Migrating Your Data to the Geodatabase - A

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What will we cover in this session

- Why should you migrate to the geodatabase
- Why should you migrate to multi-user geodatabase (ArcSDE)?
- Migrating a single user database to multi user ArcSDE and the geodatabase
- Migration Issues

What will we cover in this session - 2

- Migrating multi user databases to the ArcSDE and the geodatabase
  - ArcStorm
  - ArcInfo Librarian

Introduction

- What's a single user database?
  - ArcInfo Coverages
  - ESRI Shapefiles
  - Personal Geodatabase (Access)
- What's a multi user database?
  - Geodatabase (ArcSDE)
  - Librarian
  - ArcStorm
- Single user vs. Multi-user

New Terminology

The geodatabase

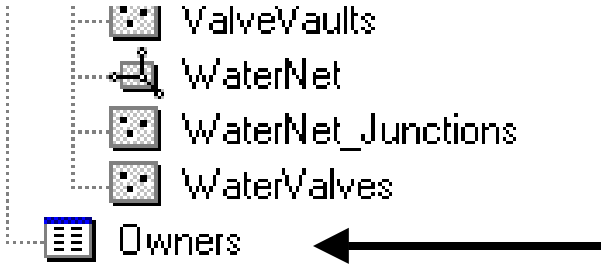
- A new geographic data model
- Stored in an RDBMS
- Features with behavior
- Topological relationships

What is an object class?

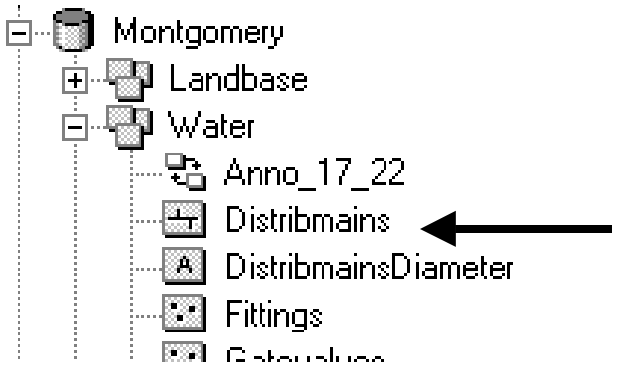
- Stores objects and their properties
- Spatial (parcels) and non-spatial (parcel owners)
- All objects in a class have the same:
  - Properties - stored in the table as attributes
  - Behavior - implemented as a COM class

Object classes

- **Non-spatial objects are stored in tables**



- **Spatial objects are stored in feature classes**

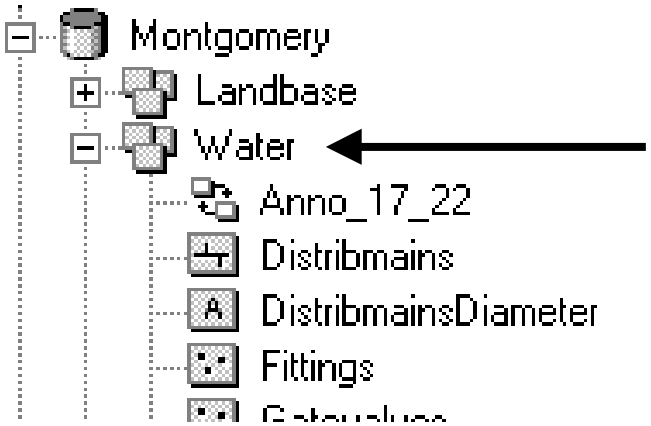


What is a Featureclass?

- Object class which stores spatial objects (features)
- Stores spatial objects with the same:
  - Properties - stored in the table as attributes
  - Behavior - implemented as a COM class

What is a Featuredataset?

- Container for feature classes with the same spatial reference.
- Analogous to a coverage
  - Less restrictive.
- Can also contain relationship classes and geometric networks.



Migrate?

Do I have to migrate?

- No
  - Shape files and coverages can be viewed and edited.
  - Read-only access to ArcStorm, Arc Librarian and SDE 3.x.
- Yes
  - If you want to take full advantage of the geodatabase and desktop ArcInfo 8.

When to use the Geodatabase (ArcSDE)

- Multiple Users
- Multiple Edit Sessions
  - Roll backs
  - “Personal” or prototype copies of the data
  - Resolution of edits from multiple sources

When to use the Geodatabase – 2 (ArcSDE)

- Your data must be formally managed and organized
- Large amounts of data
- System-wide access is required
  - From anywhere on the network
  - NFS is not required
- Access control is critical

When to use the Geodatabase – 3 (ArcSDE)

- Effective central server support
- Better Client-server efficiency
- Better performance
- Leverage existing UNIX server

When to use the Geodatabase – 4 (ArcSDE)

- Where you already have data stored in a RDBMS
- Data Integrity

When to use Personal Geodatabase

- Small databases
- Access control is not critical
- Only one user
- Short term projects

The Process

Process outline

- Determine the desired results and behavior
- Select the appropriate tool
- Preprocess the data if needed
- Load

Decisions

- Store the data in a stand alone featureclass or a featuredataset?
- Spatial Index?
- Offset and Scale?
- Projection/Coordinate System?
- What are the data storage requirements?

Decisions - Stand alone featureclass or featuredataset

- Loading your data into a featuredataset will gain you the full power of the geodatabase.
- Existing SDE data cannot “move” to a featuredataset, but you can register it as a featureclass for all ArcInfo 8 object behavior except for participation in geometric networks.

Decisions - Spatial Index

- The efficiency of your spatial index is determined by setting a grid size.
- Grid size is calculated automatically by ArcCatalog and ArcToolbox.
- The simple algorithm uses
  - Average min extent of the features
  - Average max extent of the features
  - The average “squareness” of the extents box

Decisions - Spatial Index (2)

- This value is not always optimal.
- It’s a reasonable guess to ensure that the data will load.
- You can optimize the grid size later.

Decisions - Offset and Scale

- Offset and scale is calculated automatically based on the envelope of the source data.
- If you will be appending to the featureclass or featuredataset you may wish to update the values for future editing needs.

Decisions - Offset and Scale (2)

- Remember you cannot change the offset once it is set.
- The offset and scale must be the same for all featureclasses.

Decisions - Projection/Coordinate System

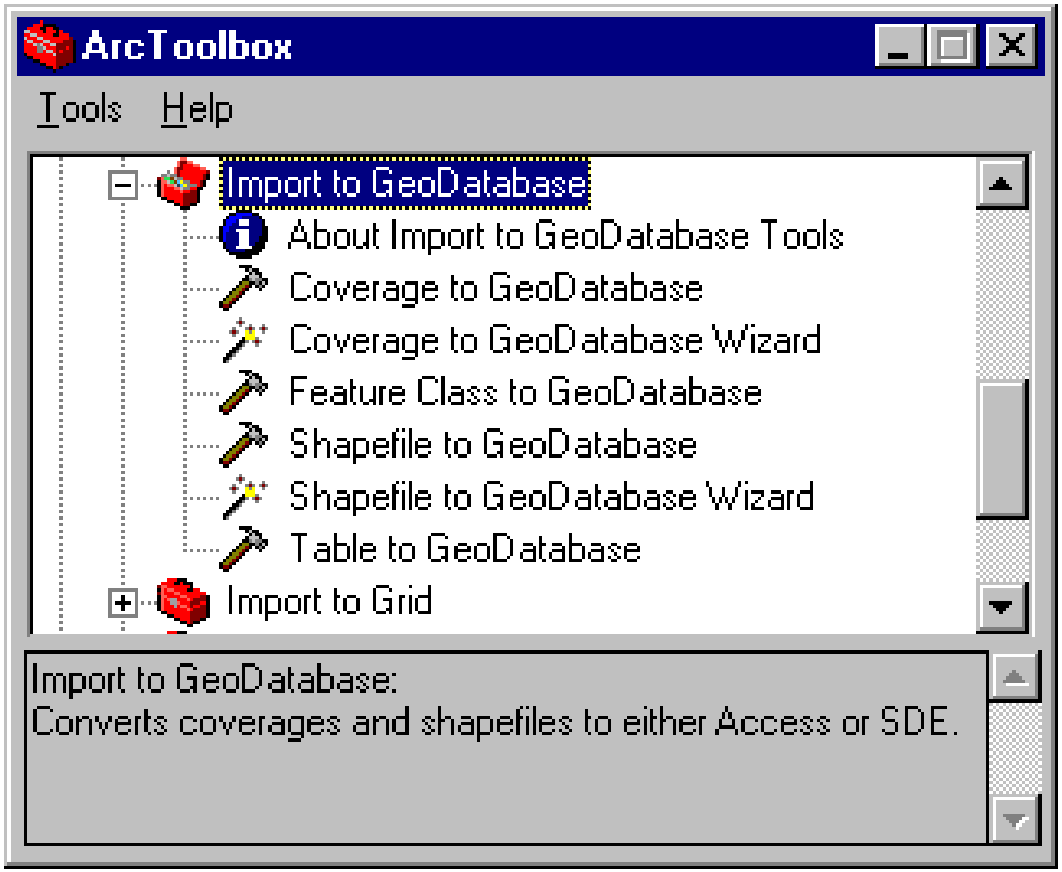
- What projection or coordinate system do you plan on using?
- MUST be the same for all featureclasses in a featuredataset.

Decisions - Physical Space for Data

- To optimally load and access data in the RDBMS you will need to create Keywords in the DBTUNE.
  - DBTUNE.SDE file in ArcSDE 8.0.x.
  - DBTUNE table in the RDBMS in ArcSDE 8.1.
- The keywords control the size and the characteristics of the datafiles in the RDBMS.

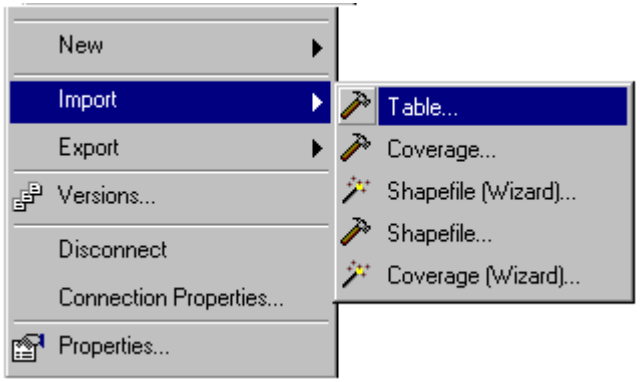
Tools

ArcToolbox


ArcToolbox
Tools
Help
Import to GeoDatabase
About Import to GeoDatabase Tools
Coverage to GeoDatabase
Coverage to GeoDatabase Wizard
Feature Class to GeoDatabase
Shapefile to GeoDatabase
Shapefile to GeoDatabase Wizard
Table to GeoDatabase
Import to Grid
Import to GeoDatabase:
Converts coverages and shapefiles to either Access or SDE.

ArcCatalog

- **For loading data**



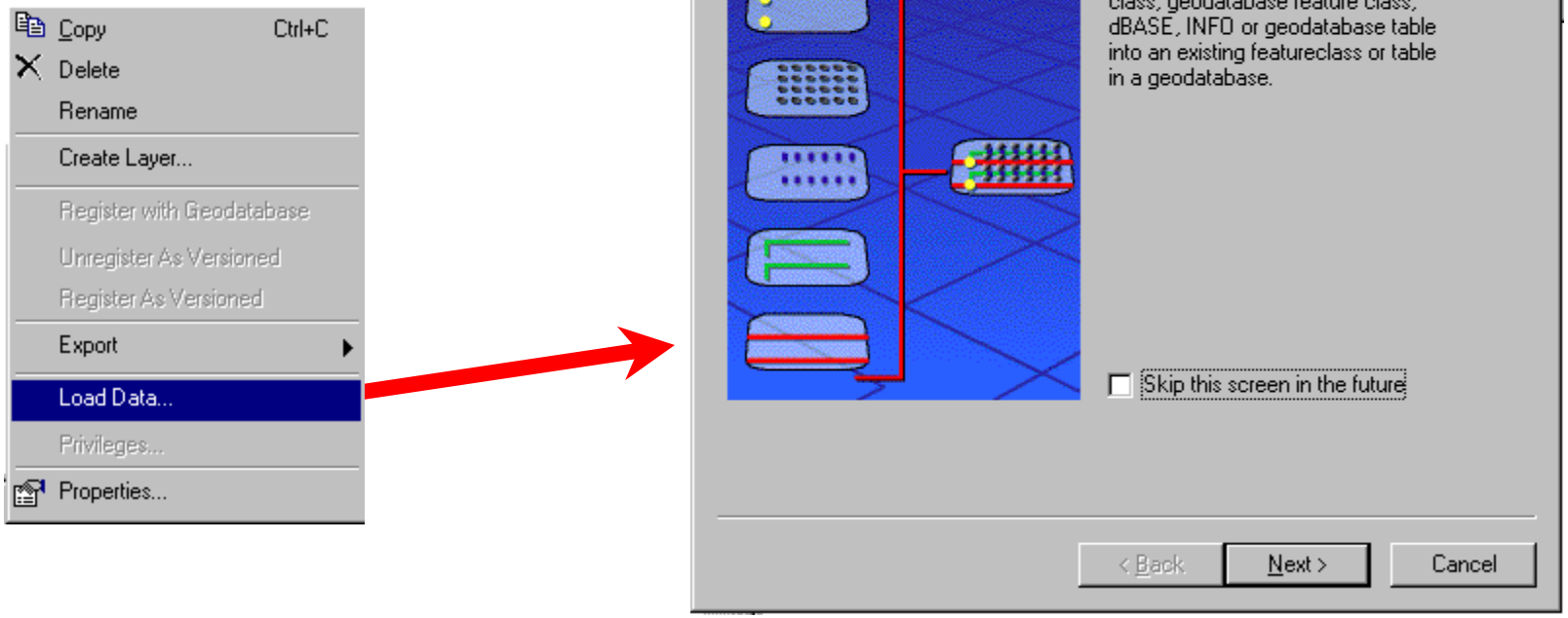
Other

- **Workstation ArcInfo**
- **ArcSDE Command line: cov2sde, sde2cov, shp2sde, sde2shp, sde2tbl, sdeexport, sdeimport, tbl2sde**

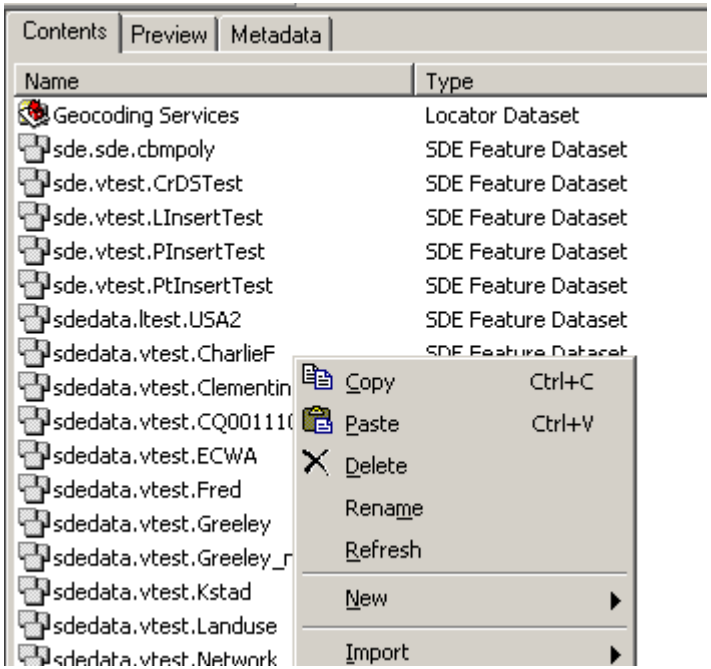
What about appending to featureclasses?

- Tools
  - Simple Data Loader (ArcCatalog)
  - Object Loader (ArcMap)
  - Which one to use?
- Offsets
  - Must apply to all of the data to be loaded in one dataset. CANNOT be changed once the data is loaded.

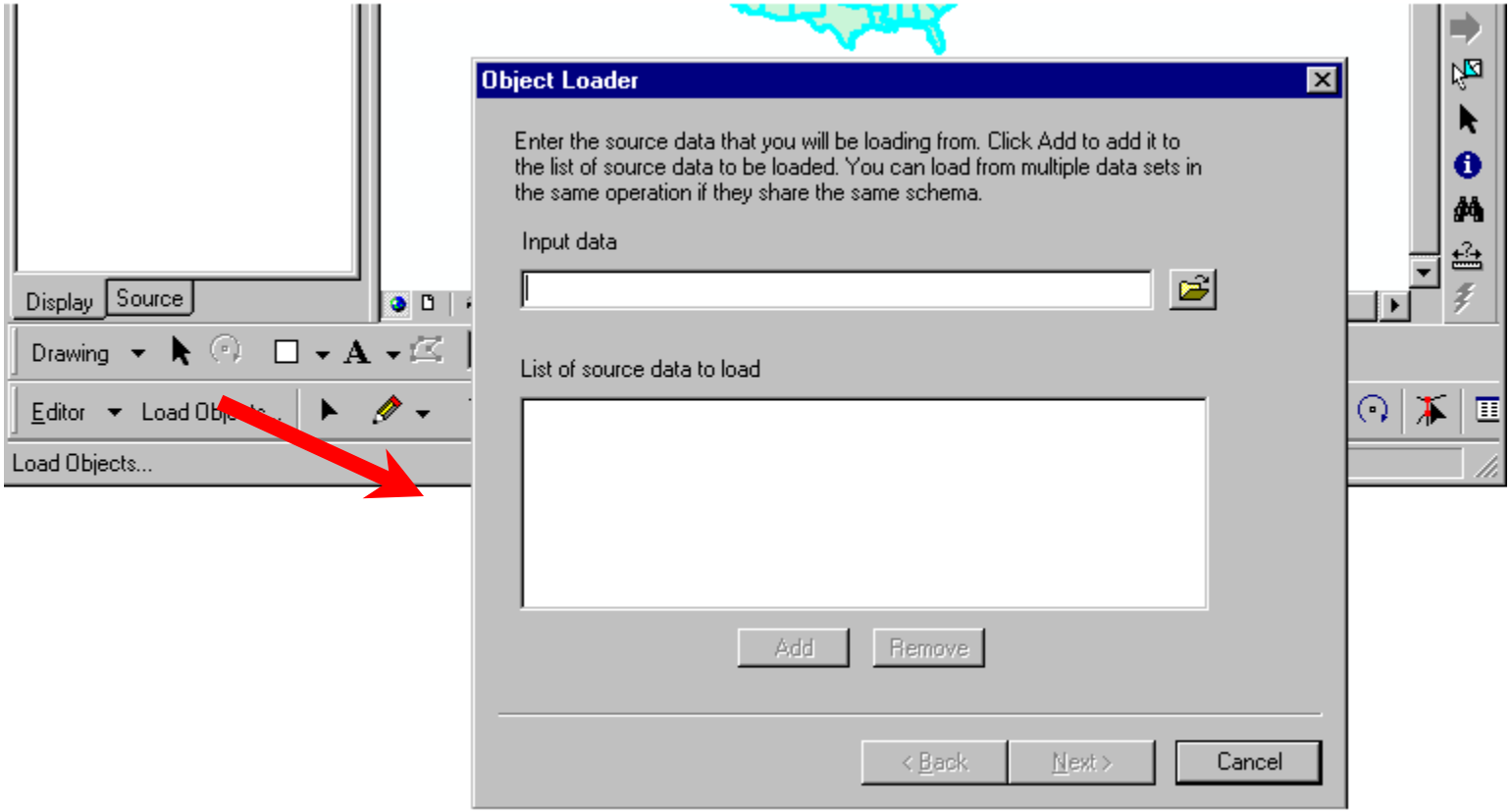
ArcCatalog - Appending data



ArcCatalog - Migrating from personal geodatabase to geodatabase use copy\paste



ArcMap - Appending data



Case Tools

- An aid to migrating your data
- Define the schema in a case tool (Visio)
- Use the Schema Creation Wizard in ArcCatalog
- Use the Simple Data Loader to populate your geodatabase

What about Arc Librarian and ArcStorm?

- **Use ArcSDE for Coverages**
  - **Dissolves polygon boundaries and removes pseudo nodes.**
  - **Requires fewer system resources than other approaches.**
  - **Easy to set up and is included with ArcInfo.**

Issues

Attributes

- Reserved words
- Duplicate column names
- Changing columns
  - Names
  - Length
  - Deleting
- Type Mapping

ArcInfo Relates and Relationships

- INFO Relates
- Relationships
- Migrating Workstation ArcInfo relates to the geodatabase will require that you add a key column to the related table(s) before you load the tables.
- Joins

Annotation

- Load using ArcMap
- You must reload existing ArcSDE annotation data.
- Tips
  - Reference Scale
  - Text Symbols
  - Prototype

Versioning

- **When loading data, drop versioning.**

Wrap-up

Sessions

- This session is repeated on Wednesday at 1:30 p.m. in this room.
- ArcSDE for Microsoft SQL Server Administration; Room 3; Thursday, 1:30-3pm
- ArcSDE for Oracle Administration;Room 3; Thursday, 10:30am -12pm

Sessions - 2

- Using ArcSDE for Coverages; Room 3; Tuesday and Wednesday; 3:30-5pm
- Geodatabase and Object Model Design Using CASE Tools – B; Room 5-B; Wednesday, 8:30 AM - 10:00 AM
- Designing and Using a Geodatabase – B; Room 3; Wednesday, 10:30 AM - 12:00 PM

Questions

Closing

- **Remember to fill out your evaluation form.**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