Troubleshooting Replication and Geodata Service Issues

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Tech Session Overview

• What is Geodatabase Replication
• Replication types
• Geodata service replication

• Troubleshooting Replication and Geodata Service Issues
  - Common issues.
  - Geodatabase and Geodata service setup to avoid issues

• Demo
  - Cannot use Distributed Geodatabase toolbar to create a replica

• Questions
What is Geodatabase Replication?

- Create copies of geodatabase data for distribution.
- Allow changes to each copy to be synchronized.
- Connected or disconnected environment.
Replication Types

- **One-way**
  - Multiple synch’s in one direction
  - Data receiver is considered read only
  - Replica persists after synchronization

- **Two-Way**
  - Multiple synch’s in either direction
  - Conflict resolution policies
  - Replica persists after synchronization

- **Checkout/Check-in replication**
  - One time use
  - Disconnected editing
Mobile Editing
Connected (internet) or disconnected scenarios

- Data is replicated to portable device
- Data can be edited independent of organization’s network
- Synchronization can occur when:
  - The device is reconnected to internal network
  - Connected via LAN/WAN or HTTP access with Geodata service.
  - Data can be synch’ed manually by sending data change messages
What is a Geodata Service

- ArcGIS Server service.
- Allows access to a geodatabase via LAN/WAN or IP’s.
- Access from remote locations.
- Great for use in geodatabase replication.
When to use Geodata Service with Replication

- Perform replication and data extraction over the internet.
- Work around firewalls – if internet port is open.
- Mimic replication operations in a connected environment.
- Alleviate the extra overhead of disconnected editing.
Geodatabase and Geodata Service Issues

Common pitfalls

• **Standard geodatabase replication:**
  - Some data does not come over during replica creation.
  - Standalone tables are empty in the child geodatabase.
  - Schema changes.

• **Geodata Service replication:**
  - Disabled Create Replica button
  - Permissions and data registration
  - Web Service or DBMS connectivity
Feature Classes Do Not Appear In Child Geodatabase

• Issue:
  - Replica creates successfully – no errors
  - Some feature classes or tables do not appear in child

• Geodatabase Replication Prerequisites:
  - Feature classes and tables must be:
    - Registered as versioned
    - Contain GlobalID’s
    - Feature classes stored as high precision
Empty Standalone Tables

Records not transferred to child

- Show advanced options
- Tables are checked out as Schema Only by default
- Choose All Records when existing data is required

![Image of advanced options checkbox and table]

*Show advanced options for overriding replica defaults when I click Next*
Schema Changes
Handling schema changes

• Common issues:
  - Edits may not synchronize
  - Invalid values introduced
  - Synchronization errors

• Handling schema changes – Two step process:
  - Compare replica schema – differences written to an XML file
  - Import replica schema to pair parent and child.
Create Replica Button Disabled
Prerequisites for Geodata Service Replicas

- The geodata and map service must have identical names.
- Geodata and map service must reside in same services folder.
- The layer names in the map document must match feature class names.
Publisher or DBMS permissions

• Issue:
  - Connection or permission errors
  - Errors when creating replica or synchronizing

• Where to begin:
  - Location of SDE connection file
    - Folder/file permissions
  - Geodatabase connection properties
  - Can a connection be made with ArcGIS?
Geodata Service or DBMS Connectivity

• Issue:
  - Usually greeted by descriptive error messages
  - Unusual behavior seen in web interface
  - Network issues

• Where to begin:
  - Mobile cache settings
  - ArcGIS Server logs
  - DBMS alert logs / DBMS traces

• Contact Esri Technical Support
Demo
Thank you…

• Please fill out the session survey:

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