Migrating Data to the Parcel Fabric

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What is a parcel fabric?

- Dataset of related feature classes and tables
  - Polygons, lines, points, plans, etc.
  - Predefined system attributes
- Connected parcel groups
  - Forms a parcel boundary network
- Explicit topology
  - Defined by common parcel corner points
- Parcel Editor toolbar
Parcel fabric data model

- Plans
  - Parcels
    - Points
      - Control
      - Line Points
    - Lines
Parcel fabric data model

- Plans
  - Represent the legal document
  - Store record information
- Parcels
  - Polygon defined by a sequence of lines (traverse)
- Lines
  - Store the recorded dimensions
  - Have a To and a From point
- Points
  - Have X Y Z coordinates
  - Can have a control point
Line points
Parcel fabric data model

- Ensure topology between parcels
- Preserve recorded dimensions
Overlapping parcels
Parcel fabric data model

- Subdivisions, Lots, Tax Parcels, Historic parcels share common points
Parcel fabric data model

- Data model can be optimized for your organization
- In the USA, the Local Government Information Model is used
Local Government Information Model (LGIM)

• A collection of maps and apps used to manage land records in the USA:
  - Tax parcel editing
  - Survey framework maintenance
  - Tax map book production

• Related apps such as Community Parcels, Tax parcel viewer, Address Management
Parcel fabric and the LGIM

- Parcel fabric can be enabled with the LGIM
  - Optimized for parcel editing in the USA
- Provides a configured layer for streamlined editing
- Provides automated parcel editing workflows
Migrating data to the Parcel Fabric

- Setup the data model
  - Extend your parcel fabric model
  - Or use the Local Government Information Model
- Setup a staging environment
- Format and prepare data
- Use the Load a Topology to a Parcel Fabric geoprocessing tool
- Import control points
Recommendation: Test the workflow against a small pilot area of parcels
Step 1: Create a parcel fabric

Data migration steps

• Create a parcel fabric in a feature dataset
  - Projected or geographic
• Extend the data model
  - Add your own attributes, tables
  - Or enable the Local Government Information Model (USA)
Demo : Step 1
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Step 2: Setup staging & create attributes

Data migration steps

• Review source data
  - Inventory of polygons

• Create an empty polygon feature class for each parcel type
  - In a separate feature dataset

• Add attribute fields
  - Fields must match fields in parcel fabric tables (both system and additional)

• Calculate/format attributes in source polygons
  - Prepare source attributes for loading into staging feature classes
  - For example, Types, Historic parcels

• Check alignments between overlapping polygon types
  - Use the Integrate geoprocessing tool
Step 2 continued… Staging

Data migration steps

• Load source polygons into staging feature classes
  - Use the Simple Data Loader

• If using the LGIM
  - Staging feature classes are setup for you
  - Download and unpack the staging layer package
  - Use the Simple Data Loader
Demo : Step 2
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Step 3: Prepare geometries

Data migration steps

• For each parcel type:
  1. Check and repair any polygon geometries (GP Tool)
  2. Convert polygons to lines (GP Tool)
  3. Clean up curves (Curves and Lines Add-in)
  4. Rebuild polygons from lines (GP Tool)
  5. Check polygon inventories
Demo : Step 3
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Data migration steps

Recap

1. Create a parcel fabric
2. Setup staging & create attributes
3. Prepare geometries
4. Load data
5. Configure the map
6. Import control points
Step 4: Load data

Data migration steps

• Load a Topology to a Parcel Fabric geoprocessing Tool
• Individual topologies for each parcel type
• Topology validated against a required set of rules
Demo : Step 4
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Steps 1 to 4: Summary of staging
Data migration steps

- Polygon feature class for each type
- Separate feature datasets
- Add/map fields that match fabric fields
- Load source polygons into staging using Simple Data Loader
- Create lines
- Format lines
- Rebuild polygons from lines
- Create/validate topologies
- Load topologies
Step 5: Configure your map

Data migration steps

• If using the LGIM:
  - Drag LGIM-enabled parcel fabric into the map

• If using your own model
  - Query parcels and save layer files
Demo : Step 5
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Step 6: Import control points

Data migration steps

- Why have control?
  - Accuracy for new parcels
  - Deed references control points
  - Least-Squares adjustment

- Use Import Control Points wizard
- Use XYZ coordinates
- Can be loaded multiple times for new updates to coordinates
Demo : Step 6

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Additional considerations

• Iterate tool for large datasets
  - Divide into zones
• Overlapping parcels of the same type
  - Planarize your lines
  - Merge courses after loading
• Starting with lines instead of polygons
  - Format lines, type lines, build polygons
Resources

• Documentation

• LGIM
  - Enable parcel fabric with the LGIM in Catalog

• Land Records Meetup

• Esri supported parcel fabric Add ins
  - [http://www.arcgis.com/home/item.html?id=7f35ed8034a942b98bf3290f7adcbf13](http://www.arcgis.com/home/item.html?id=7f35ed8034a942b98bf3290f7adcbf13)
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