

Oregon Broadband Mapping Project Methodology

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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 Oregon Broadband Mapping Project's April 1, 2013 data submission. To support varying levels of technical and program knowledge, both a **process summary** and a **process review** are supplied.

SUBMISSION SUMMARY

PROVIDER DETAILS

PROVIDER PARTICIPATION

- Provider Participation Statistics Summary

Summary	Count
Total Providers Researched/Contacted	463
Total Valid Broadband Providers	113
Non-Responsive Providers	8
Non-Cooperative Providers	5
Number of Providers - Supplied Updates for this Submission	50
Number of Providers - Confirmed No Updates	49
Will Provide Data	1

- New Providers since Last Data Submission (5)
 - Fibersphere
 - FireServe LLC
 - DC Wireless
 - Siuslawbroadband
 - M2 Machmedia
- Existing Providers – No Updates, confirmed (49)
 - City Of Cascade-Locks
 - Rio Networks
 - Hunter Communications Inc
 - Starband.net
 - Communications Access Cooperative Holding Enterprise
 - Clear Creek Mutual Telephone Company
 - Blue Mountain Cable





- EONI.Com
- Gorge Networks
- PocketiNet Communications Inc
- Axxis Communications
- Ashland Fiber Network
- LS Networks
- Whiz To Coho, Inc.
- Nehalem Telecommunications Inc.
- SCIO Mutual Telephone
- Comspan Communications, Inc.
- Alyrica
- Cal-Ore Communications Inc.
- Canby Telcom
- Mount Angel Telephone Company
- Country Vision Cable Inc.
- Helixtel.Com
- J & N Cable Systems, Inc.
- OnlineNW
- Molalla Communications Company
- MINet
- Monroe Telephone
- Skycasters
- Safelink Internet Services
- SawNet
- Rural Technology Group
- SCS Communications
- Stephouse Networks
- ORCA Communications
- OregonFAST.Net
- Webformix Company
- Zayo Group LLC
- Reliance Connects (Trans-Cascade Telephone , Cascade Utilities)
- North-State Telephone Co.
- Pioneer Telephone Cooperative
- Qualitylife Intergovernmental Agency
- SandyNet
- Roome Telecommunications Inc.
- Rural Network Services Inc
- St Paul Telephone
- CoastCom, Inc
- Unwiredwest Internet
- Viasat Communications





- Providers Included by DBA

Air Speed LLC	Freewire Broadband Llc	Quantum Communications
Alyrica	Frontier Communications Northwest Inc.	Reliance Connects (Cascade Utilities)
Ashland Fiber Network	Frontier Communications Of Oregon	Reliance Connects (Trans-Cascade Telephone)
AT&T Mobility LLC	Gervais Telephone Company	Rio Networks
Axxis Communications	Gorge Networks	Roome Telecommunications Inc.
Beaver Creek Telephone Company	Helixtel.Com	Rural Network Services Inc
BendBroadband	HughesNet	Rural Technology Group
BendTel	Hunter Communications Inc	Safelink Internet Services
Blue Mountain Cable	Integra Telecom	SandyNet
Cable ONE	J & N Cable Systems, Inc.	SawNet
Cal-Ore Communications Inc.	Level 3 Communications, LLC	SCIO Mutual Telephone
Canby Telcom	LS Networks	SCS Communications
Cascade Networks, Inc.	M2 MachMedia	Silver Star Telecom
CenturyLink	MegaPath Corporation	Siuslawbroadband
Charter Communications Inc.	Meritel Group, Inc	Skycasters
City Of Cascade-Locks	MINet	Sprint
Clear Creek Mutual Telephone Company	Molalla Communications Company	St Paul Telephone
Clearwire	Monitor Cooperative Telephone Company	Starband.net
CoastCom, Inc	Monroe Telephone	Stayton Cooperative Telephone Company
Cogent Communications Group	Mount Angel Telephone Company	Stephouse Networks
Coltontel	Nehalem Telecommunications Inc.	TDS Telecom
Comcast	NextGen Internet Systems, Inc.	T-Mobile
Communications Access Cooperative Holding Enterprise	Nextnet Ventures, LLC	Tnet Broadband
Community Broadband	North-State Telephone Co.	TW Telecom Of Oregon LLC
Comspan Communications, Inc.	OnlineNW	U.S. Cellular
Country Vision Cable Inc.	ORCA Communications	Unwiredwest Internet
Crestview Cable	Oregon Telephone Corporation	Upward Access
Cricket Communications, Inc.	OregonFAST.Net	Verizon Wireless
Datavision Communications	Oregon-Idaho Utilities, Inc.	Vertex SSX Corporation
DC Wireless	PEAK Internet	Viasat Communications
Douglas Fast Net	Pendleton Fiber Company	Wallowa Valley Networks
Eagle Telephone System, Inc.	People's Telephone Company	Warm Springs Telecom
EarthLink Business	Pine Telephone Systems, Inc.	Wave Broadband
Eastern Oregon Telecom	Pioneer Telephone Cooperative	Webformix Company
Elgin TV Association	PocketiNet Communications Inc	Whiz To Coho, Inc.
EONI.Com	Prinetime Internet Solutions	Wtechlink
Fibersphere	Qnect.Net	Yellowknife Wireless Company, LLC
FireServe	Qualitylife Intergovernmental Agency	Zayo Group LLC





- Non-Responsive Providers (8)
 - Air Speed LLC
 - EarthLink Buisness
 - HughesNet
 - Integra Telecom
 - Nextnet Ventures
 - Prinetime Internet Solutions
 - Quantum Communications
 - Vertex SSX Corporation

- Non-Cooperative Providers (5)
 - BendTel
 - Cogent Communications Group
 - Meritel Group, Inc.
 - NextGen Internet Systems, Inc
 - Qnect.Net

- Other Provider Changes

Name Changes

Unwiredwest – changed name to XS Media

Acquisitions and merges

None

Additional providers identified as non-broadband this round

Tillamook Lightwave

Clearly Networks, Inc.

Harney Education Service District

Light Tower Fiber Long Island LLC

Noble Creek Communications

WCS Wireless License Subsidiary, LLC (NextWave Wireless INC.)

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





COVERAGE AREA CHANGES

- Coverage Footprint Reductions/Map Refinement –
 - BendBroadband (TT-41)
 - CHARTER COMMUNICATIONS INC. (TT-41)
 - Crestview Cable Communications (TT-41)
 - Freewire Broadband LLC (TT-71)

- Technology Changes/Additions –
 - Cascade Networks, Inc.(TT-50)
 - Community Broadband (TT-70)
 - Crestview Cable Communications (TT-40)
 - DC Wireless (TT-70)
 - DC Wireless (TT-71)
 - Eastern Oregon Telecom (TT-41)
 - Elgin TV Association, Inc. (TT-41)
 - Fibersphere (TT-50)
 - Fibersphere (TT-70)
 - FireServe (TT-70)
 - MegaPath Corporation (TT-10)
 - MegaPath Corporation (TT-20)
 - MegaPath Corporation (TT-30)
 - Pine Telephone Systems, Inc. (TT-70)
 - Silver Star Telecom (TT-10)
 - Silver Star Telecom (TT-20)
 - Silver Star Telecom (TT-30)
 - Siuslawbroadband (TT-70)
 - TDS TELECOM (TT-10)
 - Tnet Broadband Internet Llc (TT-71)

- Coverage Footprint Expansion –
 - AT&T Mobility LLC (TT-80)
 - Beaver Creek Telephone Company (TT-50)
 - BendBroadband (TT-40)
 - BendBroadband (TT-50)
 - BendBroadband (TT-71)
 - CenturyLink (TT-10)
 - CHARTER COMMUNICATIONS INC. (TT-40)
 - Comcast (TT-40)
 - Cricket Communications, Inc.(TT-80)
 - Douglas Fast Net (TT-10)
 - Douglas Fast Net (TT-50)
 - Eastern Oregon Telecom (TT-50)





- Eastern Oregon Telecom (TT-70)
- Frontier Communications Northwest Inc.(TT-10)
- Level 3 Communications, LLC (TT-50)
- Monitor Cooperative Telephone Company (TT-50)
- Oregon Telephone Corporation (TT-10)
- Oregon-Idaho Utilities, Inc. (TT-10)
- Pendleton Fiber Company (TT-50)
- People's Telephone Company (TT-50)
- Silver Star Telecom (TT-50)
- Sprint (TT-80)
- Stayton Cooperative Telephone Company (TT-50)
- TDS TELECOM (TT-10)
- T-Mobile (TT-80)
- TW Telecom of Oregon LLC (TT-30)
- TW Telecom of Oregon LLC (TT-50)
- U.S. Cellular (TT-80)
- Verizon Wireless (TT-80)
- Wallowa Valley Networks (TT-70)
- Webformix Company (TT-70)
- Webformix Company (TT-71)





COMMUNITY ANCHOR INSTITUTION (CAI) DETAILS

OVERALL STATISTICS

Community Anchor Institution - Categories	Overall Count	Broadband Subscriber	Trans Tech	Advertised Speed Down	Advertised Speed Up
Category 1 - School K through 12	2209	569	547	533	533
Category 2 - Library	220	211	210	206	204
Category 3 - Medical/Healthcare	417	156	153	151	150
Category 4 - Public Safety	1136	164	115	66	66
Category 5 - Universities/Colleges	72	43	43	42	42
Category 6 - Other: Government	227	36	219	28	28
Category 7 - Other: Non-Government	19	3	2	1	1
Total	4300	1182	1289	1027	1024

Total CAI records: 4,300

Broadband Service - Yes	1182	27%
Broadband Service - Unknown	3118	73%

Broadband Service - Yes

Unknown Technology Type	90	8%
Unknown Download & Upload Speed	161	14%
Download & Upload Speed	1018	86%

Public Wi-Fi Unknown	98%
CAI with CAIID	59%
Schools with No CAIID	23%

CAI CHANGES

- New Library data has been added to CAI dataset. Including connectivity updates and additional CAI records for this category.
- School data has been enhanced with additional information concerning address confirmation, CAI identification assignment and associated broadband connectivity. Additional schools have also been added.





PROCESS REVIEW

1. Provider Outreach and Data Collection

Data is collected from identified broadband ISPs via a process of e-mail notifications and telephone interactions designed to achieve the maximum number of positive responses. ISPs can supply data and/or updates in a number of formats via the following communication channels: mail, e-mail, and web applications (provider portal and file upload tool).

2. Data Ingestion and Processing

Acquired data enter a recursive multi-stage editing, validation and verification process until all parties are satisfied that the data is a good representation of both the ISP service area and level of service. Automated scripts run nightly that capture updates posted by an ISP and publish completed updates to the provider portal web application for further provider review.

3. Reporting

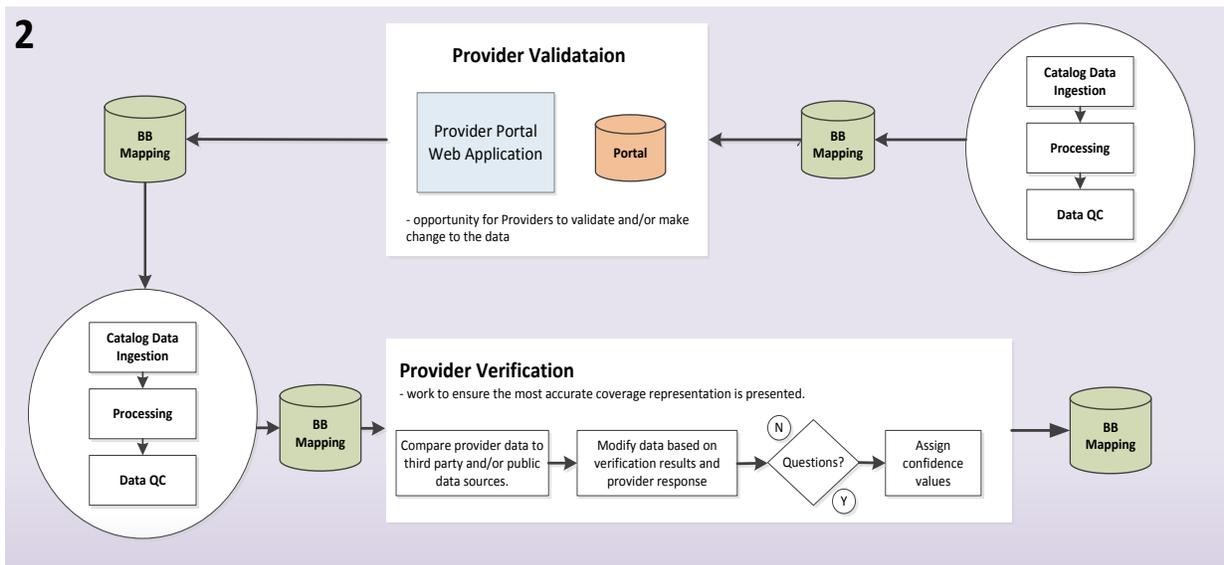
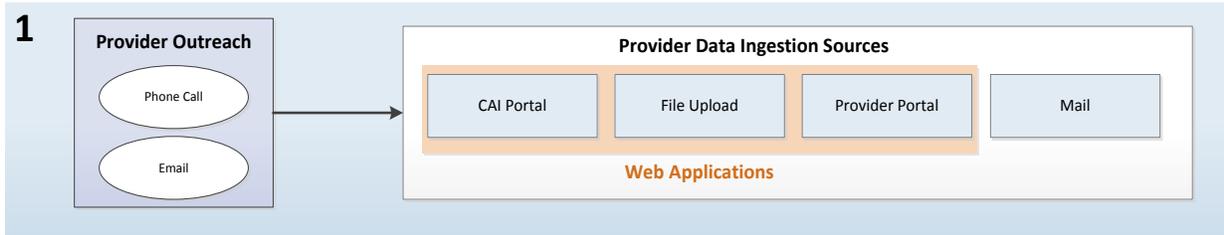
At the close of each data collection period all ISP and CAI data is passed through a set of automated processes that parse the geospatial data into the format required for NTIA submission, flag potential data errors and generate associated tabular reports. The final outputs are combined into a single archive file for submission via the Broadband State Data Management Tool hosted by the FCC.

* Process Review Diagram, sections reference below numbered diagram (pg.10)





* Process Review Diagram, sections reference above numbered paragraphs (pg.9):





PROCESS 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.

PCat Hello, ihardin!

Tasks DBAs Sources Settings Reports

My Tasks

Source Name	DBA Name	Received	Status		
Unassigned Tasks					
Source Name	DBA Name	Received	Status		
All Open Tasks					
Source Name	DBA Name	Received	Status	Assigned To	
All Tasks					
Source Name	DBA Name	Received	Status	Assigned To	Completed
OR_ProviderPortal_5399_20130320.shp	Frontier Communications Northwest Inc.	03/20/2013	Completed	alake	03/20/2013
OR_ProviderPortal_710_20130320.shp	CenturyLink	03/20/2013	Completed	ihardin	03/20/2013
OR_ProviderPortal_710_20130319.shp	CenturyLink	03/19/2013	Completed	ihardin	03/19/2013
frontiercommnw\OR_DSLAM_Last_Mile_FC_NW - Dec 2012 rev.xls	Frontier Communications Northwest Inc.	03/19/2013	Completed	alake	03/19/2013

PCat Hello, ihardin!

Tasks DBAs Sources Settings Reports

Sources

DBA ID	DBA Name	Source Name	Date Received
5399	Frontier Communications Northwest Inc.	OR_ProviderPortal_5399_20130320.shp	03/20/2013
710	CenturyLink	OR_ProviderPortal_710_20130320.shp	03/20/2013
710	CenturyLink	OR_ProviderPortal_710_20130319.shp	03/19/2013
5399	Frontier Communications Northwest Inc.	frontiercommnw\OR_DSLAM_Last_Mile_FC_NW - Dec 2012 rev.xls	03/19/2013
784	Frontier Communications Of Oregon	OR_ProviderPortal_784_20130317.shp	03/17/2013
784	Frontier Communications Of Oregon	frontiercommor\OR_DSLAM_Last_Mile CTCOR - Dec 2012 rev.xls	03/16/2013
10228	Fibersphere	Fibersphere 1G Internet Service.xmz	03/14/2013
10236	Elgin TV Association	OR_ProviderPortal_10236_20130312.shp	03/12/2013
1033	Silver Star Telecom	OR_ProviderPortal_1033_20130312.shp	03/12/2013
10225	DC Wireless	OR_ProviderPortal_10225_20130312.shp	03/12/2013





PCat Hello, ihardin!

Tasks DBAs Sources Settings Reports

Acmetech OR (DBA ID: 6362) Active ✎ ✕

<http://www.calvin-and-hobbes.org/>
Parent Provider:
Provider Type: Broadband provider as described in the NOFA

DBA Details

155 Cottage St	User name: acmetech_or	TransTechs
Salem, OR 97301	Password: acme66tech	10 Asymmetric xDSL
Have Ever Participated: False	Portal Trained: True	20 Symmetric xDSL
Do Not Contact: False	Awarded Grant: False	FRN Numbers +
NDA: False	NDA Signed:	
NDA Required: False	NDA Exchanged:	
Business Only: False		

Origin:
Notes: [This is our testing account](#)
Created 12/18/2012 by

Contacts

Contact Log

Confidence +

0413 Delivery ✓ **Sources** +

1012 Delivery ✓

- 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 Upload Protocol 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.
- Communicate with Oregon State departments to acquire CAI data.

DATA INTEGRATION PROCESS

The data integration and processing mechanisms currently used allow 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 BB Mapping Database.
- Create Compact Polygons (CP)—(internal methodology for generating area-based feature for coverage in BB Mapping 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.
- Post data to the provider portal web application for provider review and validation.
- 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.
 - o Process coverage area to build the required NTIA data model layers.

With the deployment of the Provider Portal, 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

A screenshot of a web application login form. The form is titled "Login" and contains two input fields: "Username" and "Password". Below the "Password" field is a "Login" button. The form is enclosed in a black border.





- Collection and confirmation of 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: * Kristin Rousseau

Contact E-mail: * kris.rousseau@broadmap.com

Contact Phone: * 603-448-4475

Doing Business As (DBA) Name: * acmetech

FCC Registration Number (FRN): * 22222222

Please note the following:

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

- Capability to review and request changes to the coverage footprint

Broadband Provider Portal

Status: pan

Service Area Legend

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

Selected All Zoom to Selected Clear Selection Valid Add Remove Replace Delete Save Edits

Area	Service Area	Transmission Technology	Spectrum	Max Adv. Download Speed	Max Adv. Upload Speed	Typical Download Speed	Typical Upload Speed	Provider Type
Provider removed on Mon Mar 19	Other	not applicable	not applicable	Unknown	Unknown	Unknown	Unknown	Broadband
Arthur	DSL Asymmetric	not applicable	>= 3 mbps and < 6 mbps	>= 1.6 mbps and < 3 mbps	>= 3 mbps and < 6 mbps	>= 200 kbps and < 768 kbps		Broadband

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

Broadband Provider Portal

Status: pan

Service Area Legend

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

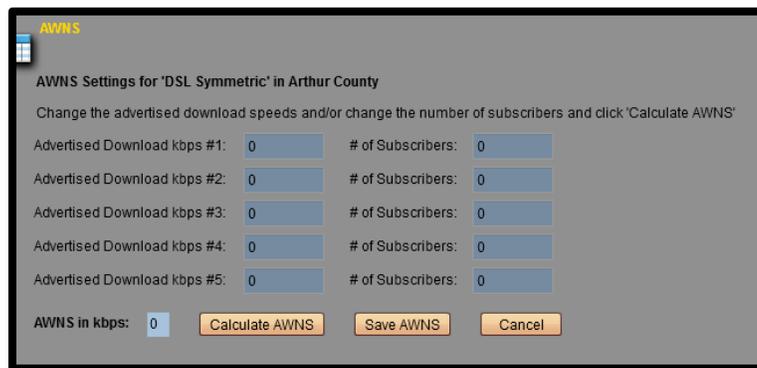
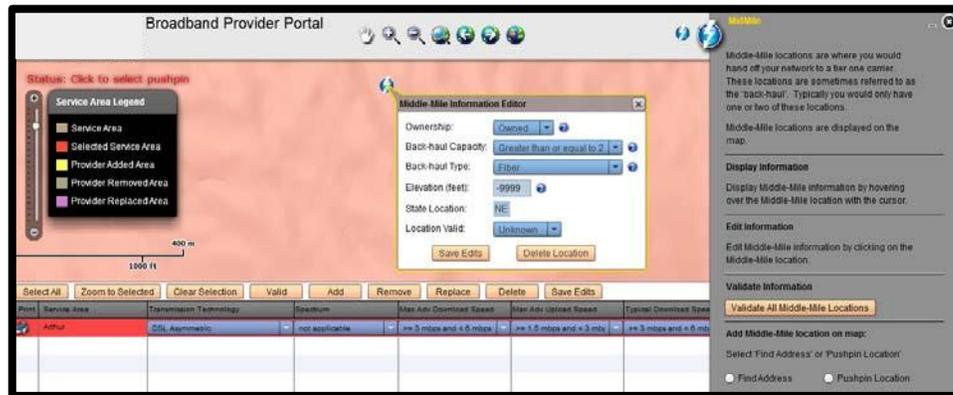
Selected All Zoom to Selected Clear Selection Valid Add Remove Replace Delete Save Edits

Area	Service Area	Transmission Technology	Spectrum	Max Adv. Download Speed	Max Adv. Upload Speed	Typical Download Speed	Typical Upload Speed	Provider Type
Provider removed on Mon Mar 19	Other	not applicable	not applicable	Unknown	Unknown	Unknown	Unknown	Broadband
Arthur	DSL Asymmetric	not applicable	>= 3 mbps and < 6 mbps	>= 1.6 mbps and < 3 mbps	>= 3 mbps and < 6 mbps	>= 200 kbps and < 768 kbps		Broadband

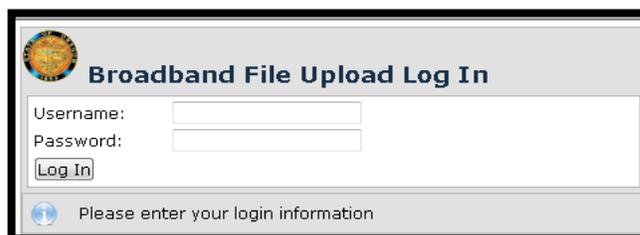




- Middle Mile and Average Weight Nominal Speed (AWNS) collection and validation



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



- Once the provider has reviewed and/or completed changes to their coverage, middle mile and AWNS, they may validate by selecting the validate field for each feature.



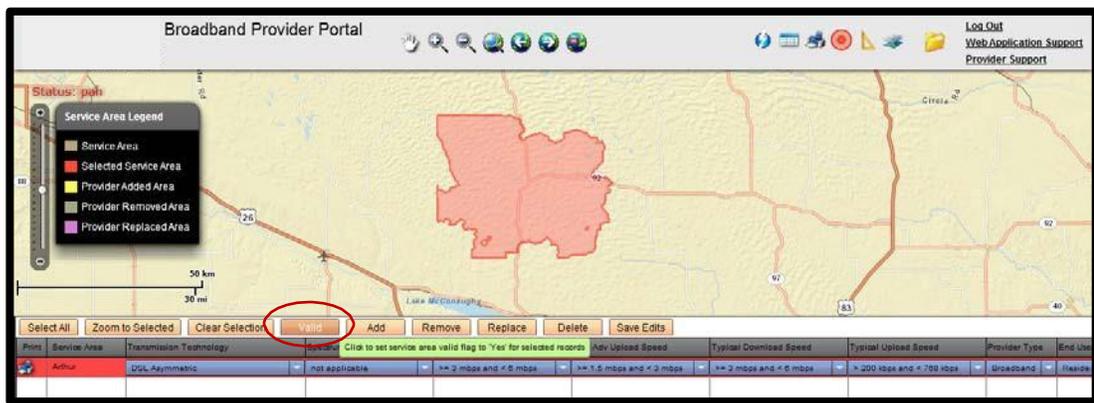


DATA VALIDATION AND VERIFICATION

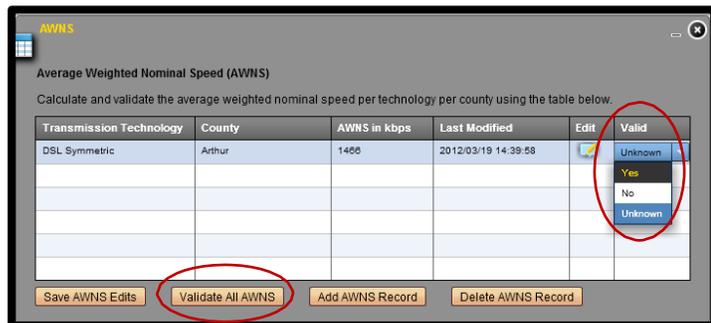
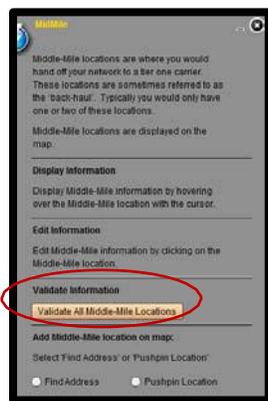
Following the creation of the product, process steps within Data Validation and Verification occur. To ensure the data collected and processed is as accurate and comprehensive as possible, provider validation and internal verification activities are employed. After the initial mapping of providers' coverage 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**).

Validation examples are as follows:

- Coverage validation can be done on one record/footprint at a time or by selecting multiple footprints and selecting the 'Valid' button.



- Middle Mile & AWNS Validation



All validation results are tracked internally through the Validation Table, which is used to improve the overall **Confidence Value** of each provider.





THIRD-PARTY DATA VERIFICATION

The coverage is visually and programmatically compared against third-party data as new or updated coverage area information is received and ingested from providers. All anomalies identified during this analysis are reviewed with the providers. Whenever possible this process takes place before the report submission date. We work with the individual providers to address any outstanding issues. Providers that do not cooperate in this process are assigned a lower confidence value that reflects data quality issues and provider engagement.

3 rd Party Source Name	Source Type	Verification Type
GeoTel	Fiber Routes and LitBuildings	Used to verify TT: Fiber to End User (50)
Pitney Bowes (PBBI)	Exchange Info Plus (Central Office Locations)	Exchange datasets are used to verify the following Transmission Technologies (TT): Asymmetric xDSL (10), Symmetric xDSL (20), Other Copper Wireline (30), and Optical Carrier/Fiber to the End User (50).
Media Prints	Cable Boundaries	Used to verify the following TT: Cable Modem—DOCSIS 3.0 (40) and Cable Modem—Other (41)
Mosaik Solutions	Wireless Coverage Patterns (EVDO, GPRS, WISP, HSPA)	Used to verify the following TT: Terrestrial Fixed Wireless—Unlicensed (70), Terrestrial Fixed Wireless—Licensed (71) and Terrestrial Mobile Wireless (80)
Comsearch	Wireless Spectrum Holdings and Tower Data	Used to verify the following TT: Terrestrial Fixed Wireless—Unlicensed (70), Terrestrial Fixed Wireless—Licensed (71) and Terrestrial Mobile Wireless (80)

PUBLIC VERIFICATION – CROWD SOURCING

Oregon Broadband Map

Public Feedback and speed test data

Since last data submission, we have improved the public website - interactive map to collect more detailed feedback on the represented broadband coverage areas. The feedback is also displayed on the map itself, which we're currently using as discussion points with providers during the outreach phases of each data submission. The data collected can be seen at the following path:

Hyperlink: <http://broadband.oregon.gov/StateMap/index.html>





FCC Speed test data:

Speed test results for Oregon submitted by individuals via the FCC browser and mobile based tools have been included in the verification process for this submission for supporting provider service area claims and bandwidth benchmarking.

CONFIDENCE VALUES

All verification, validation and manual quality review results are tracked by provider/technology type and stored and maintained within **PCat**. This stored data is used in combination with provider engagement and data vintage statistics contained in internal logs to generate a Confidence Value (CV). The CV reflects the overall confidence in the data displayed on the statewide broadband map. The detailed assessment that forms the basis for the CV is a useful tool that highlights the provider coverage areas and/or attributions that would benefit from further investigation and/or enhancements.

PCat Hello, ihardin!

Tasks DBAs Sources Settings Reports

Confidence for Acmetech OR

Points
 TT: 10: Asymmetric xDSL Delivery: 0413

Dates
 Peer Review Date: mm/dd/yyyy
 Provider Validation Date: mm/dd/yyyy
 3rd Party Verification Date: mm/dd/yyyy

Points

Geometry:	<input type="text" value="0"/>	Represents the common geometry of the specified technology. 1 Point
Attribution:	<input type="text" value="0"/>	Attribution is complete and matches specified technology. 1 Point
3rd Party:	<input type="text" value="0"/>	3rd party verification review supports provider's footprint, discrepancies are minimal. 1 Point per dataset (Maximum 2)
Validation:	<input type="text" value="0"/>	Provider validated their coverage via portal or otherwise. 1 Point
Peer Review:	<input type="text" value="0"/>	Peer review was completed and agrees with provider's coverage. 1 Point
Crowd Sourcing:	<input type="text" value="0"/>	Results from the following do not show significant discrepancies and/or supports (agrees) with coverage and attribution, Website, Speed Test Results/Feedback, anecdotal sources. 1 Point per dataset (Maximum 2)
NTIA Guidelines:	<input type="text" value="0"/>	Technology and attribution satisfies NTIA guidelines. Example: Technology/Speed tier table, doesn't come up in the Submission Receipt as an error. 1 Point
Currency:	<input type="text" value="0"/>	Data, validation, and verification activities are current within a timeline of 2 data submissions, or 1 year. 2 points if participated in current submission, 1 point if participated in previous submission, 0 points if have not participated within the previous year. Sliding scale 0-2
Engagement:	<input type="text" value="0"/>	A measure of how engaged the provider is in the project. 1 point for responding to communications, 2 points for actively participating and submitting data in a timely manner (not at the last minute), 3 points for significant work on ensuring update accuracy. Sliding scale 0-3.

Notes:

In addition to the continued efforts on provider validation, 3rd party verification and the release of the public interactive map with feedback collection functionality, the providers will be supplied their current





CV assessment in advance of the next data gathering event so each can identify the various ways their participation efforts can improve their CV rankings.

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 a text output form that is required to be submitted along with the final deliverable. All data must pass submission check unless otherwise specified by NTIA.

PROVIDERS RESEARCHED

This list represents all providers researched during the entire history of the program. Providers identified for this submission are **highlighted**.

1-800-Reconex Inc	Freedomstarr Communications Inc	Onesuite Corp
800 Response Information Services Llc	Frontier Telenet	Online Northwest
Access One Inc	Gci Communication Corp	Operator Service Co
Access Point Inc	Global Capacity Group Inc	Opex Communications Inc
Access2go	Global Connection Inc. Of America	Orbitcom
Accessline Communications Corporation	Global Crossing Local Services Inc	Oregon Govworks
Acn Communication Services Inc	Global Crossing North American Networks Inc	Oregon Health Network
Advanced Tel Inc	Global Crossing Telecommunications Inc	Oregon Telecom Inc
Advanced Telecom Inc	Global Crossing Telemanagement Inc	Outdoor Das - American Tower Corp
Advantage Telecommunications Corp	Global Tel*Link Corp	Pacific Northwest Telco, Inc.
Affinity Network Inc	Globalcom Inc	Pacific West
Affordable Voice Communications Inc	Globalstar Usa Llc	Pacific-South Telecom Inc
Afn, Inc.	Go Solo Technologies Inc	Pac-West Telecomm, Inc.
Agm Telecom Corporation	Gold Line Telemanagement Inc	Paetec Communications, Inc.
Airespring Inc	Goose Lake Computing	Para-Tech satellite
Airnex Communications Inc	Granite Telecommunications	Peerless Network Of Oregon, Llc
Alliance Global Networks Llc	Group Six Communications Llc	Pelzer Communications Corporation
Alliance Group Services Inc	Gtc Telecom Corp	Pic Professional Services
America Net Llc	Harbor Communications Llc	Png Telecommunications Inc
American Phone Services Corp	Harney Education Service District	Portland State University
American Telecommunications Systems, Inc.	Hickorytech/Eventis Telecom	Preferred Connections Inc. Nw
Americom Technologies Inc	Horizon Telecom Inc	Preferred Long Distance Inc





Amerivision Communications Inc	Hypercube Telecom Llc	Prime Time Ventures Llc
Andiamo Telecom Llc	Ibasis	Primus Telecommunications Inc
Applegate Broadband Llc	Ibasis Retail Inc	Priority One Telecommunication, Inc.
Applewood Communications Corporation	Ibfa Acquisition Company Llc	Public Communications Services Inc
Associated Cooperative Telecommunications Inc	Idt America Corp	Pulse Telecom Llc
Associated Network Partners Inc	Indigenous Telephone Inc	Quantumshift Communications Inc
At&T Mobility	Inetworks Group Inc	Quasar Communications Corporation
Atc Outdoor Das Llc	Infotelecom Llc	Qwest Corporation
Atl Communications Inc	Inland Development Corporation	Qwest Corporation
Atx Licensing Inc	Inmark Inc	Qwest Ld Corp
Bandwidth.Com Clec Llc	Inmate Calling Solutions, Llc	Radix Networks
Bcn Telecom Inc	Inmate Communications Corp	Reduced Rate Long Distance Llc
Bellsouth Long Distance Inc	Integrated Services Inc A Nevada Corporation	Reliance Globalcom Ltd. - Reliance Communications
Betterworld Telecom Llc	Intelepoint Llc	Reliant Communications Inc
Bg Enterprises Inc	Inteltrace Inc	Ridley Telephone Co Llc
Bigredwire.Com Inc	Intellicall Operator Services Inc	Rrv Enterprises Inc
Bluebird Wireless Broadband Services Llc	Intelligent Community Services Inc	Rural Services Company; Dba Ulatilla Electric Cooperative
Broadband Dynamics Llc	Intlepoint, Llc	Sage Telecom, Inc.
Broadcore	Intrado Communications Inc	Salem Hospital Regiona Health Center
Broadview Networks Inc	Ipc Network Services Inc	Sbc Long Distance Llc
Broadwing Communications Llc	J Irwin Community Informatics Consulting	Shared Communications Inc
Bt Communications Sales Llc	Kansas Independent Telecommunications Llc	Silv Communication Inc
Budget Call Long Distance Inc	Kddi America Inc	Smartrak Incorporated
Budget Prepay Inc	Kruse - Mercantile Professional Suites	Snake River Pcs
Buehner Fry Inc	Lane Telecommunications Services, Inc.	Snet America Inc
Bullseye Telecom Inc	Lcr Telecommunications Llc	Snip Link Llc
Business Discount Plan Inc	Ldmi Telecommunications Inc	Spacenet, Inc.
Business Network Long Distance Inc	Leap Wireless (Cricket Communications)	Springfield Utility Board
Business Telecom Inc	Legacy Long Distance International Inc	Sprint Communications Co Lp
California Oregon Broadcasting Inc	Legent Communications Corp	Startec Global Operating Company
Call Plan Usa Inc	Lewis & Clark College	Stelera Wireless
Cause Based Commerce Inc., - Dba The Sienna Group	Light Tower	Sterling Communications
Cbeyond Communications Llc	Lightyear Network Solutions Llc	Sti Prepaid Llc
Cci Network Services Llc	Lincoln County	Sungard Network Solutions Inc
Centel Communications Inc	Long Distance Charges Inc	Talk America Inc
Central Telecom Long Distance Inc	Long Distance Consolidated Billing Co	Tcast Communications Inc
Central Telephone Inc	Lotel Inc	Tcg Joint Venture Holdings Inc
Cimco Communications Inc (Comcast)	Lssi Data Corporation	Tds Long Distance Corp
Cincinnati Bell Any Distance Inc	Main Street Telephone Co	Technology Services Inc
City Of Eugene	Malheur Home Telephone Co	Tel West Communications Llc





City Of Klamath Falls	Master Call Communications	Telco Partners Inc
City Of Portland	Matrix Telecom Inc	Telecare, Inc.
Clear World Communication Corporation	Mcgraw Communications Inc	Telecom Management - Dba Pioneer Ld
Clearly Networks	Mci Communications Services Inc	Teleconnect Long Distance Services & Systems Co
Closecall America Inc	Mcimetro Access Transmission Services Llc	Telenational Communications Inc
Coast International Inc	Mcleodusa Telecommunications Services Inc	Tequality Communications Inc
Coinet	Md Communications	Telmex Usa Llc
Columbia Broadband Inc	Metropolitan Telecommunications Of Oregon - Dba Mettel	Telrite Corporation
Comcast Phone Of Oregon Llc	Midcolumbia.Net	Teltrust Corporation
Commpartners Llc	Midvale Telephone Exchange Inc	Threshold Communications Inc
Communications Network Billing Inc	Millenicom	Tillamook Lightwave
Comtech21, Llc	Miracle Communications	Time Warner Cable Llc
Comtel Telecom Assets Lp	Mitel Netsolutions, Inc.	Ton Services Inc
Consumer Telcom Inc	Mobilite Llc	Total Call International Inc
Convergia Inc	Momentum Telecom Inc	Total Holdings Inc
Cooperative Communications Inc	Monroe Area Communications	Touchtone Communications Inc
Corban Technologies, Inc.	Multiline Long Distance Inc	Trans National Communications International Inc
Cordia Communications Corp	My Tel Co Inc	Transpac Telecom Inc
Core Digital Services	National Access Long Distance Inc	Transunion Teledata Llc
Covista	National Brands, Inc.	Tribal One Broadband Technologies
Covista Inc	National Directory Assistance Llc	Tri-M Communications - Dba Tcm Communications
Ctc Communications Corp	Nationalcomtel	Tti National Inc
Cti Long Distance Inc	Nationwide Long Distance Service Inc	U S Telecom Long Distance Inc
Custom Teleconnect Inc	Navigator	Ucn Inc
Cypress Communications Operating Company Llc	Necc Telecom	United American Technology Inc
Dabney/Strawn Llc	Net One International Inc	United Communications Inc
Dct Telecom Group, Inc.	Net Talk.Com Inc	United Telecom Inc
Ddd Calling Inc	Netlojix Telecom Inc	Uni-Tel Communications Group Inc
Deltacom Inc	Network Billing Systems Llc	Utility Telephone Inc
Deltel Inc	Network Communications International Corp	Value-Added Communications, Inc.
Digizip.Com Inc	Network Enhanced Technologies Inc	Vanco Direct Usa Llc
Direct Communications Long Distance Inc	Network Operator Services	Vanco Us Llc
DISH	Network Service Billing Inc	Verizon Business Global Llc Dba Verizon Business
Dslnet Communications, Llc	Network Us Inc	Verizon Enterprise Solutions Llc
Easton Telecom Services Llc	Networkip Llc	Verizon Long Distance Llc
Electric Lightwave Llc	Neutral Tandem-Oregon Llc	Verizon Select Services Inc
Eloptia Communications, Llc	New Century Telecom Inc	Vidafon Inc
Encompass Communications Llc	New Horizons Communications Corp	Voicecom Telecommunications Llc
Enhanced Communications Group Llc	Newpath Networks Llc	WCS Wireless License Subsidiary LLC (NextWave Wireless Inc.)





Enhanced Communications Network	Nextlink Wireless Inc	Western Independent Networks Inc
Entrix Telecom Inc	Nexus Communications Inc Dba Nexus-Tsi	Wholesale Carrier Services Inc
Ernest Communications Inc	Nexustel Llc	Willamette University
Eschelon Telecom Of Oregon Inc	Nitel	Witel Communications Llc
Evercom Systems, Inc.	Noble Creek Communications	Windstream Communications Inc
Extenet Systems	Nobeltel, Llc	Windwave Technologies, Inc.
Ezwireless	Norlight, Inc.	Wired Or Wireless Inc
Fiber South Consortium	Norstar Telecommunications Llc	Working Assets Funding Service Inc
Fiberlink Llc	North County Communications Corporation Of Oregon	World Communications Inc
First Choice Technology Inc	Northstar Telecom Inc	Worldnet Communication Services Inc
First Communications Llc	Northwest Open Access Network	X2comm Inc
Flatel Inc	Nos Communications Inc	X5 PDX, LLC
Forestel,Llc	Nosva Limited Partnership	XO Communications Services, Inc. (Affiliated Entity)
France Telecom Corporate Solutions, Llc	Ols Inc	Yestel Usa Inc
	One Economy	Ymax Communications Corp
		Zeus Telecommunications Llc

