

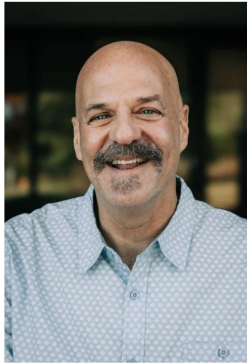
Connectivity You Can Count On: Mobile Beacon through WiscNet



WiscNet
Connecting People and Strategies

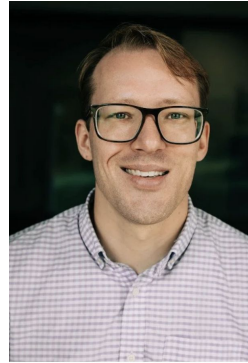


Mobile Beacon through WiscNet



Rich Turiel

Chief Technology Officer



Josh Gorton

Senior Network Engineer



WiscNet
Connecting People and Strategies



Mobile Beacon through WiscNet

- Brief overview of WiscNet
 - Located in Madison
 - 501(c)(3) non-profit membership organization
 - Serves 11 library systems in Wisconsin
 - A WiLS member
 - Experts in research and education networking

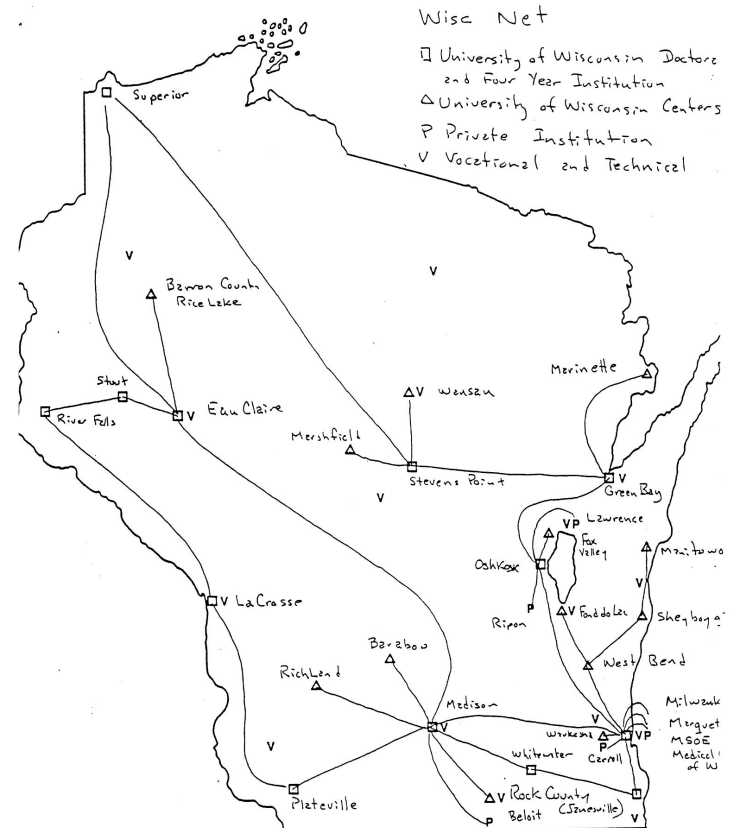
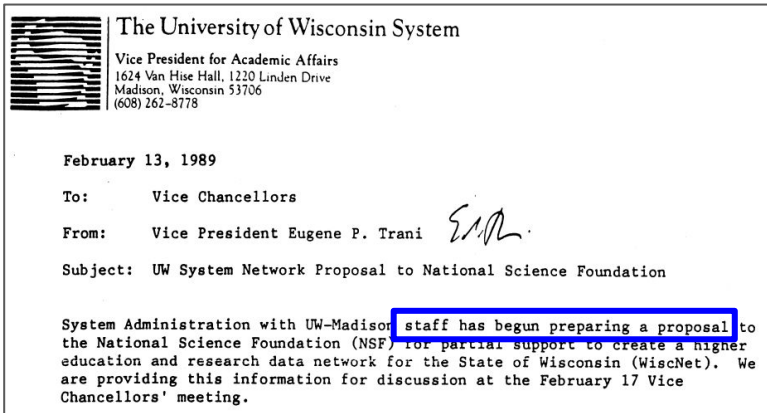


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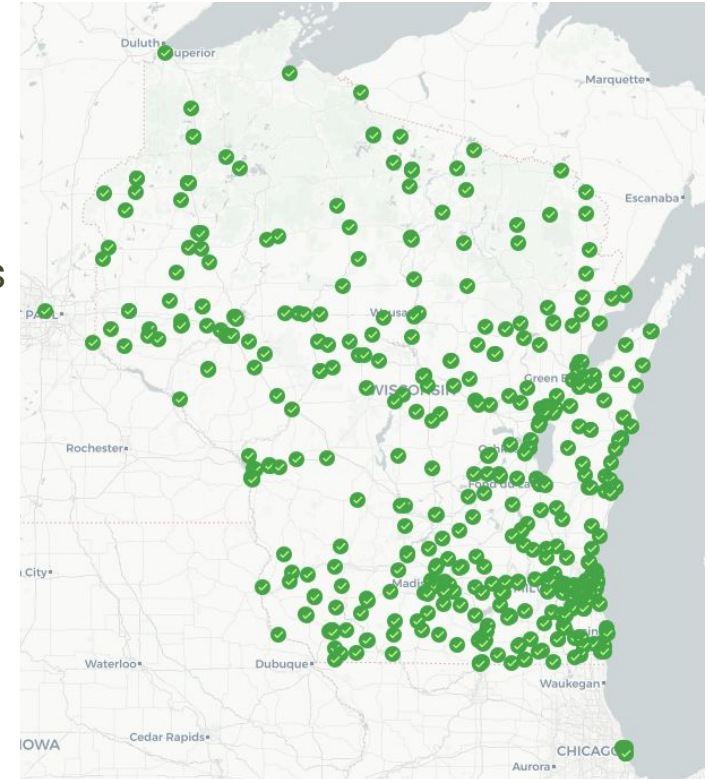
Mobile Beacon through WiscNet

- Brief overview of WiscNet
 - Started as an NSF grant proposal in 1989



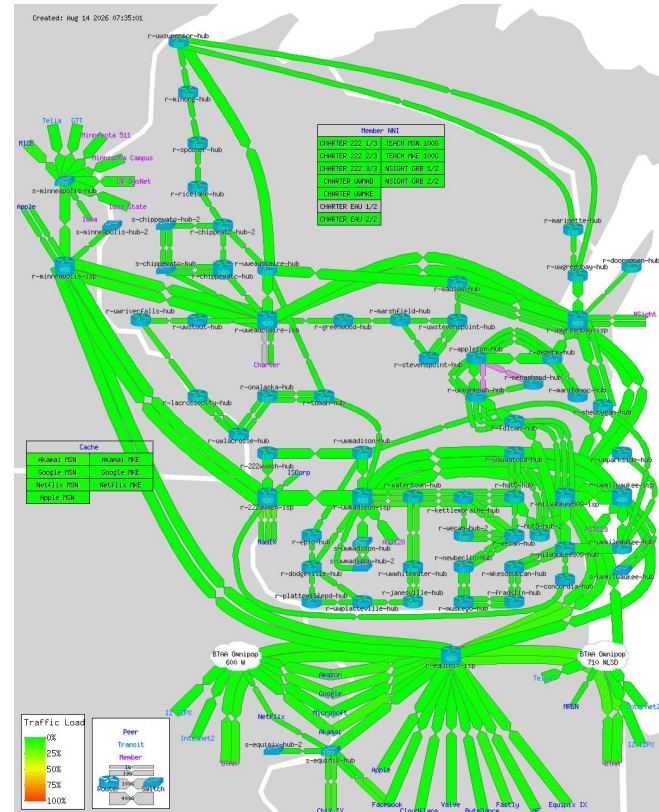
Mobile Beacon through WiscNet

- Brief overview of WiscNet
 - Serving
 - >90% Public Libraries
 - >90% Technical Colleges
 - >80% Private Colleges & Universities
 - >80% K12 School Districts



Mobile Beacon through WiscNet

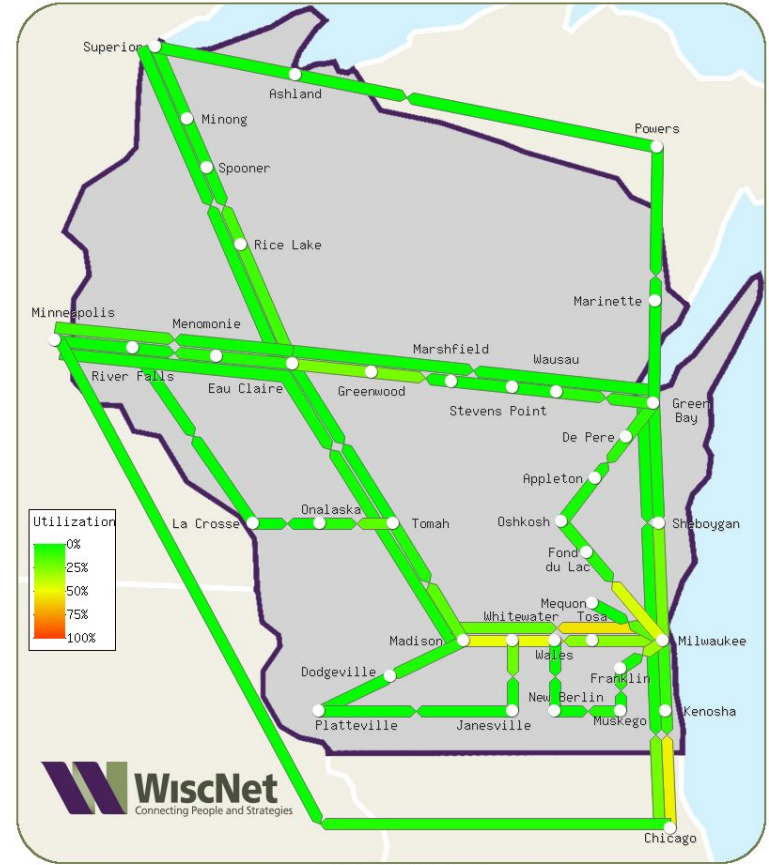
- Brief overview of WiscNet
 - Network
 - Manage over 550 routers
 - Up to 400Gbps of throughput in 2026
 - Backbone routers shown here



WiscNet
Connecting People and Strategies

Mobile Beacon through WiscNet

- Brief overview of WiscNet
 - Public network map
 - weathermap.wiscnet.net



WiscNet

Connecting People and Strategies

Mobile Beacon through WiscNet

- Brief overview of Mobile Beacon
 - 501(c)(3) non-profit
 - Founded by one of the largest Educational Broadband Service (EBS) providers
 - mobilebeacon.org



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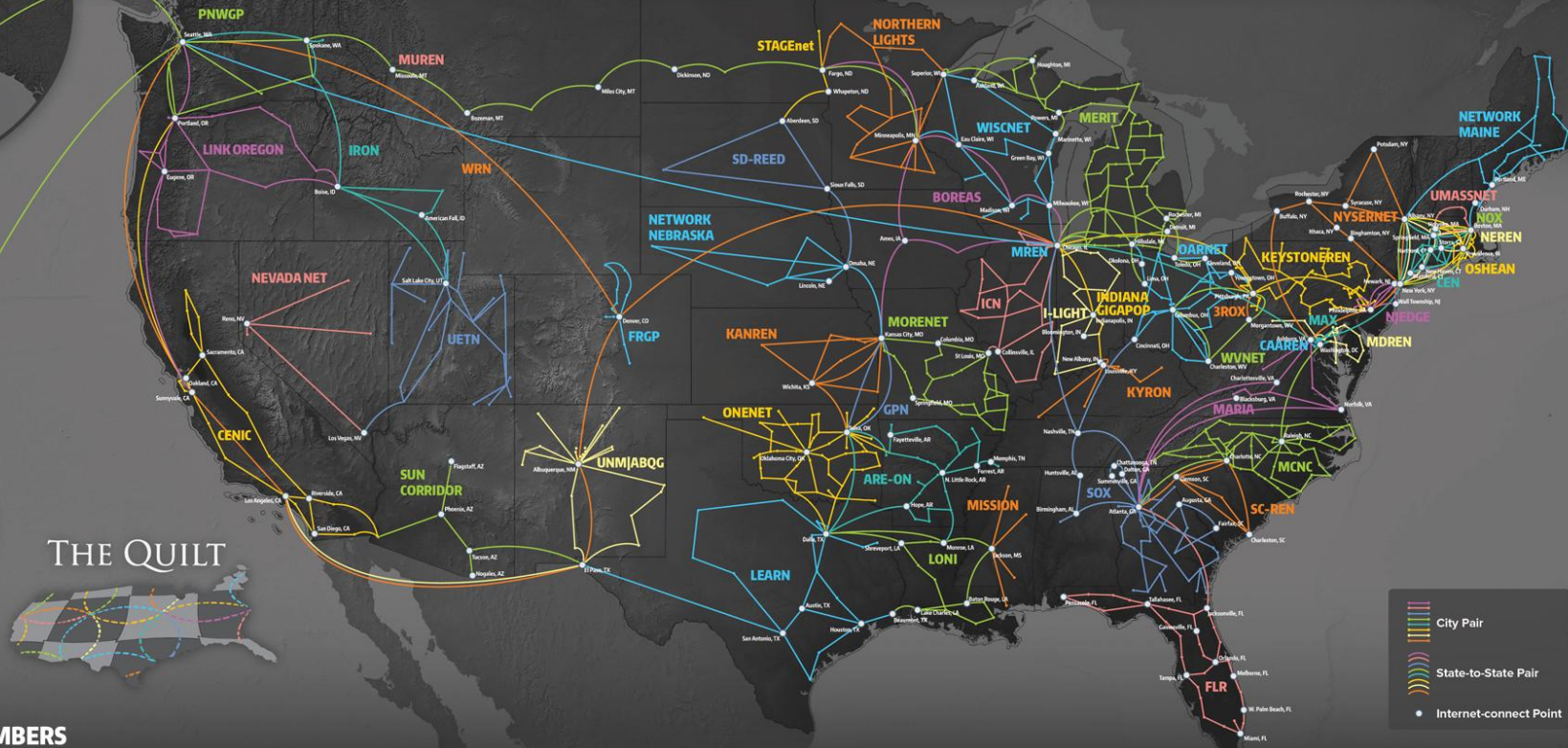


Mobile Beacon through WiscNet

- Brief overview of Mobile Beacon
 - Provides affordable internet access to schools, libraries, non-profits, and healthcare organizations
 - Has access to the T-Mobile network in all 50 states
 - WiscNet, through the Quilt, has access to 20% discounted rates on the Mobile Beacon Mobile Unlimited service



REGIONAL RESEARCH & EDUCATION NETWORKS IN THE UNITED STATES



QUILT MEMBERS



Mobile Beacon through WiscNet

- 5 state networks, including WiscNet, are doing a pilot program with Mobile Beacon
 - Arizona
 - California
 - Michigan
 - Rhode Island
 - Wisconsin
- Mobile Beacon and WiscNet are planning to hold joint meetings to share notes between these orgs



Mobile Beacon through WiscNet

- Getting to the point - cost and service overview
 - **Mobile Unlimited* internet services for \$8/month**
 - *Unlimited = potentially significant deprioritization at 1.2TB
 - "T-Mobile Internet customers who exceed 1.2TB of data usage for the current billing cycle are Internet Heavy Data Users who will be prioritized last on the network" - T-Mobile
 - No overages
 - Full details at mobilebeacon.org/faqs



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Mobile Beacon through WiscNet

- Getting to the point - cost and service overview
 - 4G/5G connectivity
 - Optional - +\$5/month for static public IPs
 - Devices available from Mobile Beacon
 - SIM cards available for BYOD
 - No limit on number of devices/plans
 - Static street address services also available



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Mobile Beacon through WiscNet

- What is a hotspot?
 - Cellular service used as an internet connection
 - Provides WiFi and/or a wired Ethernet
 - Can provide internet to laptops, phones, desktops, routers/firewalls, etc



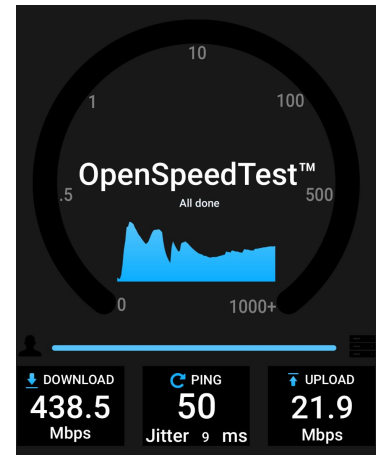
Mobile Beacon through WiscNet

- Use cases
 - Library and school hotspot lending programs
 - Building backup internet
 - Vehicle internet
 - Outdoor live streaming events
 - Outdoor WiFi
 - Traveling staff
 - Event internet
 - Credit card terminals
 - etc – be creative!



Mobile Beacon through WiscNet

- Background on cellular technology speeds (estimates, not standards)
 - 1G - 1979
 - 2G - 1991
 - 200Kbps typical download speed
 - 3G - 2001
 - 2Mbps typical download speed
 - 4G - 2009 and in 2011 4G LTE (Long-Term Evolution)
 - 55.5Mbps typical download speed by the end of LTE
 - 5G - 2019
 - **10 – 561Mbps download / 5 – 58Mbps upload typically seen by WiscNet staff in Wisconsin**
- For reference, our office of ~25 people uses ~10-50Mbps peak



Grant County Speeds
820 Hwy 35 and 61 S

Mobile Beacon through WiscNet

- Background on US cellular carriers
 - Mobile Beacon has access to T-Mobile's network
 - AT&T, T-Mobile, and Verizon
 - Most other providers are Mobile Virtual Network Operators (MVNOs)
 - MVNOs (mostly) don't own towers or radios but lease access to them from the big 3
 - T-Mobile FYIs
 - Merged with Sprint in 2020
 - Purchased US Cellular in 2025 (progress has mixed reviews, still ongoing?)
 - US Cellular had a lot of coverage in WI
 - Merging some coverage/towers in WI



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Mobile Beacon through WiscNet

- Mobile Beacon Coverage
 - It's T-Mobile's coverage
 - mobilebeacon.org/coverage
 - t-mobile.com/coverage/coverage-map
 - Try before you buy



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Mobile Beacon through WiscNet

- Mobile Beacon Eligibility
 - Public libraries, academic libraries, regional library systems
 - Public and private schools
 - Non-profit organizations
 - Government entities (some exceptions)
 - Many more, see mobilebeacon.org/eligibility



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Mobile Beacon through WiscNet

- Other considerations
 - No direct access to a T-Mobile portal for self-management
 - 1, 2, and 3 year terms available
 - Additional discounts for 2 and 3 year terms
 - \$96 for 1 year of mobile unlimited
 - \$180 for 2 years of mobile unlimited
 - \$252 for 3 years of mobile unlimited
 - CIPA compliant filtering available for no additional fee
 - On/off, no customization
 - If you buy hotspots from Mobile Beacon you own the hardware



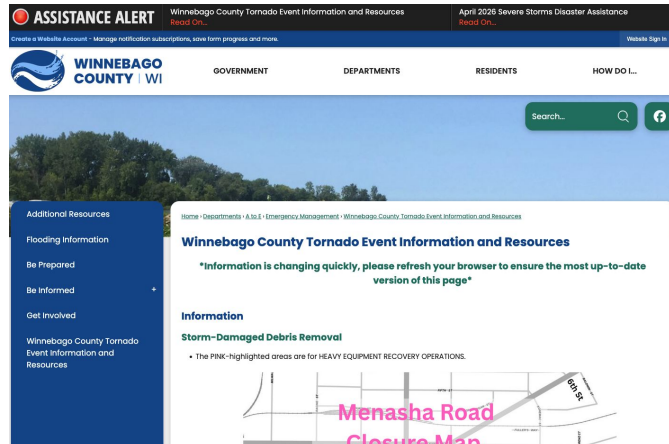
Mobile Beacon through WiscNet

- WiscNet recently put together an “emergency internet” kit with:
 - Mobile Beacon hotspots
 - StarLink satellite dishes
 - Routers
 - Switches
 - Battery backup



Mobile Beacon through WiscNet

- On July 27th, a devastating EF-3 tornado hit Menasha, WI
 - Three WiscNet members had multiple buildings impacted
 - Tree roots were uplifted and damaged underground fiber/conduit
 - Ariel fiber was damage
 - ETR “maybe by the end of August”
 - winnebagocountywi.gov



WiscNet
Connecting People and Strategies

Mobile Beacon through WiscNet

- Deployed in Menasha to 3x WiscNet members
 - 2x StarLink satellites
 - 12x Mobile Beacon hotspots
 - "We'd be dead in the water without it. Even if it's slower, it's still something. We're able to continue business and help the residents with what they're going through." – Andrea Oskey, City of Menasha
 - Serving entire buildings





Questions?

mobilebeacon@wiscnet.net

More info at wiscnet.net