



Overview Guide

Mainframe Connect Integrated Product Set

12.6

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Sybase, Inc., One Sybase Drive, Dublin, CA 94568.

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About This Book

Audience This book is intended for those using products in the Mainframe Connect Integrated Product Set (IPS).

Product name changes The following table describes new names for products in the 12.6 release of the Mainframe Connect Integrated Product Set.

Old product names	New product name
<ul style="list-style-type: none"> • Open ClientConnect™ for CICS • Open ClientCONNECT for CICS 	Mainframe Connect Client Option for CICS
<ul style="list-style-type: none"> • Open Client Connect for IMS and MVS • Open ClientCONNECT for IMS and MVS 	Mainframe Connect Client Option for IMS and MVS
<ul style="list-style-type: none"> • Open ServerConnect™ for CICS • Open ServerCONNECT for CICS 	Mainframe Connect Server Option for CICS
<ul style="list-style-type: none"> • Open ServerConnect for IMS and MVS • Open ServerCONNECT for IMS and MVS 	Mainframe Connect Server Option for IMS and MVS
<ul style="list-style-type: none"> • MainframeConnect™ for DB2 UDB • MainframeCONNECT for DB2/MVS-CICS 	Mainframe Connect DB2 UDB Option for CICS
<ul style="list-style-type: none"> • DirectConnect™ for OS/390 • DirectCONNECT for DB2/MVS 	Mainframe Connect DirectConnect for z/OS Option

How to use this book

See	For
Chapter 1, “Introducing the Mainframe Connect IPS”	<ul style="list-style-type: none"> • An overview of the Mainframe Connect IPS • A description of integrated functionality between Mainframe Connect IPS components

See	For
Chapter 2, “Mainframe Connect IPS components”	Descriptions of these products: <ul style="list-style-type: none"> • DirectConnect for z/OS Option • DB2 UDB Option for CICS • Server Option for CICS, IMS, and MVS • Client Option for CICS, IMS, and MVS
Chapter 3, “Sample Scenarios and Solutions”	Sample solutions using products in Mainframe Connect
Appendix A, “Gateway-less and gateway-enabled environments”	Description of three-tier vs. two-tier environments

Related documents

See your product documentation for detailed descriptions of how to install and use the Mainframe Connect IPS components.

Other sources of information

Use the Sybase Getting Started CD, the SyBooks CD, and the Sybase Product Manuals Web site to learn more about your product:

- The Getting Started CD contains release bulletins and installation guides in PDF format, and may also contain other documents or updated information not included on the SyBooks CD. It is included with your software. To read or print documents on the Getting Started CD, you need Adobe Acrobat Reader, which you can download at no charge from the Adobe Web site using a link provided on the CD.
- The SyBooks CD contains product manuals and is included with your software. The Eclipse-based SyBooks browser allows you to access the manuals in an easy-to-use, HTML-based format.

Some documentation may be provided in PDF format, which you can access through the PDF directory on the SyBooks CD. To read or print the PDF files, you need Adobe Acrobat Reader.

Refer to the *SyBooks Installation Guide* on the Getting Started CD, or the *README.txt* file on the SyBooks CD for instructions on installing and starting SyBooks.

- The Sybase Product Manuals Web site is an online version of the SyBooks CD that you can access using a standard Web browser. In addition to product manuals, you will find links to EBFs/Maintenance, Technical Documents, Case Management, Solved Cases, newsgroups, and the Sybase Developer Network.

To access the Sybase Product Manuals Web site, go to Product Manuals at <http://www.sybase.com/support/manuals/>.

Sybase certifications on the Web

Technical documentation at the Sybase Web site is updated frequently.

❖ Finding the latest information on product certifications

- 1 Point your Web browser to Technical Documents at <http://www.sybase.com/support/techdocs/>.
- 2 Select Products from the navigation bar on the left.
- 3 Select a product name from the product list and click Go.
- 4 Select the Certification Report filter, specify a time frame, and click Go.
- 5 Click a Certification Report title to display the report.

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Set up a MySybase profile. MySybase is a free service that allows you to create a personalized view of Sybase Web pages.

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- 2 Click MySybase and create a MySybase profile.

Sybase EBFs and software maintenance**❖ Finding the latest information on EBFs and software maintenance**

- 1 Point your Web browser to the Sybase Support Page at <http://www.sybase.com/support>.
- 2 Select EBFs/Maintenance. If prompted, enter your MySybase user name and password.
- 3 Select a product.
- 4 Specify a time frame and click Go. A list of EBF/Maintenance releases is displayed.

Padlock icons indicate that you do not have download authorization for certain EBF/Maintenance releases because you are not registered as a Technical Support Contact. If you have not registered, but have valid information provided by your Sybase representative or through your support contract, click Edit Roles to add the “Technical Support Contact” role to your MySybase profile.

- 5 Click the Info icon to display the EBF/Maintenance report, or click the product description to download the software.

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, please have the designated person contact Sybase Technical Support or the Sybase subsidiary in your area.

Introducing the Mainframe Connect IPS

This chapter gives an overview of the Mainframe Connect IPS, which provides a suite of products that enable access and integration of mainframe data.

This chapter contains the following topics:

Topic	Page
What is the Mainframe Connect IPS?	1
Integrated functionality between IPS components	4

Note The Enterprise Connect Data Access product suite and the Sybase Replication Server® Options provide data access and data movement, respectively, for a variety of databases where Sybase mainframe components are not required. For more information about the Enterprise Connect Data Access product suite and the Replication Server Options, see the documentation for these products.

What is the Mainframe Connect IPS?

The Mainframe Connect IPS supplies the connectivity tools that allow you to fully integrate your mainframe and LAN-based data sources.

With the Mainframe Connect IPS, you can:

- Enable client applications using CICS, IMS, and z/OS to access data stored on a mainframe as if it were Sybase data.
- Create custom mainframe applications that provide access to data stored on LAN-based servers
- Create Open Server™ gateways to other mainframe database management systems (DBMSs), file systems, and applications

- Create custom applications that access mainframe data sources

For details on the most current functionality, see the Mainframe Connect Integrated Product Set *New Features* guide.

The Mainframe Connect IPS consists of the following components:

- DirectConnect for z/OS Option (formerly DirectConnect for OS/390)
- DB2 UDB Option for CICS (formerly MainframeConnect for DB2 UDB)
- Server Option for CICS, IMS, and MVS (formerly Open ServerConnect for CICS, IMS, and MVS)
- Client Option for CICS, IMS, and MVS (formerly Open ClientConnect for CICS, IMS, and MVS)

The DirectConnect for z/OS Option is the only Mainframe Connect IPS component that resides on the LAN (UNIX/NT). All other components reside on the mainframe.

For information on these components, see Chapter 2, “Mainframe Connect IPS components.”

Related products

The following products are related to the Mainframe Connect IPS but are not part of the product set:

- Adaptive Server Enterprise with Component Integration Services (ASE/CIS)
- Replication Server
- Replication Agent for DB2 UDB for OS/390
- Replication Toolkit for MVS

Adaptive Server Enterprise with Component Integration Services (ASE/CIS)

Adaptive Server® Enterprise (ASE) is the relational database server in the Sybase client-server architecture used in mission-critical, transaction-intensive enterprise environments.

Component Integration Services (CIS) is an ASE feature that enables transparent access to a variety of other database management systems, such as DB2, Oracle, and Microsoft SQL Server. ASE/CIS enables users to access and maintain data throughout an enterprise and across heterogeneous boundaries.

Replication Server

Replication Server is the application that maintains and processes replicate transactions received from a source data server or another Replication Server. Replication Server typically resides on a LAN, but it can also function on the same server as the primary and replicate data sources, and on a WAN.

For more information about Replication Server, see the documentation for that product.

Replication Agent for DB2 UDB for OS/390

Replication Agent™ for DB2 UDB for OS/390 is a component of a replication system that moves primary database transactions from DB2 UDB for OS/390 through Replication Server to replicate databases.

In a Replication Agent for DB2 UDB environment, the primary database is DB2 UDB, which runs as a subsystem in z/OS. The database logs are DB2 UDB logs. The replication module consists of two components:

- Log Extract
- Log Transfer Manager

For more information about Replication Agent for DB2, see the documentation for that product.

Replication Toolkit for MVS

Replication Toolkit™ for MVS is a subset of the components available with Replication Agent for DB2 UDB for OS/390 and consists of the Log Transfer Manager only.

Replication Toolkit for MVS provides the API and tools to enable user development of an z/OS-based log extract application to access non-DB2 mainframe data, such as VSAM or Adabas.

For more information about Replication Toolkit, see the documentation for that product.

Integrated functionality between IPS components

The components of the Mainframe Connect IPS can be used alone or integrated within an environment of Sybase products. Used together, these components provide mainframe data access in distributed, client/server and Internet environments. The figures in the following sections illustrate how the components in the Mainframe Connect IPS (shown in bold) and related products function together to provide access to data on the mainframe:

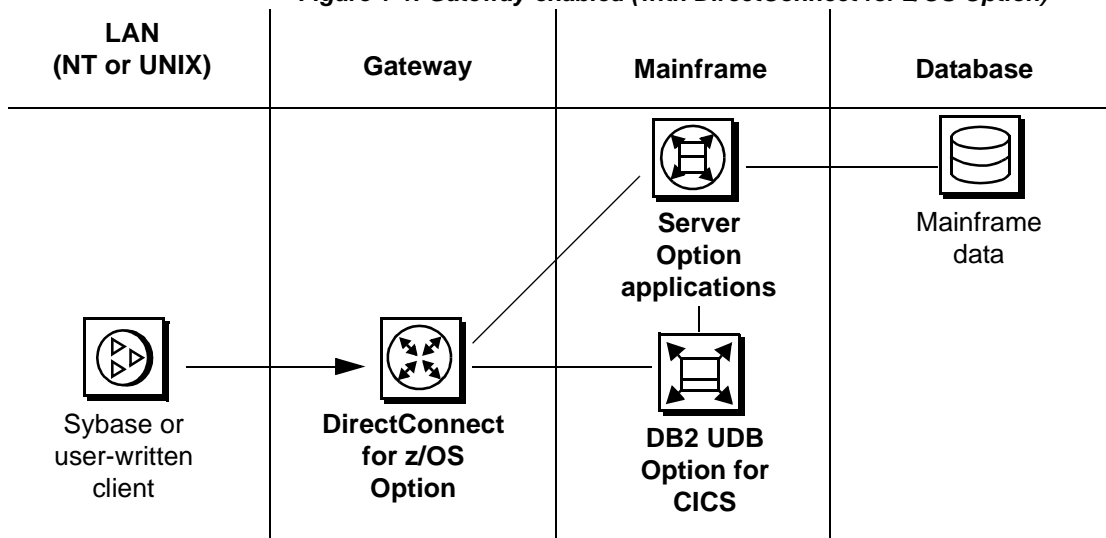
- The three-tier environment
- The two-tier environment
- The mainframe as server
- The mainframe as client
- Accessing DB2 data

The three-tier environment

The following figure illustrates the use of the Mainframe Connect IPS components in a three-tier, gateway-enabled environment. IPS components are noted in bold type.

Note Mainframe Client Connect (MCC) is no longer being provided or supported. Consequently, the Client Option can be used only in a two-tier environment. Sybase recommends that you migrate any Client Option applications from a three-tier (gateway-enabled) environment using SNA to a two-tier environment using TCP.

Figure 1-1: Gateway-enabled (with DirectConnect for z/OS Option)



The three-tier, gateway-enabled environment employs a DirectConnect for z/OS Option gateway for communication between LAN applications and the mainframe.

LAN client

The LAN client can be:

- *User-written* – User-written clients may be any application using Sybase Open Client, ODBC or JDBC.
- *Sybase servers acting as clients* – These include EAServer, ASE/CIS, and Replication Server.

Gateway

The DirectConnect for z/OS Option gateway application can be an access service or a Transaction Router Service (TRS) in communication from the LAN to the mainframe.

Mainframe

The Server Option and the DB2 UDB Option for CICS both reside on the mainframe. Other products related to the IPS, such as Replication Agent for DB2, also reside on the mainframe.

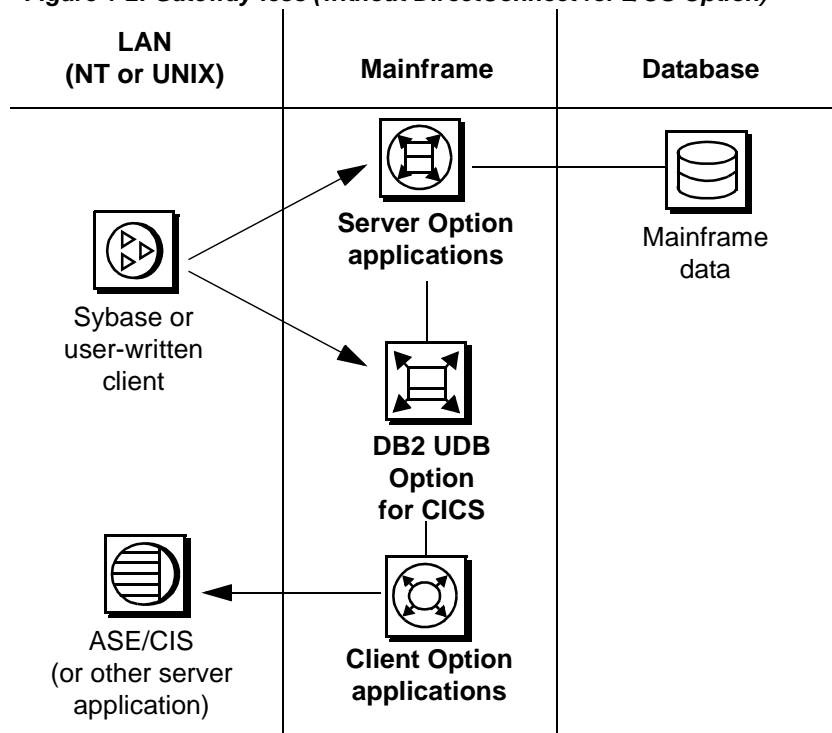
Database

The accessed database can be a relational source, such as DB2 UDB. Some user application development is necessary to access nonrelational data, such as IMS, VSAM, IDMS, DATACOM, and ADABAS.

The two-tier environment

The following figure illustrates the use of the Mainframe Connect IPS components in a two-tier, gateway-less environment. IPS components are noted in bold type.

Figure 1-2: Gateway-less (without DirectConnect for z/OS Option)



The two-tier, gateway-less environment does not use a DirectConnect for z/OS Option gateway for communication between LAN applications and the mainframe.

Note Functionality associated with a DirectConnect for z/OS Option gateway is not present in a two-tier configuration. One exception, however, is that of transaction name mapping, which is available for the Server Option in a two-tier configuration. For a comparison of functionality between the two-tier and three-tier environments, see Appendix A, “Gateway-less and gateway-enabled environments.”

LAN client

The LAN client can be:

- *User-written* – User-written clients may be any application using Sybase Open Client, ODBC, or JDBC.

- *Sybase servers acting as clients* – These include EA Server and ASE/CIS.

Mainframe

The Server Option, the Client Option, and the DB2 UDB Option for CICS all reside on the mainframe. Other products related to the IPS, such as Replication Agent for DB2, also reside on the mainframe.

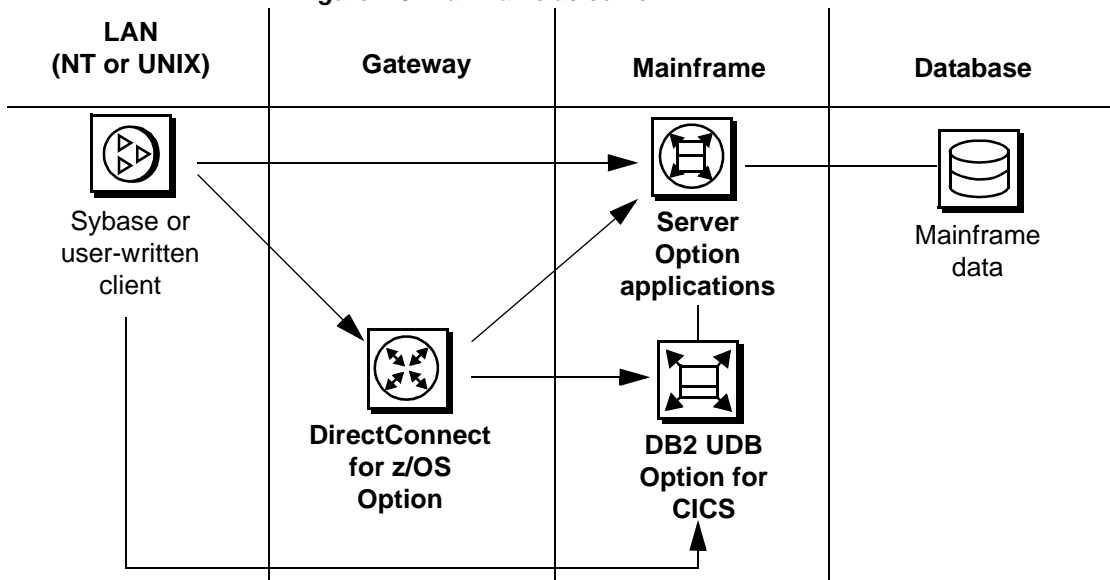
Database

The database accessed can be a relational source, such as DB2 UDB. Some user application development is necessary to access nonrelational data, such as IMS or VSAM.

The mainframe as server

The following figure illustrates the use of the Mainframe Connect IPS components in an environment where the mainframe acts as the server, and the LAN acts as the client. IPS components are noted in bold type.

Figure 1-3: Mainframe as server



The mainframe components of the Mainframe Connect IPS can be accessed with or without a DirectConnect for z/OS Option gateway.

LAN client

The LAN client can be:

- *User-written* – User written clients can be any application using ODBC or JDBC and created with or without Sybase tools, such as PowerBuilder® or Open Client or Open Server.
- *Sybase* – Sybase client applications include EAServer, and ASE/CIS.

Gateway

The DirectConnect for z/OS Option gateway application can be an access service or a Transaction Router Service (TRS) in communication from the LAN to the mainframe.

Mainframe

The Server Option and the DB2 UDB Option for CICS reside on the mainframe.

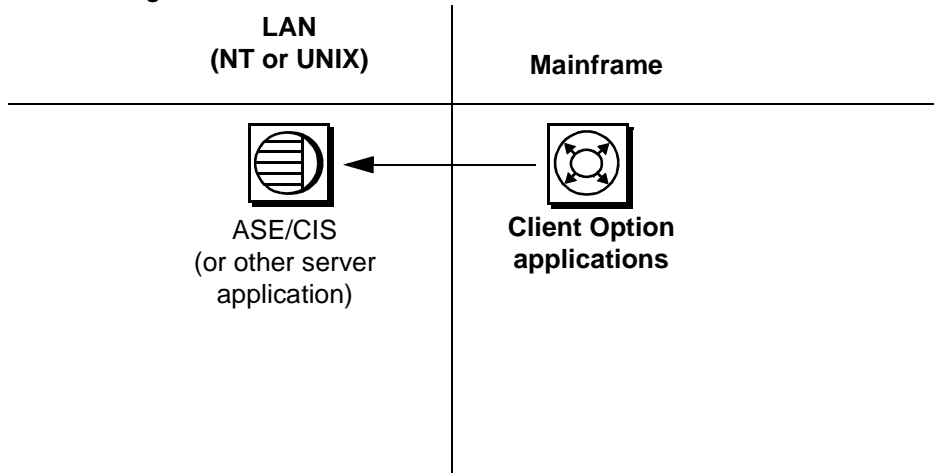
Database

The database accessed may be a relational source, such as DB2 UDB. Some user application development is necessary to access nonrelational data, such as IMS or VSAM.

The mainframe as client

The following figure illustrates the use of the Mainframe Connect IPS components in an environment where the mainframe acts as the client to a LAN server. IPS components are noted in bold type.

Figure 1-4: Mainframe as client



Note Mainframe Client Connect (MCC) is no longer being provided or supported. Sybase recommends that you migrate any Client Option products from a three-tier (gateway-enabled) environment to a two-tier environment using TCP.

Mainframe client

The Client Option resides on the mainframe.

Gateway

There is no gateway for use with the Client Option.

LAN

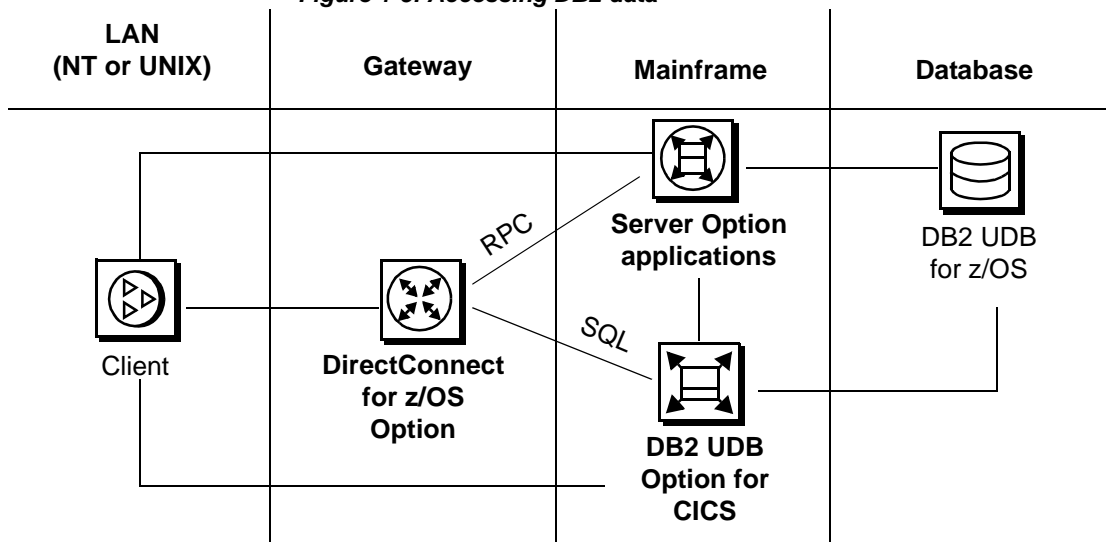
The LAN server can be any LAN-based Sybase server that supports Open Client connections, including:

- ASE/CIS
- EAServer
- User-written Open Server applications

Accessing DB2 data

The following figure illustrates the use of the Mainframe Connect IPS components to access data in DB2 UDB for z/OS. IPS components are noted in bold type.

Figure 1-5: Accessing DB2 data



In accessing data in DB2 UDB, the client may:

- Invoke an RPC to execute a user-written Server Option application,
- or
- Send SQL queries to DB2 UDB through the DB2 UDB Option for CICS.

Mainframe Connect IPS components

The Mainframe Connect IPS consists of components described in the following sections:

Topic	Page
DirectConnect for z/OS Option	13
DB2 UDB Option for CICS	14
Server Option for CICS, IMS, and MVS	15
Client Option for CICS, IMS, and MVS	16

DirectConnect for z/OS Option

The DirectConnect for z/OS Option is Open Server™-based software that supports DB-Library™, CT-Library™, ODBC, and JDBC application programming interfaces (APIs).

As a LAN-based gateway server, the DirectConnect for z/OS Option provides access to non-Sybase data and applications and constitutes a primary structure on which to build scalable database middleware applications.

The DirectConnect for z/OS Option provides the following middleware services for decision support and online transaction processing (OLTP) applications:

- *access services*, which provide access to non-Sybase data sources. The DirectConnect for z/OS Option access service is the recommended component to use for SQL access to DB2 UDB for z/OS data.

- *Transaction Router Service (TRS)*, which provides access from LAN-based client applications to mainframe data and applications. Client applications use TRS to execute mainframe remote procedure calls (RPCs) using Server Option applications.

Note Mainframe Client Connect (MCC) is no longer being provided or supported. Sybase recommends that you migrate any Client Option applications from a three-tier (gateway-enabled) environment using SNA to a two-tier environment using TCP.

The DirectConnect for z/OS Option is available in the Mainframe Connect IPS. Other DirectConnect products are available in the Enterprise Connect Data Access product suite.

DirectConnect Manager

DirectConnect Manager is a graphical user interface (GUI) systems management tool for configuring and managing a DirectConnect for z/OS Option server. DirectConnect Manager runs within the Sybase systems management framework called Sybase Central. DirectConnect Manager runs only on Windows platforms.

DB2 UDB Option for CICS

DB2 UDB Option for CICS resides on the mainframe and works with the DirectConnect for z/OS Option to provide dynamic access to mainframe DB2 data.

Client applications access DB2 UDB Option for CICS in one of the following ways:

- Through the DirectConnect for z/OS Option DB2 access service or TRS

- Indirectly through the CIS functionality in Adaptive Server Enterprise (ASE)

Note DB2 UDB Option for CICS is available only for CICS environments. For IMS and native z/OS environments, use OmniSQL Access Module™ for DB2/CICS for IMS and z/OS.

DB2 UDB Option for CICS in gateway-less environment

You can use DB2 UDB Option for CICS in a two-tier, gateway-less environment (without the DirectConnect for z/OS Option). For more information, see Appendix A, “Gateway-less and gateway-enabled environments” and the Mainframe Connect DB2 UDB Option for CICS *Installation and Administration Guide*.

Server Option for CICS, IMS, and MVS

The Server Option is a programming environment that enables users to create mainframe applications that are accessible to LAN-based client applications. To provide this access, the Server Option uses the following basic interfaces:

- Traditional Open Server programming environment (for new customers and Sybase-heritage customers using new applications)
- Remote stored procedure (RSP) programming environment (only for MDI-heritage customers using their existing applications)

These transactions provide access to virtually any z/OS data source and are used for a variety of functions, including:

- Accessing existing mainframe applications
- Initiating mainframe batch jobs
- Providing source data for data transfer operations
- Providing data mapped to a table within the CIS functionality in ASE, thus allowing results to be accessed or joined with data from other targets

LAN-side client applications access Server Option transactions directly through the DirectConnect for z/OS Option or indirectly through CIS functionality in ASE or an ASE RPC.

The Server Option allows your mainframe to act as both an application server and a data server in a distributed environment. The Server Option API makes CICS, IMS, and MVS data and application programs available to a Sybase calling program (for example, Sybase Open Client, ODBC, and JDBC applications). These APIs deliver critical CICS, IMS, and MVS data and services to LAN-based and Internet-based clients through a single, open infrastructure.

The heterogeneous solutions made available through the Server Option use traditional mainframe security systems. Used with its partner product, the DirectConnect for z/OS Option, the Server Option ensures transparent and seamless data transport between the Internet, LAN, and mainframe systems. The DirectConnect for z/OS Option routes requests (SQL statements and RPC calls) between the mainframe and end user, manages all the protocol translation where required, and provides additional security features that deliver the required security necessary for today's Internet and enterprise portal applications.

The Server Option in a gateway-less environment

You can use the Server Option in a two-tier, gateway-less environment (without the DirectConnect for z/OS Option). For more information, see the Mainframe Connect Server Option *Installation and Administration Guide* for CICS.

Client Option for CICS, IMS, and MVS

The Client Option is a programming environment that enables the user to create mainframe applications that access data and applications residing on a LAN. The Client Option allows the user to treat the mainframe as if it were another node on a LAN.

The Client Option uses the following APIs:

- Traditional Open Client programming environment (for new customers and Sybase-heritage customers using new applications)

- Client Services Application (CSA) programming environment (only for MDI-heritage customers using their old applications)

The Client Option allows the mainframe to take on the initiating role of a client in a distributed system. The Client Option is a library of routines, programming services, and runtime services that you can use to develop client/server applications. It allows mainframe programs written in assembler, C, COBOL II, or PL/I to communicate with ASE and with Open Server-developed applications. By using the Client Option, developers can extend the capabilities of their existing mainframe transaction-orientated applications to give end users and mainframe-based applications transparent access to distributed LAN-based applications and data. Also, z/OS batch applications can become clients requesting data or services from network- and Internet-based applications.

The Client Option in gateway-less environment

You can use the Client Option in a two-tier, gateway-less environment only. For more information, see the Mainframe Connect Client Option *Installation and Administration Guide* for CICS.

Sample Scenarios and Solutions

Although there are many ways your site can use the Mainframe Connect IPS to access mainframe data, the scenarios in this chapter provide high-level examples of Mainframe Connect IPS component solutions.

These scenarios are described in the following topics:

Topic	Page
Accessing and changing data in a DB2 database	19
Transparently accessing and changing data on a mainframe and in other databases	20
Implementing bidirectional replication between DB2 and other databases within the enterprise	21
Accessing and changing data on the mainframe through an enterprise portal on the Web	22

Accessing and changing data in a DB2 database

Profile

An enterprise using PowerBuilder needs to manage and update users' profiles in a DB2 database on the mainframe.

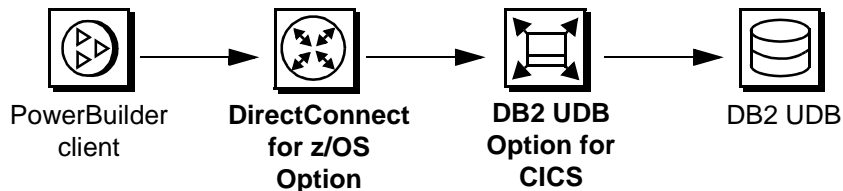
Sybase products

The enterprise uses the DirectConnect for z/OS Option and the DB2 UDB Option for CICS to access DB2.

Scenario

The following figure illustrates this sample scenario.

Figure 3-1: Accessing and changing data in a DB2 database



Transparently accessing and changing data on a mainframe and in other databases

Profile

An enterprise has developed a Visual Basic customer management application that must combine mainframe VSAM data with Informix data.

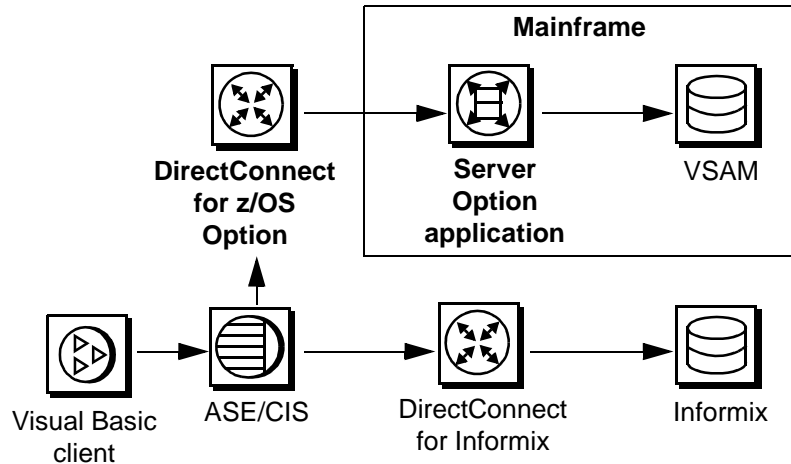
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The enterprise uses ASE/CIS, the DirectConnect for z/OS Option, DirectConnect for Informix, and Server Option applications for VSAM data access. DirectConnect for Informix is a component of the Enterprise Connect Data Access IPS.

Scenario

The following figure illustrates this sample scenario.

Figure 3-2: Transparently accessing and changing data on a mainframe and in other databases



Implementing bidirectional replication between DB2 and other databases within the enterprise

Profile

An enterprise is distributing catalog information centrally stored on the mainframe in DB2 to several satellite locations where subsets of the data are stored in Oracle for fast and easy access. Periodic corrections to the catalog information, gathered at the local offices, are replicated back to DB2.

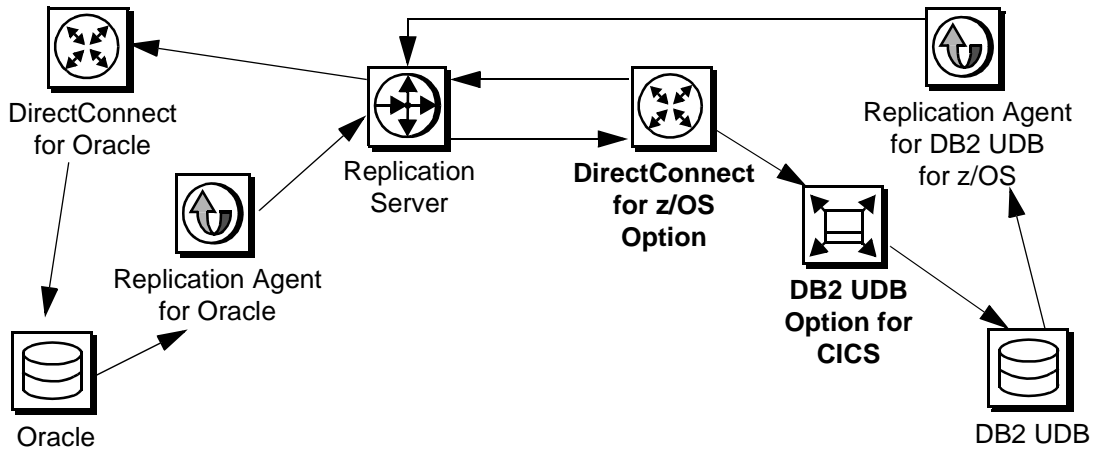
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The example uses Replication Agent for DB2, Replication Server, Replication Agent for Oracle, and the DirectConnect for z/OS Option to replicate between DB2 and Oracle. DirectConnect for Oracle is a component of the Enterprise Connect Data Access IPS.

Scenario

The following figure illustrates this sample scenario.

Figure 3-3: Processing bidirectional replication between DB2 and other databases within the enterprise



Accessing and changing data on the mainframe through an enterprise portal on the Web

Profile

A Web-based business—with 20 locations where product orders can be accessed and updated—needs to access orders and customer information stored in VSAM files and in DB2 on the mainframe. The business relies heavily on stored procedures and cannot use dynamic SQL to access mainframe data.

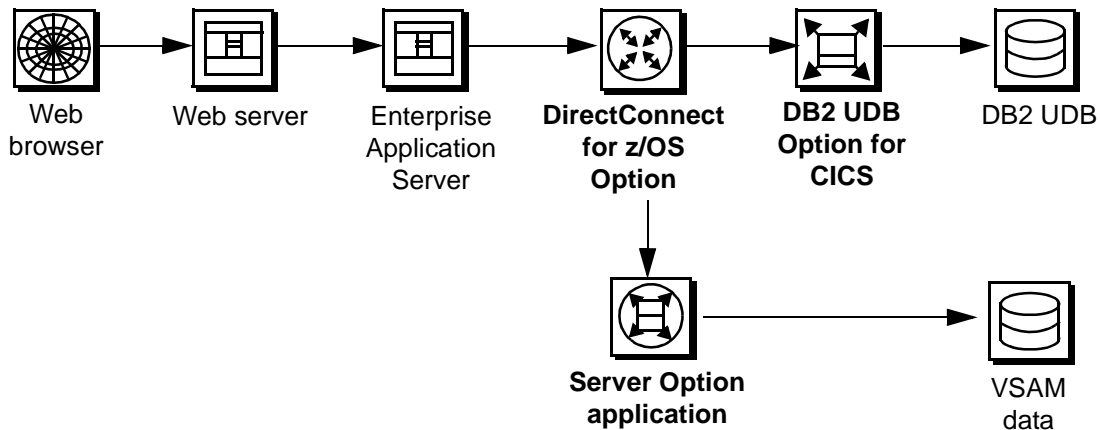
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The business uses EAServer, the DirectConnect for z/OS Option, the Server Option, and the DB2 UDB Option for CICS.

Scenario

The following figure illustrates this sample scenario.

Figure 3-4: Accessing and changing data on the mainframe through an enterprise portal on the Web



Gateway-less and gateway-enabled environments

This appendix describes and compares two-tier, gateway-less and three-tier, gateway-enabled environments within the Mainframe Connect IPS.

Many of the components in the Mainframe Connect IPS can be used both with the DirectConnect for z/OS Option, in a three-tier, gateway-enabled environment, and without the DirectConnect for z/OS Option, in a two-tier, gateway-less environment. This section describes issues you should consider when using Mainframe Connect IPS components in a two-tier environment or three-tier environment.

This chapter contains the following topics:

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Advantages of a three-tier environment

The features and functionality available with the DirectConnect for z/OS Option are available to the three-tier user. These features include the following:

- DirectConnect for z/OS Option access service features
- DirectConnect for z/OS Option TRS features
- General DirectConnect for z/OS Option functionality

DirectConnect for z/OS Option access service features

The DirectConnect for z/OS Option access services are a primary means of accessing mainframe data. The following DirectConnect for z/OS Option access service features are available to the three-tier user and unavailable in a two-tier environment:

- *Datatype translation* – datatypes used by LAN client applications match those used on the mainframe.
- *SQL transformation* – SQL used by LAN client applications is matched to the SQL used by mainframe applications.

For more information on the DirectConnect for z/OS Option access services, see the Mainframe Connect DirectConnect for z/OS Option *User's Guide for DB2 Access Services*.

DirectConnect for z/OS Option TRS features

The DirectConnect for z/OS Option TRS is also important for accessing mainframe data using RPCs. The following TRS features are available to the three-tier user and unavailable in a two-tier environment:

- *IMS and z/OS access* – IMS and z/OS data are available to LAN clients in a three-tier environment.
- *Transaction mapping by security definition* – transactions can be mapped from LAN client to mainframe by the security definition.
- *Transaction mapping by user ID* – transactions can be mapped from LAN client to mainframe by the user ID of the client.
- *Security* – TRS security features can be configured to require client identification and restrict access to mainframe connections and transactions.
- *Support for DB2 stored procedures* – using the DB2 UDB Option for CICS, client applications can invoke a DB2 stored procedure as a Server Option remote procedure call (RPC). Client applications can connect to the DB2 UDB Option for CICS directly or through TRS.

For more information on TRS, see the Mainframe Connect DirectConnect for z/OS Option *User's Guide for Transaction Router Services*.

General DirectConnect for z/OS Option functionality

The following DirectConnect for z/OS Option features are available to the three-tier user and unavailable in a two-tier environment:

- *Logging, tracing, and accounting* – your environment can use DirectConnect for z/OS Option facilities for logging, tracing, and accounting.
- *GUI configuration and multi-user management* – any GUI configuration and user-management tools available with the DirectConnect for z/OS Option are available to the three-tier user.
- *SNA connectivity* – the SNA connectivity protocol can only be used through a gateway, which provides TCP/IP-to-SNA protocol conversion. SNA connectivity is supported only in communication from the LAN to the mainframe.
- *Access to multiple CICS regions* – LAN client applications in a three-tier environment may access multiple CICS regions at one time.
- *Transaction grouping* – transactions may be managed as a group in a three-tier environment.
- *Security* – additional levels of security may be implemented by the gateway in a three-tier environment.

Note DirectConnect for z/OS Option transaction name mapping is provided in the Server Option in a two-tier environment.

Two-tier advantages

A primary advantage of a two-tier environment is the increased throughput associated with a simpler architecture. Also, less administrative attention is required to install and maintain components in a two-tier environment.

