Data Interoperability Basics

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What is the Data Interoperability Extension?

• Work with data in hundreds of formats, both native and non-native to ArcGIS
• Simple format conversion or complex data transformations
• Transform data content and/or structure
• No coding required
What is the Data Interoperability Extension?

• Adds 3 components to ArcGIS:
  1. Direct data access
  2. Quick data translation
  3. Powerful Spatial ETL processes
Common Uses

- Migrate
- Validate
- Detect changes
- Distribute
- Integrate
- Automate

ArcGIS Data Interoperability Extension
Direct Read

- Quickly read data in any supported format
- Examine geometry, attributes, metadata in non-native ArcGIS formats
Demo

Direct read data in ArcCatalog
Demo Summary

1. Enable the extension
2. Browse to data in catalog tree
   • Refresh connection to prune empty feature classes
3. Create Interoperability Connection
   • Allows you to specify parameters
Quick Import / Export

- Move data between Geodatabases and any supported format
- Fast, simple data conversions
- Import non-native data to Geodatabase to edit in ArcMap
- Export feature classes to any supported format
Demo
Quick Import from MapInfo TAB
Quick Export to PDF
Demo Summary

1. Quick Import TAB to Geodatabase
2. Quick Export a Geodatabase feature class to PDF
Spatial ETL Tool

- Build powerful ETL (extract, transform, load) workflows
- Perform data transformations: manipulate data model, coordinate system, feature types, geometry, attributes …
What is Spatial ETL?

Extract     Transform     Load
Demo
Transform Shapefile to Geodatabase with the Spatial ETL Tool and modify output data model
Demo Summary

1. Create Spatial ETL Tool: SHP to GDB
2. Feature Types represent schema (i.e. data model). Modify output schema on writer feature type
3. Transformers manipulate data content
4. Run tool and view output with Data Interoperability Inspector
Common Use #1
Integrate multiple formats

- Roads: citymap.gml
- Apartments: buildingfootprints.dwg
- Projects: cityplan.xlsx

CityPlanMap.kml
Common Use #2
Distribute data to different systems

- Roads: citymap.gml
- Apartments: buildingfootprints.dwg
- Projects: cityplan.xlsx
- PDFs
- Images
- Charts
Demo

Integrate multiple sources and distribute to multiple destinations
Common Use #3: Migrate data between systems

- Move data between various database formats
- Control which tables to move to which output systems
- Parameter allows you to specify whether to append to existing File Geodatabase output
Common Use #4: Data validation

Check attribute values

Fix geometry

Tester
- Passed
- Failed

GeometryValidator
- Passed
- Failed
- Repaired
Demo

Validate data and output QA report
Common Use #5
Detect changes
Demo

Detect changes in polygon data
Common Use #6: Automate

- ArcGIS Data Interoperability for Server extension
- Add format support and transformations to your applications
- Publish maps containing non-Esri data, to view from browser or another application
- Integrate Spatial ETL tools and Quick Import/Export tools with other Geoprocessing tools in the ModelBuilder
  - Publish workflows to ArcGIS Server to execute in that environment
Recap

ArcGIS Data Interoperability Extension

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Try it free

• Download a trial at esri.com/datainteroperability
  - Support for 100+ data formats
  - GML-SF and WFS are always free

• Resources
  - Esri Virtual Campus – search “Spatial ETL” on training.esri.com
  - Transforming Data Using Extract, Transform, and Load Processes
  - Controlling Data Translations Using Extract, Transform, and Load Processes
  - Data Validation checklist and webinar – fme.ly/validation
  - FME and ArcGIS Online resources – fme.ly/agol
Thank you…

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