

**OFFICIAL APRIL 2012 UPDATE SUBMISSION TO  
THE NATIONAL TELECOMMUNICATIONS AND INFORMATION  
ADMINISTRATION UNDER THE  
STATE BROADBAND INITIATIVE GRANT PROGRAM FOR THE  
STATE OF TENNESSEE**

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**April 1, 2012**

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## COVER LETTER

April 1, 2012

Ms. Anne W. Neville  
SBI Grant Program Director  
National Telecommunications and Information Administration  
U.S. Department of Commerce  
1401 Constitution Avenue, NW Room 4716  
Washington, DC 20230

Dear Ms. Neville:

As the State Broadband Designated Entity, Connected Tennessee, in partnership with the Department of Finance and Administration's Office of Information Resources and the Department of Economic and Community Development and other agencies, please accept this submission from Connected Tennessee on behalf of the State of Tennessee's State Broadband Initiative (SBI) Grant Program, known as Connected Tennessee.

It is with highest regard that the collective stakeholders of Connected Tennessee offer congratulations to the U.S. Department of Commerce's National Telecommunications and Information Administration (NTIA) on the one-year anniversary of the release of the National Broadband Map. This extraordinary milestone demonstrates the ongoing intense and joint effort of the NTIA, FCC, state governments, industry, and non-profits like Connected Nation as it continues to serve as a key tool for the American public and policymakers, resulting in smarter investments and targeted state and local broadband policies and programs. We are proud of the role that Connected Tennessee has played in creating and maintaining such a powerful tool that has benefitted and surely will continue to benefit not just Tennesseans, but consumers and businesses nationwide.

These artifacts should be found to be compliant with the April 1, 2012, deadline for the semi-annual data update and in accordance with the terms of the July 1, 2009, Notice of Funds Availability (NOFA) and all subsequent clarifications pertaining to delivery of state-level mapping of broadband service availability. This packet includes:

### ***Inventory of Deliverables, Connected Tennessee: April 1, 2012***

<u>NOFA Requirement</u>	<u>Data Transfer Model</u>	<u>Data Description</u>
Appendix A: 1(a)(i)	BB_Service_CensusBlock	Broadband Service Availability of Facilities-Based Providers in Census Blocks of No Greater Than Two Square Miles in Area

Appendix A: 1(a)(ii)	BB_Service_RoadSegment	Broadband Service Availability of Facilities-Based Providers by Road Segment in Census Blocks Larger in Area Than Two Square Miles
Appendix A: 1(b)	BB_Service_Wireless	Broadband Service Availability of Wireless Services Not Provided to a Specific Address
Appendix A: 3(b)	BB_ConnectionPoint_MiddleMile	Broadband Service Infrastructure Middle-Mile and Backbone Interconnection Points
Appendix A: 4	BB_Service_CAInstitutions	Community Anchor Institutions-Listing
Appendix A: 4	n/a	Community Anchor Institutions-Narratives
VII.A.1(a)	n/a	Accuracy and Verification Report
n/a	DataPackage.xlsx	Worksheets of Contact Information, Record Count, and Provider Summary Table
n/a	n/a	List of Changes and Corrections to the Dataset
n/a	n/a	Non-Participating Provider (NPP) Narratives
n/a	n/a	Broadband Provider Roster and Participation Status

In addition, this data update submission should be found to be compliant with the additional program requirements instituted by the National Telecommunications and Information Administration since the time of the October 2011 SBI data submission for the Connected Tennessee program. Specifically, these new requirements are:

#### **SBI Data Transfer Model**

The submission of the broadband dataset for April 1, 2012, is contained within the SBI Data Transfer Model as released on the Grantee Workspace on January 17, 2012. All efforts have been made to comply with formatting, domain, and metadata requirements to include as much information on each provider as possible.

#### **Additional Submission Guidance**

This submission continues to follow the speed technology guidance released by the Program Office on December 22, 2011, to review speed tier codes in correspondence with technology of transmission codes. In the October 2011 submission, descriptions were provided in the methodology paper that offered an explanation for any submitted technology of transmission and speed combinations that were outside of the expected value range. That practice continues in this submission as technology and speed combinations are reviewed and scrutinized; any questionable information supplied by providers is reviewed more in depth with the provider to ensure the information is accurately captured or a proper

explanation is provided as to why the speed information should be submitted as supplied even if it falls outside the expected value range.

In addition to the requirements mentioned above, please find this methodology paper to be inclusive of a new section pertaining to industry mergers and acquisitions – specifically this section will detail any and all mergers or acquisitions that have taken place in Tennessee, since the October 2011 submission. The intent of this new section is to provide a better understanding of how the broadband provider landscape has changed over time.

This April 2012 semi-annual data update under the State Broadband Initiative Grant Program continues to demonstrate our dedication to implementing the joint purposes of the Recovery Act and the Broadband Data Improvement Act (BDIA) by gathering comprehensive and accurate state-level broadband mapping data, developing state-level broadband maps, aiding in the development and maintenance of the National Broadband Map, and undertaking statewide initiatives for broadband planning.

### ***Broadband Service Availability — Provider Outreach and Verification***

This data update submission under the SBI program includes datasets for approximately 92.13 percent of the Tennessee provider community, or 82 of 89 total providers. Of the 82 participating providers, 28 supplied an update to their network or coverage area(s), while 45 have reported no change. The remaining 9 represent providers who previously supplied data but were non-responsive in the April 2012 update effort; therefore their previous dataset is being put forward as part of this compilation. A complete roster by provider depicting participation status and contact record is contained herein. Of the 7 providers that are not represented in the attached datasets, 6 have refused to participate in the voluntary program or were non-responsive to multiple contact attempts, and one provider is currently in some form of progress toward data submission but was not able to submit coverage areas at the time of this submission.

As the aforementioned roster and attached methodology documentation will attest, it is the collective opinion of the Connected Tennessee principals that all commercially reasonable efforts were made to account for 100 percent of the known Tennessee broadband provider community, pursuant to this semi-annual data update submission.

Connected Tennessee has also continued to perform broadband verification activities through several means. In addition to confirmation of service area(s) by each provider, Connected Tennessee conducts field validation efforts. To date, 46 (51.69 percent) providers have been validated through field verification activities. Additional details on verification activities are contained within the Field Validation Methodology.

The Connected Tennessee website, ([www.connectedtn.org](http://www.connectedtn.org)), continues to serve a prominent role in the outreach and data collection effort. This program asset provides a way for the general public to participate in the process by offering interactive tools for users to test their connection speed, submit broadband inquiries, or contact a program representative.

As an indicator of stakeholder penetration, the Connected Tennessee website encountered 5,811 unique visits during this reporting period (39,656 total to date for the life of the grant awarded on December 20, 2009). Additionally, this pronounced Web activity netted 115 broadband inquiries over this same reporting period (1,446 grant inception to date). The website also provides the BroadbandStat application, which allows the consumer to confirm or dispute the coverage represented on the broadband inventory map. These consumer-initiated actions are facilitated through the Connected Tennessee website and the Connected Tennessee interactive mapping tool (BroadbandStat) that offer the citizens the vehicles to provide information regarding availability in their respective service area, either in affirmation or contest of the reported data represented in the Connected Tennessee mapping artifacts. Since the initial data collection and release of corresponding maps, feedback in the form of broadband inquiries has allowed Connected Tennessee to identify additional areas that are in need of field validation, which is scheduled as soon as possible.

### ***Community Anchor Institutions***

Connected Tennessee has established an ongoing mechanism for gathering data on the location and broadband connectivity of Community Anchor Institutions (CAI), in accordance with the data requirements of the SBI NOFA Technical Appendix.

Outreach was conducted during this data update reporting period by Connected Tennessee to continue identification of existing, centralized sources for CAI connectivity data. Additionally, outreach was coordinated to distribute the CAI survey to institutions throughout the state through multiple methods including a customized online survey available on the Connected Tennessee website. Connected Tennessee received updates from institutions connected to the State of Tennessee's network and has reached out to two different medical associations (the Tennessee Medical Association and Tennessee Hospital Association) in an effort to gather more CAI data to promote the importance of broadband connectivity at anchor institutions and participation in this data collection process. The healthcare focus is ongoing and will show results in future reporting periods. Connected Tennessee will continue to build upon these relationships over the coming months and utilize its contacts throughout the state to collect data and raise awareness of this project.

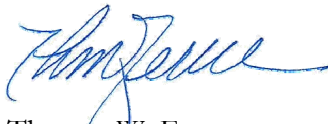
From our work in Tennessee, as well as other states, we recognize the great value of this data to future collaboration efforts within the state as well as its value to the National Broadband Map. We plan to continue to bring best practices to the Connected Tennessee efforts, along with an investment of both human and technical resources required to reach our goal of increasing the data that is secured and reported as part of this process.

The Connected Tennessee program exists to improve data on the deployment and adoption of broadband services and to assist in the extension of broadband technology across all regions of the great State of Tennessee, as well as the United States and its territories through contribution to the National Broadband Map. We look forward to the continuing work ahead.

Respectfully submitted,



Michael Ramage  
Executive Director  
Connected Tennessee



Thomas W. Ferree  
President and Chief Operating Officer  
Connected Nation, Inc.

## **DATA ACQUISITION: TENNESSEE COMMUNITY ANCHOR INSTITUTIONS METHODOLOGY**

In this fifth reporting period of the SBI, Connected Tennessee, working in close coordination with the State of Tennessee, has established an ongoing mechanism for gathering data on the location and broadband connectivity of Community Anchor Institutions (CAI), in accordance with the data requirements of the SBI NOFA Technical Appendix. During this reporting period Connected Tennessee has continued to focus efforts on conducting outreach and raising awareness of this important project.

Connected Tennessee has continued to identify and process CAI data obtained through an ongoing statewide outreach campaign. Physical address information continues to be augmented through manual sourcing and geocoded by Connected Tennessee through ESRI ArcGIS software.

Connected Tennessee continues to utilize a customized online survey hosted through SurveyMonkey, with a landing page on the Connected Tennessee website that was developed during the first reporting period. This survey, in combination with a customized data-gathering spreadsheet, was distributed on a regular basis to a targeted list of CAI throughout the state as well as to organizations and agencies that work closely with the CAI. Connected Tennessee will continue to use these data-gathering tools for future targeted outreach efforts throughout the coming months leading up to the next reporting period. These materials are customized to fit the CAI categories as defined in the SBI NOFA.

The survey can be accessed at this link: <http://www.surveymonkey.com/s/RJK59FP>.

Connected Tennessee conducts significant research as part of an ongoing process to identify existing, centralized sources for CAI connectivity data. In tandem with these efforts to identify existing data, Connected Tennessee continues to identify key CAI contacts in an effort to distribute and promote the online survey and raise awareness of the importance of CAI broadband connectivity.

Connected Tennessee has an ongoing mission to educate CAI throughout the state on the importance of participating in the project. Participation by these institutions will raise awareness about the importance of broadband connectivity and the need to report the requested data for inclusion on the National Broadband Map. Connected Tennessee identified and reached out to 2 different medical associations to gather CAI data, the Tennessee Medical Association and Tennessee Hospital Association.

The greatest challenge with collecting CAI data continues to be educating the CAI about the Connected Tennessee project as well as self-awareness of their own CAI connectivity (specifically upload and download speeds). Connected Tennessee will continue to research key CAI organizations and agency contacts in an effort to raise awareness of this project among CAI.



A CAI summary of all processed and submitted data is provided below:

CAI Type	Total	Physical Address	Lat/Long	Technology of Transmission	Download Speed	Upload Speed
<b>K-12 Schools</b>	2452	2452	2432	1199	1199	1196
<b>Libraries</b>	257	257	257	229	229	229
<b>Healthcare</b>	826	826	824	120	119	119
<b>Public Safety</b>	748	748	740	266	113	113
<b>Higher Ed Institutions</b>	302	302	300	156	159	104
<b>Other Government</b>	1294	1294	1260	1225	1188	1188
<b>Other Non-Government</b>	164	164	162	73	69	69
<b>Total</b>	<b>6043</b>	<b>6043</b>	<b>5975</b>	<b>3268</b>	<b>3076</b>	<b>3018</b>

During the coming months, CAI data collection will be supported by regular reporting to the Connected Tennessee team. The CAI data is proving an invaluable resource to all components of the Connected Tennessee effort. The data identifies potential local champions, sector trends, and opportunities for improvement as well as opportunities to educate CAI not familiar with their current connectivity.

## **SBI DATA SUBMISSION METHODOLOGY**

The submission of the broadband dataset for April 1, 2012, is contained within the SBI Data Transfer Model and additional components as released on the Grantee Workspace on January 17, 2012. Connected Nation (CN) has reviewed all literature that relates to the release and use of this data transfer model and recognizes that it does not replace or dictate how data is stored, processed, or displayed for the state, as it is meant primarily as a means to transfer the broadband data from all states and territories and populate the National Broadband Map in a seamless fashion. Guidance from the Technical Mapping Guide, as released on the Grantee Workspace on March 24, 2011, was also followed to ensure the completeness and validity of the submission through completion steps and checklists, completing the DataPackage spreadsheet, uploading broadband datasets into the Data Transfer Model, and checking the dataset using the SBDD\_CheckSubmission receipt process.

In addition to the methodologies contained herein, as well as the DataPackage.xls containing contact information, the data dictionary, and a provider summary table, the following feature classes are submitted within the SBI Data Transfer Model for the State of Tennessee.

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Appendix A: 4	BB_Service_CAIstitutions	Community Anchor Institutions-Listing.

The provider data collected by CN on behalf of the State of Tennessee have been formatted per the given specifications and uploaded into the appropriate feature classes of the SBI Data Transfer Model. Wireline availability is contained within census blocks and road segments, wireless availability is contained as polygons of coverage areas, and middle-mile connections and Community Anchor Institutions are contained as point data. All speed data is contained at the census block, road segment, or wireless polygon level of availability. All efforts have been made to comply with formatting, domain, and metadata requirements to include as much information as possible.

Connected Nation has continued outreach to satellite providers on their availability, technology, and speed information, but granular coverage is not yet available. Submitted within the wireless feature class are the satellite companies providing service to Tennessee as a polygon of the state boundary. Efforts will continue to collect, process, or otherwise create more granular satellite data based on availability analyses and guidance received from NTIA. Process development is underway at CN as well to be able to create more granular satellite coverage based on satellite equipment positioning and geographic inputs.

## **MERGERS AND ACQUISITIONS**

Throughout the course of the SBI program, CN has maintained a repository of electronic records related to its provider outreach activities. Recently, due to the high volume of mergers and acquisitions (M&A) within the provider community, CN elected to create a listing of M&A activities for this mapping cycle as a way of supplementing the Provider Changes and Corrections section of this document. M&A activities for this state are listed below with a brief description and date as obtained through public records or provider disclosure.

- **Level 3 Acquired Global Crossing**

The Global Crossing website confirmed that Level 3 and Global Crossing joined forces under the brand name Level 3 on October 4, 2011.

- **MSouth Equity Acquired United Telephone Company**

On August 23, 2011, MSouth Equity Partners, an Atlanta-based private equity firm, announced the completion of its acquisition of United Telephone Company. United has over 13,000 access lines and a state-of-the-art network that provides services to underserved rural communities located south of Nashville, Tennessee. United provides superior broadband coverage when compared to many other rural telephone companies and plans to introduce a video service offering in the coming months.

- **Time Warner Acquired NewWave**

On November 2, 2011, BusinessWire reported that Time Warner Cable completed the acquisition of NewWave Communications Systems in Kentucky and Tennessee for approximately \$260 million. With the completion of this transaction, Time Warner Cable adds systems in Kentucky and western Tennessee to its existing operations.

- **Windstream Acquired PAETEC**

The News section of the Windstream website dated December 1, 2011, announced that it had completed the acquisition of PAETEC Holding Corp. in a transaction valued at approximately \$2.3 billion.

- **Zayo Acquired American Fiber Systems**

On October 1, 2011, Zayo Group, a provider of telecom and Internet infrastructure services, announced that it had closed its previously announced transaction to purchase American Fiber Systems (AFS) a leading provider of metropolitan fiber network and telecom services. The acquisition adds approximately 1,000 route miles of metropolitan fiber footprint and over 600 incremental buildings. AFS operated in nine markets, six of which are new markets for Zayo Group and three of which bolster Zayo's network in existing markets.

## TENNESSEE FIELD VALIDATION METHODOLOGY

CN focused a portion of its time on specific validation processes such as:

- conducting random spectrum analysis studies throughout the state using an Avcom PSA-37-XP spectrum analyzer;
- conducting mobile speed tests throughout the state using an iPhone, Android (or other smart phone) as well as provider-specific aircards (Sprint 3G/4G, Clearwire et al);
- identifying pre-selected, provider-submitted wireless transmit tower sites and cross-referencing data about that tower against the Federal Communications Commission (FCC) databases such as Antenna Structure Registration and/or the Universal Licensing System;

- cross-referencing Federal Registration Number data against available FCC Form 477 data as well as the FCC **CO**mmission **RE**gistration System (CORES);
- validating provider submitted data (for example: latitude/longitude) using a handheld Garmin eTrex Summit GPS unit or GPS enabled software such as Microsoft Streets and Trips;
- locating physical wire-line attributes (such as Central Offices, Remote Terminals, CATV plant, etc.) and comparing them against provider submitted data; and
- conducting on-net and off-net speed tests using the FCC portal at <http://www.broadband.gov/qualitytest/about/> or using the Ookla Net Metrics enabled speed test utility located on each of CN's state specific websites.

Additionally, CN cross-referenced numerous public documents in order to ensure that all known broadband providers were located and contacted. This included searching membership logs from trade associations (WISPA, WCAI, PCIA, etc.), the Cable Television Fact Book, Public Utility Commission records, Public Service Commission records, Chamber of Commerce, etc.

To date, Connected Nation's staff conducted on-site validation tests in Tennessee on the following providers: Ardmore Telephone Company, Inc.; AT&T, Inc.; Aurora Cable TV; Beasley Wireless; Ben Lombard Rural Telephone Cooperative, Inc.; Cable ONE, Inc.; Cellular South, Inc.; Charter Communications; Clarksville Department of Electricity (d.b.a. CDE Lightband); Clearwire Corporation; Columbia Power & Water Systems; Comcast; CRU Enterprises; DotSpot Wireless; ECSIS.NET; FiberNET; Frontier Communications Corporation; High Country Online; Infostructure Cable; Jackson Energy Authority; Ken-Tenn Wireless LLC; Leap Wireless International (d.b.a. Cricket Communications, Inc.); Level 3 Communications; Loretto Telephone Company, Inc.; Mediacom Southwest LLC (d.b.a. Mediacom Communications Corporation; Rapid Communications LLC and Mediacom); Millington Telephone Company (also d.b.a. Big River); Morristown Utilities; NetEase; OrbWireless.net; Planet Connect Internet; QuickRelay Wireless Communications; Sprint Nextel Corporation; SurfMore; TDS Telecom; TEC of Jackson, Inc.; Tele-Page, Inc.; Time Warner Cable (formerly under New Wave Communications); T-Mobile USA, Inc.; Trenton TV Cable Company; U.S. Cellular; Ultra High Speed Internet; UltraNet; United Telephone Company; Verizon Communications, Inc.; West Kentucky Rural Telephone; and Xpansion Networks.

From program initiation through this reporting period, CN has completed in-the-field validation testing against 46 companies (out of a universe of 89 viable providers) totaling 51.69 percent within the State of Tennessee.

CN has also continued to review provider datasets for accurate speed information, platform listings, and other intricacies that may fall outside of the standard SBI Data Transfer Model parameters. Any providers whose submitted coverage and attributes are anticipated to come into question have been further reviewed and confirmed; details on a case-by-case basis are presented below.

### AT&T Inc.

Issue: DSL platform with a maximum advertised download speed in tier 7, higher than expected value range for the technology.

Resolution: Provider website advertises download speeds up to 24 Mbps; screenshot below.

#### Compare Internet Packages

	Pro	Elite	Max	Max Plus	Max Turbo
Standard Monthly Rate	\$38*	\$43*	\$48*	\$53*	\$63*
Downstream Speed	Up to 3 Mbps	Up to 6 Mbps	Up to 12 Mbps	Up to 18 Mbps	Up to 24 Mbps

### Ben Lomand Rural Telephone Coop., Inc.

Issue: DSL platform with a maximum advertised download speed in tier 7, higher than expected value range for the technology.

Resolution: Provider website advertises download speeds at 10 Mbps; screenshot below.

**Xtreme**
(10.0 / 768)
\$69.95

Ideal for individuals and businesses sending and receiving large files, downloading movies and maximizing your gaming experience.

### CenturyLink

Issue: DSL platform with a maximum advertised download speed in tiers 7, 8, and 9, higher than expected value range for the technology.

Resolution: Provider website advertises download speeds packages at 25 and 40 Mbps; screenshot below. In addition, a provider representative indicated that tier 9 DSL service is indeed available, but to less than 10% of its customers, which is why it is not widely advertised.

Connection Speeds up to

**25 Mbps**

(where available)

Fully powered for virtually any Internet task, work or play.

★★★★☆

See all customer reviews:

How fast is 25 Mbps?

4MB music file (estimated download time)

2 seconds

25 Mbps

megabits per second

Start Now

Connection Speeds up to

**40 Mbps**

(where available)

Our ultimate Internet offering

★★★★☆

See all customer reviews:

How fast is 40 Mbps?

4MB music file (estimated download time)

1 seconds

40 Mbps

megabits per second

Start Now

### Comcast Cable Communications, LLC

Issue: Technology of transmission 40 with maximum advertised download speed in tier 7, lower than expected value range for the technology.

Resolution: Confirmed use of DOCSIS 3.0 with speed tier 7. Speeds are kept lower currently to be backwards compatible.

### DeKalb Telephone Cooperative, Inc.

Issue: DSL platform with a maximum advertised download speed in tier 7, higher than expected value range for the technology.

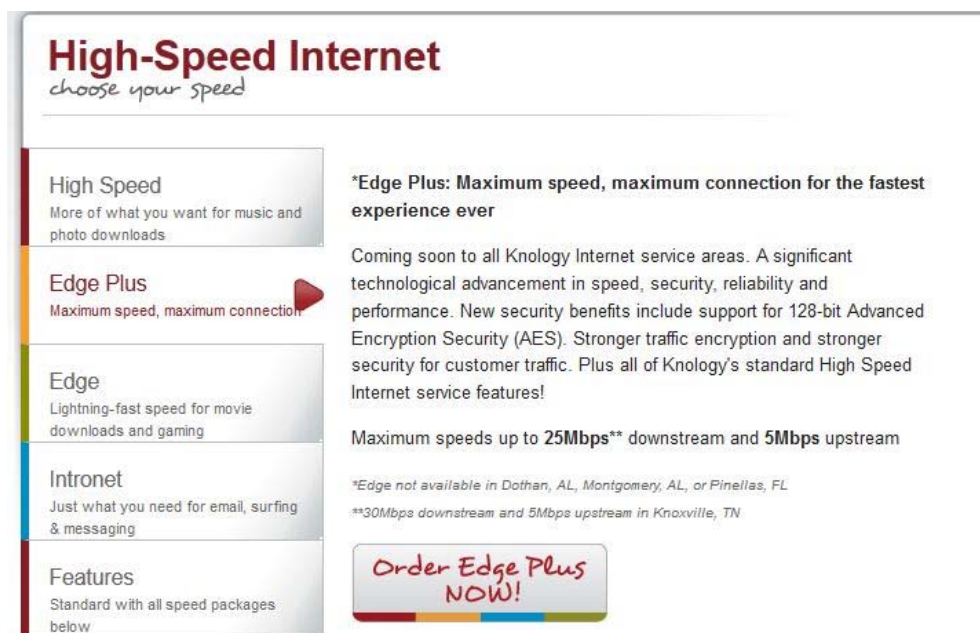
Resolution: Provider website advertises 12 Mbps; screenshot below.

(Max Download / Max Upload)
1M down / 512k up
3M down / 512k up
6M down / 512k up
12M down / 512k up

### Knology of Tennessee, Inc.

Issue: Cable platform with maximum advertised download speed in tier 8.

Resolution: Provider website advertises 30 Mbps for Knoxville area; screenshot below.



**High-Speed Internet**  
*choose your speed*

<b>High Speed</b> More of what you want for music and photo downloads	<p><b>*Edge Plus: Maximum speed, maximum connection for the fastest experience ever</b></p> <p>Coming soon to all Knology Internet service areas. A significant technological advancement in speed, security, reliability and performance. New security benefits include support for 128-bit Advanced Encryption Security (AES). Stronger traffic encryption and stronger security for customer traffic. Plus all of Knology's standard High Speed Internet service features!</p> <p>Maximum speeds up to <b>25Mbps**</b> downstream and <b>5Mbps</b> upstream</p> <p><small>*Edge not available in Dothan, AL, Montgomery, AL, or Pinellas, FL</small></p> <p><small>**30Mbps downstream and 5Mbps upstream in Knoxville, TN</small></p> <p><b>Order Edge Plus NOW!</b></p>
<b>Edge Plus</b> Maximum speed, maximum connection	
<b>Edge</b> Lightning-fast speed for movie downloads and gaming	
<b>Intronet</b> Just what you need for email, surfing & messaging	
<b>Features</b> Standard with all speed packages below	



**OnWav, Inc.**

Issue: Fixed wireless platform with maximum advertised download speed in tier 7.

Resolution: Provider representative confirmed that 10 Mbps download and upload speeds are available to residential customers, but it is not readily advertised.

**TDS Telecommunications Corporation**

Issue: DSL platform with maximum advertised download speed in tiers 7 and 8.

Resolution: Provider website advertises speeds at 15 and 25 Mbps; screenshot below.

<b>25Mbps High-Speed Internet</b>		<b>15Mbps High-Speed Internet</b>		<b>5Mbps High-Speed Internet</b>	
<a href="#">▶ Check availability to see pricing information!</a>		<a href="#">▶ Check availability to see pricing information!</a>		<a href="#">▶ Check availability to see pricing information!</a>	
This speed makes it easy to handle simultaneous connections from multiple devices in the home. You can stream video, download large files, play online games, etc. all at the same time.		Serious Internet speed for serious Web surfers. Great for video watchers, gamers, and those who work from home but don't care for the new meaning of whoosh.		5Mbps Broadband Internet makes everything you do online faster and easier. Enjoy a fast high-speed connection, and quicker uploads and downloads.	
<a href="#">Check Availability ▶</a>		<a href="#">Check Availability ▶</a>		<a href="#">Check Availability ▶</a>	

**T-Mobile USA, Inc.**

Issue: Mobile wireless platform with maximum advertised speed in tier 7.

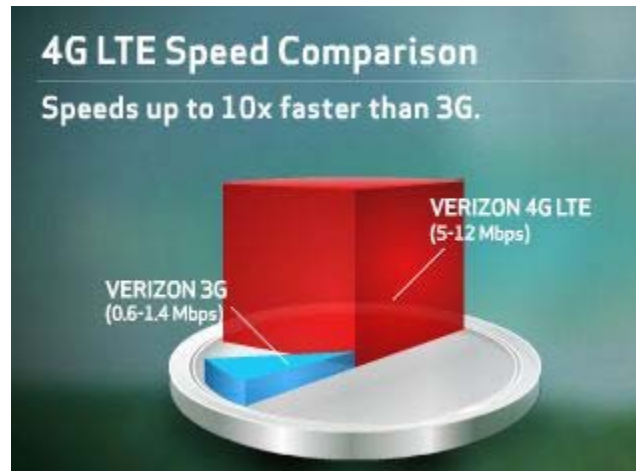
Resolution: Provider website advertises 4G services with speeds greater than speed tier 6.

T-Mobile customers with 4G phones are already experiencing data speeds that are comparable to or faster than the speed of a home broadband network. And with recent improvements to our 4G network-doubling our theoretical download speeds-we're giving our customers enhanced 4G data speeds. We've seen average download speeds on our HSPA+ 42 Mbps-capable data stick approaching 10 Mbps with peak speeds of 27 Mbps, and download speeds approaching 8 Mbps with peak speeds of 20 Mbps on our upcoming HSPA+ 42 Mbps-capable smartphones.

**Verizon Communications, Inc.**

Issue: Mobile wireless platform with maximum advertised speed in tier 7.

Resolution: Provider website advertises 4G LTE service at 12 Mbps.

**ACCURACY AND VERIFICATION: PROVIDER VALIDATION METHODOLOGY**

Broadband providers maintain their service area data in many different formats, all in varying levels of complexity and granularity. In order to ensure that the data required by the NTIA is standardized across all providers and that it is as accurate as possible, CN translates and formats the data that providers are able to supply into a GIS shapefile and produces maps for the provider to review. The resulting map(s) and review process allow for providers to see their service area in a geographic format – for some providers, this is the first time they have seen maps of their broadband service area. Having the mapped service area allows providers to quickly identify any issues that appear in the data representation, whether the issue is in the data translation into a GIS format or from the original data collection and submission. Often data is provided from various sources and through the review and revision process, local engineers who operate the networks and work in the field are able to ensure that the tabular data that has been submitted is accurate and represents the real-world network extent. Any issues in how the service area is represented on the map(s) are remedied by CN, whether they are additions, removal of service, or any other revisions. Revised maps of service area representations are sent to the provider for review and approval; CN will revise data and return maps as many times as necessary until the provider is in agreement that the map represents their service area as accurately as possible. Once the review process has been completed and final approval of the data is provided, the data is deemed ready for NTIA submission.

Once the data collection has been aggregated at a statewide level, static maps of statewide and county-level availability are produced and made publicly available. In addition, consumers can visit the interactive online tool, BroadbandStat, to create customized views of broadband service areas and analyze corresponding demographic information. Leveraging broadband service data on various platforms allows for public users, providers, and other stakeholders to review, scrutinize, and provide feedback on the represented data. This feedback becomes a validation method in itself as



consumers submit inquiries to CN either affirming where service is not available or identifying areas where broadband service is shown on the map, but in actuality is not available. This allows for a follow-up to providers regarding revisions to the data as it is represented; it also allows for CN to identify locations where on-site visits may be necessary to complete field validation of available services. Public feedback on all forms of mapping products serves as a localized validation method for provider-supplied information and allows CN to resolve inaccuracies as they are identified to ensure that only the highest quality information is provided to stakeholders.

Estimates derived from provider-validated data indicate that approximately 4.94 percent of Tennessee households do not have terrestrial fixed broadband service available, and approximately 0.28 percent<sup>1</sup> of Tennessee households have neither mobile nor fixed broadband service available.<sup>2</sup>

Within rural areas of the state, results derived from provider-validated data indicate that approximately 8.50 percent of rural Tennessee households do not have terrestrial fixed broadband service available, and approximately 0.53 percent<sup>3</sup> of rural Tennessee households have neither mobile nor fixed broadband service available.<sup>4</sup> Please note that the availability estimates presented are based on Census 2010 household information.

## **WIRELESS METHODOLOGY**

### **Broadband Service Availability in Provider's Service Area Wireless Services Not Provided to a Specific Address**

Data solicited from a fixed wireless provider to create propagation models include, but are not limited to:

1. The name of the structure.
2. Whether the transmitting device is operational or proposed.
3. The maximum advertised downstream speed, the maximum advertised upstream speed.
4. The typical downstream speed, the typical upstream speed (peak periods for both).
5. The frequency range of spectrum being used (as prescribed by NTIA).

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<sup>1</sup> In accordance with NTIA's definition of available broadband service as specified in the SBI NOFA, this estimate includes both terrestrial fixed *and* mobile broadband service, if the service offers download speeds of at least 768 Kbps and upload speeds greater than 200 Kbps.

<sup>2</sup> Due to the nature of the SBI data collection methodology as defined by the NTIA and based on both census block geographic units and street segment data, the estimates of broadband availability derived from provider-validated data may include an overstatement of the actual number of households with broadband availability. Under the census block-based data collection method, a provider will typically report broadband availability for an entire census block whether its network is present across the whole or only a subset of that census block. This potential overestimation at the census block level can be amplified as the data is aggregated across the entire state.

<sup>3</sup> See footnote 1.

<sup>4</sup> See footnote 2.

6. The primary population center(s) being served (for geopolitical boundary reference).
7. The physical address of the transmit site (in the event latitude/longitude is unavailable from the provider this allows a quick reference point for geocoding).
8. Latitude in either Degrees, Minutes, and Seconds and/or in Decimal Degrees (typically received as NAD 27 or NAD 83).
9. Longitude in either Degrees, Minutes and Seconds and/or in Decimal Degrees (typically received as NAD 27 or NAD 83).
10. Antenna pattern (e.g. omni-directional, 180°, 120°, 90°, etc.).
11. Azimuth of antenna (e.g. 360° with magnetic declination if known).
12. Approximate transmit radius (in feet, miles, or kilometers).
13. Polarity of transmit antenna (Vertical or Horizontal).
14. Transmit antenna gain (in dBi).
15. Line loss (applicable only to providers using coax, heliax, waveguide or other forms of cabling – excludes power-over-Ethernet devices).
16. Mechanical and/or Electrical beam tilt (if applicable).
17. Equipment Manufacturer (allows easy cross-reference against manufacturer's specification sheet).
18. Power output of the transmitting device (if unknown, FCC standards or manufacturer specifications are applied).
19. AMSL at base of tower site.
20. Antenna centerline AGL (height of antenna above ground level measured at the centerline of the actual antenna).
21. Foliage factors (Evergreens/Deciduous and percent of ground cover).
22. Ground Clutter (primarily used in rural areas to account for foliage and in metropolitan areas to account for types and heights of buildings if known).
23. Average gain of receive antenna.
24. Receive antenna is estimated at height above average terrain (HAAT) of 6.2 meters/20 feet.
25. Federal Registration Numbers (if applicable) which may allow opportunities to cross-reference and/or obtain additional data from the FCC's ULS and the **COMmission REgistration System**.

Propagation modeling combines scientific data and empirical mathematical formulation for the characterization of radio wave propagation as a function of frequency, distance, and other conditions. Propagation software(s) typically use the Irregular Terrain Model (also known as Longley-Rice) of radio propagation for frequencies between 20 MHz and 20 GHz. This model is based on electromagnetic theory and statistical analyses of the combination of terrain features and radio measurements, then predicting the median attenuation of a radio signal as a function of distance and the variability of the signal in time and in space. For metropolitan areas, the software can typically be adjusted to use the Okumura-Hata model which accounts for predicting the behavior of cellular transmissions in areas where buildings are the primary obstructions. The

resulting product from either model depicts a graphical illustration of the theoretical propagation characteristics of a selected frequency range based on defined variables (receiver sensitivity of the home/mobile device, foliage factor, and digital elevation terrain input).

After converting propagation models into a geospatial format, additional processing is completed to remove the small pixels representing service present in the resulting dataset. These areas are initially created based on the parameters entered in the software from the provider equipment information, the underlying data parameters of elevation, hillshade, etc., and the limitations of the software itself to display a broadband service area as accurately as possible. Generally, these random pixel striations appear as a result of signal levels reaching the highest elevated points within the prescribed radius. Typically, while this pixilation anomaly shows legitimate areas where signals can be received, these highly elevated points may have exceedingly sparse populations or are entirely void of population. As a result, and congruent to the *Wireless Technology Methodologies and Business Logic* white paper submitted to NTIA on January 20, 2011, all independent pixels representing service that are less than 0.125 square miles in area have been removed from the geospatial representation of each wireless provider.

## **BROADBAND INQUIRIES METHODOLOGY**

CN collects consumer feedback in the form of broadband inquiries (BBIs). These inquiries represent any type of communication received from the public regarding broadband service. Once BBIs are received across the state, this information is overlaid with the broadband availability information which was collected through the SBI program. This allows for a real-world comparison of the broadband landscape to the information received from broadband inquiries. Consumers submitting these inbound comments and/or inquiries are able to provide information regarding three categories: 1) residents who do not have broadband but want it; 2) residents who have broadband but want a different provider; and 3) residents who do not have broadband, but the broadband inventory maps indicate that they do.

BBIs are submitted frequently by consumers via the Connected Tennessee website. Inquiries often seek help to identify local broadband provider options, or to learn when a specific provider may be able to provide service to that consumer. Consumer comments also provide information which may help modify maps with actual service area information. The primary objectives of CN regarding these inquiries are 1) to improve the accuracy of the state maps with submitted consumer information and follow-up field research; 2) to provide broadband options to consumers through cooperation with mapped providers and by facilitating new broadband service options; and 3) to map and analyze information from consumers about areas of unmet broadband demand and alternatives to currently mapped services. A prime example of the second option is the utilization of the Rural Utility Service satellite eligibility tool. By simply entering the consumer's address, the CN engineer can quickly determine if the consumer meets the initial qualification status for BIP satellite subsidies.

New BBIs are assigned to either the GIS department or the Engineering & Technical Services (ETS) team depending on the category entered by the consumer on the website submission form. The GIS or ETS team members respond to each inquiry according to the information requested by the consumer. Many BBIs can be resolved through desktop research; however, if a BBI requires research in the field, the assigned ETS team member conducts such research when performing field validations in the area of the inquiry, or at other such time as is practical and appropriate. GIS and ETS team members respond to and conclude BBIs via telephone contact and/or e-mail communication.

The broadband inquiry process has been implemented in each of the CN state programs with successful results. Altogether CN has received over 18,000 broadband inquiries since 2007, allowing the state programs to evaluate each inquiry for broadband demand and data verification. These inquiries are continuously examined against current broadband availability, updated every six months, to determine if previously unserved households have been expanded to and can now receive broadband at their residence. This database of broadband inquiries has also allowed the CN state programs to aggregate demand in concentrated areas to show providers the exact locations where the population has made it clear that they would purchase broadband if it was made available to them. Providers in the states have responded to this process and have expanded to areas knowing that their investment will be worthwhile. Data verification methods have also proven successful, as the state programs have been able to show those inquiries that indicate the broadband service areas are misrepresented on the map to providers, who then verify where service cannot reach in regard to that residence(s). The broadband coverage in these states has been altered to create a more accurate map based on the inquiries submitted by the public.

During this reporting period, the Connected Tennessee project has received a total of 115 inquiries (1,446 grant inception to date). As more inquiries are submitted to Connected Tennessee, a more thorough validation of the broadband landscape can be performed, while also allowing providers to see which areas have a high demand for broadband adoption.

## **BROADBANDSTAT METHODOLOGY**

BroadbandStat is an online, interactive mapping tool for viewing, analyzing, and validating broadband data. Developed through a partnership with ESRI, the market leader in geographic information system (GIS) software, BroadbandStat is a multi-functional, user-friendly way for local leaders, policymakers, consumers, and technology providers to devise a plan for the expansion and adoption of broadband.

First and foremost, BroadbandStat allows consumers to locate their residence and identify providers that offer broadband Internet service to that location. The interactive platform allows for users to build and evaluate broadband expansion scenarios using a wealth of data, including education and population demographics, broadband availability, and research about the barriers to adoption.

New functionality in BroadbandStat allows the consumer to provide feedback on the broadband data displayed on the interactive map. Through the collection of this feedback, a visual demand for broadband is presented. This visualization allows the CN state programs the ability to validate the broadband availability for accuracy. If residents within a region state they are without broadband, but the interactive map shows otherwise, this allows CN to approach the providers within that area in an effort to trim down their coverage to more accurately represent real-world availability on the ground.

The Connected Tennessee project launched BroadbandStat on February 10, 2010, and has received a total of 7,539 visits to date, of which 916 occurred this reporting period.

## **SPEED TEST METHODOLOGY**

The 3,000 speed tests that are represented in the Connected Tennessee Speed Test Report during this reporting period (12,708 grant inception to date) are the result of a partnership between CN and Ookla Net Metrics. Utilizing this relationship increases the level of confidence in the data being collected and provides for a far greater sample size than could be collected by a single testing site.

Ookla owns and operates Speedtest.net, as well as develops and deploys speed tests, such as the Connected Tennessee speed test website, for partners around the world. This network of sites that is developed and run on its testing technology provides Ookla with a vast dataset that, due to the variability of geographic information collected across the varying speed test sites, is geocoded utilizing Geo-IP technology. This technology allows for tests to be geocoded to points of aggregation, typically larger nodes across provider networks. While there are hundreds of thousands of tests that have been conducted, the level of aggregation is only sufficient for county-level detail due to the test results being located at these larger nodes and not at an absolute location for each speed test.

In an effort to validate broadband data from the Connected Tennessee project, speed test information is collected throughout the state. Speed tests provide speed information on the path taken through all networks (a provider's network as well as additional networks) a local machine must connect to in order to reach the host test. The benefit of this collection of speed information is two-tiered. First, it allows for a comprehensive dataset of speeds, while also providing Connected Tennessee with the information on where broadband services are available. Second, unlike theoretical speed information which was received through the data collection process, the use of speed tests provide real-world information on the speeds that currently exist within the State of Tennessee.

## PROVIDERS DEEMED NON-VIABLE

The following list of companies represents the remainder of the broadband provider universe that was originally identified as complete for outreach to begin for the State Broadband Initiative. These providers are not included in the Data Package for the April 2012 submission because they have been deemed non-eligible under the parameters and guidance of the SBI grant program. This list of companies includes, but is not limited to: providers offering service but below the current definition of broadband, those that have gone out of business, technology consulting firms, infrastructure or network construction companies, etc.

	Company Name	URL	Comments
1	21Globe, Inc.	<a href="http://www.21globe.com">www.21globe.com</a>	General reseller of DSL and backhaul
2	A 007 Access	<a href="http://www.a007.com">www.a007.com</a>	General reseller of Quest DSL and mobile wireless; DSL does not qualify as the max advertised speed is 768 kbps x 128 kbps
3	Aaccess Network Communications	<a href="http://www.aaccess.net">www.aaccess.net</a>	Not a broadband provider; installs and maintains WiFi systems
4	Access123.net	<a href="http://www.access123.net">www.access123.net</a>	URL no longer in service
5	ACERX.NET	<a href="http://www.acerx.net">www.acerx.net</a>	General reseller but no contact information listed on website; requests for information were never returned
6	Adelphia	n/a	No longer in business; assets liquidated
7	Aeneas Communications, LLC	<a href="http://www.aeneas.com">www.aeneas.com</a>	Facilities-based CLEC that resells dial-up, DSL, and VoIP to consumers and business accounts
8	Airespring, Inc.	<a href="http://www.airespring.com">www.airespring.com</a>	General reseller of VOIP, long distance and data circuits (non-residential)
9	Airewaves Broadband, LLC	<a href="http://www.airewaves.com">www.airewaves.com</a>	URL no longer in service
10	Airmail247.com	<a href="http://www.airmail247.com">www.airmail247.com</a>	Business mailing list search site; not a broadband provider
11	America Internet & Communications	<a href="http://www.americainter.net">www.americainter.net</a>	Offers high-speed business DSL and wireless point-to-point wireless services to business accounts
12	Antioch Wireless Broadband	<a href="http://www.antiochwirelessbroadband.com">www.antiochwirelessbroadband.com</a>	Resells DSL and cellular service in Antioch, IL only
13	Arrowheadnet.com	<a href="http://www.arrowheadnet.com">www.arrowheadnet.com</a>	Domain registration and web hosting company
14	Atris	<a href="http://www.atris.biz">www.atris.biz</a>	Offers VoIP, data, and softphone services to business accounts
15	bargainisp.net	<a href="http://www.bargainisp.net">www.bargainisp.net</a>	Generic web directory site; company does not offer broadband



16	BeaDun Communications	<a href="http://www.beasleywireless.net">www.beasleywireless.net</a>	Subsidiary of Beasley Wireless; services offered to business accounts fall below NTIA's definition of "broadband"
17	Broadband National	<a href="http://www.broadbandnational.com">www.broadbandnational.com</a>	Nonfacilities-based general reseller of DSL and satellite for 36 companies (e.g. ACC Business, HughesNet et al.)
18	Broadcore, Inc.	<a href="http://www.broadcore.com">www.broadcore.com</a>	Provides business solutions such as VOIP and network integration services
19	Broadview Networks Holdings, Inc.	<a href="http://www.broadviewnet.com">www.broadviewnet.com</a>	Wholesale reseller of partners' communication products and services; company is nonfacilities -based
20	Broadwing Communications	<a href="http://www.level3.com">www.level3.com</a>	Acquired by Level 3
21	BullsEye Telecom, Inc.	<a href="http://www.bullseyetelecom.com">www.bullseyetelecom.com</a>	Integrated suite of telecommunications services for businesses and general reseller of backhaul
22	Business Telecom, Inc.	<a href="http://www.earthlinkbusiness.com">www.earthlinkbusiness.com</a>	B2B services only
23	Camino-Net Internet Services	<a href="http://www.camino-net.com">www.camino-net.com</a>	No longer in business; was dial-up only
24	CCIS.net	<a href="http://www.ccis.net">www.ccis.net</a>	Now owned by Beacon Technologies; offers dial-up and is general reseller of DSL in Pennsylvania
25	Cebridge Connections	<a href="http://suddenlink.net">suddenlink.net</a>	Acquired by SuddenLink
26	Celito Communications	<a href="http://www.celito.net">www.celito.net</a>	Offers dial-up and wireless in North Carolina
27	Cinergy Communications Company	n/a	Acquired by Windstream
28	Cleartouch.Com	<a href="http://www.cleartouch.com">www.cleartouch.com</a>	Bad URL; out of business
29	Cognisurf	<a href="http://www.cognisurf.com">www.cognisurf.com</a>	Offers dial-up only
30	Deltaforce	<a href="http://www.deltaforce.net">www.deltaforce.net</a>	Dial-up and webhosting services only
31	deluxehost.com	<a href="http://deluxe-host.com">deluxe-host.com</a>	Offers web hosting only
32	DGUI	<a href="http://www.dgui.com">www.dgui.com</a>	No longer in business; domain name for sale
33	Dial National	<a href="http://www.dialnational.com">www.dialnational.com</a>	Bad URL; out of business
34	Dialer.net	<a href="http://www.dialer.net">www.dialer.net</a>	Offers international dial-up services
35	DIECA Communications, Inc.	n/a	Acquired by Covad; then acquired by MegaPath
36	Dixie-Net, Incorporated	<a href="http://www.dixie-net.com/wireless">www.dixie-net.com/wireless</a>	Offers fixed wireless and DSL in Mississippi only
37	Dresden Cable	n/a	Provider does not offer broadband; limited to CATV and satellite services only

38	DSL @ Interlync	<a href="http://www.interlync.com">www.interlync.com</a>	General reseller of DSL, wireless, VoIP, dial-up, web hosting etc.
39	DTS-NET.COM	<a href="http://www.dts-net.com">www.dts-net.com</a>	Provider of wholesale and retail telecommunications services
40	Eagle One Wireless	<a href="http://www.e1w.com">www.e1w.com</a>	Offers direct connect wireless internet services to businesses in northeast Mississippi, south central Tennessee, and northwest Alabama
41	Endless Sphere Technology	<a href="http://www.endless-sphere.com">www.endless-sphere.com</a>	Electric Vehicle Technology Forums
42	Enventis Telecom Inc.	<a href="http://www.enventis.com">www.enventis.com</a>	Doing business as Hickory Tech; general reseller in Iowa and Minnesota area; local agent claimed they do not offer "broadband services"
43	ETI - Connecting Your World	<a href="http://www.cyberenet.net">www.cyberenet.net</a>	General reseller of DSL services from infrastructure owned by Verizon, AT&T, and Covad
44	Fast Dependable Access	<a href="http://www.fda.net">www.fda.net</a>	Not a broadband provider
45	Gainesboro CATV	n/a	Does not offer broadband, CATV only
46	Global Crossing Telecommunications, Inc.	<a href="http://www.globalcrossing.com/">http://www.globalcrossing.com/</a>	Acquired by another company
47	Haywood Cablevision	<a href="http://www.cbvnol.com">www.cbvnol.com</a>	Out-of-state provider; offers service in the Carolina Mountain area
48	Highertech.Net	<a href="http://www.highertech.net">www.highertech.net</a>	Appears to have been acquired by Chattanooga Net
49	Hubwest Protected Networks LLC	<a href="http://www.hubwest.com">www.hubwest.com</a>	Dial-up and web hosting only
50	Imbris, Inc.	<a href="http://www.imbris.com">www.imbris.com</a>	Provides fixed wireless in Idaho only
51	IMGISP.NET	<a href="http://www.imgisp.net">www.imgisp.net</a>	Search engine
52	Incredible Networks	n/a	Bad URL; out of business
53	Inercom Communications Inc.	<a href="http://www.inercom.com">www.inercom.com</a>	Bad URL; out of business
54	Interactiveinfo.com Inc.	<a href="http://www.rocketbroadband.com">www.rocketbroadband.com</a>	Offers cable television services in NY only
55	iRadical	n/a	Bad URL; out of business
56	ISPartner.net	n/a	Bad URL; out of business
57	Jenco Speed Web	<a href="http://www.jencospeed.net">www.jencospeed.net</a>	Offers wireless service in Ohio only
58	LARIAT.NET	<a href="http://www.lariat.net">www.lariat.net</a>	Offers fixed wireless services in Wyoming only
59	LCSisp.com	<a href="http://www.lcsisp.com">www.lcsisp.com</a>	Offers national dial-up services only



60	Lightyear Network Solutions, LLC	<a href="http://www.lightyear.net">www.lightyear.net</a>	Nonfacilities-based general reseller
61	LinkAmerica.Net	<a href="http://www.linkamerica.net">www.linkamerica.net</a>	Bad URL; out of business
62	MacWebTown.Net Works	<a href="http://www.macwebtown.net">www.macwebtown.net</a>	McIntosh web services and technical assistance
63	MainBoard	<a href="http://www.mainboard.cc">www.mainboard.cc</a>	General reseller in Virginia
64	Maine Cable and Wireless	<a href="http://www.maineableandwireless.com">www.maineableandwireless.com</a>	Bad URL; out of business
65	Marcin Company	n/a	Bad URL; out of business
66	Metropolitan Telecommunications Holding Company	<a href="http://www.mettel.net">www.mettel.net</a>	MetTel provides facilities-based and resold services (certified CLEC in some states).The company provides a variety of voice, including wireless, and data services to commercial customers
67	Millenicom Inc.	<a href="http://www.millenicom.com">www.millenicom.com</a>	General reseller of dial-up and mobile broadband (Sprint network)
68	MYWEBSTAR	<a href="http://www.mywebstar.com">www.mywebstar.com</a>	Bad URL
69	Nanomega.Com	<a href="http://www.nanomega.com">www.nanomega.com</a>	Bad URL; out of business
70	NetAccess, Inc.	<a href="http://www.nas.net">www.nas.net</a>	Offers wireless B2B services only
71	NetFire	n/a	No longer in business
72	NetSpeed Online	<a href="http://www.netspeed-online.net">www.netspeed-online.net</a>	Bad URL; out of business
73	NetStar Communications	n/a	Offers virtual ISP services and web hosting
74	New Edge Network, Inc.	<a href="http://www.newedgenetworks.com">www.newedgenetworks.com</a>	Company has no residential service and re-sells backhaul; acquired by Earthlink
75	NewWave Communications	<a href="http://www.newwavecom.com/">http://www.newwavecom.com/</a>	Acquired by another company
76	Northwest ISP	<a href="http://www.northwestisp.com">www.northwestisp.com</a>	Bad URL; out of business
77	NTCH, Inc.	<a href="http://www.cleartalkwireless.net">www.cleartalkwireless.net</a>	Acquired by Cleartalk Wireless
78	NuVox, Inc.	<a href="http://www.windstream.com">www.windstream.com</a>	Acquired by Windstream
79	Overarch Broadband	n/a	Offers services in Idaho only
80	Pacific Internet Exchange	<a href="http://www.pie.us">www.pie.us</a>	Bad URL; company appears to have gone out of business
81	PAETEC Communications, Inc.	<a href="http://www.paetec.com/">http://www.paetec.com/</a>	Acquired by another company
82	Paknet Limited	<a href="http://www.ptcl.com.pk">www.ptcl.com.pk</a>	Subsidiary of Pakistan Telephone Company; no services offered in the U.S.
83	Planet Online	<a href="http://www.planetonline.net">www.planetonline.net</a>	Offers website hosting services

84	Point2Point	<a href="http://www.p2p-innovations.com">www.p2p-innovations.com</a>	Out of business
85	PremoWeb	<a href="http://www.premoweb.com">www.premoweb.com</a>	Offers national dial-up services only
86	Qwest Communications Company, LLC	<a href="http://www.centurylink.com">www.centurylink.com</a>	Acquired by CenturyLink
87	Rapid Communications, LLC	n/a	Acquired by Mediacom; subsequently acquired by Comcast
88	Renaissance Networks	<a href="http://www.renaissancenetworks.com">www.renaissancenetworks.com</a>	Offers IT support to small businesses in New Mexico
89	Rural Tennessee Wireless Broadband (RTWB)	<a href="http://www.rtwb.net/">http://www.rtwb.net/</a>	No longer in business.
90	Scott County Telephone Cooperative	<a href="http://www.sctc.org">www.sctc.org</a>	CLEC offering business class services only
91	Shentel Converged Services, Inc.	<a href="http://www.shentel.com">www.shentel.com</a>	Shentel Converged Services is classified as a Private Cable Operator and offers service to MDU housing facilities
92	SI Wireless	<a href="http://www.siwirelessco.com">www.siwirelessco.com</a>	Resells Sprint 3G services
93	Simply Dialup A Metrogeek Company	<a href="http://www.simplydialup.com">www.simplydialup.com</a>	Offers dial-up only
94	Sling Broadband	<a href="http://www.slingbroadband.com">www.slingbroadband.com</a>	Out-of-state provider; offers DSL and wireless services to business accounts in Florida
95	Smartresort Co, LLC	<a href="http://www.baldwincountyinternet.com">www.baldwincountyinternet.com</a>	General reseller of local ISP services
96	Solutions IT Consulting, LLC	<a href="http://www.solutionsitc.com">www.solutionsitc.com</a>	Technology consulting firm
97	Sparkplug Chicago, Inc.	<a href="http://www.airband.com">www.airband.com</a>	Offers point-to-point wireless and business solutions in Illinois
98	Spring City Cable	n/a	Out-of-state provider; offers services in Utah only
99	Surferz.Net	<a href="http://www.surferz.net">www.surferz.net</a>	Offers dial-up in upstate NY only
100	T1 Shopper	<a href="http://www.t1shopper.com">www.t1shopper.com</a>	Search engine for general reseller
101	Talk America Inc.	<a href="http://www.cavtel.com">www.cavtel.com</a>	Acquired by Cavalier Business Communications
102	Telovations, Inc.	<a href="http://www.telovations.com">www.telovations.com</a>	IT and IP solutions consultant
103	The Nexus Group, Inc.	<a href="http://www.nxs.net">www.nxs.net</a>	General reseller of AT&T DSL
104	TNWEB, LLC	<a href="http://www.tnweb.com/">http://www.tnweb.com/</a>	Found to be not eligible; appears to only offer wifi services.
105	Total Access Networks, Inc.	<a href="http://www.totalaccess.net">www.totalaccess.net</a>	Bad URL
106	TSISP.NET	<a href="http://www.tsisp.net">www.tsisp.net</a>	Bad URL; out of business

107	Two Rivers Media	n/a	Bad URL; acquired by MediaCom
108	University Corporation for Advanced Internet Development	<a href="http://www2.ntia.doc.gov/grantee/university-corporation-for-advanced-internet-development">www2.ntia.doc.gov/grantee/university-corporation-for-advanced-internet-development</a>	BIP/BTOP recipient proposes a comprehensive 50-state network benefitting approximately 121,000 CAIs; the project proposes a large-scale, public-private partnership to interconnect more than 30 existing research and education networks, creating a dedicated 100-200 Gbps nationwide fiber backbone with 3.2 terabits per second (TBps) total capacity that would enable advanced networking features such as IPv6 and video multicasting
109	UNUM Telecommunications, Inc.	<a href="http://www.utinet.net">www.utinet.net</a>	Bad URL; out of business
110	VOLstate, Inc.	<a href="http://www.volstate.net">www.volstate.net</a>	Offers Internet solutions and technical support to business accounts
111	Waypoint Wireless	n/a	Consulting firm
112	WiTel Communications, LLC.	<a href="http://www.level3.com">www.level3.com</a>	Acquired by Level 3
113	Wireless Roanoke, Inc.	<a href="http://www.wirelessroanoke.com">www.wirelessroanoke.com</a>	Bad URL; out of business
114	wisbin	<a href="http://www.wisbin.com">www.wisbin.com</a>	No longer in business
115	WorldCom Broadband	n/a	Acquired by Verizon
116	Worldspice.net	<a href="http://www.worldspice.net">www.worldspice.net</a>	Offers web hosting and connectivity to business accounts
117	www.AmericanAngel.us	<a href="http://www.americanangel.us">www.americanangel.us</a>	Bad URL; out of business
118	XTN	<a href="http://www.xtn.net">www.xtn.net</a>	URL redirects to Jones Media
119	YEZOO.NET	<a href="http://www.yezoo.net">www.yezoo.net</a>	Bad URL; out of business
120	YLISP (Your Local ISP)	<a href="http://www.itsyournet.com">www.itsyournet.com</a>	Resells DSL and dial-up
121	YourT1Wifi.com	<a href="http://yourt1wifi.com">yourt1wifi.com</a>	Offers wireless service in Idaho only
122	ZOOM Internet Services, LLC	n/a	Michigan-based dial-up provider and web hosting company



## Broadband Provider Log

Complete	100
Non-Responsive/Refused	7
In Progress	6
Count of Datasets by Status	113
Total Unique Providers Represented	89

Provider Name	Platform	Status	NDA Execution Date	Notes
Ardmore Telephone Company Inc	DSL	Data Added to Statewide Inventory	2/16/2010	[MAR-12-12 Ashley Littell] Correction: Received more granular speed information for the service area.
AT&T Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/16/2009	[FEB-24-12 Ashley Littell] Changes and/or Corrections: possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2012 submission.
Cable ONE Inc.	Cable	Data Added to Statewide Inventory	12/7/2009	[FEB-24-12 Ashley Littell] Changes and/or Corrections: possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2012 submission.
Capshaw Enterprises, LLC	Fixed Wireless	Data Added to Statewide Inventory	10/20/2011	[JAN-25-12 Ashley Littell] Change: This is a brand new broadband provider in the market.
Cellular South Licenses, LLC	Mobile Wireless	Data Added to Statewide Inventory	4/12/2010	[JAN-25-12 Ashley Littell] Changes and/or Corrections: possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2012 submission.
CenturyLink	DSL	Data Added to Statewide Inventory	12/4/2009	[FEB-24-12 Ashley Littell] Changes and/or Corrections: possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2012 submission.
Charter Communications, Inc.	Cable	Data Added to Statewide Inventory	12/15/2009	[FEB-24-12 Ashley Littell] Changes and/or Corrections: possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2012 submission.
Clearwire Corporation	Mobile Wireless	Data Added to Statewide Inventory	3/3/2010	[FEB-24-12 Ashley Littell] Changes and/or Corrections: possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2012 submission. □ [MAR-12-12 Terry Holmes] Provider supplied additional information on coverage for substantial service sites in October 2011, however requested that CN not submit or publish this coverage since they do not market to these areas.
Comcast Cable Communications, LLC	Cable	Data Added to Statewide Inventory	12/7/2009	[FEB-24-12 Ashley Littell] Changes and/or Corrections: possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2012 submission.
Frontier Communications Corporation	DSL	Data Added to Statewide Inventory	1/22/2010	[FEB-14-12 Ashley Littell] Change: Provider activated seven new DSLAMs.
InfoStructure Inc.	Cable	Data Added to Statewide Inventory	10/2/2009	[MAR-16-12 Ashley Littell] Change: Provider has migrated service to DOCSIS 3.0 and upgraded speeds to 50 Mbps download and 5 Mbps upload.
Leap Wireless International, Inc.	Mobile Wireless	Data Added to Statewide Inventory	4/6/2010	[FEB-24-12 Ashley Littell] Changes and/or Corrections: possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2012 submission.
Millington CATV, Inc.	Cable	Data Added to Statewide Inventory	10/19/2009	[FEB-24-12 Ashley Littell] Changes and/or Corrections: While there was some expansion, other areas had the boundaries refined to show a more detailed display.
Millington CATV, Inc.	DSL	Data Added to Statewide Inventory	10/19/2009	[JAN-25-12 Ashley Littell] Change: Provider expanded service to additional area in Tipton County.
Monster Broadband, Inc.	Fixed Wireless	Data Added to Statewide Inventory	11/6/2009	[JAN-25-12 Ashley Littell] Change: Provider activated new tower.
Skyline Telephone Membership Corporation	Fiber	Data Added to Statewide Inventory	2/2/2010	[JAN-25-12 Ashley Littell] Change: Provider indicated that all previous DSL service has been switched to FTTH and the copper plant has been decommissioned. Fiber coverage is being submitted for the first time.
Sprint Nextel Corporation	Mobile Wireless	Data Added to Statewide Inventory	1/14/2010	[FEB-24-12 Ashley Littell] Changes and/or Corrections: possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2012 submission.
T-Mobile USA, Inc.	Mobile Wireless	Data Added to Statewide Inventory	1/8/2010	[FEB-24-12 Ashley Littell] Changes and/or Corrections: possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2012 submission.

TDS Telecommunications Corporation	DSL	Data Added to Statewide Inventory	1/27/2010	[FEB-24-12 Ashley Littell] Changes and/or Corrections: possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2012 submission.
TDS Telecommunications Corporation	Fiber	Data Added to Statewide Inventory	1/27/2010	[FEB-24-12 Ashley Littell] Changes and/or Corrections: possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2012 submission.
TEC of Jackson, Inc	DSL	Data Added to Statewide Inventory	7/29/2010	[FEB-24-12 Ashley Littell] Change: Speed updates were received and processed.
TEC of Jackson, Inc	DSL	Data Added to Statewide Inventory	7/29/2010	[FEB-24-12 Ashley Littell] Change: Speed updates were received and processed.
TEC of Jackson, Inc	DSL	Data Added to Statewide Inventory	7/29/2010	[FEB-24-12 Ashley Littell] Change: Speed updates were received and processed.
Verizon Communications, Inc.	Mobile Wireless	Data Added to Statewide Inventory	12/14/2009	[FEB-24-12 Ashley Littell] Changes and/or Corrections: possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2012 submission.
Ardmore Telephone Company Inc	Backhaul	Backhaul Provider Only Processing Complete	2/16/2010	
Conterra Ultra Broadband, LLC	Backhaul	Backhaul Provider Only Processing Complete		
Iris Networks	Backhaul	Backhaul Provider Only Processing Complete	1/5/2010	
MegaPath Inc.	Backhaul	Backhaul Provider Only Processing Complete	2/15/2010	
Skyline Telephone Membership Corporation	Backhaul	Backhaul Provider Only Processing Complete	2/2/2010	
T-Mobile USA, Inc.	Backhaul	Backhaul Provider Only Processing Complete	1/8/2010	
TDS Telecommunications Corporation	Backhaul	Backhaul Provider Only Processing Complete	1/27/2010	
Zayo Group, LLC	Backhaul	Backhaul Provider Only Processing Complete		
AT&T Inc.	DSL	Approval for Update Not Received – Data Still Submitted	12/16/2009	[MAR-07-12 Ashley Littell] Changes and/or Corrections: possible service expansion or corrections to previous dataset; entirely new dataset provided for April 2012 submission. Dataset not officially approved, but provider representative instructed CN to proceed with using the new dataset for the April 2011 submission.
ECSIS.NET	Fixed Wireless	Approval for Update Not Received – Data Still Submitted	10/29/2009	[MAR-01-12 Ashley Littell] Change and Correction: Additional towers added into service; speeds were revised to only include residential offerings.
Ultrahnet High-Speed Internet	Fixed Wireless	Approval for Update Not Received – Data Still Submitted	2/23/2010	[MAR-06-12 Chip Spann] Change: New tower sites added for this mapping cycle.
West Kentucky and Tennessee Telecommunications Cooperative Inc	DSL	Approval for Update Not Received – Data Still Submitted	1/7/2010	[FEB-24-12 Ashley Littell] Change: Service expanded into Weakley County.
Access Cable Television, Inc.	Cable	No Update to Provide		
AT&T Inc.	Backhaul	No Update to Provide	12/16/2009	
Aurora Cable TV	Cable	No Update to Provide	3/12/2010	
Beasley Wireless	Fixed Wireless	No Update to Provide	1/19/2010	
Ben Lomand Rural Telephone Coop., Inc.	Fiber	No Update to Provide	10/21/2009	
Ben Lomand Rural Telephone Coop., Inc.	DSL	No Update to Provide	10/21/2009	
Bledsoe Telephone Cooperative Inc	DSL	No Update to Provide	1/20/2010	
BreezeAir.net	Fixed Wireless	No Update to Provide	8/17/2010	
Bristol Tennessee Essential Services	Fiber	No Update to Provide	9/1/2010	
Celina Cable Communications, Inc.	Cable	No Update to Provide	1/15/2010	
CenturyLink	Backhaul	No Update to Provide	12/4/2009	
Clarksville Department of Electricity	Fiber	No Update to Provide		
Columbia Power & Water Systems	Cable	No Update to Provide		
CRU Enterprises, Inc.	Fixed Wireless	No Update to Provide	2/4/2010	
DeltaCom, Inc.	Backhaul	No Update to Provide	2/16/2010	
DISH Network Corporation	Satellite	No Update to Provide	1/27/2010	
Electric Power Board for the City of Chattanooga	Fiber	No Update to Provide		
ETC Communications, LLC	Cable	No Update to Provide	10/14/2009	
Fayetteville Public Utilities	Cable	No Update to Provide		
High Country Online LLC	Fixed Wireless	No Update to Provide	3/4/2010	
Highland Telephone Cooperative, Inc.	DSL	No Update to Provide	3/14/2010	
Hughes Network Systems, LLC	Satellite	No Update to Provide	2/5/2010	
iGiles.net	Fixed Wireless	No Update to Provide	2/25/2010	
Info-Ed Inc	Fixed Wireless	No Update to Provide	2/9/2010	
Jackson Energy Authority	Fiber	No Update to Provide	3/17/2010	
James Cable LLC	Cable	No Update to Provide	1/11/2010	
Knology of Tennessee, Inc.	Cable	No Update to Provide	7/13/2011	
Mediacom Southeast LLC	Cable	No Update to Provide	1/12/2010	
MidSouth Satellite, LLC	Backhaul	No Update to Provide	7/7/2010	
MidSouth Satellite, LLC	Fixed Wireless	No Update to Provide	7/7/2010	
Morristown Utilities Commission	Fiber	No Update to Provide	3/25/2010	
NetEase	Fixed Wireless	No Update to Provide	2/3/2010	
North Central Communications	DSL	No Update to Provide	2/5/2010	
OnWav, Inc.	Fixed Wireless	No Update to Provide	3/15/2010	
Pickwick Cablevision, Inc.	Cable	No Update to Provide		
Planet Connect Internet	Fixed Wireless	No Update to Provide		
Pulaski Electric System	Fiber	No Update to Provide	12/30/2009	
QuickRelay Wireless Communications	Fixed Wireless	No Update to Provide		
Softek, Inc.	Fixed Wireless	No Update to Provide	1/14/2010	
Sprint Nextel Corporation	Backhaul	No Update to Provide	1/14/2010	
Surfmore.Net, Inc.	Fixed Wireless	No Update to Provide	1/25/2010	
TEC of Jackson, Inc	Backhaul	No Update to Provide	7/29/2010	
TEC of Jackson, Inc	Backhaul	No Update to Provide	7/29/2010	
TEC of Jackson, Inc	Backhaul	No Update to Provide	7/29/2010	
TELE-PAGE Inc.	Fixed Wireless	No Update to Provide	1/26/2010	
Trenton TV Cable Company	Cable	No Update to Provide		

Tulahoma Utilities Board	Fiber	No Update to Provide		
tw telecom of tennessee, llc	Backhaul	No Update to Provide	3/31/2010	
United States Cellular Corporation	Mobile Wireless	No Update to Provide	2/15/2011	
United Telephone Company, Inc.	DSL	No Update to Provide	2/25/2010	
United Telephone Company, Inc.	Fiber	No Update to Provide	2/25/2010	
ViaSat, Inc.	Satellite	No Update to Provide	1/8/2010	[MAR-07-12 Ashley Littell] ViaSat has acquired WildBlue and coverage will be represented as ViaSat, Inc. starting with the April 2012 submission.
Windstream Communications	Backhaul	No Update to Provide		
Zito Midwest, LLC	Cable	No Update to Provide	2/17/2011	
DeKalb Telephone Cooperative, Inc.	DSL	No Update Provided - Use Last Submission Data	2/24/2010	
Ken-Tenn Wireless, L.L.C.	Fixed Wireless	No Update Provided - Use Last Submission Data	1/25/2010	
Level 3 Communications, LLC	Backhaul	No Update Provided - Use Last Submission Data	12/14/2009	
Loretto Telephone Company, Inc.	DSL	No Update Provided - Use Last Submission Data	3/16/2010	
OrbWireless.net	Fixed Wireless	No Update Provided - Use Last Submission Data		[MAR-02-12 Ashley Littell] Provider representative indicated that they are "declining to participate in this mapping project at this time." Since coverage has previously been collected and approved by this provider, we will submit it again. However, any updates past this submission will need to be collected via field validation.
Spirit Broadband	Cable	No Update Provided - Use Last Submission Data	3/29/2010	
Twin Lakes Telephone Cooperative Corporation	DSL	No Update Provided - Use Last Submission Data	1/14/2010	
Wave2Wave Communications Inc.	Backhaul	No Update Provided - Use Last Submission Data	4/28/2010	
XO Communications, LLC	Backhaul	No Update Provided - Use Last Submission Data	2/12/2010	
Tennessee Wireless, LLC	Fixed Wireless	Solicited Initial Data		
Skyline Telephone Membership Corporation	DSL	Other	2/2/2010	[JAN-11-12 Ashley Littell] Provider indicated that all previous DSL service has been switched to FTTH and the copper plant has been decommissioned. DSL coverage will no longer be submitted.
Time Warner Cable LLC.	Cable	Other	12/21/2009	[FEB-24-12 Ashley Littell] Received entirely new dataset for Time Warner, which was formerly NewWave Communications in Tennessee. However, the new coverage is not being submitted as there are questions about the accuracy; the previous NewWave dataset is being submitted under the Time Warner name.
Twin Lakes Telephone Cooperative Corporation	Fiber	Other	1/14/2010	[FEB-24-12 Ashley Littell] The fiber service has been built, but it is not yet active. Data will likely be submitted in October 2012.
Verizon Communications, Inc.	Backhaul	Other	12/14/2009	[MAR-06-12 Wes Kerr] A company representative sent a message noting that these sites have been decommissioned and shouldn't be submitted any longer.
West Kentucky and Tennessee Telecommunications Cooperative Inc	Fiber	Other	1/7/2010	[FEB-24-12 Ashley Littell] While fiber coverage was received from provider as they have built out, the service is not yet available, nor have available speeds been set by the company's marketing division. Fiber coverage will likely be submitted in October 2012.
Windstream Communications	Backhaul	Other		[FEB-24-12 Ashley Littell] While Windstream acquired PAETEC, Windstream does not have any of the information on PAETEC backhaul yet to report.
Birch Communications, Inc.	Backhaul	Refused to Participate		[NOV-09-11 Chip Spann] A representative of the company sent an e-mail declining participation.
Birch Communications, Inc.	DSL	Refused to Participate		[NOV-09-11 Chip Spann] A representative of the company sent an e-mail declining participation.
ABG Wireless, LLC	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to numerous contact attempts made during past mapping submission periods, 4 additional contact attempts were made this period.
TNets Internet	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to numerous contact attempts made during past mapping submission periods, 5 additional contact attempts were made this period.
Trinity Communications LLC	Cable	Non-Responsive to Multiple Attempts		In addition to numerous contact attempts made during past mapping submission periods, 4 additional contact attempts were made this period.
Utopian Wireless Corporation	Fixed Wireless	Non-Responsive to Multiple Attempts		In addition to numerous contact attempts made during past mapping submission periods, 4 additional contact attempts were made this period.