



BROADMAPSM
Beyond The Boundaries

Nebraska Broadband Mapping Project: Product Release White Paper

Contact Name Manager: Mike Hybl
Contact Phone Number: 402-471-0211
Contact E-mail: mike.hybl@nebraska.gov

Submitted By: Shana Knutson
Contact Phone Number: 402-471-0232
Contact E-mail: shana.knutson@nebraska.gov

Technical Lead: Don Gray
Contact Phone Number: 402-471-0242
Contact E-mail: don.gray@nebraska.gov

Product Specification: Fall 2012 NTIA Data Model
Product/Process: NTIA—October 1, 2012 Data Deliverable
Dataset Submission QC: NTIA—SBDD_CheckSubmission.py



BROADMAPSM
Beyond The Boundaries

Table of Contents

OVERVIEW	3
SUBMISSION SUMMARY	3
PROVIDER DETAILS	3
PROVIDER PARTICIPATION	3
COVERAGE AREA CHANGES	5
DATA CORRECTIONS	6
COMMUNITY ANCHOR INSTITUTION (CAI) DETAILS	7
OVERALL STATISTICS	7
CAI CHANGES	7
SUBMISSION RECEIPT	8
SUBMISSION RECEIPT RESULTS	8
HIGH-LEVEL SUMMARY	9
DATA GATHERING	9
BROADBAND SERVICE AREAS, MIDDLE MILE AGGREGATION POINTS AND BROADBAND SERVICE OVERVIEW	9
COMMUNITY ANCHOR INSTITUTION (CAI)	12
DATA INTEGRATION PROCESS	13
DATA VALIDATION AND VERIFICATION	16
BROADBAND PROVIDER VALIDATION—PROVIDER PORTAL APPLICATION	16
SME VERIFICATION – PROVIDER PORTAL ADMIN	17
THIRD-PARTY DATA VERIFICATION	20
PUBLIC VERIFICATION – CROWD SOURCING	20
CONFIDENCE VALUES	21
QUALITY CONTROL	22
DETAILED PROCESS REVIEW	22
PROVIDERS RESEARCHED	22



BROADMAP
Beyond The Boundaries

OVERVIEW

This white paper highlights the **Submission Summary** for this deliverable, as well as describes the **Data Gathering**, **Data Integration**, **Data Validation and Verification** and **Quality Control** processes used to create the Broadband Mapping Project's October 1st, 2012 data submission. To support varying levels of technical and program knowledge, both a **high-level summary** and a **detailed process review** are supplied.

SUBMISSION SUMMARY

PROVIDER DETAILS

PROVIDER PARTICIPATION

- Provider Participation Statistics Summary

Summary	Count
Total Providers Researched/Contacted	168
Total Participating Broadband Providers	86
Providers in Research Phase	8
Non-Responsive Providers	1
Non-Cooperative Providers	1
Number of Providers - Supplied Updates for this Submission	64
Number of Providers - Confirmed No Updates	6

- New Providers Since Last Data Submission
 - Future Technologies (TT-70)
 - Geneva Broadband, LLC (TT-10)
 - Geneva Broadband, LLC (TT-50)
 - Omni-Tech Inc. (TT-70)
 - Sandhills Wireless (TT-70)
 - Skywave Wireless, Inc. (TT-70)
- Non-Responsive/Non-Cooperative Providers
 - Peetz Communications, LLC
 - Wire Free Nebraska, Inc./Community Internet Systems, Inc.
 - Members of the Commission met with Wire Free Nebraska, Inc. at their offices on August 28, 2012 to discuss their future participation in the SBI Mapping effort.



BROADMAP
Beyond The Boundaries

- Providers that Supplied Coverage Updates

AIS
Allo Communications
Arapahoe Telephone Company
AT&T Corp.
Blue Valley Telecommunications, Inc.
BroadBand Wireless Internet
BWTelecom
C and R Electronics / Action Communications
Century Link
Charter Communications
Connecting Point
Consolidated Telco, Inc.
Cox Communications
Cozad Telephone Company
Crickit Communications, Inc.
Dalton Telephone Company, Inc.
Diode Communications/Diller
Fibercomm L.C.
Fort Randall Cable Systems, Inc
Frontier Communications Of Nebraska
Future Technologies
Geneva Broadband, LLC

Glenwood Telephone
Golden West Telecommunications Cooperative, Inc.
Great Plains Communications, Inc.
Hamilton Telephone Company/Nedelco
Hartelco
Hartman Telephone Exchanges, Inc.
Hershey Cooperative Telephone Company
Huntel, Inc.
K & M Telephone Company, Inc.
Key Art Comm., Inc
Mainstay Communications
Mobius Communications Company
Nebraska Central Telephone Co. (NCTC)
Nebraska Link
Northeast Nebraska Telephone Company
Omni-Tech
Orbitcom, Inc.
PC Telcom
Pierce Telephone Co Inc
Pinpoint Communications Inc.
Plainview Tel Co.

Rural Telephone Service Company, Inc.
Sandhills Wireless
Skycasters
Skywave Wireless, Inc.
Southeast Nebraska Communications
Speedconnect/Gryphon Wireless, L.L.C.
Sprint Nextel Corporation
Stanton Telecom, Inc.
Ste Wireless, Inc.
Superior Inet
Telebeep Wireless
Three River Telco
Time Warner Cable
Usa Communications, L.L.C.
Verizon Wireless
Vistabeam
Wauneta Telephone Company
Westel Systems/Hooper
WildBlue Communications Inc. (ViaStat)
Wireless Inter
Zayo Bandwidth Northwest Inc

- Existing Providers – No Updates

- Cable One, Inc.
- StarBand Communications Inc.
- Swiftel Communications
- Unite Private Networks, LLC
- US Cellular
- Windstream

- Providers researched and identified as non-broadband providers can be viewed within the table at the end of this document.



BROADMAPSM
Beyond The Boundaries

COVERAGE AREA CHANGES

- Coverage Footprint Reductions/Map Refinement –
 - CenturyLink (TT-10)
 - Charter Communications (TT-40)
 - Charter Communications (TT-41)
 - Cox Communications (TT-40)
 - Diode Communications (Middle Mile)
 - Fort Randall Cable Systems, Inc (Middle Mile)
 - Frontier Communications Of Nebraska (Middle Mile)
 - Golden West Telecommunications Cooperative, Inc. (TT-10)
 - Golden West Telecommunications Cooperative, Inc. (TT-50)
 - Great Plains Communications, Inc. (TT-50)
 - Hamilton.net, Inc. (Middle Mile)
 - Key Art Comm., Inc (Middle Mile)
 - Mobius Communications Company (Middle Mile)
 - Three River Digital (Middle Mile)

- Coverage Footprint Expansion –
 - Action Communications (TT-70)
 - Allo Communications (TT-50)
 - AT&T Mobility LLC (TT-80 / Added a Spectrum and Speed Change)
 - Atcjet.net LLC (Middle Mile Rename)
 - Citizens Telecommunications Company of Nebraska (Middle Mile)
 - Clarks Telecom (TT-50)
 - Connecting Point (TT-70)
 - Consolidated Companies, Inc. (Middle Mile)
 - Dalton Telecommunications Inc. (Middle Mile)
 - Frontier Communications Of Nebraska (TT-10)
 - Great Plains Broadband, Inc. (TT-41)
 - Great Plains Broadband, Inc. (TT-41)
 - Great Plains Communications, Inc. (TT-10)
 - Great Plains Communications, Inc. (TT-41)
 - Hanson Communications, Inc. (Middle Mile)
 - Hooper Telephone Company (Middle Mile)
 - Huntel Communications (TT-50 / New TT for this round)
 - Mobius Communications Company (TT-50)
 - Nebraska Central Telephone Co. (TT-10)
 - Nebraska Central Telephone Co. (TT-20)
 - Nebraska Central Telephone Co. (TT-50)
 - Nyecom Teleservices (TT-71)
 - Orbitcom, Inc. (TT-10)
 - Pinpoint Communications Inc. (TT-10)
 - ViaSat (TT-60 / Was WildBlue)
 - Zayo Group LLC (TT-50)



BROADMAPSM
Beyond The Boundaries

- Provider Attribute/Name/TT Changes –
 - New Edge Networks, Inc. (TT-10/TT-20/TT-30/TT-41 Removed / Non-Coop)
 - WildBlue Communications, Inc. (TT-60, Changed Name ViaSat)
 - Northeast Nebraska Telephone Company (TT-71 / Removed the wireless from business)

DATA CORRECTIONS

There were no provider data corrections required for this data submission.



BROADMAP
Beyond The Boundaries

COMMUNITY ANCHOR INSTITUTION (CAI) DETAILS

OVERALL STATISTICS

Community Anchor Institution - Categories	Overall Count	CAIID Counts	Broadband Subscriber (Yes)	Trans Tech	Advertised Speed Down	Advertised Speed Up
Category 1 - School K through 12	1497	1192	1119	1119	1120	1117
Category 2 - Library	94	65	93	93	93	93
Category 3 - Medical/Healthcare	162	0	155	155	155	155
Category 4 - Public Safety	129	0	129	129	129	129
Category 5 - Universities/Colleges	162	3	136	131	136	136
Category 6 - Other: Government	349	0	348	348	348	348
Category 7 - Other: Non-Government	134	0	134	134	134	134
Total	2,527	1,260	2,114	2,109	2,115	2,112

CAI CHANGES

- The amount of CAI's and broadband information increased since the last data submission based on information supplied directly from providers stating they specifically supply service to that individual CAI.
- There were 1,260 CAI's within the following categories, that were reviewed against the below-mentioned databases to identify if any CAIID's need to be updated or added.
 - For K-12 institutions (CAI type 1) please add the NCES ID CCD ID value found here:
<http://nces.ed.gov/ccd/bat/>
 - For Higher Education (CAI type 5) please add the NCES IPEDS ID value found here:
<http://nces.ed.gov/ipeds/datacenter/>
 - For Libraries (CAI type 2) please. Combine (do not add) "FSCSKey" and "FSCs_SEQ" from the "puout08av2000" file and place them here:
<http://harvester.census.gov/imls/data/pls/index.asp> (FYI the LIBID is your state's unique ID for libraries)



BROADMAPSM
Beyond The Boundaries

SUBMISSION RECEIPT

SUBMISSION RECEIPT RESULTS

- Attached are the results from the NTIA data submission receipt quality script.



SD_2012_9_25.txt

- Error Report
 - The main items flagged within the submission receipt were the technology and speed matches, which were validated by the provider and/or are within the ranges communicated in the NTIA data model.
 - All items are included within the accompanying ReadMe file.



BROADMAP
Beyond The Boundaries

HIGH-LEVEL SUMMARY

DATA GATHERING

BROADBAND SERVICE AREAS, MIDDLE MILE AGGREGATION POINTS AND BROADBAND SERVICE OVERVIEW

The collection of Broadband Service Areas, Middle Mile Aggregation Points and Broadband Service Overview information is handled through the following Provider Outreach Process:

- Build and maintain an inventory of Broadband providers through currently known providers and research.
- The inventory and everyday interaction with providers is tracked using the Provider Catalog (PCat). Below are some examples of the web application, which has a shared access between our team and mapping partner (BroadMap).

The screenshot displays the Provider Catalog (PCat) web application interface. The top navigation bar includes icons for home, documents, a phone, a search bar with a 'Go' button, and other utility icons. The main content area is divided into several sections:

- Company Information:** This section contains two columns of form fields. The left column includes fields for Provider Name (acmetech (All)), Company Address, Company PO Box, Company House Number (12345), Company Street Name (Acme Avenue), Company City Name (Portland), Company Suite, Company Postal Boundary, Company State (NE), Company Website (http://www.acmebroadband.com), Source ID (4999), Child Source (checkbox), Parent URL, Parent Source ID (0), User Name, Password, Form 477 Interest (checkbox), and Provider Portal Trained (checkbox). The right column includes fields for Source Name (acmetech), Source Description, Layer Name (TBD), Source Usage Type (Tracking), Source Provider Type (BroadMap), Source Content Type, Source Restrictions (checkbox), Source Restriction Description, and TT Types. A dropdown menu for TT Types is open, showing options: -None-, Asymmetric xDSL, Symmetric xDSL, Other Copper Wireline, Cable Modem-DOCSIS 3.0, Cable Modem-Other, Optical Carrier/Fiber to the End User, and Satellite.
- Contacts:** This section features a table with columns: Type, Name, Preferred, Phone 1, Phone 2, Email, and Position. A 'New' button is located at the top right of the table. The table contains one entry with Type 'P' and Name 'Sourcing'.
- FRN Info:** This section includes fields for Provider Name, DBA, and FRN Number.



BROADMAPSM
Beyond The Boundaries

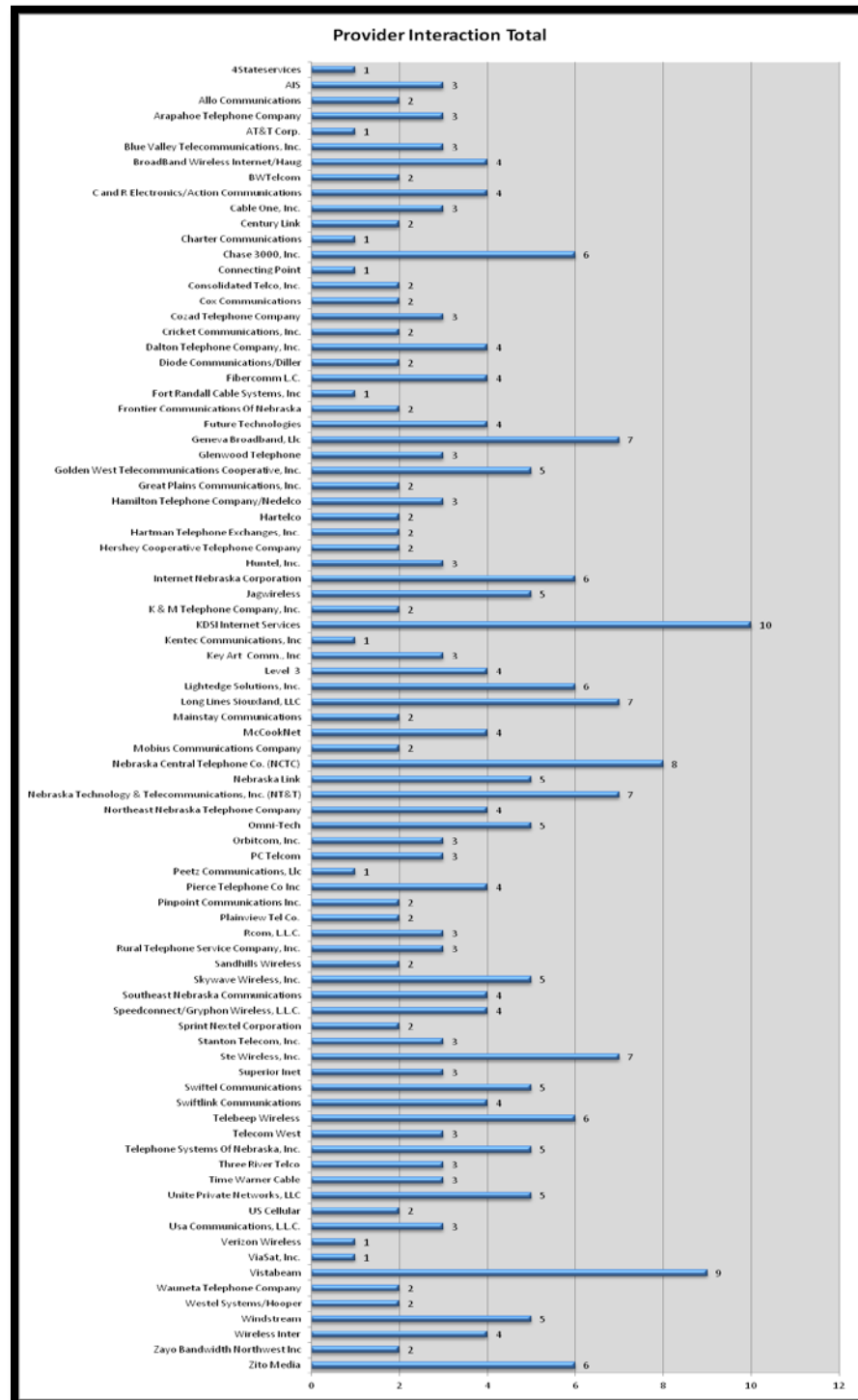
Confidence		New	
TT Type	Confidence	Last Modified	Comment
Status Tracking			
Non Facilities Based Provider	<input type="checkbox"/>		
Business Only Provider	<input type="checkbox"/>		
Reseller	<input type="checkbox"/>		
NDA Review - Internal	<input type="checkbox"/>		Non Responsive Provider <input type="checkbox"/>
NDA Review - External	<input type="checkbox"/>		Non Cooperative Provider <input type="checkbox"/>
			Source Closed <input type="checkbox"/>
Service Provider Details			
BroadMapper	--None--	BroadMap Status	Unassigned
Initial State Outreach Date		Initial Contact Vehicle	
Provider Origin		Member Association	
		Initial State Outreach	<input type="checkbox"/>
		NDA Status	--None--
		NDA Not Required	<input type="checkbox"/>
		NDA Requested	<input type="checkbox"/>
		NDA Exchanged	<input type="checkbox"/>
Provider Packet Exchanged	<input type="checkbox"/>	NDA Exchange Date	
Provider Packet Info Sent		NDA Signed	<input type="checkbox"/>
Provider Meeting Status	--None--	NDA Signed Date	
Technical Meeting Requested	<input type="checkbox"/>		
Technical Meeting Scheduled	<input type="checkbox"/>		
Number of Subscribers			
		Date Loaded	
		Source Closed Date	

BDIA Delivery 0412		Edit	
Status	--None--	Provider Data Reviewed	<input type="checkbox"/>
Outreach Date		Provider Data Reviewed Date	
Initial Response		FootPrint	
Meeting Date		MiddleMile	
No Update Date		Subscriber	
Waiting For Data Date		Provider Login	<input type="checkbox"/>
Data Received Date		Provider Login Date	
Data Accepted Date			
Source Ingested		Source Ingested Date	
Additional Data			
Notes			
Next Steps			
Inactive	<input type="checkbox"/>	Owner	briordan
Created By	briordan 2011-06-13 12:06:35	Last Modified By	krousseau 2012-03-16 13:41:58



BROADMAP
Beyond The Boundaries

- To encourage participation throughout the life of the program, we feel it's important to foster relationships with providers and encourage a collaborative team effort between all parties for each data submission. The following table represents the number of times each provider was contact via e-mail or phone for this data submission.





BROADMAPSM
Beyond The Boundaries

- Update provider material that describes the data requirements and logistics for data transfer.
- Update Non-Disclosure Agreement (NDA) for use in the project, where applicable.
- Maintain multiple protocols for the provider to submit data, including Secure File Transfer Protocol (SFTP) technology when desired.
- Conduct one-on-one informational discussions with each provider to communicate the following:
 - Requirements of this project;
 - Broadband data required to support the product data model;
 - Submission protocols available;
 - Capability to validate how the supplied data is aggregated.
- Download/receive provider data.
- Establish a repeatable process with provider. Maintain provider communication, transaction and data handling records throughout the project (dates contacted, data received, etc.).

COMMUNITY ANCHOR INSTITUTION (CAI)

The collection of CAI information is handled through the following CAI Collection Process:

- Collect and maintain inventory of CAIs through currently known CAIs, data mining, and research.
- Maintain web-based CAI portal for institutions to add or confirm attribution, location and enter broadband-specific information.
- Upload web-based data to Core Database for standardization.
- Perform internal cleansing, such as removing duplicate records, identifying gaps in broadband attribution and verifying category.
- Geocode CAI locations.
- Translate Core Database data to deliverable-ready format.
- Continue engagement with non-responsive institutions.
- In the upcoming months, one of the statewide semi-monthly webinars produced by the Planning team is scheduled and will focus on CAI engagement, education on the program, and use of the CAI Portal. The broadband planning and mapping teams are working together to present material on the overall broadband program, benefits, and importance on CAI involvement.



BROADMAP
Beyond The Boundaries

DATA INTEGRATION PROCESS

The data integration and processing mechanisms currently used allows for multiple types of inputs and result in a standardized output that meets the NTIA deliverable requirements. This flexible process supports data model changes and project-requested enhancements.

- Receive inputs from providers via submission protocols; upload into Sourcing Database and catalog with provider information.
- Review provider-supplied data for completeness and for potential discrepancies that require resolution prior to processing and flag as necessary.
- Categorize input into data-type category (addresses, block lists, paper maps, etc.).
- Standardize input based on data type within Staging Database.
- Create Compact Polygons (CP)—(internal methodology for generating area-based feature for coverage in Staging Database).
- Apply broadband attribution to CP; apply metadata to CP.
- Perform quality analysis of the CP against the source supplied to identify any completeness or accuracy issues.
- Request additional information from the provider if elements of coverage are missing or contain discrepancies. This is a second manual quality check to ensure data is complete.
- Process coverage area to build the required NTIA data model layers.

With the deployment of the Provider Portal this round, the data collection and later validation process was streamlined allowing both activities to occur within a secure web application. The majority of the providers used this methodology as it supplies them with more visibility into how their data is being represented and gives them knowledge and ownership of their coverage representation. Below are some bullet points and supporting screen shots on how the portal is used.

- Each provider is assigned credentials with a strong password to ensure security measures are taken into consideration

Login

Username

Password

Login

- Collection and confirmation our contact, as well as the company's DBA Name and FRN accuracy

Contact and Provider Information

Please enter contact information and change provider information if incorrect:

Contact name:

Contact E-mail:

Contact Phone:

Doing Business As (DBA) Name:

FCC Registration Number (FRN):

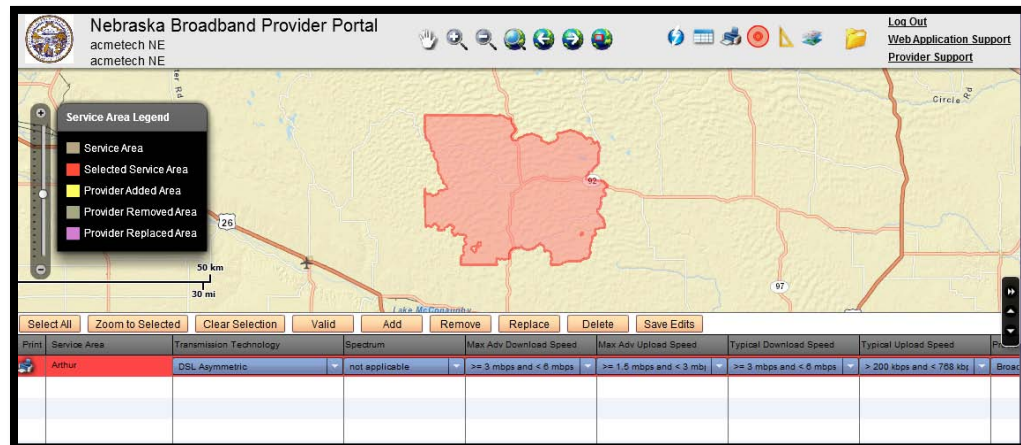
Please note the following:

- Contact info will only be stored when a record is saved
- Provider info will be applied to all service areas

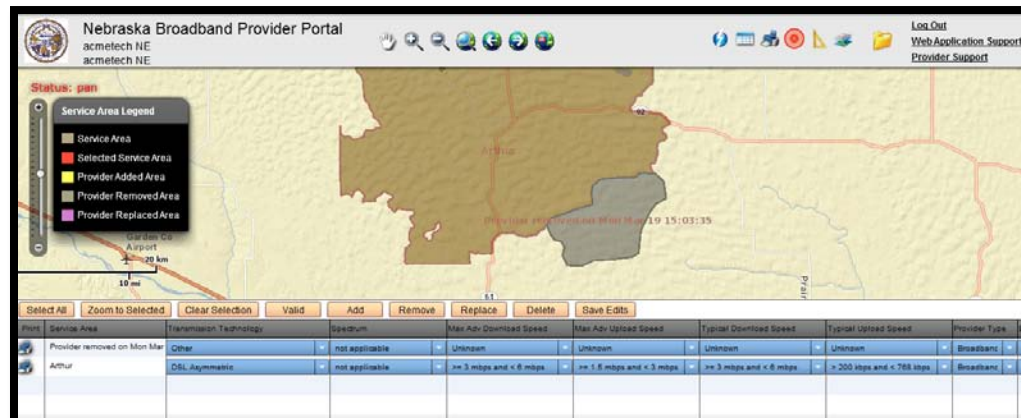


BROADMAP
Beyond The Boundaries

- Capability to review and request changes to the coverage footprint



- The provider can Add/Remove portions, or all, of the footprint requesting that their footprint be increased or refined.





BROADMAP
Beyond The Boundaries

- Middle Mile and Average Weight Nominal Speed (AWNS) collection and validation

The screenshot shows the Nebraska Broadband Provider Portal interface. On the left, a 'Service Area Legend' lists: Service Area (blue), Selected Service Area (red), Provider Added Area (yellow), Provider Removed Area (green), and Provider Replaced Area (purple). The main map area shows a red-shaded region. A 'Middle Mile Information Editor' dialog box is open, displaying fields for Ownership (Owned), Back-haul Capacity (Greater than or equal to 2), Back-haul Type (Fiber), Elevation (feet) (-9999), State Location (NE), and Location Valid (Unknown). Below the map is a table with columns: Select All, Service Area, Transmission Technology, Spectrum, Max Adm Download Speed, Max Adm Upload Speed, and Typical Download Speed. The 'Arthur' service area is selected, showing 'DSL, Asymmetric' technology and 'not applicable' spectrum. The table also includes download speed ranges: '≥ 3 mbps and < 6 mbps', '≥ 1.5 mbps and < 3 mbps', and '≥ 3 mbps and < 6 mbps'. On the right, a sidebar provides instructions on displaying, editing, and validating middle-mile locations.

The screenshot shows the 'AWNS Settings for DSL Symmetric in Arthur County' window. It includes a header 'AWNS' and a sub-header 'AWNS Settings for DSL Symmetric in Arthur County'. Below this, a message states: 'Change the advertised download speeds and/or change the number of subscribers and click Calculate AWNS'. The form contains five rows of input fields for 'Advertised Download kbps' and '# of Subscribers', all currently set to 0. At the bottom, there are buttons for 'Calculate AWNS', 'Save AWNS', and 'Cancel'. A label 'AWNS in kbps:' is followed by a text input field containing the value 0.

- File upload functionality to support providers that would prefer a shapefile, spreadsheet, PDF, KMZ/KML file be used to reflect changes for the data round



The screenshot shows a file upload interface. At the top, a blue banner reads 'Welcome'. Below this, a section titled '1 Choose a file to upload:' contains a 'Browse...' button and an 'Upload File (50MB max)' button. A red asterisk note states: '*Uploading a new file with the same name as an existing file will overwrite the existing file'. Below the upload section, a table titled 'Uploaded Files' is shown. At the bottom, a blue banner contains a link '2 Please click here to auto-notify BroadMap of your uploads, thanks.' and a 'Logout' button.



BROADMAP
Beyond The Boundaries

- Once the provider has reviewed the completed changes to their coverage, middle mile and AWNS, they can then validate them all by signing off that everything is accurate.

DATA VALIDATION AND VERIFICATION

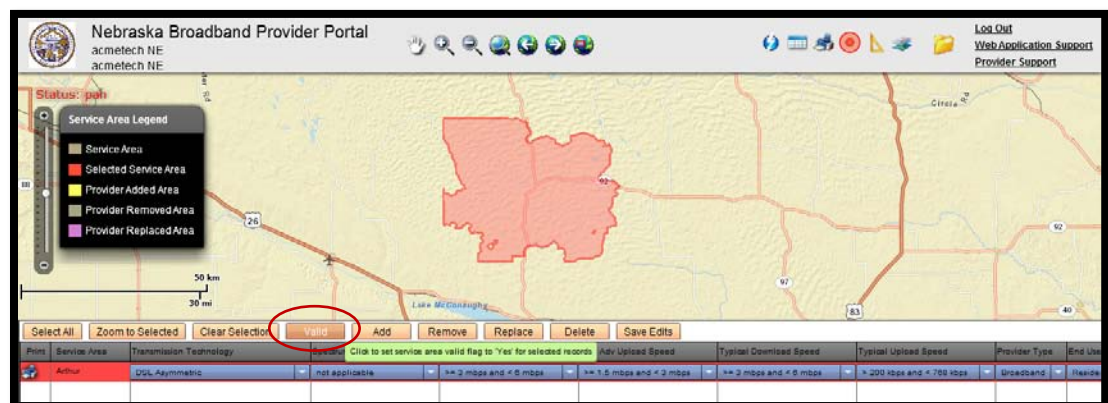
Following the creation of the product, process steps within Data Validation and Verification occur. To ensure the data collected and processed is as accurate and comprehensive as possible, provider validation and internal verification activities are employed. After the initial mapping of providers' coverage areas and serviceability claims, additional reviews are performed using the methods described in the subsections below in order of action (**Broadband Provider Validation, Third-Party Data Verification, Public Verification, and Confidence Values**).

BROADBAND PROVIDER VALIDATION—PROVIDER PORTAL APPLICATION

Providers are trained on and requested to use a secure interactive web application to review their current coverage area(s) and supporting broadband attribution and validate their data or submit change requests to update their data. All provider change requests go through the **Data Integration Process** and are reviewed with the provider to complete validation.

With the latest released of the Provider Portal, validation on the coverage area, middle mile and average could be completed individually. Validation examples are as follows:

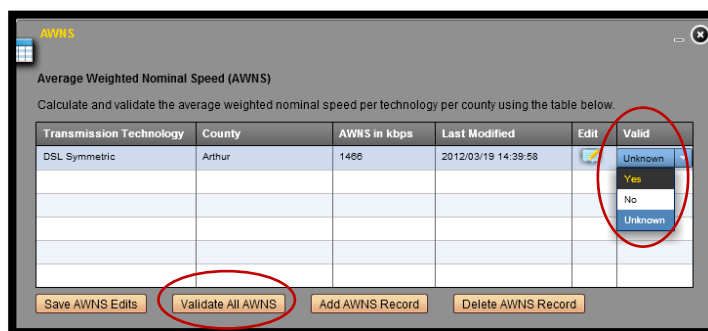
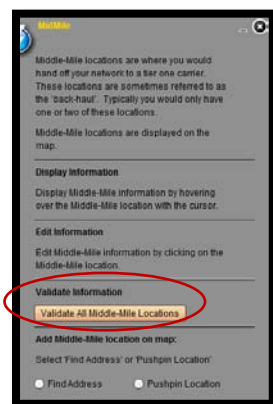
- Coverage validation can be done on one record/footprint at a time or by selecting footprints and selecting the 'Valid' button. The provider could also print off or download their coverage for their own tracking purposes.





BROADMAP
Beyond The Boundaries

- Middle Mile & AWNS Validation



All validation results are tracked internally through our Validation Table, which also improves the overall **Confidence Value** as mentioned below.

SME VERIFICATION – PROVIDER PORTAL ADMIN

For this dataset submission, Nebraska has introduced new verification enhancements to the Provider Portal that supports administrative functionality for Subject Matter Experts (SMEs) to review the provider coverage areas and supply feedback/commentary on the accuracy and completeness. These enhancements allow them to:

- Review the coverage submitted by the carriers online
- Use subject matter expertise to evaluate the accuracy of the data against local knowledge, online advertising, personal meetings, etc.
- Document a dialogue with its providers for verification purposes. We were able to review many of the provider submissions manually and submit questions to the providers if speeds, coverage areas, technology types, or other items appeared.
- Report verification comments and any responses from the providers to NTIA in the dataset.

NOTE: This has just recently been released and will be utilized fully for the next data submission

Below are some screen shots illustrating the administrative capability of the Provider Portal.



BROADMAP
Beyond The Boundaries

As shown below, the SME can login through the secure web application and choose the provider to be reviewed.

Login

Username

Password

Provider Portal

Contact Information and Provider Selection

Please select a Broadband provider:

Provider Name:

Doing Business As (DBA) Name:

FCC Registration Number (FRN):

The portal supports two ways of verification at a coverage footprint level. The SME can draw areas of concern or approval on the map and supply a categorized comment that can easily be extracted at anytime.

Nebraska Broadband Provider Portal

acmetech NE
acmetech NE

Service Area Legend

- Service Area
- Selected Service Area
- Provider Added Area
- Provider Removed Area
- Provider Replaced Area
- BroadMap Added Area

50 km
30 mi

Hide Select Provider Select All Zoom to Selected Clear Selection Admin Add Delete Save Edits Reload Verify Unverify Verified by BroadMap on 2012/08/02 12:19:57

Print	Service Area	Transmission Technology	Spectrum	Max Adv Download Speed	Max Adv Upload Speed	Typical Download Speed	Typical Upload Speed	Pin
Arthur	Optical Carrier/Fiber to the End User	not applicable	>= 50 mbps and < 100 mbps	>= 3 mbps and < 6 mbps	>= 50 mbps and < 100 mbps	>= 1.5 mbps and < 3 mbps		
BroadMap Feedback added o...	Other	not applicable	Unknown	Unknown	Unknown	Unknown		

Reason for Adding New Service Area

Please select a reason for adding the new service area.

☐ Verified - Looks Good

☐ In Progress

☐ Not Verified

☐ Coverage in Question

☐ Other

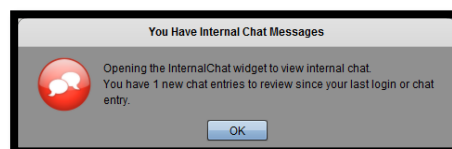
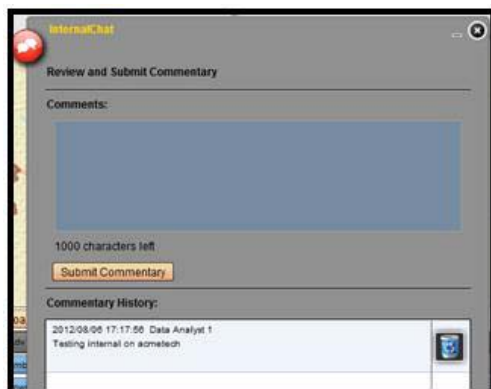


BROADMAP
Beyond The Boundaries

Additionally, the SME can leave commentary that will then be automatically e-mailed to the provider for their review and displayed as a pop-up when the first login to the Provider Portal. This includes historical tracking so you can see all commentary between the SME and provider, as well as the date/time stamp for each comment.



The administrative Provider Portal also allows for commentary between team members, which will only be viewable by the internal admin team members. The team members are notified automatically via e-mail when a comment is submitted, as well as when they login.



Similar to how the providers update and validate their coverage within the Provider Portal, the administrative version walks the SME through the verification assignments to ensure everything is reviewed and documented with a status and date/time stamp. Once everything is signed off on, the SME can select Verify to signify that the provider is signed off for the submission.



Through the testing and initial release of the portal, the providers have been very responsive to the commentary and supplying updates where needed. As we progress with this tool, the commentary and verification status will be included in future submission documentation. Some is already included within this submission's data package.



BROADMAP
Beyond The Boundaries

THIRD-PARTY DATA VERIFICATION

For this submission, the NTIA 3rd Party Data summary was reviewed again to ensure any corrections required were represented in the final product and the supporting documentation. This includes additional feedback received directly from NTIA, prior to this data submission. We are currently in the process of reviewing 3rd party data to extend our verification efforts.

This submission was also compared to the previous data submission, spring 2012, as a quality check to identify and resolve any potential erroneous discrepancies or data degradation.

PUBLIC VERIFICATION – CROWD SOURCING

The broadband interactive map has been released to the public, which includes functionality to collect feedback on the provider's coverage areas, as well as running a speed test. The feedback and speed results continue to be collected and reviewed with the providers prior to the next data submission to identify if any map refinement is required.

The public website can be viewed at the following hyperlink:

<http://broadbandmap.nebraska.gov>

In the past quarter, we've had over 830 visits to the websites, with over 140 speed test and feedback results collected. We will also be promoting this website and the importance of public feedback at the upcoming 2012 Broadband Connecting Nebraska Conference on October 2nd in Lincoln, NE.

During this quarter, we have also updated the public site to have a Planning component, or administrative login capability. This way they can review other layers that may not be appropriate for view to everyone, or review existing layers differently. Some examples are as follows:

Administrative Login:



Administrative Data Layers and Functionality:

We're still adding more layers to the admin functionality, but below is an example of two that were added. As a layer is selected, additional functionality is provided. In the case below, the speeds can be changed by using the slider.



BROADMAP
Beyond The Boundaries

Admin Coverage

☐ Speed by Broadband Technology

☐ Maximum Speed Available

Admin Coverage

☒ Speed by Broadband Technology

DSL Symmetric (SDSL)

Set Download Speed

3 4

Maximum Advertised Download Speed

2	Speed 2: > 200 kbps and < 768 kbps
3	Speed 3: >= 768 kbps and < 1.5 mbps
4	Speed 4: >= 1.5 mbps and < 3 mbps
5	Speed 5: >= 3 mbps and < 6 mbps
6	Speed 6: >= 6 mbps and < 10 mbps

Community Anchor Institutions can also be turned on/off individually to compare against the broadband services available.

Community Anchor Institution

☒ Display On ☐ Display Off

☒ Government Support

☐ Non-government Support

☒ Library

☒ Medical/Healthcare

☐ Public Safety

☒ School (K-12)

☒ University/College

The speed test has also been updated to utilize Ookla services.

Start Here Coverage Speed Test Help

Identify Your Current Location

Please select "Find Address" or "Pushpin Location" below to identify your current location on the map.

Current location means where you are now using your computer to access the internet. If you are using your computer at home, this is your home address. If you are not at home, it must be the address of your current location.

☒ Find Address ☐ Pushpin Location

Identify Current Location on Map

Select the location (pushpin) right to identify current location on map.

Which broadband service provider are you using for this internet connection?

Other:

Which broadband service technology are you using for this internet connection?

Unknown:

Use Ookla Speed Test in New HTML Window

Speed Test

Download Speed

Upload Speed

9.15

Your IP: 171.162.104.100

PING: 74ms

Waiting Download Speed

Ookla

CONFIDENCE VALUES

All verification, validation and manual quality review results are tracked by provider/technology type and stored and maintained within a **Validation table**. A confidence value is assigned, based on internal assessments of the collected information, to highlight the provider coverage areas and/or attributions that would benefit from further investigation and/or enhancements.

With the continued efforts on provider validation, 3rd party verification and the release of the public interactive map with feedback collection functionality, the confidence values will be utilized further to identify specific areas in need of attention.



BROADMAP
Beyond The Boundaries

QUALITY CONTROL

Following collection, processing and analysis of the provider and CAI data, the product is checked manually and algorithmically against the NTIA data model. Some of the items included within these checks are:

- Format correctness;
- Table and field structure;
- Valid values, including default values, where applicable;
- Geographic extent and topology errors.

Prior to data submission, another quality control script supplied by NTIA is run. This script, SBDD_CheckSubmission.py, creates an output in text form that is required to be submitted along with the final deliverable. All errors must come up clean, unless otherwise specified by NTIA.

DETAILED PROCESS REVIEW

To review the detailed process, please review the attached object:



BMap_ProcessDetails
_2012_10_01.docx

PROVIDERS RESEARCHED

Below is a list of providers we are still in the process of researching or closing NDA and data collection efforts:

- Chase 3000, Inc.
- KDSI Internet Services
- Kentec Communications, Inc
- Lightedge Solutions, Inc.
- Swiftlink Communications – Recently purchased by 4Stateservices
- Telephone Systems of Nebraska, Inc.
- Zito Media

Below is a list of providers that were researched and contacted, but identified as non-broadband providers and didn't require inclusion within the data submission. Some may be due to different naming conventions or inaccurate FRN/DBA names and were therefore considered a closed source.

ACN Communication Services, Inc.

ACN Digital Phone Service LLC

Mcleodusa Telecommunications Services, Inc.

Mettel



BROADMAP
Beyond The Boundaries

Airnex Communications	MilliCorp
Antilles Wireless Llc	Mobius Communications Compnay
Antilles Wireless, LLC	Nebraska Supercomm, L.L.C.
Arlington Telephone Company	Network Innovations, Inc.
Blair Telephone Company	New Cingular Wireless Services Inc.
BT Communications Sales, L.L.C.	New Global Telecom, Inc.
C & R Electronics	Nextel Boost West, LLC
Cable Nebraska Llc	Nextel Partners
Cable Nebraska, LLC.	NYECom Teleservices
Cable USA III DbA RCOM, L.L.C.	Rcom, LLC
Citistream Communications, Inc.	Rivtel Networks Inc.
Computer Concepts, Inc.	Rock County Telephone Company
Connecting Point	Sdn Communications
Consolidated Telecom Inc	Sioux City Msa Limited Partnership
Consolidated Telephone Company	Skytel
Cricket Communications, Inc.	Speakerbus Networks, Inc.
Dark Fiber Solutions, Inc.	Sprint Communications Company L.P.
Deltathree, Inc.	Sprint Pcs
Digital Isp Group, Inc.	Swifttel Communications
Dslnet Communications, Llc	TCG Omaha
Eastern Nebraska Telephone Company	Three River Communications, LLC
Embarq, Centurylink	Three River Digital Cable, L.L.C.
Flying J Communications	Total Call Mobile, Inc.
Future Technologies	Tracfone Wireless, Inc.
Global Connection Inc. Of America	Tracy Corporation II
Global Crossing Telecommunications, Inc.	Tw Telecom Holdings Inc.
Globalstar Usa, LLC	United American Technology, Inc.
Granite Telecommunications, L.L.C.	V-Global Communications, LLC
Indigo Wireless	Verizon Wireless
Inventive Wireless of Nebraska, LLC	Westel Systems
It Communications, LLC	Wholesale Carrier Services, Inc.
Kentucky Data Link, Inc.	Wiltel Communications, LLC.
LH Telecom	Windbreak Cable
Mainstay Communications	Wire Free Nebraska, Inc/Community Internet
Matrix Business Technologies	WWC License LLC
McLeodUSA Telecommunications Services Inc.	Ztar Mobile, Inc.