OmniConnect™
Introducing OmniConnect for
Sybase® Adaptive Server™ Enterprise

OmniConnect™

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About This Book

This book, *Introducing OmniConnect for Sybase Adaptive Server Enterprise*, provides a quick overview of OmniConnect.

Audience

This book is written for System Administrators, database administrators, and users of OmniConnect™ for Sybase® Adaptive Server™ Enterprise.

Adaptive Server Enterprise Documents

The following documents comprise the Sybase Adaptive Server Enterprise documentation:

- The *Release Bulletin* for your platform – contains last-minute information that was too late to be included in the books.

  A more recent version of the *Release Bulletin* may be available on the World Wide Web. To check for critical product or document information that was added after the release of the product CD, use SyBooks™-on-the-Web.

- The Adaptive Server installation documentation for your platform – describes installation and upgrade procedures for all Adaptive Server and related Sybase products.
- The Adaptive Server configuration documentation for your platform – describes configuring a server, creating network connections, configuring for optional functionality, such as auditing, installing most optional system databases, and performing operating system administration tasks.
- *What's New in Adaptive Server Enterprise Release 11.5?* – describes the new features in Adaptive Server release 11.5, the system changes added to support those features, and the changes that may affect your existing applications.
- *Navigating the Documentation for Adaptive Server* – an electronic interface for using Adaptive Server. This online document provides links to the concepts and syntax in the documentation that are relevant to each task.

- *Transact-SQL User's Guide* – documents Transact-SQL®, Sybase's enhanced version of the relational database language. This manual serves as a textbook for beginning users of the database management system. This manual also contains descriptions of the *pubs2* and *pubs3* sample databases.
- *System Administration Guide* – provides in-depth information about administering servers and databases. This manual includes instructions and guidelines for managing physical resources and user and system databases, and specifying character conversion, international language, and sort order settings.
- *Adaptive Server Reference Manual* – contains detailed information about all Transact-SQL commands, functions, procedures, and datatypes. This manual also contains a list of the Transact-SQL reserved words and definitions of system tables.
- *Performance and Tuning Guide* – explains how to tune Adaptive Server for maximum performance. This manual includes information about database design issues that affect performance, query optimization, how to tune Adaptive Server for very large databases, disk and cache issues, and the effects of locking and cursors on performance.
- The *Utility Programs* manual for your platform – documents the Adaptive Server utility programs, such as **isql** and **bcp**, which are executed at the operating system level.
- *Security Administration Guide* – explains how to use the security features provided by Adaptive Server to control user access to data. This manual includes information about how to add users to Adaptive Server, administer both system-defined and user-defined roles, grant database access to users, and manage remote Adaptive Servers.
- *Security Features User's Guide* – provides instructions and guidelines for using the security options provided in Adaptive Server from the perspective of the non-administrative user.
- *Error Messages* and *Troubleshooting Guide* – explains how to resolve frequently occurring error messages and describes solutions to system problems frequently encountered by users.
- *Component Integration Services User's Guide for Adaptive Server Enterprise and OmniConnect* – explains how to use the Adaptive Server Component Integration Services feature to connect remote Sybase and non-Sybase databases.

- *Adaptive Server Glossary* – defines technical terms used in the Adaptive Server documentation.
- *Master Index for Adaptive Server Publications* – combines the indexes of the *Adaptive Server Reference Manual*, *Component Integration Services User Guide*, *Performance and Tuning Guide*, *Security Administration Guide*, *Security Features User's Guide*, *System Administration Guide*, and *Transact-SQL User's Guide*.

Other Sources of Information

Use the SyBooks™ and SyBooks-on-the-Web online resources to learn more about your product:

- SyBooks documentation is on the CD that comes with your software. The DynaText browser, also included on the CD, allows you to access technical information about your product in an easy-to-use format.

  Refer to *Installing SyBooks* in your documentation package for instructions on installing and starting SyBooks.
- SyBooks-on-the-Web is an HTML version of SyBooks that you can access using a standard Web browser.

  To use SyBooks-on-the-Web, go to http://www.sybase.com, and choose Documentation.

Conventions

What you type to the computer screen is shown as:

```
Enter text in an entry field
```

Computer output is shown as:

```
OmniConnect returns results.
```

Command arguments you replace with a non-generic value are shown in italics:

machine_name

If You Need Help

Each Sybase installation that has purchased a support contract has one or more designated people who are authorized to contact Sybase Technical Support. If you cannot resolve a problem using the

manuals or online help, ask a designated person at your site to contact Sybase Technical Support.

1 Welcome to OmniConnect

OmniConnect is one of several Adaptive Server Enterprise bundles which uses the Component Integration Services feature to provide access to external data sources.

Overview of OmniConnect

OmniConnect allows users to access both Sybase and non-Sybase databases on different servers. These external data sources include host data files and tables, views and RPCs (remote procedure calls) in database systems such as Adaptive Server, Oracle, and DB2, as shown in Figure 1-1.

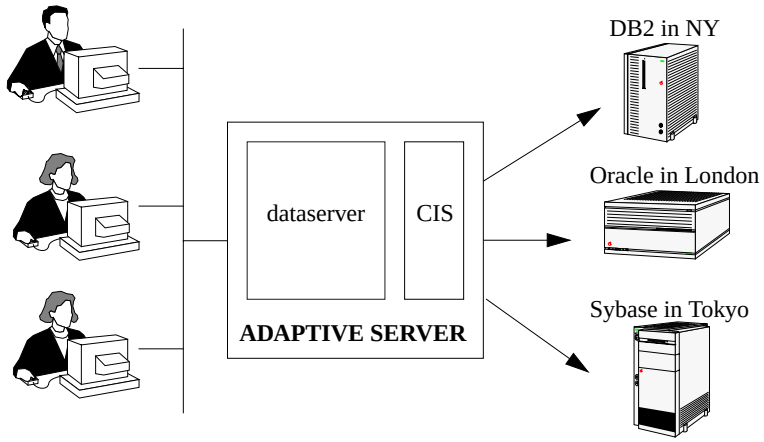

Figure 1-1: OmniConnect connects to multiple vendor databases

Adaptive Server presents a uniform view of enterprise data to client applications and provides location transparency to enterprise-wide data sources.

OmniConnect uses the Component Integration Services feature of Adaptive Server Enterprise to provide customers with enhanced interoperability. Unlike the Adaptive Server, it does not provide local data storage.

Using OmniConnect, you can:

- Access tables in remote servers as if the tables were local.

- Perform joins between tables in multiple remote, heterogeneous servers. For example, it is possible to join tables between an Oracle database management system and an Adaptive Server, and between tables in multiple Adaptive Servers.
- Transfer the contents of one table into a new table on any supported remote server using a **select into** statement.
- Provide applications, such as PowerBuilder®, Microsoft Access, and DataEase, with transparent access to heterogeneous data.
- Maintain referential integrity across heterogeneous data sources.
- Access native remote server capabilities using the Component Integration Services passthrough mode.

Who Can Use Component Integration Services

Component Integration Services can be used by anyone who needs to access multiple data sources or legacy data. It can also be used by anyone who needs to migrate data from one server to another.

A single server is often used to access data on multiple external servers. OmniConnect manages the data regardless of the location of the external servers. Data management is transparent to the client application.

OmniConnect, in combination with EnterpriseConnect™ products, provides transparent access to a wide variety of data sources, including:

- Oracle
- Ingres
- Informix
- Rdb
- IBM databases including:
  - DB2 for MVS
  - DB2/400
  - DB2/2
  - DB2 for VM (SQL/DS)
- Microsoft SQL Server
- Adaptive Server Enterprise
- SQL Anywhere™

- Mainframe data, including:
  - ADABAS
  - IDMS
  - IMS
  - VSAM

The list of certified and supported sources and front-end tools is increasing. For current information on all data sources, versions supported, and products required for support, call the Sybase FAX on Demand at 1-800-423-8737. Request the "Partner Certification Report."

What's New in OmniConnect 11.5

OmniConnect release 11.5 has many enhancements over release 10.5.

Users of OmniConnect release 10.5 who are upgrading to OmniConnect release 11.5 should note the following differences:

- System tables

  The system tables used in Component Integration Services are different from system tables used in OmniConnect 10.5. See the *Adaptive Server Reference Manual* for information.

- Utilities

  The **defgen** and **ddlgen** utilities have been enhanced. See the *Component Integration Services User's Guide* for complete information.

- Server class *sds*

  A new server class called *sds* has been added to Component Integration Services. See Chapter 4 in the *Component Integration Services User's Guide* for more information.

- Support for C-ISAM files has been dropped

  Support for C-ISAM files has been dropped in release 11.5.

- Installation and configuration

  Instructions for installing OmniConnect release 11.5 and migrating from release 10.5 are documented in the installation documentation for your platform.

- Error messages

Error messages are documented in the *Error Messages* and *Troubleshooting Guide.*

- **dbcc** trace flags

  The numbering scheme for **dbcc** trace flags has been changed.

  dbcc trace flags are documented in the *Component Integration Services User's Guide.*

Documentation You Need

OmniConnect users must be familiar with Adaptive Server. The required documentation for OmniConnect is listed in "Other Sources of Information" on page ix

Where To Begin

Steps Needed to Use OmniConnect

To run OmniConnect follow these steps:

- Make sure you have installed the OmniConnect option.
- Install DirectConnect server(s) or gateways for the external data sources you choose to access (such as Oracle, Ingres, DB2, Informix, or Rdb).
- Configure the server to access remote objects as described in *Component Integration Services User's Guide.*

Migrating from OmniConnect Release 10.5

The following section provides instructions for migrating from OmniConnect release 10.5 schemas to OmniConnect release 11.5. If you are a new OmniConnect user who is not using earlier versions of OmniConnect, you will not need to read this section.

You can migrate to OmniConnect Release 11.5 only if you are currently using OmniConnect release 10.5.

Preparing to Migrate

Read the documentation on the **ddlgen** utility in the *Component Integration Services User's Guide*. This utility is used to migrate objects defined in OmniConnect. **ddlgen** creates an **isql** script that you can use to recover the following objects:

- Servers
- Database definitions
- Logins
- Remote logins
- External logins
- Database options
- Object ownership
- Users and groups
- Aliases
- Rules and defaults
- User datatypes
- Rules and defaults bound to user datatypes
- Table definitions
- Rules and defaults bound to table columns
- Local views
- Triggers
- Procedures
- Permissions

Migrating

The migration process requires four steps:

1. Run the **ddlgen** utility against the existing OmniConnect release 10.5, and save the output script.
2. Install OmniConnect release 11.5 in a different directory from OmniConnect release 10.5.
3. Edit the **ddlgen** script that you created in step 1 if required. This might be necessary to initialize required devices and to update **create database** statements so that objects are created on the correct

devices. It may also be necessary if your system requires real passwords.

4. Use the **isql** utility to redirect the **ddlgen** output script, created in step 1, to the new OmniConnect release 11.5.

Elements Not Restored

ddlgen does not migrate the settings of configuration parameters. The System Administrator should use the **sp_configure** procedure against the old installation to generate a list of configuration settings. Then use **sp_configure** against the new installation to re-establish configuration option settings.

Configuring OmniConnect

See the *Component Integration User's Guide* for instructions on configuring OmniConnect.