

Maryland Broadband Mapping Initiative Fall Broadband Availability Map Data Submission Summary

October 1, 2010

Submitted by:
Michael S. Scott, PhD, GISP
Eastern Shore Regional GIS Cooperative
Salisbury University
msscott@salisbury.edu
410.543.6456



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Submission summary

The staff of the Eastern Shore Regional GIS Cooperative (ESRGC) at Salisbury University in Salisbury, Maryland, in its role as primary technical lead for the Maryland Broadband Mapping Initiative, contacted 100 facilities-based broadband service providers (BSPs), received data from 36 providers which represent 41 different companies. An overall summary of the data submission can be described as:

- 100 potential facilities-based broadband service providers were contacted
- 40 BSPs did not respond
- 17 BSPs responded but did not provide data
- 41 BSPs responded and provided data
- 2 BSPs responded and agreed to provide data but have not as of October 1, 2010

Of those that provided data,

- 7 provided only census block information
- 17 provided census blocks and addresses
- 3 provided census blocks and road segments
- 12 provided wireless coverage areas

In addition, 5 of the 41 responsive BSPs provided middle mile infrastructure points

Data Processing

For a specific discussion of the data processing steps for any particular BSP, please see the individual dataset report for each BSP below. In general, the data processing used to create the Fall 2010 data submission depended on the type of data provided by the BSP.

Census Blocks

To process the served census blocks, one first geocodes the provider-submitted address table (if applicable) to an address locator based upon the Maryland PropertyView dataset. Second, any unmatched addresses are geocoded to the Maryland iMap street centerline address locator. The matched addresses are then merged. Fourth, the address points are spatially joined to the Year 2000 census blocks. Then, divide the address points into the different technologies of transmission. Sixth, select those address points that are within the census blocks that are greater than 2 mi², exporting them as a separate feature class. Seventh, switch the selected set (thus creating all the address points in blocks that are less than 2 mi²), and select those blocks. Eighth, import the provider-submitted table of served census blocks and merge with the address-created blocks (if applicable). Finally, export the results.

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Road Segments

To process the served road segments that are within census blocks that are greater than 2 mi², we import the table of road segment address ranges provided by the BSP. We then find the difference between the TO address value and the FROM address value. If we add that difference back to the TO address value, the result is an address point within the reported address range. Geocode that address point against the Maryland iMap address locator. Once we have that location, we can select the street segment that is adjacent to the point. Once the segments have been selected into their different technologies of transmission (if applicable), they can be exported to the final road segment feature classes.

Service Addresses

The process for creating the service addresses is the same as the census blocks (above), except that the addresses that fall within the census blocks that are greater than 2 mi² are kept as the key feature class.

Middle Mile Infrastructure

Processing the middle mile infrastructure is relatively trivial, in that the providers submit geographic coordinates with the middle mile attributes.

Community Anchor Institutions

Municipal-level data collection efforts involved e-mails and telephone calls to each of the 24 county GIS and/or IT departments. An email was created and sent detailing out the project and the request for broadband information for specific facilities. Many counties did not have this information readily compiled or available but were willing to assemble a GIS dataset or spreadsheet for the initiative. Other counties were only able to provide a list of community anchor institutions without the broadband information. Several counties were not able to provide any data. Several counties did not have a list of facilities so we provided them a spreadsheet with the community anchor facilities and drop-down lists for easy compilation of the broadband data. For counties that were unresponsive to the email or could not provide the information, IT managers or directors were contacted. Data was received from 9 counties with a response rate of 38% (see table below).

A spreadsheet of State agencies from the State of Maryland website was created. Individual spreadsheets were created for each agency facilities. Emails were then sent to IT managers or directors with the spreadsheet attached. Follow-up emails and phone calls were placed. More agencies are expected to continue returning information in the coming months. A positive response was received from the Maryland State Department of Education (MSDE), which collected broadband information from each school as one part of the agency's own survey.

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MSDE provided this data for inclusion in the community anchor dataset.

Data Provider	Count
Washington County	23
St. Mary's County	43
Queen Anne's County	44
Prince George's County	357
Montgomery County	376
Allegany County	52
Baltimore County	135
Calvert County	65
Garrett County	131
MSDE	1431
State of Maryland	180

Data Verification

The ESRGC, in partnership with the Center for GIS at Towson University and as a subcontract to the SBDD grantee in Maryland, the Maryland Broadband Cooperative, conducted a number of verification and validation tests on the provider-submitted broadband availability data. In the event that inconsistencies or errors were found, no changes were made to the provider-submitted data during this data delivery round. We expect to have the confidence to begin modifying provider-submitted data as a result of our testing/research during the 3rd round of data submissions in April 2011.

A maximum of fourteen data checks were conducted on the provider-submitted broadband availability data, listed below. Each check will be explained in detail.

- 1) Maximum down/upload speeds reported by provider
- 2) Typical down/upload speeds reported by provider
- 3) Typical down/upload speed from 2010 speed test
- 4) Speed tests match reported typical speeds or are within 1 speed tier
- 5) %/# of census blocks verified by 2010 FCC and Ookla speed tests
- 6) Number of census blocks reported to project, but no tract reported to FCC
- 7) Number of tracts reported to FCC, but no census blocks reported to project
- 8) Number of census blocks with dead zones reported
- 9) Total number of dead zones reported per provider
- 10) Of census blocks reported as served, how many have zero population based on 2000 census data?
- 11) Web Search Verification

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- 12) Census blocks that are outside Cable Franchise Boundary
- 13) Census blocks that are outside DSL boundary
- 14) Wireless Verification

Maximum down/upload speeds reported by provider

Facilities-based BSPs are required to provide the maximum downstream and upstream speeds by the NTIA and the NoFA of August 2009. These speeds are dependent upon the technology of transmission the BSP uses to deliver broadband service. Speeds are reported in ordinal categories, or tiers, as defined by the NoFA. They are:

Downstream Speed Tier	Upstream Speed Tier	Corresponding Speed
--	1	Less than or equal to 200 kbps
--	2	Greater than 200 kbps and less than 768 kbps
3	3	Greater than or equal to 768 kbps and less than 1.5 mbps
4	4	Greater than or equal to 1.5 mbps and less than 3 mbps
5	5	Greater than or equal to 3 mbps and less than 6 mbps
6	6	Greater than or equal to 6 mbps and less than 10 mbps
7	7	Greater than or equal to 10 mbps and less than 25 mbps
8	8	Greater than or equal to 25 mbps and less than 50 mbps
9	9	Greater than or equal to 50 mbps and less than 100 mbps
10	10	Greater than or equal to 100 mbps and less than 1 gbps
11	11	Greater than or equal to 1 gbps

For this data check, the maximum downstream/upstream speeds reported from each provider are summarized in a table. These speeds are summarized for census blocks, wireless coverage areas, road segments, and service address points

For the data submission, 41 providers (100%) reported maximum downstream/upstream speeds for census blocks, although 7 providers' reporting of maximum downstream/upstream speeds is incomplete. The lowest maximum downstream speed is less than or equal to 200 kbps, reported by 1 provider (DSLnet Communications, Inc.). The highest maximum downstream speed was greater than or equal to 1 gbps, reported by 3 providers. The most typical maximum downstream speed was greater than or equal to 50 mbps and less than 100 mbps, reported by 2 providers (Comcast Cable Communication, LLC & Verizon Maryland Inc).

Typical down/upload speeds reported by provider

BSPs are required to provide the typical downstream and upstream speeds by the NTIA and the NoFA of August 2009. Typical speeds are, per the NoFA, intended to be "the data transfer throughput rate that most subscribers to service at the maximum advertised downstream speed can achieve consistently during expected periods of heavy network usage." These speeds are dependent upon the technology of transmission the BSP uses to deliver broadband

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service. Speeds are reported in ordinal categories, or tiers, as defined by the NoFA (see table above).

For this data check, the typical downstream/upstream speeds reported from each provider are summarized in a table. These speeds are summarized for census blocks, wireless coverage areas, road segments, and service address points

For the data submission, 19 providers (46.3%) reported typical downstream/upstream speeds. The lowest typical downstream speed as greater than or equal to 768 kbps and less than 1.5 mbps, reported by 10 providers. The highest typical downstream speed was greater than or equal to 1 gbps, reported by 1 providers, Level 3 Communications, LLC. The most frequent typical downstream speed of the census blocks was greater than or equal to 6 mbps and less than 10 mbps, reported by 5 providers.

Typical down/upload speed from 2010 speed test

Beginning in April 2010, the MBBMI team and the FCC (nearly simultaneously) began collecting speed test information from broadband consumers in the state of Maryland. This speed test information included the downstream and upstream speed in kbps, the signal latency, the street address of the tester, the type of connection location (home, work, etc), the connection technology (cable/DSL, fiber optic, satellite/dial-up, or unknown – MBBMI test only), the IP address of the test machine, and the corresponding BSP. The MBBMI contracted with a company named Ookla to create their test; the FCC used both Ookla and an alternative method developed by a company named MLab.

From mid-April 2010 until July 31, 2010, 6,820 speed tests were collected by MBBMI and 22,432 PC-based speed tests were collected by the FCC (the FCC also collected mobile speed tests, see below). Of these, 3,863 MLab-based FCC speed tests were eliminated (to insure consistent speed test results and 10,468 were removed because they did not include a valid address. This left 8,101 FCC speed tests available for processing. The FCC and the MBBMI speed tests were then combined and geocoded using their street address. 13,596 speed tests locations were found, 1,557 were not, for a geocode rate of 89.7%.

The speed tests associated with each reporting BSP were extracted from the geocoded set. The downstream and upstream speeds were classified according to the NTIA's speed tiers (see table above) and the number of tests in each tier were counted. A table of those results is included in each data validation/verification report.

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For the state of Maryland as a whole, the speed test results are:

Speed Tier	Number of Downstream Tests	Number of Upstream Tests
1	242	861
2	900	3,072
3	1,270	861
4	1,471	2,215
5	1,296	4,377
6	1,652	1,156
7	5,558	1,026
8	872	28
9	308	--
10	27	--

Speed tests match reported typical speeds or are within 1 speed tier

For the 10 providers that submitted typical speeds for their data, a comparison was conducted between the mode (the most frequent value) of the typical download speed tier from the provider area and the FCC/Ookla speed tests. In instances where the most frequent download speed tier from the speed tests matched, or was within one tier of, the typical download speed tier from the provider, the response to this statement is affirmative (3 providers). When the response to this statement is negative (7 providers), there is question about the typical download speeds that have been submitted by the provider.

%/# of census blocks verified by 2010 FCC and Ookla speed tests

Using the location of speed tests submitted through the FCC or the MBBMI speed test tools, the team sought to compare the location of broadband availability submitted by BSPs and the location of actual broadband service reported by speed test takers.

For this verification test, the following statistics are reported:

- 1) Confirmation of census block served
The number of census blocks reported by the BSP as served that also contains a corresponding speed test
- 2) Census blocks served, not reported by provider
The number of census blocks that contain a BSP-related speed test that were not reported by the BSP as served
- 3) Total number of served census blocks reported by provider
The total number of unique census blocks reported as served by the BSP
- 4) % of served census blocks confirmed by speed test

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The number of confirmed served census blocks divided by the total number of served census blocks

For the state of Maryland, the maximum number of census blocks shown to be served by speed test data but not reported by a BSP is 81 (for Comcast Cable Communications, LLC , 0.17% of their total reported blocks). The minimum percentage of served census blocks confirmed by speed test was 0% (3 providers). The maximum percentage was 100% (Hotwire Communications, Ltd). On average, 5.25% of served census blocks were verified using speed tests.

Number of census blocks reported to project, but no tract reported to FCC
Number of tracts reported to FCC, but no census blocks reported to project

Another source of data validation was the FCC's Form 477 data as of December 2009. This dataset is collected semi-annually by the FCC from BSPs, both facility-based and not facility-based. The BSPs report the number of residential and business subscribers to their broadband service per census tract. For comparison, the average census tract in Maryland contains 67 census blocks. While the Form 477 data is much coarser than the SBDD-reported data, it still should align spatially.

Therefore as another verification check, we test the number of census blocks that are reported by BSPs that have no corresponding reported census tract in the BSP's Form 477 data. Similarly, we test the number of tracts from the BSP's Form 477 data that do not have corresponded census blocks reported in this initiative.

For the state of Maryland, the maximum number of census blocks that were reported as served but had no corresponding Form 477 census tract was 65,390 from Sprint. On average, 6,457 census blocks (from 27 providers) had no corresponding census tract. The maximum number of census tracts that had no corresponded reported census blocks was 187 from DSLnet Communications, LLC. On average, 17 census tracts (from 27 providers) had no corresponding census blocks.

Number of census blocks with dead zones reported
Total number of dead zones reported per provider

At the MBBMI website (www.mdbroadbandmap.org) and at the FCC website (www.broadband.gov), residents and business owners have the opportunity to report unserved areas, or dead zones. These are locations, specifically addresses, at which the potential broadband customer cannot access broadband service. Those unserved area reports are taken in by the MBBMI team, geocoded according to their address, and are examined for their spatial coincidence with BSP availability coverages. For each provider, the number of census blocks reported as served that contain a deadzone report are reported, as well as the total number of deadzone reports within a BSPs availability area.

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It is important to note that, at the present time, these unserved area reports are unverified. It is possible that broadband service may be available either at the address (but the person reporting the deadzone was unaware of service availability), or not available at the address because of some unique configuration problem at that address specifically. It is also entirely possible that portions of a census block may be served but other portions may not.

For the state of Maryland, the maximum number of a BSP's available census blocks that contain a deadzone report is 133 (Hughes Communications, Inc, StarBand Communications Inc., and Wildblue Communications, Inc.). The minimum number is 0 (21 providers). The maximum number of deadzone reports in a BSP's available area is 133 (Hughes Communications, Inc., StarBand Communications Inc., and Wildblue Communications, Inc.). The following providers have only 1 deadzone report in their areas: Cavalier Telephone, LLC, QCOL, Suddenlink Communications, and Vector Data Systems LLC.

Of census blocks reported as served, how many have zero population based on 2000 census data?

One expectation of the broadband availability data is that there should not be broadband available within census blocks that have no people to purchase broadband. Therefore, for each BSP, the number of served census blocks that have 0 population as reported in the 2000 census were tallied and compared to the total number of the provider's served census blocks.

This is a particularly weak verification test for several reasons. First, the population data is not current and has likely changed significantly in the last 10 years. Second, areas that are completely commercial with no residents may still need and want broadband availability. Finally, BSPs may be anticipating future development and making service available where there are not yet any residents.

For the state of Maryland, the maximum number of zero population census blocks that were reported as served was 7,899 (Covad Communications Company). The minimum number was 1 (Tata Communications (America) Inc). The average number of zero population census blocks that were reported as served was 712. As a percentage, the maximum percentage of zero population census blocks reported as served was 100% (Tata Communications (America) Inc). The minimum number was 0 (Hotwire Communications, Ltd. and Shentel Converged Services,). The average percentage was 28%.

Web Search Verification

Some broadband service providers publish service availability query tools on their corporate websites. The MBBMI team took the opportunity to test the broadband availability areas submitted by the BSPs against the BSP's web-based service availability tools. A systematic sampling grid was created for the entire state of Maryland. A sample point was placed every

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4000 meters, then the nearest property address (within at most 1000 m) was chosen. This yielded a grid of 1,472 sample points.

For each BSP that had a web-based service availability query tool (12 providers), the sample point grid addresses were used to verify the availability of service (or lack thereof) compared to both the reported service area, the area just outside the stated service area, and a random selection of grid points across the state. The following combinations of reported service vs. queried service were tallied:

- 1) A census block was reported as served and the sample was returned as served
- 2) A census block was reported as served but the sample was returned as unserved
- 3) A census block was not reported as served and the sample was returned as not served
- 4) A census block was not reported as served but the sample was returned as served

The total number of sample points in categories 2 and 4 are reported as error (of commission and of omission, respectively).

For Comcast and Verizon, all 1,472 sample points were used as those two BSPs offer broadband service in all areas of the state.

For the state of Maryland, the maximum omission error rate was 32% reported by Cavalier Telephone, LLC. The minimum omission error rate was 0% and was reported by 6 providers. The average omission error rate was 3.8%. The maximum commission error rate was 78% reported by Cavalier Telephone, LLC. The minimum commission error rate was 1% and was reported by 3 providers. The average commission error rate was 30.5%. The maximum total error rate was 110% reported by Cavalier Telephone, LLC. The minimum total error rate was 1% reported by both Charter Communications Inc and Starpower Communications, LLC. The average total error rate was 34.3%.

Census blocks that are outside Cable Franchise Boundary

For those BSPs that provide broadband service via cable modem technology, they are (supposedly) constrained to a service area defined by a local (or several local) cable franchise boundar(ies). The MBBMI team obtained the spatial extent of the cable franchise boundaries within the state of Maryland from the Maryland Broadband Cooperative. With these cable franchise boundary areas, a test can be performed to count the number of census blocks that fall outside of a cable franchise boundary area. This may indicate an error, although it is possible that a) the cable franchise boundaries are not up-to-date or b) the BSP offers broadband service beyond the area in which they offer cable television service.

In Maryland, 11 providers are eligible for this test. The maximum number of blocks that fall outside the cable franchise boundaries is 6,887 reported by Comcast Cable Communications,

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LLC. This represents 14.3% of their total number of served blocks. The minimum number of “outside” blocks is 0 reported by Hotwire Communications, Ltd. The average number of blocks that fall outside the cable franchise boundary is 842.

Census blocks that are outside DSL boundary

For those BSPs that provide broadband service via digital subscriber line (DSL) technology, the general area of DSL availability is tracked by several industry groups. The MBBMI team obtained the spatial extent of the DSL availability areas within the state of Maryland from the Maryland Broadband Cooperative. With these DSL availability areas, a test can be performed to count the number of census blocks that fall outside of the DSL availability area. This may indicate an error, although it is possible that the DSL availability boundaries are not up-to-date or correct. There was no metadata concerning currentness or quality included in the DSL availability areas.

In Maryland, 8 providers are eligible for this test. The maximum number of blocks that fall outside the DSL availability areas is 7,734 reported by Verizon Maryland Inc. This represents 10.8% of their total number of served blocks. The minimum number of “outside” blocks is 0 reported by MegaPath. The average number of blocks that fall outside the DSL availability area is 1,030.

Wireless Verification

For the wireless coverage areas, many of the other data checks and tests are not appropriate to use. In the summer of 2010, the MBBMI embarked on a wireless coverage area verification project. For each of the 1,472 systematic sampling grid points (see above), a research team visited the sample address with four phones, one each for Sprint, Verizon Wireless, AT&T, and T-Mobile. A software package developed by QOS was purchased and used to test a) broadband availability, b) downstream and upstream speeds, and c) the GPS location of the test. If the QOS software malfunctioned, the FCC’s mobile speed test was used to record the availability and speed with the location being recorded manually.

The results of this test are, as of this writing, still being processed. Specifically, XX% of the samples taken reported to be at some location other than the grid point. The team is in the process of reprocessing/recollecting those samples. There is no systematic pattern to the reprocessed samples. Therefore, XX grid points with valid samples were used to conduct this test. Of those, the following combinations of reported service vs. sampled service were tallied:

- 1) A sample point was in an area reported as served and the sample was returned as served
- 2) A sample point was in an area reported as served but the sample was returned as unserved

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- 3) A sample point was not in an area reported as served and the sample was returned as not served
- 4) A sample point was not in an area reported as served but the sample was returned as served

The total number of sample points in categories 2 and 4 are reported as error (of commission and of omission, respectively).

For the state of Maryland, the maximum omission was 196 and the error rate was 18% reported by T-Mobile. The minimum omission error rate was 2% reported by AT&T Mobility LLC. The average omission error rate was 8.5%. The maximum commission was 341 and the error rate was 30% reported by AT&T Mobility LLC. The minimum commission error rate was 14% reported by Verizon Wireless. The average commission error rate was 18.6%. The maximum total error rate was 34% reported by T-Mobile. The minimum total error rate was 19% reported by Verizon Wireless. The average total error rate was 27.3%.

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Individual Provider Data Summaries

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Antietam Cable Television, Inc.**DBA Name: Antietam Cable Television, Inc****Data Characteristics**

Date of Original Submission:	7/29/2010
Date of Update Submission:	N/A
Currency of Data:	July 2009
FRN:	0002154367
Type of data submitted:	Address Table
Census Block Count:	1805
Total Matched Address Points Count:	574
Unmatched Address Points:	99
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Address Table Process:**

- Geocode address table to Maryland Property View address locator
 - Number matched: 21083
 - Number unmatched: 801
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 702
 - Number unmatched: 99
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results
 - Load exported results into the NTIA data model

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- Result: BB_Service_CensusBlock

Data Verification**Maximum down/upload speeds reported by provider:**

Census Blocks

Max Download Category	Count	Max Upload Category	Count
8	1805	2	1805

Addresses

Max Download Category	Count	Max Upload Category	Count
8	574	2	574

Typical down/upload speeds reported by provider: N/A**Typical down/upload speed from 2010 speed test:**

Speed Test Download Tier	Count	% of Tests	Speed Test Upload Tier	Count	% of Tests
0	2	1%	1	4	3%
3	5	3%	2	36	24%
4	30	20%	3	105	71%
5	103	70%	4	1	1%
6	4	3%	5	1	1%
7	1	1%	6	1	1%
8	1	1%			
9	1	1%			
10	1	1%			

Speed tests match reported typical download speeds or are within 1 speed tier: N/A**%/# of census blocks verified by 2010 FCC and Ookla speed tests:**

Confirmation of census block served	96
Census blocks served, not reported by provider	
Total number of served census blocks reported by provider	1823
% of served census blocks confirmed by speed test	5%

Form 477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: 1

Number of tracts reported to FCC, but no census blocks reported to project: 0

Dead zones:

Number of census blocks with dead zones reported: 3

Total number of dead zones reported per provider: 3

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Of census blocks reported as served, how many have zero population based on 2000 census data? 102/1823 (6%)

Web Search Verification: [N/A](#)

Wireless Verification: [N/A](#)

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Armstrong Holdings, Inc.

DBA Name: Armstrong Utilities, Inc.

Data Characteristics

Date of Original Submission: 3/31/2010
 Date of Update Submission: N/A
 Currency of Data: March 2010
 FRN: 0003765617
 Type of data submitted: Census Block Table
 Census Block Count: 1191
 Total Matched Address Points Count: N/A
 Unmatched Address Points: N/A
 Number of Technology of Transmission Types: Complete
 Provided Max Advertised Download Speed: Complete
 Provided Max Advertised Upload Speed: Complete
 Provided Max Typical Download Speed: No
 Provided Max Typical Upload Speed: No
 Provided Middle Mile: No
 Provided Road Segments for census blocks greater than 2 sq miles: Yes

Data Processing

Census Block Process:

- Join the provided census block table to the 2000 census blocks based on the BLK2000 field
 - Export results
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification

Maximum down/upload speeds reported by provider:

Max Download Category	Count	% of Blocks	Max Upload Category	Count	% of Blocks
7	1191	100%	5	1191	100%

Typical down/upload speeds reported by provider: N/A

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Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	4	6%
3	1	2%
4	1	2%
5	10	16%
6	34	55%
7	12	19%

Speed Test Upload Tier	Count	% of Tests
1	2	3%
2	4	6%
3	11	18%
4	44	71%
6	1	2%

Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	37
Census blocks served, not reported by provider	0
Total number of served census blocks reported by provider	1191
% of served census blocks confirmed by speed test	3%

Form 477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [43](#)

Number of tracts reported to FCC, but no census blocks reported to project: [1](#)

Dead zones:

Number of census blocks with dead zones reported: [4](#)

Total number of dead zones reported per provider: [4](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [182/1191 \(15%\)](#)

Web Search Verification: [47/1191 \(4%\)](#) of census blocks were confirmed using online search feature of given provider

Armstrong WebSearch Verification Table	Count	Percentage
Total # of sample points	1472	
Number of sample points with results	167	11%
Result is yes and census block is in served area	77	46%
Result is yes but not in a census block reported as served	10	6%
Result is no and census block is in served area	43	26%
Result is no and census block not served area	37	22%

Census blocks that are outside Cable Franchise Boundary: [674/1191 \(57%\)](#)

Wireless Verification: [N/A](#)

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AT&T Mobility LLC

DBA Name: AT&T Mobility LLC

Data Characteristics

Date of Original Submission:	3/9/2010
Date of Update Submission:	7/28/2010
Currency of Data:	6/30/2010
FRN:	0004979233
Type of data submitted:	Coverage Area
Census Block Count:	76599
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing

Coverage Area Process:

- Repair Geometry on delivered coverage area
- Perform Topology on coverage area
 - Rule: Coverage area should not overlap
 - Load coverage area into the NTIA data model
 - Result: BB_Service_Wireless

Data Verification

Maximum down/upload speeds reported by provider:

Max Download Category	Count	% of Area
4	2	100%

Max Upload Category	Count	% of Area
3	2	100%

Typical down/upload speeds reported by provider:

Typical Download Category	Count	% of Area
3	2	100%

Typical Upload Category	Count	% of Area
3	2	100%

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests

Speed Test Upload Tier	Count	% of

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0	4	6%
3	1	2%
4	1	2%
5	10	16%
6	34	55%
7	12	19%

		Tests
1	2	3%
2	4	6%
3	11	18%
4	44	71%
6	1	2%

Speed tests match reported typical download speeds or are within 1 speed tier: [No](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	3
Census blocks served, not reported by provider	0
% of total speed tests confirming service area	
Total number of served census blocks reported by provider	76599
% of served census blocks confirmed by speed test	.004%

Form 477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [50811](#)

Number of tracts reported to FCC, but no census blocks reported to project: [3](#)

Dead zones:

Number of census blocks with dead zones reported: [102](#)

Total number of dead zones reported per provider: [120](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [N/A](#)

Web Search Verification: [N/A](#)

Wireless Verification:

ATT Wireless Verification Table	Count	Percentage
Total # of sample points	1471	
Number of sample points with results	1119	76%
Verified served AND BSP says served (yes,yes)	695	62%
Verified served AND BSP says unserved (yes,no)	25	2%
Verified unserved AND BSP says served (no,yes)	341	30%
Verified unserved AND BSP says unserved (no,no)	58	5%

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Bay Country Communications, Inc.

DBA Name: Bay Country Communications, Inc.

Data Characteristics

Date of Original Submission: 8/9/2010
 Date of Update Submission: N/A
 Currency of Data: August 2010
 FRN: 0020136552
 Type of data submitted: Census Block Table
 Census Block Count: 846
 Total Matched Address Points Count: N/A
 Unmatched Address Points: N/A
 Number of Technology of Transmission Types: 1
 Provided Max Advertised Download Speed: Complete
 Provided Max Advertised Upload Speed: Complete
 Provided Max Typical Download Speed: Complete
 Provided Max Typical Upload Speed: Complete
 Provided Middle Mile: No
 Provided Road Segments for census blocks greater than 2 sq miles: No

Data Processing

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification

Maximum down/upload speeds reported by provider:

Max Download Category	Count	% of Blocks
7	846	100%

Max Upload Category	Count	% of Blocks
7	846	100%

Typical down/upload speeds reported by provider:

Typical Download Category	Count	% of Blocks
4	846	100%

Typical Upload Category	Count	% of Blocks
2	846	100%

Typical down/upload speed from 2010 speed test: N/A

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Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests: [N/A](#)

Form 477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [N/A](#)

Number of tracts reported to FCC, but no census blocks reported to project: [N/A](#)

Dead zones:

Number of census blocks with dead zones reported: [0](#)

Total number of dead zones reported per provider: [0](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [243/846 \(28%\)](#)

Web Search Verification: [N/A](#)

Census blocks that are outside Cable Franchise Boundary: [181/846 \(21%\)](#)

Wireless Verification: [N/A](#)

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Broadstripe, LLC

DBA Name: Broadstripe, LLC

Data Characteristics

Date of Original Submission:	4/14/2010
Date of Update Submission:	N/A
Currency of Data:	December 2009
FRN:	0003773843
Type of data submitted:	Address Table
Census Block Count:	2717
Total Matched Address Points Count:	104258
Unmatched Address Points:	231
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing

Address Table Process:

- Geocode address table to Maryland Property View address locator
 - Number matched: 103428
 - Number unmatched: 1061
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 830
 - Number unmatched: 231
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

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Data Verification**Maximum down/upload speeds reported by provider:****Census Blocks**

Max Download Category	Count	% of Blocks
7	2717	100%

Max Upload Category	Count	% of Blocks
4	2717	100%

Address Points

Max Download Category	Count	% of Points
7	1183	100%

Max Upload Category	Count	% of Points
4	1183	100%

Typical down/upload speeds reported by provider: N/A**Typical down/upload speed from 2010 speed test:**

Speed Test Download Tier	Count	% of Tests
3	3	6%
4	4	8%
5	11	21%
6	18	34%
7	17	32%

Speed Test Upload Tier	Count	% of Tests
1	3	6%
2	4	8%
3	6	11%
4	40	75%

Speed tests match reported typical download speeds or are within 1 speed tier: N/A**%/# of census blocks verified by 2010 FCC and Ookla speed tests:**

Confirmation of census block served	35
Census blocks served, not reported by provider	0
Total number of served census blocks reported by provider	2721
% of served census blocks confirmed by speed test	1%

Form477 Verification:**Number of census blocks reported to project, but no tract reported to FCC: 14****Number of tracts reported to FCC, but no census blocks reported to project: 1****Dead zones:****Number of census blocks with dead zones reported: 0****Total number of dead zones reported per provider: 0****Of census blocks reported as served, how many have zero population based on 2000 census data? 187/2721 (7%)****Web Search Verification: 9/2721 (0.3%) of census blocks were confirmed using online search feature of given provider**

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Broadstripe WebSearch Verification Table	Count	Percentage
Total # of sample points	1472	
Number of sample points with results	82	6%
Result is yes and census block is in served area	9	11%
Result is yes but not in a census block reported as served	0	0%
Result is no and census block is in served area	26	32%
Result is no and census block not served area	47	57%

Census blocks that are outside Cable Franchise Boundary: [198/2721 \(73%\)](#)

Wireless Verification: [N/A](#)

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Broadview Networks Holdings, Inc.

DBA Name: Broadview Networks Holdings, Inc.

Data Characteristics

Date of Original Submission:	2/24/2010
Date of Update Submission:	7/27/2010
Currency of Data:	6/30/2010
FRN:	0010296853
Type of data submitted:	Address Table
Census Block Count:	601
Total Matched Address Points Count:	797
Unmatched Address Points:	14
Number of Technology of Transmission Types:	3
Provided Max Advertised Download Speed:	Incomplete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing

Address Table Process:

- Geocode address table to Maryland Property View address locator
 - Number matched: 789
 - Number unmatched: 22
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 8
 - Number unmatched: 14
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Separate and export the address points according to technology of transmission
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results for each technology of transmission

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- Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Speed Domains:

- 9 Symmetric DSL blocks with Maximum Advertised Upstream < tier 3
 - Maximum Advertised Upstream calculated to 3
- 3 Other Copper Wireline with Maximum Advertised Downstream < tier 3
 - Maximum Advertised Downstream calculated to 3
- 2 Other Copper Wireline with Maximum Advertised Upstream < tier 2
 - Maximum Advertised Upstream calculated to 2

Data Verification**Maximum down/upload speeds reported by provider:****Census blocks**

Max Download Category	Count	% of Blocks
2	3	1%
3	7	1%
4	470	83%
5	75	13%
6	9	2%

Max Upload Category	Count	% of Blocks
1	4	1%
2	84	14%
3	19	3%
4	439	71%
5	63	10%
6	8	1%

Address Points

Max Download Category	Count	% of Points
4	4	67%
5	2	33%

Max Upload Category	Count	% of Points
3	1	14%
4	4	57%
5	2	29%

Typical down/upload speeds reported by provider: [N/A](#)**Typical down/upload speed from 2010 speed test:**

Speed Test Download Tier	Count	% of Tests
0	1	13%
3	4	50%
4	1	13%
5	2	25%

Speed Test Upload Tier	Count	% of Tests
2	2	25%
3	3	38%
4	1	13%
5	2	25%

Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)**%/# of census blocks verified by 2010 FCC and Ookla speed tests:**

Confirmation of census block served	7
Census blocks served, not reported by provider	1

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Total number of served census blocks reported by provider	601
% of served census blocks confirmed by speed test	1%

Form 477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: 69

Number of tracts reported to FCC, but no census blocks reported to project: 71

Dead zones:

Number of census blocks with dead zones reported: 0

Total number of dead zones reported per provider: 0

Of census blocks reported as served, how many have zero population based on 2000 census data? 204/601 (34%)

Web Search Verification: N/A

Wireless Verification: N/A

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Brookwood Ventures LLC**DBA Name: Brookwood Ventures LLC****Data Characteristics**

Date of Original Submission:	3/12/2010
Date of Update Submission:	N/A
Currency of Data:	March 2010
FRN:	0010296853
Type of data submitted:	Coverage Area
Census Block Count:	585
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Coverage Area Process:**

- Repair Geometry on delivered coverage area
- Perform Topology on coverage area
 - Rule: Coverage area should not overlap
 - Load coverage area into the NTIA data model
 - Result: BB_Service_Wireless

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Area	Max Upload Category	Count	% of Area
5	1	100%	3	1	100%

Typical down/upload speeds reported by provider: N/A

Typical down/upload speed from 2010 speed test: N/A

Speed tests match reported typical download speeds or are within 1 speed tier: N/A

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%/# of census blocks verified by 2010 FCC and Ookla speed tests: [N/A](#)

Form 477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [213](#)

Number of tracts reported to FCC, but no census blocks reported to project: [0](#)

Dead zones:

Number of census blocks with dead zones reported: [0](#)

Total number of dead zones reported per provider: [0](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [N/A](#)

Web Search Verification: [N/A](#)

Wireless Verification: [N/A](#)

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Cavalier Telephone LLC**DBA Name: Cavalier Telephone LLC****Data Characteristics**

Date of Original Submission:	3/10/2010
Date of Update Submission:	7/19/2010
Currency of Data:	December 2009
FRN:	0018426684
Type of data submitted:	Address Table
Census Block Count:	7408
Total Matched Address Points Count:	13121
Unmatched Address Points:	237
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Incomplete
Provided Max Advertised Upload Speed:	Incomplete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	Yes
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Address Table Process:**

- Geocode address table to Maryland Property View address locator
 - Number matched: 12318
 - Number unmatched: 1040
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 803
 - Number unmatched: 237
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results
 - Load exported results into the NTIA data model

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- Result: BB_Service_CensusBlock

Data Verification

Maximum down/upload speeds reported by provider:

Census Blocks

Max Download Category	Count	% of Blocks
4	322	5%
7	6798	95%

Max Upload Category	Count	% of Blocks
4	322	5%
7	6798	95%

Addresses

Max Download Category	Count	% of Points
7	2	100%

Max Upload Category	Count	% of Points
7	2	100%

Typical down/upload speeds reported by provider: [N/A](#)

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	28	27%
3	10	10%
4	12	12%
5	28	27%
6	16	16%
7	7	7%
8	1	1%

Speed Test Upload Tier	Count	% of Tests
1	6	6%
2	59	58%
3	32	31%
4	2	2%
5	2	2%
7	1	1%

Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	49
Census blocks served, not reported by provider	9
Total number of served census blocks reported by provider	7408
% of served census blocks confirmed by speed test	.66%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [63](#)

Number of tracts reported to FCC, but no census blocks reported to project: [88](#)

Dead zones:

Number of census blocks with dead zones reported: [1](#)

Total number of dead zones reported per provider: [1](#)

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Of census blocks reported as served, how many have zero population based on 2000 census data? 494/7408 (7%)

Web Search Verification: 20/7408 (0.3%) of census blocks were confirmed using online search feature of given provider

Cavalier WebSearch Verification Table	Count	Percentage
Total # of sample points	1472	
Number of sample points with results	408	28%
Result is yes and census block is in served area	42	10%
Result is yes but not in a census block reported as served	6	32%
Result is no and census block is in served area	319	78%
Result is no and census block not served area	41	10%

Census blocks that are outside DSL boundary: 100/7401 (1.3%)

Wireless Verification: N/A

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Charter Communications Inc**DBA Name: Charter Communications Inc****Data Characteristics**

Date of Original Submission:	3/31/2010
Date of Update Submission:	N/A
Currency of Data:	December 2009
FRN:	0017179383
Type of data submitted:	Census Block Table
Census Block Count:	139
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	Yes

Data Processing**Census Block Process:**

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	Max Upload Category	Count
7	139	3	139

Typical down/upload speeds reported by provider:

Typical Download Category	Count	Typical Upload Category	Count
5	62	2	62
6	76	3	76

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Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests	Speed Test Upload Tier	Count	% of Tests
4	1	50%	3	2	100%
7	1	50%			

Speed tests match reported typical download speeds or are within 1 speed tier: **No**

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	2
Census blocks served, not reported by provider	0
Total number of served census blocks reported by provider	139
% of served census blocks confirmed by speed test	1.5%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: **0**

Number of tracts reported to FCC, but no census blocks reported to project: **0**

Dead zones:

Number of census blocks with dead zones reported: **0**

Total number of dead zones reported per provider: **0**

Of census blocks reported as served, how many have zero population based on 2000 census data? **8/139 (6%)**

Web Search Verification: **3/108 (2.8%)** of census blocks were confirmed using online search feature of given provider

WebSearch Verification Table	Count	Percentage
Total # of sample points	1472	
Number of sample points with results	54	13%
Result is yes and census block is in served area	3	1%
Result is yes but not in a census block reported as served	0	0%
Result is no and census block is in served area	4	1%
Result is no and census block not served area	47	12%

Census blocks that are outside Cable Franchise Boundary: **63/139 (46%)**

Wireless Verification: **N/A**

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Clearwire Corporation**DBA Name: Clearwire Corporation****Data Characteristics**

Date of Original Submission:	3/5/2010
Date of Update Submission:	8/5/2010
Currency of Data:	8/5/2010
FRN:	0017775628
Type of data submitted:	Coverage Area
Census Block Count:	N/A
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Coverage Area Process:**

- Repair Geometry on delivered coverage area
- Perform Topology on coverage area
 - Rule: Coverage area should not overlap
 - Load coverage area into the NTIA data model
 - Result: BB_Service_Wireless

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	Max Upload Category	Count
7	1	3	1

Typical down/upload speeds reported by provider:

Typical Download Category	Count	Typical Upload Category	Count
5	1	3	1

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Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	1	3%
3	7	18%
4	2	5%
5	21	55%
6	6	16%
7	1	3%

Speed Test Upload Tier	Count	% of Tests
2	11	29%
3	27	71%

Speed tests match reported typical download speeds or are within 1 speed tier: Yes

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	29
Census blocks served, not reported by provider	0
Total number of served census blocks reported by provider	32314
% of served census blocks confirmed by speed test	0%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: N/A

Number of tracts reported to FCC, but no census blocks reported to project: N/A

Dead zones:

Number of census blocks with dead zones reported: 10

Total number of dead zones reported per provider: 6

Of census blocks reported as served, how many have zero population based on 2000 census data? N/A

Web Search Verification: 112/32314 (<1%) of census blocks were confirmed using online search feature of given provider

Clearwire WebSearch Verification Table	Count	Percentage
Total # of sample points	1472	
Number of sample points with results	358	24%
Result is yes and census block is in served area	111	31%
Result is yes but not in a census block reported as served	2	1%
Result is no and census block is in served area	200	56%
Result is no and census block not served area	45	13%

Wireless Verification: N/A

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Cogent Communications Group**DBA Name: Cogent Communications Group****Data Characteristics**

Date of Original Submission:	2/1/2010
Date of Update Submission:	N/A
Currency of Data:	January 2010
FRN:	0019066034
Type of data submitted:	Address Table
Census Block Count:	3
Total Matched Address Points Count:	3
Unmatched Address Points:	3
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Address Table Process:**

- Geocode address table to Maryland Property View address locator
 - Number matched: 3
 - Number unmatched: 3
- Spatially join address points to 2000 census blocks
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be joined to census blocks

Census Block Process:

- Join the address points to the 2000 census blocks based on the BLK2000 field
 - Export results
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Blocks	Max Upload Category	Count	% of Blocks
11	3	100%	11	3	100%

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Typical down/upload speeds reported by provider: [N/A](#)

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests	Speed Test Upload Tier	Count	% of Tests
5	1	13%	6	7	88%
6	6	75%	7	1	13%
8	1	13%			

Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	0
Census blocks served, not reported by provider	6
Total number of served census blocks reported by provider	3
% of served census blocks confirmed by speed test	0%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: 0

Number of tracts reported to FCC, but no census blocks reported to project: 3

Dead zones:

Number of census blocks with dead zones reported: 0

Total number of dead zones reported per provider: 0

Of census blocks reported as served, how many have zero population based on 2000 census data? 3/3 (100%)

Web Search Verification: [N/A](#)

Wireless Verification: [N/A](#)

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Comcast Corporation

DBA Name: Comcast Cable Communications, LLC

Data Characteristics

Date of Original Submission: 1/19/2010
 Date of Update Submission: 8/6/2010
 Currency of Data: 6/30/2010
 FRN: 0004441663
 Type of data submitted: Census Block Table
 Census Block Count: 48303
 Total Matched Address Points Count: N/A
 Unmatched Address Points: N/A
 Number of Technology of Transmission Types: 2
 Provided Max Advertised Download Speed: Complete
 Provided Max Advertised Upload Speed: Complete
 Provided Max Typical Download Speed: No
 Provided Max Typical Upload Speed: No
 Provided Middle Mile: Yes
 Provided Road Segments for census blocks greater than 2 sq miles: Yes

Data Processing

Census Block Process:

- Join the census block table to the 2000 census blocks based on the BLK2000 field
 - Export results for each technology of transmission
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification

Maximum down/upload speeds reported by provider:

Census blocks

Max Download Category	Count	% of Blocks
9	48303	100%

Max Upload Category	Count	% of Blocks
7	48303	100%

Road Segments

Max Download Category	Count	% of Segments
9	1521	100%

Max Upload Category	Count	% of Segments
7	1521	100%

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Typical down/upload speeds reported by provider:

Road Segments

Typical Download Category	Count	% of Segments
6	1521	100%

Typical Upload Category	Count	% of Segments
NULL		

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	40	1%
3	117	3%
4	87	2%
5	326	8%
6	583	14%
7	3009	70%
8	105	2%
9	18	0%
10	10	0%

Speed Test Upload Tier	Count	% of Tests
1	21	0%
2	138	3%
3	233	5%
4	1049	24%
5	2753	64%
6	95	2%
7	6	0%

Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	2104
Census blocks served, not reported by provider	81
Total number of served census blocks reported by provider	48303
% of served census blocks confirmed by speed test	4%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [46](#)

Number of tracts reported to FCC, but no census blocks reported to project: [1](#)

Dead zones:

Number of census blocks with dead zones reported: [47](#)

Total number of dead zones reported per provider: [60](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [3977/48303 \(8%\)](#)

Web Search Verification:

[430/48303 \(1%\)](#) of census blocks were confirmed using online search feature of given provider

Comcast WebSearch Verification Table	Count	Percentage
Total # of sample points	1472	
Number of sample points with results	1472	100%

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Result is yes and census block is in served area	547	37%
Result is yes but not in a census block reported as served	0	0%
Result is no and census block is in served area	925	63%
Result is no and census block not served area	0	0%

Census blocks that are outside Cable Franchise Boundary: [6887/48303 \(14%\)](#)

Wireless Verification: [N/A](#)

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DIECA Communications, Inc.**DBA: Covad Communication Company****Data Characteristics**

Date of Original Submission:	2/1/2010
Date of Update Submission:	7/30/2010
Currency of Data:	December 2009
FRN:	0003753753
Type of data submitted:	Census Block Table
Census Block Count:	42099
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	3
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Census Block Process:**

- Join the census block table to the 2000 census blocks based on the BLK2000 field
 - Export results for each technology of transmission
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Blocks
3	16312	17%
4	17717	18%
5	33540	34%
6	19123	19%
7	11939	12%

Max Upload Category	Count	% of Blocks
2	5036	5%
3	40568	41%
4	12692	13%
5	31557	32%
7	8778	9%

Typical down/upload speeds reported by provider:

Typical Download Category	Count	% of Blocks
3	16312	17%

Typical Upload Category	Count	% of Blocks
2	5036	5%

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4	17717	18%
5	33540	34%
6	19123	19%
7	11939	12%

3	40568	41%
4	12692	13%
5	31557	32%
7	8778	9%

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	8	13%
3	30	50%
4	14	23%
5	3	5%
6	3	5%
7	2	3%

Speed Test Upload Tier	Count	% of Tests
1	17	28%
2	28	47%
3	8	13%
4	4	7%
5	3	5%

Speed tests match reported typical speeds or are within 1 speed tier: No

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	34
Census blocks served, not reported by provider	0
Total number of served census blocks reported by provider	42099
% of served census blocks confirmed by speed test	.08%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: 3788

Number of tracts reported to FCC, but no census blocks reported to project: 0

Dead zones:

Number of census blocks with dead zones reported: 7

Total number of dead zones reported per provider: 12

Of census blocks reported as served, how many have zero population based on 2000 census data? 7899/42099 (19%)

Web Search Verification: N/A

Census blocks that are outside DSL boundary: 389/42099 (0.9%)

Wireless Verification: N/A

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Leap Wireless International, Inc**DBA: Cricket Communications****Data Characteristics**

Date of Original Submission:	3/17/2010
Date of Update Submission:	7/29/2010
Currency of Data:	6/30/2010
FRN:	0002963528
Type of data submitted:	Coverage Area
Census Block Count:	47141
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Coverage Area Process:**

- Repair Geometry on delivered coverage area
- Perform Topology on coverage area
 - Rule: Coverage area should not overlap
- Typical Downstream speed 2 is invalid – change to 2 to fit in data model
 - Load coverage area into the NTIA data model
 - Result: BB_Service_Wireless

Speed Domains:

- Typical Download Speed was < 3
 - Calculated speed to 3

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Area	Max Upload Category	Count	% of Area
3	1	100%	3	1	100%

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Typical down/upload speeds reported by provider:

Typical Download Category	Count	% of Area
3	1	100%

Typical Upload Category	Count	% of Area
2	1	100%

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	28	88%
3	3	9%
4	1	3%

Speed Test Upload Tier	Count	% of Tests
1	4	13%
2	27	84%
4	1	3%

Speed tests match reported typical speeds or are within 1 speed tier: No

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	20
Census blocks served, not reported by provider	0
Total number of served census blocks reported by provider	47141
% of served census blocks confirmed by speed test	.04%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: N/A

Number of tracts reported to FCC, but no census blocks reported to project: N/A

Dead zones:

Number of census blocks with dead zones reported: 22

Total number of dead zones reported per provider: 26

Of census blocks reported as served, how many have zero population based on 2000 census data? N/A

Web Search Verification: 392/47141 (0.8%) of census blocks were confirmed using online search feature of given provider

Cricket WebSearch Verification Table	Count	Percentage
Total # of sample points	1472	
Number of sample points with results	581	39%
Result is yes and census block is in served area	399	69%
Result is yes but not in a census block reported as served	13	2%
Result is no and census block is in served area	169	29%
Result is no and census block not served area	0	0%

Wireless Verification: N/A

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DSLnet, Inc**DBA: DSLnet, Inc****Data Characteristics**

Date of Original Submission:	3/11/2010
Date of Update Submission:	N/A
Currency of Data:	3/11/2010
FRN:	0015321136
Type of data submitted:	Address Table
Census Block Count:	57
Total Matched Address Points Count:	64
Unmatched Address Points:	1
Number of Technology of Transmission Types:	2
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Address Table Process:**

- Geocode address table to Maryland Property View address locator
 - Number matched: 63
 - Number unmatched: 2
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 1
 - Number unmatched: 1
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Separate and export the address points according to technology of transmission
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results for each technology of transmission

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- Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification

Maximum down/upload speeds reported by provider:

Max Download Category	Count	% of Blocks
3	42	70%
4	17	28%
8	1	2%

Max Upload Category	Count	% of Blocks
1	11	18%
2	19	32%
3	12	20%
4	17	28%
8	1	2%

Typical down/upload speeds reported by provider: [N/A](#)

Typical down/upload speed from 2010 speed test: [N/A](#)

Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests: [N/A](#)

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [10](#)

Number of tracts reported to FCC, but no census blocks reported to project: [187](#)

Dead zones:

Number of census blocks with dead zones reported: [0](#)

Total number of dead zones reported per provider: [0](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [21/57 \(37%\)](#)

Web Search Verification: [N/A](#)

Census blocks that are outside DSL boundary: [3/57 \(5%\)](#)

Wireless Verification: [N/A](#)

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DSLnet Communications, LLC

DBA Name: **DSLnet Communications, LLC**

Data Characteristics

Date of Original Submission:	3/11/2010
Date of Update Submission:	N/A
Currency of Data:	3/11/2010
FRN:	0004324857
Type of data submitted:	Address Table
Census Block Count:	583
Total Matched Address Points Count:	855
Unmatched Address Points:	28
Number of Technology of Transmission Types:	3
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing

Address Table Process:

- Geocode address table to Maryland Property View address locator
 - Number matched: 826
 - Number unmatched: 57
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 29
 - Number unmatched: 28
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Separate and export the address points according to technology of transmission
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results for each technology of transmission

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- Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification**Maximum down/upload speeds reported by provider:**

Census blocks

Max Download Category	Count	% of Blocks
3	313	50%
4	309	49%
5	3	0.5%
8	1	0.2%

Max Upload Category	Count	% of Blocks
1	71	11%
2	142	23%
3	100	16%
4	309	49%
5	3	0.5%
8	1	0.2%

Address points

Max Download Category	Count	% of Points
3	2	12%
5	15	88%

Max Upload Category	Count	% of Points
1	2	12%
2	15	88%

Typical down/upload speeds reported by provider: N/A**Typical down/upload speed from 2010 speed test:**

Speed Test Download Tier	Count	% of Tests
0	1	50%
10	1	50%

Speed Test Upload Tier	Count	% of Tests
3	1	50%
5	1	50%

Speed tests match reported typical speeds or are within 1 speed tier: N/A**%/# of census blocks verified by 2010 FCC and Ookla speed tests:**

Confirmation of census block served	1
Census blocks served, not reported by provider	1
Total number of served census blocks reported by provider	583
% of served census blocks confirmed by speed test	.17%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: N/A

Number of tracts reported to FCC, but no census blocks reported to project: N/A

Dead zones:

Number of census blocks with dead zones reported: 0

Total number of dead zones reported per provider: 0

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Of census blocks reported as served, how many have zero population based on 2000 census data? [186/583 \(32%\)](#)

Web Search Verification: [N/A](#)

Census blocks that are outside DSL boundary: [2/583 \(.34%\)](#)

Wireless Verification: [N/A](#)

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Easton Utilities Commission

DBA Name: Easton Utilities Commission

Data Characteristics

Date of Original Submission:	2/5/2010
Date of Update Submission:	N/A
Currency of Data:	February 2010
FRN:	0003793726
Type of data submitted:	Address Table
Census Block Count:	373
Total Matched Address Points Count:	4688
Unmatched Address Points:	3
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing

Address Table Process:

- Geocode address table to Maryland Property View address locator
 - Number matched: 4554
 - Number unmatched: 137
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 134
 - Number unmatched: 3
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

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Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Blocks
3	199	53%
5	174	47%

Max Upload Category	Count	% of Blocks
2	350	94%
3	20	5%
4	3	1%

Typical down/upload speeds reported by provider: [N/A](#)

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
3	6	8%
4	9	13%
5	53	74%
6	1	1%
7	1	1%
8	1	1%
10	1	1%

Speed Test Upload Tier	Count	% of Tests
1	7	10%
2	52	72%
3	11	15%
5	2	3%

Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	30
Census blocks served, not reported by provider	3
Total number of served census blocks reported by provider	373
% of served census blocks confirmed by speed test	8%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: **7**

Number of tracts reported to FCC, but no census blocks reported to project: **0**

Dead zones:

Number of census blocks with dead zones reported: **0**

Total number of dead zones reported per provider: **0**

Of census blocks reported as served, how many have zero population based on 2000 census data? [34/373 \(9%\)](#)

Web Search Verification: [N/A](#)

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Census blocks that are outside Cable Franchise Boundary: [4/373 \(1%\)](#)

Wireless Verification: [N/A](#)

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FiberLight LLCDBA Name: **FiberLight LLC****Data Characteristics**

Date of Original Submission:	March 2010
Date of Update Submission:	N/A
Currency of Data:	March 2010
FRN:	0014117139
Type of data submitted:	Census Block Table
Census Block Count:	574
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Census Block Process:**

- Join census block table to the 2000 census blocks based on the BLK2000 field
 - Export results
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Blocks	Max Upload Category	Count	% of Blocks
10	574	100%	10	574	100%

Typical down/upload speeds reported by provider: N/A

Typical down/upload speed from 2010 speed test: N/A

Speed tests match reported typical download speeds or are within 1 speed tier: N/A

%/# of census blocks verified by 2010 FCC and Ookla speed tests: N/A

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Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [N/A](#)

Number of tracts reported to FCC, but no census blocks reported to project: [N/A](#)

Dead zones:

Number of census blocks with dead zones reported: [0](#)

Total number of dead zones reported per provider: [0](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [326/574 \(57%\)](#)

Web Search Verification: [N/A](#)

Wireless Verification: [N/A](#)

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Freedom Wireless Broadband, LLC**DBA Name: Freedom Wireless Broadband, LLC****Data Characteristics**

Date of Original Submission:	1/28/2010
Date of Update Submission:	7/4/2010
Currency of Data:	July 2010
FRN:	0018643155
Type of data submitted:	Coverage Area
Census Block Count:	45
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Coverage Area Process:**

- Repair Geometry on delivered coverage area
- Perform Topology on coverage area
 - Rule: Coverage area should not overlap
 - Load coverage area into the NTIA data model
 - Result: BB_Service_Wireless

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Blocks
4	1	100%

Max Upload Category	Count	% of Blocks
4	1	100%

Typical down/upload speeds reported by provider: N/A**Typical down/upload speed from 2010 speed test:**

Speed Test Download Tier	Count	% of Tests
4	2	100%

Speed Test Upload Tier	Count	% of Tests
4	2	100%

Speed tests match reported typical download speeds or are within 1 speed tier: N/A

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%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	0
% of total speed tests confirming service area	1
Total number of served census blocks reported by provider	45
% of served census blocks confirmed by speed test	0%

Form477 Verification:**Number of census blocks reported to project, but no tract reported to FCC: 0****Number of tracts reported to FCC, but no census blocks reported to project: 0****Dead zones:****Number of census blocks with dead zones reported: 1****Total number of dead zones reported per provider: 2****Of census blocks reported as served, how many have zero population based on 2000 census data? 2/45 (4%)****Web Search Verification: N/A****Wireless Verification: N/A**

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Hotwire Communications, Ltd

DBA Name: Hotwire Communications, Ltd

Data Characteristics

Date of Original Submission:	2/19/2010
Date of Update Submission:	7/15/2010
Currency of Data:	July 2010
FRN:	0009846494
Type of data submitted:	Blocks and Addresses
Census Block Count:	1
Total Matched Address Points Count:	1
Unmatched Address Points:	0
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing

Address Table Process:

- Geocode address table to Maryland Property View address locator
 - Number matched: 1
 - Number unmatched: 0
- Spatially join address points to 2000 census blocks
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

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Data Verification

Maximum down/upload speeds reported by provider:

Max Download Category	Count	% of Blocks
5	1	100%

Max Upload Category	Count	% of Blocks
3	1	100%

Typical down/upload speeds reported by provider: N/A

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	2	100%

Speed Test Upload Tier	Count	% of Tests
2	2	100%

Speed tests match reported typical download speeds or are within 1 speed tier: N/A

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	1
Census blocks served, not reported by provider	0
Total number of served census blocks reported by provider	1
% of served census blocks confirmed by speed test	100%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: 1

Number of tracts reported to FCC, but no census blocks reported to project: 1

Dead zones:

Number of census blocks with dead zones reported: 0

Total number of dead zones reported per provider: 0

Of census blocks reported as served, how many have zero population based on 2000 census data? 0/1 (0%)

Web Search Verification: N/A

Census blocks that are outside Cable Franchise Boundary: 0/1 (0%)

Wireless Verification: N/A

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HNS License Sub, LLC

DBA: Hughes Communications, Inc.

Data Characteristics

Date of Original Submission: 2/2/2010
 Date of Update Submission: N/A
 Currency of Data: July 2010
 FRN: 0018483073
 Type of data submitted: Coverage Area
 Census Block Count: 78858
 Total Matched Address Points Count: N/A
 Unmatched Address Points: N/A
 Number of Technology of Transmission Types: 1
 Provided Max Advertised Download Speed: Complete
 Provided Max Advertised Upload Speed: Complete
 Provided Max Typical Download Speed: Complete
 Provided Max Typical Upload Speed: Complete
 Provided Middle Mile: No
 Provided Road Segments for census blocks greater than 2 sq miles: No

Data Processing

Coverage Area Process:

- Repair Geometry on delivered coverage area
- Perform Topology on coverage area
 - Rule: Coverage area should not overlap
 - Load coverage area into the NTIA data model
 - Result: BB_Service_Wireless

Data Verification

Maximum down/upload speeds reported by provider:

Max Download Category	Count	% of Area	Max Upload Category	Count	% of Area
5	1	100%	2	1	100%

Typical down/upload speeds reported by provider:

Typical Download Category	Count	% of Area	Typical Upload Category	Count	% of Area
3	1	100%	2	1	100%

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Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	25	23%
3	54	50%
4	6	6%
5	3	3%
6	6	6%
7	8	7%
8	5	5%
9	1	1%

Speed Test Upload Tier	Count	% of Tests
1	35	32%
2	56	52%
3	2	2%
4	3	3%
5	4	4%
6	6	6%
7	2	2%

Speed tests match reported typical download speeds or are within 1 speed tier: [Yes](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	41
Census blocks served, not reported by provider	0
Total number of served census blocks reported by provider	78858
% of served census blocks confirmed by speed test	.05%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [45278](#)

Number of tracts reported to FCC, but no census blocks reported to project: [0](#)

Dead zones:

Number of census blocks with dead zones reported: [112](#)

Total number of dead zones reported per provider: [133](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [N/A](#)

Web Search Verification: [N/A](#)

Wireless Verification: [N/A](#)

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Level 3 Communications, LLC

DBA Name: **Level 3 Communications, LLC**

Data Characteristics

Date of Original Submission:	1/18/2010
Date of Update Submission:	N/A
Currency of Data:	January 2010
FRN:	0003723822
Type of data submitted:	Address Table
Census Block Count:	96
Total Matched Address Points Count:	127
Unmatched Address Points:	5
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	Yes
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing

Address Table Process:

- Geocode address table to Maryland Property View address locator
 - Number matched: 119
 - Number unmatched: 13
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 8
 - Number unmatched: 5
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results
 - Load exported results into the NTIA data model

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- Result: BB_Service_CensusBlock

Data Verification

Maximum down/upload speeds reported by provider:

Max Download Category	Count	% of Blocks
11	96	100%

Max Upload Category	Count	% of Blocks
11	96	100%

Typical down/upload speeds reported by provider:

Typical Download Category	Count	% of Blocks
11	96	100%

Typical Upload Category	Count	% of Blocks
11	96	100%

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	40	60%
3	7	10%
5	2	3%
6	2	3%
7	5	7%
8	7	10%
9	3	4%
10	1	1%

Speed Test Upload Tier	Count	% of Tests
0	34	51%
2	4	6%
3	7	10%
4	2	3%
5	3	4%
6	8	12%
7	7	10%
8	2	3%

Speed tests match reported typical download speeds or are within 1 speed tier: **No**

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	6
Census blocks served, not reported by provider	35
Total number of served census blocks reported by provider	96
% of served census blocks confirmed by speed test	6%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: **46**

Number of tracts reported to FCC, but no census blocks reported to project: **64**

Dead zones:

Number of census blocks with dead zones reported: **0**

Total number of dead zones reported per provider: **0**

Of census blocks reported as served, how many have zero population based on 2000 census data? **41/96 (43%)**

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Web Search Verification: [N/A](#)

Wireless Verification: [N/A](#)

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MegaPath, Inc.**DBA Name: MegaPath****Data Characteristics**

Date of Original Submission:	3/11/2010
Date of Update Submission:	N/A
Currency of Data:	3/11/2010
FRN:	0018105601
Type of data submitted:	Address Table
Census Block Count:	87
Total Matched Address Points Count:	93
Unmatched Address Points:	6
Number of Technology of Transmission Types:	3
Provided Max Advertised Download Speed:	Incomplete
Provided Max Advertised Upload Speed:	Incomplete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Address Table Process:**

- Geocode address table to Maryland Property View address locator
 - Number matched: 90
 - Number unmatched: 9
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 3
 - Number unmatched: 6
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Separate and export the address points according to technology of transmission
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results for each technology of transmission

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- Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Area	Max Upload Category	Count	% of Area
3	68	82%	2	59	77%
4	14	17%	3	16	21%
5	1	1%	4	2	3%

Typical down/upload speeds reported by provider: [N/A](#)

Typical down/upload speed from 2010 speed test: [N/A](#)

Speed tests match reported typical speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests: [N/A](#)

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [N/A](#)

Number of tracts reported to FCC, but no census blocks reported to project: [N/A](#)

Dead zones:

Number of census blocks with dead zones reported: [0](#)

Total number of dead zones reported per provider: [0](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [26/87 \(30%\)](#)

Web Search Verification: [N/A](#)

Census blocks that are outside DSL boundary: [0/87 \(0%\)](#)

Wireless Verification: [N/A](#)

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Gans Communications, LP**DBA: MetroCast Communications****Data Characteristics**

Date of Original Submission:	3/5/2010
Date of Update Submission:	N/A
Currency of Data:	March 2010
FRN:	0016642761
Type of data submitted:	Census Block Table
Census Block Count:	1821
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	Yes

Data Processing**Census Block Process:**

- Join the census block table to the 2000 census blocks based on the BLK2000 field
 - Export results (for each technology of transmission)
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification**Maximum down/upload speeds reported by provider:****Census blocks**

Max Download Category	Count	% of Blocks
7	1821	100%

Max Upload Category	Count	% of Blocks
4	1821	100%

Road segments

Typical Download Category	Count	% of Segments
6	1821	100%

Typical Upload Category	Count	% of Segments
2	1821	100%

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Typical down/upload speeds reported by provider:

Census blocks

Max Download Category	Count	% of Blocks
7	1567	100%

Max Upload Category	Count	% of Blocks
4	1567	100%

Road segments

Typical Download Category	Count	% of Segments
7	1567	100%

Typical Upload Category	Count	% of Segments
2	1567	100%

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
3	9	13%
4	3	4%
5	12	18%
6	42	62%
7	2	3%

Speed Test Upload Tier	Count	% of Tests
1	7	10%
2	58	85%
3	2	3%
4	1	1%

Speed tests match reported typical download speeds or are within 1 speed tier: [Yes](#)**%/# of census blocks verified by 2010 FCC and Ookla speed tests:**

Confirmation of census block served	31
Census blocks served, not reported by provider	7
Total number of served census blocks reported by provider	1821
% of served census blocks confirmed by speed test	2%

Form477 Verification:Number of census blocks reported to project, but no tract reported to FCC: [N/A](#)Number of tracts reported to FCC, but no census blocks reported to project: [N/A](#)**Dead zones:**Number of census blocks with dead zones reported: [10](#)Total number of dead zones reported per provider: [9](#)Of census blocks reported as served, how many have zero population based on 2000 census data? [469/1821 \(26%\)](#)Web Search Verification: [36/1821 \(2%\)](#) of census blocks were confirmed using online search feature of given provider

MetroCast WebSearch Verification Table	Count	Percentage
Total # of sample points	1472	
Number of sample points with results	105	7%
Result is yes and census block is in served area	54	51%
Result is yes but not in a census block reported as served	2	2%

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Result is no and census block is in served area	4	4%
Result is no and census block not served area	45	43%

Census blocks that are outside Cable Franchise Boundary: [1104/1821 \(61%\)](#)

Wireless Verification: [N/A](#)

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New Edge Holding Company

DBA Name: **New Edge Network, Inc**

Data Characteristics

Date of Original Submission:	1/22/2010
Date of Update Submission:	N/A
Currency of Data:	January 2010
FRN:	0003720471
Type of data submitted:	Address Table
Census Block Count:	233
Total Matched Address Points Count:	294
Unmatched Address Points:	7
Number of Technology of Transmission Types:	4
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing

Address Table Process:

- Geocode address table to Maryland Property View address locator
 - Number matched: 288
 - Number unmatched: 13
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 6
 - Number unmatched: 7
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Separate and export the address points according to technology of transmission Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results (for each technology of transmission)
 - Load exported results into the NTIA data model

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- Result: BB_Service_CensusBlock

Data Verification

Maximum down/upload speeds reported by provider:

Census blocks

Max Download Category	Count	% of Blocks
3	28	12%
4	193	84%
5	9	4%

Max Upload Category	Count	% of Blocks
2	167	73%
3	22	10%
4	41	18%

Address points

Max Download Category	Count	% of Points
3	1	33%
4	2	67%

Max Upload Category	Count	% of Points
2	1	33%
3	1	33%
4	1	33%

Typical down/upload speeds reported by provider:

Census blocks

Typical Download Category	Count	% of Blocks
3	35	15%
4	193	81%
5	9	4%

Typical Upload Category	Count	% of Blocks
2	167	70%
3	29	12%
4	41	17%

Address points

Typical Download Category	Count	% of Points
3	1	33%
4	2	67%

Typical Upload Category	Count	% of Points
2	1	33%
3	1	33%
4	1	33%

Typical down/upload speed from 2010 speed test: [N/A](#)

Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests: [N/A](#)

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [37](#)

Number of tracts reported to FCC, but no census blocks reported to project: [22](#)

Dead zones:

Number of census blocks with dead zones reported: [0](#)

Total number of dead zones reported per provider: [0](#)

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Of census blocks reported as served, how many have zero population based on 2000 census data? 87/233 (37%)

Web Search Verification: [N/A](#)

Census blocks that are outside DSL boundary: [8/233 \(3%\)](#)

Wireless Verification: [N/A](#)

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Mountain Communications, LLC

DBA: ProCom

Data Characteristics

Date of Original Submission: May 2010
 Date of Update Submission: N/A
 Currency of Data: May 2010
 FRN: 0008039323
 Type of data submitted: Census Block Table
 Census Block Count: 148
 Total Matched Address Points Count: N/A
 Unmatched Address Points: N/A
 Number of Technology of Transmission Types: 1
 Provided Max Advertised Download Speed: Incomplete
 Provided Max Advertised Upload Speed: Incomplete
 Provided Max Typical Download Speed: No
 Provided Max Typical Upload Speed: No
 Provided Middle Mile: No
 Provided Road Segments for census blocks greater than 2 sq miles: Yes

Data Processing

Census Block Process:

- Join the census block table to the 2000 census blocks based on the BLK2000 field
 - Export results (for each technology of transmission)
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification

Maximum down/upload speeds reported by provider:

Max Download Category	Count	% of Blocks	Max Upload Category	Count	% of Blocks
10	3	100%	10	3	100%

Typical down/upload speeds reported by provider: N/A

Typical down/upload speed from 2010 speed test: N/A

Speed tests match reported typical download speeds or are within 1 speed tier: N/A

%/# of census blocks verified by 2010 FCC and Ookla speed tests: N/A

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: N/A

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Number of tracts reported to FCC, but no census blocks reported to project: [N/A](#)

Dead zones:

Number of census blocks with dead zones reported: [0](#)

Total number of dead zones reported per provider: [0](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [46/148 \(31%\)](#)

Web Search Verification: [N/A](#)

Wireless Verification: [N/A](#)

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QCOL, Inc.**DBA Name: QCOL****Data Characteristics**

Date of Original Submission:	May 2010
Date of Update Submission:	N/A
Currency of Data:	May 2010
FRN:	0019663095
Type of data submitted:	Census Block Table
Census Block Count:	247
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	2
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	Yes

Data Processing**Census Block Process:**

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results for each technology of transmission
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Blocks	Max Upload Category	Count	% of Blocks
10	28	13%	10	275	59%
6	193	87%	6	192	41%

Typical down/upload speeds reported by provider: N/A

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Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests	Speed Test Upload Tier	Count	% of Tests
4	2	50%	2	1	25%
5	2	50%	3	2	50%
			4	1	25%

Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	2
Census blocks served, not reported by provider	2
Total number of served census blocks reported by provider	247
% of served census blocks confirmed by speed test	.8%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [N/A](#)

Number of tracts reported to FCC, but no census blocks reported to project: [N/A](#)

Dead zones:

Number of census blocks with dead zones reported: [1](#)

Total number of dead zones reported per provider: [1](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [70/247 \(28%\)](#)

Web Search Verification: [N/A](#)

Census blocks that are outside Cable Franchise Boundary: [1/247 \(0.4%\)](#)

Wireless Verification: [N/A](#)

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RCN Corporation**DBA: NEON Optica, Inc****Data Characteristics**

Date of Original Submission:	3/5/2010
Date of Update Submission:	9/8/2010
Currency of Data:	6/30/2010
FRN:	0005052741
Type of data submitted:	Address Table
Census Block Count:	2
Total Matched Address Points Count:	7
Unmatched Address Points:	0
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	Yes
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Address Table Process:**

- Geocode address table to Maryland Property View address locator
 - Number matched: 7
 - Number unmatched: 0
- Spatially join address points to 2000 census blocks
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

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Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Blocks	Max Upload Category	Count	% of Blocks
8	1	50%	8	1	50%
10	1	50%	10	1	50%

Typical down/upload speeds reported by provider:

Typical Download Category	Count	% of Blocks	Typical Upload Category	Count	% of Blocks
8	1	50%	8	1	50%
10	1	50%	10	1	50%

Typical down/upload speed from 2010 speed test: [N/A](#)

Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests: [N/A](#)

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [2](#)

Number of tracts reported to FCC, but no census blocks reported to project: [2](#)

Dead zones:

Number of census blocks with dead zones reported: [0](#)

Total number of dead zones reported per provider: [0](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [2/2 \(100%\)](#)

Web Search Verification: [4/1332 \(0.3%\)](#) of census blocks were confirmed using online search feature of given provider (this represents RCN-Starpower as well)

Neon WebSearch Verification Table	Count	Percentage
Total # of sample points	1472	
Number of sample points with results	53	4%
Result is yes and census block is in served area	0	0%
Result is yes but not in a census block reported as served	0	0%
Result is no and census block is in served area	6	11%
Result is no and census block not served area	47	89%

Census blocks that are outside Cable Franchise Boundary: [N/A](#)

Wireless Verification: [N/A](#)

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RCN Corporation**DBA Name: Starpower Communications, LLC****Data Characteristics**

Date of Original Submission:	3/5/2010
Date of Update Submission:	9/8/2010
Currency of Data:	6/30/2010
FRN:	0003735016
Type of data submitted:	Address Table
Census Block Count:	1332
Total Matched Address Points Count:	10126
Unmatched Address Points:	83
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Address Table Process:**

- Geocode address table to Maryland Property View address locator
 - Number matched: 10056
 - Number unmatched: 93
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 10126
 - Number unmatched: 70
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results
 - Load exported results into the NTIA data model

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- Result: BB_Service_CensusBlock

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Blocks	Max Upload Category	Count	% of Blocks
4	122	9%	1	47	4%
5	276	21%	2	351	26%
6	3	0%	3	588	44%
7	931	70%	4	346	26%

Typical down/upload speeds reported by provider: [N/A](#)

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	8	6%
4	10	8%
5	36	27%
6	42	32%
7	36	27%

Speed Test Upload Tier	Count	% of Tests
1	1	1%
2	96	73%
3	3	2%
4	32	24%

Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	65
Census blocks served, not reported by provider	6
Total number of served census blocks reported by provider	1332
% of served census blocks confirmed by speed test	4.9%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [2](#)

Number of tracts reported to FCC, but no census blocks reported to project: [2](#)

Dead zones:

Number of census blocks with dead zones reported: [0](#)

Total number of dead zones reported per provider: [0](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [39/1332 \(3%\)](#)

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Web Search Verification: 4/1332 (0.3%) of census blocks were confirmed using online search feature of given provider

Starpower WebSearch Verification Table	Count	Percentage
Total # of sample points	1472	
Number of sample points with results	63	4%
Result is yes and census block is in served area	4	0%
Result is yes but not in a census block reported as served	0	0%
Result is no and census block is in served area	12	1%
Result is no and census block not served area	47	3%

Census blocks that are outside Cable Franchise Boundary: 1/1332 (0.07%)

Wireless Verification: N/A

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Shenandoah Telecommunications

DBA: Shentel Converged Services, Inc

Data Characteristics

Date of Original Submission:	May 2010
Date of Update Submission:	N/A
Currency of Data:	May 2010
FRN:	0013962170
Type of data submitted:	Blocks and Addresses
Census Block Count:	1
Total Matched Address Points Count:	1
Unmatched Address Points:	1
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing

Address Table Process:

- Geocode address table to Maryland Property View address locator
 - Number matched: 1
 - Number unmatched: 1
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 0
 - Number unmatched: 1
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

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Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Blocks	Max Upload Category	Count	% of Blocks
5	1	100%	3	1	100%

Typical down/upload speeds reported by provider: N/A**Typical down/upload speed from 2010 speed test:** N/A**Speed tests match reported typical download speeds or are within 1 speed tier:** N/A**%/# of census blocks verified by 2010 FCC and Ookla speed tests:** N/A**Form477 Verification:****Number of census blocks reported to project, but no tract reported to FCC:** 1**Number of tracts reported to FCC, but no census blocks reported to project:** 1**Dead zones:****Number of census blocks with dead zones reported:** 0**Total number of dead zones reported per provider:** 0**Of census blocks reported as served, how many have zero population based on 2000 census data?** 0/1 (0%)**Web Search Verification:** N/A**Wireless Verification:** N/A

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Sprint Nextel Corporation**DBA Name: Sprint Nextel Corporation****Data Characteristics**

Date of Original Submission:	2/18/2010
Date of Update Submission:	7/28/2010
Currency of Data:	7/28/2010
FRN:	0003774593
Type of data submitted:	Coverage Area
Census Block Count:	70307
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Coverage Area Process:**

- Repair Geometry on delivered coverage area
- Perform Topology on coverage area
 - Rule: Coverage area should not overlap
 - Load coverage area into the NTIA data model
 - Result: BB_Service_Wireless

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Area
3	1	100%

Max Upload Category	Count	% of Area
2	1	100%

Typical down/upload speeds reported by provider:

Typical Download Category	Count	% of Area
3	1	100%

Typical Upload Category	Count	% of Area
2	1	100%

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Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	59	63%
3	25	27%
4	9	10%
5	1	1%

Speed Test Upload Tier	Count	% of Tests
1	33	35%
2	50	53%
3	5	5%
4	1	1%
5	4	4%
6	1	1%

Speed tests match reported typical download speeds or are within 1 speed tier: **No**

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	40
Census blocks served, not reported by provider	0
Total number of served census blocks reported by provider	70307
% of served census blocks confirmed by speed test	.06%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: **65390**

Number of tracts reported to FCC, but no census blocks reported to project: **0**

Dead zones:

Number of census blocks with dead zones reported: **79**

Total number of dead zones reported per provider: **80**

Of census blocks reported as served, how many have zero population based on 2000 census data? **N/A**

Web Search Verification: **N/A**

Wireless Verification:

Sprint Wireless Verification Table	Count	Percentage
Total # of sample points	1471	
Number of sample points with results	1112	76%
Verified served AND BSP says served (yes,yes)	672	60%
Verified served AND BSP says unserved (yes,no)	103	9%
Verified unserved AND BSP says served (no,yes)	168	15%
Verified unserved AND BSP says unserved (no,no)	169	15%

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StarBand Communications Inc.**DBA Name: StarBand Communications Inc.****Data Characteristics**

Date of Original Submission:	1/26/2010
Date of Update Submission:	N/A
Currency of Data:	December 2009
FRN:	0005087457
Type of data submitted:	Coverage
Census Block Count:	N/A
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Coverage Area Process:**

- Repair Geometry on delivered coverage area
- Perform Topology on coverage area
 - Rule: Coverage area should not overlap
 - Load coverage area into the NTIA data model
 - Result: BB_Service_Wireless

Speed Domains:

- Typical Upstream speed < 2
 - Calculated Typical Upstream speed to 2

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Area	Max Upload Category	Count	% of Area
3	1	100%	2	1	100%

Typical down/upload speeds reported by provider:

Typical Download Category	Count	% of Area	Typical Upload Category	Count	% of Area
3	1	100%	2	1	100%

Typical down/upload speed from 2010 speed test: N/A

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Speed tests match reported typical speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests: [N/A](#)

Form 477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [N/A](#)

Number of tracts reported to FCC, but no census blocks reported to project: [N/A](#)

Dead zones:

Number of census blocks with dead zones reported: [133](#)

Total number of dead zones reported per provider: [133](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [N/A](#)

Web Search Verification: [N/A](#)

Wireless Verification: [N/A](#)

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Cequel III Communications II

DBA: Suddenlink

Data Characteristics

Date of Original Submission:	3/11/2010
Date of Update Submission:	8/12/2010
Currency of Data:	8/3/2010
FRN:	0009725870
Type of data submitted:	Address Table
Census Block Count:	425
Total Matched Address Points Count:	270
Unmatched Address Points:	11
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	Yes
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing

Address Table Process:

- Geocode address table to Maryland Property View address locator
 - Number matched: 264
 - Number unmatched: 17
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 6
 - Number unmatched: 11
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results
 - Load exported results into the NTIA data model

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- Result: BB_Service_CensusBlock

Data Verification

Maximum down/upload speeds reported by provider:

Census blocks

Max Download Category	Count	% of Blocks
6	425	100%

Max Upload Category	Count	% of Blocks
2	425	100%

Address points

Max Download Category	Count	% of Points
6	141	100%

Max Upload Category	Count	% of Points
2	141	100%

Typical down/upload speeds reported by provider:

Census blocks

Typical Download Category	Count	% of Blocks
6	425	100%

Typical Upload Category	Count	% of Blocks
2	425	100%

Address points

Typical Download Category	Count	% of Points
6	141	100%

Typical Upload Category	Count	% of Points
2	141	100%

Typical down/upload speed from 2010 speed test: [N/A](#)

Speed tests match reported typical speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests: [N/A](#)

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: 0

Number of tracts reported to FCC, but no census blocks reported to project: 0

Dead zones:

Number of census blocks with dead zones reported: 1

Total number of dead zones reported per provider: 1

Of census blocks reported as served, how many have zero population based on 2000 census data? [50/425 \(12%\)](#)

Web Search Verification: [9/425 \(2%\)](#) of census blocks were confirmed using online search feature of given provider

Suddenlink WebSearch Verification Table	Count	Percentage
Total # of sample points	1472	
Number of sample points with results	79	5%

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Result is yes and census block is in served area	31	39%
Result is yes but not in a census block reported as served	2	3%
Result is no and census block is in served area	1	1%
Result is no and census block not served area	45	57%

Census blocks that are outside Cable Franchise Boundary: [146/425 \(34%\)](#)

Wireless Verification: [N/A](#)

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Tata Communications (America) Inc.**DBA Name: Tata Communications (America) Inc.****Data Characteristics**

Date of Original Submission:	2/1/2010
Date of Update Submission:	8/26/2010
Currency of Data:	August 2010
FRN:	0009480302
Type of data submitted:	Address Table
Census Block Count:	1
Total Matched Address Points Count:	1
Unmatched Address Points:	0
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Address Table Process:**

- Geocode address table to Maryland Property View address locator
 - Number matched: 1
 - Number unmatched: 0
- Spatially join address points to 2000 census blocks
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

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Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Blocks
4	1	100%

Max Upload Category	Count	% of Blocks
4	1	100%

Typical down/upload speeds reported by provider: [N/A](#)

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	1	100%

Speed Test Upload Tier	Count	% of Tests
2	1	100%

Speed tests match reported typical downloaded speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	0
Census blocks served, not reported by provider	1
Total number of served census blocks reported by provider	1
% of served census blocks confirmed by speed test	0%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [1](#)

Number of tracts reported to FCC, but no census blocks reported to project: [1](#)

Dead zones:

Number of census blocks with dead zones reported: [0](#)

Total number of dead zones reported per provider: [0](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [1/1 \(100%\)](#)

Web Search Verification: [N/A](#)

Wireless Verification: [N/A](#)

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T-Mobile USA, Inc.**DBA Name: T-Mobile USA, Inc.****Data Characteristics**

Date of Original Submission:	2/25/2010
Date of Update Submission:	8/23/2010
Currency of Data:	6/30/2010
FRN:	0006945950
Type of data submitted:	Coverage Area
Census Block Count:	N/A
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Coverage Area Process:**

- Repair Geometry on delivered coverage area
- Perform Topology on coverage area
 - Rule: Coverage area should not overlap
 - Load coverage area into the NTIA data model
 - Result: BB_Service_Wireless

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Area
4	1	50%
6	1	50%

Max Upload Category	Count	% of Area
2	1	50%
4	1	50%

Typical down/upload speeds reported by provider:

Typical Download Category	Count	% of Area
3	1	100%

Typical Upload Category	Count	% of Area
2	1	100%

Typical down/upload speed from 2010 speed test: N/A

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Speed tests match reported typical speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests: [N/A](#)

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [N/A](#)

Number of tracts reported to FCC, but no census blocks reported to project: [N/A](#)

Dead zones:

Number of census blocks with dead zones reported: [18](#)

Total number of dead zones reported per provider: [18](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [N/A](#)

Web Search Verification: [N/A](#)

Wireless Verification:

TMobile Wireless Verification Table	Count	Percentage
Total # of sample points	1471	
Number of sample points with results	1344	91%
Verified served AND BSP says served (yes,yes)	157	12%
Verified served AND BSP says unserved (yes,no)	196	15%
Verified unserved AND BSP says served (no,yes)	175	13%
Verified unserved AND BSP says unserved (no,no)	816	61%

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TWTelecom of Maryland, LLC**DBA Name: TWTelecom of Maryland, LLC****Data Characteristics**

Date of Original Submission:	1/30/2010
Date of Update Submission:	N/A
Currency of Data:	1/30/2010
FRN:	0017348254
Type of data submitted:	Blocks and Addresses
Census Block Count:	66
Total Matched Address Points Count:	78
Unmatched Address Points:	0
Number of Technology of Transmission Types:	2
Provided Max Advertised Download Speed:	Incomplete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	Yes

Data Processing**Address Table Process:**

- Geocode address table to Maryland Property View address locator
 - Number matched: 78
 - Number unmatched: 1
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 1
 - Number unmatched: 0
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Separate and export the address points according to technology of transmission
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results for each technology of transmission

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- Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification

Maximum down/upload speeds reported by provider:

Max Download Category	Count	% of Blocks
3	18	40%
4	13	29%
5	2	4%
6	1	2%
7	6	13%
8	1	2%
10	1	2%
11	3	7%

Max Upload Category	Count	% of Blocks
2	22	33%
3	18	27%
4	13	19%
5	2	3%
6	1	1%
7	6	9%
8	1	1%
10	1	1%
11	3	4%

Typical down/upload speeds reported by provider: [N/A](#)

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
3	1	14%
4	3	43%
5	3	43%

Speed Test Upload Tier	Count	% of Tests
2	1	14%
4	3	43%
5	3	43%

Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	1
Census blocks served, not reported by provider	1
% of total speed tests confirming service area	
Total number of served census blocks reported by provider	66
% of served census blocks confirmed by speed test	1.5%

Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: 20

Number of tracts reported to FCC, but no census blocks reported to project: 3

Dead zones:

Number of census blocks with dead zones reported: 0

Total number of dead zones reported per provider: 0

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Of census blocks reported as served, how many have zero population based on 2000 census data? 14/66 (21%)

Web Search Verification: [N/A](#)

Wireless Verification: [N/A](#)

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Vector Data Systems LLC**DBA Name: Vector Data Systems LLC****Data Characteristics**

Date of Original Submission:	February 2010
Date of Update Submission:	N/A
Currency of Data:	6/30/2010
FRN:	0017306663
Type of data submitted:	Coverage Area
Census Block Count:	4917
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Coverage Area Process:**

- Repair Geometry on delivered coverage area
- Perform Topology on coverage area
 - Rule: Coverage area should not overlap
 - Load coverage area into the NTIA data model
 - Result: BB_Service_Wireless

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Area
6	1	100%

Max Upload Category	Count	% of Area
5	1	100%

Typical down/upload speeds reported by provider:

Typical Download Category	Count	% of Area
6	1	100%

Typical Upload Category	Count	% of Area
4	1	100%

Typical down/upload speed from 2010 speed test: N/A**Speed tests match reported typical download speeds or are within 1 speed tier: N/A****%/# of census blocks verified by 2010 FCC and Ookla speed tests: N/A**

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Form 477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [4544](#)

Number of tracts reported to FCC, but no census blocks reported to project: [0](#)

Dead zones:

Number of census blocks with dead zones reported: [1](#)

Total number of dead zones reported per provider: [1](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [N/A](#)

Web Search Verification: [N/A](#)

Wireless Verification: [N/A](#)

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Cellco Partnership and its Affiliated Entities

DBA Name: **Verizon Wireless**

Data Characteristics

Date of Original Submission:	3/8/2010
Date of Update Submission:	8/25/2010
Currency of Data:	6/30/2010
FRN:	0003290673
Type of data submitted:	Coverage Area
Census Block Count:	N/A
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing

Coverage Area Process:

- Repair Geometry on delivered coverage area
- Perform Topology on coverage area
 - Rule: Coverage area should not overlap
 - Load coverage area into the NTIA data model
 - Result: BB_Service_Wireless

Data Verification

Maximum down/upload speeds reported by provider:

Max Download Category	Count	% of Area
5	4	100%

Max Upload Category	Count	% of Area
4	4	100%

Typical down/upload speeds reported by provider:

Typical Download Category	Count	% of Area
3	4	100%

Typical Upload Category	Count	% of Area
3	4	100%

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Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	100	53%
3	69	37%
4	20	11%

Speed Test Upload Tier	Count	% of Tests
1	50	26%
2	136	72%
3	2	1%
4	1	1%

Speed tests match reported typical download speeds or are within 1 speed tier: **No**

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	97
Census blocks served, not reported by provider	1
Total number of served census blocks reported by provider	70316
% of served census blocks confirmed by speed test	.14%

Form 477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: **N/A**

Number of tracts reported to FCC, but no census blocks reported to project: **N/A**

Dead zones:

Number of census blocks with dead zones reported: **88**

Total number of dead zones reported per provider: **100**

Web Search Verification: **N/A**

Of census blocks reported as served, how many have zero population based on 2000 census data? **N/A**

Wireless Verification:

Verizon Wireless Verification Table	Count	Percentage
Total # of sample points	1471	
Number of sample points with results	1111	76%
Verified served AND BSP says served (yes,yes)	738	66%
Verified served AND BSP says unserved (yes,no)	56	5%
Verified unserved AND BSP says served (no,yes)	162	15%
Verified unserved AND BSP says unserved (no,no)	155	14%

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Verizon Communications Inc**DBA: Verizon Maryland Inc****Data Characteristics**

Date of Original Submission:	2/15/2010
Date of Update Submission:	8/31/2010
Currency of Data:	8/31/2010
FRN:	0002166825
Type of data submitted:	Census Block Table
Census Block Count:	71485
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	2
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	Yes
Provided Road Segments for census blocks greater than 2 sq miles:	Yes

Data Processing**Census Block Process:**

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results for each technology of transmission
 - Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Data Verification**Maximum down/upload speeds reported by provider:****Census blocks**

Max Download Category	Count	% of Blocks
5	742	1%
6	11515	16%
9	59229	83%

Max Upload Category	Count	% of Blocks
3	12256	17%
7	59229	83%

Road segments

Max Download Category	Count	% of Segments
5	173	3%
6	1553	30%
9	3464	67%

Max Upload Category	Count	% of Segments
3	1726	33%
7	3464	67%

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Typical down/upload speeds reported by provider: [N/A](#)

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	414	8%
3	565	11%
4	958	19%
5	283	6%
6	545	11%
7	1902	37%
8	420	8%
9	24	0.5%
10	12	0.2%

Speed Test Upload Tier	Count	% of Tests
1	449	9%
2	1590	31%
3	53	1%
4	717	14%
5	1126	22%
6	524	10%
7	646	13%
8	18	0.4%

Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	2656
Census blocks served, not reported by provider	51
Total number of served census blocks reported by provider	71485
% of served census blocks confirmed by speed test	3.7%

Form 477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [3933](#)

Number of tracts reported to FCC, but no census blocks reported to project: [1](#)

Dead zones:

Number of census blocks with dead zones reported: [54](#)

Total number of dead zones reported per provider: [75](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [6510/71485 \(9.1%\)](#)

Web Search Verification: [488/71485 \(9%\)](#) of census blocks were confirmed using online search feature of given provider

VerizonMD WebSearch Verification Table	Count	Percentage
Total # of sample points	1472	
Number of sample points with results	1472	100%
Result is yes and census block is in served area	532	36%
Result is yes but not in a census block reported as served	0	0%
Result is no and census block is in served area	940	64%

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Result is no and census block not served area	0	0%
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Census blocks that are outside DSL boundary: [7734/71485 \(10.8%\)](#)

Wireless Verification: [N/A](#)

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Wildblue Communications, IncDBA Name: **Wildblue Communications, Inc****Data Characteristics**

Date of Original Submission:	4/21/2010
Date of Update Submission:	7/22/2010
Currency of Data:	7/22/2010
FRN:	0007843766
Type of data submitted:	Coverage Area
Census Block Count:	N/A
Total Matched Address Points Count:	N/A
Unmatched Address Points:	N/A
Number of Technology of Transmission Types:	1
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	Complete
Provided Max Typical Upload Speed:	Complete
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Coverage Area Process:**

- Repair Geometry on delivered coverage area
- Perform Topology on coverage area
 - Rule: Coverage area should not overlap
 - Load coverage area into the NTIA data model
 - Result: BB_Service_Wireless

Speed Domains:

- Typical Downstream Speed < 3
 - Calculated Typical Downstream Speed to 3
- Typical Upstream Speed < 2
 - Calculated Typical Upstream Speed to 2

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Area
4	1	100%

Max Upload Category	Count	% of Area
2	1	100%

Typical down/upload speeds reported by provider:

Typical Download Category	Count	% of Area
3	1	100%

Typical Upload Category	Count	% of Area
2	1	100%

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Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	26	81%
3	4	13%
4	2	6%

Speed Test Upload Tier	Count	% of Tests
1	32	100%

Speed tests match reported typical download speeds or are within 1 speed tier: [No](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	21
Census blocks served, not reported by provider	0
Total number of served census blocks reported by provider	79128
% of served census blocks confirmed by speed test	.03%

Form 477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: [N/A](#)

Number of tracts reported to FCC, but no census blocks reported to project: [N/A](#)

Dead zones:

Number of census blocks with dead zones reported: [133](#)

Total number of dead zones reported per provider: [133](#)

Of census blocks reported as served, how many have zero population based on 2000 census data? [N/A](#)

Web Search Verification: [N/A](#)

Wireless Verification: [N/A](#)

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XO Holdings, IncDBA Name: **XO Communications, LLC****Data Characteristics**

Date of Original Submission:	2/1/2010
Date of Update Submission:	N/A
Currency of Data:	2/1/2010
FRN:	0006275945
Type of data submitted:	Blocks and Addresses
Census Block Count:	344
Total Matched Address Points Count:	363
Unmatched Address Points:	136
Number of Technology of Transmission Types:	3
Provided Max Advertised Download Speed:	Complete
Provided Max Advertised Upload Speed:	Complete
Provided Max Typical Download Speed:	No
Provided Max Typical Upload Speed:	No
Provided Middle Mile:	No
Provided Road Segments for census blocks greater than 2 sq miles:	No

Data Processing**Address Table Process:**

- Geocode address table to Maryland Property View address locator
 - Number matched: 346
 - Number unmatched: 144
- Unmatched address are geocoded to Maryland street centerline address locator
 - Number matched: 17
 - Number unmatched: 136
- Merge matched addresses
- Spatially join address points to 2000 census blocks
- Separate and export the address points according to technology of transmission
- Select by location the address points that are completely within a greater than two square mile census block
 - Export as address points to be loaded into the NTIA data model
 - Result: BB_Service_Address
 - Switch the selection and export as points to create census blocks

Census Block Process:

- Join the switched selection (BB_Service_Address) address points to the 2000 census blocks based on the BLK2000 field
 - Export results for each technology of transmission

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- Load exported results into the NTIA data model
 - Result: BB_Service_CensusBlock

Speed Domains:

- Symmetric Maximum Downstream Speed < 2
 - Calculated Symmetric Maximum Downstream to 2
- Symmetric Maximum Upstream Speed < 2
 - Calculated Symmetric Maximum Upstream to 2

Data Verification**Maximum down/upload speeds reported by provider:**

Max Download Category	Count	% of Blocks
3	60	17%
4	191	56%
5	44	13%
6	13	4%
7	29	8%
8	7	2%

Max Upload Category	Count	% of Blocks
2	7	2%
3	58	17%
4	186	54%
5	44	13%
6	13	4%
7	29	8%
8	7	2%

Typical down/upload speeds reported by provider: [N/A](#)

Typical down/upload speed from 2010 speed test:

Speed Test Download Tier	Count	% of Tests
0	3	10%
3	8	26%
4	5	16%
5	3	10%
6	4	13%
7	5	16%
8	3	10%

Speed Test Upload Tier	Count	% of Tests
1	1	3%
2	2	6%
3	10	32%
4	3	10%
5	5	16%
6	3	10%
7	7	23%

Speed tests match reported typical download speeds or are within 1 speed tier: [N/A](#)

%/# of census blocks verified by 2010 FCC and Ookla speed tests:

Confirmation of census block served	7
Census blocks served, not reported by provider	14
Total number of served census blocks reported by provider	344
% of served census blocks confirmed by speed test	2%

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Form477 Verification:

Number of census blocks reported to project, but no tract reported to FCC: 34

Number of tracts reported to FCC, but no census blocks reported to project: 19

Dead zones:

Number of census blocks with dead zones reported: 0

Total number of dead zones reported per provider: 0

Of census blocks reported as served, how many have zero population based on 2000 census data? 132/344 (38%)

Web Search Verification: N/A

Census blocks that are outside DSL boundary: 1/344 (0.3%)

Wireless Verification: N/A