

IBM[®] DB2[®] OLAP Server[™] for iSeries[™]



Installation Guide for iSeries

Version 8.1

IBM[®] DB2[®] OLAP Server[™] for iSeries[™]



Installation Guide for iSeries

Version 8.1

Note

Before using this information and the product it supports, be sure to read the information in “Notices” on page 91.

First Edition (November 2002)

This edition applies to version 8.1 of DB2 OLAP Server for iSeries (program number 5724-B78) and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this book

DB2 OLAP Server is based on products from ShowCase (A division of SPSS Inc.) and Hyperion Solutions Corporation. This book was written by IBM and ShowCase and is intended to be used with books and online help written by ShowCase and Hyperion. You will see references to Hyperion and Hyperion's products in the interface and throughout the Hyperion books. Only the relevant Hyperion books are included with the DB2 OLAP Server book; this book and the exceptions are listed in "Publications" on page vi.

This book combines and summarizes information from the following ShowCase and Hyperion books, and therefore these books are not included in the IBM product:

- *Essbase/400 6.5 Installation Guide*
- *ShowCase 6.5 Installation Guide*
- *Hyperion Essbase 6.5 New Features*
- *Hyperion Essbase 6.5 Installation Guide*
- *Hyperion Essbase 6.5 Installation Checklist*
- *Essbase Integration Services 6.5 New Features*
- *Essbase Integration Services 6.5 Installation Guide*

Who should read this book

Read this book if you are a DB2 OLAP Server administrator who is responsible for:

- Installing and configuring DB2 OLAP Server.
- Designing and creating OLAP applications and multidimensional databases using DB2 OLAP Server.
- Setting up security for DB2 OLAP Server.
- Maintaining OLAP applications and multidimensional databases that are migrated to or created using DB2 OLAP Server.

As the DB2 OLAP Server administrator, you should have experience in networking and system administration, and should understand the analytical requirements of the users who will use the applications created with DB2 OLAP Server.

Publications

This section lists books that are included with DB2 OLAP Server for iSeries and its add-on products. DB2 OLAP Server users can find these books from the **Start > Programs > IBM DB2 OLAP Server 8.1 – iSeries > Documentation** information map. The books are stored in the `x:\ibm\db2olap\docs` directory, where `x:\ibm\db2olap` is the directory in which you installed DB2 OLAP Server workstation applications.

If you choose the **Typical** option during installation, DB2 OLAP Server installs only a subset of the documentation. To install all the documentation, choose **Custom** during installation and select the books you want.

Table 1 lists the publications that are included with the DB2 OLAP Server for iSeries base product.

Table 1. DB2 OLAP Server Publications

Publication Name	Description
<i>Installation Guide for iSeries</i> (GC18-7225)	Describes how to install and configure DB2 OLAP Server for iSeries, including Integration Server and Builder. This book combines the ShowCase and Hyperion installation books with new information from IBM.
<i>Administrator's Guide for OLAP on iSeries</i> (SC18-7226)	Provides iSeries database administrators with information about configuring and maintaining DB2 OLAP Server for iSeries. Showcase calls this book <i>Essbase/400 6.5 Administrator's Guide</i>
<i>Administrator's Guide for Builder on iSeries</i> (SC18-7227)	Provides iSeries database administrators with information about configuring and the Builder add-on product for DB2 OLAP Server for iSeries Showcase calls this book <i>ShowCase 6.5 Administrator's Guide</i> .
<i>Upgrade Guide for iSeries</i>	Includes migration and coexistence tips for DB2 OLAP Server for iSeries. This book is available only online from: www.ibm.com/software/data/db2/db2olap/library.html
<i>Installation Guide</i> (SC27-1228)	Explains how to install and configure DB2 OLAP Server on UNIX and Windows. This book is included for reference only; you should not need to use this book for DB2 OLAP Server on iSeries.
<i>Quick Path</i> (SC18-7000)	Summarizes the major tasks of creating OLAP applications using DB2 OLAP Server.

Table 1. DB2 OLAP Server Publications (continued)

Publication Name	Description
<i>OLAP Miner User's Guide</i> (SC27-1611)	Explains how to use DB2 OLAP Server Miner, a no-charge feature that combines the powerful IBM data mining technologies with OLAP technologies.
<i>Spreadsheet Add-in User's Guide for Excel</i> (SC27-1232)	Explains how to use the Spreadsheet Add-in with Microsoft Excel for Windows to analyze data.
<i>Spreadsheet Add-in User's Guide for 1-2-3</i> (SC27-1231)	Explains how to use the Spreadsheet Add-in with Lotus 1-2-3 for Windows to analyze data.
<i>Database Administrator's Guide, Volumes 1, 2, and 3</i> (SC18-7001, SC18-7002, and SC18-7003, respectively)	Provides administrators with strategies and techniques to implement, design, build, and maintain an optimized multidimensional database. Provides instructions for how to design and build a security system. Provides instructions for how to load, calculate, and report your data. Also provides instructions for performing tasks using the Application Manager.
<i>MaxL User's Guide</i> (SC18-7005)	Describes how to use MaxL, the multidimensional database access language for DB2 OLAP Server. MaxL is a flexible way to automate Hyperion Essbase administration and maintenance tasks.
<i>SQL Interface Guide</i> (SC18-7004)	Explains how to load data from SQL, relational, and flat-file data sources. This book is not used with DB2 OLAP Server for iSeries.
<i>Technical Reference</i>	Provides reference about writing formulas, calculation scripts, report scripts, MaxL statements, and custom-defined macros and functions. It also includes ESSBASE.CFG settings and ESSCMD commands.
<i>API Reference</i>	Provides reference information for functions that are available through the Application Programming Interface.
<i>Message Reference</i>	Describes common messages in DB2 OLAP Server and their causes and solutions.
<i>Integration Server Administration Guide</i> (SC27-1227)	Explains how to use the Administration Manager component of the DB2 OLAP Integration Server.
<i>Integration Server Data Preparation Guide</i> (SC18-7006)	Explains how to prepare relational data for use with the DB2 OLAP Integration Server.

The DB2 OLAP Server publications are also available online at:

www.ibm.com/software/data/db2/db2olap/library.html

Several IBM Redbooks about DB2 OLAP Server and related topics are available. To view OLAP Redbooks online, visit the IBM Redbook Web site at:

Service and additional support

DB2 OLAP Server for iSeries is an IBM product and is serviced by IBM. The documentation from ShowCase and Hyperion includes references to service from ShowCase or Hyperion; disregard those references.

The Web site for DB2 OLAP Server and its features offers an extensive selection of hints, tips, frequently asked questions, and more information, as well as FixPaks:

www.ibm.com/software/data/db2/db2olap/support.html

Chapter 1. What's new in Version 8.1

This chapter describes new enhancements to DB2 OLAP Server and DB2 OLAP Integration Server since the previous version.

What's new in DB2 OLAP Server for iSeries

This section provides an overview of significant changes in DB2 OLAP Server Version 8.1.

DB2 OLAP Integration Server

DB2 OLAP Integration Server enables you to map and transfer the relevant data in a relational database to an OLAP database. It includes a set of graphical tools and a shared, enterprise OLAP metadata datalog. It enables you to:

- Create a logical OLAP model from relational tables, views, and columns
- Add structures and rules to the OLAP model
- Create and populate an OLAP cube from relational sources
- Drill from an OLAP cube into data stored in relational databases.

Hybrid Analysis, a new feature in DB2 OLAP Integration Server 8.1, offers you a method of virtually extending your OLAP cube into relational database. See 11 for more information.

OLAP Miner for Deviation Discovery

DB2 OLAP Server Miner is a no charge feature of DB2 OLAP Server. OLAP Miner combines the powerful IBM data mining technologies with OLAP technologies.

OLAP Miner enables you to examine your OLAP cubes (multidimensional databases) more thoroughly and easily by finding atypical or deviant values automatically. Instead of searching through your data manually to find data values that might be higher or lower than you expected, OLAP Miner can do this work for you. The OLAP Miner algorithm is optimized so that it can be deployed on large OLAP cubes.

You can search specific areas (subcubes) of your cubes by creating deviation detection definitions, which specify the way in which OLAP Miner examines the data that you selected for the subcube. OLAP Miner provides an easy-to-use wizard that helps you create deviation detection definitions. After you create and run a deviation detection definition, OLAP Miner applies an algorithm to the data to find

deviations. Then you can view a simple list of deviations or bring up the Deviation Viewer, from which you can see the deviations in the context with other surrounding values. You can also view deviations in a standard spreadsheet application.

OLAP Miner was introduced in FixPak 7 of Version 7.1.

Relational Storage Manager is no longer available

Starting in Version 8.1, the Relational Storage Manager (RSM) is withdrawn from DB2 OLAP Server. Applications created using the RSM in previous versions must be migrated to the Multidimensional Storage Manager (MSM) before installing Version 8.1. See “Migrate from RSM to MSM before upgrading to Version 8.1” on page 25 for more information.

The following changes are specific to Release 6.5 of Essbase/400 from ShowCase:

Enhanced STRESSSVR and ENDESSSVR Commands

The commands to start and end the Essbase/400 OLAP Server (STRESSSVR and ENDESSSVR) have been enhanced with the functionality to start and end the Essbase/400 Integration Server (EIS) and the Essbase/400 Enterprise Server (EES). For instructions, see the *Administrator's Guide for OLAP on iSeries (Essbase/400 6.5 Administrator's Guide)*.

MaxL vs. ESSCMD

In this release, both MaxL and ESSCMD are supported. However, the Multidimensional Access Language (MaxL) is quickly becoming the primary linguistic interface for interacting with DB2 OLAP Server. Users are urged to start using MaxL in place of ESSCMD.

MaxL I/O Settings Support

The iSeries supports only buffered I/O access.

MaxL Character Support

If MaxL statements include invariant characters, such as:

```
] [
```

then configure your iSeries with CCSID 37. If you do not configure with CCSID 37, then use MaxL on Windows instead of MaxL on iSeries.

LDAP Not Supported

Because LDAP is not supported, there is no support for external authentication. Attempts to create an external user will result in Essbase error number 1051148:

```
Local/ESSBASE0///Error(1051148)  
User [...]’s External Authentication Protocol [...] Not Loaded
```

The following changes are specific to Release 6.5 of Essbase OLAP Server from Hyperion:

Hybrid Analysis for relational data support

DB2 OLAP Server supports Hybrid Analysis, a method of accessing the lowest level members of an OLAP database from a relational database. This relational data is not physically loaded into DB2 OLAP Server. The data is mapped to the appropriate OLAP hierarchies.

Use DB2 OLAP Integration Server for iSeries (EIS) and the Hybrid Analysis manager to create applications that access relational data using Hybrid Analysis. The manager generates queries dynamically against the relational source, and runs as part of the OLAP Server.

For more information about how to use Hybrid Analysis, see these documents:

- *Technical Reference* in the docs directory, in the Report Writer and Configuration Settings sections for information about Hybrid Analysis commands and settings
- EIS online help and Intelligent Help
- Application Manager help: Database Settings, Storage Tab, Access Mode

Parallel Calculation

In addition to the standard means of performing a calculation, where each task is performed in sequence or serially, DB2 OLAP Server now supports parallel calculation.

If you enable parallel calculation, DB2 OLAP Server analyzes all the tasks in a calculation pass and breaks them down into subtasks. The subtasks that can run independently of each other are scheduled to run simultaneously on up to four threads, each on a separate CPU.

See the *Technical Reference*, which entries in the configuration setting and calculation commands sections. You can enable and adjust parallel calculation by adding CALCPARALLEL (and optionally CALCTASKDIMS) to your essbase.cfg configuration file, or you can issue the calculation commands SETCALCPARALLEL (and optionally SET CALCTASKDIMS).

Simulated Calculations

Use the ESSCMD command SET MSG ONLY to perform simulated calculations. These simulated calculations can help you to select dense and sparse settings for the dimensions in your outline. See the *Technical Reference* in the docs directory for more information.

Empty Outline Support in Dimension Building

DB2 OLAP Server can now build dimensions in empty outline files. When a new database is created, DB2 OLAP Server creates an empty

outline file. In previous releases, before building outlines from a data source, users had to add at least one dimension member to the empty outline manually. Now, DB2 OLAP Server no longer requires the manual step.

Substitution Variable Support in SQL Interface

You can use substitution variables in SQL strings, similar to substitution variable use in report scripts and calculation scripts. For details, see the *SQL Interface Guide*, available in PDF or HTML.

Connection Information Available

Client API programs can now access information about users currently connected to Essbase. The new function `EssListLogins()` provides a count of the users logged in to a specified connection and returns information on the connected client names and IP addresses.

Server Log Enhancements

Messages in the server log dealing with user logins and security changes now include additional details:

- The user name of anyone entering an incorrect password or changing a password
- The IP address of the computer on which a user logs in
- The user name and group name when the user or group is deleted

In addition, DB2 OLAP Server logs additional security activities in the server log, including the name of the user and group being changed and the user performing the change:

- Adding users to groups and removing users from groups
- Granting and revoking database and application access

I/O Setting Changes

Previously, configuration setting `DIRECTIO` controlled the default mode of I/O access at the server level. Now, `DIRECTIO` controls only the I/O mode used for databases when they are created. To change the I/O mode for an individual database, use Application Manager, and navigate to the Database Settings window, Storage tab.

Correct Structure Alignment

Header files contain new information and structures that enable DB2 OLAP Server to run more quickly and efficiently. You need not do anything for new or upgraded installations, the changes are made automatically. Two header files, `esbapi.h` and `esbotl.h`, are no longer needed, and therefore no longer shipped with Essbase. One new header file, `esstsa.h`, has been added.

New Error Message Documentation

Help for error messages are now available from the Information Map,

which you can launch from the **Start > Programs > IBM DB2 OLAP Server 8.1 > Documentation** menu.

The following changes are specific to Release 6.2 of Hyperion Essbase OLAP Server.

Application and database migration across OLAP Servers

You can migrate applications and databases from one server to another, regardless of platform. When you migrate, you can also migrate user/group security, including filter associations.

User and group migration across OLAP Servers

You can migrate DB2 OLAP Server users and groups from one server to another, regardless of platform. You can migrate individual users and groups, or you can migrate multiple users or multiple groups at one time.

Password propagation

You can change a password and then propagate that password to other OLAP Servers.

Single sign-on to DB2 OLAP Server enterprise environment

When you log in to Administration Services, the Administration Server handles your connections to OLAP Servers, applications, and databases.

Log analysis

Using Log Analyzer, you can filter, search, and analyze OLAP Server logs and application logs.

New MaxL Script Editor

A new MaxL Script Editor is integrated with the Administration Services Console. From this editor, you can create, edit, save, and execute MaxL statements and scripts. You can also use the editor to type and execute MaxL statements interactively, or to perform one DB2 OLAP Server operation at a time. Results from MaxL statements are displayed within the editor.

Background processing

You can execute calculations in the background while performing other tasks. You can also exit the console while the process continues to run. A message panel in the console window notifies you when the process has completed.

Printing DB2 OLAP Server information

You can print the contents of many windows in the console. For example, you can print the contents of the Database Properties window or the Log Analyzer window.

Graphical view of DB2 OLAP Server

You can use the Graphical Enterprise view in the console to operate directly on DB2 OLAP Server objects and to create custom views of the DB2 OLAP Server environment.

Parallel data load

DB2 OLAP Server now supports parallel data loading. You can specify the number of data processing threads to be used in parallel in different stages of data load processing. Allocating processing threads across processors on multiple CPUs provides the performance advantages of true parallel operation.

Limits on query duration and time

When users create and execute a report or spreadsheet add-in query, they may unintentionally create a very large query. Some large queries may require too much time to execute or may access too many blocks to run efficiently.

To help administrators, DB2 OLAP Server now provides these new features:

- Administrators can limit the amount of time a query can run before completion.
- Administrators can limit the number of blocks that a query can access.
- Administrators can set these new limits at the server, application, or database level.

This new ability is available using new `essbase.cfgfile` settings.

New control of agent-server threads and user logins

Two new configuration settings provide more control over agent activity:

- `AGTSVRCONNECTIONS` specifies the number of server threads that the OLAP Server creates during startup to connect to the agent. This subset of server threads, along with the agent threads controlled by `AGENTTHREADS`, are needed when users connect from an agent to the server in order to connect to an application and database. These threads are unrelated to the threads that are used to direct client queries, which are specified by `SERVERTHREADS` or have default specification based on the number of licenses purchased.
- `MAXLOGIN` specifies the maximum number of users that can simultaneously log in to a single application at a time. This number includes all instances of the same user on the same computer and application. Both the server and agent use this setting. `MAXLOGIN` is unrelated to threads controlled by `AGENTTHREADS`, `AGTSVRCONNECTIONS`, or `SERVERTHREADS`.

Use these settings to match resources to load patterns:

- To support a small number of users, you can lessen the amount of memory that the OLAP server uses by decreasing the value of MAXLOGIN.
- To support a large number of users trying to access the same application at the same time, you can increase the value of AGTSVRCONNECTIONS and AGENTTHREADS.
- To support many users issuing queries at the same time, you can increase the value of SERVERTHREADS.

Log delimiters

If you need to use external reporting tools or import log data into an OLAP database, DB2 OLAP Server now provides the ability to specify a delimiter between fields in DB2 OLAP Server log files:

- The `essbase.cfg` configuration file now supports an optional setting DELIMITEDMSG and DELIMITER. When DELIMITEDMSG is set to TRUE, DB2 OLAP Server inserts a tilde (~) between each field of a message and writes each entry on a single line. If DELIMITER is set to one of three symbols, that symbol is used instead of the tilde.
- Log files contain standardized fields and field ordering. For example, an entry with a date and time stamp uses the stamp as the first field in the message.

New calculation functions

DB2 OLAP Server provides three new calculation functions in this release:

- Use @PRIORS and @NEXTS to skip #MISSING values, zero (0) values, or both, or neither during a calculation. @PRIOR and @NEXT, which do not skip, are still available.
- Use @NAME to pass a member name as a string to another function.
- Use @ALIAS to pass a member alias as a string to another function.

See the *Technical Reference* in the docs directory of your DB2 OLAP Server installation for details.

New API functions

DB2 OLAP Server Version 8.1 has two new API functions. One is a list of native and custom-defined calculation functions, and the other is a new function to create a filter.

External authentication

DB2 OLAP Server now supports external authentication of users against a non-DB2 OLAP server. For this release, DB2 OLAP Server installs a protocol that can authenticate users for an LDAP V3 server.

To enable external authentication, administrators use this procedure:

1. Set the AUTHENTICATIONMODULE configuration setting in the server and client configuration file `essbase.cfg`.
2. Restart OLAP Server.
3. Create the user in DB2 OLAP Server with a reference to the LDAP protocol by using either Application Manager or DB2 OLAP Server Administration Services.

For instructions about how to set the configuration parameter, see the *Technical Reference* in the docs directory of your DB2 OLAP Server installation.

Export/Import LROs

The ability to export and re-import linked reporting object (LRO) information from a database has been added to improve backup capabilities and calculation performance.

You can use export LRO and import LRO (MaxL) to perform these tasks:

- Export the catalog that maps LROs to data cells, from a database to a single file on the server
- Load a file containing the exported LRO information.

Export of databases larger than 2 GB

Some file management systems do not support ASCII files larger than 2 GB. To avoid exceeding this limit, if DB2 OLAP Server anticipates that an export file will be larger than 2 GB, it breaks the file into two or more export files, as needed. Use the ESSCMD commands, EXPORT and PAREXPORT, and the MaxL statement, export to export databases. This new feature works the same on all operating systems.

New CALCMODE configuration setting

You can now set CALCMODE to BLOCK or BOTTOMUP by using the configuration setting CALCMODE in the server configuration file `essbase.cfg`, and give it server, application, or database scope instead of using the @CALCMODE function. For more information, see the configuration settings in *Technical Reference* in the docs directory of your DB2 OLAP Server installation.

Improved functionality

DB2 OLAP Server Version 8.1 provides these improvements to existing functionality:

- Improved Handling of Sessions and Requests
- Multiple DB2 OLAP Server Agents on a Single Server Computer
- Case Sensitivity Improvement
- Improved Add-in Support of Excel in Browsers
- Member Set Function Support in FIX

- New Dimensions Sparse by Default
- Custom-Defined Functions and Macros
- Attribute Association Memory Use
- Buffered I/O Default

Improved handling of sessions and requests

System administrators can log out all users of a particular application or database, or log out instances of particular users from a selected scope: an application, a database, or the entire OLAP server system. If a user request is active when the administrator tries to log off the user, the administrator can force the user off. Using force safely terminates the request, and then logs the user off.

Additionally, administrators may terminate specific requests that have become problematic. For example, if a user loses the connection to the OLAP Server during a request (for example, a calculation), the abandoned request may cause the application to stop responding to subsequent requests.

Each user session has a unique ID number, which can be displayed and used by the administrator to terminate the current request associated with that session. When the administrator terminates a request, the user session remains active. The improved handling of sessions and requests can be found in any of these areas:

- Application Manager (Security > Connections)
- The MaxL language interface (**alter system kill request** and **alter system logout session**)
- The DB2 OLAP Server Administration Services Console

The improved handling of sessions and requests is also available to API programmers, who can incorporate the following request management functions:

- EssListRequests()
- EssKillRequest()

Case sensitivity improvement

Previous releases of DB2 OLAP Server automatically changed the case of application and database names when they were created: the first letter was converted to uppercase, and other letters were all lowercase. With this release, DB2 OLAP Server creates the database name exactly as it is entered. Some backward compatibility with previous clients is provided:

- If a client prior to Version 7.1 FixPak 8 (Application Manager for example) is used to create a database or application name, the name is created with the first letter in uppercase and all other letters in lowercase.

- If scripts specify the incorrect case for an application or database name, DB2 OLAP Server searches for different versions of case for that object.

Some error messages have been rewritten to provide clarity. With this release, behavior on NT and UNIX platforms is identical.

Improved add-in support of of Excel in browsers

DB2 OLAP Server supports the ability access the Spreadsheet Add-in features when Microsoft Excel is invoked from Internet Explorer. If you drill down in an Excel spreadsheet accessed using Internet Explorer, Excel refreshes the browser and displays the requested data automatically. Users need not perform any additional steps to refresh the browser view.

Member set function support in FIX

All functions that return a member or set of members are now supported when they occur within FIX statements. Member and member set functions in FIX is also supported for partition definitions and security filters.

New dimensions sparse by default

When you add a dimension to an existing outline, DB2 OLAP Server makes it a sparse dimension. Prior to Version 8.1, DB2 OLAP Server made new dimensions dense by default.

Custom defined functions and macros

Several changes have been made to custom-defined functions (CDF) and custom-defined macros (CDM):

- You no longer need to install the Java Virtual Machine (JVM) to create or use CDMs. CDFs still require the JVM.
- DB2 OLAP Server no longer validates function records before completing the creation process. Errors are detected only when an application loads the CDF. Typically this occurs during server startup and when the MaxL **refresh custom definitions** statement is executed. The DB2 OLAP Server agent checks the function for a valid name, but does no other validation. This means that there is no longer a need to start an application in order to create a function.
- You can now use MaxL to create and drop function records without loading or unloading an application.
- The rules for specifying Java classes and methods are now stricter.
- MaxL and Application Manager must be Version 8.1 to create or delete CDFs and CDMs on the Version 8.1 server. For details, see the *Database Administrators Guide* chapters about CDFs and CDMs.

Attribute association memory use

DB2 OLAP Server has improved memory management for processing attributes requiring less memory. This improvement is most noticeable for applications using many attributes.

Buffered I/O default

Version 8.1 includes buffered I/O as the default. If you want to use direct I/O, as was the default for Release 6.0 and 6.1, you can use the configuration setting `DIRECTIO TRUE`.

Because buffered I/O may affect some DB2 OLAP Server caches, you may need to adjust cache size as well as change the `DIRECTIO` configuration setting.

DB2 OLAP Server 8.1 clients not available for Windows 95

Clients such as Application Manager and the Spreadsheet Add-in for Version 8.1 are not available for Windows 95.

Introducing DB2 OLAP Integration Server for iSeries

DB2 OLAP Server for iSeries now includes the DB2 OLAP Integration Server, a new feature on iSeries.

This section provides highlights of OLAP Integration Server that are specific to Release 6.5 of Essbase/400 Integration Services from ShowCase, which is the equivalent of Essbase Integration Services 6.5 from Hyperion.

Hybrid Analysis

Relational databases can store several terabytes of data and thus they have nearly unlimited scalability. Hybrid Analysis, a new function in DB2 OLAP Integration Server V8.1, offers you a method of integrating your OLAP database with a relational database and thereby take advantage of the scalability of the relational database. With Hybrid Analysis, you can support both multidimensional databases and relational databases, operate with almost no limitation on outline sizes, and provide a rapid transfer of data between OLAP databases and relational databases.

How Hybrid Analysis Works:

- Hybrid Analysis integrates an OLAP database with a relational database by allowing a portion of an Essbase cube to reside in the relational database. This Essbase portion consists of the lowest level members of the dimensions defined for Hybrid Analysis and the associated data of these members.
- Using Essbase Integration Services Console, the data in the relational database is mapped to hierarchies in the Essbase database. Hybrid Analysis thus eliminates the need to load and

store members and their data within the OLAP database itself. It is this feature which combines the efficiency of mass data scalability with the sophisticated data analysis and rapid reporting of DB2 OLAP Server.

Using Hybrid Analysis:

- When using Hybrid Analysis, you create combinations of multidimensional and relational data storages. You define your Hybrid Analysis data storage options through the Integration Services Console at the member level in the metaoutline.
- In the appropriate metaoutline dialog boxes, you perform the tasks necessary for using Hybrid Analysis:
 - Specifying the relational data source for the metaoutline
 - Defining the hierarchy for the applicable dimension
 - Building the metaoutline down to the appropriate level
 - Performing the member and data loads

When you save a metaoutline as Hybrid Analysis-enabled, the console warns you if the metaoutline contains dimensions or transformations that are likely to produce incorrect member names or data values within the Hybrid Analysis data storage.

You query the data from the relational database in much the same manner you query data from an OLAP database, that is, by using reporting tools such as Outline Editor, Essbase Spreadsheet Add-in, Report Writer, and third-party tools.

You can create a Hybrid Analysis storage using the TBC sample application.

Tables Grouped by Data Source and Owner

With multiple data source connectivity, relational tables are listed, categorized, and ordered by the name of the source or owner and by table type. In the left frame of the OLAP Model main window, tables with the same data source and owner are grouped together.

Verification of Formulas

DB2 OLAP Integration Server provides a rapid method of verifying and editing static formulas before using the formulas in DB2 OLAP Server. Formerly, when a static formula was entered in DB2 OLAP Integration Server, the formula was passed directly to DB2 OLAP Server without any verification. This often caused the formula to be rejected by DB2 OLAP Server because of simple errors such as

misspellings or missing semicolons. Verifying the formula beforehand can save you significant amounts of time during member and data loads.

Formula verification takes place in the Formula tab of the Member Properties Dialog Box in the metaoutline. During verification, the cursor stops at the location of each error. After correcting the error, you can either start the verification process at the beginning of the formula or choose to find the next error in the formula.

The following highlights are specific to Release 6.2 of Essbase Integration Services from Hyperion:

New Client Console with Dynamic Intelligent Help Window

DB2 OLAP Integration Server introduces the new Essbase Integration Services Console and companion Intelligent Help window. The new dockable Intelligent Help window contains dynamic links to key program functions to automate the major operations necessary for moving data from a relational database to online analytical processing (OLAP). This convenient new feature provides the following enhanced installation and client component functionality:

- Automatically detects the OLAP model fact table, dimensions, and hierarchies to create an OLAP model.
- Automatically detects dimensions and hierarchies in an OLAP model to create a basic metaoutline.

OLAP Metadata Catalog and Sample Application Creation

When you first start DB2 OLAP Integration Server Console after installing DB2 OLAP Integration Server, the system displays a new OLAP Metadata Catalog Setup dialog box. For first-time installations, you can click a button in this dialog box to create the OLAP Metadata Catalog.

Automatic Detection of Fact Table and Dimensions

After you click the OLAP Model icon for first-time model creation and log in to the appropriate data source, you can choose to have the OLAP model fact table and all related dimensions created automatically.

A quick-access link to the automatic detection option for creating a fact table is provided in the inline text of the Intelligent Help window (see Intelligent Help on page 19). In addition, a Tools menu option (Tools > Create Fact Table) is available from the OLAP Model main window.

When you select the fact table automatic-detection option using either method, the system displays a Create Fact Table dialog box. This dialog box shows the fact tables detected in the current data source to

which you are connected, along with any existing fact tables in the OLAP Metadata Catalog that are present in the current data source. You can select either from a list of fact tables in existing OLAP models or from a list of potential fact table candidates to define the fact table to use. Check boxes in the Create Fact Table dialog box enable you to create the Time and Accounts dimensions automatically. If you prefer, you can create the Time or Accounts dimensions manually at a later time.

For automatic detection of dimensions, you can choose the automatic-detection link in the Intelligent Help window or select Tools > Create Dimensions to initiate the dimension-creation process. The system begins by looking for all tables joined to the fact table with primary-foreign key relationships. Next, it searches for all tables joined to the previously detected tables and adds them to the OLAP model schema. In a database where no primary-foreign key relationships are defined, the system begins by searching for all tables joined to the fact table and then uses the column name and type to determine join keys. If two tables have the same column name and type, the system assumes that the two tables are joined on that column. To reduce the possibility of creating invalid dimensions, the system does not search for join keys in any tables that are not joined to the fact table.

Automatic Detection of Hierarchies

Like the Create Fact Table and Create Dimensions options, a new option for automatic detection of hierarchies is provided with Version 8.1. Use the automatic-detection link to this option provided in the text of the Intelligent Help window (see Intelligent Help on page 19). Menu commands on the Tools menu in the OLAP Model and OLAP Metaoutline main windows also provide access to this option. From the OLAP Model main window, select Tools > Create Hierarchies; from the OLAP Metaoutline main window, select Tools > Get Existing Hierarchies. You can choose to create a single hierarchy or multiple hierarchies.

When you select the automatic hierarchy detection option, using either method, DB2 OLAP Integration Server searches for and detects hierarchies that exist in the OLAP Metadata Catalog. The system then displays the detected hierarchies in a hierarchical tree format that includes the dimension name, the hierarchy names, and the associated member names.

Automatic hierarchy detection does not detect any filters contained within the hierarchies. In addition, the system compares the hierarchical structure of the data source with that of the OLAP model dimensions and deletes any invalid columns from the detected hierarchies. For example, if the OLAP model Product dimension

contains Category, Family, and SKU columns, but the data source does not contain a Category column, the hierarchy that is returned contains only Family and SKU columns.

Intelligent Help

This feature enhances user convenience and ease of operation. When you open the OLAP Model or OLAP Metaoutline main window to create or modify an OLAP model or a metaoutline, DB2 OLAP Integration Server Console provides a new option known as Intelligent Help to guide you through the process. Intelligent Help is displayed in a separate window that provides numbered procedures, along with links to new automatic detection options and frequently used functions.

Process buttons along the top of the window contain labels for each main group of related tasks. For example, the process buttons for the OLAP Model tasks groups contain the following labels:

- Fact
- Dimension
- Table and Column properties
- Hierarchy
- Finish

The operations that you need to perform to create an OLAP model fall into these main groupings.

Below the task-group process buttons, the Intelligent Help window consists of a right and left frame:

- The left frame lists the major tasks to be performed for each of the process groups.
- The right frame contains detailed, numbered procedures for performing the tasks itemized in the left frame. Links to automatic detection functions and to user interface dialog boxes are provided in this frame, where appropriate.

The Intelligent Help window is a dockable, relocatable window that you can move and resize as you prefer. Integration Services Console displays the Intelligent Help window automatically the first time that you create or open an OLAP model or metaoutline. You can click an icon to undock the Intelligent Help window and move it away from the console. You can click a check box to show or hide the Intelligent Help window at startup, and you can click a Close icon to close the window at any time during a console session.

Both the toolbar and the Tools menu in the OLAP Model and OLAP Metaoutline main windows provide options for selecting Intelligent

Help. The system remembers whether the Intelligent Help window was open or closed during your last work session. If the Intelligent Help window is open when you close an OLAP model, the window is displayed automatically when you reopen the model to work on it at a later time.

As always, online help is available to provide in-depth conceptual information and dialog box entry details.

Load optimization

DB2 OLAP Version 8.1 provides five dynamic new load optimization options for improving member and data load performance:

Member load options

- **Use Distinct Clause:** If the leaf node of a given dimension should be distinct, you can choose to add the Distinct clause to the Select statement. During a member load, only the distinct combination of columns in the Select statement is returned, resulting in a quicker member load. You might want to use this option, for example, if you have created a Time dimension from the fact table.
- **Use Outer Join:** Use of this feature enables you to view all columns in your DB2 OLAP Server database, whether or not the columns between two joined tables are identical.

The result of a natural (inner) join between two tables includes records where the joined columns match. In any row from Table A in which a join column does not exist in Table B, that row is dropped when data is loaded. In an outer join, however, when an unmatched column is encountered during a data load, the unmatched row is included in the results. The column data of the unmatched portion is replaced with a <NULL> value.

- **Allow Duplicate Shared Members:** Use of this feature enables the same member to be shared multiple times under the same parent, resulting in faster creation of the DB2 OLAP Server outline.

Data load options

- **Remove Extra Joins:** This feature removes extra joins whether or not a surrogate key is used for a data load. If a surrogate key is used in a join, the surrogate key is loaded into DB2 OLAP Server as an alias, and the join is eliminated in the data load.
- **Use User-defined SQL:** This option enables you to use an edited version of the standard SQL generated by DB2 OLAP Integration Server.

A new OLAP metaoutline SQL Override dialog box displays standard data load Select statements. You can select the statements that you want to edit. The two-frame dialog box shows the current metaoutline in the left frame and three windows in the right frame.

The top right-frame window lists the Current Selected SQL and is the window in which you edit Select statements. The center window displays the User-Defined SQL List that you create. The bottom window displays the Standard Data Load SQL generated by DB2 OLAP Integration Server.

When you have completed editing of standard SQL statements, you can direct the system to use the edited version for a data load by checking the Use User-defined SQL for Data Load option in the OLAP Metaoutline Properties dialog box, Load Optimization tab. For rules and guidelines related to editing the standard data load SQL generated by DB2 OLAP Integration Server, click the Help button in the OLAP Metaoutline SQL Override dialog box.

Sort on alternate column

This feature enables you to sort on a column that resides in the relational data source, but which is not used in the OLAP metaoutline. Sorting on a nondisplayed column is enabled in both recursive builds and generation builds. The dialog boxes that you use to specify ordering and filtering display identical column lists for selection. To prevent multiple selections of the same column, a column that has been selected at any generation of ordering is no longer available for sort selection.

Loading of DB2 OLAP Server Properties from Database Columns

This new feature enables the following DB2 OLAP Server properties to be loaded from database columns in the same way that Consolidation Attributes and UDAs currently are loaded from DB2 OLAP Integration Server into DB2 OLAP Server:

- Two-pass calculation
- Data storage attribute
- Time balance
- Skip type
- Variance reporting
- Formulas

Inclusion of this feature follows the DB2 OLAP Server Administration Services Console model, enabling you to define major DB2 OLAP Server settings from within DB2 OLAP Integration Server. You define these member settings using the metaoutline Member Properties dialog box, Member Info tab. When property values are combined in one database column, you can separate them with a comma or a space (for example: +, Expense, Last, Both). When you use a word to define a property, only the first letter is used during a member load; for example, (O)nly or (E)xpense or (T)wo Pass Calc.

For details on allowable values for properties loaded from database columns, click the Help button in the Member Info tab of the metaoutline Member Properties dialog box.

XML Import/Export

DB2 OLAP Version 8.1 XML Import/Export enables you to import data into and export data from the OLAP Metadata Catalog. You can now quickly transfer OLAP models and metaoutlines from one OLAP Metadata Catalog to another through use of this feature. You can also use an XML-based editor to rename the OLAP model associated with a metaoutline and import the revised data into the OLAP Metadata Catalog. Be sure to use an XML editor that supports UTF 8 UNICODE.

Extensible Markup Language (XML) consists of two parts:

- **Data Type Definition (DTD):** This part describes the allowable structure of XML documents. A DTD defines the major elements within a document, the child elements, and related attributes. It can constrain the pieces of data that occur in a document, the hierarchy of the data that it includes, and the number of times each piece of data occurs. DB2 OLAP Integration Server provides a predefined DTD to ensure that you use the same data format when you create XML documents.
- **XML documents:** This part specifies how to use the tagged markup to indicate the meaning of data, somewhat like a card catalog. In DB2 OLAP Integration Server, the data in an XML document describes the dimensions, members, hierarchies, and settings in OLAP models and metaoutlines. This information is stored in tables in the OLAP Metadata Catalog.

On the iSeries, you can use the following XML files from the *OLAP Server library/Samples/TBCModel* on the IFS directory:

- sample_metaoutline.xml
- sample_model.xml
- sample_ha_metaoutline.xml
- sample_ha_model.xml

To use the new XML Import/Export feature, DB2 OLAP Integration Server provides a new dialog box named the XML Import/Export dialog box. Select the **File > XML Import/Export** command from the OLAP Model or OLAP Metaoutline main window to access the dialog box.

You can then select the Import tab and enter the necessary information to open either an OLAP model or metaoutline from an

XML file. You can also select the **Export** tab to save an OLAP model or metaoutline as an XML file. Click the **Save As XML File** button, enter an XML file name, and navigate to the directory where you want to save the file.

Incremental Update to Data

This feature enables you to add to and subtract from DB2 OLAP Server data during member loads and data loads. By default, DB2 OLAP Integration Server updates all dimensions and members. Incremental updating of an existing DB2 OLAP Server outline is faster than updating all dimensions and members. The Essbase Integration Services Console includes an Incremental Update dialog box to use for selecting update options.

For member load, you have the following options:

- Preserve all data (this is the default setting). This preserves all existing data that applies to the changed outline when restructuring occurs.
- Preserve input data. This preserves only those blocks containing data that is loaded.
- Preserve level 0 data. This preserves data only for level zero members.
- Discard all data. This clears all data from the database.

For data load, you have the following options:

- Overwrite (this is the default setting): This replaces the values in the database with the values in the data source.
- Add: This adds values in the data source to the existing values in the database.
- Subtract: This subtracts the values in the data source from the existing values in the database.

For both member and data loads, you have the following Attribute Dimension Restriction options:

- Delete all dimensions (this is the default setting): This deletes all attribute dimensions associated with any base dimension selected for the incremental update.
- No update to existing dimensions: This keeps attribute dimensions unchanged while updating other areas.
- Update existing dimensions: This updates all changes to attributes.

Member Load and Data Load Filter Options

This feature enables you to limit filters to a member load or a data load, or to apply filters to both member and data loads.

The Essbase Integration Services Console includes a revised DB2 OLAP Server Application and Database dialog box with a simple drop-down list from which to select or deselect filters.

Improved SQL Drill-Through

This feature takes advantage of the new data load optimizations by including join key optimization in the SQL for drill-through. In join key optimization, the join between a fact table and a dimension table is removed if the join column is the same as the column selected. This results in faster drill-through queries.

Windows Service Utility Support

This new utility adds the Windows NT and Windows 2000 service for DB2 OLAP Integration Server, accepting parameters supported by the `olapisvr` command. These parameters enable you to:

- View a list of available switches for starting DB2 OLAP Integration Server.
- Set the buffer size that DB2 OLAP Integration Server uses when transferring rows from the data source to the DB2 OLAP Server database.
- Set the number of records that DB2 OLAP Integration Server commits to DB2 OLAP Server during a data load.
- Give the log file a different name.
- Set the level of detail in the messages logged by DB2 OLAP Integration Server.
- Set the DB2 OLAP Server message database file to a different name.
- Specify the number of threads for executing SQL, retrieving data, transforming data, and performing a data load.
- Set the TCP port number at which DB2 OLAP Integration Server connects with a client.
- Set the number of network listeners that DB2 OLAP Integration Server starts.

Improved Access to the Server Log File

To assist users in analyzing and debugging member and data loads, DB2 OLAP Integration Server now provides two methods of accessing the Server log file:

- During a member or data load, or at any other time, you can select Tools > View Log File to view the Server log file.
- At the completion of a member or data load, a View Log File option button is enabled that you can select to view the Server log file.

In both cases, DB2 OLAP Integration Server retrieves the log data and displays it in the Server Log File window with a date and time stamp

for each activity that has occurred during the load. For very large member or data loads, the server retrieves only the last 1 MB of the log file. You can copy the log file and paste it to any text editor, such as Notepad, to print it out for review and analysis.

New Sample Application

DB2 OLAP Integration Server provides a new sample application based on a fictitious company named The Beverage Company (TBC). The TBC sample application demonstrates creating a Measures dimension recursively, using a sort on an alternate column in the relational data source, and loading metadata from database columns. Additionally, the sample application includes UDAs and Date Time Series data, additional years, new drill-through paths, and a new Time table to demonstrate data load incremental updates.

The TBC sample application includes the following components:

- Sample OLAP Metadata Catalog (TBC_MD)
- Sample data source (TBC)
- Sample OLAP model (TBC Model) and sample OLAP metaoutline (TBC Metaoutline)

For the first time, the sample application OLAP model and OLAP metaoutline are provided in Java-supported XML format.

The Essbase Integration Services Console provides a new Sample Application Setup dialog box that is displayed automatically after installation of DB2 OLAP Integration Server. With the completion of a few simple entries in the dialog box, you can now load the sample application automatically.

This automated feature enables you to create a functional sample application that is ready to use within minutes. You must set up the database for the OLAP Metadata Catalog and the TBC data source, and define open database connectivity (ODBC) connections beforehand. When setting up ODBC connections, the user name that you use when defining the Data Source Name (DSN) for the data source must be TBC (tbc for Informix) because the sample tables were created using this name.

Terminology: IBM, ShowCase, and Hyperion

This section lists the different names that IBM, ShowCase, and Hyperion use for the similar or equivalent products and books.

Table 2. How product names differ across IBM, ShowCase, and Hyperion

IBM	ShowCase	Hyperion
DB2 OLAP Server for iSeries	Essbase/400	Hyperion Essbase OLAP Server
DB2 OLAP Integration Server for iSeries (OIS)	Essbase/400 Integration Services (EIS) (This book uses refers to EIS.)	Hyperion Integration Services (EIS)
DB2 OLAP Server Builder for iSeries	STRATEGY	N/A

Table 3. How book titles differ across IBM, ShowCase, and Hyperion

IBM	ShowCase	Hyperion
<i>Installation Guide for iSeries</i>	<i>Essbase/400 Installation Guide</i>	<ul style="list-style-type: none">• <i>Essbase Installation Guide</i>• <i>Essbase Integration Services Installation Guide</i>
<i>Administrator's Guide for OLAP on iSeries</i>	<i>Essbase/400 Administrator's Guide</i>	N/A
<i>Administrator's Guide for Builder on iSeries</i>	<i>ShowCase STRATEGY Administrator's Guide</i>	N/A
<i>Upgrade Guide for iSeries</i>	<i>Upgrade Guide</i>	N/A

For a complete list of books, see "About this book" on page v.

Chapter 2. Before you install

This chapter describes the overall installation process and steps to take before installing DB2 OLAP Server for iSeries, Version 8.1

Read the installation checklist

This checklist summarizes the major steps of installing DB2 OLAP Server for iSeries and DB2 OLAP Integration Server for iSeries:

- Verify that you have the hardware and software required by DB2 OLAP Server and DB2 OLAP Integration Server. See Chapter 3, “Hardware and software Requirements” on page 29.
- Determine what features and options you want to install:
 - IBM DB2 OLAP Server Miner is a no-cost add-on feature of DB2 OLAP Server that automatically mines through large volumes of OLAP data and identifies and reports on specific elements that represent the most outstanding, and unexpected, pieces of information. You can expose problems and opportunities that were previously hidden and act on them quickly. For information about installing OLAP Miner, see “Installing DB2 OLAP Server Miner on Windows” on page 59.
 - You can place the installation files for the OLAP client components on a network so that your users can install the OLAP clients on Windows without having a CD-ROM. This option is not available for Builder clients. For more information, see “Setting up client installation from a network file server” on page 60
 - If you choose the **Typical** or **Compact** options during installation, DB2 OLAP Server installs only a subset of the documentation. To install all the documentation, choose **Custom** and select the books that you want.
- If you have an earlier version of DB2 OLAP Server for iSeries on your computer, make sure it is at least Version 7.1 or later. If your installation is earlier, you must upgrade to Version 7.1 before installing Version 8.1.
- If you have an earlier version of DB2 OLAP Server for iSeries on your computer, prepare for migration:
 - Read the *Release Notes* for DB2 OLAP Server for iSeries. The *Release Notes* is available from the information map on Windows: **Start > Programs > IBM DB2 OLAP Server iSeries 8.1 > Documentation**. It includes information and instructions that you need to complete your installation.
 - Read the *Upgrade Guide for iSeries* before you install the product. This book is available only online from:
www.ibm.com/software/data/db2/db2olap/library.html

It includes migration and coexistence instructions for DB2 OLAP Server for iSeries.

- Always back up your Essbase/400 library before installation. Although the servers will install over existing server libraries of version 7.1 or higher, we recommend backing up your library to guard against installation failure. For instructions, see the *Administrator's Guide for OLAP on iSeries*.
- Migrate your Relational Storage Manager (RSM) applications to the Multidimensional Storage Manager (MSM) before installing Version 8.1.

CAUTION:

The RSM is withdrawn from Version 8.1. If you are upgrading from DB2 OLAP Server for iSeries Version 7.1 or earlier, and you have you have applications that use the RSM, you must first migrate them to the MSM in Version 7.1 or you will lose data. See “Migrate from RSM to MSM before upgrading to Version 8.1” on page 25 for more information.

- If you installed the OLAP Miner at the Version 7.1 level, back up the OLAP Miner configuration files for both the server and clients. The OLAP Miner server configuration file is `omserver.cfg` and the file for the clients is `omclient.cfg`.
- Version 7.1 editions of OLAP Miner and Information Catalog Manager (ICM) are not uninstalled automatically. If you have the version 7.1 edition of OLAP Miner installed on your system, or the copy of ICM that was shipped with version 7.1 of DB2 OLAP Server, and you don't want either of these products in your version 8.1 environment, delete them before installing version 8.1. The Version 8.1 installation program does not uninstall these products, even though it removes the shortcuts from the Start menu.
- Install the server components on your iSeries computer. You must install the OLAP (Essbase/400) servers into a library separate from your Warehouse Manager server. See Chapter 4, “Installing Essbase/400 OLAP server components” on page 37 and Chapter 5, “Installing Builder server components” on page 45.

If you plan to install into an existing Essbase/400 library, verify that no users are connected, and stop the server in that library. For instructions on stopping the servers, see the *Administrator's Guide for OLAP on iSeries*.

- Install the client components on your Windows computer. See Chapter 6, “Installing clients on Windows” on page 57.

If you want to make the OLAP Windows clients available on a LAN so your users can download and install them without a CD-ROM, see “Setting up client installation from a network file server” on page 60. You cannot install the Warehouse Manager and Warehouse Builder clients this way.

- If you want to install DB2 OLAP Server Miner, see “Installing DB2 OLAP Server Miner on Windows” on page 59.
- If you installed DB2 OLAP Integration Server, create metadata catalogs. See “OLAP metadata catalog setup” on page 66.
- Set up the sample applications. See Chapter 10, “Installing Essbase/400 sample applications” on page 79.
- Migrate your applications to Version 8.1, if any. See “Migrate from RSM to MSM before upgrading to Version 8.1” and the *Upgrade Guide for iSeries*, which is available from our Web site.

Migrate from RSM to MSM before upgrading to Version 8.1

CAUTION:

Starting in Version 8.1, the Relational Storage Manager (RSM) is withdrawn from DB2 OLAP Server. Applications created using the RSM in previous versions must be migrated to the Multidimensional Storage Manager (MSM) before installing Version 8.1, or you will lose data.

If you are upgrading from an earlier version of DB2 OLAP Server and you have applications that use the Relational Storage Manager (RSM), you must first migrate them to the Multidimensional Storage Manager (MSM) in the earlier version of DB2 OLAP Server before installing Version 8.1, or you will lose data. After migrating your RSM applications to the MSM, you can install Version 8.1, and then migrate your applications to Version 8.1.

The following steps show you how to migrate data from the RSM to the MSM:

1. Start the DB2 OLAP Server.
2. Create an OLAP database in the appropriate application using the Application Manager or a command from the command prompt.
3. Using the Application Manager, click **Start > Open** to open the outline for the database you want to migrate.
4. Determine which dense dimension you want to be the anchor dimension, and remove the RELANCHOR user-defined attribute to that dimension. You must specify an anchor dimension.
5. Click **File > Save As** to save the outline for the new database that you created. If you are prompted to replace or overwrite an existing file, select **Yes**.

The OLAP database is activated and restructured, and the modified outline becomes the outline for the new database. During this process, the cube is stored in a multidimensional database.

6. Use the Application Manager to copy any rules files, calculation scripts, or report scripts from the original database to the migrated one. The rules and scripts are not affected by the differences in the two storage managers. The files exist in the same locations in the file system for both products.
7. Change any settings of the new OLAP database to match the original database.
8. Load data into the newly migrated database, and recalculate it in the same manner as the original. As data is loaded and calculated, it is stored in the multidimensional database.

Check compatibility with earlier versions

It is recommended that you install the Version 8.1 OLAP server component with Version 8.1 client products. There are limitations when you mix different versions of clients and servers in the same environment:

Newer clients with older servers

Using a client that is newer than the server is not recommended or supported.

Older clients with newer servers

Using a client that is older than the server version is not supported. However, some clients of previous releases might work with the Version 8.1 server, although with feature limitations.

Be careful when modifying Version 8.1 databases or outlines with earlier releases of Application Manager. If you save a Version 8.1 database that contains new Version 8.1 features with an earlier release of the Application Manager, the new features may be stripped from the database.

Depending on the service level of an older client, it might not be able to connect with a newer server. Additionally, the newer server might issue messages that are incorrect in the context of the older client.

One client with many servers

If you need to connect a client to several OLAP servers on different machines or operating systems, it is recommended that you make them all the same version and service level. Your client should at least be at the same as the lowest level server. If you experience problems, you might need to use different client machines to match up with the appropriate host, or upgrade all clients and servers to the same service level.

Different versions of clients on the same client system

If you install more than one client component on the same computer, such as Spreadsheet Add-in and Application Manager, make sure that

all of the components are on the same release level. Version 8.1 clients share.dll files that may not work with earlier client components.

IBM components with ShowCase components

Under certain circumstances, IBM supports mixing OLAP and Builder components from IBM with OLAP and Builder components from Showcase. See the *Upgrade Guide for iSeries* for more information.

Chapter 3. Hardware and software Requirements

This chapter describes the hardware and software that you need to run DB2 OLAP Server for iSeries.

Use this chapter to verify that DB2 OLAP Server for iSeries Version 8.1 supports the platforms where you plan to install client and server software. This chapter contains:

- iSeries hardware and software requirements
- Windows hardware and software requirements
- API toolkit hardware and software requirements

DB2 OLAP Integration Server for iSeries Version 8.1 requires, as a minimum, FixPak 8 of DB2 OLAP Server for iSeries Version 7.1. If you want Hybrid Analysis, you need to install DB2 OLAP Server for iSeries Version 8.1.

iSeries hardware and software requirements

OLAP server requirements

This section lists the hardware and software requirements for the OLAP server components of DB2 OLAP Server for iSeries and DB2 OLAP Integration Server for iSeries:

OS/400 requirements

- OS/400 Version 5, Release 1 (V5R1) or later.
- TCP/IP configured and started on the iSeries
- Java Developer Kit:
 - **For OS/400 V5R1:** 5722JV1 Java Developer Kit 1.2 and 1.3
 - **For OS/400 V5R2:** 5722JV1 Java Developer Kit 1.2 and 1.3
- The system value QALWOBJRST must be set to *ALL or *ALWPGMADP.
- If you are upgrading, you must install over version DB2 OLAP Server for iSeries 7.1 (Essbase/400 4.1, 4.5, or 6.2), see the *Upgrade Guide for iSeries* for more information.
- If you have more than one Essbase/400 OLAP server installed on a single iSeries, each server must have its own IP address.

Disk space

Make sure you have enough free disk space to install the servers.

Table 4. Disk space required for server installation

Component	Space Required
Essbase/400 Servers	500 MB
Temporary Space	280 MB (After installation, this space is freed when the installer signs off.)

Backing up existing libraries

You must install the Essbase/400 servers into a library separate from your Warehouse Manager Server. If you plan to install into an existing Essbase/400 library, verify that no users are connected, and stop the server in that library. For instructions on stopping the servers, see the *Administrator's Guide for OLAP on iSeries*.

Always back up your Essbase/400 library before installation. Although the servers will install over existing server libraries of version 7.1 or higher, we recommend backing up your library to guard against installation failure. For instructions, see the *Administrator's Guide for OLAP on iSeries*.

Configuring and starting TCP/IP

You must configure and start iSeries TCP/IP before installing the servers. Someone trained in TCP/IP network administration should ensure proper configuration, use, and maintenance of TCP/IP. For more information on configuring TCP/IP, see the *Administrator's Guide for Builder on iSeries*. Also see your IBM documentation.

Essbase/400 planning tips

- Install Essbase/400 servers into an existing Essbase/400 library of version 4.1 or later (DB2 OLAP Server for iSeries 7.1 or later) or into a new library. Do not install it into an earlier library, an existing user library, or a Warehouse Manager Server library.
- If you are reinstalling an existing Essbase/400 library that is in use, stop the server before installation. For instructions, see the *Administrator's Guide for OLAP on iSeries*.
- The Essbase/400 installation checks the QALWUSRDMN system value. The default setting for the QALWUSRDMN system value is *ALL. If that setting is unacceptable for your environment, before you install Essbase/400 servers, specify the following libraries for QALWUSRDMN: QSYS, QRPLOBJ, QTEMP, the Warehouse Manager Server library (default SCSEVER), and the Essbase/400 Server library (default ESSBASE). These libraries help the servers install correctly and help prevent unpredictable results when you run client

applications. To work with system values, use the WRKSYSVAL command and choose option 2 to change QALWUSRDMN.

- On double-byte systems, if you are using *HEX CCSID value 65535, the language identifier for the job may cause a default CCSID value of 5026 that does not support lowercase English characters. If you must run the job under the *HEX CCSID, change the language ID of the job so OS/400 does not calculate 5026 as the default CCSID. For example, configure the job to use ENP as the language ID. OS/400 will calculate a default CCSID value of 37, which is supported by Essbase/400. For more information, see “Installing and running on a double byte system” on page 52.
- Essbase/400 data load and dimension build operations are most efficient with SQL interface support. The SQL interface support is shipped as part of the base Essbase/400 package; you do not need to install a separate SQL interface module.

Setting up your iSeries to allow SQL loads

At an iSeries command line, type WRKRDBDIRE and press **Enter**. If you do not see an entry for *LOCAL, use option 1 to add a *LOCAL entry.

Builder server requirements

This section lists the hardware and software requirements for the Warehouse Manager and Warehouse Builder server components of DB2 OLAP Server for iSeries and DB2 OLAP Integration Server for iSeries:

OS/400 requirements

The server installation requires and verifies the following requirements:

- OS/400 Version 4, Release 5 (V4R5) or later
- Java Developer Kit (option during OS/400 installation):
 - **For OS/400 V4R5:** 5769JV1 Java Developer Kit 1.3
 - **For OS/400 V5R1:** 5722JV1 Java Developer Kit 1.3
- Toolbox for Java installed:
 - **For OS/400 V4R5:** 5769JC1 Toolbox for Java
 - **For OS/400 V5R1:** 5722JC1 Toolbox for Java
- QShell Interpreter:
 - **For OS/400 V4R5:** 5769SS1 OS/400 QShell Interpreter
 - **For OS/400 V5R1:** 5722SS1 OS/400 QShell Interpreter

S36 files are no longer supported. You must use DB2/400 externally described files.

Disk space

Make sure that you have enough free disk space to install the servers.

Table 5. Disk space required for Builder servers

Component	Space Required
Warehouse Manager Server	280MB
Temporary Space	280MB (After installation, this space is freed when the installer signs off.)

Backing up existing libraries

You must install the Warehouse Manager and Essbase/400 servers in separate installation libraries. If you plan to install in an existing Warehouse Manager Server library, first end the server in that library and verify that no users are connected. For instructions on stopping the servers, see the *Administrator's Guide for Builder on iSeries*.

Always back up your Warehouse Manager and Essbase/400 libraries before installation. Although the servers will install over existing server libraries, we recommend backing up your libraries to guard against installation failure. See the *Administrator's Guide for Builder on iSeries*.

Configuring and starting TCP/IP

You must configure and start iSeries TCP/IP before installing the servers. Someone trained in TCP/IP network administration should ensure proper setup, use, and maintenance of TCP/IP.

For more information on configuring TCP/IP, see the *Administrator's Guide for Builder on iSeries*.

Installation planning tips

- Install Warehouse Manager Server in an existing Warehouse Manager Server library of version 3.0 or later (DB2 OLAP Server for iSeries Builder 1.1), or in a new library. Do not install it in an existing user library or an Essbase/400 library.
- Configure and start iSeries (AS/400) TCP/IP before you enable STRATEGY TCP/IP. You do not have to enable STRATEGY TCP/IP support at installation time. You can enable it later using the CHGSCSVRA command.
- Remember the IP address of your iSeries and the port number assigned to each library. You and your users will need this information to complete ODBC setup.

During Warehouse Manager Server installation, you will be prompted to add the Warehouse Manager library to QALWUSRDMN. The default setting for the QALWUSRDMN system value is *ALL. If that setting is not acceptable for your

environment, before you install Warehouse Manager Server, specify the following libraries for QALWUSRDMN: QSYS, QRPLOBJ, QTEMP, and the Warehouse Manager Server library (default SCSEVER).

These libraries help Warehouse Manager Server install correctly and help prevent unpredictable results when you run client applications. To work with system values, use the iSeries (AS/400) command WRKSYSVAL and choose option 2 to change QALWUSRDMN.

Additional considerations

- Warehouse Manager Server sets *PUBLIC Exclude as the default authority to Warehouse Manager Client and Warehouse Builder. A profile with *ALLOBJ authority can use Warehouse Manager Client to authorize other users to access Warehouse Manager Client or Warehouse Builder.
- The user profile QUSER should have the Maximum Allowed Storage (MAXSTG) parameter set to the default *NOMAX. Otherwise, you may have difficulty connecting through TCP/IP and running large queries in batch.
- ShowCase security applied to a supplemental group (via Warehouse Manager Client) is not supported. However, AS/400 security applied to a supplemental group (via a non-ShowCase interface) *is* supported. iSeries authorities applied to a user profile as a result of supplemental groups will be honored when the user is running applications connected to Warehouse Manager Server. Thus, STRATEGY supports iSeries security against supplemental groups, but it does not recognize STRATEGY security applied to a supplemental group.

J.D. Edwards requirements

Although DB2 OLAP Server for iSeries does not support versions A7.x and A8.x of J.D. Edwards WorldSoftware and version B7.33.x of J.D. Edwards OneWorld Software, STRATEGY 6.5 products do. This section is provided for reference only.

STRATEGY provides user profile, data dictionary, and cost center security support for these WorldSoftware versions. Due to internal changes to the WorldSoftware database structure, user-developed queries or other STRATEGY applications may not be interchangeable across WorldSoftware release boundaries. See your J.D. Edwards documentation for changes to WorldSoftware database structures.

Administrators can now use the SETJDE0WA command to enable STRATEGY to recognize environment information for OneWorld users who do not have an iSeries user profile. For instructions, see the *Administrator's Guide for Builder on iSeries*.

Windows hardware and software requirements

The system requirements of the Windows components are described in Table 6. API client requirements are described in “API toolkit hardware and software requirements” on page 35.

For all types of client installations, you must have administrator authority to your PC registry to install the clients. For more information, see your Windows documentation.

Table 6. Summary of Windows requirements

Component	Requirement
Microsoft Windows for the OLAP clients	<ul style="list-style-type: none">• Windows XP• Windows ME – OLAP clients only, not Builder• Windows 2000• Windows NT 4.0; Service Pack 5 is required by DB2 OLAP Integration Server• Windows 98 Windows NT 3.5.1 is not supported
Microsoft Windows for the Builder clients	<ul style="list-style-type: none">• Windows XP• Windows 2000• Windows NT 4.0, Service Pack 5• Windows 98
Microsoft Windows for the OLAP Miner server	<ul style="list-style-type: none">• Windows XP• Windows 2000• Windows NT 4.0
Microsoft Windows for the OLAP Miner client	<ul style="list-style-type: none">• Windows XP• Windows 2000• Windows NT 4.0, Service Pack 5• Windows 98
Microsoft Windows for the Enterprise Server	Windows NT 4.0, Windows 2000, or Windows XP
Microsoft Excel version	Excel 2000, Excel XP
Lotus 1-2-3 version	Lotus 1-2-3 97, plus 9.7, 9.6 and 9.5
Microprocessor	Pentium or better or equivalent
Display	Resolution of at least 640 x 480 (800 x 600 or more recommended)
RAM	64MB of RAM or the minimum required by your operating system.

Table 6. Summary of Windows requirements (continued)

Component	Requirement
Disk space	<p>Hard Disk Space 240MB or greater available hard disk space for the following applications (space needed will vary depending on components selected):</p> <ul style="list-style-type: none"> • Warehouse Manager Client • Warehouse Builder • Essbase Application Manager • Essbase Spreadsheet Add-in for Lotus Millennium or later • Essbase Spreadsheet Add-in for Excel 97 and Excel 2000 • Enterprise Server (requires Windows NT, Windows 2000, or Windows XP) • Sample files
Network protocol	TCP/IP

API toolkit hardware and software requirements

The system requirements of the API toolkit development platforms on Windows platforms are described in Table 7.

Table 7. API toolkit development platforms

Platform	Supported versions
Windows version	<ul style="list-style-type: none"> • Windows XP on Pentium or better, or equivalent computers • Windows ME on Pentium or better, or equivalent computers • Windows NT 4.0 on Pentium or better, or equivalent computers • Windows 2000 on Pentium or better, or equivalent computers
RAM	<ul style="list-style-type: none"> • 64 MB RAM (128 or more MB recommended) for Windows 2000, Windows NT, or Windows 98 <p>Swap space: At least two times the amount of physical memory is recommended when physical memory is less than .5 GB. Contact your system administrator or hardware vendor for optimum swap configuration.</p>
Disk Space	<ul style="list-style-type: none"> • 15 MB for 32-bit DB2 OLAP Server API on Windows XP, Windows 2000, Windows NT, on Pentium

Chapter 4. Installing Essbase/400 OLAP server components

This chapter describes how to install the Essbase/400 OLAP server components of DB2 OLAP Server for iSeries. For information about installing the Warehouse Manager and Warehouse Builder server components, see Chapter 5, “Installing Builder server components” on page 45.

Before you install

Before you begin, make sure your installation has all required software. If you are installing on a system with Double-Byte Character Set (DBCS) support, see “Installing and running on a double-byte system” on page 42.

During installation, the following server components will be installed by default:

- **Essbase/400 OLAP Server**
- **Essbase/400 Integration Services (EIS)**. EIS uses port 3388 by default.

Beginning server installation

1. Load the DB2 OLAP Server for iSeries Server CD into the iSeries CD drive.
2. Log on with QSECOFR or equivalent authority (*ALLOBJ, *IOSYSCFG, *SAVSYS, *JOBCTL, and *SECADM special authorities are needed). **The profile you use must be a permanent profile that does not belong to any groups or supplemental groups.** If it is removed from the system, you may have to reinstall the server.
3. Type LODRUN and press F4.
4. You will be prompted for a device name. Choose *OPT or the name of your optical device.
5. You will be prompted for a path name. Accept the default path '/'.
6. Follow the screen instructions and use this chapter to complete the installation.

Installation options

Each heading in the following sections matches a screen in the server installation. The installation displays recommended values for the options. If you are upgrading Essbase/400 server software, existing values are retrieved.

Warehouse Manager Server

- This server supports Warehouse Builder and Warehouse Manager Client.
- You cannot install Warehouse Manager Server and Essbase/400 Server into the same server library.

Essbase/400 Server

- This server supports Essbase/400 Application Manager, Microsoft Excel and Lotus 1-2-3 Essbase/400 add-ins, and other Essbase/400-compliant PC software.
- For information about requirements for Essbase/400 OLAP servers, see Chapter 4, “Installing Essbase/400 OLAP server components” on page 37.

Essbase/400 Integration Services (EIS)

The server component of DB2 OLAP Integration Server (Essbase/400 Integration Services, or EIS) will be installed into the same library as the Essbase/400 OLAP server. EIS uses port 3388 by default.

National Language Support

1. Specify the primary and secondary languages for the product. Choose ENU for English lowercase or ENP for English uppercase. Essbase/400 commands use the primary language.

Essbase/400 installation options

This section describes the Essbase/400 server components installation. The recommended values are displayed. Change options as required.

Essbase/400 server installation library

1. Specify the library in which to install Essbase/400 server components. The screen displays current Essbase/400 libraries. Choose a library to upgrade, or press F6 to install a new library. The library you select to upgrade cannot be running.

The default library name is **ESSBASE**. In addition, the root Integrated File System (IFS) path used for the installation is based on the specified library name (the default is **/ESSBASE**).

Auxiliary Storage Pool ID. If you add a library, you are prompted to enter the ASP ID. Accept the default or enter the number of the ASP from which

the system should allocate storage for the Essbase/400 installation library. IFS information installed with Essbase/400 is placed in the ASP.

Essbase/400 server

1. **EBCDIC CCSID.** Essbase/400 uses the EBCDIC CCSID to represent character data when interacting with DB2/400 and OS/400. The recommended value for your system is displayed. Essbase/400 converts all character data to the EBCDIC CCSID when:
 - Using an Essbase/400 OS/400 interface or command (these interfaces include the Essbase/400 servers, ESSCMD command interface, MaxL command interface, and Warehouse Builder run-time interfaces)
 - Loading data using SQL and referencing iSeries physical or logical files
 - Writing messages to the OS/400 job log

You can specify only one EBCDIC CCSID for each Essbase/400 OLAP Server. This server supports single-byte and double-byte CCSIDs. If your environment requires double-byte character support, see “Installing and running on a double-byte system” on page 42.

If you have Warehouse Manager Server installed, the EBCDIC CCSID for Warehouse Manager Server must be the same as the EBCDIC CCSID for all Essbase/400 servers it uses.

2. **ASCII CCSID.** Essbase/400 uses the ASCII CCSID to represent character data when interacting with Essbase/400 client software (for example: Analyzer, Excel add-ins). The recommended ASCII CCSID value for your system is displayed.

The installation calculates this value based on the EBCDIC CCSID value. For example, if the EBCDIC CCSID is 37, the matching ASCII CCSID is 1252, which supports Western European languages (English, French, German, Italian). For the recommended EBCDIC and ASCII CCSID pairs, see Table 8 on page 40.

You can specify only one ASCII CCSID for each Essbase/400 OLAP Server. Therefore, all PC clients that access the server must use the same ASCII CCSID. The ASCII CCSID should be supported by Windows (ANSI code). If you do not use an ANSI-equivalent CCSID, characters sent from the server may appear incorrectly.

Essbase/400 converts all character data to the ASCII CCSID when:

- Communicating with a PC client (for example: Analyzer, Excel add-ins)
- Saving and loading Essbase/400 outlines (*.otl*), load and build rule files (*.rul*), and calculation script files (*.csc*) to the Integrated File System (IFS)

Note: For general information about iSeries CCSIDs, see your IBM documentation.

3. **Server Threads.** Enter the maximum number of server threads that can be created by Essbase/400 when an application is started. The default is 5. This value should be the average number of concurrent report requests expected for each application.
4. **IP Address.** Enter the IP address the server should use to listen for incoming client requests. You must enter a value for this option. If you do not know the value, enter *DEFER. However, before using the server, you must specify an IP address using the CHGESSENV command. The value must be unique for each Essbase/400 library.

Notes:

- a. If you are installing over an existing library, the current IP address is displayed.
- b. To display the IP addresses configured on your iSeries, enter the command CFGTCP and choose option 1.
- c. Enter *ALL if you have only one Essbase/400 library and it listens for incoming client TCP/IP requests using all IP interfaces configured on the iSeries. When your iSeries is configured with multiple TCP/IP interfaces connected to different IP sub-networks, specifying *ALL prevents you from running multiple copies of Essbase/400 on a single iSeries.

Changing Essbase/400 options after installation

To change the Product Serial Number:

Use the CHGESSENV command.

To change CCSID Values:

See the *Administrator's Guide for OLAP on iSeries*.

To change Server Threads:

Use the CHGESSENV command.

To change the IP Address:

Use the CHGESSENV command. The value must be unique for each Essbase/400 library.

CCSID pairs

The following EBCDIC and ASCII CCSID pairs are recommended for Warehouse Manager Server and Essbase/400 OLAP Server. For details on Essbase/400 CCSIDs, see "Essbase/400 server" on page 39.

Table 8. Recommended Essbase/400 EBCDIC & ASCII CCSID Pairs

Country, Geographic Region, or Language Group	EBCDIC CCSID	Matching ASCII CCSID
United States/Canada/Brazil	37, 1140	1252
Multi-national #1	256	1252
Germany/Austria	273, 1141	1252

Table 8. Recommended Essbase/400 EBCDIC & ASCII CCSID Pairs (continued)

Country, Geographic Region, or Language Group	EBCDIC CCSID	Matching ASCII CCSID
Denmark/Norway	277, 1142	1252
Finland/Sweden	278, 1143	1252
Italy	280, 1144	1252
Spain/Latin America	284, 1145	1252
United Kingdom	285, 1146	1252
France	297, 1147	1252
Greece	423, 875	1253
Multi-national #5	500, 1148	1252
Korea (single-byte)	833	1040, 1088
Korea (double-byte)	933	944, 949
Chinese Simplified (single-byte)	836	1115
Chinese Simplified (double-byte)	935	1381
Chinese Traditional (double-byte)	937	938
Chinese Traditional (single-byte)	37, 28709	904
Japan (double-byte)	939, 5035	932, 943
Japan (single-byte)	1027	932
Thailand	838, 9030	874
Central Europe (Bosnia, Croatia, Czech Republic, Hungary, etc.)	870	1250
Iceland	871, 1149	1252
Cyrillic Multinational	880, 1025	1251
Baltics	1112, 1122	1250
Hebrew	62235	1255
Arabic (Essbase only. Not yet supported in Analyzer.)	62224	1256

Starting Essbase/400

If you did not provide a serial number or IP address, you will not see the Starting Essbase screen.

1. Enter **Y** to start the Essbase/400 OLAP Server if the following three statements are true:
 - You are installing Essbase/400 into a new library.
 - You want to initialize the Essbase/400 security file.

- You did not choose *DEFER for the product serial number and IP address.

Note: The only time the Essbase/400 OLAP Server is started *automatically* is if you choose Y at this prompt.

2. Enter and remember the following security information:

Company Name

Enter the name of your company. This information will be displayed in the registration message when you start Essbase. The name must be at least three characters long.

User ID

Enter the Essbase administrator user ID, which is needed for security administration and ending the server. This ID is not the OS/400 user ID. The Essbase user ID must be at least three characters long. Write down your user ID.

Password

Enter the password for the Essbase administrator user ID. The password must be at least six characters long and different from the user ID. Write down your password.

Starting Essbase after installation

For information on starting the servers, see the *Administrator's Guide for OLAP on iSeries*.

Finalizing Essbase/400 server installation options

You are finished setting Essbase/400 installation options. If you deferred any options, configure them later with the CHGESSENV command.

To start the installation, press **Enter**.

Installing and running on a double-byte system

This section applies to countries using a Double-Byte Character Set (DBCS) to represent character data (for example, Japan).

Using the correct CCSID

If you are installing Essbase/400 on a system with DBCS support, use a CCSID that supports lowercase English characters or 65535 (*HEX). If you set the CCSID value to 65535, the iSeries chooses a default CCSID for the job based on the job's language identifier. However, make sure the default CCSID supports lowercase English characters (ENU).

For example, if the job CCSID is 65535 (*HEX) with a language identifier of JPN, 5026 becomes the default CCSID. But for Essbase/400, 5026 does not support standard lowercase English characters and is not supported for Essbase/400 installation or operation.

If you must run an Essbase job under a *HEX CCSID, change the job's language ID so 5026 is not the default CCSID. For example, using ENP (English uppercase) will calculate a default CCSID of 37.

Using the correct EBCDIC CCSID

The CCSID of the iSeries job running the Essbase/400 OLAP Server or command interface must be the same as the Essbase/400 EBCDIC CCSID or 65535 (*HEX). Otherwise, you may get unpredictable results.

Any job that performs Essbase/400 operations (for example: starting the server, ESSCMD, MaxL, Warehouse Builder) must also use the same EBCDIC CCSID that Essbase/400 uses or 65535 (*HEX). Use 65535 only when data stored in DB2/400 tables for dimension building or data loading have the wrong CCSID for the data stored in them. When using 65535 for the Essbase/400 OLAP Server job CCSID, the data contained in the DB2 files must use the server EBCDIC CCSID. See the *Administrator's Guide for OLAP on iSeries*.

To change CCSIDs after installation, see the *Administrator's Guide for OLAP on iSeries*.

Changing CCSIDs for profiles and jobs

The CCSID can be changed once for each OS/400 user by changing the OS/400 user profile, or by changing the current job each time a user signs on.

Changing the CCSID for a user profile

If you have *SEC0FR user class, use the following command. The *ccsidvalue* should be a CCSID that supports lowercase English characters or 65535 (*HEX).

```
CHGUSRPRF USRPRF(userid) CCSID(ccsidvalue)
```

After running the command, the user specified by *userid* must sign off the system and back on.

Changing the CCSID for a job

Use the following command each time you sign on to the system.

```
CHGJOB JOB(*) CCSID(ccsidvalue)
```

Chapter 5. Installing Builder server components

This chapter describes how to install the Warehouse Manager and Warehouse Builder server components of DB2 OLAP Server for iSeries Builder. For information about installing the OLAP server components, see Chapter 4, “Installing Essbase/400 OLAP server components” on page 37.

Before you install

- Read the checklist in Chapter 2, “Before you install” on page 23.
- Always save server information with the SAVSRVRINF command before you install over previous versions of Builder in DB2 OLAP Server for iSeries 1.1 (STRATEGY 3.0 or later). See the *Administrator’s Guide for Builder on iSeries* for more information.
- Read Chapter 3, “Hardware and software Requirements” on page 29 for all prerequisites. If you are installing on a system with Double Byte Character Set (DBCS) support, see “Installing and running on a double byte system” on page 52.
- When you install the servers for Warehouse Manager and Warehouse Builder, the installation selects a TCP/IP port number for you. If you want to select your own port number, use the WRKSRVTBLE command before installing to find an available number.

Beginning installation

1. Save your current server information with the SAVSRVRINF command. See the *Administrator’s Guide for Builder on iSeries*.
2. Load the DB2 OLAP Server for iSeries Server CD into the iSeries CD drive.
3. Log on with QSECOFR or equivalent authority (*ALLOBJ, *IOSYSCFG, *SAVSYS, *JOBCTL, and *SECADM special authorities are needed). **The profile you use must be a permanent profile that does not belong to any groups or supplemental groups.** If it is removed from the system, you may have to reinstall the server.
4. Type LODRUN and press F4.
5. You will be prompted for a device name. Choose *OPT or the name of your optical device.
6. You will be prompted for a path name. Accept the default path ‘/’.
7. Follow the screen instructions and use this chapter to complete the installation.

Initial installation options

The options you choose in the initial installation screens determine the screens, options, and order of your installation. Each heading in the following sections matches a screen in the server installation.

The installation displays recommended values for the options. If you are upgrading STRATEGY server software, existing values are retrieved.

Warehouse Manager Server

- This server supports Warehouse Builder and Warehouse Manager Client.
- You cannot install Warehouse Manager Server and Essbase/400 Server into the same server library.

Essbase/400 Server

- This server supports Essbase/400 Application Manager, Microsoft Excel and Lotus 1-2-3 Essbase/400 add-ins, and other Essbase/400-compliant PC software.
- For information about requirements for Essbase/400 OLAP servers, see Chapter 4, “Installing Essbase/400 OLAP server components” on page 37.

Essbase/400 Integration Services (EIS)

The server component of DB2 OLAP Integration Server (Essbase/400 Integration Services, or EIS) will be installed into the same library as the Essbase/400 OLAP server. EIS uses port 3388 by default.

Table 9 lists the STRATEGY software and the server it communicates with. Only some of these are part of the IBM product.

Table 9. STRATEGY PC Software

PC Software	Purpose	Server*
Analyzer	Data analysis	ESS, WM
Analyzer for the Web	Data analysis via an intranet or extranet	ESS, WM
Query	Relational and multidimensional database query tool	WM, ESS
Report Writer	Relational and multidimensional database report writer	WM, ESS
Enterprise Server	Enterprise Reporting	WM
Warehouse Builder	Data cleansing, transformation, and distribution	WM, ESS
Warehouse Manager Client	Database administration	WM

Table 9. STRATEGY PC Software (continued)

PC Software	Purpose	Server*
Essbase/400 Application Manager	Multidimensional database administration	ESS
Essbase/400 Excel add-ins	Data analysis	ESS
Essbase/400 Lotus 1-2-3 Millennium add-ins	Data analysis	ESS

*WM refers to Warehouse Manager Server. ESS refers to Essbase/400 Server.

National Language Support

Specify the primary and secondary languages for the STRATEGY products. Choose ENU for English lowercase or ENP for English uppercase. STRATEGY commands use the primary language.

If you are installing Warehouse Manager Server, continue with the next section. Otherwise, skip to “Essbase/400 installation options” on page 38.

Warehouse Manager server installation options

This section describes the Warehouse Manager Server installation. Each heading matches a screen in the installation. For the Essbase/400 Server installation, see “Essbase/400 installation options” on page 38.

Warehouse Manager server library

Specify the library in which to install Warehouse Manager Server. The screen displays current Warehouse Manager Server libraries. Choose a library to upgrade, or press F6 to install a new library.

The default library name is OLAPBLDSVR. In addition, the root Integrated File System (IFS) path used for the installation is based on the specified library name (the default is /OLAPBLDSVR).

Auxiliary Storage Pool (ASP) ID

If you add a library, you are prompted to enter the ASP ID. Accept the default or enter the number of the ASP from which the system should allocate storage for the Warehouse Manager Server library. (IFS information installed with Warehouse Manager Server is always placed in the system ASP.)

To change the library after installation

To change the library, you must reinstall it. Before you install a new library, save the catalog files from the old library using the SAVSRVRINF command and restore into the new library using the RSTSRVRINF command. See the *Administrator's Guide for Builder on iSeries* for more information.

Warehouse Manager TCP/IP port configuration

TCP/IP communications runs STRATEGY and Essbase/400 client applications, and the installation requires a valid TCP/IP port number. If you are installing over Version 7.1 (STRATEGY 4.x) and you currently have only one port, accept the default port number (43419 or the next available number) or enter a port number in the range of 6000-65535, using the iSeries command WRKSRVTBLE to find available port numbers.

Note: Record your TCP/IP port number. You will need it when installing the client software.

To change the TCP/IP port number after installation

Note: The CHGSCSVRA command will stop the server, disconnect all current users, and stop current jobs. It will also start the server after changes have been made.

1. Add the server library name to your library list.
2. Type WRKSRVTBLE to determine if the port you want to use is available.
3. Type CHGSCSVRA, and add the new port number, subsystem, and library.

Note: If you retain both ports from a STRATEGY 3.x or 4.x release, you can configure the second port with the CHGSCSVRA parameter SecondaryTCPIPPort. For more on CHGSCSVRA settings for Analyzer functionality, see the *Administrator's Guide for Builder on iSeries*

Work management and CCSID configuration

Specify the following options for Warehouse Manager Server. If you will not use Analyzer-related applications, accept the defaults for the Analyzer OLAP options.

Relational subsystem and library

Warehouse Manager TCP/IP jobs will run in the relational subsystem. Your current subsystem, as determined by the QCTLSBSD system value, is displayed and should not be changed.

Note: If the controlling subsystem is QBASE, then QBASE is the default. If the controlling subsystem is QCTL, then QCMN is the default. To find the controlling subsystem, type DSPSYSVAL SYSVAL(QCTLSBSD).

The subsystem description resides in the specified library. QSYS is the default.

To change CCSIDs after installation

To change the server CCSID, reinstall Warehouse Manager Server. To change the client CCSID, see the *Administrator's Guide for Builder on iSeries*.

CCSID Pairs

The following EBCDIC and ASCII CCSID pairs are recommended for Warehouse Manager Server and Essbase/400 Server. For details on Essbase/400 CCSIDs, see “Essbase/400 server” on page 39.

Table 10. Recommended Warehouse Manager Server and Essbase/400 EBCDIC & ASCII CCSID Pairs

Country, Geographic Region, or Language Group	EBCDIC CCSID	Matching ASCII CCSID
United States/Canada/Brazil	37, 1140	1252
Multi-national #1	256	1252
Germany/Austria	273, 1141	1252
Denmark/Norway	277, 1142	1252
Finland/Sweden	278, 1143	1252
Italy	280, 1144	1252
Spain/Latin America	284, 1145	1252
United Kingdom	285, 1146	1252
France	297, 1147	1252
Greece	423, 875	1253
Multi-national #5	500, 1148	1252
Korea (single-byte)	833	1040, 1088
Korea (double-byte)	933	944, 949
Chinese Simplified (single-byte)	836	1115
Chinese Simplified (double-byte)	935	1381
Chinese Traditional (double-byte)	937	938
Chinese Traditional (single-byte)	37, 28709	904
Japan (double-byte)	939, 5035	932, 943
Japan (single-byte)	1027	932
Thailand	838, 9030	874
Central Europe (Bosnia, Croatia, Czech Republic, Hungary, etc.)	870	1250
Iceland	871, 1149	1252
Cyrillic Multinational	880, 1025	1251
Baltics	1112, 1122	1250
Hebrew	62235	1255
Arabic (Essbase only. Not yet supported in Analyzer.)	62224	1256

Schedule Jar file compile

To reduce server start-up time, the .jar files installed in your Integrated File System (IFS) must be compiled before you start the server. Because the compile may affect system performance, you can compile immediately after installation or enter a date and time to compile.

If you enter *IMMED, the date parameter will be ignored and the jar files will compile immediately after installation. If you enter a time and date, the files will compile at the time and date you specify.

Important: If you are migrating Enterprise Reporting objects, we recommend scheduling the .jar files to compile after the migration. For best performance, choose *DEFER now and use the CMPSCJAR command to compile the .jar files after migration. Or schedule the compile during off-peak hours after migration.

Compile time may vary from one to two hours depending on system resources and will be shorter if the Warehouse Manager Server is not running.

To compile Jar files after installation

At an iSeries command line, run the CMPSCJAR command. You should also run the command after you apply PTFs to the Java Toolbox.

Security settings

Specify whether your Warehouse Manager users will have access to all libraries (*ALL) on the iSeries or only libraries and files in their library list (*LIBL). This setting applies only to STRATEGY applications using Warehouse Manager Server.

To change security settings after installation

1. Open Warehouse Manager Client.
2. From the menus, choose:

```
Manage
  Server Options
    Security
```

You can also use the iSeries commands SETLIBACC and CHGSRVRDFT located in the Warehouse Manager Server library. SETLIBACC determines library access. CHGSRVRDFT defines default server security options. To run these commands, first add the Warehouse Manager Server library (for example, OLAPBLDSVR) to your library list.

Storage CCSID configuration

The storage CCSID value specifies the coded character set identifier that stores library, file, and column alias names. It also stores data views, Warehouse Builder distribution sets and definitions, and shared query information.

This value must be a STRATEGY-supported, single-byte EBCDIC CCSID. Enter your five-digit CCSID value, or use *CALC or *HEX to let the installation calculate it based on your iSeries (AS/400) system settings. Table 11 shows the EBCDIC CCSIDs supported for the Warehouse Manager storage CCSID value.

If you are installing on a double-byte system, use 65535 (*HEX). See “Installing and running on a double byte system” on page 52.

Table 11. Supported Warehouse Manager Storage EBCDIC CCSIDs

Country, Geographic Region, or Language Group	EBCDIC CCSID
United States/Canada/Brazil	37
Multi-national #1	256
Germany/Austria	273
Denmark/Norway	277
Finland/Sweden	278
Italy	280
Spain/Latin America	284
United Kingdom	285
France	297
Greece	423, 875
Hebrew	62235
Multi-national #5	500
Korea	833
Chinese Simplified	836
Chinese Traditional	37, 28709
Thailand	838
Central Europe (Bosnia, Croatia, Czech Republic, Hungary, etc.)	870
Iceland	871
Cyrillic Multinational	880, 1025
Japan	1027
Iran	1097
Hexadecimal (*HEX)	65535

Note: For general information about iSeries CCSIDs, including complete language and country settings, see the *AS/400 National Language Support* manual.

To change storage CCSIDs after installation

Reinstall Warehouse Manager Server and specify a different CCSID.

Warehouse Builder configuration

Warehouse Builder subsystem and library

Warehouse Builder distribution jobs run in the Warehouse Builder Subsystem. Your current subsystem, as determined by the QCTLSBSD system value, is displayed and should not be changed. You should use the same subsystem as your TCP/IP subsystem.

If the controlling subsystem is QBASE, then QBASE is the default. If the controlling subsystem is QCTL, then QCMN is the default. To find the controlling subsystem, type `DSPSYSVAL SYSVAL(QCTLSBSD)`.

The current subsystem description resides in the specified Library.

Sample database

The STRATEGY sample database, SCSAMPLE45, will be installed in the SCSAMPLE45 library. You will use this database in the STRATEGY tutorials. For more information about the database, see the *Administrator's Guide for Builder on iSeries*.

You can install or reinstall the sample database with the `RSTSMPLB` command.

Finalizing warehouse manager server installation options

At this point, you are finished setting Warehouse Manager Server installation options. If you chose to install Essbase/400, the installation options will follow. If not, the Warehouse Manager installation will begin.

Installing and running on a double byte system

This section applies to countries using a Double Byte Character Set (DBCS) to represent character data (for example, Japan).

Using the correct CCSID

If you are installing STRATEGY on a system with DBCS support, use a CCSID that supports lowercase English characters or 65535 (*HEX). If you set the CCSID value to 65535, the iSeries chooses a default CCSID for the job based on the job's language identifier. However, make sure the default CCSID supports lowercase English characters (ENU).

For example, if the job CCSID is 65535 (*HEX) with a language identifier of JPN, 5026 becomes the default CCSID. But for Essbase/400, 5026 does not support standard lowercase English characters and is not supported for Essbase/400 installation or operation.

If you must run an Essbase job under a *HEX CCSID, change the language ID of the job so 5026 is not the default CCSID. For example, using ENP (English uppercase) will calculate a default CCSID of 37.

Using the correct EBCDIC CCSID

The CCSID of the iSeries job running the Essbase/400 Server or command interface must be the same as the Essbase/400 EBCDIC CCSID or 65535 (*HEX). Otherwise, you may get unpredictable results.

Any job that performs Essbase/400 operations (for example: starts the server, ESSCMD, MaxL, Warehouse Builder) must also use the same EBCDIC CCSID that Essbase/400 uses or 65535 (*HEX).

Use 65535 only when data stored in DB2/400 tables for dimension building or data loading have the wrong CCSID for the data stored in them.

When using 65535 for the Essbase/400 Server job CCSID, the data contained in the DB2 files must use the server EBCDIC CCSID. See the *Administrator's Guide for Builder on iSeries*.

To change CCSIDs after Essbase/400 is installed, see the *Administrator's Guide for Builder on iSeries*.

Changing CCSIDs for profiles and jobs

The CCSID can be changed once for each OS/400 user by changing the OS/400 user profile, or by changing the current job each time a user signs on.

To change the CCSID for a user profile

If you have *SEC0FR authority, use the following command. The *ccsidvalue* should be a CCSID that supports lowercase English characters or 65535 (*HEX).

```
CHGUSRPRF USRPRF(userid) CCSID(ccsidvalue)
```

After the command is run, the user specified by *userid* should sign off the system and back on.

To change the CCSID for a job

Use the following command each time you sign on to the system.

```
CHGJOB JOB(*) CCSID(ccsidvalue)
```

Setting up your PC for double byte character data

If you are using a Double Byte Character Set (DBCS) to represent character data (for example, Japanese or Chinese), use these steps to set up your PCs.

1. Install Client Access version V4R5 or later from your iSeries. The path is:
/qibm/ProdData/CA400/Express/Install/Image

2. Install STRATEGY using “Before you install” on page 45 and Chapter 4, “Installing Essbase/400 OLAP server components” on page 37.
3. Configure a data source using Chapter 8, “Setting Up an ODBC data source for Builder” on page 71.
4. To open the **AS/400 Test Connection**, from the Windows **Start** menu, choose:

Programs

IBM DB2 OLAP Server 8.1 - iSeries
DB2 OLAP Server Builder Clients
iSeries Test Connection

5. Highlight your data source, and click **Setup**.
This opens the **ShowCase ODBC Setup** dialog box.
6. Click the **Translation** tab, and check the **Convert OEM to ANSI Characters** box, as in Figure 1.

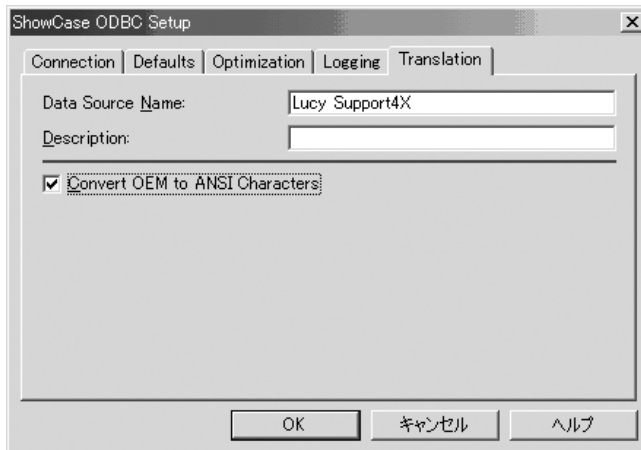


Figure 1. Convert OEM to ANSI characters

7. Click **OK**.
8. Click **Global Settings**.
This opens the **Settings** dialog box.
9. Click the **Double Byte** tab, and choose the correct translation for your data, as shown in Figure 2.



Figure 2. Choosing the correct translation

10. When you open STRATEGY for the first time, you will be prompted to log on to the iSeries with Client Access to load EBCDIC to ASCII translation tables. See Figure 3.

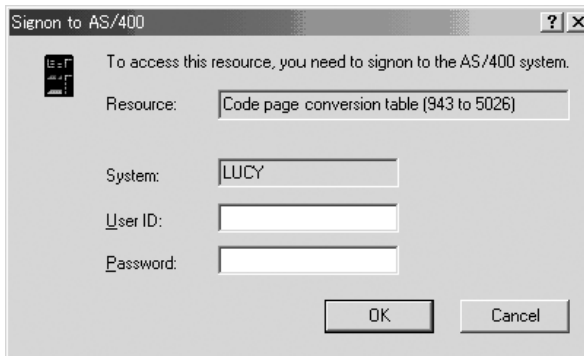


Figure 3. Sign on to load translation tables

After this initial connection, the tables will exist on your PC.

Chapter 6. Installing clients on Windows

This chapter tells you how to install the Windows client components for DB2 OLAP Server for iSeries, DB2 OLAP Integration Server for iSeries, and DB2 OLAP Server for iSeries Builder.

Installing OLAP, EIS, and Builder clients

Make sure you consider the following important changes in how clients are installed in version 8.1.

Do not install in a directory whose name includes blanks

If you install Version 8.1 on a Windows computer on which you have an earlier version of DB2 OLAP Server, and if you accepted the default installation directory name when you installed the earlier version, then some functions in version 8.1 might fail. In earlier versions, the default installation directory name contained blanks, which causes the failure. Additionally, other functions might produce unpredictable results if the name of the installation directory contains underscores, dashes, or other special characters. If you are installing DB2 OLAP Server version 8.1 as a first-time installation, you are prompted for an installation directory. The new default directory for version 8.1 has the correct naming scheme, but if you choose to store DB2 OLAP Server in a different directory, it is strongly recommended that your directory name does not contain blanks, underscores, dashes, or other special characters.

If you install Version 8.1 into a different directory than your Version 7.1 installation, remember to update your environment settings to point to the new installation directory.

The Relational Storage Manager is not available in version 8.1

The Relational Storage Manager (RSM) is withdrawn from Version 8.1. If you are upgrading from DB2 OLAP Server Version 7.1 or prior, and you have applications that use the RSM, you must migrate them to the Multidimensional Storage Manager (MSM) before installing DB2 OLAP Server Version 8.1, or you will lose data. See “Migrate from RSM to MSM before upgrading to Version 8.1” on page 25 for more information.

During installation you are asked what edition and options you purchased. This information is used to build a license key for DB2 OLAP Server.

Installation steps

To install and set up DB2 OLAP Server on Windows:

1. Insert the DB2 OLAP Server CD into the CD-ROM drive to start the installation program. If the program does not start automatically, you can run `setup.exe` from the root directory.
2. Click **Next**. To cancel installation at any time, click **Cancel**. To display Help at any time, press F1.
3. Press **Accept** to accept the Software License Agreement.
4. On the Select Installation Options panel, make sure **Client** and **iSeries Enabled** are selected, and click **Next**.
5. Select the language you want and click **Next**.
6. On the Choose Destination Location panel, enter the drive and directory where you would like to install the clients for DB2 OLAP Server for iSeries, and click **Next**. If you are doing a network installation of the OLAP clients, network drives will also be displayed in the Drive drop-down menu. IBM strongly recommends that you install the clients for DB2 OLAP Server for iSeries into a new separate directory; do not install into directory in which a product other than DB2 OLAP Server for iSeries has been installed.
7. On the Select Installation Type panel, you must select **Custom** to enable the EIS, Warehouse Manager, and Warehouse Builder clients, as well as other client components and documentation, to be installed.
8. On the Select Components panel, select the clients and documentation you want to install. Open the tree views for **Client and Server Documentation** and **Integration Server Documents** to see which books you can install.
9. Enter a name for the folder into which the clients are installed, or accept the default. Click **Next**.
10. Click next to start copying the files to your computer. You might need to restart your computer after the files are copied.

Network Protocol Files

Network protocol files implement the TCP/IP protocol that you select when you install OLAP client software. The network protocol file for server software is `essnet.dll`. Additionally, the client software (for example, Essbase Spreadsheet Add-in) is installed with a separate `essnet.dll`. Network protocol files reside in the `bin` directory with the DB2 OLAP Server program files.

Installing DB2 OLAP Server Miner on Windows

DB2 OLAP Server Miner, also called OLAP Miner, is a new no-charge feature of DB2 OLAP Server that brings together IBM's data mining and OLAP technologies. OLAP Miner applies a sophisticated data mining algorithm called Deviation Detection to the data stored in OLAP cubes. The algorithm scans slices of cubes, identifying values that deviate from the norm. The results of a data mining run can be used by the business analyst to focus on the interesting or surprising values in context of the source OLAP cube. You can still use the usual slice, dice, and drill operations to explore the data, but now you let the values discovered by OLAP Miner drive your analysis. See the *OLAP Miner User's Guide* for information about what OLAP Miner can do for you.

OLAP Miner requires the DB2 OLAP Server API to be installed on the Windows computer on which you install the OLAP Miner server. Java is a requirement for OLAP Miner.

OLAP Miner has server and client components that run on Windows only. You can install the OLAP Miner client on the same computer as the OLAP Miner server or on another computer.

To install OLAP Miner on Windows:

1. Insert the DB2 OLAP Server Client installation CD into your CD-ROM drive.
2. Find the OLAP_Miner\win32 directory on the CD.
3. Run the setup.exe file to begin the installation program.
4. The installation program prompts you for the following information:
 - If you are installing the OLAP Miner server, you need
 - The alias name of the OLAP server you will examine with OLAP Miner.
 - The host address (or IP address) of the server component of DB2 OLAP Server for iSeries. The address is added to the bin\omclient.cfg file.
 - If you are installing the OLAP Miner client, you need the host address (or IP address) of the Windows computer on which the OLAP Miner server is installed.

You can set up a silent installation so your users do not have to type responses to the prompts of the installation program. To set up a silent installation:

1. Record your responses to the OLAP Miner installation program prompts. To record your responses, run the following command:
setup.exe -r

This will record your responses to the installation prompts into a file called `setup.iss`, which is stored in the main Windows directory. On Windows NT and Windows 2000 the file is stored in `c:\WINNT`, and on Windows 98, the file is stored in `C:\Windows`.

2. Copy the `setup.iss` file into a temporary directory on the computer on which you are installing OLAP Miner.
3. To run the silent installation, run the `setup.exe` command using the `-s` parameter (for silent installation) and the `-f1` parameter (which indicates the location of the `setup.iss` file). For example, if you stored the `setup.iss` file in the `C:\TEMP` directory, enter the following command:
`setup.exe -s -f1C:\TEMP\setup.iss`

Setting up client installation from a network file server

DB2 OLAP Server Version 8.1 offers your enterprise the option of installing the OLAP client components from a shared network file server. The alternative is to install them locally, one at a time, directly from the CD.

You cannot install Warehouse Manager or Warehouse Builder client components from a network. Only OLAP clients are supported by this option.

Installing OLAP clients over a network has the following advantages over locally installed clients:

- The users in your enterprise can all use the same level of client.
- You can deploy clients to larger numbers of users at the same time, which is often faster than passing a CD from user to user.
- You can apply FixPaks to the common client code and have your users upgrade together.
- The network clients take up less disk space than locally installed clients.

Although network clients offer the same function as locally installed clients, there are important differences between them:

Locally installed clients

Locally installed clients are installed directly from the CD. They include all the client executable files. The installation program adds Start menu shortcuts, updates the Windows registry, and updates environment variables. Because client operations are completely local and do not load or interpret code over a network, local clients might offer better performance than network clients.

Network clients

Network clients are installed from a file server. They do not include any executable files, and therefore take up less room and store fewer files than locally installed clients. The installation program adds **Start**

menu shortcuts, updates the Windows registry, and updates environment variables. Network clients all use the same language and connect to the server using the same network protocol.

The network client feature installs clients of DB2 OLAP Server and DB2 OLAP Integration Server. OLAP Miner clients are not enabled for network installation; they must be installed directly from the CD.

There are two major steps in setting up a network installation, and they are performed by two different users:

1. The system administrator runs the DB2 OLAP Server installation program to load the client image onto the file server. The computer from which the system administrator does this is called the image owner computer. The client image consists of executable files plus a second installation program that your network client users can run to install the network clients. See “Loading the client image onto the network”.
2. The network client users install the network clients by running the second installation program. See “Installing the clients from the network” on page 63.

Loading the client image onto the network

The instructions in this section are intended for the system administrator, who loads the common client image onto the network.

Before you begin, you need to designate one client computer as the client image owner, and decide which user ID you will use to load the client image:

- The image owner computer should not be one that is likely to be removed from the system. If the image owner computer crashes or is removed from the system, the network client users can continue running the clients, but the system administrator must take extra steps to apply FixPaks. See “Maintaining the common clients” on page 63 for more information.
- The user ID with which the image owner computer accesses the file server must have administrator authority and read/write privileges on the file server.

You can have the server components on the same file server as the common client image as long as they are not installed in the same directory.

To load the client image onto the network:

1. Connect to the file server. Whatever drive letter you assign will be the same drive letter that the network client users must use when they connect to the file server. For example, if you designate the file server as the p: drive, the network client users have to connect the file server as their p: drive.

2. Insert the DB2 OLAP Server CD into the CD drive on the computer that you designate as the client image owner computer. If the installation program does not start automatically, run the setup.exe file in the \Win32 directory of the CD.
3. On the IBM DB2 OLAP Server Setup panel, click **Next**.
4. On the Software License Agreement panel, read the licence terms. If you accept them, click **Accept**.
5. On the Select Installation Options screen, select **Client** and **Store executables on network**, and then click **Next**.
6. Select the language you want and click **Next**.
7. On the Choose Destination Location screen, select the drive letter of the file server from the **Drive** box.
8. In the **Directory** field, either accept the default value or click **Browse** to select a different path name. Click **Next**.
9. On the Select Installation Type panel, select either **Typical**, **Compact**, or **Custom**. You must select **Custom** to install the clients for EIS; the Warehouse Manager and Warehouse Builder clients cannot be installed this way.

It is recommend that you select **Custom** so you can select which online books are installed with the network client. If you choose **Typical** or **Compact**, the installation program only installs a small subset of the documentation.

If you selected **Custom**, the Select Components panel appears. Open the Client and Server Documentation item in the tree view and select the documentation you want to make available to the network client users. It is recommended that you select all the documentation the network client users will need.

Click **Next**.

10. On the Select Folder panel, either accept the default name of the folder or enter a new one. Click **Next**.
11. On the Start Copying Files panel, click **Next**. The network client image is copied to the file server.

The next step is to inform the network client users how they can install the network clients. They need the following information:

- The drive letter that you selected when loading the client image onto the file server. The network client users must select the same drive letter when they connect to the file server.
- The directory on the file server that contains the installation program for the network clients.
- The path of the OLAP server components. The path is set in the ARBORPATH variable.

The next section, “Installing the clients from the network”, describes how this information is used when installing the network clients.

Installing the clients from the network

The instructions for installing clients from the network are in the `netinst.htm` file, which is in the same directory as the client image installation file. Ensure your users can access these directions.

Maintaining the common clients

IBM FixPaks for DB2 OLAP Server can apply service upgrades to the client image stored on the file server.

The following steps describe how to to apply FixPaks for common clients:

1. The system administrator logs on to the image owner computer.
2. The system administrator connects to the file server using the same user ID under which the common client image was originally loaded onto the file server.
3. The system administrator runs the FixPak installation program.
4. The network client users connect to the file server and run the updated `netinst.exe` file to apply the FixPak to their computers. If there are new client products in the client image, then they will be added to the your computer. If clients were removed from the file server, then they will be removed from your computer.

If the image owner computer crashes or is removed from the system, the network client users can continue running the clients. However, the system administrator cannot apply FixPaks without first taking the following steps:

1. Designate a new client image owner computer.
2. Remove the common client image from the file server.
3. Reinstall the original network client image from the new client image owner computer.
4. Apply the FixPak as described in this section.

Adding additional client software later

If you install DB2 OLAP Server for iSeries and later want to add more features, select one of the following methods:

- Select **Modify Component or License Information** from the **Start → Programs → IBM DB2 OLAP Server 8.1 - iSeries** menu.
- Run the `SETUP.EXE` program either from the root directory or from the CD-ROM.
- Use the Windows Add/Remove Software utility, which is available from the Control Panel.

Configuring the Spreadsheet Add-ins

If you have Microsoft Excel or Lotus 1-2-3 on your Windows computer when you install the Spreadsheet Add-in clients, the DB2 OLAP Server installation program automatically configures your spreadsheet program with the Spreadsheet Add-ins.

But if you reverse the order of installation (installing DB2 OLAP Server for iSeries and then installing a spreadsheet program), you must configure your Spreadsheet program manually. To configure a spreadsheet program manually:

- From the **Start** → **Programs** → **IBM DB2 OLAP Server 8.1 - iSeries** menu, select **Modify Component or License Information**.
- Select **Modify** on the Maintenance panel and click **Next**.
- On the Modify Entry panel, click **Configure Spreadsheet Add-in** and click **Next**.

The installation program configures your spreadsheet program with the Spreadsheet Add-in.

Chapter 7. Connecting to Essbase/400 OLAP server

This chapter describes how to connect to the Essbase/400 (OLAP) server.

Connecting to OLAP server

Before connecting to the OLAP server, use the WRKACTJOB command to verify that the server is running. The server job will have a name identical to the job description name, a job type of BCH, and a function of PGM-ESSBASE. Applications run under separate jobs with the job name identical to the application name and a job type of BCI. For instructions on starting the server, see the *Administrator's Guide for OLAP on iSeries*.

To connect to Essbase/400 OLAP Server from Application Manager:

1. Open the Application Manager.
2. On the **Server** menu, choose **Connect**.
3. In the **Essbase System Logon** dialog box, enter or select the TCP/IP address or the host alias name of your Essbase/400 server in the Server drop-down list.
4. Enter your user name and password, and click **OK**.
5. If your logon is successful, your computer is ready to use the Essbase/400 server. If your logon fails, see "Troubleshooting Essbase/400 connection failures" on page 70.

Connecting to the EIS server

The following sections list important notes for using DB2 OLAP Integration Server for iSeries. DB2 OLAP Integration Server for iSeries is also called Essbase/400 Integration Server and is abbreviated as either OIS or EIS.

Before connecting to the Essbase/400 Integration Server, use the WRKACTJOB command to verify that the server is running. The server job will have a name identical to the job description name, a job type of BCH, and a function of PGM-OLAPISVR. For instructions on starting the server, see the *Administrator's Guide for OLAP on iSeries*.

ODBC Data Source Name

You do not need to configure an ODBC data source on your client PC to use EIS. The Essbase/400 Integration Server offers complete DB2/400 Relational Database support via SQL CLI. Any iSeries system may have a number of relational databases defined, and these databases may be local or remote. To find a list of defined databases in the Relational Database Directory, use the

iSeries WRKRDBDIRE command. You should have at least one Database entry defined on your iSeries system for EIS to work properly.

Library List

Your library list is determined by the library list of the job description. Before starting EIS, be sure to update libraries in the job description. You can use the CHGJOB command and alter the INLLIBL parameter.

OLAP metadata catalog setup

Your first EIS task is to create an OLAP Metadata Catalog. An OLAP Metadata Catalog stores the OLAP models that you create and the metaoutlines that you build from the OLAP models. Until the Metadata Catalog is created, login attempts will return errors.

When you complete installation of DB2 OLAP Integration Server and start Essbase Integration Services Console, the program automatically displays the OLAP Metadata Catalog Setup dialog box, as in Figure 4.

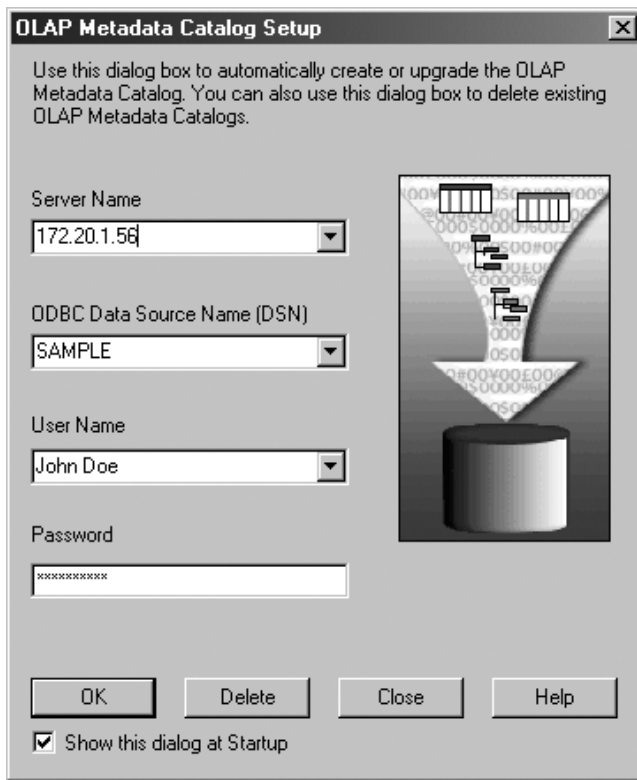


Figure 4. OLAP Metadata Catalog Setup dialog box

When creating catalogs on the iSeries, use the following information.

Server Name

Enter the Essbase/400 IP address. The Essbase/400 Integration Server uses the same IP address as the Essbase/400 OLAP Server. To find your IP address, use the iSeries DSPESSENV command.

ODBC Data Source Name

Once you type an IP Address for the Server Name, Essbase/400 Integration Server will return all the entries it can find in the system Relational Database directory. Each of these entries is considered an ODBC data source. Select a data source name whose Remote Location entry is defined as *LOCAL on the iSeries system. EIS uses the Essbase/400 installation library as the default collection.

User Name and Password

Specify a valid iSeries user name and password for the EIS connection. You do not have to create a separate EIS user name and password.

All the catalog tables will be created in your server installation library. You can have only one catalog on the iSeries.

Essbase/400 Integration Services login

The Essbase/400 Integration Server manages access to OLAP Metadata Catalogs and to relational data sources. An OLAP Metadata Catalog stores information that defines the relational data source and the structure of OLAP model and metaoutline elements. To create an OLAP model or a metaoutline, you must first connect to Essbase/400 Integration Server.

When connecting to the server, you will use the EIS Login dialog box, as in Figure 5 on page 68.

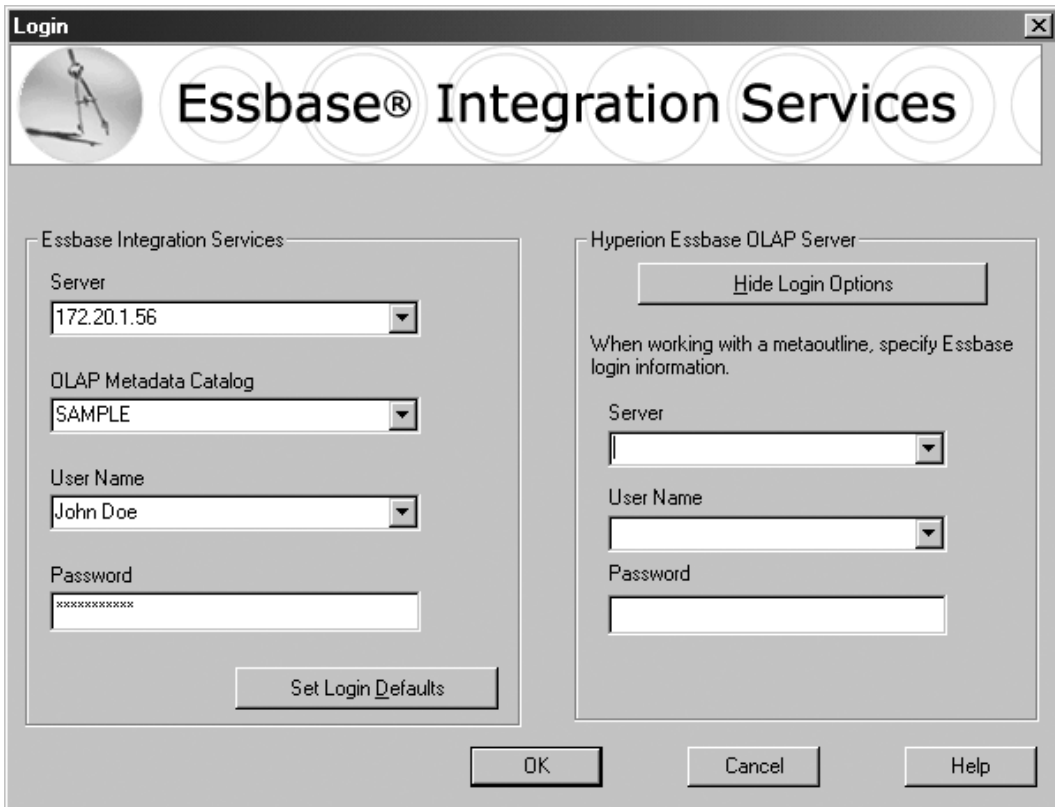


Figure 5. EIS Login dialog box

When connecting to EIS on the iSeries, use the following information.

Server Enter the Essbase/400 IP address. The Essbase/400 Integration Server uses the same IP address as the Essbase/400 OLAP Server. To find your IP address, use the iSeries DSPESSENV command.

OLAP Metadata Catalog

Once you type an IP Address for the Server Name, Essbase/400 Integration Server will return all the entries it can find in the system Relational Database directory. Each of these entries is considered an ODBC data source. Select a data source name whose Remote Location entry is defined as *LOCAL on the iSeries system. EIS uses the Essbase/400 installation library as the default collection.

User Name and Password

Specify a valid iSeries user name and password for the EIS connection. You do not have to create a separate EIS user name and password. Note: When connecting to the Essbase/400 OLAP Server (using the right-hand side of the dialog box), you must also provide a

valid Essbase user name. For instructions on using your OS/400 user profile and password to log into Essbase/400 OLAP Server, read about Integrated Security in the *Administrator's Guide for OLAP on iSeries*.

Setting up the EIS sample application

EIS provides a sample application for a fictitious company, The Beverage Company (TBC). Creating the sample application is not required, but it may provide valuable insight for the novice users. Instructions for setting up the sample application are in the Hyperion Essbase Integration Services Installation Guide.

Before you begin the setup, the system administrator must create an OS/400 user profile called TBC for sample application maintenance. This is the only profile that is allowed to create or delete the sample application. In the Sample Application Setup dialog from the Essbase Integration Services Console (which is available from the Tools menu), you will notice that the user name (TBC) is read-only and cannot be changed. See Figure 6.

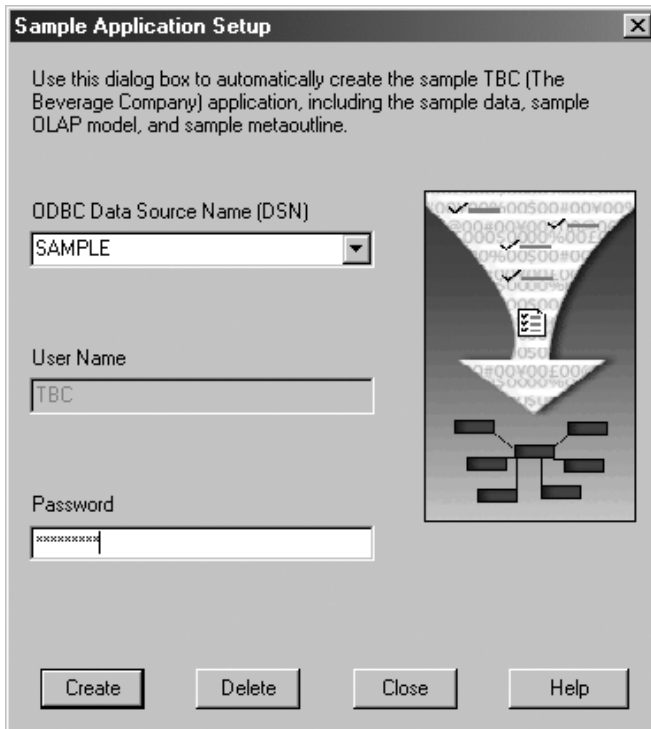


Figure 6. Sample Application Setup dialog box

Troubleshooting Essbase/400 connection failures

Problem: In the Application Manager Essbase System Logon dialog box, no servers appear in the Server drop-down list.

Solution. Originally, the server IP or hostname must be manually entered in the Server drop-down list. After a valid connection is established, the server IP and hostname are stored.

Problem. The following error message is displayed: Network Error (10060): Unable to Connect to (x.x.x.x). The client timed out waiting to connect to the Essbase Agent using TCP/IP.

Solution. Verify your TCP/IP address. Run the DSPESSENV INFO(*ALL) command in an Essbase server library and check the second-level text of the Essbase/400 Server attributes error message. This will display the Essbase Server TCP/IP address.

Problem. The following error message is displayed: Error 1042017: The client or server timed out waiting to receive data using TCP/IP.

Solution. Create or edit the NETDELAY & NETRETRYCOUNT settings in the .cfg file to override the default settings. The .cfg file resides in the Essbase library on the server or in the \bin folder on your PC (for example, DB2 OLAP Server\bin). The file may reside on both the server and your PC.

NETDELAY dictates how long (in milliseconds) Essbase waits before retrying an unsuccessful operation. The default is 200.

NETRETRYCOUNT dictates how many times the network tries to connect to the host. The default is 600. Increase the values based on the frequency of the error (the more often the error occurs, the larger the value). For example, increase the value of a less frequent error by hundreds; increase the value of a more frequent error by thousands.

In addition, consider how many users experience the problem. If only a few users are affected, change the PC file; if more users are affected, change the iSeries file. After editing the file, stop and restart Essbase/400 OLAP Server.

Chapter 8. Setting Up an ODBC data source for Builder

To set up data sources, use Microsoft ODBC Administrator (*odbcad32.exe*) installed with STRATEGY PC software. You can access it via the STRATEGY group on the Windows Start menu.

Relational components.

Set up a ShowCase ODBC data source on each PC that accesses iSeries (AS/400) Warehouse Manager Server through STRATEGY applications. You will need:

- iSeries IP address
- Warehouse Manager library port number

Multidimensional components.

PCs that use only multidimensional query components (Analyzer against Essbase, Essbase reporting in Query/Report Writer, or the Essbase Spreadsheet Add-ins) do not require an ODBC data source.

Non-DB2 data sources.

Set up data sources to access the following:

- Microsoft Access and Excel
- Microsoft SQL Server
- Lotus Domino
- Oracle on AIX, Windows NT, or Windows 2000

For non-DB2 data source setup information, see the non-DB2 guides available from the **Start > Programs > IBM DB2 OLAP Server iSeries 8.1 > Documentation** information map.

Adding a ShowCase ODBC data source

You should add a ShowCase ODBC data source if:

- This is your first STRATEGY installation and setup and/or you received the following message at the end of the PC installation: **Setup has not created a sample ShowCase ODBC data source.**
- You installed Warehouse Manager Server to a new library and want to access both the new and old Warehouse Manager libraries.

To add a ShowCase ODBC data source:

1. From the Windows Start menu, choose:

Programs

IBM DB2 OLAP Server 8.1 - iSeries
DB2 OLAP Server Builder Clients
Microsoft ODBC Administrator

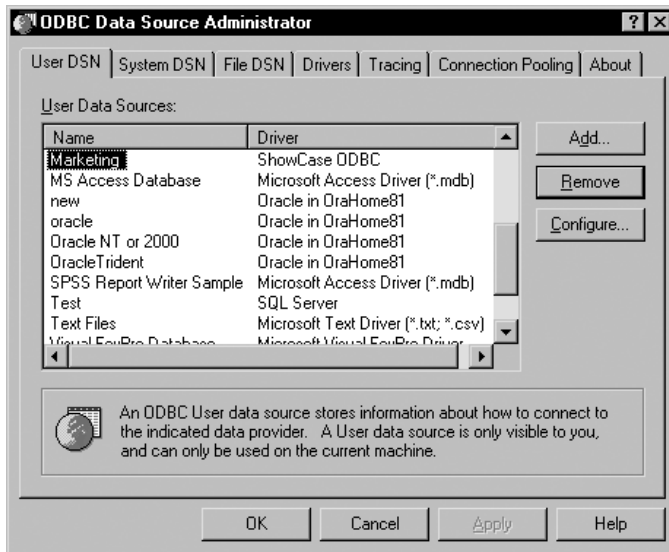


Figure 7. Microsoft ODBC Data Source Administrator dialog box

2. Click **Add**.
3. In the Create New Data Source dialog box, select **ShowCase ODBC** and click **Finish**.

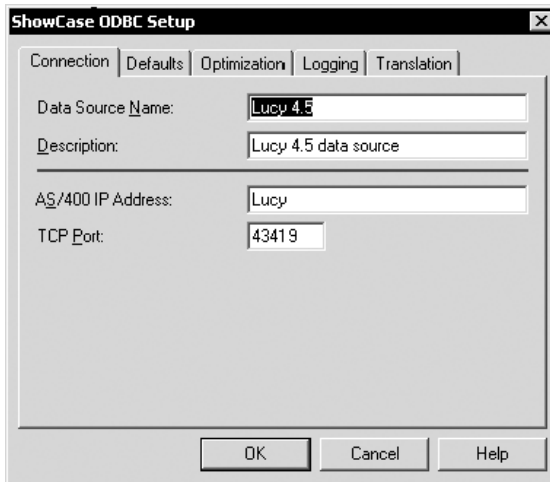


Figure 8. ShowCase ODBC Setup dialog box

4. Enter a data source name. Adding a description is optional.

Note: If you are sharing queries, using the same data source name on all PCs will make sharing queries easier for novice users.

5. Enter your iSeries (AS/400) IP address.
6. Enter your Warehouse Manager Server TCP port number. The default is 43419.

Note: If you do not know the TCP port number, use the iSeries (AS/400) WRKSRVTBLE command and search for SCSSERVER1 ibname where libname is the Warehouse Manager Server library name.

7. Click **OK**.

Modifying a ShowCase ODBC data source

You can modify a ShowCase ODBC data source if Warehouse Manager Server was installed to a new library and you do not want to access the old library—or if you need to change your data source name, IP address, or TCP port number.

To modify a ShowCase ODBC data source via Microsoft ODBC Administrator:

1. From the Windows Start menu, choose:

Programs

IBM DB2 OLAP Server 8.1 - iSeries
DB2 OLAP Server Builder Clients
Microsoft ODBC Administrator

You will see a screen similar to Figure 7.

2. Select the data source that you want to modify and click **Configure**.
A ShowCase ODBC Setup dialog box similar to Figure 8 appears.
3. Modify the ODBC setup information as necessary.
4. Click **OK**.

To modify a ShowCase ODBC data source via AS/400 Test Connection:

1. From the Windows Start menu, choose:
Programs
IBM DB2 OLAP Server 8.1 - iSeries
DB2 OLAP Server Builder Clients
iSeries Test Connection
2. Select the data source that you want to modify.
3. Click **Setup** and change the information, as necessary.
4. Click **OK**.

Chapter 9. Connecting to Warehouse Manager server

You can connect to Warehouse Manager Server with any of the STRATEGY PC products or with the AS/400 Test and Configure application.

Connecting with clients applications

1. To open a client application, from the Windows Start menu, choose:

Programs
IBM DB2 OLAP Server 8.1 - iSeries

Warehouse Builder

1. Open Warehouse Builder and select a data source to use as a control server. This is the Warehouse Manager Server library in which you want to store your distribution definitions. Click **OK**.
2. If you have not specified a default data source, Warehouse Builder will prompt you to select one. Select a data source and click **OK**.
3. In the ShowCase ODBC Logon dialog box, enter your iSeries user ID and password and click **OK**.
4. If your logon is successful, the Warehouse Builder Assistant dialog box appears and your PC is connected to Warehouse Manager Server. If your logon is not successful, see "Connecting with the iSeries test and configure application".

Warehouse Manager Client

1. Open Warehouse Manager Client and select the data source to which you want to connect.
2. On the File menu, choose **Connect**, or click the **Connect** tool.
3. In the ShowCase ODBC Logon dialog box, enter your iSeries user ID and password and click **OK**.
4. If your logon is successful, your user ID appears in parentheses after the data source and your PC is connected to Warehouse Manager Server. If your logon is not successful, see "Connecting with the AS/400 Test and Configure Application" below.

Connecting with the iSeries test and configure application

The iSeries Test and Configure application tests the ODBC data source setup. Use it to:

- Verify your connection to the correct system and library.
- Add, edit, or remove a ShowCase data source.

The Test and Configure application does not test the special checks made when STRATEGY software connects to the iSeries (AS/400). That is, there are times when Test and Configure will connect but a product will not, such as when a user is not authorized to use a product or when an application password has expired.

To open the iSeries Test and Configure application

1. From the Windows Start menu, choose:

Programs

IBM DB2 OLAP Server 8.1 - iSeries
DB2 OLAP Server Builder Clients
iSeries Test Connection

Troubleshooting Warehouse Manager connection failures

- **Verify your IP address:**

Use the Microsoft ODBC Administrator to determine whether your IP address is valid.

At the MS-DOS prompt, type `PING ipaddress`, where *ipaddress* is the IP address you want to use.

If you receive a reply similar to **Reply from 172.16.1.84: bytes=32 time=84ms TTL=64**, your IP address is valid and the TCP/IP connection is working.

If you receive the message **Request timed out**, your IP address may be incorrect or TCP/IP may not be configured correctly on either your PC or the server.

For more information, see Chapter 8.

- **Verify your library port number:**

At the iSeries command line, type `WRKSRVTBLE` and press **Enter**.

In the *Port* column, look for the port number you want to use. The port's service entry should be `OLAPBLDSVR serverlib`, where *serverlib* is the name of the Warehouse Manager Server library. If you do not find the port, look for the correct library name under *Service* and check the correct port number for that library.

- **Verify that IBM TCP/IP is active on your iSeries:**

At the iSeries command line, type `WRKACTJOB JOB(QTCP/IP)` and press **Enter**.

If you cannot find the job, type the `STRTCP` command and press **Enter** to start TCP/IP on the server.

For more information on starting and stopping TCP/IP, see the *Administrator's Guide for Builder on iSeries*.

- **Verify that the TCP/IP master job has started on the server:**

At the iSeries command line, type `WRKACTJOB JOB(serverlib)`, where *serverlib* is the name of the Warehouse Manager Server library, and press Enter.

There should be an entry in the *subsystem/job* column with the same name as the library in which Warehouse Manager Server is installed. Use option 5 to work with this job and then option 11 to display the call stack. The program *TCPMASTER* in the library containing the installation should be the first program on the stack (use F11 to change the display until you see the program and library names).

For more information on using TCP/IP with STRATEGY, see the *Administrator's Guide for Builder on iSeries*.

- **If IBM TCP/IP and the TCP/IP master job are both active, complete the steps listed below:**

1. At the iSeries command line, type:

```
CHGJOB JOB(serverlib/SCTCPSRV) LOG(4 00 *SECLVL) LOGCLPGM(*YES)
```

where *serverlib* is the name of the library in which Warehouse Manager Server is installed.

2. Run the following iSeries commands to attempt a connection test, and note the iSeries system date and time:

```
DSPSYSVAL SYSVAL(QDATE)  
DSPSYSVAL SYSVAL(QTIME)
```

3. To view spooled files in the QUSER spooled file list, type the iSeries command `WRKSPLF SELECT(QUSER)`.
4. Press F6 to go directly to the bottom of the spooled list. There should be a spooled file named `QPJOBLOG` with a user data attribute of `SCTCPSRV`. Press F11 until the display shows the creation date and time. Look for the date and time of the connection failure. If you find a matching spooled file, skip the next two steps and resume the process.

Note: Almost all connection failure job logs can be found in the QUSER spooled file list. However, certain types of errors may suddenly terminate the connection directly after the initial connection is complete, and thus the job log may be in the profile's spooled file list. To find the spooled file for the ODBC profile, complete the next step.

5. If you do not see a spooled file matching the date and time of the connection failure in the QUSER spooled file list, use the iSeries command `WRKSPLF SELECT(odbcprofile)`, where *odbcprofile* is the iSeries user profile specified in the connection dialog box.
6. Repeat the step beginning with "Press F6."
7. Use option 5 to display the spooled file from the spooled file list. Page down and look for messages indicating the cause of the connection failure.

8. If you need help in determining the cause of the connection failure, contact ShowCase Support. A copy of the job log for the failing connection will help to diagnose the connection failure.

Note: Once the connections are working, run the following command to avoid generating job logs for all connections:

```
CHGJOB JOB(serverlib/SCTCPSRV) LOG(4 00 *NOLIST) LOGCLPGM(*NO)
```

where *serverlib* is the name of the library in which the server is installed.

Chapter 10. Installing Essbase/400 sample applications

When you install Essbase/400 Application Manager samples on your PC, the files required to create the sample databases are copied into the *ARBORPATH\APP* folder on your hard drive. After a network installation, you can find the files in the *ARBORPATH\APP* folder on the network. After installation, you must create the sample applications and databases and prepare them for use. This appendix explains these procedures.

Note: It is assumed that the samples and references to the sample applications in the Essbase/400 documentation set are installed from a server. However, the sample applications shipped with Essbase/400 are installed from a client PC. Therefore, be sure to specify the location of the applications accordingly. In most cases, select the **Location group** box of a given dialog box and choose the **Client** option.

Essbase/400 includes six sample applications that can be installed on your server.

Demo Contains one database—*Basic*—referred to in the *Technical Reference*.

Sample

Contains one database referred to throughout the Essbase/400 documentation set as *Basic*. The spreadsheet user guides provide a step-by-step tutorial through the spreadsheet clients.

Samppart

The first of two applications designed to show the features of Essbase/400 partitioning. Samppart contains the *Company* database that is the target of a partitioned database.

Sampeast

The second of two applications designed for Essbase/400 partitioning. Sampeast contains an *East* database, the source of data for a partitioned database.

Note: To use the Samppart and Sampeast applications, your Essbase/400 Server must be registered with a license number supporting partitioning.

Creating the Sample Applications

This section explains how to set up the framework of Essbase/400 sample applications. The following instructions do not load or calculate the databases. For that information, see “Loading and calculating the sample databases” on page 86.

Complete the following six steps for each application.

1. Make sure that you know:
 - The Essbase/400 Server is running
 - The server’s TCP/IP address
 - A valid user ID and associated password
2. To connect to the Essbase/400 Server, from the Essbase/400 Application Manager menu, choose:

Server
Connect

The Connect dialog box requires the TCP/IP alias name or address, and a user ID and password.

3. To create a new application on the server, from the menus, choose:

File
New
Application

Give the application the appropriate sample name: Sample, Demo, Samppart, Sampeast, Drinks, or Scsample.

4. To create a new database for the application, choose:

File
New
Database

Name each database as follows:

Application name	Database name
Sample	Basic
Demo	Basic
Samppart	Company
Sampeast	East

5. Move the sample database outline to the Essbase/400 Server. For instructions, see “Moving objects from the client to Essbase/400 server” on page 81. In these instructions, for file type, select **Outlines (.otl)**. Select the outline with the same name as the database that you are creating. See the following table:

Application/database name	Outline name
Demo Basic	Basic
Sample Basic	Basic
Samppart Company	Company
Sampeast East	East

- To continue creating the sample databases, follow the instructions below for the appropriate database:

Demo Basic

Move the report scripts of the Demo Basic database to Essbase/400 Server. For instructions, see “Moving Objects from the Client to Essbase/400 Server” below. In these instructions, for Files of Type, select **Report Scripts (.rep)**. Repeat the instructions (opening and saving) for all report scripts in the folder.

Sample Basic

Move the rule objects of the Sample Basic database to Essbase/400 Server. For instructions, see “Moving Objects from the Client to Essbase/400 Server” below. While following these instructions, for Files of Type, select **Rule Objects (.rul)**. Repeat the instructions (opening and saving) for all rule objects in the folder.

Samppart Company

Follow the instructions in “Setting up the environment for Samppart and Sampeast” on page 83, and then load and calculate the database with the instructions in “Samppart Company” on page 88.

Sampeast East

Follow the tasks in “Setting up the environment for Samppart and Sampeast” on page 83, and then load and calculate the database with the instructions in “Sampeast East” on page 89.

Moving objects from the client to Essbase/400 server

This section helps you move outlines, calculation scripts, rule objects, and report scripts from the client to Essbase/400 Server.

To move an outline, calculation script, rule object, or report script, you must complete all steps in “Opening the object” and “Saving the object” on page 82 for each object.

Opening the object

When opening an outline file in Application Manager, you may get an error message indicating that long filenames are not supported. To solve this

problem, move the client folder containing your outlines, calculation scripts, report files, and rules files (for example, *ARBORPATH\APP*) to your root folder.

1. From the Essbase/400 Application Manager menu, choose:

File
Open

The Open Object dialog box appears.

2. In the Location group, select **Client**.
3. In the Application box, select the application for which you want to move an outline, calculation script, rule object, or report script.
4. In the Database box, select the database for which you want to move an outline, calculation script, rule object, or report script.
5. Click **File System**. The Open Client File dialog box appears.
6. Navigate to the folder in which you installed the sample applications (for example, *ARBORPATH\APP*).
7. Click the folder corresponding to the sample database that you are creating: *Demo*, *Sampeast*, *Sample*, or *Samppart*.
8. In the Files of Type box, select the file type of the object that you want to move: **Outlines (.otl)**, **Calc Scripts (.csc)**, **Rule Objects (.rul)**, or **Report Scripts (.rep)**.
9. Select the file to move and click **Open**.

Saving the object

1. From the File menu, choose **Save As**. The Save Object dialog box appears.
2. In the Location group, select **Server**.
3. In the Server box, select the TCP/IP name or address of the server to which you want to move the outline, calculation script, rule object, or report script.
4. In the Application box, select the application for which you are saving the outline, calculation script, rule object, or report script.
5. In the Database box, select the database for which you are saving the outline, calculation script, rule object, or report script.
6. In the List Objects of Type box, select the appropriate object: **Outlines**, **Calc Scripts**, **Rule Objects**, or **Report Scripts**.
7. In the Object Name box, type the object name of the outline, calculation script, rule object, or report script that you are saving.
8. Click **OK**.
 - If Essbase/400 displays a message indicating that the object already exists and asks if you would like to replace the existing object, click **Yes**.

- If Essbase/400 displays a message indicating that the object is unlocked and asks if you would like to replace the existing object, click **Yes**.
 - If Essbase/400 displays a message indicating that the object did not originate from the latest version of the server and that you could lose data and then asks if you want to continue, click **Yes**.
9. Close the appropriate window: outline viewer, calculation script editor, rule object editor, or report script editor.
 10. To finish creating the Demo Basic, Drinks Demo, Sample Basic, or Scsample Sales databases, you must load the data. The following table indicates where to find the instructions to load data into the sample database that you are creating.

Database name	Reference
Demo Basic	"Demo Basic" on page 86
Sample Basic	"Sample Basic" on page 87

Setting up the environment for Samppart and Sampeast

Essbase/400 includes two sample applications and databases that show the features of partitioning: Samppart Company and Sampeast East. They include partition definitions stored in *.ddb* files.

The *.ddb* files define the map between member combinations in the target database (Company) and the source database (East). For instructions on setting up partitions, see the *Database Administrator's Guide*. This guide also explains member combinations and the differences between target and source databases.

For these applications to work in your environment, you must match or change the information contained in the *.ddb* files. To use the applications, do the following:

- Create the user name that designed the applications.
- Change the server name embedded in the applications.

Note: Do not physically change the *.ddb* file information. Instead, complete the steps in the following sections. "Creating the Partition User" describes how to create the user name so your users can use these applications. "Changing the server name in sample partition definitions" on page 84 describes how to change the embedded server name to the name of your Essbase/400 Server.

Creating the partition user

Because the Samppart and Sampeast applications were designed by a user called *partitionuser*, you must create a user called *partitionuser* to work with these applications. Partitionuser must have Application Designer access to these applications on the server where they are installed. If you are unsure how to create a user and you use the Integrated Security feature of Essbase/400, see the *Administrator's Guide for OLAP on iSeries*. If you do not use Integrated Security, complete the following steps:

1. From the Essbase/400 Application Manager menu, choose:
Server
Connect
2. Connect to the server with the Samppart and Sampeast applications. Log on as a user that has supervisor privilege.
3. From the Security menu, choose **Users/Groups**.
4. In the User/Group Security dialog box, click the **New User** button to open the New User dialog box.
5. In the Username box, enter *partitionuser*, using lowercase letters.
6. In the Password box, enter a password.
7. In the Confirm Password box, type your password again.
8. Click the **App Access** button to open the User/Group Application Access dialog box.
9. Select the Sampeast application, and then select **App Designer** in the Access group box.
10. Select the Samppart application, and then select **App Designer** in the Access group box.
11. Double-click **OK** to return to the User/Group Security dialog box.
12. Click **Close**.
13. From the Server menu, choose **Disconnect** to log off of the server. Click **OK**.
14. From the Server menu, choose **Connect** and log on as *partitionuser*. The Application Desktop window appears. You are ready to continue setting up the Samppart and Sampeast applications. See "Changing the server name in sample partition definitions".

Changing the server name in sample partition definitions

The following steps change the embedded server name in the partition definition files (*.ddb*) to the Essbase/400 Server name. The *.ddb* files shipped with Samppart and Sampeast are based on the server name *Localhost*.

Note: You must complete the steps in "Creating the partition user" before continuing.

Changing the server name for the Samppart Company database

The following steps change the server name in the Samppart Company *.ddb* file.

1. In the Application Desktop window, select the **Samppart** application and **Company** database.
2. From the Database menu, choose **Partition Manager** to open the Partition Manager dialog box.

Note: If the Partition Manager dialog box does not appear or if it does not contain definition entries, contact your Essbase/400 system administrator. Your Essbase/400 Server must be registered with a license number that supports partitioning.
3. In the Source Cube list, select the first definition entry—**Localhost:Sampeast:East**.
4. Click **Edit**. The Dangling Remote Reference dialog box appears. Because you are not connected to a server named *Localhost*, Essbase/400 is warning you before it allows you to edit the definition.
5. Click **Advanced**. The Fix Dangling Partition Reference dialog box appears.
6. In the Action group, select **Correct the invalid partition reference**.
7. In the Reconnect group, in the Server text box, replace *Localhost* with the name of your Essbase/400 Server (for example, ESSBASE).
8. Click **Apply**. You are returned to the Partition Manager dialog box.
9. In the Source Cube list, select the second definition entry—**Localhost:Sampeast:East**.
10. Repeat the four steps beginning with “Click Edit” and ending with “Click Apply.”
11. In the Target Cube list, select the first definition entry—**Localhost:Sampeast:East**.
12. Repeat the four steps beginning with “Click Edit” and ending with “Click Apply.”
13. From the Partition menu, choose **Close** to return to the Application Desktop window.

You have successfully changed the server name in the Samppart Company *.ddb* file.

Changing the Server Name for the Sampeast East Database

The following steps change the server name in the Sampeast East *.ddb* file.

1. In the Application Desktop window, select the **Sampeast** application and **East** database.
2. From the Database menu, choose **Partition Manager** to open the Partition Manager dialog box.

3. In the Source Cube list, select the first definition entry—**Localhost:Samppart:Company**.
4. Click **Edit**. The Dangling Remote Reference dialog box appears. Because you are not connected to a server named *Localhost*, Essbase/400 is warning you before it allows you to edit the definition.
5. Click **Advanced**. The Fix Dangling Partition Reference dialog box appears.
6. In the Action group, select **Correct the invalid partition reference**.
7. In the Reconnect group, in the Server text box, replace *Localhost* with the name of your Essbase/400 Server (for example, ESSBASE).
8. Click **Apply**. You are returned to the Partition Manager dialog box.
9. In the Source Cube list, select the first definition entry—**Localhost:Samppart:Company**.
10. Repeat the four steps beginning with “Click Edit” and ending with “Click Apply.”
11. In the Target Cube list, select the second definition entry—**Localhost:Samppart:Company**.
12. Repeat the four steps beginning with “Click Edit” and ending with “Click Apply.”
13. From the Partition menu, choose **Close** to return to the Application Desktop window.

You have successfully changed the server name in the *Sampeast East .ddb* file.

Note: When you have completed the instructions in “Setting up the environment for Samppart and Sampeast” on page 83, you can continue building the Samppart or Sampeast databases. See “Samppart Company” on page 88 or “Sampeast East” on page 89.

Loading and calculating the sample databases

Now that you have created the new application and database for the sample database and saved any necessary rule files or report scripts on the server, you are ready to load the data into the database and calculate it. The following sections will cover loading and calculating each sample database.

Demo Basic

The Demo application contains one database called *Basic*. To prepare it for use, you must load and calculate the data.

Note: When loaded, the Demo *Basic* database uses approximately 2MB of disk space on the server, in addition to the size of the data source file.

1. From the Essbase/400 Application Manager menu, choose:

**Server
Connect**

2. Connect to the server on which the Demo application is installed.
3. In the Applications box, select **Demo**.
4. In the Databases list, select **Basic**.
5. From the Database menu, choose **Load Data** to open the Data Load dialog box.
6. Click **Find** to locate a data file to load. The Open Server Data File Objects dialog box appears.
7. In the Location group, select **Client**.
8. Make sure **Text files** is selected in the List Objects of Type box.
9. In the Objects list, select **DATA**.
10. Click **OK**. The Data Load dialog box is updated to display the data file that you chose.
11. Click **OK** to load the selected file. The data file is approximately 660KB. It will take a minute or two to load, and then the Data Load Completed dialog box appears.
12. Click **Close**.

Once the data is loaded into the database, Essbase/400 automatically commits the data to the disk. You can safely stop the application or server and then restart it.

Sample Basic

The first database in the Sample application is called Basic. To prepare it for use, you must load and calculate the data.

Note: When loaded, the Sample Basic database uses approximately 5MB of disk space on the server, in addition to the size of the data source file.

1. From the Essbase/400 Application Manager menu, choose:

**Server
Connect**

2. Connect to the server on which the Sample application is installed.
3. In the Applications box, select **Sample**.
4. In the Databases list, select **Basic**.
5. From the Database menu, choose **Load Data** to open the Data Load dialog box.
6. Click **Find** to locate a data file to load. The Open Server Data File Objects dialog box appears.
7. In the Location group of the Open Server Data File Objects dialog box, select **Client**.
8. In the List Objects of Type box, be sure that **Text files** is selected.

9. In the Objects list box, select **CALCDAT**.
10. Click **OK**. The Data Load dialog box is updated to display the data file that you chose.
11. Click **OK** to load the selected file. The data file is approximately 3MB. It will take several minutes to load, and then the Data Load Completed dialog box appears.
12. Click **Close**.

Once the data is loaded into the database, Essbase/400 automatically commits the data to the disk. You can safely stop the application or server and then restart it.

Samppart Company

After setting up the environment for the Samppart and Sampeast applications (as described in “Providing user access to the sample applications” on page 89), you must load data into the database of each application. This section explains how to load and calculate the Samppart Company data.

Note: When loaded, the Samppart Company database uses approximately 2MB of disk space on the server, in addition to the size of the data source file.

1. From the Essbase/400 Application Manager menu, choose:
Server
Connect
2. Connect to the server on which the Demo application is installed. Log on as `partitionuser` or as a user with supervisor privilege.
3. In the Applications box, select **Samppart**.
4. In the Databases list, select **Company**.
5. From the Database menu, choose **Load Data** to open the Data Load dialog box.
6. Click **Find** to locate a data file to load. The Open Server Data File Objects dialog box appears.
7. In the Location group, select **Client**.
8. Make sure **Text files** is selected in the List Objects of Type box.
9. In the Objects list, select **CALCCOMP**.
10. Click **OK**. The Data Load dialog box is updated to display the data file that you chose.
11. Click **OK** to load the selected file. The data file is a large, fully calculated data set. It should take about a minute to load, and then the Data Load Completed dialog box appears.
12. Click **Close**.

Once the data is loaded into the database, Essbase/400 automatically commits the data to the disk. You can safely stop the application or server and then restart it.

Sampeast East

After setting up the environment for the Samppart and Sampeast applications (as described in “Providing user access to the sample applications”), you must load data into the database of each application. This section explains how to load and calculate the Sampeast East data.

Note: When loaded, the Sampeast East database uses approximately 1.5MB of disk space on the server, in addition to the size of the data source file.

1. From the Essbase/400 Application Manager menu, choose:
Server
Connect
2. Connect to the server on which the Demo application is installed. Log on as `partitionuser` or as a user with supervisor privilege.
3. In the Applications box, select **Sampeast**.
4. In the Databases list, select **East**.
5. From the Database menu, choose **Load Data** to open the Data Load dialog box.
6. Click **Find** to locate a data file to load. The Open Server Data File Objects dialog box appears.
7. In the Location group, select **Client**.
8. Make sure that **Text files** is selected in the List Objects of Type box.
9. In the Objects list, select **CALCEAST**.
10. Click **OK**. The Data Load dialog box is updated to display the data file that you chose.
11. Click **OK** to load the selected file. The data file is a small, fully calculated data set. It should take about a minute to load, and then the Data Load Completed dialog box appears.
12. Click **Close**.

Once the data is loaded into the database, Essbase/400 automatically commits the data to the disk. You can safely stop the application or server and then restart it.

Providing user access to the sample applications

Essbase/400 provides a comprehensive security system for a secure multi-user environment. By default, the sample applications are created with a security access level of No Access, which means no user can connect to the database without supervisor authority.

The first user on the client is the user name defined when the Essbase/400 Server was installed. This user automatically has supervisor privilege.

To provide all users with write access to the database:

1. From the Essbase/400 Application Manager menu, choose:
Server
Connect
2. Connect to the server on which the sample application is installed.
3. In the Applications box, select the sample application to which you want to grant access.
4. From the Application menu, choose **Settings**. The Application Settings dialog box appears.
5. In the Minimum Database Access group, select **Write**.
6. Click **OK**.
7. Repeat the above steps for each sample application to which you want to give your users access.

At this point, the Essbase/400 sample applications are ready for use. Next, create the appropriate user IDs and security settings so that your users can log on to Essbase/400. For more information on Essbase/400 security, see the *Administrator's Guide for OLAP on iSeries*.

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Glossary

This glossary defines terms that are used in this book and throughout the IBM DB2 OLAP Server library.

accounts dimension. A dimension type that makes accounting intelligence available. You can tag one dimension as an accounts dimension, but an accounts dimension is not required.

administrator. A person who is responsible for installing and maintaining DB2 OLAP Server and for setting up user accounts and security.

agent. A process that starts and stops applications and databases, manages connections from users, and handles user-access security.

alias ID table. A table created by DB2 OLAP Server in your relational database that contains a mapping of multidimensional alias table names to ID numbers allocated by DB2 OLAP Server.

alias ID view. A view created by DB2 OLAP Server in your relational database that contains one row for each multidimensional alias table used with a relational cube. There is one alias ID view for each relational cube.

alias name. An alternate name for a dimension or member.

anchor dimension. A dense dimension that is specified as the dimension that DB2 OLAP Server uses to help define the structure of the fact table it creates in the relational cube for a multidimensional database.

API. Application programming interface. The DB2 OLAP Server API is a library of functions that you can use in a custom C or Visual Basic program to access DB2 OLAP Server.

Application Manager. A tool that you can use to create and maintain OLAP applications.

block. A string of data elements recorded or transmitted as a unit.

cache. A component of memory. Each multidimensional database contains a data cache and an index cache.

calculation. An equation within a database outline, a calculation script, or a report script that calculates a value for a particular member or point in a report.

calculation script. A text file that contains instructions to perform calculations within a multidimensional database. Also called a calc script.

Commit Block parameter. A parameter on the Transaction page of the Database Settings notebook in the Application Manager that you use to set the number of blocks that can be changed before DB2 OLAP Server commits the blocks.

cube catalog table. A table that DB2 OLAP Server creates in your relational database that contains a list of all the multidimensional databases that are stored in your relational database. The cube catalog table also shows the application with which each cube is associated. Each time that you create a multidimensional database, DB2 OLAP Server creates a new row in this table.

cube catalog view. A view that DB2 OLAP Server creates in your relational database that allows an SQL user to access a list of OLAP applications and relational cubes.

cube table. A table that DB2 OLAP Server creates in your relational database that contains a list of dimensions in a relational cube and information about each dimension.

cube view. A view that DB2 OLAP Server creates in your relational database that allows an

SQL user to access the names of all dimensions in a relational cube and associated information for each dimension. There is one cube view for each relational cube in your relational database.

data load. The process of populating a multidimensional database with data. Loading data establishes actual values for the values of the cells defined in the database outline for the database.

data load rules. A set of operations that DB2 OLAP Server performs on data as it is loaded from an external source file.

database administrator. A person responsible for administering a relational database.

database log file. A set of primary and secondary log files consisting of log records that record all changes to a database. The database log file is used to roll back changes for units of work that are not committed and to recover a database to a consistent state.

database managed space (DMS). Space in a table that is managed by the database.

database name. The name of the relational database where you want DB2 OLAP Server to store your multidimensional data.

database outline. The structure that defines all elements of a database within DB2 OLAP Server. It contains definitions of dimensions and members, dense or sparse dimension tags and attributes, the anchor dimension attribute, calculations, shared members, and alternations to the basic roll-up structure of the database.

database password. The password for the user ID that you want DB2 OLAP Server to use to log on to your relational database.

database section. A section in the Relational Storage Manager configuration file that contains values for parameters that override the values for the same parameters for the current application.

database settings. Settings that you can modify to improve performance and space utilization for

your relational database. You can change database settings by using utilities or commands supplied with your relational database management system.

database user ID. The user ID that you want DB2 OLAP Server to use to log on to your relational database. The default is the supervisor ID that you specify when you start DB2 OLAP Server for the first time.

dense dimension. A dimension with a high probability for occupying one or more data points in every combination of dimensions that occurs.

dimension. A data category, such as time, accounts, products, or markets. In a multidimensional database outline, the dimensions represent the highest consolidation level.

dimension table. A table that DB2 OLAP Server creates in your relational database that contains detailed information about the members in a dimension. There is one dimension table for each dimension in an outline.

dimension view. A view that DB2 OLAP Server creates in your relational database that allows an SQL user to access information about members contained in a dimension.

ESSCMD. A command-line interface used to perform server operations interactively or through a batch file.

generation name. A unique name that describes a generation in a database outline.

generation table. A table that DB2 OLAP Server creates in your relational database that contains generation numbers and names for each named generation specified when you created the outline. There is one generation table for each dimension in an outline.

level name. A unique name that describes a level in a database outline.

member. A discrete component within a dimension. For example, January 1997 or 1Qtr97 are typical members of a Time dimension.

metaoutline. A template containing the structure and rules for creating a database outline from an OLAP model. Using the metaoutline, you can create a database outline and load data into it. The DB2 OLAP Integration Server desktop includes a tool called OLAP Metaoutline that you can use to create one or more metaoutlines from an OLAP model.

model. A logical model (star schema) that you create from tables and columns in a relational database. You can use the OLAP model to create a metaoutline that generates the structure of a multidimensional database. The DB2 OLAP Integration Server desktop includes a tool called OLAP Metaoutline that you can use to design and create an OLAP model based on a relational data source.

multidimensional data. The data in a multidimensional database. Data can include basic data values (loaded from an external source) that represent combinations of the lowest level of members in the dimensions of the database; data values that are calculated from the base data values; and rolled up data values that are created by combining values for members in dimension hierarchies.

multidimensional database. An OLAP database that you create using the Application Manager or ESSCMD commands (in DB2 OLAP Server) or with the DB2 OLAP Integration Server desktop, which is in the Starter Kit. An OLAP database includes a database outline, data, associated optional calculation scripts, optional report scripts, and data load rules. DB2 OLAP Server stores the actual data and a shadow of the database outline in tables in a relational database.

named pipes. An API used for special node-to-node applications and particularly for access to communications and database servers.

OLAP application. An application that you create using the Application Manager or the

ESSCMD commands (in DB2 OLAP Server) or with the DB2 OLAP Integration Server desktop, which is in the Starter Kit. An OLAP application can contain one or more multidimensional databases and any associated calculation scripts, report scripts, and data load rules.

OLAP metaoutline. See *metaoutline*.

OLAP model. See *model*.

online analytical processing (OLAP). A multidimensional, multi-user, client server computing environment for users who need to analyze consolidated enterprise data in real time. OLAP systems feature zooming, data pivoting, complex calculations, trend analyses, and modeling.

outline. See *database outline*.

RDBMS. Relational database management system. A database that can be perceived as a set of tables and manipulated in accordance with the relational model of data.

relational attribute. A characteristic of a dimension table, represented by a column. You can run SQL statements against the data in relational attribute columns.

relational database. A database that is organized and accessed according to relationships between data items. A relational database contains a collection of relational tables, views, and indexes.

report script. An ASCII file that contains Report Writer commands that generate one or more production reports. Report scripts can be run in batch mode, using the ESSCMD command-line interface, or through the Application Manager. The script is a text file that contains data retrieval, formatting, and output instructions.

restructure. An operation to regenerate or rebuild the tables and views that DB2 OLAP Server created in your relational database.

shadow. Information stored in relational tables that shadows the information stored in a multidimensional database outline.

shared member. A member that explicitly shares storage space with another member of the same name. This member has an attribute that designates it as shared. Shared members prevent making extra calculations on a member that appears in more than one location in a database outline.

sibling. A child member at the same branch level.

sparse dimension. A dimension with a low percentage of available data positions filled. For example, a product that is not sold in all of a company's available markets would be a good sparse candidate.

Spreadsheet Add-in. Software that merges with Microsoft Excel and Lotus 1-2-3 to enable analysis of multidimensional databases. The software library appears as a menu Add-In to the spreadsheet and provides such features as connect, zoom-in, and calculate.

SQL application. An application that uses SQL statements. You can use SQL applications to access data in a relational cube.

SQL. Structured Query Language. A standardized language for defining and manipulating data in a relational database.

star schema. The type of relational database schema used by DB2 OLAP Server. When you use the Application Manager to create a multidimensional database, DB2 OLAP Server creates a main fact table and a set of dimension tables. The fact table holds the actual data values for the database, and the dimension tables hold data about members and their relationships.

star view. A relation view that DB2 OLAP Server creates in your relational database that allows an SQL user to access data from the star schema in a single view with the JOIN already done.

table space. An abstraction of a collection of containers into which database objects are stored. A table space provides a level of indirection between a database and the tables stored within the database. A table space:

- Has space on media storage devices assigned to it.
- Has tables created within it. These tables will consume space in the containers that belong to the table space. The data, index, long field, and LOB portions of a table can be stored in the same table space, or can be individually broken out into separate table spaces.

time dimension. A dimension type that defines how often you collect and update data. You can tag only one dimension as Time, although you do not need to have a Time dimension.

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