

# *IBM DB2 OLAP Server for iSeries, Version 8.1*

## *Upgrade Guide*

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**First Edition (June 2003)**

This edition applies to the DB2 OLAP Server for iSeries products and to all subsequent releases and modifications until otherwise indicated in new editions.

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# ***Upgrading to DB2 OLAP Server for iSeries, Version 8.1***

## ***Introduction***

This guide will help you upgrade your DB2 OLAP Server for AS/400, Version 7.1 production environment to DB2 OLAP Server for iSeries, Version 8.1 that runs on OS/400, Version 5 Release 1 or later. The procedures in this guide will help you reduce migration problems and downtime for your production data.

You can check for fix packs that apply to your situation. To get the latest fix packs, go to the IBM Support site at <http://www.ibm.com/software/data/db2/db2olap/support.html> and click the FixPaks menu.

This version of DB2 OLAP Server for iSeries includes DB2 OLAP Integration Server for iSeries (OIS). However, because this is the first OIS release, there are no upgrades for OIS.

For more information about DB2 OLAP Server, go to:  
<http://www.ibm.com/software/data/db2/db2olap/index.html>

## **Upgrade Overview**

You should first upgrade your existing production environment to DB2 OLAP Server for iSeries, Version 8.1 without using new features. Then, if you encounter problems during the upgrade process, it will be easier for you or IBM Software Support to isolate the source of the problem. By introducing one change at a time, you will likely identify any problems that occur as related to the specific change.

To upgrade, follow these general steps: (To start this process, see “Establishing a Test Environment” on p. 9.)

1. Save server information.
2. Copy and move all or a portion of your 7.1 production environment into a test environment, and verify that this test environment behaves similar to your production environment. We recommend replicating your entire environment, including Warehouse Manager Server, to accurately test the upgrade.
3. Install DB2 OLAP Server for iSeries, Version 8.1 “over the top” of the test library, and verify that there are no problems (make sure your results are accurate and performance time is as expected, etc.).
4. Install DB2 OLAP Server for iSeries, Version 8.1 “over the top” of your existing production library.

With this method, most potential upgrade problems will occur in a test environment without impacting your production data warehouse or your end users. Though it will take time to set up and upgrade a test environment prior to the actual upgrade, the test phase will prepare you to handle any difficulties before you begin your production upgrade.

## **Common Upgrade Questions**

**What versions of OS/400 does DB2 OLAP Server for iSeries, Version 8.1 require?** Version 5 Release 1 or later.

**From which version or versions can I upgrade to DB2 OLAP Server for iSeries, Version 8.1?** You can upgrade to DB2 OLAP Server for iSeries, Version 8.1 from DB2 OLAP Server for AS/400, Version 7.1 server.

**Can DB2 OLAP Server for iSeries, Version 8.1 client components connect to an DB2 OLAP Server for iSeries, Version 7.1 server?** No. See Table 1 on page 6 for server-client compatibility.

**Can 7.1 client components connect to the DB2 OLAP Server for iSeries, Version 8.1 server?** Yes. In general, older clients can connect to newer servers, but they may not access the new server's functions or features. Also, you must use the 8.1 clients to take advantage of the new client features.

**Can I open an DB2 OLAP Server for iSeries, Version 8.1 database outline in an older Application Manager?** If you open and save a Version 8.1 database outline using version 7.1 Application Manager, DB2 OLAP Server for iSeries deletes any 8.1 features from the outline. To open a 8.1 outline in an older Application Manager, open the outline in read-only mode to ensure that you do not lose the version 8.1 features. To open the outline in read-only mode, uncheck Lock file in the application desktop window.

**Can I revert to older DB2 OLAP Server for iSeries database files?** No. You cannot use 8.1 database files with older DB2 OLAP Server for iSeries versions. If you need to revert to an older version, delete the 8.1 database files and restore older database files from a recent backup.

## ***Documenting Your Upgrade***

During your upgrade, you should document the actual steps that you take on your iSeries and workstations, problems that occur, and how you resolved problems. Documenting is useful for several reasons:

- If you reach a point where you cannot proceed without help, IBM Software Support will use documentation to understand the problem.
- Subsequent upgrades are more precise because the steps you took the first time are recorded. If you need to restart steps due to unforeseen circumstances, or if you have multiple installations to upgrade, you will be prepared.

*Note:* When you perform OS/400 operations, use a PC with a terminal emulator (for example, Client Access or Rumba) so you can cut and paste iSeries commands and results into your word processor. Then, you do not need to retype the command.

*Note:* In Windows, to capture a bitmap image of the active window, you can use the key combination Alt + PrintScr. To capture the entire display screen, press Ctrl + PrintScr. Then, paste the bitmap into your word processor.

## ***DB2 OLAP Server for iSeries, Version 8.1 Prerequisites***

DB2 OLAP Server for iSeries will function only with the proper prerequisites. Before you upgrade, verify that your hardware and software meets the environment requirements in the *Installation Guide for iSeries*, Chapter 3.

### ***Fix pack Requirements***

To avoid problems unrelated to migration, install the latest DB2 OLAP Server for iSeries fix packs on your current 7.1 version. To get the latest fix packs, go to the DB2 OLAP Server Support site to find the latest fix packs:

<http://www.ibm.com/software/data/db2/db2olap/fixpacks.html>

Also, If you use SQL Drill-Through, you must be at the latest DB2 OLAP Server for iSeries client fix pack level before you upgrade your workstations.

With DB2 OLAP Server for iSeries, Version 8.1, SQL Drill-Through is no longer a client option. You must use DB2 OLAP Integration Server (OIS) Drill-Through reports.



## **Server-Client Connection Compatibility**

The following tables describe the supported combinations of the servers and clients. Any combinations that are not listed are not supported.

In general, older clients can connect to newer servers, but they cannot access new functions or features. However, newer clients cannot connect to older servers. For optimal migration, all products should be at the same, latest levels.

Table 1  
Server-Client Connection Compatibility

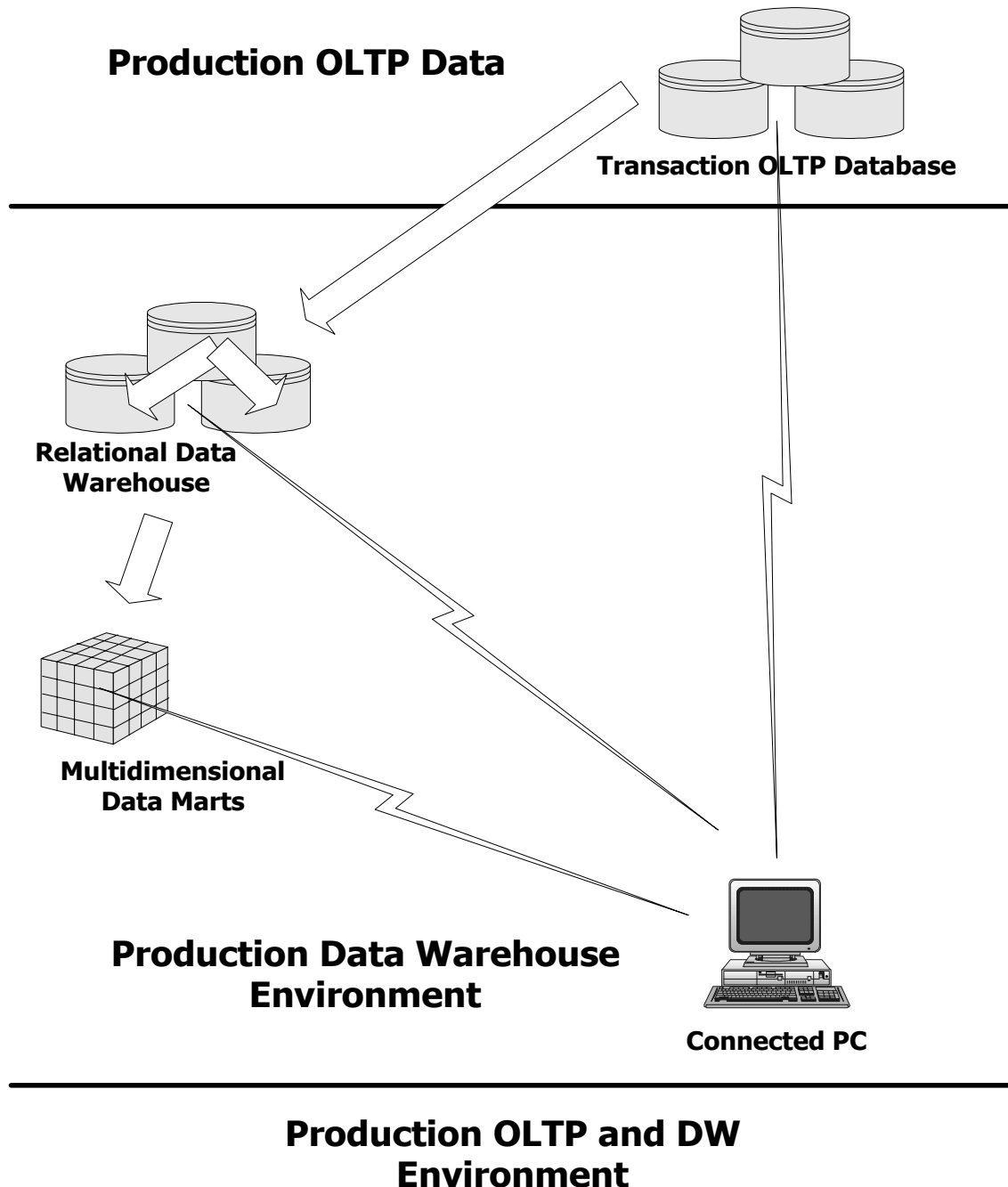
<b>Server</b>	<b>Client Versions</b>
DB2 OLAP Server for iSeries, Version 8.1 Server	DB2 OLAP Server for iSeries clients 8.1 and 7.1 (Application Manager, add-ins, etc.)

It is recommended that all clients and servers be at the same level.

## Typical Production Scenario

Most data warehouse implementations follow a common architecture in which transaction data is extracted, transformed, and loaded into a data warehouse containing DB2/400 tables and indexes, as in Figure 1.

Figure 1  
Production Scenario

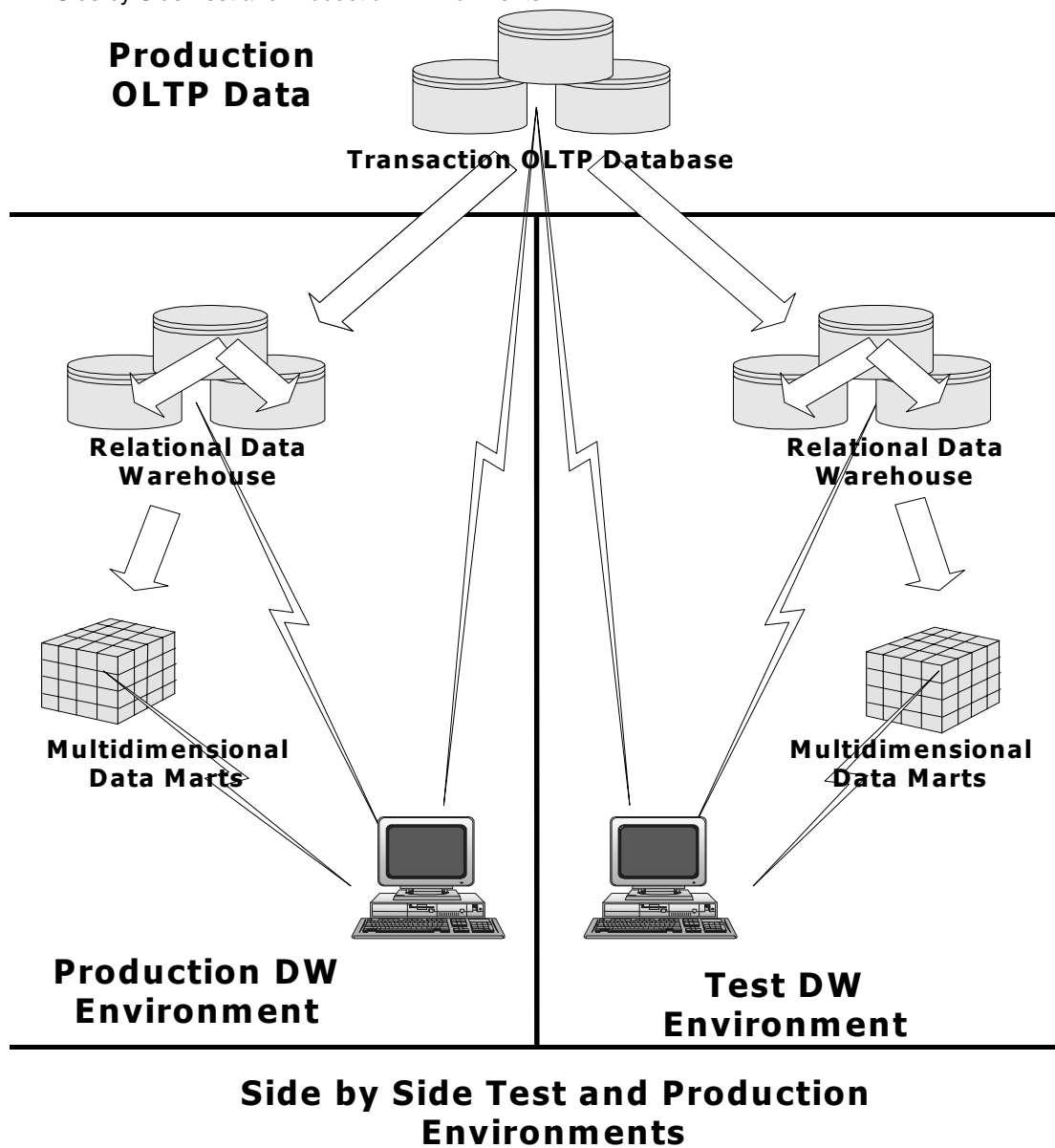


In Figure 1, the arrows represent Warehouse Builder distributions and DB2 OLAP Server for iSeries loading operations. While your primary Warehouse Builder definitions will use source tables from the transaction database, secondary definitions can use source tables from either the transaction database or from the relational data warehouse (the target tables of other distributions). You might have distribution sets that combine data sources from both the transaction system and the data warehouse. Similarly, some of your queries and reports might reference the transaction database directly, while others might reference only the data warehouse tables.

## Establishing a Test Environment

To assure that your upgrade will not impact end users, you should establish a test environment separate from your production environment. Then, upgrade the test environment before you upgrade your production environment. This section guides you in preparing the test environment. After you create your test environment, the data warehouse architecture described in the previous section will look similar to Figure 1.

Figure 1  
Side by Side Test and Production Environments



Note that the production environment on the left side of the diagram is unaffected by the test environment on the right. The test environment draws source data from the same production

transaction database, but it writes data to an isolated relational and multidimensional data warehouse. This structure will allow for isolated verification to the upgrade process without impacting the production environment.

## **Creating a Test Environment**

Follow these general steps to create a test environment:

1. Stop your servers and save your server information. For instructions, see the *Administrator's Guide for Builder on iSeries* and the *Administrator's Guide for OLAP on iSeries*.
2. Install your current version of DB2 OLAP Server for iSeries, Version 7.1 (GA plus fix packs) into a test environment.
3. Populate the test environment with copies of your production objects.
4. Install DB2 OLAP Server for iSeries, Version 8.1 "over the top" into the test environment.
5. To begin this process, see "Step 1: Create an DB2 OLAP Server for iSeries Test Environment" on p. 11.

To create an isolated environment, ideally you must separate hardware and software installations. We recommend that you designate one or more test workstations for your test environment, separate from your production workstations. If your production workstations are running different operating systems (Windows NT, 2000, or XP), you might want a separate PC for each of these. Alternatively, you may use a boot manager to allow for more than one operating system on a single PC.

*Note:* Per the licensing agreement, a separate partition is considered a separate computer and will require a separate license.

## **Should I Establish a Test Environment on My Production iSeries or on a Separate iSeries?**

### ***Advantages to using the same iSeries (but not the same installation library) for both production and test:***

- Environmental configuration settings are more likely to match. OS/400 PTF levels, work management configurations, OS/400 system values, etc., will be common in both test and production environments.
- No need to copy source tables for queries, reports, or Warehouse Builder definitions on another machine.

### **Disadvantages to using the same machine for both environments:**

- The test environment will consume resources such as DASD and processor, which may compromise the production environment.

**Advantages to using different machines for both environments:**

- Replicating your entire set of DB2 OLAP Server for iSeries cubes is a simple save and restore operation. Replicating your cubes in a new environment is more difficult when switching to a different DB2 OLAP Server for iSeries installation library, and separate machines allow both DB2 OLAP Server for iSeries installations to use the same library name.

**Step 1: Create an DB2 OLAP Server for iSeries Test Environment****Configure and Install Your DB2 OLAP Server for iSeries on the same computer**

If you install your test environment on the same iSeries as your production server, you must create unique IP addresses for each DB2 OLAP Server for iSeries server. When you installed DB2 OLAP Server for iSeries, you were prompted to enter the IP address that the DB2 OLAP Server for iSeries server would use for client requests. Enter an IP address that is different from the existing IP address.

To change the IP address after the installation, you can use the `ESSBASE/CFGENVVARS` command where `ESSBASE` is the name of the current DB2 OLAP Server for iSeries library.

Also, during the installation, you are asked if you are installing the server as the primary or secondary server. Specify that this will be the secondary server.

Now your production server and test server can run concurrently on the same computer.

**Install Your Current DB2 OLAP Server for iSeries Server into a Test Library**

You cannot install DB2 OLAP Server for iSeries, Version 7.1 on OS/400, Version 5, Release 2 or later.

If you are installing your test server and production server on separate iSeries, install DB2 OLAP Server for iSeries, Version 7.1 into a library with a name that matches the DB2 OLAP Server for iSeries library on your production server, or install into a new library.

*Important:* If you are installing the test server on the same iSeries as your production server, you must choose an DB2 OLAP Server for iSeries library name different from your production DB2 OLAP Server for iSeries library name. However, choose a name that contains the *same number of characters* as your production server library. For more information, see “Step 3: Replicating Production Objects in a Test Environment” on p. 12.

Before you finish the test installation, complete the following steps:

1. Run the production and test DB2 OLAP Server for iSeries servers simultaneously.
2. Copy the DB2 OLAP Server for iSeries configuration file from your production server to your test server. The file name is `CFG`, and the member name is `ESSBASE` in your DB2 OLAP Server

for iSeries installation library. If you use Relational Storage Manager (RSM), you must copy the RSM member instead.

3. To compare environment variable settings to ensure that they correspond, at an iSeries command line, type `ESSBASE/DSPESSENV INFO(*ALL)` (where `ESSBASE` is the name of your current production DB2 OLAP Server for iSeries library), and press Enter. Press the Page Down key until you see a line at the bottom of the screen that says `Essbase/400 Server attributes`. Place your cursor on the message, and press F1. Compare the server attributes in the production environment with those in the test environment.
4. After you install the test server libraries, apply the appropriate DB2 OLAP Server for AS/400, Version 7.1 patch to each server. To get the latest fix packs, go to the Support site at:

<http://www.ibm.com/software/data/db2/db2olap/fixpacks.html>

If you use DB2 OLAP Server for iSeries Integrated Security, you can use the same groups in both servers if both test and production servers are on the same iSeries. If you install DB2 OLAP Server for iSeries on a separate test iSeries, you must create the necessary groups.

Do not create any DB2 OLAP Server for iSeries applications at this point. In a subsequent step, you will replicate some or all of your existing production DB2 OLAP Server for iSeries applications on the test server.

## ***Step 2: Create a Warehouse Manager Test Environment***

Even though you are not upgrading the Warehouse Manager Server, you should replicate your entire production environment in a test environment for accurate testing. Warehouse Manager instructions are provided to help you set up a complete testing environment.

*Note:* Creating a Warehouse Manager test environment is required only if your test and production environments are on separate iSeries machines.

## **Install Your Current Warehouse Manager Server into a Test Library**

When you install your current Warehouse Manager Server version (7.1) into your test environment, choose installation options that match your production environment. You can use side-by-side comparisons of Warehouse Manager Client screens to ensure that settings are compatible after installation. Adjust the settings in the test environment to match settings in your production environment as appropriate. All the `.cfg` file settings should match.

## ***Step 3: Replicating Production Objects in a Test Environment***

The following sections explain how to copy some or all of your production objects to your test environment.

## Replicating DB2 OLAP Server for iSeries Production Objects in a Test Environment

To replicate your production applications (or a subset of them) on your test server, you will use the *SAV* and *RST* commands. If you replicate only a subset of your applications, you can omit some applications on either the *SAV* command or the *RST* command. If you use a regular backup image in the replication, you will likely subset on the *RST* command; otherwise, it will save time to subset on the *SAV* command. This will also minimize the size of the save image.

You can find more information about saving and restoring DB2 OLAP Server for iSeries in the *Administrator's Guide for OLAP on iSeries*.

To replicate the objects:

1. Shut down the production DB2 OLAP Server for iSeries server.
2. At an iSeries command line, use a *SAV* command such as the following to save some or all of your applications from your production DB2 OLAP Server for iSeries server. In the sample command, *ESSBASE* is your server library and *App1* and *App2* are names of applications that will not be replicated.

```
SAV DEV(path to save device or save file) OBJ('/ESSBASE')
('/ESSBASE/app/App1' *OMIT) ('/ESSBASE/app/App2' *OMIT))
```

3. Restart the production DB2 OLAP Server for iSeries server.
4. If you created applications in your test server, delete them with Application Manager or *Esscmd*.
5. Shut down the test DB2 OLAP Server for iSeries server.
6. Use an *RST* command such as the following to restore some or all of your applications.

*Note:* If you do not replicate all of your application and you used the *\*OMIT* option in the previous *SAV* step, do not use the lines containing the *\*OMIT* option in this step. In the sample command, *ESSBASE* is your server library, *ESSTEST* is the new directory and *App1* and *App2* are the names of applications that will not be loaded.

```
RST DEV(path to save device or save file) OBJ('/ESSBASE' *INCLUDE '/ESSTEST' )
('/ESSBASE/app/App1' *OMIT) ('/ESSBASE/app/App2' *OMIT) )
```

7. (If the installation library names for your test and production servers are the same (that is, if you used different iSeries for your test and production environments), skip this step.)
8. Delete the contents of the *Essbase/bin/applinks* directory. To do this, type the command `RMVLNK '/ESSTEST/BIN/APPLINKS/*'` where *ESSTEST* is the new directory.
9. Start the test DB2 OLAP Server for iSeries server.



10. If you restored a subset of your applications, you might receive error messages in Application Manager when you attempt to work with applications you did not restore.
11. Open each rule file to verify that the source tables and views that are referenced in the SQL statements correctly correspond to the tables in your test environment data warehouse.
12. If you used non-SQL references, you might need to update Esscmd or MaxL scripts to reference the test environment tables or files.

## **Transferring Warehouse Manager Objects from Production to Test**

*Note:* This section is required only if your test and production environments are on separate iSeries computers. Use the following steps to replicate all or a subset of your objects from the production Warehouse Manager Server on the test server:

1. Make sure that all end users are disconnected from the Warehouse Manager Server.
2. Stop the production Warehouse Manager Server. For instructions, see the *Administrator's Guide for Builder on iSeries*, Chapter 1, "Starting and Stopping the Servers."
3. Save production server library information with the command `SERVERLIB/SAVSRVRINF` (where *SERVERLIB* is the name of your Warehouse Manager Server production library).\*\*
4. Restart STRATEGY TCP/IP for your production server.
5. Stop the test servers.
6. Restore the information from the production library to the test server library with the command `SERVERLIB/RSTSRVRINF`.
7. Start the test server.

\*\*For information on the SAVSRVRINF and RSTSRVRINF commands, see your *Administrator's Guide for Builder on iSeries*.

*Important:* If you have Warehouse Builder definitions, you might need to adjust the libraries and table names in the transferred test definitions so that target tables generated by the test environment are distinct from those generated by the production environment. To do this, establish a test library for each target library referenced in your definitions. Secondary Warehouse Builder definitions might need source table names or libraries adjusted similarly. To adjust them, open Warehouse Builder, connect to the test server, and with no objects open, choose Tools, then Definition Properties. For more information about this dialog, see Warehouse Builder online help.

### **Step 4: Install Your Current DB2 OLAP Server Builder on Test workstations**

Install your current version of DB2 OLAP Server Builder, Version 7.1 client on one or more test workstations, and configure ODBC connections to the test servers. If you need additional information, use the *Installation Guide for iSeries*, Chapter 8. Information about configuring server connections is in Chapter 9.

Apply fix packs at the same level as on your production workstations.

If you upgrade the DB2 OLAP Server Builder client, Version 7.1, FixPak 7 or later, you should install the DB2 OLAP Server Builder client from the test environment from FixPak 7 directly instead of from the GA CD-ROM.

### **Step 5: Verify Your Test Environment**

You should now have a working test environment that can be tested to assure that your test environment behaves like your production environment. Ensure that you verify the test environment before you upgrade. If you upgrade without testing and problems occur, it will be difficult to determine if the problem is a result of the test environment setup or the upgrade.

- If your test and production environments are on the same computer, use a test user profile without access to the production data warehouse to assure the test environment is correctly adjusted to refer to the test data warehouse.
- If you did not yet use some features in a production environment, verify that security settings are in place and operational. You can adjust them in Warehouse Manager Client and DB2 OLAP Server for iSeries Application Manager.
- For Warehouse Manager Server, make sure that you can run Warehouse Builder distributions, queries, reports, views, etc. Verify that you can create new objects and change existing objects
- For DB2 OLAP Server for iSeries server, make sure that you can you start, end, and load applications and databases as usual. You should not need to modify load rules or outlines. Make sure that your calc behaves properly in accuracy and performance.

## ***Saving the Test Environment***

Saving the test environment assures that you can restart if problems occur during your test upgrade. To properly back up your test environment, see the *Administrator's Guide for Builder on iSeries* and *Administrator's Guide for OLAP on iSeries*.

## Upgrading the Test or Production Environment

At this point, you are ready to test the upgrade process with your test environment. If problems arise, first resolve them and then re-test to avoid introducing other problems. This section describes how to upgrade to DB2 OLAP Server for iSeries, Version 8.1. You will be using this section twice, once for the test environment, and once for your production environment.

If you have not already done so, apply appropriate DB2 OLAP Server for iSeries server fix packs to your environment. To get the latest fix packs, go to the Support site at <http://www.ibm.com/software/data/db2/db2olap/support.html> and click FixPaks.

### Step 1: Shut Down Servers

1. To shut down the Warehouse Manager Server, use the iSeries command `SERVERLIB/ENDSCSVR` where `SERVERLIB` is the name of the library where the servers are installed.
2. To shut down the DB2 OLAP Server for iSeries servers, use the iSeries command `ESSBASE/ENDESSSVR` where `ESSBASE` is the name of your current DB2 OLAP Server for iSeries library. Supply a user ID and password.

### Step 2: Backup Server Information

**Warning: Disaster recovery backups could prevent data loss.** Always save server information before you install over any version. If there are problems with the installation, you can restore your data from a backup. To back up your server environment, see the *Administrator's Guide for Builder on iSeries* and the *Administrator's Guide for OLAP on iSeries*.

### Step 3: Install DB2 OLAP Server for iSeries, Version 8.1 Server

1. After shutting down the servers, install DB2 OLAP Server for iSeries, Version 8.1 “over the top” into the existing DB2 OLAP Server for iSeries libraries. For server installation instructions, use the *Installation Guide for iSeries*, Chapters 4 and 5.
2. Check for any available server fix packs.
3. After installation, start your server(s). For information on starting the servers, see the *Administration Guide for iSeries*, Chapter 1.

## **Step 4: Install DB2 OLAP Server for iSeries, Version 8.1 on workstations**

Before upgrading to 8.1, make sure the corresponding DB2 OLAP Server for iSeries client components are installed on workstations. Follow the instructions in the *Installation Guide for iSeries*. Use the following information as a guide.

### **Installing on Network workstations**

There are three ways to upgrade in your local area network (LAN):

**Method 1:** Install from compact disc directly onto user workstations.

**Method 2:** Install to the network so users can install or run 8.1 on their workstations.

For methods 1 and 2, see the *Installation Guide for iSeries*, Chapter 6.

**Method 3:** A silent installation installs to the user's PC the setup options that the administrator records. Message dialogs inform the user of installation progress, and it requires no user intervention other than changing the port number (if your port number changed). For instructions, see "Installing DB2 OLAP Server Miner on Windows" in the *Installation Guide for iSeries*, Chapter 6. Use the same steps for DB2 OLAP Server Miner silent installation for DB2 OLAP Server for iSeries.

### **Installing on Remote workstations**

For end users such as remote salespersons who only have access to a slow (dial-up) connection, the network installation (Method 2) is not an installation alternative. For remote users:

- Ship a copy of the CD to the user for CD installation (Method 1). To obtain more CDs, contact your software provider.

OR

- Using a CD recordable drive, copy your network installation/silent installation folder structure (which contains the .ISS silent installation recording) to a CD, and ship this network installation image CD, for silent installation.

## **Step 5: Verify the 8.1 Upgrade**

Make sure that DB2 OLAP Server for iSeries features work correctly in your environment. You should verify that:

- All DB2 OLAP Server applications start properly.
- Calc runs properly.
- Applications return valid reports.
- If you are also using Warehouse Manager and Warehouse Builder, verify that sets and definitions work properly.

If you have just completed the “test” upgrade using your test environment, review your work. Assure that you understand any difficulties you encountered during the test upgrade and how to resolve them when you upgrade the production environment. Once you have a complete upgrade plan, upgrade your production environment, beginning at “Upgrading the Test or Production Environment” on p. 17.

## ***Comments on the documentation***

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- Send your comments by electronic mail (e-mail) to [comments@us.ibm.com](mailto:comments@us.ibm.com). Be sure to include the name of the product, the version number of the product, and the name and part number of the book (if applicable). If you are commenting on specific text, please include the location of the text (for example, a title, a table number, or a page number).





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