Chapter 10

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Standard & Poor's Research Insight is a powerful tool for creating numerous databases and groups of databases as a way of managing information within your organization. In this way, Research Insight provides you with a completely flexible database management system.

This chapter covers

- how Research Insight stores data

- database groups

- database layers

- managing databases and groups of databases

- moving databases from one group to another

- recommendations

How Research Insight Stores Data

As you add information—data items, companies, concepts, currencies and the corresponding data values—Research Insight stores it in the selected **write-to database**. For example, if you are working with the COMPUSTAT (North America) database and adding your own items, the items are not actually being stored in the North America database, but in an associated write-to database on your hard drive.

Research Insight contains pre-defined, write-to databases for COMPUSTAT (North America), named CS5USER, CSPRICE and CS5NET (for network users) and for COMPUSTAT (Global) database, GV5USER, GVPRICE and GV5NET. You can also create additional databases of your own, and that is covered later in this chapter. For now, let's take a closer look at the CS5USER write-to database.

The Write-to Database

Research Insight identifies the write-to database in all of the dialog boxes used to add information. For example, if you add a data item named NEWITEM while you are working with the North America database, you will see the name of the write-to database at the bottom of the Item Definition write-to databa.
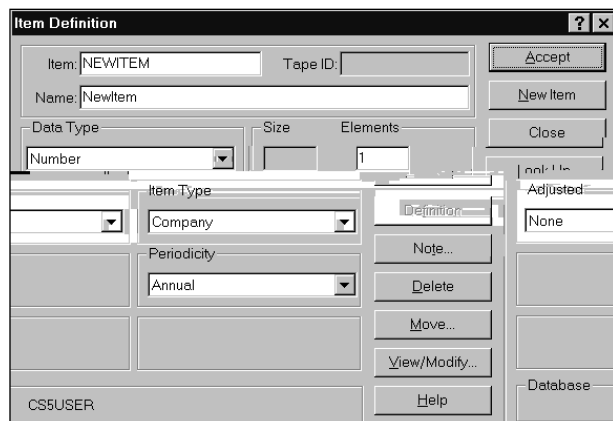
New data will be added to the CS5USER write-to database.

Inside the Write-to Database

The directory where Research Insight is installed contains a sub-directory named UserData. This directory contains dictionary files to house your data items, companies and concepts. It also contains data files to house the data item values. A typical configuration looks as follows:

**C:\Program Files\Research Insight\UserData\CS5UDATA.DB(A data file)**

This is only a partial representation. There are multiple dictionary and data files, but Research Insight names them with the same conventions.

Selecting the Write-to Database

You can select the write-to database at any point during a Research Insight session. You can also change your selection at any time.

Begin from the Research Insight desktop:
1. From the **Databases** menu, select **Database Group** to display the Database Group dialog box.
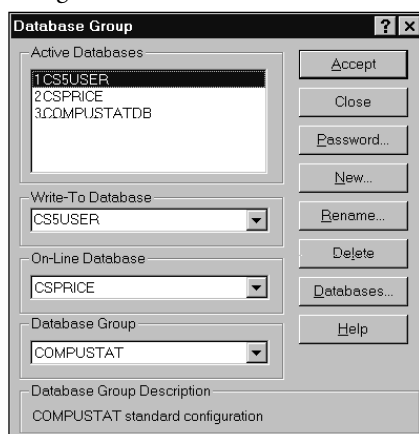

2. Select the write-to database from the **Write-To Database** drop-down list.
3. Click **Accept**.
   From this point forward, any information that you add during the current Research Insight session will be stored in the write-to database you have selected. You can change the write-to database at any time.

Creating a New Database

With Research Insight, you can create as many databases as you want. Keep in mind that you can only attach to eight databases at a time and write to one database at a time. The following instructions show you how to create a new database and select it as the write-to database.

Begin from the Database Group dialog box:

1. Click the **Databases** button to display the Database dialog box.
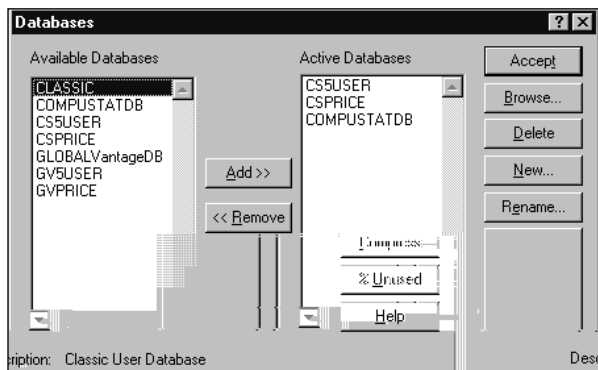
This is the primary dialog box used for database management within the Research Insight application; it includes a listing of all Available Databases, a listing of all Active Databases in the group and buttons enabling you to add, delete, rename and compress databases. Each option is covered in detail in a later section of this chapter titled, *Moving Databases from One Group to Another*. For now, we'll use it to create a new database.

2. Click the **New** button to display the Database Properties dialog box.
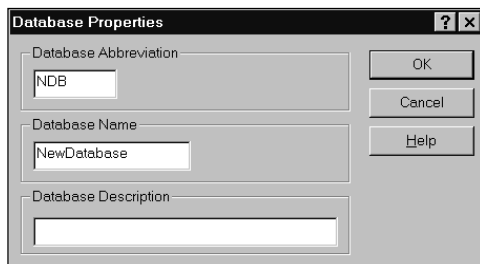
3. Enter an abbreviation for the new database (up to four characters) in the **Database Abbreviation** field.
4. Enter a name for the new database in the **Database Name** field.
5. You can also enter a description for the database in the **Database Description** field.
6. Click **OK**.

The Save As dialog box appears.
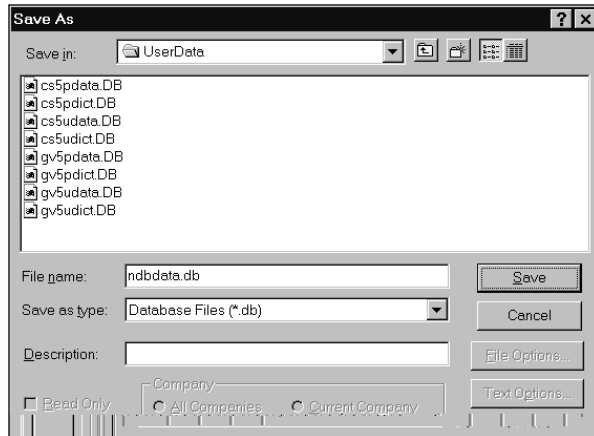
Use this dialog box to determine where you want Research Insight to locate the data and dictionary files that make up your new database. We recommend that you select the default, unless you are creating a database that will be shared on a network.

7. Click **SAVE**.

Research Insight returns you to the Databases dialog box. Notice that your new database is highlighted in the **Available Databases** list box. Now you can add it to the **Active Databases** list box.
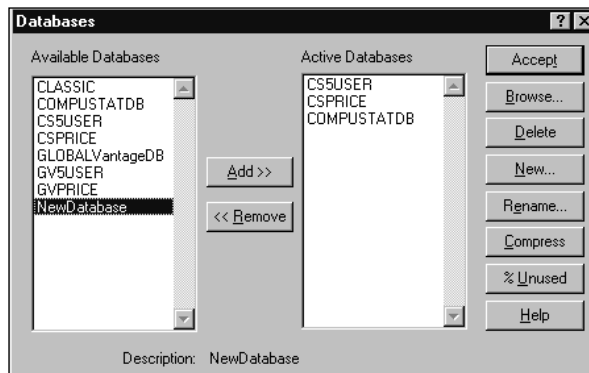
8. Click the **Add** button.

Notice that Research Insight places it at the top of the list of Active Databases.

9. Click **Accept**.

Research Insight notifies you that the write-to database is not the top database in the group and that new data may be hidden from view.

Important: Research Insight reads data in the order in which databases are layered. Refer to the section of this chapter entitled, *Understanding Database Layers* for a complete explanation of database layers.

10. Click **OK**.
    Research Insight returns you to the Database Group dialog box.
    Notice that your new database is at the top of the list of Active Databases and that the databases are numbered. This numbering sequence is explained later in this chapter.

    Now your Database Group has three available user-defined databases, NewDatabase, CS5USER and CSPRICE.
11. Select your new database as the write-to database from the **Write-to Database** drop-down list.
12. Click **Accept**.
    Research Insight returns you to the desktop. Any information you add at this point will be written to your new database. You can change the write-to database at any time.
    To learn how to create and manage multiple databases and groups of databases, continue on to the next section of this chapter.

Database Groups

Before you add information to Research Insight, first consider where you want Research Insight to store it. If you occasionally add a few data items or change a few COMPUSTAT data values, the CS5USER (or GV5USER) write-to database is probably sufficient to meet your needs. If you wish to incorporate larger amounts of data, you may want to create additional databases and groups of databases to help organized the information.

Creating a Database Group

Think of a Database Group as a collection of related databases that can be used together by Research Insight at any one time. You might create different database groups to represent different forecasting scenarios. You might create database groups as a way of managing shared information on a network. An investment banking unit could create a group to address its needs, and an analyst's group could do the same.

Each database group can have up to eight attached user-defined databases, and only one database in the group can be a COMPUSTAT core database (North America or Global). For illustration, the following sections use an example of adding a group named MYGROUP based on the North America core database. Follow the same basic procedures for adding a Global based group.

Begin from the Research Insight desktop:
1. From the **Databases** menu, select **Database Group** to display the Database Group dialog box.
2. Click the **New** button to display the New Database Group dialog box.

3. Select the core database you want your group to be based on from the **Based on CD-ROM Layer** drop down list. Unless you subscribe to multiple COMPUSTAT databases, you only have one selection here.
4. Enter a name for the group in the **Group Name** field.
   You can also enter a description for the group in the **Group Description** field.
5. Click **OK**.
   Research Insight returns you to the Database Group dialog box.

   Notice that MYGROUP appears in the **Database Group** field. Notice also that the only database displayed in the **Active Databases** field is the COMPUSTATDB. At this point you will want to include one or more user-defined databases with your group. The following section shows you how.

Adding Databases to a Group

Begin from the Database Group dialog box.

1. Ensure that the group that you want is displayed in the **Database Group** field.
2. Click the **Databases** button to display the Databases dialog box.

3. Use the **Add** button to add any existing, user-defined databases to your group, and/or use the **New** button to create a new database.

    We added a previously created database **NewDatabase** to the database group **MYGROUP**.
4. Click the **Accept** button.

    You return to the Database Group dialog box.
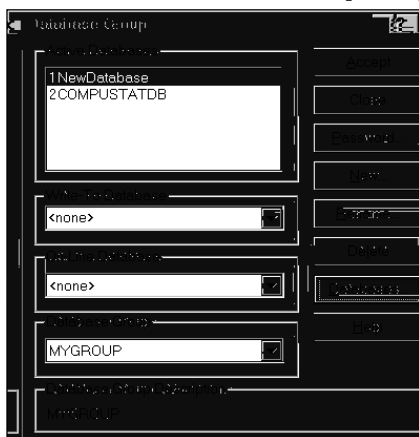
    Notice that the database you added is listed before the COMPUSTATDB database in the list of Active databases.
5. To assign the write-to database for your group, select a user-defined database from the **Write-to Database** drop-down list.
6. When you are finished, click the **Accept** button.

    You return to the Research Insight desktop.

Note: You can only have one core database in a group.

Activating a Database Group

To make a database group the active group for a Research Insight session, you need to select it as the Default Database.

Begin from the Research Insight desktop:
1. From the **Databases** menu, select **Default Database** to display the Default Database Group dialog box.

2. Select the database group from the drop-down list.
3. Click **OK**.
   You return to the Research Insight desktop. The database group you selected is the active database group until you change it.

Database Layers

Within any database group you can have several user-defined databases. As a means of maintaining order in the group, Research Insight handles each database in the group as a layer. As Research Insight reads the databases for information, it reads through the layers sequentially. The top layer, number **1** in the Database Group dialog box, is the first layer that Research Insight reads.

How Data Becomes Blocked from View

Think of your group as a p/cnk oftreanpa rncises.Eeachtreanpa rncyt hs piecens or informatio. esearch InsightvVie-35.9was llk ofther informatiop froma bos.Er.yithig on,the. ncyt isvisibles.Eeachsub sequent layer cancointaig bthsvisibler informatiop ad. ked fromvVie-35.9w

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Fou have thrhe database—twof user-defined database on,ttop oftherNor -7.(te)0.1cs e database Aads each databasecointaias op anuralneht adlesevSALE)s forSI heCorop. for19397s Research Insight reads the adlesevin thettop database Thebtheretwo.

Changing the Order of Database Layers

This section shows you how to change the way databases are layered in a group. The following is based on an example of a group named MYGROUP that includes three user-defined databases, named NewDatabase, CS5USER and CSPRICE and the North America core database.

Begin from the Database Group dialog box:
1. Notice that NewDatabase is the first layered database, CS5USER is the second layer, CSPRICE is the third layer and the COMPUSTATDB is the bottom layer.
2. To move CS5USER to the top layer, double click **CS5USER** so that an asterisk (*) appears.
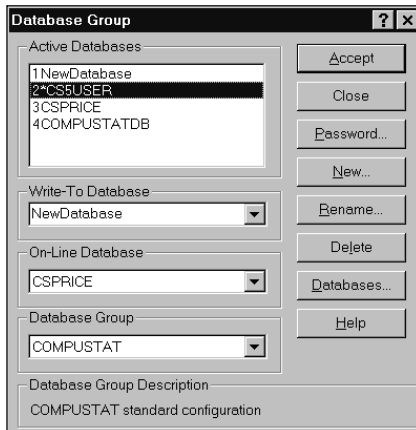
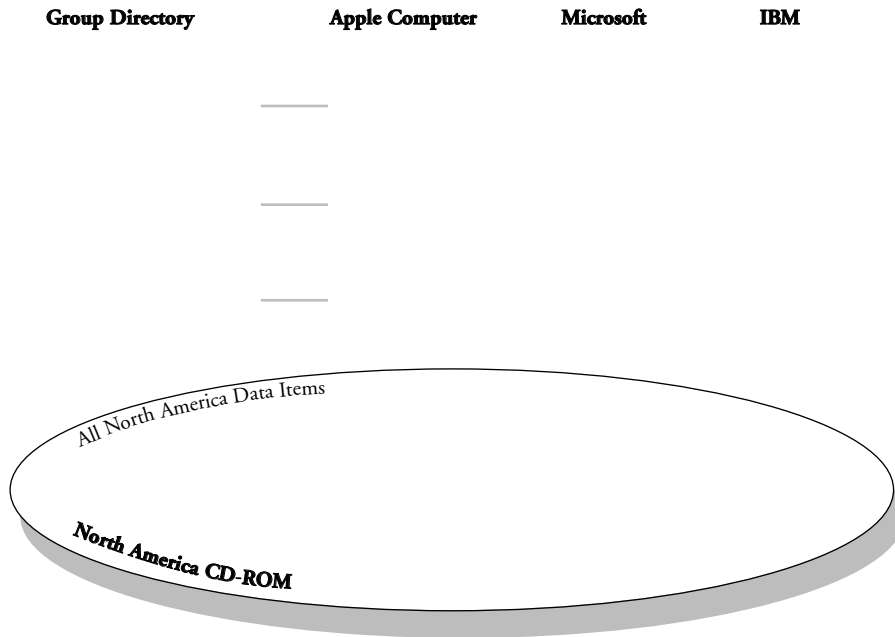3. Double click the first database NewDatabase. CS5USER is now number 1 and NewDatabase is number 2.
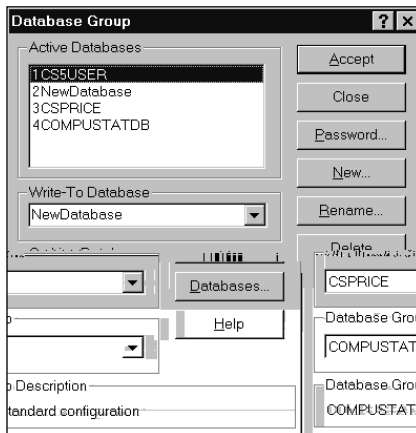
4. After moving the database, Research Insight may inform you that the write-to database is no longer the top database and new data that you add may be hidden from view. If so, click **OK**.
5. Select **CS5USER** from the **Write-To Database** drop-down list and click **Accept**.

Managing Databases and Groups of Databases

The first three sections of this chapter explained the primary elements of the Research Insight database management system: the write-to database, the dictionary and data files, the database group and database layering. This section brings all of these elements together and shows you how to manage your database group to ensure that you are storing information where you want to store it and to ensure that Research Insight is reading the information that you want it to read.

A Graphical Representation

The following illustration is a graphical representation of a typical database group. The remainder of this section refers to this illustration, so take a moment to look it over.

Group Directory   **Apple Computer**   **Microsoft**   **IBM**

All North America Data Items

North America CD-ROM

Notice that Group A contains four databases. CS5USER1 and CS5USER2 are both user-defined databases stored locally. CSNETWORK is a user-defined database stored on a network location and shared by multiple users. The North America core database is the fourth database (COMPUSTATDB).

Definitions versus Values

If you look at Figure 1, you'll see that each database is broken into a dictionary component, on the left side, and a component where data values are actually stored, on the right. The reason for this is that you can add a definition for an item in one database, and add and store the associated data values in a different database. This is the case with the data item named MYITEMA, which is defined in the CS5USER1database, but has an associated value for Apple Computer stored in CS5USER2.

The Group Dictionary

The Group Dictionary contains definitions for all data items, companies, segments, issues, concepts and currencies in the group. For Group A, the dictionary includes all North America definitions, and the definitions for MYITEMA and MYITEMB. All of these definitions—primarily items and companies—are available as long as you are working with Group A in its current state.

Keep in mind that if you remove the CS5USER1 database from Group A, MYITEMA is removed from the dictionary, and you will not be able to access MYITEMA in any Research Insight operation. Even though there is a value for MYITEMA for Apple Computer in the CS5USER2 database, you cannot access the value without having the definition available. This is an important point to keep in mind as you work with the Research Insight database management system.

How Research Insight Reads Data

Research Insight reads data from the databases in a group as if they were stacked or layered, one on top of another. Research Insight searches the databases for data sequentially, from the top database through to the bottom database, stopping at the first occurrence of a value. Remember that the bottom database is always the CD-ROM database.

Based on the current configuration of Group A in Figure 1, Research Insight returns the following values for each of the items listed below:

	Apple	Microsoft	IBM
SALE[Y98]		@NA	
SALE[Y97]	10	6	65
IB[Y97]	2	5	4
MYITEMA[Y97]	1		
MYITEMB[Y97]	6	3	3

If you removed the CS5USER2 database from the group, Research Insight would return the following values:

	Apple	Microsoft	IBM
SALE[Y98]		9	
SALE[Y97]	10	6	65
IB[Y97]	2	5	4
MYITEMA[Y97]	1		

Notice that as you remove CS5USER2 you also remove the definition for MYITEMB. Because of this, Research Insight cannot access any of the MYITEMB values in the CSNETWORK and CS5USER1 databases. To enable Research Insight to access the MYITEMB values, simply return the CS5USER2 database to the group.

Note: You can manually enter an @NA (not available code), or calculate an @NA or @NC (not calculated) in a user-defined database, and they act as any other user entered value. These hard entered codes block values in lower database layers. For example, in Group A (see Figure 1) the user has entered a hard @NA for SALE for Microsoft in 1998. This blocks the North America value of 9 for SALE in 1998. If the CS5USER2 database is removed from the group, the North America value is visible.

Hoyering Affects the Write-to Database

Within any one group, you can select one user-defined database to be the write-to database. The write-to database is where new information is added and stored. Although only one database can be the write-to database at any one time, you can change this assignment at any point during a Research Insight session.

When you are assigning the write-to database for your group you should consider the impact of layering. If the write-to database is not the top layer, new data that you add may be blocked from view. This depends on whether or not a synonymous data value is in an upper database layer.

Research Insight is flexible enough to write to any database that you choose, regardless of layer. And you can change the way the databases are layered at any time, enabling Research Insight to read a different value. But, as a rule of thumb, it's a good idea to move your write-to database to the top layer before you begin adding or modifying information.

Collisions

A previous section of this chapter, titled *Definitions versus Values*, explained the difference between definitions and values. To summarize, definitions are primarily the records of data items, such as sales and assets, and the records of companies, such as Apple Computer and IBM. (They are also the records of segments, issues, currencies and concepts. Values are the actual figures that Research Insight contains, including the data item values for each company, for each time period.

Research Insight can contain synonymous data values. It cannot contain duplicate definitions. For example, a company can only reside in the database once. Likewise, an item definition, such as SALE, can only have one occurrence.

You can, of course, define an item that is similar in meaning to an existing item. But you must give it a unique mnemonic. For example, if you define sales differently than it's defined in the North America database, you could add an item with the mnemonic MYSALE.

A collision occurs when Research Insight identifies two occurrences of the same definition in the active Database Group. This can occur for companies, data items, concepts and currencies. For instance, it may occur if you add a company to Research Insight, and we subsequently add the same company. Or, it may occur if you use the same mnemonic for two different data item definitions stored in separate user-defined databases. These two situations are explained below with examples.

What Happens when a Company I Previously Added is Added to the COMPUSTAT database?

Suppose you add a company to the CS5USER database, and at some point in the future we add the same company with the same unique identifier (ticker) to the North America database.

If you attempt to open a group with both the CS5USER database and the North America database, Research Insight notifies you of a collision. This notification typically occurs at startup, provided you closed a previous session with this database configuration. It can also happen when you try to create this database configuration within the Databases dialog box. In either situation Research Insight displays the Collision Detection dialog box shown below. MP3.COM Inc is used as an example.
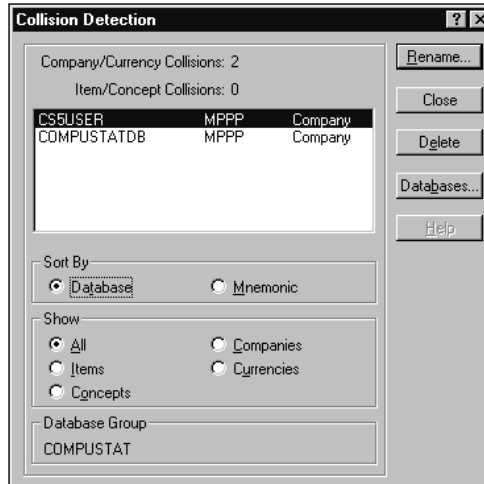
At this point, you have two options:

- Delete your MP3.COM company and all of its associated data.

- Rename your MP3.COM company. This enables you to keep it in the same group with the North America database's MP3.COM.

Note: If you activated collision detection from the Databases dialog box rather than at startup, you have a third option. You can remove the database causing the collision from the active group. To do this, just close the Collision Detection dialog box and return to the Databases dialog box.

1. To rename your company, click **Rename** in the Collision Detection dialog box.
   The Rename Collision dialog box appears.
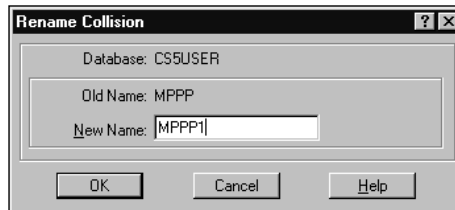
2. Enter a new ticker for your company in the **New Name** field.
   For example, you might change **MPPP** to **MPPP1**.
3. Click **OK**.

Research Insight returns you to the Collision Detection dialog box showing that the collision has been resolved.
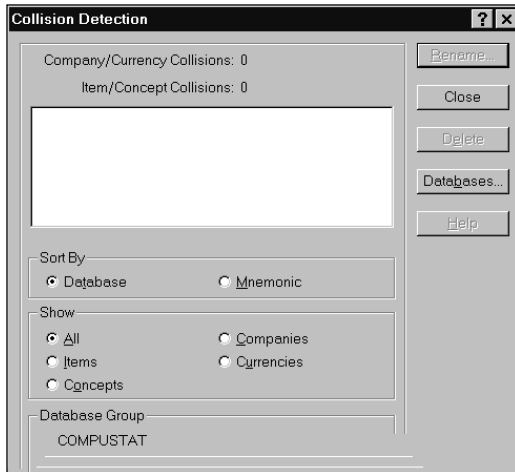

4. Click **Close**.

Note: If you have several collisions, Research Insight provides you with a quick way to resolve all of them at once. It's called Collision Append. To do this, use the **Shift** or **Control** key to select all of the colliding items. The **Rename** button changes to **Append**. Click **Append** and add a character extension to each colliding item.

What Happens if I Use the Same Mnemonic for Two Different Data Items?

Suppose you add a data item with the mnemonic ABCD to the CS5USER database. And, at some point in the future, you add a new item to a different database with the same ABC mnemonic. If you attempt to open a group with both of these user-defined databases, Research Insight notifies you of a collision. This notification takes place from within the Databases dialog box. When you click the **Accept** button Research Insight displays the Collision Detection dialog box.
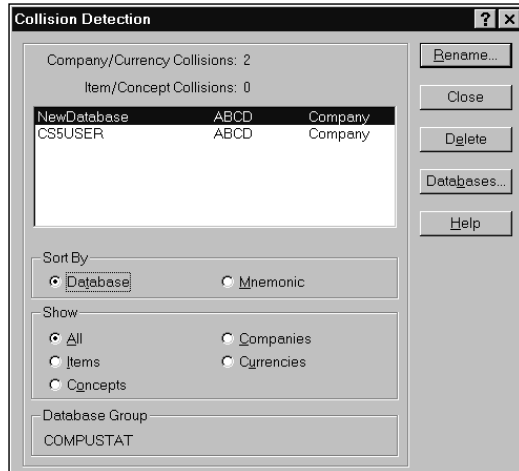
At this point, you have two options:

- Delete one of the ABCD items. Doing so also deletes that item's associated data.

- Rename one of the ABCD items. This enables you to keep it in the same group with the other ABCD item.

Note: If you activated collision detection from the Databases dialog box rather than at startup, you have a third option. You can remove the database causing the collision from the active group. To do this, just close the Collision Detection dialog box and return to the Databases dialog box.

1. To rename one of the items, click **Rename** in the Collision Detection dialog box. The Rename Collision dialog box appears.
2. Enter a new name for one of the items.
3 Click **OK**.
   Research Insight returns you to the Collision Detection dialog box showing that the collision has been resolved.
4. Click **Close** to return to the Database Group dialog box.

Note: If you have several collisions, Research Insight provides you with a quick way to resolve all of them at once. It's called Collision Append. To do this, use the **Shift** or **Control** key to select all of the colliding items. The **Rename** button changes to **Append**. Click **Append** and add a character extension to each colliding item.

Moving Databases from One Group to Another

We designed Research Insight to be a completely flexible database management system. With such a flexible system, responsibility is placed on the user to make reasonable decisions. What follows is an explanation of the ways you can reasonably move databases and groups of databases and still maintain order.

Since all database moves are accomplished with the Databases dialog box, this section begins with an explanation of all of the features in that dialog box. Subsequent sections explain the ways you can and cannot move databases.

The Databases Dialog Box

The Databases dialog box is the primary dialog box used for database management. You can access this dialog box from within the Databases Group dialog box (from the **Databases** menu, select **Database Group,** then click the **Databases** button.) The Databases dialog box is shown below.
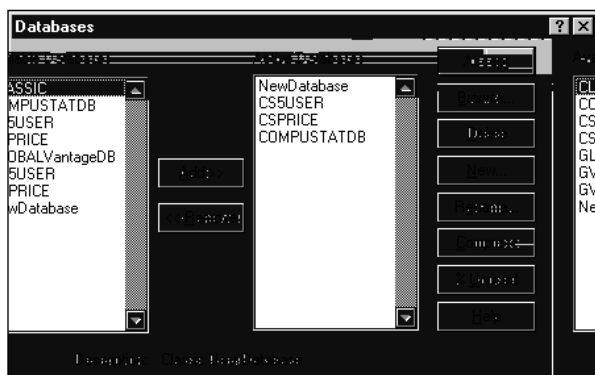
The Available Databases field identifies all user-created and subscription databases in the Research Insight system. The Active Databases field identifies only those databases in the selected group.

The Databases dialog box contains several buttons explained below:

Add and Remove
Use the Add and Remove buttons to bring databases in and out of the group of active databases.

Accept
Use the Accept button to register the group configuration with
Research Insight.

Browse
Use the browse button to locate additional databases stored on network sites.

Delete
Use the Delete button to permanently remove a database and all of its definitions and associated values from Research Insight. Make certain that this is what you want to do. Once selected, there is no way to undo it.

Warning: You cannot undo Delete once you have selected it.

New
Use the New button to create and name a new database.

Rename
Use the Rename button to change the name and description of an existing database.

Compress
Use the Compress button to optimize the resources used by a database. Also, use compression to identify any orphan data within the database.

%Unused
Use the %Unused button to determine how much disk space a database is using and to determine if your database needs to be compressed.

Moves that Create Orphan Data

As you move databases in and out of groups, and definitions from database to database, it's possible to create a situation where you have orphan data. Orphan data is data that doesn't know where its associated definition, or parent, is located. To prevent this from occurring, we recommend that you keep a definition and its associated data values in the same database.

Orphans are created any time the database with the definition and the database with the values are not in the same group. Returning to Figure 1, consider the following example:

Suppose you are working with a database group configured similarly to Group A in Figure 1. You decide to move the CSUSER2 database out of the group. In doing so, the MYITEMB data values in the CSNETWORK and CSUSER1 databases are orphaned. Research Insight notifies you of this if you compress the CSNETWORK or CSUSER1 databases.

Compression and Orphan Detection

Begin from the Databases dialog box:
1. Highlight the **CSUSER1** database in the **Available Databases** list box.

2. Click the **Compress** button.
    Research Insight compresses the CSUSER1 database. In doMT60m19.8(aim9(n)0(r)5.8(ch I)11.9(nsight compalso

Recommendations

The Research Insight database management system is an extremely flexible tool which enables you to do virtually anything that you want. However, with such flexibility comes responsible management.

The purpose of this chapter was to explain what you can reasonably do with Research Insight and still maintain order in your system. As a means of summarizing this chapter, we make the following recommendations:

- Create as few databases as necessary

- Store definitions in the same databases as their associated values. (This minimizes the chance of orphan data.)

- Attach no more than eight databases to the active group

In network situations:

- Only one or two people should write-to or make any changes to shared, user-defined databases. (Refer to Chapter 11 - Sharing Databases on a Network.)

- Make large scale changes to shared databases during off hours, or inform users to temporarily detach from a database so that changes can be written to it.

- Inform users to make changes to their databases to resolve collisions with network databases.

By adhering to these recommendations, you can realize the full potential of the Research Insight database management system.