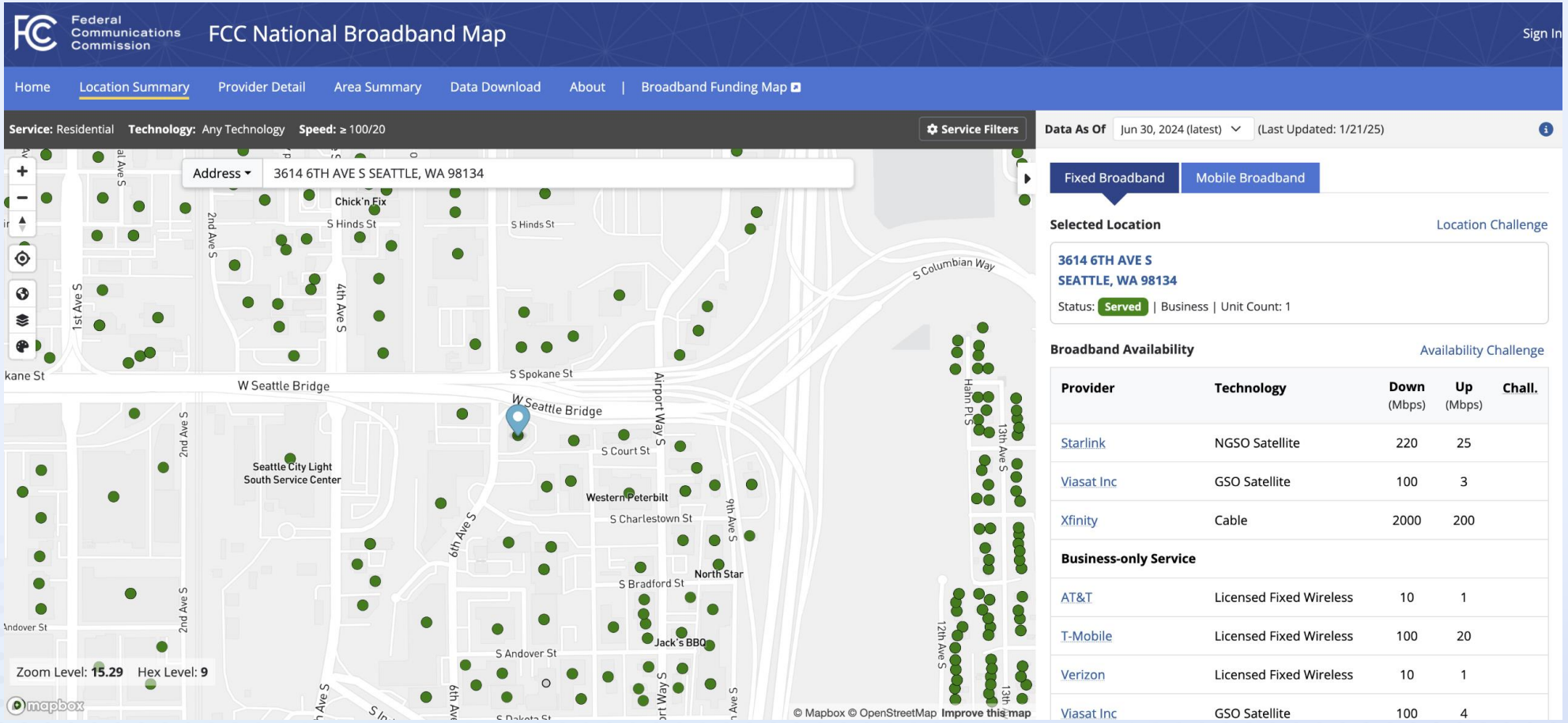






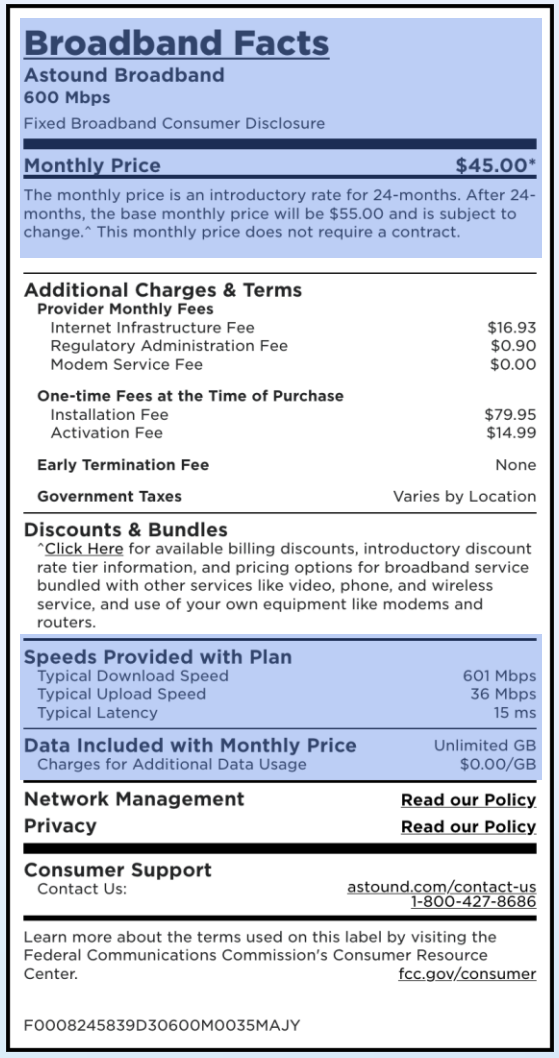
https://www.wifiman.com

FCC Broadband Map



https://broadbandmap.fcc.gov

FCC Broadband Labels



Broadband Facts

Astound Broadband
600 Mbps

Fixed Broadband Consumer Disclosure

Monthly Price $45.00*

The monthly price is an introductory rate for 24-months. After 24-months, the base monthly price will be $55.00 and is subject to change.^ This monthly price does not require a contract.

Additional Charges & Terms

Provider Monthly Fees

Internet Infrastructure Fee	$16.93
Regulatory Administration Fee	$0.90
Modem Service Fee	$0.00

One-time Fees at the Time of Purchase

Installation Fee	$79.95
Activation Fee	$14.99

Early Termination Fee None

Government Taxes Varies by Location

Discounts & Bundles

^Click Here for available billing discounts, introductory discount rate tier information, and pricing options for broadband service bundled with other services like video, phone, and wireless service, and use of your own equipment like modems and routers.

Speeds Provided with Plan

Typical Download Speed	601 Mbps
Typical Upload Speed	36 Mbps
Typical Latency	15 ms

Data Included with Monthly Price Unlimited GB
Charges for Additional Data Usage $0.00/GB

Network Management Read our Policy

Privacy Read our Policy

Consumer Support
Contact Us: astound.com/contact-us 1-800-427-8686

Learn more about the terms used on this label by visiting the Federal Communications Commission's Consumer Resource Center. fcc.gov/consumer

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Radar Toolkit

Radar Pods

Monitor Performance

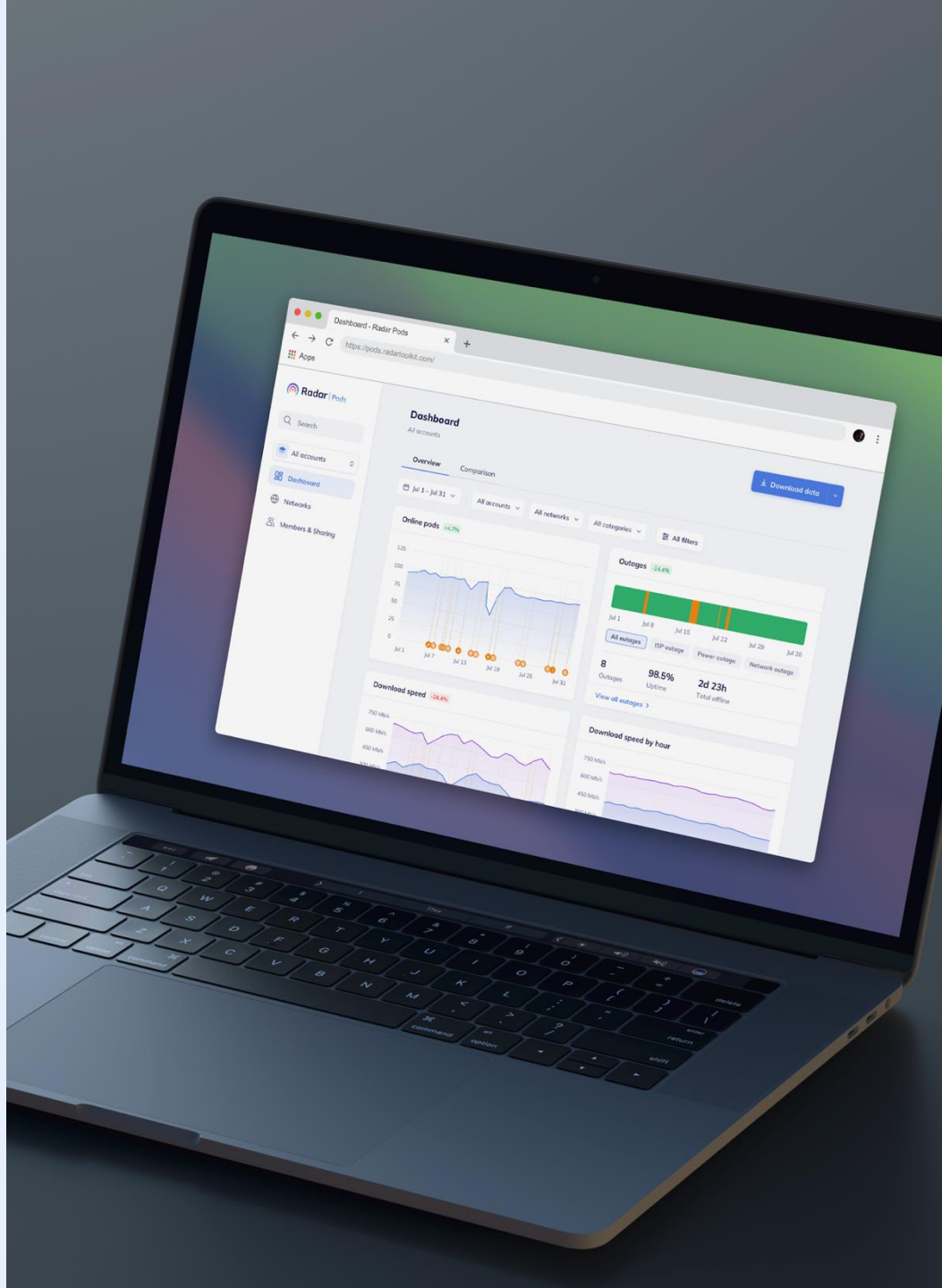
Tracks speed over time, latency, ISP outages, and more with actionable insights.

Advanced Features

Connects via Ethernet, with an online dashboard offering test scheduling and data cap management.

Scalable

Ideal for individuals or communities monitoring across multiple sites.



Radar Mobile Monitoring

Speed Tests Anywhere

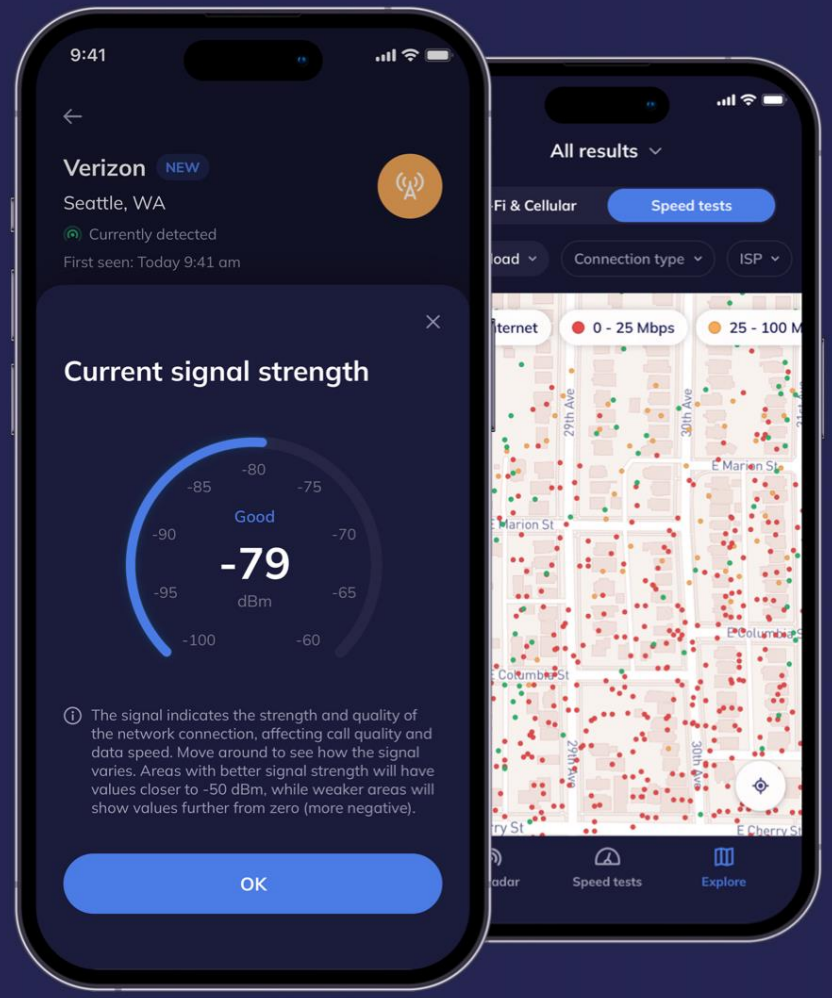
Perform manual and scheduled tests on Wi-Fi and cellular connections.

Map Coverage

Identify cell towers, Wi-Fi access points, and coverage gaps.

Community Insights

Compare signal quality and connectivity performance through a shared map.



Radar Broadband Map

Geographical Insights

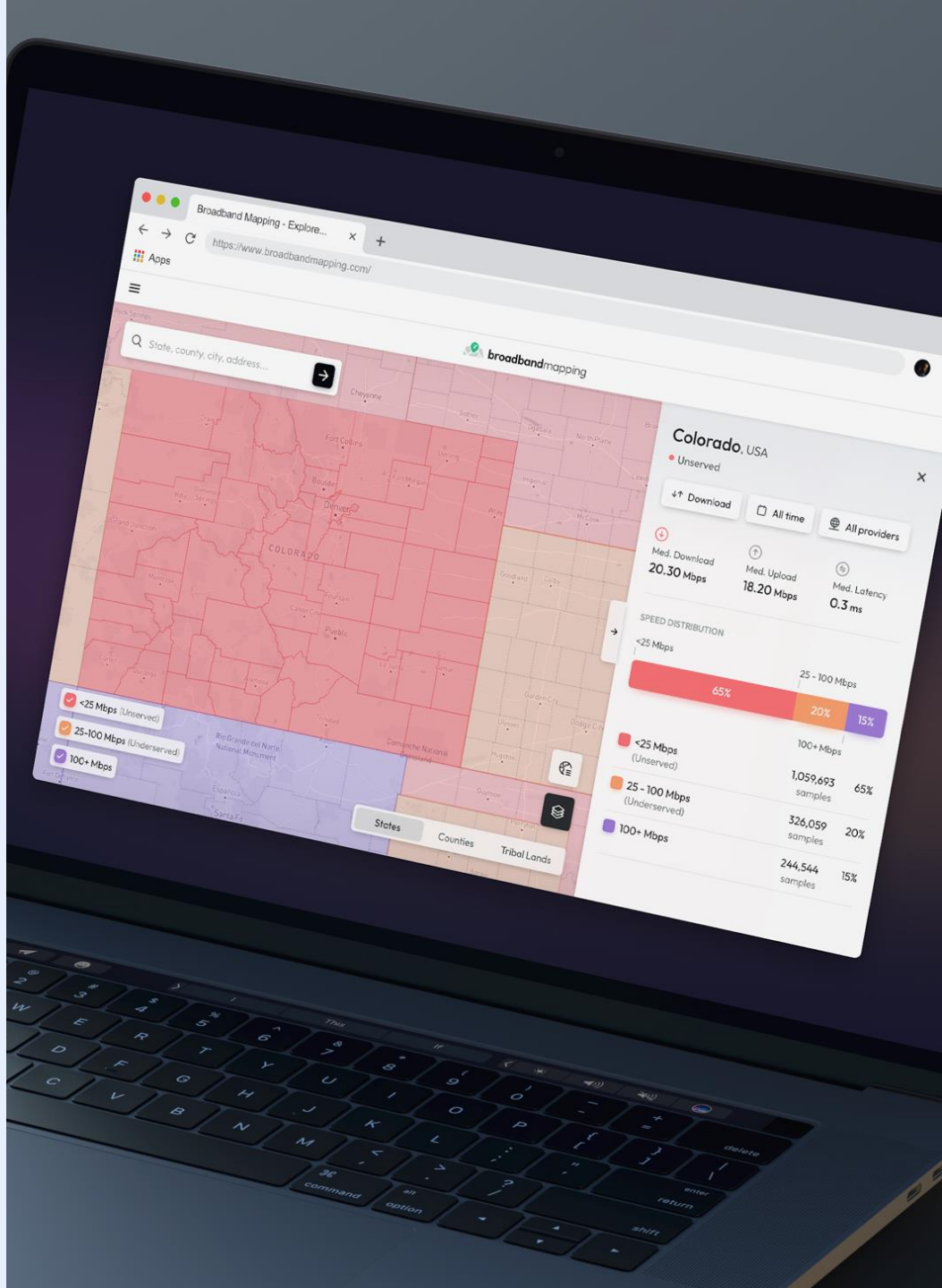
Aggregates billions of U.S. speed tests, revealing real median internet speeds.

Detailed Analysis

Explore state, county, or tribal levels, with filters for timeframes and ISP comparisons.

Identify Gaps

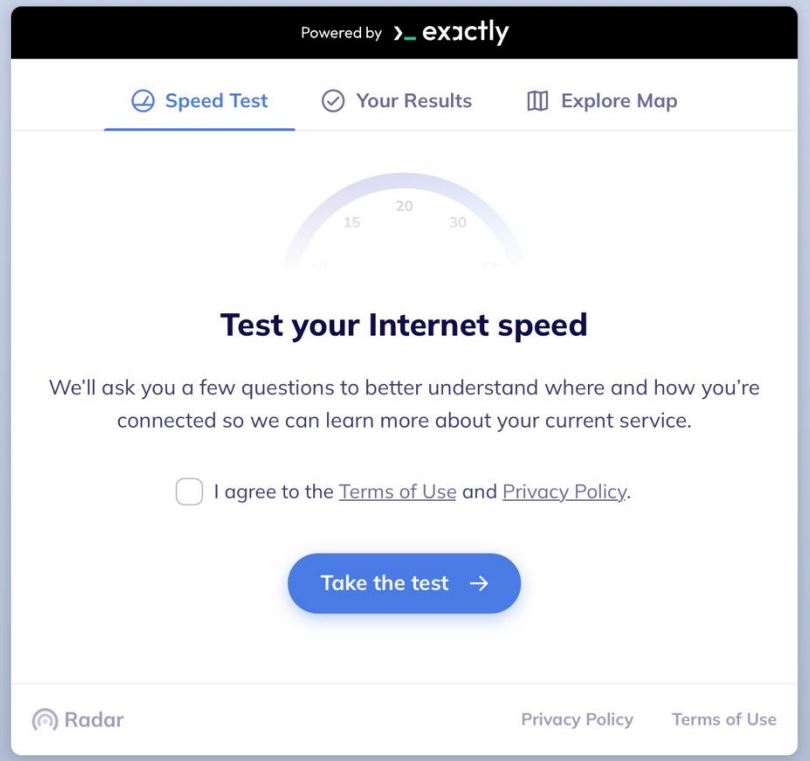
Visualizes served, underserved, and unserved areas to track internet quality changes.



Radar Speed Test Widget

Embeddable Widget

Embeddable speed test tool for community sites, enabling visitors to run tests easily.



Types of Network Issues

- **High Latency** (or “jitter”)
- **Rate Limiting**
- **Inconsistent speeds**
- **High packet loss**
- **Excessive outages**
- **Lower than expected speeds**
- **Not every “experience” problem is network-caused**

Common Consumer Problems

Outdated or Damaged Hardware

Devices that can’t keep up with modern requirements.

Poorly Placed Wi-Fi Routers

Improper positioning leads to weak signals.

Environmentally-caused Issues

Physical barriers or interference affecting connectivity.

ISP configuration issues

Incorrect setups causing performance problems.

Consumer Examples

Old modems from ISPs and damaged hardware.

Routers hidden behind couches or TV stands.

Choosing DSL over better options due to price.

Old buildings blocking Wi-Fi signals.

Too many old Wi-Fi devices causing interference.

ISP misconfigurations affecting performance.

Common Business Problems

Bad Wi-Fi is Common

Often blamed on ISPs or external factors.

Poor Communication

Gaps between IT and other staff hinder issue resolution.

Overly Complex Systems

Complicated setups lead to unnecessary frustration.

Misdiagnosed Issues

Problems frequently deemed “unfixable”.

Business Examples

Too little or too much coverage affecting performance.

Poor positioning leading to weak or uneven signals.

Bad cables causing connectivity problems.

ISP misconfigurations impacting network reliability.

Common Community Problems

Lack of Awareness

- Not sure if external investments will be made.
- What could be possible for community.

Limited Public Data for Decisions

- Lack of actual user experiences.
- Insufficient mobile coverage information.
- Difficulty understanding how things have changed over time.

Community Examples

Individuals give up hope and stop asking for help, but community data strengthens demands for real fixes.

Long, frequent **outages impacting education**.

Internet speeds drop significantly at **peak hours**.

Where to direct small ISPs for **new investments.**

Categorical Infrastructure Issues

Some types of technologies **do have predictable problems.**

DSL

- Too slow
- High latency
- Inconsistent speeds

Cellular

- Much slower than advertised
- High jitter
- Inconsistent speeds
- Very expensive

Unlicensed Wireless

- Good over short distances
- Inconsistent over long distances

Satellite

- High latency/low bandwidth in some areas
- Limited availability due to oversubscription
- Expensive

Bridging the Gap

Knowledge transfer is key to better connectivity.

- Common internet problems have known fixes.
- Cities have more knowledgeable people, so issues get resolved faster.
- Can we create initiatives to transfer this knowledge to rural areas?

Q&A

Questions?