Oracle® Discoverer 10g –
Is It More Than a Simple Reporting Tool

By Debra Addeo

Editor's Note: In this ORAtips feature article, Debra Addeo de-mystifies Oracle Discoverer 10g, providing practical examples that speak to its power as not just a reporting tool but also as an analytical product with advanced graphing and worksheet linking capabilities across Oracle databases. Oracle Discoverer 10g has something for everyone from client and Web-based versions to Java and HTML flavours, each with a unique roboustness to meet an organization's specific needs for reporting, analysis, and forecasting.

Introduction

This article will focus on using the Web components of Oracle Discoverer 10g as a stand-alone implementation. It will not discuss the integration of Oracle® Discoverer with Portal. The article will give examples of graphing and links and how these elements can be used together to connect multiple workbooks and information to give greater dimension to the workbooks. When workbooks and worksheets can be linked together, they can be more like an application than a reporting tool that shows only one dimension.

Components Overview

Discoverer now consists of four components:

- Administration tool

- Desktop version of the tool

- Oracle Discoverer Plus, a Web version of the desktop tool

- Oracle Discoverer Viewer, a lighter weight version of the Plus version

> *When workbooks and worksheets can be linked together, they can be more like an application than a reporting tool that shows only one dimension.*

Administration Tool

The administration tool is used to set up the end-user layer. The tool looks the same as previous versions and has essentially the same functionality. This is where the tables are set up and maintained for viewing. Role level security is maintained within the administration tool, as is the ability to save and schedule workbooks.

Desktop Version

The desktop version is meant to be similar to the Oracle Discoverer Plus version but installed on a client. It has the same look and feel as previous client Discoverer versions. Oracle Discoverer 10g client version can be used independent of the Web version. The best reason to install this version is that it will allow workbooks to be saved to the desktop and to be moved from one database to another. Saving workbooks to the desktop is only an option for the desktop version.

Discoverer Plus

Discoverer Plus is meant to be a full Web version of the desktop edition. It has most of the features of the desktop version without the hassle of installing the desktop software on each machine. The features that are missing from this version are ones that would be used by a smaller percentage of users. The Plus version is a Java applet used to create or modify workbooks. Due to the nature of a Java applet, this version can be a bit slower and use more memory than a lightweight HTML application.

Discoverer Viewer

This is a lightweight version of Discoverer used for viewing workbooks. It is HTML based and does not use a Java applet. This is perfect for allowing read only access to workbooks to users. The workbooks can be opened, queries can be executed, minor changes may be made to the look and feel of the workbook, and the results can be saved (if the user has permission to save workbooks). It does not give the option of structurally changing the workbook except through the use of the drill downs. There are nice options for sorting a worksheet and adding a conditional format. This version also allows for changing the graph that is presented with the data.

Linking Worksheet Example

An Oracle Discoverer workbook is similar to an Excel Workbook and a worksheet is similar to a sheet within Excel. Workbooks can have multiple worksheets within them, and each worksheet can be independent of one another or they can function together using links.

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One of the most powerful features in Discoverer is the ability to link one worksheet to another. The worksheet can be within the same workbook or in a different workbook. Also, the worksheet can be linked to a URL, which can be a static document or another application. Linking to a static document allows the user to retrieve an explanation of the information without having it clutter the data table or graph. The example that follows is demonstrated using Discoverer Plus.

Discoverer Plus is accessed via a Web browser using the URL from the installation. The URL should look like **http://my_machine:port_number/discoverer/plus**.

Figure 2 – Initial Wizard

Note: If you ever forget this information, remember that during installation a set-up file is created: setupinfo.txt file in the $ORACLE_HOME/install/setupinfo.txt that will give you the information.

This will open a connect screen (Figure 1) that will allow the input of a username and password:

Enter the username and password along with the database (the entry for the tnsnames file that is on the server not the client).

Note: The end user layer defaults to the default end user layer that is set up in the administration module.
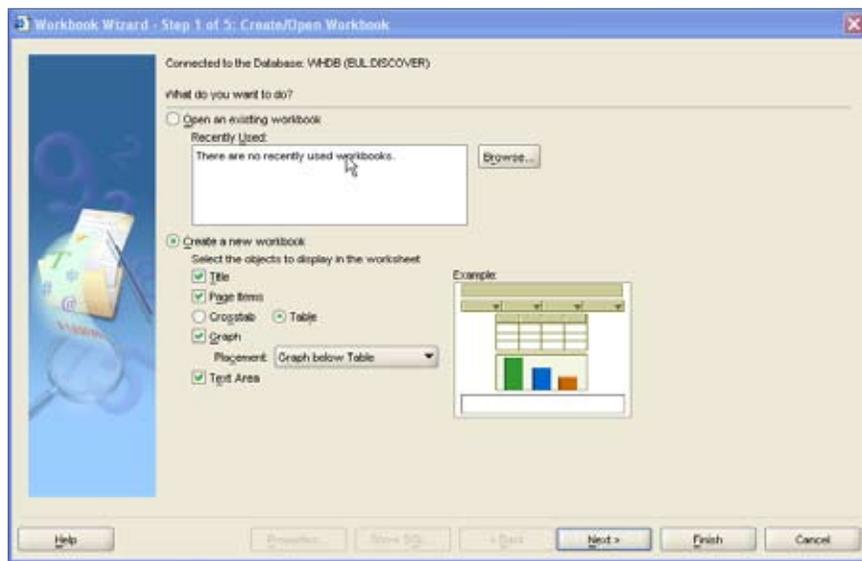
The screen in Figure 2 will appear after logging in. At this point an end user can either open an existing workbook or create a new workbook. The existing workbooks are listed in the top box on the screen in order of last usage. At the bottom of the screen is the beginning of the Wizard to create a new workbook.

For purposes of this example, a new workbook is going to be created with two sheets, and then they will be linked together using parameters to go from one sheet to another.

Step 1: To create a new workbook, select the type of workbook and graph information.

Most of the choices at this point can be changed in the future if chosen incorrectly except for the table type. Changing the table type requires the worksheet to be duplicated.

The first example will be data with a graph located below the data.

Note: A workbook can have a table without a graph but not a graph without a table.

Step 2: Press the Next button (shown in Figure 2). This gives the second step in the Wizard (shown in Figure 3).

This step should be familiar to the Discoverer user. This is where the data tables are chosen, the conditions are added, and the calculations created.

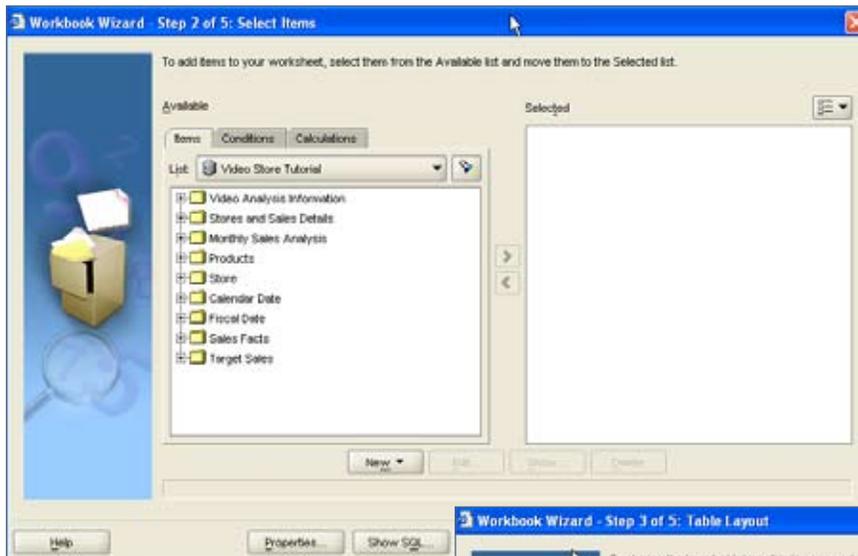When this step is completed, press the Next button.

Figure 1 – Connect Screen

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Figure 3 – Wizard Step 2

Step 3: Place the columns on the worksheet (Figure 4).

Once the data columns are chosen, then they can be arranged in the order that is best suited for the information. The columns can be placed at the top of the page (e.g., Region, Department, and City as in Figure 4) to allow for drop down boxes that give greater flexibility in displaying the data. The columns at the top of the page can act as a master detail relationship between the data.

Step 4: Add the sorting of the data into the workbook (Figure 5).

An interesting feature in sorting is that the sort column can be hidden. If the Hidden Box is checked, the data that was sorted is not shown on the data table.

This is helpful when there is a code and a description, and the users want to see the data sorted by the code value but do not need to see the code.
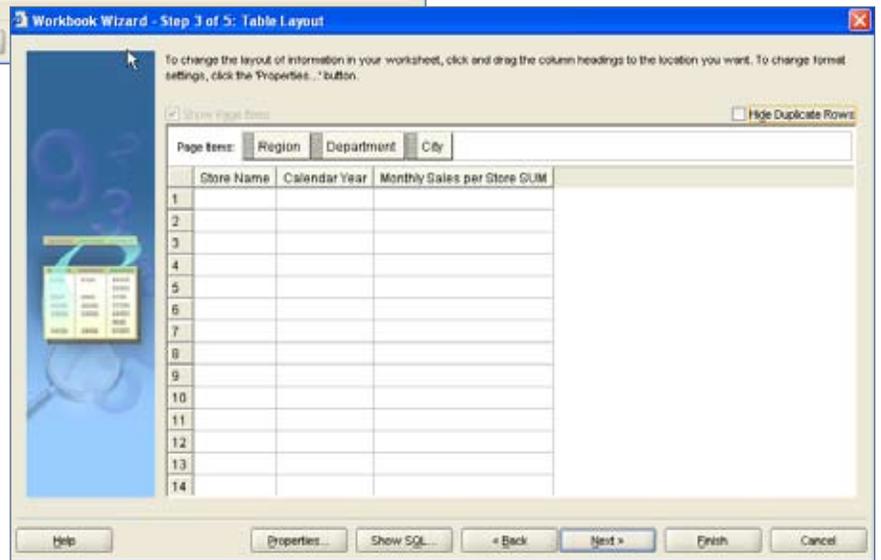
Figure 4 – Wizard Step 3
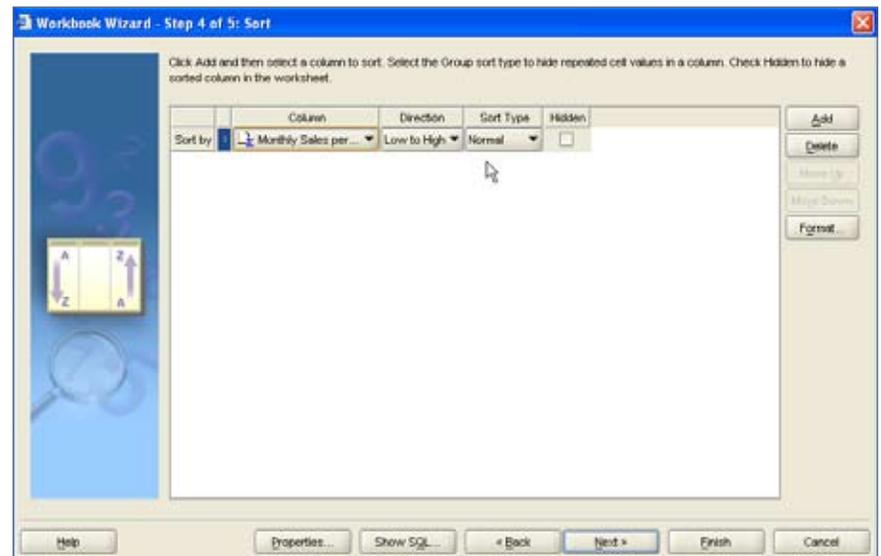
Figure 5 – Wizard Step 4 Sorting the Data

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Step 5: Allow for parameters (Figure 6).

Parameters will not be used in the first worksheet but will be used for linking the worksheets together in the next worksheet.

Step 6: Press the Finish button to show the completed workbook (Figure 7). This is a basic workbook.

Step 7: Save the workbook.

Notice that there is no option to save to the desktop. All workbooks in the Web version are saved to the database. The issue is how to move a workbook from one Oracle database to another. For example, if there are pages developed on a test database that need to be put into production, the Web version does not provide a method for doing this. What does work is to open the workbook from the client version and save it to the desktop; then open the workbook in the other Oracle database and save it there.

The workbook that was saved contained a plain worksheet. The workbook must be saved before a link can be created and executed. The next option is to add a link to make the workbook more functional.

Create the Link to Worksheet

Adding links to a workbook allows for one sheet in a workbook to call another sheet within the same workbook or any other workbook. When links appear in a workbook, they are identified with a triangle. A link can be used in conjunction with the parameters of a form so that the data in one worksheet can be related to the data in another worksheet.

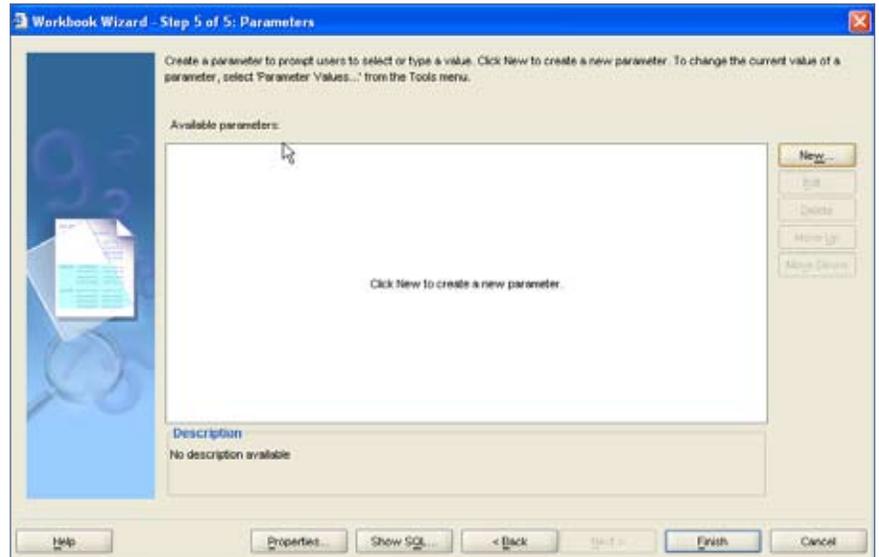Links differ from drill downs because drill downs are associated
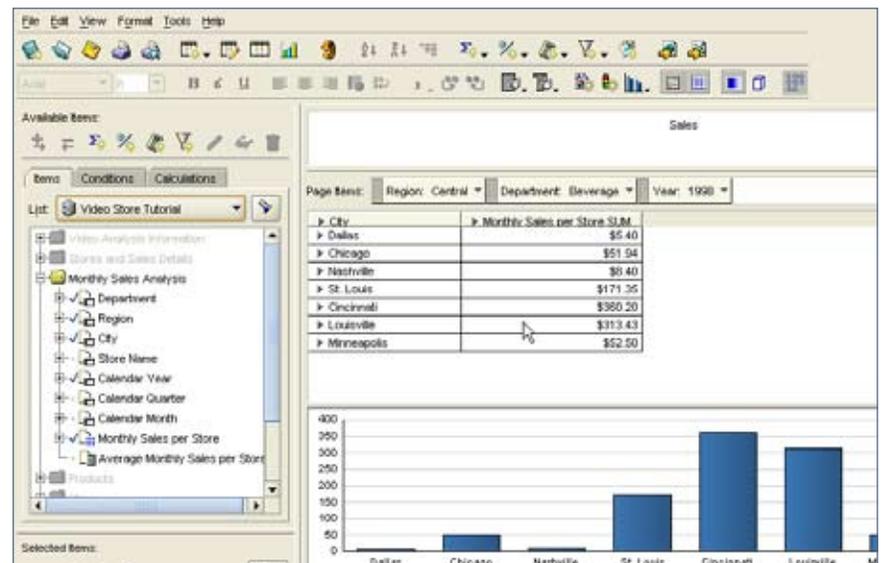

Figure 6 – Wizard Step 5 Parameters

Figure 7 – Finished Workbook

with a hierarchy that is created in the administration tool and then can be used to drill down to related information within a worksheet. Once the hierarchy is created within the administration module, the drill down is always available whenever a workbook is created with the table and columns associated with the hierarchy. A link is more free form and flexible and is available from one sheet to another and across workbooks. Also, a link does not need to be predefined in the administration module and can be used for linking to any URL so that it could be linked to another application or to a static page outside of Discoverer.

For this example, and using the simple worksheet created in the previous example, let's demonstrate the linking to another worksheet using parameters. Since the previous exam-

ple is from the video store demo, this example will add another sheet to get the stores for each region and graph just that information.

Step 1: Create another worksheet using the same steps above.
Use the new worksheet icon or the Navigation path (menu items) Edit -> Add Worksheet to start the Wizard. The Wizard will appear as in Figure 2 (previous example). Select the same type of worksheet as before.

Press the Next button to choose the columns.

Step 2: Choose the City, Store Name, and Calendar Year columns from the Monthly Sales Analysis table as shown in Figure 8.

Step 3: Step through the Wizard, pressing the Next button to get to the parameters screen.

Step 4: Add the parameters.

If "like" is chosen as the condition....the user can use the percent sign as a wild card with the parameter.
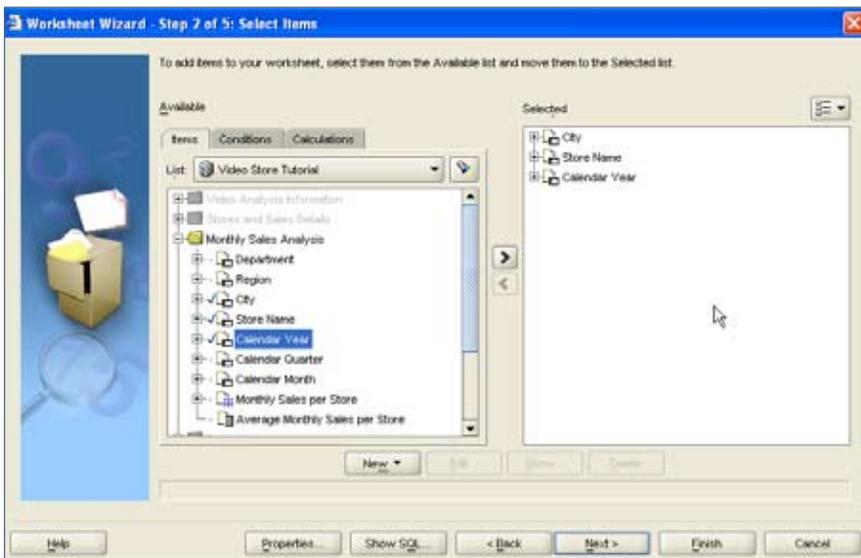
Figure 8 – Create a New Worksheet
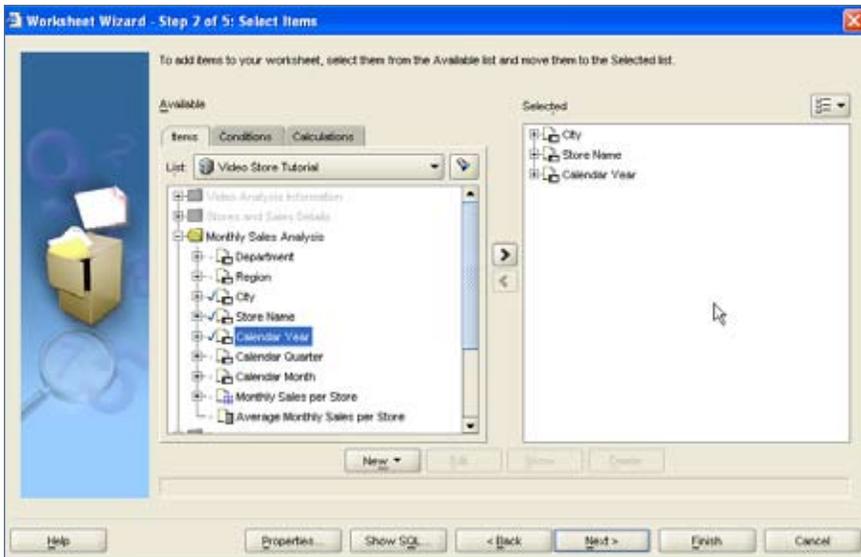
Figure 9 – Add Parameters

This example will add two parameters: one for year and one for city.

On the Parameters screen (Figure 6), press the New button to add a parameter.

The New Parameter screen will appear (Figure 9).
On this screen:

1. Name the parameter

2. Select the item that the parameter will be used with.

3. Select the condition that is most appropriate.

If "like" is chosen as the condition, then when the parameter form is used, the user can use the percent sign as a wild card with the parameter.

Another nice feature is that an LOV (list of values) can be used for the parameter and the list can be based on another parameter in the form. That is helpful for narrowing down a choice. For example if a state is chosen, the cities can be shown only for that state.
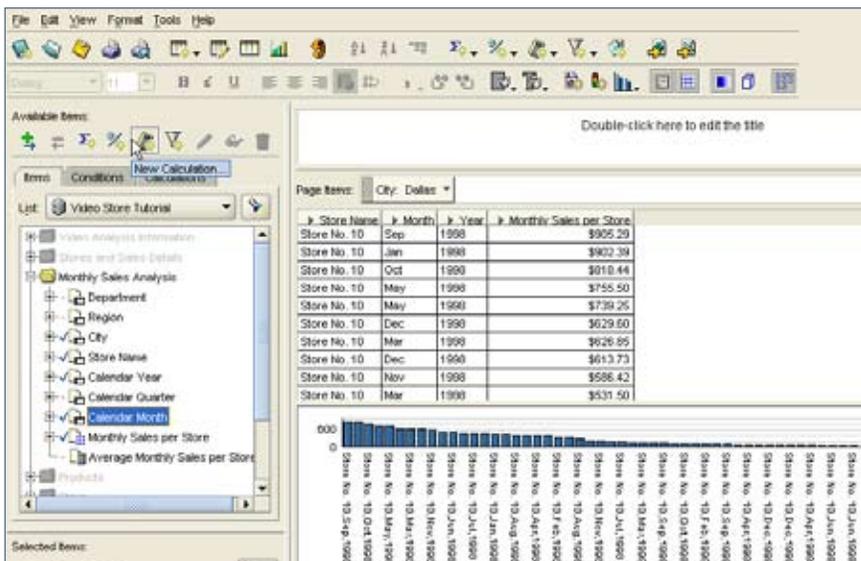
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Figure 10 – Second Worksheet

A final option allows multiple values for the parameter. This can be both helpful and harmful. It can be helpful for showing more data; but harmful because if too much data is selected, the query performance is impeded.

Step 5: Press the Ok button to create the worksheet.

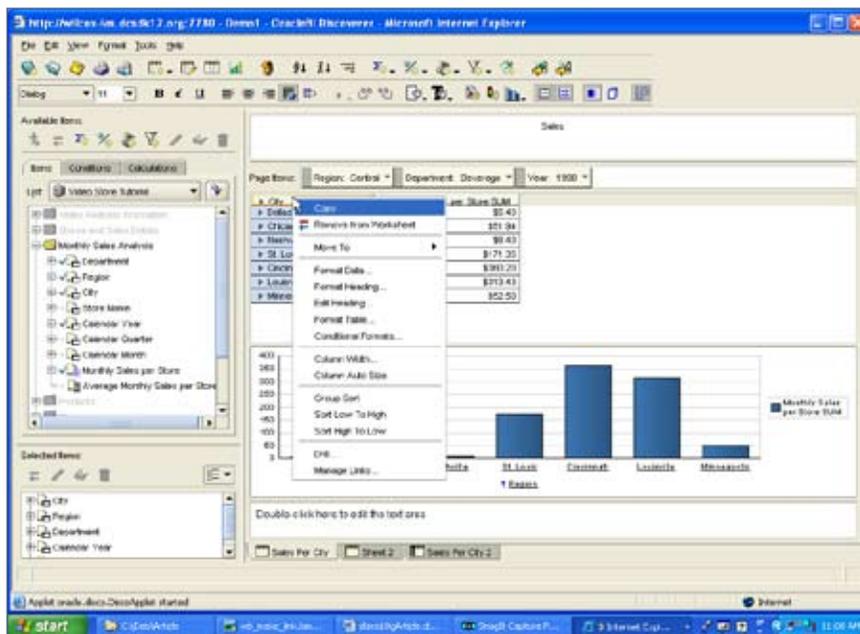The worksheet should be displayed (Figure10).

Linking the Worksheets Together

Step 1: Return to the worksheet created in the first example.

Click on the column that you would like the link to be active for (Figure 11). Then right click on that column and choose the Manage Links option.

Step 2: Click on the New Link button on the Manage Links screen (Figure 12)

Figure 11 – Create Link
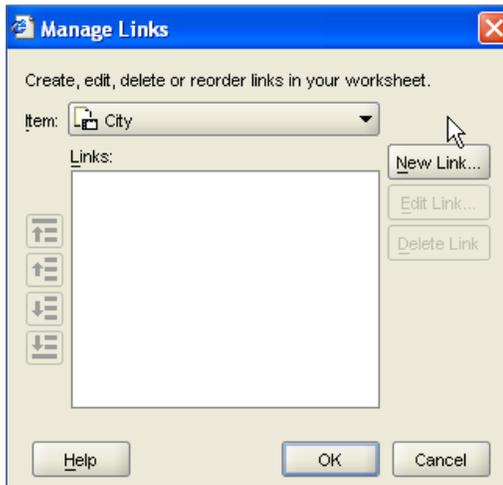
Figure 12 – Link Screen

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Step 3: Name the link (Figure 13)

Step 4: Select a destination workbook to link to (Figure 13).

This can be another worksheet within a workbook, or it can be a URL to a static document, or another application.

For this example the link will be to another sheet within a workbook, so the "Demo 1" workbook is chosen.

The BROWSE button opens a window that lists all the available workbooks (as shown in Figure 14).

Step 5: Choose the worksheet from the drop down list.

If there are parameters that are needed to link the two sheets together for data consistency, press the Parameters button (Figure 13).

The Parameters screen will be displayed (Figure15) with the existing parameters on the second worksheet that can be used to match the data on the first worksheet.

Step 6: Press the OK button to apply the parameters (Figure 15); the link screen will reappear (Figure 12) press the OK button on the link screen too.

Once the links are created, then they are displayed as triangles as shown in Figure 16.

Step 7: View the link on the worksheet as a triangle to the left of the data (Figure 16).
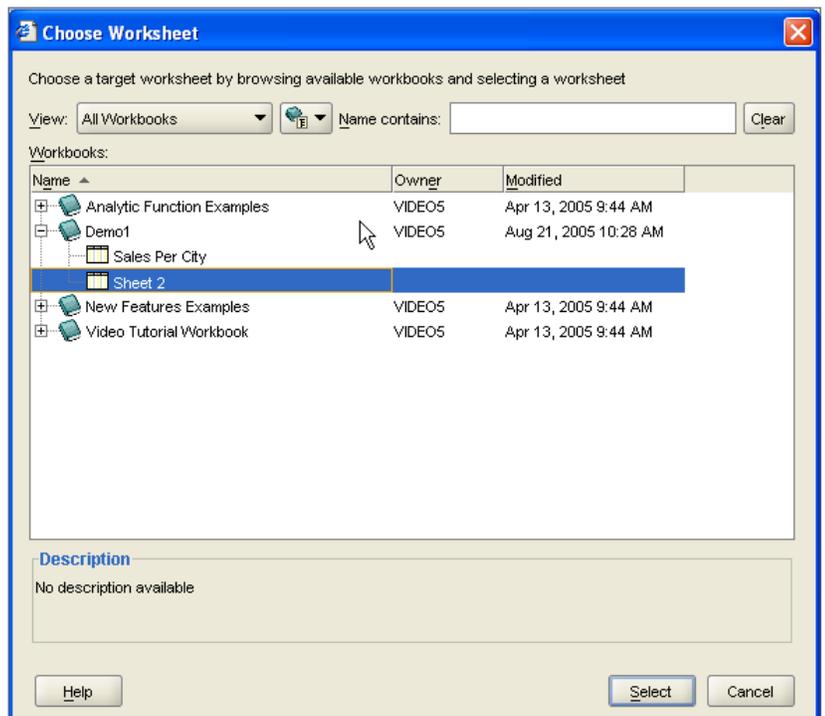
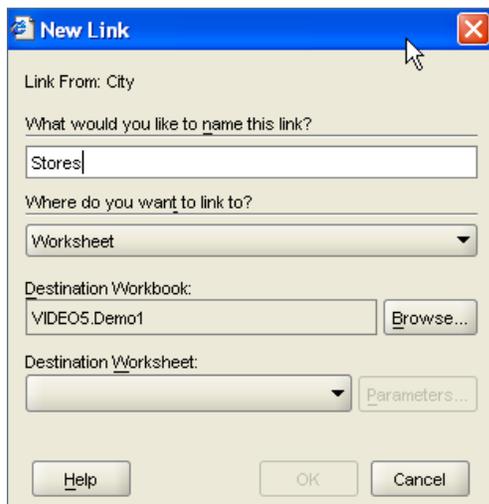Figure 14 – Choose Workbook and Worksheet
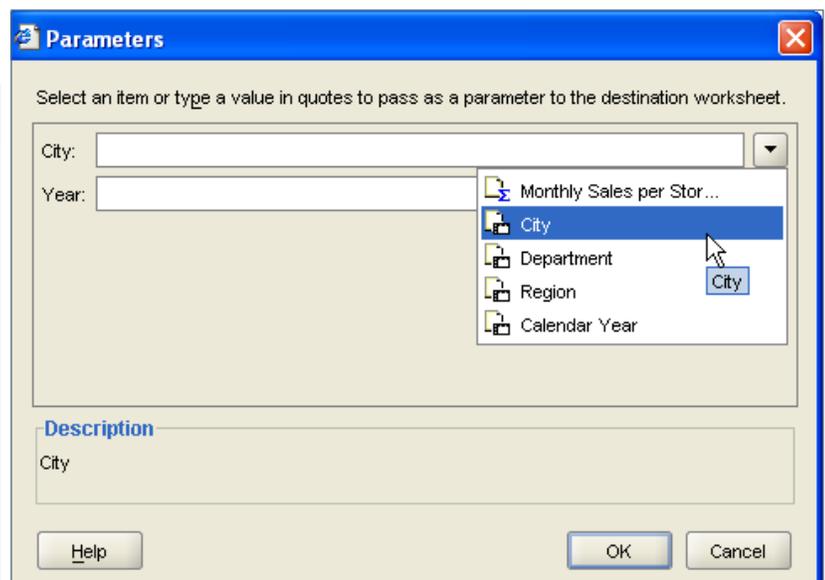

Figure 13 – New Link Screen

Figure 15 – Choose Parameters to Pass to the Next Workbook.

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Figure 16 — Workbook with Link

Figure 17 — Click the Triangle to Display the Link

Oracle Discoverer will automatically graph all numeric data that is in a table. If the data in the table is not wanted in the graph, changing the data type of the data will cause it to not appear on the graph. For example, changing a number to a character will cause the data to not be graphed.

The graphing examples in this article will be shown with bar graphs, but any type of graph can benefit from these techniques.

The default graph that is displayed may not be the graph that best displays the data. When this happens, there are a few different choices that can be made to improve the usefulness of the graph.

The initial graph is for a city and the monthly sales. All of the bars are blue and the color of each individual bar cannot be changed, but all of the bars can be changed to one color (Figure 19).

Step 8: Right click on the triangle and the link appears (Figure 17). Then click the link to show the linked worksheet (Figure 18).

Figure 18: Linked Worksheet with the Data Passed From One Worksheet to Another

Graphing

Graphing in Oracle Discover may not be as flexible as one would like. The default graphs may not display the data as one would like, but changing how the data is displayed in the table will change how the data is graphed. Changing how the data is displayed can get the graph to be more representative of what is needed.
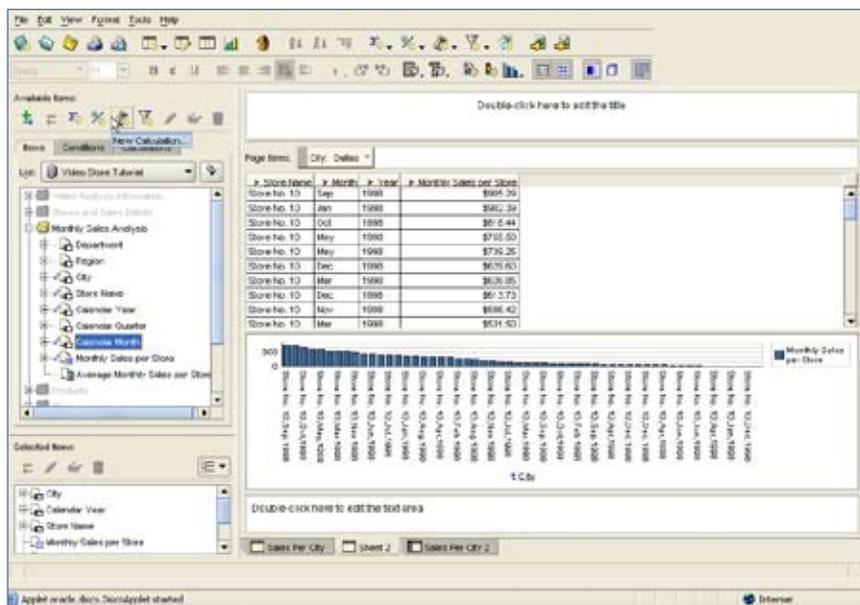

Figure 18 — Linked Worksheet with the Data Passed From One Worksheet to Another

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If this does not meet the needs of the user, right click on the graph and choose "Series by row" (Figure 20).

In this graph all of the bars are a different color, and the colors can be customized (Figure 21).

If this still does not meet the needs, the worksheet can be duplicated to a cross tab and then graphed for a different look (Figure 22).

In this graph the regions are placed together, and each store is represented by one of the bars. Since the graphing in Discoverer is automatic, controlling how the data is displayed in the table can change how the graph is displayed.

Conclusion

Oracle Discoverer has changed quite a bit over the last few years from when it was a client server tool. The addition of links, graphing, and other features allows the tool to have more depth and flexibility in presenting data.

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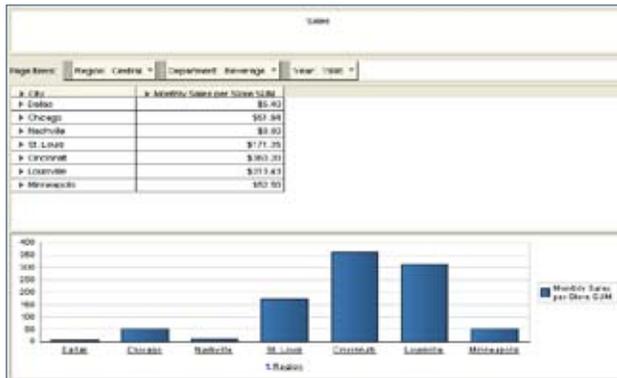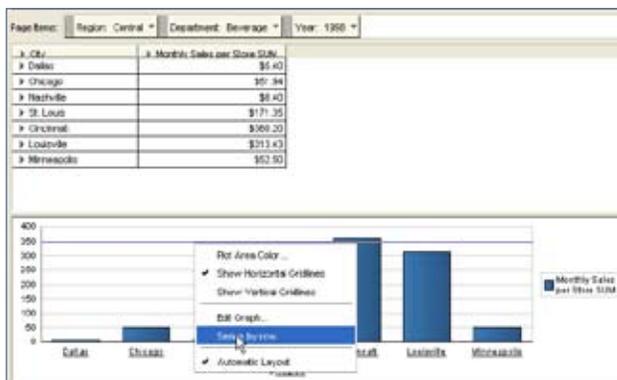

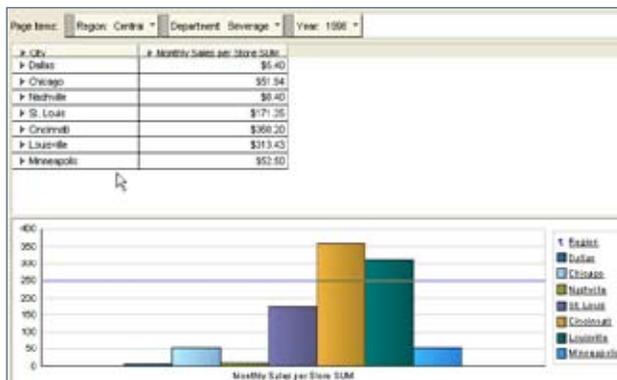Figure 19 – A Simple Graph

Figure 20 – Changing the Graph

Figure 21 – Changed Graph to Series by Row
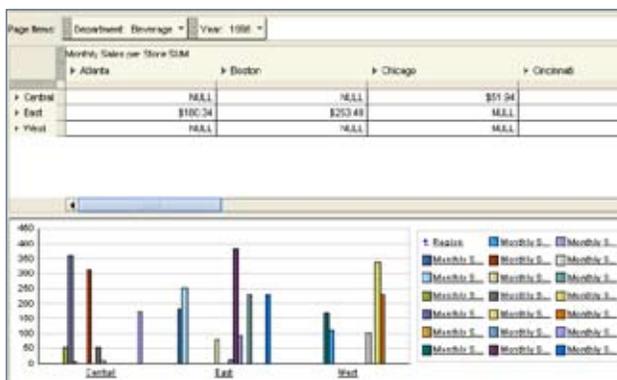
Figure 22 – Graph Using the Crosstab data

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