ArcGIS

Compress a Geodatabase

By Thomas Dunn, ESRI Software Development

desktop notes

User Level

New/Casual — Advanced

Geodatabases served through ArcSDE support long transactions that let multiple users access geographic data through the use of versioning. A version is a named state of a geodatabase, and many versions can coexist. A versioned database always has a top-level version called DEFAULT that represents the nominal state of the database. Other versions can be created and organized to support tiered, cyclical, or extended history work flows.

Changes to feature classes or object classes are not applied directly to the business table of a versioned geodatabase. Instead, these changes are stored in the A<registration_ID> or "adds" table and the D<registration_ID> or "deletes" table. These tables are created for each versioned feature class or object class and are included in all queries against a versioned feature class or object class. Because the number of rows increases in these tables as edits are made, performance can degrade over time.

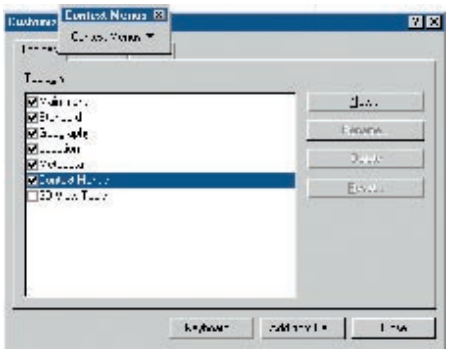
Compressing a geodatabase periodically—removing unreferenced database states as well as the rows that constitute those unreferenced states—will often improve performance. Compressing requires an exclusive lock on all states in the database, which makes the geodatabase unavailable until the process completes. This operation can only be performed by the SDE administrative user and is available only in the ArcInfo or ArcEditor versions of ArcCatalog. The Compress command must be added to ArcCatalog first.

1. In ArcCatalog, click Tools > Customize.
2. Click the Toolbars tab in the Customize dialog and check the box next to Context Menus.
3. Click the Context Menus menu and choose Remote Database Context Menu.
4. In the Customize dialog box, click on the Commands Tab. Select Geodatabase Tools from the left pane and drag the Compress Database command from the right pane and drop it on the Remote Database context menu.
5. Click the Close button on the Customize dialog box.

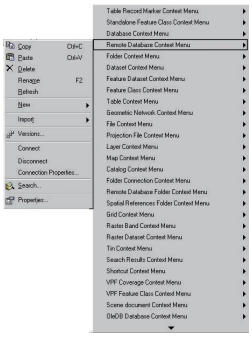
For optimal results, prepare the geodatabase by reconciling each outstanding version against the DEFAULT version. It is not necessary to post to the DEFAULT version or delete all outstanding versions. In ArcCatalog, create a new connection to the geodatabase as the SDE administrative user. Right-click on the new database connection and choose Compress Database from the context menu.

Once the compression process is completed, re-create versions if necessary and update the statistics on the database using the Analyze command in ArcCatalog. The Analyze command updates the statistics for business tables, feature tables, and delta tables, as well as the statistics on the indexes for those tables.

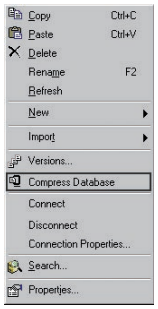
When you analyze a feature dataset, all of the feature classes contained in that dataset are analyzed. If the feature dataset contains a geometric network, then the network tables are also analyzed. It is also a good idea to run the Analyze command on a geodatabase periodically especially after making substantial changes to it. Additional information on versioning can be found in *Modeling Our World* and *Building a Geodatabase,* two manuals that come with ArcGIS. AU



Choose Tools > Customize and click on the box next to Context Menus.



Choose Remote Database Context Menu from the list of context menus.



Drag the Compress Database command to the context menu.

ArcGIS

Import Symbology from an ArcView 3.*x* Project

desktop notes

User Level

New/Casual — Advanced

Save time and effort by importing existing symbology from an ArcView 3.*x* project to a new layer in an ArcGIS 8.1 map (ArcInfo, ArcEditor, or ArcView). This symbology comes from a legend in an ArcView 3.*x* project that was saved as an AVL file.

1. In the table of contents, double-click on the layer you want to symbolize.
2. In the Layers Properties dialog box, click the Symbology tab and click on the Import button.
3. In the Import Symbology dialog box, select Import Symbology Definition from an ArcView 3 Legend.
4. Click on the Folder button to browse to select the AVL file to import.
5. Click OK to close the Layer Properties dialog box and apply the symbology. AU

ArcView 3.x

Optimize Library Access

By Shana Britt, ESRI Technical Support

desktop notes

User Level
New/Casual — Advanced

The following tips for managing data and building better queries will optimize the performance of ArcView 3.*x* when accessing ArcInfo Map Libraries or ArcStorm database libraries.

- Use data that is at the appropriate scale data for task.
- Store the static data locally and reference dynamic data across the network.
- Don't use theme definitions; build specific datasets that contain only the needed data.
- Clean up data by removing unused fields from source datasets.
- Control when a theme draws based on scale by choosing Theme > Properties > Display and setting the minimum and maximum scales for each theme.
- Build spatial indexes (i.e., index on a theme's Shape field) for data. Spatial indexes speed Identify and drawing, spatial joins, and theme-on-theme selection operations. To create a persistent spatial index, you must have write permissions to the data. ArcView 3.*x* also recognizes spatial indexes created in ArcInfo using the INDEX command.
- In ArcInfo, build spatial indexes for all tiles and layers on a tile-by-tile basis by using the VISIT command in Librarian.
- In ArcView 3.*x*, limit the number of tiles that are active at one time by using the ArcView 3.*x* Area of Interest tool. The extent for the Area of Interest tool can be set interactively or based on another theme, the view extent, the display extent, or a specified extent.
- To display and process more than 10 tiles, convert these tiles to a shapefile. Store and process the shapefile locally.
- Build index fields in ArcView 3.*x* for fields that will be used for queries or for classifying themes.
- Don't use global joins and links. Build a shapefile containing only the records needed and join or link to that shapefile with additional data.
- Avoid using wild cards or comparisons in queries, because these queries can't use attribute indexes to speed access. Construct simple queries that use the equal function. AU

ArcSDE

Protect the DEFAULT Version from Accidental Deletions

By Steven Clarke, ESRI Development Support Group

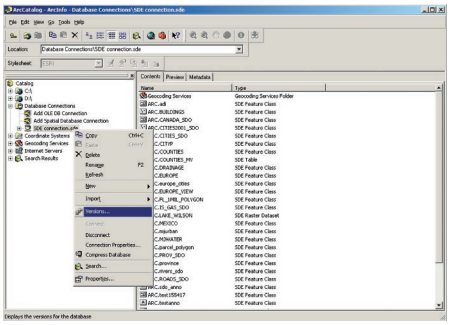
desktop notes

User Level
New/Casual — Advanced

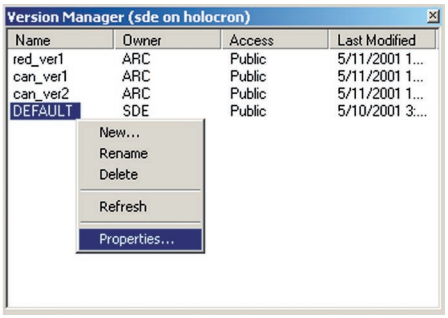
When editing ArcSDE layers in ArcMap (in ArcInfo or ArcEditor), features that are accidentally deleted from the DEFAULT version cannot be recovered after the edits are posted. Although these features exist in the D<registration_ID> or "deletes" table, they cannot be restored. Here are two ways to protect the DEFAULT version from accidental feature deletions.

In ArcMap, instead of directly editing the DEFAULT version, access the Versioning Toolbar and select Create New Version to create a copy of the DEFAULT version that will serve as a backup. Create additional working versions and make edits to those versions. If you need to restore features that have been accidentally deleted, simply copy the deleted features from the backup DEFAULT version and paste them into the current working version. The backup DEFAULT version will retain the original state of the DEFAULT version. Edits can be posted to the backup DEFAULT version if needed.

In ArcCatalog, set the permissions for the DEFAULT version to protected using the Version Manager. Only the SDE administrative user for that geodatabase can set permissions.



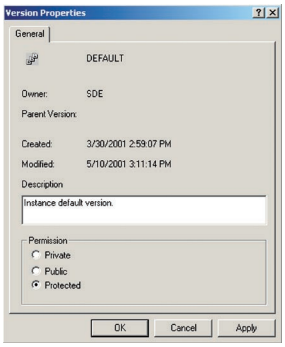
1. Right-click on the SDE connection and select Versions from the context menu.



2. In the Version Manager dialog box, right-click on DEFAULT and choose Properties from the context menu.

1. Right-click on the SDE connection and select Versions from the context menu.
2. In the Version Manager dialog box, right-click on DEFAULT and choose Properties from the context menu.
3. In the Version Properties dialog box, click on the radio button next to Protected.

With permissions for the geodatabase set to protected, any user can view the DEFAULT version but only the SDE administrative user can post edits. For more information about versioning, see Chapter 11 in *Building a Geodatabase,* one of the manuals that comes with ArcGIS. AU



3. In the Version Properties dialog box, click on the radio button next to Protected.