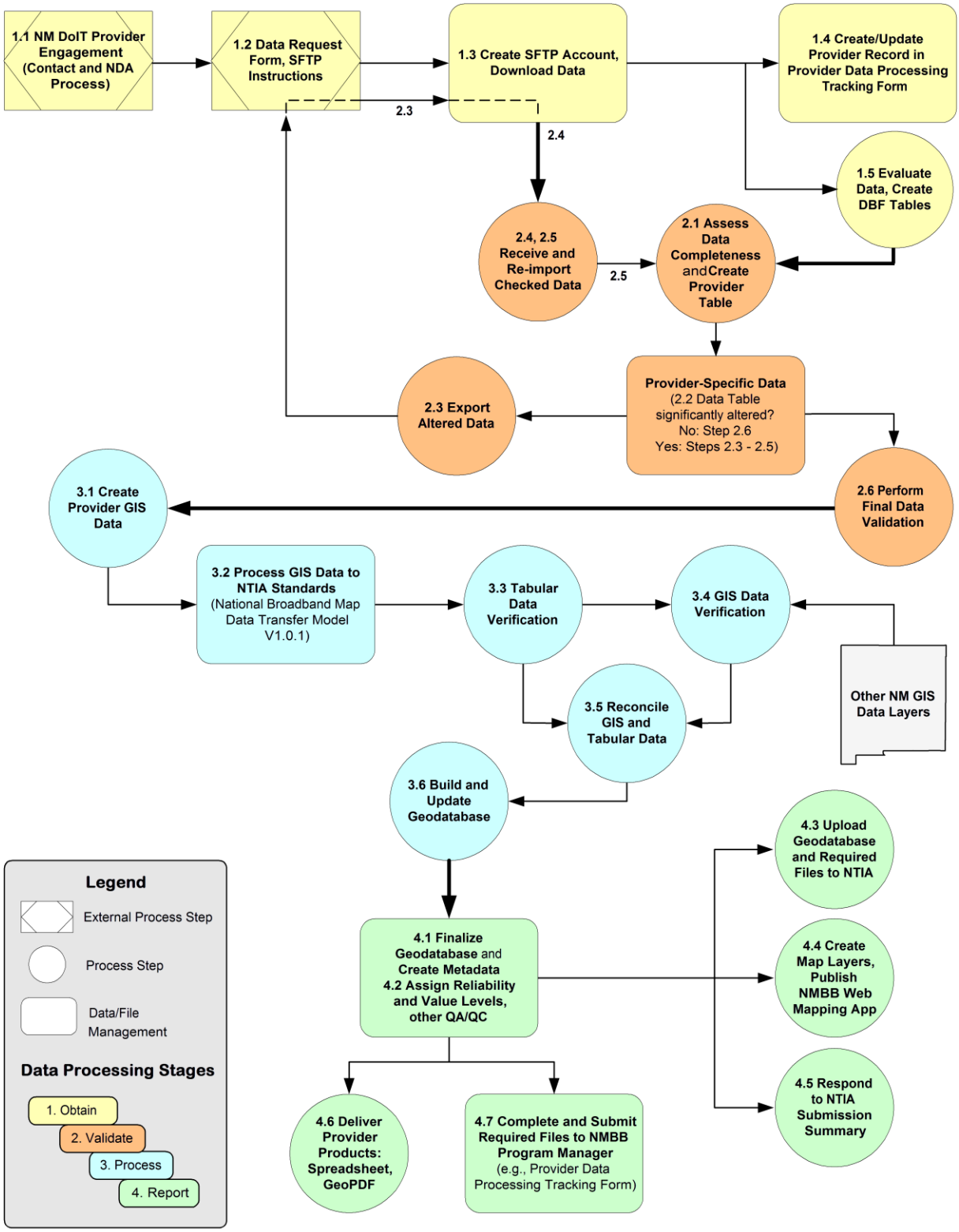
New Mexico Broadband Data and Workflow Processing Scheme, V2.0

Summary

New Mexico has adopted a similar approach to that of Arizona for the process of assessing Broadband data reliability. It is important to understand the level of data reliability and integrity as Provider data are passed through the several processing phases in preparation for submittal to the National Telecommunications and Information Administration (NTIA). This data and workflow processing document is not static; rather, it is a flexible document that will be continuously reviewed and amended to adequately reflect and describe reliability and data integrity issues throughout the course of the Broadband data submittal process. New Mexico reported the document 'New Mexico Broadband Data and Workflow Processing Scheme, v1.0' for the NTIA June 15, 2010 data submission. The reported NTIA October 1, 2010 submission document is Version 2.0.

Processing the Service Provider data includes four broad stages:
1. Obtain – Acquire raw Provider data.
2. Validate – Check for internal data consistency and for consistency with external data sources.
3. Process – Develop GIS, Geodatabase, and Tabular data.
4. Report – Submit Geodatabase to NTIA.

Proposed is the New Mexico Broadband Data Workflow and Processing Scheme (see Figure 1) that depicts the appropriate relationships among the above-mentioned four stages.



New Mexico Broadband Data Workflow and Processing Scheme V2.0 09.30.2010 EDAC

Figure 1 New Mexico Broadband Workflow and Processing Scheme

The details at each stage listed in the Summary must be defined to properly assess the impact of processing on data reliability and data integrity. These are illustrated in the Generalized Workflow diagram in Figure 1.

1. Obtain Data
    1.1. Provider engagement
        1.1.1. NM Department of Information Technology (NM DoIT) establishes contact with the Provider.
        1.1.2. Sign NDA with the State and EDAC, if required.
    1.2. Request data via the NM Broadband Data Request Form (MS Excel Worksheet), which includes the instructions for securely uploading Provider data to the EDAC SFTP site.
    1.3. Create SFTP account; Receive secure data
        1.3.1. Set up Provider account on the EDAC SFTP site; record Provider-account information in NMBB SFTP Account Management form; provide unique username and password to Provider.
        1.3.2. Data arrive from the Provider in a format that is generally unknown beforehand.
        1.3.3. Download Provider data from SFTP site to EDAC network.
    1.4. Create or update the specific Provider record in the Provider Data Processing Tracking Form. Ongoing: Report each Tracking Form step with analyst initials and date of task completion. Below are a few of the items that need to be recorded on such a form.
        1.4.1. Record Provider name information and the assigned 2-digit Primary Key (PKey).
        1.4.2. Record the Holding Company Name, DBA Name, FRN (if available), and if Anchor Institutions data are provided.
        1.4.3. Record type of files submitted; date of data submission and the initials of the receiving GIS analyst; and how data were submitted (such as FTP or physical medium).
    1.5. Evaluate Provider data and create database-format tables.
2. Validate and Verify Data
    2.1. Assess the submitted data for completeness according to NTIA data format standards; identify fields (names, types); fill in missing data, if possible; check field codes, and standardize the values where appropriate; and create the data table that is to be returned to the Provider. (NTIA data format standards: National Broadband Map Data Transfer Model V1.0.1)
    2.2. If it is decided that the data table from Step 2.1 has been significantly altered, export data to a data file and process Steps 2.3 through 2.5 below; otherwise go to Step 2.6. Step 2.2 may involve making a judgment call. Changes and assumptions will be documented.
    2.3. If required: Return data in standardized format to the provider for checking.
    2.4. If required: Receive checked data back from Provider.
    2.5. If required: Re-import data to tabular format.
    2.6. Perform final validation: all missing data filled in; all field codes checked and standardized where appropriate.
3. Create GIS Formatted Data
    3.1. Create Provider-specific GIS data.
    3.2. Process GIS data based on NTIA standards, with the required domains (National Broadband Map Data Transfer Model V1.0.1 data format).
        3.2.1. The domains include: Backhaul Technology Type, Community Anchor Institutions, Download Speed Tier, End User, Geographic Unit Type, Last Mile Backhaul Capacity, Owned or Leased, Spectrum Used, Technology of Transmission, Upload Speed Tier, and Yes or No.
    3.3. Prepare verifiable tabular data.

3.3.1. Examine tabular version against Provider data (Step 1.5).
3.3.2. Check for accuracy and completeness and flag gaps or inconsistencies.

3.4 GIS data verification:

3.4.1. New Mexico E-911 road data.
3.4.2. U.S. Census Tiger/Line shapefiles.
3.4.3. ESRI Cable Boundaries data.
3.4.4. Ancillary consistency checks: compare with other data sources available via the New Mexico geospatial clearinghouse -- Resource Geographic Information System (RGIS; http//:rgis.unm.edu).

3.5 Reconcile GIS and tablular data.

3.5.1 Reconcile GIS and tabular versions with the Provider-specific versioned feature data set and produce final "clean" GIS data set.

3.6 Build and update Geodatabase.

4. Report Data to NTIA

4.1. Finalize Geodatabase per NTIA standards (National Broadband Map Data Transfer Model V1.0.1). Create associated metadata.
4.2. Upload Geodatabase and required files (datapackage spreadsheet, workflow processing scheme) to NTIA.
4.3. Assign final Reliability and Value Levels and other QA/QC values.
4.4. Create map layers; publish to NMBB Mapping Web site.
4.5. Respond to NTIA Submission Summary using the NM DoIT response template.
4.6. Deliver Provider-specific products through the Secure FTP site: Spreadsheet, GeoPDF.
4.7. Complete and submit the required files to the NMBB Program Manager (e.g., Provider-specific Data Processing Tracking Form).