



SERUG
2007

Jacksonville, FL
May 2-4

Editing Tips in the Multiuser Geodatabase

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Workshop Overview



- Identify possible version workflows
- Discuss ArcMap messages
 - Reconcile
 - Post
- Identify and explain an unexpected conflict
- Summarize Best Practices
- Additional Resources
- Questions



Version scenarios and considerations

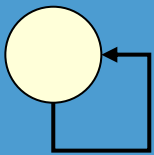
- Versioned editing must support business workflow
 - Based on resources and requirements
 - Example: Greg is responsible for the Design phase of the project
- Version scenarios
 - Direct editing of DEFAULT
 - Multiple versions
- Permissions
- Reconcile/post issues

Name	Owner	Access	Last Modified
Parcels	NORMAN	Public	8/1/2004 2:44:35 PM
Zoning	SCHMIDT	Public	7/24/2004 1:55:09 PM
Transportation	WARREN	Public	8/5/2004 11:12:27 AM
QA	MANAGER	Protected	5/14/2004 12:38:19 PM
DEFAULT	SDE	Protected	8/25/2004 1:31:35 PM

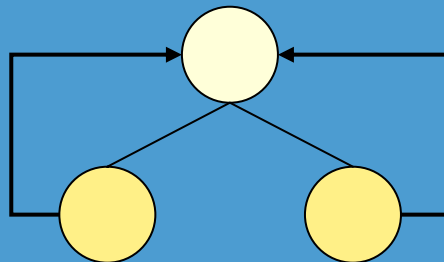


Version hierarchy

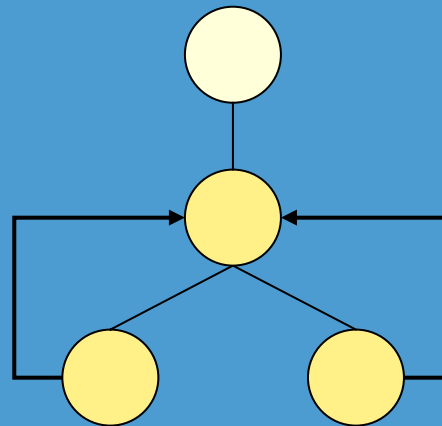
- Select workflow combination that best matches business practices



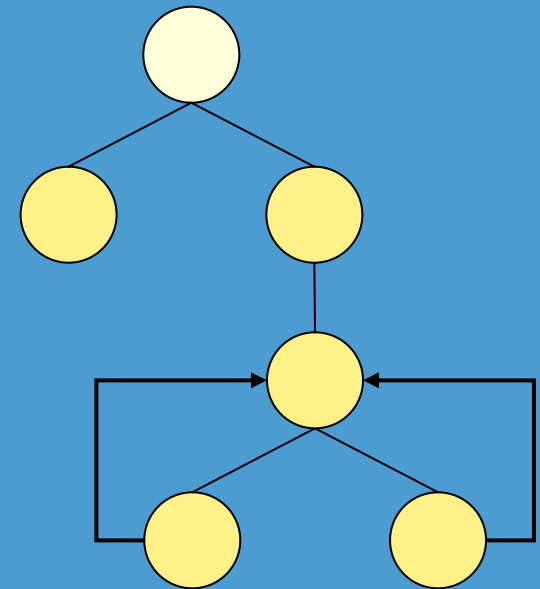
Direct editing of
DEFAULT



Editing children
of DEFAULT



Editing children
of surrogate
DEFAULT

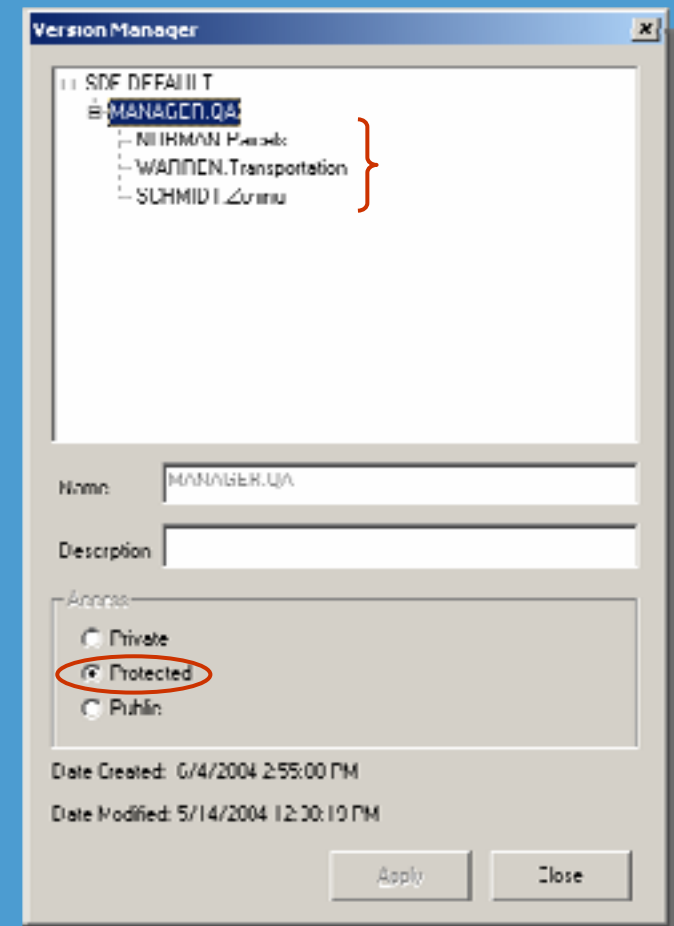


Multiple tier
DEFAULT
versioning hierarchy

Protecting versions and separating users



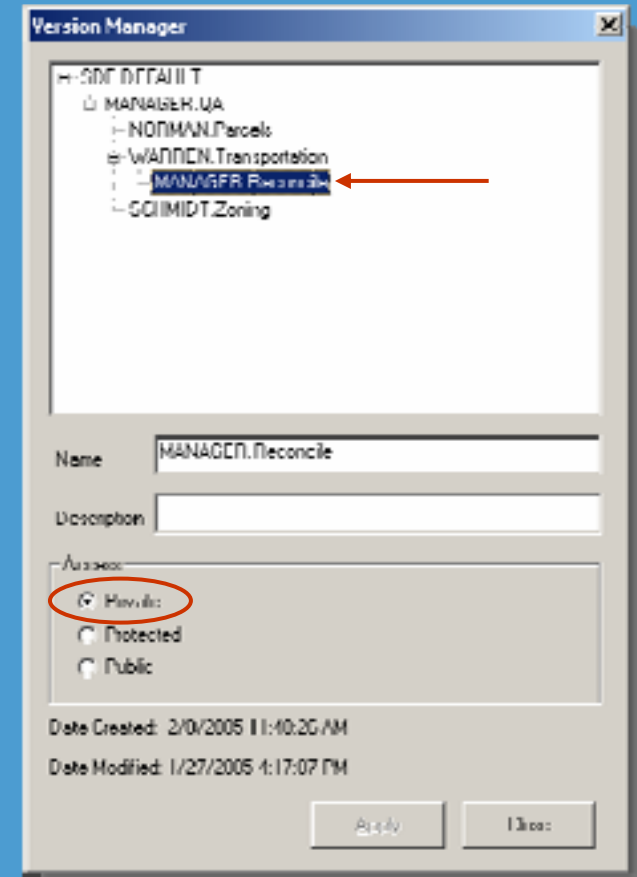
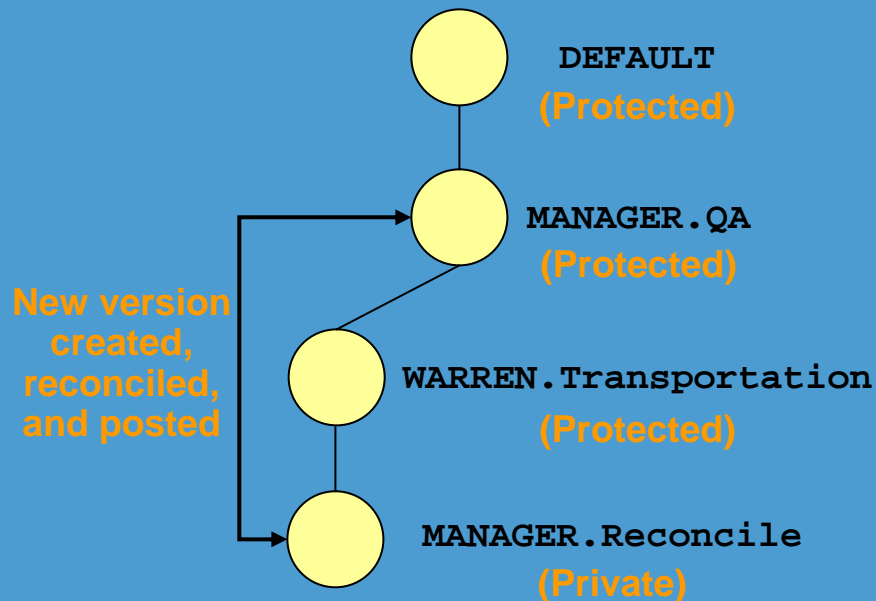
- DEFAULT version is considered current, as-built state
 - Protect for security/integrity
 - Create child versions from DEFAULT
- QA monitored with surrogate tier
 - Example: Protect MANAGER.QA as reconcile and post target
- Separate users by responsibility
 - Versions can facilitate ease of management
 - Multiple project tiers could be built-in
- Private versions can persist



Reconciling/posting and protected versions



- When parent and child protected
 - Make temporary version from child
 - Reconcile and post with grandparent
 - Delete child versions upon reconcile/post

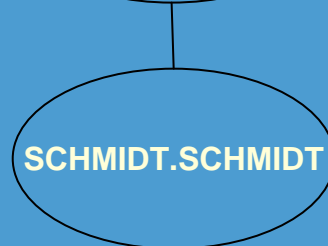
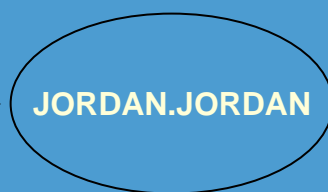




Reconcile feature class privileges

- Reconcile copies edits from edit into target lineage
 - User performing reconcile requires write privileges to feature classes modified in child lineage
 - Edits inserted to A and D tables

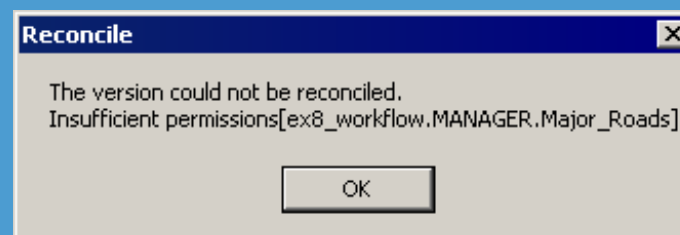
JORDAN makes
edits to ZONING
with *protected*
parent version



JORDAN – read/write privilege on ZONING
SCHMIDT – read/write privilege on MAJOR_ROADS

SCHMIDT
makes an edit to
MAJOR_ROADS
with *public* child
version

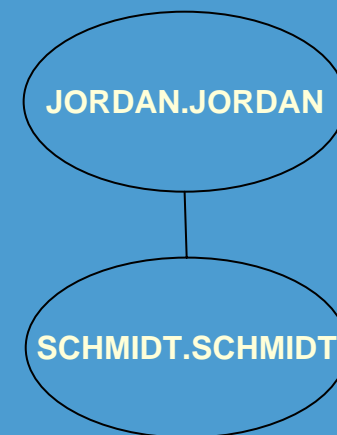
JORDAN
performs reconcile from
SCHMIDT's version to his version;
reconcile fails





Reconcile feature class privileges

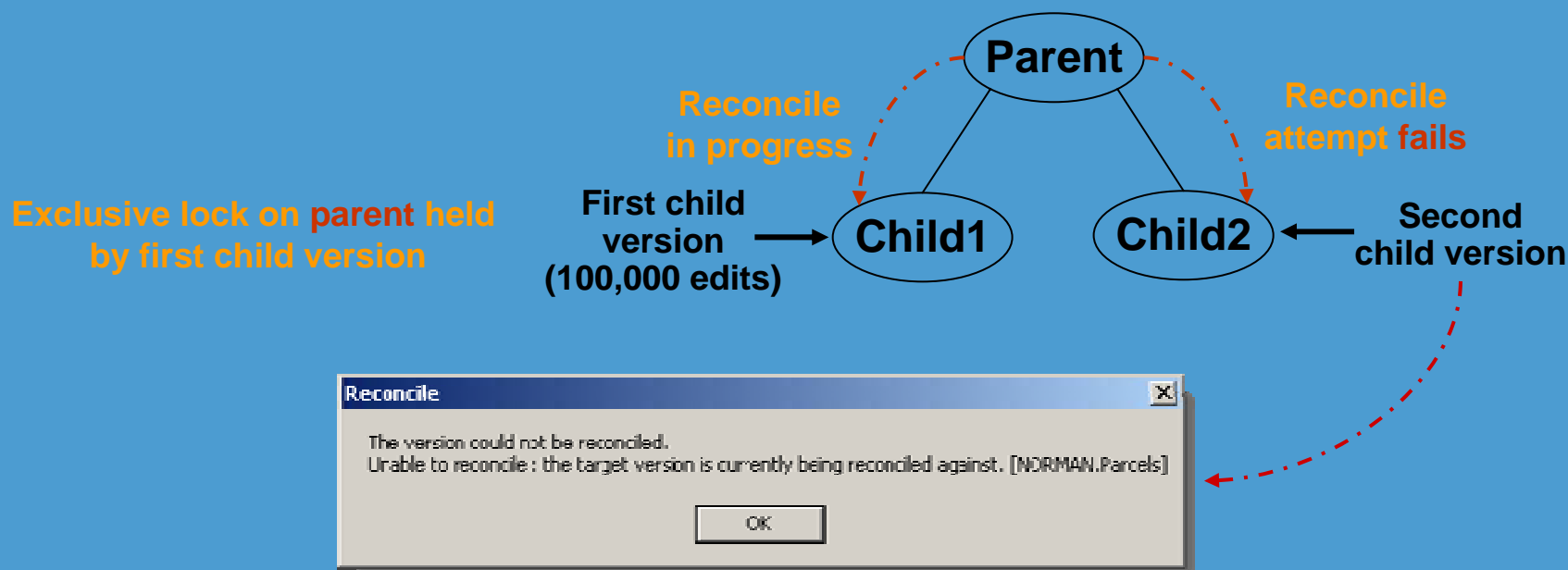
- Solution
 - Alter version permission
 - Make parent and child Public
 - Alter feature class privileges
 - Grant Read/Write to Jordan on MAJOR_ROADS
 - Reconcile as owner of the data
 - Reconcile as SDE





Simultaneous reconcile actions

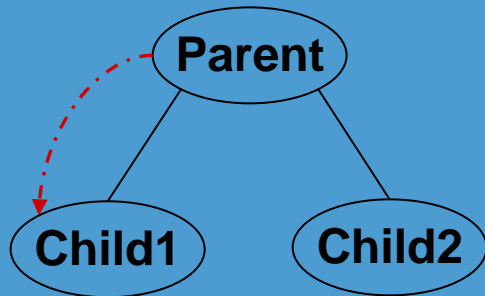
- Exclusive lock on target version during reconcile
 - Prevents target from simultaneous reconciliation
 - Held until reconcile operation is complete
 - Dependent on number of states and hardware resources



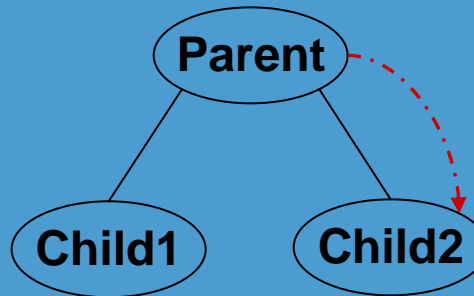
Post to target that has been posted



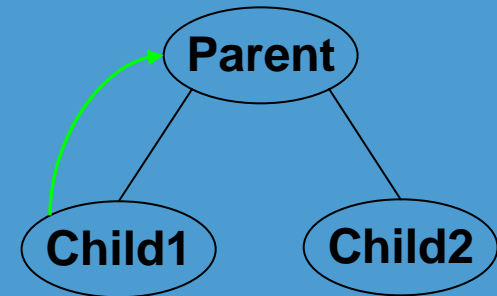
- 1
- Edit made to each child
 - Child 1 reconciles



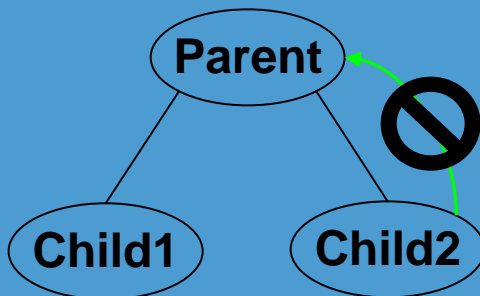
- 2
- Child 1 reconcile finished
 - Child 2 reconciles



- 3
- Child 1 posts



- 4
- Child 2 attempts to post
 - Post fails

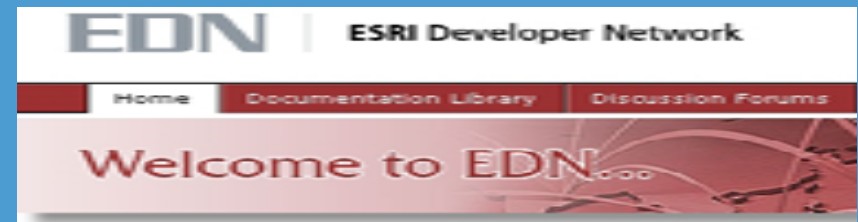


Posts fails. The parent version was posted to from Child1. Edits from Child1 are now part of the Parent/Target version that were not present when Child2 reconciled with Parent.

Reconcile and Post Samples



- Batch reconcile and post
 - Recursively reconcile and post
 - Tool will try to reconcile all versions in geodatabase
 - Conflicts will cause reconcile to halt
 - Lock entries will prevent lineage traverse
- Reconcile and post service
 - Service checks for versions to be reconciled and posted
 - User flags version when version is ready for reconciling
 - Service loops through flagged versions
 - Automatically reconciles and posts with parent
 - Conflicts will cause reconcile to halt



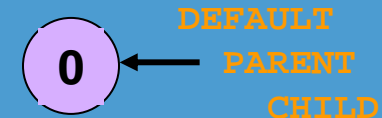


Unexpected Conflicts

- All edits are tracked with a State ID
 - Reconcile and post change to the state a version references
- Reconcile looks for common ancestor state
 - All edits on lineage up to ancestor state are reviewed for conflicts
- Reconcile and post workflow will determine if unexpected conflicts occur

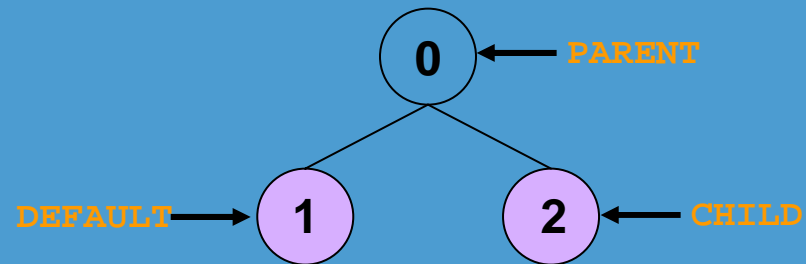
Unexpected Conflicts

- DEFAULT, PARENT, and CHILD at same state



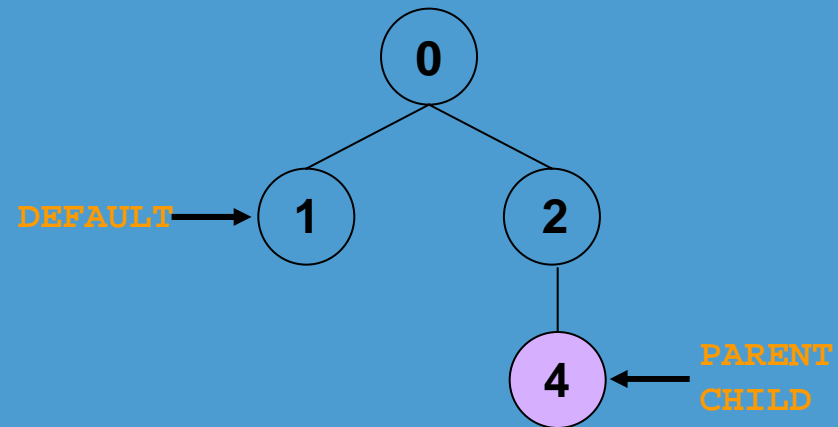
Unexpected Conflicts

- DEFAULT, PARENT, and CHILD at same state
- **Edit DEFAULT (Object #10)**
- **Edit CHILD (Object #11)**



Unexpected Conflicts

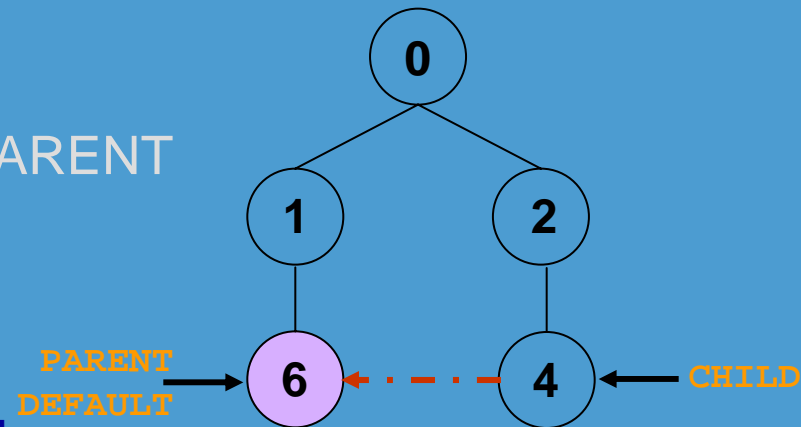
- DEFAULT, PARENT, and CHILD at same state
- Edit DEFAULT (Object #10)
- Edit CHILD (Object #11)
- **Reconcile and post CHILD with PARENT**





Unexpected Conflicts

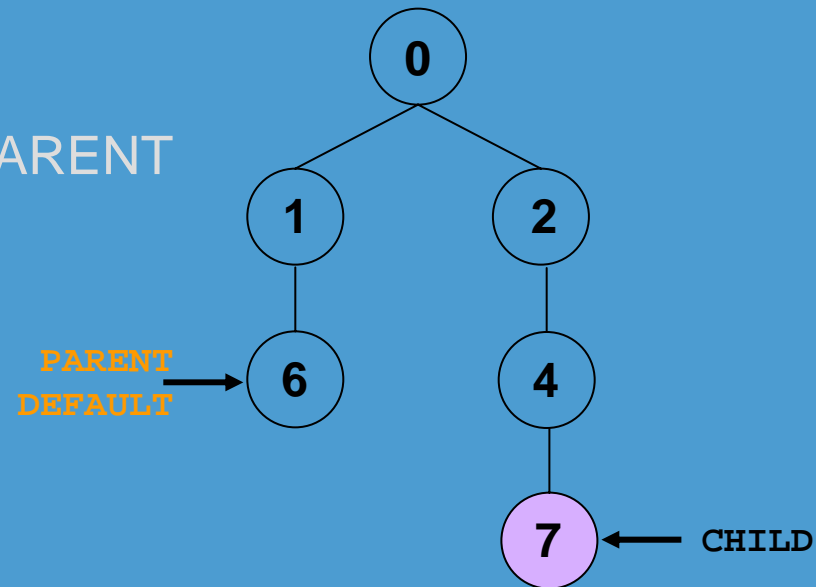
- DEFAULT, PARENT, and CHILD at same state
- Edit DEFAULT (Object #10)
- Edit CHILD (Object #11)
- Reconcile and post CHILD with PARENT
- **Reconcile and post PARENT with DEFAULT**
 - Edit that occurred to Object #11 copied to state 6





Unexpected Conflicts

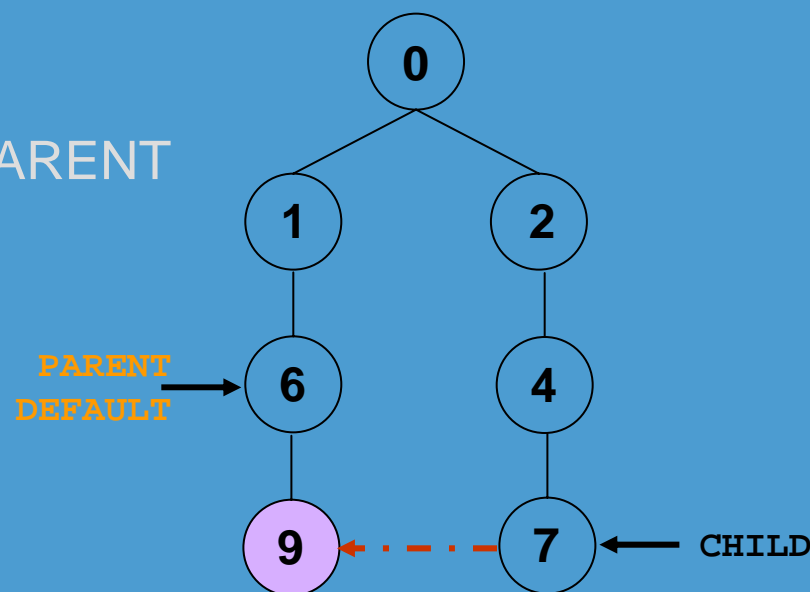
- DEFAULT, PARENT, and CHILD at same state
- Edit DEFAULT (Object #10)
- Edit CHILD (Object #11)
- Reconcile and post CHILD with PARENT
- Reconcile and post PARENT with DEFAULT
 - Edit which occurred to Object #11 copied to state 6
- **Edit CHILD (Object #11)**





Unexpected Conflicts

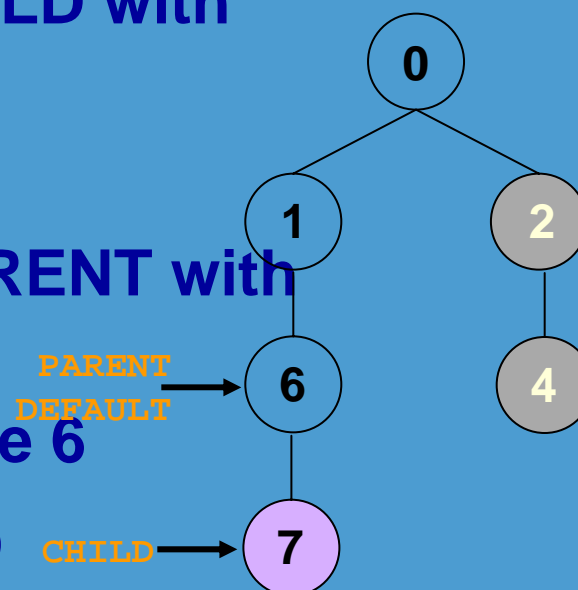
- DEFAULT, PARENT, and CHILD at same state
- Edit DEFAULT (Object #10)
- Edit CHILD (Object #11)
- Reconcile and post CHILD with PARENT
- Reconcile and post PARENT with DEFAULT
 - Edit which occurred to Object #11 copied to state 6
- Edit CHILD (Object #11)
- **Reconcile and post CHILD with PARENT**
 - Common ancestor is state 0
 - **Conflict detected on Object #11 between edit at state 6 and state 7**





Unexpected Conflicts - Solution

- Avoiding this situation – ESRI Recommendation
 - Reconcile and post CHILD with PARENT (state 4)
 - **Delete CHILD**
 - Reconcile and post PARENT with DEFAULT (state 6)
 - Re-create CHILD at state 6
 - Continue editing CHILD (state 7)
 - State 2 and 4 no longer referenced by a lineage
 - Removed upon compress





Workflow Considerations

- **Use a workflow that fits your business needs**
 - Example: QA tier, project phases, what-if scenarios
- **Do not make it more complicated than necessary**
 - Use reconcile services to reduce manual management
 - Consider Job Tracking Extension for ArcGIS
 - Consider deleting child versions after reconcile/post
- **Conflict detection on all versions**
 - Remove conflicts at workflow level
 - Determine conflict policies for all editors
 - Assign a person to manage all conflicts
- **Non-ESRI integration**
 - Must use multiversioned view for access to attributes

Instructor-Led Training



- Managing Editing Workflows in a Multiuser Geodatabase (3 Day Instructor-Led Course)
 - West Palm Beach, Florida: May 29th – June 1st
 - Duluth, Georgia: July 25th – 27th
 - West Palm Beach, Florida: Aug 1st – 3rd
 - Charlotte, North Carolina: Sept 10th – 12th

Thank you for Attending



- Questions?