SYBASE®

Installation Guide

Sybase Data Integration Suite

1.2

[UNIX]

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Contents

About This Book

Audience

This guide is intended for data administrators and developers who are responsible for installing and configuring Sybase® Data Integration (DI) Suite components.

How to use this book

The *Sybase Data Integration Suite Installation Guide* is structured as follows:

- Chapter 1, “Introduction” is an overview of DI Suite components.
- Chapter 2, “Before You Begin” outlines the requirements for preparing your environment before you begin to install.
- Chapter 3, “Installation” describes how to install DI Suite components.
- Chapter 4, “Post-Installation Tasks” describes the tasks you must perform after you have installed the DI Suite components.
- Chapter 5, “Upgrading” describes how to upgrade from DI Suite version 1.1 to 1.2, and from standalone versions of components to DI Suite 1.2.
- Chapter 6, “Uninstallation” describes how to uninstall DI Suite components.
- Chapter 7, “Typical Deployment Scenarios” provides typical deployment scenarios for all DI Suite components.
- Appendix A, “Setting up a SySAM Standalone License Server” provides instructions on installing a SySAM standalone license server.
- Appendix B, “Component and Subcomponent Versions” lists the component and subcomponent versions included in the previous and current release of DI Suite.

Related documents

This section describes the DI Suite documentation set, which you can find on the Getting Started CD and the various SyBooks™ CDs.

The DI Suite Getting Started CD includes:

- *Sybase Data Integration Suite Release Bulletin* for your platform – contains last-minute information that was too late to be included in the books.
- *Sybase Data Integration Suite Installation Guide* for your platform (this document) – describes installation procedures for the various components of the DI Suite.
- *Sybase Software Asset Management User's Guide* – describes asset management configuration concepts and tasks.
- Release bulletins, installation guides, and administration guides for these Sybase products, which are included with DI Suite:
    - Data Federation 1.2
    - EAServer 6.0.2
    - Enterprise Connect™ Data Access 15.0
    - Real-Time Data Services 4.5
    - Replication Agent™ 15.0
    - Replication Server® 15.0.1
    - Sybase Search 3.5
    - Sybase ETL 4.2

DI Suite includes a separate SyBooks CD for each DI Suite component. In addition to the documents listed below, each CD also includes the *DI Suite Overview Guide*, and the *DI Suite New Features Guide*.

- SyBooks CD for Data Federation includes:
    - Product manuals for Data Federation 1.2
- SyBooks CD for Replication includes:
    - Product manuals for these Sybase products, which are included with the Replication component of DI Suite:
        - Replication Server 15.0.1
        - Replication Agent 15.0
        - Enterprise Connect Data Access 15.0

    - *DI Suite Quick Start Guide for Oracle to Oracle Replication*
- SyBooks CD for Real-Time Events includes:
    - Product manuals for these Sybase products, which are included with the Real-Time Events component of DI Suite:
        - Replication Server 15.0.1
        - Replication Agent 15.0
        - Real-Time Data Services 4.5
        - EAServer 6.0.2
        - SQL Anywhere Studio® 10.0.1
        - Business Activity Monitoring 6.2 Administration Guide
    - *Data Integration Common Services* online topics
- SyBooks CD for Search includes:
    - Product manuals for Sybase Search 3.5
- SyBooks CD for ETL includes:
    - Product manuals for Sybase ETL 4.2

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 Click Certification Report.

3 In the Certification Report filter select a product, platform, and timeframe and then click Go.

4 Click a Certification Report title to display the report.

❖ **Finding the latest information on component certifications**

1 Point your Web browser to Availability and Certification Reports at http://certification.sybase.com/.

2 Either select the product family and product under Search by Base Product; or select the platform and product under Search by Platform.

3 Select Search to display the availability and certification report for the selection.

❖ **Creating a personalized view of the Sybase Web site (including support pages)**

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

1 Point your Web browser to Technical Documents at http://www.sybase.com/support/techdocs/.

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.

Conventions

The formatting conventions used in this guide are:

Formatting example	Indicates
command names and method names	When used in descriptive text, this font indicates keywords such as: • Command names used in descriptive text • C++ and Java method or class names used in descriptive text • Java package names used in descriptive text
myCounter variable *Server.log* *myfile.txt*	Italic font indicates: • Program variables • Parts of input text that must be substituted • Directory and file names
File | Save	Menu names and menu items are displayed in plain text. The vertical bar shows you how to navigate menu selections. For example, File | Save indicates "select Save from the File menu."

Formatting example	Indicates
create table table created	Monospace font indicates: • Information that you enter on a command line or as program text. • Example output fragments

Accessibility features

This document is available in an HTML version that is specialized for accessibility. You can navigate the HTML with an adaptive technology such as a screen reader, or view it with a screen enlarger.

Sybase Data Integration Suite documentation has been tested for compliance with U.S. government Section 508 Accessibility requirements. Documents that comply with Section 508 generally also meet non-U.S. accessibility guidelines, such as the World Wide Web Consortium (W3C) guidelines for Web sites.

Note You might need to configure your accessibility tool for optimal use. Some screen readers pronounce text based on its case; for example, they pronounce ALL UPPERCASE TEXT as initials, and MixedCase Text as words. You might find it helpful to configure your tool to announce syntax conventions. Consult the documentation for your tool.

For information about how Sybase supports accessibility, see Sybase Accessibility at http://www.sybase.com/accessibility. The Sybase Accessibility site includes links to information on Section 508 and W3C standards.

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.

CHAPTER 1

Introduction

This chapter provides an introduction to Sybase Data Integration Suite (DI Suite) and its components.

About Data Integration Suite

DI Suite includes components that help to implement key data integration techniques, including data federation, replication, real-time events, data search, and ETL, with integrated tools for development and administration.

DI Suite includes these components:

- Sybase Replication
- Sybase Search
- Sybase Data Federation
- Sybase Real-Time Events
- Sybase ETL

Sybase also offers these tools for administration and development:

- Sybase Data Services Administrator, which is included with DI Suite
- Sybase WorkSpace, which is packaged separately from DI Suite

Sybase Replication

This component replicates transactional data and synchronizes operational data across heterogeneous databases in your enterprise.

It includes these subcomponents, which you can install using DI Suite installer:

- Replication Server – enables distribution and synchronization of operational data.
- Replication Agents – captures transactions and transfers them to Replication Server.
- DirectConnect™ – enables access to heterogeneous data sources, as well as mainframe data sources.

Mainframe options Sybase Replication supports replication of transactional data from a mainframe-based DB2 server. This support is available as add-on options, which you can purchase separately:

- Sybase Replication Agent for DB2 UDB for OS/390 – supports replication of transactional data from DB2 UDB running on a mainframe system to target databases.
- Mainframe Connect™ with DirectConnect for z/OS – supports replication of data to a mainframe system. This option enables client applications and Replication Server to access data stored in mainframe database management systems (DBMSs), file systems, and applications. In addition, Mainframe Connect allows you to create custom mainframe applications that provide access to data stored on mainframe-based DB2 servers.

Note Sybase Replication includes basic, simple-to-configure support for replicating to mainframe DB2 through DirectConnect. The Mainframe Connect option is an alternative that provides enhanced performance and functionality while replicating to mainframe DB2. You must purchase the Mainframe Connect option separately.

Sybase Search

This component provides advanced data services for querying, locating, and analyzing your enterprise data.

It includes these subcomponents, which you can install using the DI Suite installer:

- Hub Container – includes a central Search server module (hub) that coordinates other Search server modules. This hub contains the central query module that is the main access point for the entire Sybase Search system.
- Satellite Container – includes modules required to distribute the indexing and search modules.

- Web Administration – includes the JSP/Servlet container used for Search server administration.

Sybase Search Content Adapter option Sybase Search uses the Sybase Search Content Adapter, which is an add-on option you can purchase separately, to perform searches across proprietary document formats such as Microsoft Word and Adobe Acrobat PDF documents.

For information on how to install the Sybase Search Content Adapter, see the *Sybase Search Administration and Users Guide*.

Sybase Data Federation

This component streamlines integration of data from many distributed sources while providing access to integrated views of your enterprise data.

It includes these subcomponents, which you can install using DI Suite installer:

- Grid Server – hosts the data catalog, provides authorization services for clients that request data access, and runs data services and database operations.
- Data Grid Access Server – provides high-performance caching and makes data catalogs and their contents available to Network File System (NFS) and Common Internet File System (CIFS) clients in a secure fashion.
- Share Server – responsible for file I/O and making data stored in local file systems visible in the data catalog.
- Firewall Proxy Server – makes federated data accessible across firewalls.
- Command-Line Client – enables you to perform data federation and administration tasks using the command line interface.

Sybase Real-Time Events

This component captures and moves time-critical events from your heterogeneous data sources to business applications through a messaging infrastructure.

There are two Real-Time Events subcomponents, which you can install using DI Suite installer:

- RepConnector™ – capture events nonintrusively from a database such as Adaptive Server® Enterprise (ASE) or Oracle, and deliver these events to any standard messaging infrastructure such as WebSphere MQ, BEA WebLogic JMS, and TIBCO EMS. Real-time messaging through RepConnector is achieved using the RepConnector Server, Replication Server, and Replication Agents subcomponents.

- ASE Active Messaging – capture events from the ASE database and publish directly to any standard messaging infrastructure such as WebSphere MQ, TIBCO EMS, and Sybase EAServer JMS. ASE Active Messaging provides high performance and enhanced transactional messaging support for ASE databases.

An integrated set of common services is installed with the Real-Time Events component, which are used internally by its components. These services include an application server, service container, messaging system, business activity monitoring system, global catalog, and security infrastructure. For more information on these common services, see the *Data Integration Common Services* online topics on your SyBooks CD for Real-Time Events.

Sybase ETL

This component extracts data from multiple heterogeneous data sources and loads it into one or more data targets using a comprehensive set of transformation functions.

It includes these subcomponents:

- ETL Server – a scalable and distributed grid engine, which connects to data sources, and extracts and loads data to data targets using transformation flows designed using ETL Development. Install ETL Server using the DI Suite installer.
- ETL Development – graphical user interface (GUI) tools for ETL development and deployment for use with ETL Server. These tools provide a complete simulation and debugging environment to speed the development of ETL transformation flows.

  ETL Development is packaged separately from DI Suite and is available only on Windows. Use the installer provided with ETL Development to install this subcomponent.

Sybase Data Services Administrator

Sybase Data Services Administrator (DSA) is the centralized management console for administering DI Suite components. It provides administration capabilities through its plug-in to the Sybase Central™ framework. DI Suite components are administered in DSA with GUI-based servers or server managers that are accessible via Web consoles and Sybase Central plug-ins.

DSA is available for installation with every DI Suite component except Sybase ETL. To manage and administer the ETL component, use ETL Development, rather than DSA. For more information about ETL Development tools, view the product manuals on the SyBooks CD for Sybase ETL.

Sybase WorkSpace

Sybase WorkSpace provides development capabilities for the Sybase Data Federation, Sybase Search, Sybase Replication, and Sybase Real-Time Events components of DI Suite.

Sybase WorkSpace is packaged separately from DI Suite. Use the installer provided with Sybase WorkSpace to install this development tool for DI Suite.

Note Sybase WorkSpace is available on Windows only.

For more information about DI Suite and how to use the various components for your data integration needs, see the *Sybase Data Integration Suite Overview Guide*.

CHAPTER 2

Before You Begin

This chapter describes the tasks you must complete before you begin installing the DI Suite components. Sybase recommends that you read this chapter before proceeding with the installation.

Licenses for DI Suite components

DI Suite uses the Sybase Software Asset Management (SySAM) licensing mechanism for license administration and asset management tasks. After you purchase DI Suite components, go to the Sybase Product Download Center (SPDC) Web site at http://sybase.subscribenet.com to generate and download the licenses. See the *Sybase Software Asset Management User's Guide*.

License models

DI Suite supports served and unserved license models:

- The served license model uses a license server to store licenses for DI Suite components that are distributed across the network. To use the served license model for DI Suite, set up the SySAM license server and deploy the licenses to this license server.
- The unserved license model gets licenses directly from the license file, which is installed locally.

Before generating licenses, decide whether you are using a served or an unserved license model. See Chapter 2, “Choosing a License Model” in the *Sybase Software Asset Management User's Guide*, for information on how to determine which is appropriate for your site.

DI Suite licenses

You can obtain licenses for individual DI Suite components separately or for Data Integration Suite Standard Edition.

- For DI Suite components, you can use a served or unserved product license. However, to deploy DI Suite components on different machines across the network, use a served license. Licenses available for the DI Suite components are:
  - Sybase Replication
  - Sybase Search
  - Sybase Data Federation
  - Sybase Real-Time Events
  - Sybase ETL

  See “Deployment and licensing options for DI Suite components” on page 9.
- For Data Integration Suite Standard Edition, you can only use an unserved license. The license for Standard Edition includes unserved licenses for all DI Suite components.

  Standard Edition is limited to use on a single machine with a maximum of 2 CPUs. The functionality of the DI Suite components included in the Standard Edition is the same as those offered separately. However, it does not include the Sybase Search Content Adapter, which is an add-on option for use only with the Sybase Search component available outside the Standard Edition.

See “Deployment and licensing options for Standard Edition” on page 12.

Note You can install and use the DI Suite components for a grace period of 30 days without a license. To continue using these components after the end of the grace period, you must obtain valid licenses from the SPDC, and install these licenses using the DI Suite License Installer. See “Installing licenses for components under grace period” on page 35.

Deployment and licensing options for DI Suite components

Table 2-1 describes the deployment and license options for DI Suite components. For deployment and licensing options for the Standard Edition, see “Deployment and licensing options for Standard Edition” on page 12.

Table 2-1: Deployment and licensing options for DI Suite components

DI Suite component	Subcomponent	Deployment and licensing options
Sybase Replication	Replication Server	• A SySAM served or unserved license is required to unlock this subcomponent. • Installation is allowed on multiple machines in the distributed environment. This depends on the number of CPU licenses you have purchased. • The license of this subcomponent includes licenses for Replication Agents and DirectConnect.
	Replication Agents	• A Replication Server license is required to install this subcomponent. • Installation is allowed on multiple machines that contain the supported database in the distributed environment. • This subcomponent can be used only with the Replication Server that contains its license.
	DirectConnect	• A Replication Server license is required to install this subcomponent. • Installation is allowed on multiple machines in the distributed environment. However, for improved performance, Sybase recommends that you install DirectConnect on the same server as the database it supports. • This subcomponent can be used only with the Replication Server that contains its license.

DI Suite component	Subcomponent	Deployment and licensing options
Sybase Search	Hub Container	• A SySAM served or unserved license is required to unlock all subcomponents for Sybase Search, except for Web Administration, which does not require a license. • Installation is allowed on as many machines in the distributed environment for which you have purchased licenses.
	Satellite Container	
	Web Administration	
	Single Server	
Sybase Data Federation	Grid Server	• A SySAM served or unserved license is required to unlock this subcomponent. • Installation is allowed on multiple machines in the distributed environment. This depends on the number of CPU licenses you have purchased. • The license of this subcomponent includes licenses for Data Grid Access Server, Share Server, Firewall Proxy Server, and Command-Line Client.
	Data Grid Access Server	• A Grid Server license is required to install these subcomponents. • Installation is allowed on multiple machines in the distributed environment. • These subcomponent can be used only with the Grid Server that includes its license.
	Share Server	
	Firewall Proxy Server	
	Command-Line Client	

DI Suite component	Subcomponent	Deployment and licensing options
Sybase Real-Time Events	RepConnector Server Replication Server	• A SySAM served or unserved license is required to unlock these subcomponents. • Installation is allowed on as many machines in the distributed environment for which you have purchased licenses. • A Real-Time Events license includes a license for Replication Server and ASE Active Messaging; a Replication Server license includes a license for Replication Agents.
	Replication Agents	• A Replication Server license generated for the Real-Time Events component is required to install Replication Agents. • Installation is allowed on multiple machines that contain the supported database in the distributed environment. • This subcomponent can be used only with the Replication Server installed with the Real-Time Events component.
	ASE Active Messaging	• A Real-Time Events license is required to install ASE Active Messaging. • Installation is allowed on multiple machines that contain the Adaptive Server Enterprise (ASE) database in the distributed environment. • An ASE Enterprise Edition license is required on the machine where this component is installed.
Sybase ETL	ETL Server	• A SySAM served or unserved license is required to unlock this subcomponent. • Installation is allowed on as many machines in the distributed environment for which you have purchased licenses.
	ETL Development	• A SySAM served or unserved license is required to unlock this subcomponent. • Installation is allowed on multiple Windows machines in the distributed environment. This depends on the number of licenses you have purchased.

Deployment and licensing options for Standard Edition

The deployment and licensing mechanisms described in Table 2-1 apply to the DI Suite components included in Standard Edition, except:

- You must install DI Suite components included in the Standard Edition on a single machine with a maximum of 2 CPUs.
- You must use the unserved license model for DI Suite components included in the Standard Edition.
- You can install the Replication Agent subcomponent on any machine in your distributed environment with no restriction on the number of CPUs. However, the machine must be the same operating system as the Standard Edition license.The product license for this subcomponent is included with the Sybase Replication or Sybase Real-Time Events installation. Copy this license to the machine on which you are installing Replication Agent.
- You can install the ASE Active Messaging subcomponent on a separate machine with a maximum of 2 CPUs and with a restricted number of ASE running engines. The product license for this subcomponent is included with the Sybase Real-Time Events installation. Copy this license to a machine that contains ASE to install ASE Active Messaging.

Sybase WorkSpace licenses

To use development capabilities for the Sybase Data Federation, Sybase Search, Sybase Replication, and Sybase Real-Time Events components of DI Suite, you must download Sybase WorkSpace, which is packaged separately.

Select Sybase WorkSpace from the SPDC to generate and download WorkSpace development licenses. Use the installer provided with Sybase WorkSpace to install the development tool for DI Suite.

Table 2-2 describes the Sybase WorkSpace development licenses available for DI Suite components.

Note Sybase WorkSpace is available on Windows only.

Table 2-2: Sybase WorkSpace development licenses for DI Suite components

DI Suite components	Sybase WorkSpace license	Description
Sybase Data Federation	WorkSpace Data Federation Development	Use the Data Federation Development license to install WorkSpace Data Federation, which is a graphical metadata-driven modeling tool for data integration that lets you combine data from heterogeneous data sources. You can build view models by dragging and dropping input sources, operators, and output targets. WorkSpace Data Federation provides tools for provisioning data sources, building view models, and deploying them as data services. Use the WorkSpace Data Architect license for requirements modeling, data modeling, information liquidity modeling, and importing schema back into Data Federation.
	WorkSpace Data Architect	
Sybase Replication	Workspace Database Development	Use the WorkSpace Database Development license to install database development capabilities of WorkSpace. You can create replication definitions, replication server publications, replication server articles and subscriptions. Use the WorkSpace Data Architect license to perform a top-down modeling of your replication environment, and to generate replication definitions needed to create a replicated environment, without writing replication code.
	WorkSpace Data Architect	
Sybase Real-Time Events	WorkSpace Studio	Use the WorkSpace Studio license to capture events in Sybase ASE, and send and receive them as messages on a JMS message queue. You can also use this license to enable service-oriented development by provisioning objects as services.
Sybase Search	WorkSpace Service Development	Use WorkSpace Service Development license to administer Sybase Search servers as well as create and deploy customized Sybase Search web services for their structured and unstructured enterprise content. You can then deploy this Search service independently or as a part of a composite business process service.

Note For more information about Sybase WorkSpace development licenses and installation procedures, see the Sybase WorkSpace documentation at http://www.sybase.com/support/manuals/.

System requirements

Before installing DI Suite components, make sure your system meets the operating system and hardware requirements.

Operating system requirements

DI Suite is compatible with the following platform and operating system configurations:

Sun Solaris

- Solaris 9 – patch level 9 recommended (SPARC 64-bit)
- Solaris 10 – patch level 10 recommended (SPARC 64-bit)

IBM AIX

AIX 5.3 on IBM pSeries (64-bit)

Note DI Suite 1.2 overall has been tested with all the listed platforms. However, some third-party components and some Sybase subcomponents within a DI Suite orderable may not be certified on a specific platform. See the Sybase certification Web site at http://certification.sybase.com/ucr/search.do for the latest information on Sybase component certifications to ensure that the components you plan to use are certified. For third-party components (such as ODBC drivers or message buses), see the certification Web site of the third-party vendors for the latest information.

Hardware requirements

This section lists the hardware requirements for DI Suite components and subcomponents.

- The installation media for DI Suite is DVD. Make sure the machine identified for DI Suite installation has a DVD drive.
- The CPU requirement for:
  - Solaris is Sun Solaris (SPARC)
  - IBM AIX is AIX on IBM pSeries
- The recommended memory and disk space requirements for DI Suite components and subcomponents are listed in Table 2-3.

Table 2-3: Recommended memory and disk space requirements

DI Suite components and subcomponents	Platform			
	Sun Solaris		IBM AIX	
	Memory (RAM)	Disk space	Memory (RAM)	Disk space
Sybase Replication (Full)	512MB	2.1GB	512MB	1.5GB
- Replication Server	512MB	590MB	512MB	400MB
- Replication Agents	128MB	280MB	128MB	250MB
- DirectConnect	256MB	1.3GB	256MB	980MB
Sybase Search (Full)	512MB	520MB for installation files, plus 1GB for generated data file	512MB	370MB for installation files, plus 1GB for generated data file
- Hub Container	256MB	340MB	256MB	200MB
- Satellite Container	512MB	340MB for installation files, plus 1GB for generated data file	512MB	200MB for installation files, plus 1GB for generated data file
- Web Administration	256MB	330MB	256MB	200MB
Sybase Data Federation (Full)	2GB	2GB	2GB	2GB

DI Suite components and subcomponents	Platform			
	Sun Solaris		IBM AIX	
	Memory (RAM)	Disk space	Memory (RAM)	Disk space
- Grid Server	1GB	512MB for installation files, plus at least an additional 20GB for caches, to store log files and state databases	1GB	512MB for installation files, plus at least an additional 20GB for caches, to store log files and state databases
- Data Grid Access Server	1GB	260MB for installation files, plus at least an additional 20GB for caches, to store log files and state databases	1GB	210MB for installation files, plus at least an additional 20GB for caches, to store log files and state databases
- Share Server	1GB	280MB	1GB	230MB
- Firewall Proxy server	1GB	280MB	1GB	230MB
- Command-Line Client	1GB	260MB	1GB	210MB
Sybase Real-Time Events (Full)	1GB	1.8GB	1GB	1.5GB
- RepConnector Server	512MB	890MB	512MB	880MB
- Replication Server	512MB	590MB	512MB	400MB
- Replication Agents	128MB	280MB	128MB	250MB
- Sybase ASE Active Messaging	512MB	870MB	512MB	860MB
Sybase ETL	512MB	220MB	512MB	240MB
Sybase Data Services Administrator	512MB	290MB	512MB	260MB
Standard Edition	2.5GB recommended 1.5GB minimum	3.7GB	2.5GB recommended 1.5GB minimum	2.9GB

DI Suite component coexistence matrix

Table 2-4 shows the various DI Suite components that can coexist and function on the same machine.

Table 2-4: DI Suite component coexistence matrix

DI Suite	Compatible Sybase products										
	ASE		Replication Server		Sybase IQ			ECDA		Replication Agent	
	12.5.x	15.0.x	12.6	15.x	12.5	12.6	12.7	12.x	15.x	12.x	15.x
Sybase Replication											
- Replication Server	n	y	y	y	n	n	y	y	y	y	y
- Replication Agents	y	y	y	y	y	y	y	y	y	y	y
- DirectConnect	y	y	y	y	y	y	y	y	y	y	y
Sybase Search	y	y	y	y	y	y	y	y	y	y	y
Sybase Data Federation	y	y	y	y	y	y	y	y	y	y	y
Sybase Real-Time Events											
- RepConnector Server	y	y	y	y	y	y	y	y	y	y	y
- Replication Server	n	y	y	y	n	n	y	y	y	y	y
- Replication Agents	y	y	y	y	y	y	y	y	y	y	y
- ASE Active Messaging	y*	y*	y	y	y	y	y	y	y	y	y
Sybase ETL	y	y	y	y	y	y	y	y	y	y	y

LEGEND: y = compatible; n = not fully compatible; y* = On Sun Solaris, compatible with 32-bit and 64-bit versions of ASE 12.5.4 ESD #6 or later and ASE 15.0.2 GA or later. On IBM AIX, compatible with 64-bit version of ASE 12.5.4 ESD #6 or later and ASE 15.0.2 GA or later.

Note Sybase recommends that you use RepAgent for DB2 UDB for z/OS 15.0 ESD #2, if you are replicating data from a mainframe IBM DB2 z/OS data source using DI Suite 1.2 Replication component.

Installation directory

DI Suite components are, by default, installed in the */opt/sybase* directory. The installer checks the $SYBASE environment variable for any existing Sybase directory that was created for another Sybase product. If it locates a Sybase directory, it by default installs the components in this directory. If it cannot locate such a directory, it creates one and installs all components in the new directory.

Sybase recommends that you install DI Suite components into the existing Sybase directory, if one exists.

Installation type

The DI Suite setup program provides two installation options:

- Full – installs all features of the selected component on a single machine.
- Custom – allows you to select the components to install on multiple machines depending on the data integration architecture in your organization. To install components on different machines, run the installer separately on each machine.

  In case of the Standard Edition, all DI Suite components included in the Standard Edition, except Replication Agent and ASE Active Messaging subcomponent, must be installed on a single machine. The Replication Agent and ASE Active Messaging subcomponent can be installed on separate machines. See “Deployment and licensing options for Standard Edition” on page 12.

Note Before you begin a custom installation, you must have a thorough understanding of a typical installation architecture for each DI Suite component. See Chapter 7, “Typical Deployment Scenarios,” for information you may need before using the Custom option.

Installation mode

You can install the DI Suite components using:

- GUI mode – allows you to install the components using a graphical user interface. This is the default installation mode. See “Installing in GUI mode” on page 25.
- Console mode – allows you to install components using a command line interface. See “Installing in console mode” on page 38.
- Response file mode – allows you to record or create a response file. Using a response file, you can install components in two different ways:
  - Silent – lets you install the components without any interaction. This is convenient if you are performing identical installations on multiple machines.
  - Interactive installation using a response file – lets you install interactively, but with all the responses already filled in, so that you can accept or change the default values and install the components according to the responses in the response file. This can be convenient if several sites are installing the suite and must conform to a standard installation.

  See “Installing using a response file” on page 39.

CHAPTER 3

Installation

This chapter provides instructions for installing the DI Suite components.

Installation overview

This section provides an overview of the various installation scenarios, and lists the prerequisites for installing DI Suite components.

Installation scenarios

- To install individual DI Suite components or the Standard Edition for the first time:
  - In GUI mode, see “Installing in GUI mode” on page 25.
  - In console mode, see “Installing in console mode” on page 38.
  - Using response file, see “Installing using a response file” on page 39.
- To install additional DI Suite components and subcomponents after an initial installation of DI Suite, see “Installing additional components” on page 33.
- To install accessory subcomponents in a distributed installation environment, see “Installing accessory subcomponents” on page 34.

Installation prerequisites

Before you install DI Suite components:

- Close any open applications or utilities.
- If you are using the installation media for DI Suite installation, make sure your installation machine has a DVD drive.

- Make sure that the target computer meets the hardware requirements and operating system requirements for installing DI Suite components. See “System requirements” on page 14.
- Review the compatibility of DI Suite components against other Sybase products across different versions. See “DI Suite component coexistence matrix” on page 17.
- Review the SySAM license requirements. See “Licenses for DI Suite components” on page 7.
- Create a “sybase” account on your system to perform all installation tasks.

  The “sybase” user must have write permissions on the directory where the DI Suite will be installed. The “sybase” user must also have a home directory.
- Make sure the following directories have at least 1GB of free disk space:
  - /var/*tmp* directory on Sun Solaris
  - */tmp* directory on IBM AIX

  Also, verify that your home directory ($HOME) has *write* permissions.
- Log in to the machine as the “sybase” user.

  Note If you specify a user name that contains non-ASCII characters, the installation may fail.

  Maintain consistent ownership and privileges for all files and directories. A single user—the Sybase system administrator with read, write, and execute permissions—should perform all installation, upgrade, and setup tasks.
- If you are installing the RepConnector subcomponent of Sybase Real-Time Events on a BEA WebLogic application server, make sure that you have installed and started the BEA WebLogic application server prior to the installation of RepConnector. Also, make sure you have write permission to the BEA WebLogic installation directory.

  For more information, see the BEA documentation for WebLogic.
- If you are installing RepConnector on a BEA WebLogic application server, on an IBM AIX machine, you need to edit the *registry.xml* file in the *$BEA_HOME* directory to include:

  ```
  <java-installation JavaHome=PATH_TO_JAVA_HOME/>
  ```

where, *PATH_TO_JAVA_HOME* is the path to your Java 1.5 installation directory.

- If you are installing the ASE Active Messaging subcomponent of Sybase Real-Time Events, make sure you have installed:
  - On Sun Solaris:

    32-bit or 64-bit versions of ASE 12.5.4 ESD #6 or later, or ASE 15.0.2 GA or later.
  - On IBM AIX:

    64-bit version of ASE 12.5.4 ESD #6 or later, or ASE 15.0.2 GA or later.
- If you are installing ETL Server, make sure your PATH environment variable includes these files:
  - sed
  - awk
  - tar
  - gzip
  - wc
  - mkdir
  - touch
  - df
  - tr
  - uudecode

Installing DI Suite components

You can install DI Suite components using the setup program provided in your installation media, or download and extract the DI Suite component images from the SPDC Web site at http://sybase.subscribenet.com.

- If you are installing using the installation media, use the installation steps described in “Installing in GUI mode” on page 25.

- If you are installing from the Sybase Product Download Center (SPDC), use the installation steps described in "Installing DI Suite components from the SPDC" on page 25. SPDC lists all the components for the DI Suite supported platforms. Each component includes a set of download files, which are listed against the relevant component in Table 3-1.

Table 3-1: DI Suite download files

DI Suite components on the SPDC	Download files (for your platform)	Description
Sybase Data Integration Suite 1.2 Replication	Data Integration Suite 1.2 Core	Provides the core installation framework for DI Suite
	Data Integration Suite 1.2 Rep DC	Provides the DirectConnect subcomponent
	Data Integration Suite 1.2 Rep RA	Provides the Replication Server and Replication Agent subcomponents
Sybase Data Integration Suite 1.2 Search	Data Integration Suite 1.2 Core	Provides the core installation framework for DI Suite
	Data Integration Suite 1.2 Search	Provides the Search component
Sybase Data Integration Suite 1.2 Data Federation	Data Integration Suite 1.2 Core	Provides the core installation framework for DI Suite
	Data Integration Suite 1.2 Data Federation	Provides the Data Federation component
Sybase Data Integration Suite 1.2 Real-Time Events	Data Integration Suite 1.2 Core	Provides the core installation framework for DI Suite
	Data Integration Suite 1.2 RTE	Provides the Real-Time Events component
	Data Integration Suite 1.2 Rep RA	Provides the Replication Server and Replication Agents subcomponents
Sybase Data Integration Suite 1.2 ETL	Data Integration Suite 1.2 Core	Provides the core installation framework for DI Suite
	Data Integration Suite 1.2 ETL	Provides the ETL component
Sybase Data Integration Suite 1.2 ETL Development	Data Integration Suite 1.2 ETL Dev	Provides the ETL Development subcomponent
Sybase Data Integration Suite 1.2 Standard Edition	Data Integration Suite 1.2 Standard Ed	Provides the Standard Edition

❖ **Installing DI Suite components from the SPDC**

1 Select the DI Suite components relevant to your platform. Then download the required files associated with each component to your hard drive.

Note Certain download files are common to DI Suite components. You can download these common files once for multiple components. For example, *Sybase Data Integration Suite 1.2 Core* is common to all DI Suite components, so you can download this file only once for multiple components.

2 Use an appropriate extraction utility to extract the downloaded files to a temporary directory. UNIX download files are compressed using the GNU Tar format (.tgz). To uncompress, use the GNU Tar utility.

Note You must extract all the files for a specific DI Suite component into a *single* directory. The setup program may not start if the files are extracted into different directories. Also, make sure that the temporary directory name does not have non-ASCII characters or spaces.

The extracted files include the setup program file, which you can run to start installing the DI Suite component.

Installing in GUI mode

This section describes the steps for installing DI Suite components for the *first time* using the GUI mode.

1 Run the installer.

If you are installing from the SPDC, run the setup program from the directory where you have extracted all the files. See "Installing DI Suite components from the SPDC" on page 25.

If you are installing using the DI Suite installation media:

a Insert the DI Suite installation media.

b At the command line enter:

```
/cdrom/setup
```

c The Welcome window displays. Click Next to proceed.

2 Select the geographic location where you are installing to display the agreement appropriate to your region. Read the End-user License and Copyright Agreement. Select "I agree to the terms of the Sybase license for the install location specified" and click Next.

3 Provide the license information.

   a On the Sybase Software Asset Management License Server window, provide the licenses for the components you want to install.

      Use one of these options to enter the licenses:

      - Specify License Keys – click Browse to select the license file. To select multiple license files, use Shift+Click or Ctrl+Click. The license pane displays the license information.

        Alternatively, copy and paste the license information directly in the license pane. Click Next to proceed.

        The installer determines if the license you have entered is a served or an unserved license.

        For a served license:

        - If the served license requires a license server for the machine on which you are installing the DI components, the installer prompts you to either deploy the license to an existing license server, if one exists, or install a new license server if you have not installed one yet. Click Back and select "Use previously deployed license server" on the installer if you have deployed the license to an existing license server. Click Next to install a new license server.

          Provide the directory in which you want to install the license server. Click Next. The installer displays an installation summary window and proceeds to install the license server.

        - If the served license is activated for a machine other than where you are installing the DI Suite components, you must set up a license server on that machine, deploy the license, and then select "Use previously deployed license server" on the installer.

          For information on how to set up a standalone license server, see Appendix A, "Setting up a SySAM Standalone License Server."

If you are installing the license server on a platform that is not supported by DI Suite 1.2, go to the SySAM Web site at http://www.sybase.com/sysam to download the license server setup program.

- Use Previously Deployed License Server – if you have a previously deployed license server, enter the host name of the machine where the license server is running, and the port number if the port number you are using is not default. Click Next.
- Proceed Installation Without Providing License Key – if you do not have licenses for any of the DI Suite components, you can select this option, and click Next to proceed. The installer allows you to install and use the DI Suite components without a license for a grace period of 30 days. To continue using these components after the end of the grace period, obtain valid licenses from the SPDC, and install these licenses using the DI Suite License Installer. See "Installing licenses for components under grace period" on page 35.

For more information on SySAM licensing, see the *Sybase Software Asset Management User's Guide.*

b The installer displays a list of licensed and unlicensed components. You can select to install the components without licenses, however these components will stop working at the end of 30 days unless, you obtain and install the appropriate licenses for each.

Review and verify the list. Click Next.

4 Select to install either the Individual Data Integration Suite Components or the Standard Edition.

Note Since you can install Standard Edition only on a single machine with a maximum of 2 CPUs, if the installer detects more than 2 CPUs on the installation machine, it does not display this screen. The "Individual Data Integration Suite Components" option is selected by default and you are automatically taken to the next screen.

Click Next.

5 Specify the installation directory.

a Click Browse to select a directory, click Next to accept the default directory, or enter a different directory name where you want to install the DI Suite components.

Note Make sure that the installation directory name does not have non-ASCII characters or spaces.

b If the installation directory you specified already exists, and contains an earlier installation, you see:

```
You have chosen to install into an existing
directory. Any older versions of the products you
choose to install that are detected in this
directory will be replaced.

Do you want to continue with installation into
this directory?
```

Click Yes to replace any previous installation in this directory.

Note For some of the components, the new version does not overwrite the previously installed version. It gets installed in a separate directory.

If the installation directory you specify does not exist, you see:

```
The directory does not exist. Do you want to
create it?
```

Click Yes. By default, the installer installs the components in the $SYBASE directory, if it exists. If you proceed to install in a new directory, the existing Sybase products may not work properly. Click No to go back and change the directory. Click Yes to proceed.

Note If the installer detects an incompatible version of a Sybase product in this directory, it displays a warning. For compatibility information of DI Suite components against other Sybase products, see “DI Suite component coexistence matrix” on page 17.

6 Select the components to install.

To select all the displayed components for installation, click Select All Components. Click Next.

Note The installer window displays **(Licensed)** against the licensed components, and **(No License)** against the components without licenses.

7 Select the installation type:

a Select Full to install all the subcomponents for the selected component on a single machine. For example, if you have selected the Sybase Replication component, the Full option installs all subcomponents available under this component. Click Next.

b Select Custom to choose specific subcomponents to install for the selected component. You can install these subcomponents on a single machine or multiple machines. For example, if you have selected the Sybase Replication component, the Custom option allows you to install any or all of the subcomponents available under this component on a single machine or multiple machines.

In the case of Standard Edition, you must install all DI Suite components on a single machine, except the Replication Agent and ASE Active Messaging subcomponents. You can install Replication Agent and ASE Active Messaging subcomponents on separate machines.

Click Next. The installer displays all the subcomponents that are available for each selected component. Review the list to verify the subcomponents. Unselect the subcomponents you do not want to install and click Next.

Whether you selected Full or Custom, the installer displays the components without licenses and provides a warning that these components will be installed but will stop working at the end of 30 days if appropriate licenses are not obtained and installed by then. Click Next.

8 For certain components, you must provide some additional information, before you can proceed with the installation:

For RepConnector

a Select the application server where you want to install RepConnector:

- RepConnector for Sybase EAServer
- RepConnector for BEA WebLogic

Click Next.

b If you have selected BEA WebLogic as the application server, specify the directory in which BEA WebLogic is installed. Make sure you have write permission to the BEA WebLogic installation directory.

Click Next.

c Provide the BEA WebLogic server information:

- Domain Name – the name of the WebLogic domain you will be deploying RepConnector to.
- Server Name – the name of the WebLogic server you will be deploying RepConnector to.
- WebLogic Server Host Name – the name of the machine you are installing on.
- WebLogic Server Port Number – the WebLogic listening port. The default port is 7001.
- Server admininstration account (Username and Password) – your WebLogic user name and password.

For successful installation of RepConnector on BEA Weblogic, you must perform some additional tasks after finishing the procedure defined in this section. See "Completing RepConnector installation on BEA WebLogic" on page 38.

For Sybase ASE Active Messaging

Enter or select an existing Adaptive Server Enterprise (ASE) installation directory and click Next.

Note Sybase ASE Active Messaging on Sun Solaris supports 32-bit and 64-bit versions of ASE 12.5.4 ESD #6 or later and ASE GA 15.0.2 or later. On IBM AIX, it supports 64-bit version of ASE 12.5.4 ESD #6 or later and ASE 15.0.2 GA or later.

If the installer detects a supported version of ASE, it proceeds with the installation.

If the installer detects multiple supported versions of ASE installations, it displays all of them and prompts you to select the versions to install the Sybase Real-Time Events ASE Active Messaging component. Click Next.

If the installer does not detect an ASE installation in the specified directory, or detects an unsupported ASE version, it asks if you want to continue installing without the Sybase ASE Active Messaging subcomponent. Click Yes to continue. Click Next.

For Sybase Search

Depending on the installation type you chose, you are prompted to provide configuration parameters as listed in the following tables. Modify or accept the default values, and click Next.

Table 3-2: Search configuration parameters for Full install

Parameter name	Description
Hub Container Port	Identifies the port number on which the single container will run. Enter a value between 1024 and 65535.
Container RMI Port	Identifies the port number on which the hub container RMI service will run. Enter a value between 1024 and 65535.
Hyena Port	The port number on which the Hyena Web server will run. Enter a value between 1024 and 65535.
Web Administrator Password	Enter the Web administrator password. The password can be alphanumeric and must have a minimum of 6 characters.
Confirm Web Administrator Password	Reenter the Web administrator password.

Table 3-3: Search configuration parameters for Custom install

Selection	Parameter name and description
Hub Container	• Hub Container Port – identifies the port number on which the single container will run. Enter a value between 1024 and 65535. • Container RMI Port – identifies the port number on which the hub container RMI service will run. Enter a value between 1024 and 65535.
Satellite Container	• Container ID – identifies the unique container ID. Enter a value between 2 and 99. • Container RMI Port – identifies the port number on which the hub container RMI service will run. Enter a value between 1024 and 65535. • Container Port – identifies the port number on which the satellite container will run. Enter a value between 1024 and 65535. • Hub Container Host Name – identifies the host name on which the hub container will run. Enter a host name.

Selection	Parameter name and description
Web Administration	• Container RMI Port – identifies the port number on which the hub container RMI service will run. Enter a value between 1024 and 65535. • Hub Container Host Name – identifies the host name on which the hub container will run. Enter a host name. • Hyena Port – the port number on which the Hyena Web server will run. Enter a value between 1024 and 65535. • Web Administrator Password – enter the Web administrator password. The password can be alphanumeric and must have a minimum of 6 characters. • Confirm Web Administrator Password – reenter the Web administrator password.

For Data Federation

If you have selected to install the Grid Server, the installer provides you an option to configure the grid domain controller. To configure the grid domain controller, provide this information:

- Grid Domain Name – the name assigned to the new grid domain can contain up to 30 alphanumeric characters, including underscores and periods.
- Grid Domain Controller Host – name of the host on which you plan to install the grid server. The host name must be reachable on the network via DNS or IP address at the time the grid domain controller is configured.

Click Next.

Note If you are upgrading from an earlier version of DI Suite, do not configure the grid domain controller.

9 The SySAM notification window prompts you to configure e-mail notifications for SySAM events. When configuration is enabled, you receive information about license management events that require attention. Select the Configure SySAM E-mail Alert option and either accept the default values that are supplied, or enter new values for the following:

- SMTP server host name – the Simple Mail Transfer Protocol (SMTP) host to use for routing e-mail notifications.
- SMTP server port number – the port number to use for contacting the SMTP host.

- Sender e-mail – the return e-mail address to which notification replies are sent.
- Recipient e-mail – the e-mail addresses to which notifications are sent.
- Message severity for e-mail alerts – the minimum severity level that must exist before an e-mail notification is sent.

If you choose not to have e-mail alerts or severity messages logged, select No. Click Next.

10 The installer displays the selections you have made. Review the information, and click Next.

11 If the software is installed successfully, a final window appears, indicating a successful installation. It also advises you to read the configuration guides, and the release bulletin for last-minute information about the Sybase DI Suite, and check for software updates on the Sybase download Web page at http://www.sybase.com/downloads.

Click Finish to exit the installer.

If you encounter errors during installation, check the *di_log.txt* file in the *installation directory*, to see a record of the installation process and to troubleshoot the errors.

After successful installation:

- Check for a valid installation of components. See “Checking for a valid installation” on page 43.
- Configure the installed components. See “Configuring individual components” on page 53.

Installing additional components

To install additional DI Suite components and subcomponents, after you have completed an initial installation, run the DI Suite setup program and select additional components to install. Components that are already installed, are identified as `(installed)` on the installer window that provides custom selection. Follow the installation steps described in “Installing in GUI mode” on page 25.

Installing accessory subcomponents

DI Suite supports distributed installation of its subcomponents. Each distributed installation consists of a base subcomponent and accessory subcomponents. For example, Replication Server is the base subcomponent and Replication Agent and DirectConnect are accessory subcomponents of Sybase Replication.

Table 3-4 provides a list of the base and accessory subcomponents.

Table 3-4: Base and accessory subcomponents

DI Suite components	Base components	Accessory components
Sybase Replication	Replication Server	Replication Agents DirectConnect
Sybase Real-Time Events	Replication Server RepConnector Server	Replication Agents ASE Active Messaging
Sybase Data Federation	Grid Server	Data Grid Access Server Share Server Firewall Proxy Server Command-Line Client

In the Standard Edition, the Replication Agent and ASE Active Messaging are the only accessory subcomponents that can be installed on a different machine.

Licenses

Licenses for accessory subcomponents are available as a part of the DI Suite component license. If you have already installed the base subcomponent, the installer allows you to install only the accessory subcomponents.

For the Standard Edition, the licenses for Replication Agent and ASE Active Messaging accessory subcomponents are included with the Sybase Replication or Sybase Real-Time Events installation in the *installation_ directory/DI_Standard_Accessory_Licenses* folder. Copy these licenses to the machine on which you are installing the accessory subcomponents.

Note For installation recommendations, see Chapter 7, “Typical Deployment Scenarios.”

Installation instructions

Before installing any accessory subcomponents, make sure you have installed the corresponding base subcomponent using a served license on a different machine. Run the DI Suite installer, provide the following license information, and follow the steps provided in “Installing in GUI mode” on page 25.

In the SySAM license window:

- For accessory subcomponents of the individual DI Suite components, select the Use Previously Deployed License Server option to point to the license server, which contains the base subcomponent license.
- For accessory subcomponents of the Standard Edition, select the Specify License Keys option, and specify the folder where you have copied the license file.

Installing licenses for components under grace period

You can run the Data Integration License installer that comes with the DI Suite installer, to install licenses for the components under grace period. The license installer allows you to provide licenses for the components for which no licenses were provided during installation. Before running the Data Integration License installer, make sure you have generated and downloaded the required component license from the Sybase Product Download Center (SPDC) Web site at http://sybase.subscribenet.com. For more information, see the *Sybase Software Asset Management User's Guide*.

To install the licenses:

1 Insert the DI Suite installation media.

At the command line, enter:

```
/cdrom/setupLicense
```

If you are installing from the SPDC Web site at http://sybase.subscribenet.com, download the *setupLicense* program to your hard drive and run it to start installing the licenses.

The Welcome window displays. Click Next.

2 Select the geographic location where you are installing to display the agreement appropriate to your region. Read the End-user License and Copyright Agreement. Select "I agree to the terms of the Sybase license for the install location specified" and click Next.

3 Click Browse to select the DI installation directory or click Next to accept the default directory. The default directory is */opt/sybase*. You must install the licenses into the same directory as DI Suite.

4 On the Sybase Software Asset Management License Server window, provide the licenses for the components you want to install. For information on various component licenses, see “Licenses for DI Suite components” on page 7.

Use one of these options to enter the licenses:

- Specify License Keys – click Browse to select the license file. To select multiple license files, use Shift+Click or Ctrl+Click. The license pane displays the license information.

  Alternatively, copy and paste the license information directly in the license pane. Click Next to proceed.

  The installer determines if the license you have entered is a served or an unserved license.

  For a served license:

  - If the served license requires a license server for the machine on which you are installing the DI components, the installer prompts you to either deploy the license to an existing license server, if one exists, or install a new license server if you have not installed one yet. Click Back and select “Use previously deployed license server” on the installer if you have deployed the license to an existing license server. Click Next to install a new license server.

    Provide the directory in which you want to install the license server. Click Next. The installer displays an installation summary window and proceeds to install the license server.

  - If the served license is activated for a machine other than where you are installing the DI Suite components, you must set up a license server on that machine, deploy the license, and then select “Use previously deployed license server” on the installer.

    For information on how to set up a standalone license server, see Appendix A, “Setting up a SySAM Standalone License Server.”

    If you are installing the license server on a platform that is not supported by DI Suite 1.2, go to the SySAM Web site at http://www.sybase.com/sysam to download the license server setup program.

- Use Previously Deployed License Server – if you have a previously deployed license server, enter the host name of the machine where the license server is running, and the port number if the port number you are using is not default. Click Next.

5 Depending on the license information you provide, the components that are available for installation are displayed. Review and verify the list. Click Next.

Note If the installer does not find any licenses, you cannot proceed.

6 If you have provided licenses for the following components and installed these components using the DI Suite installer, you are prompted for additional information:

For RepConnector

a Select the application server where you have deployed RepConnector:

- RepConnector for Sybase EAServer
- RepConnector for BEA WebLogic

Click Next.

b If you have selected BEA WebLogic as the application server, specify the directory in which BEA WebLogic is installed. Make sure you have write permission to the BEA WebLogic installation directory. Click Next.

The licenses are installed in the appropriate RepConnector installation directory.

For Sybase ASE Active Messaging

Enter or select an existing Adaptive Server Enterprise (ASE) installation directory where you have installed ASE Active Messaging, and click Next.

The licenses are installed under the ASE installation directory.

7 If the license are installed successfully, a final window appears, indicating a successful installation. It also advises you to restart the Sybase applications for the changes to take effect.

Note If you have provided the Standard Edition license, the ASE Active Messaging and RepAgent accessory licenses are installed in the *installation_ directory/DI_Standard_Accessory_Licenses* folder.

Completing RepConnector installation on BEA WebLogic

To complete the installation of RepConnector on BEA WebLogic server, you must perform the following tasks:

1 Stop the BEA WebLogic server.

2 Modify the *startWebLogic.sh* start-up script to check for *repra_env.sh* and call it if it exists. Make this change after the *setDomainEnv.sh* call.

The portion of the *startWebLogic.sh* start-up script that you need to modify:

```
# Call setDomainEnv here.

DOMAIN_HOME=" BEA_installation_directory/bea10/user_projects/domains/mydomain"

. ${DOMAIN_HOME}/bin/setDomainEnv.sh $*

if [ -f /BEA_installation_directory/bea10/repra/bin/repra_env.sh ]
then

      . /BEA_installation_directory/bea10/repra/bin/repra_env.sh
       fi
```

Note *BEA_installation_directory* is the path to your BEA installation directory.

3 Start the BEA WebLogic Server.

4 Run the *WLSStart.sh* file under the RepConnector home directory.

Installing in console mode

To run the installer without the GUI, launch the installer in console mode.

The steps for installing components in console mode are the same as those described in “Installing in GUI mode” on page 25, except that you run the installer from the command line using the setup -console command.

Enter:

```
./setup -is:javaconsole -console
```

The installation program starts and displays the Welcome message.

The flow of the installation is identical to a GUI installation, except that the display is written to a terminal window and you enter responses using the keyboard. See “Installing in GUI mode” on page 25.

Installing using a response file

Perform silent installation (sometimes called an “unattended installation”) by running the installer and providing a response file that contains answers to all the installer questions.

There are two ways to create a response file for the installer; using record mode or template mode.

Creating a response file using record mode

In this mode, the installer performs an installation of the product and records all your responses and selections in the specified response file. You must complete the installation to generate a response file. To create a response file, enter:

```
./setup -options-record responseFileName
```

where *responseFileName* is the absolute path of the file name you choose for the response file.

You can also use the console mode to generate a response file without using the graphical interface. Enter:

```
./setup -is:javaconsole -console -options-record responseFileName
```

These commands result in:

- An installation of DI Suite components on your computer
- A response file containing all of your responses from the installation

If you use this response file for a silent installation, the resulting installation is identical to the one from which the response file was created; the same installation location, same feature selection, and all the same remaining information. The response file is a text file that you can edit to change any responses before using it in any subsequent installations.

Creating a response file using template mode

In this mode, the installer creates a response file containing commented-out values for all required responses and selections. To create this template file, enter:

```
./setup -is:javaconsole -options-template responseFileName
```

where *responseFileName* is the file name you choose for the response file. When specifying the response file name, include the full directory path of its location.

To use this response file for a silent installation, manually edit the template with the values you want to use during installation.

Installing interactively using a response file

An interactive installation using a response file allows you to accept the default values from the response file, or to change any of those values for the specific installation. This is useful when you have multiple similar installations that have minor differences that you want to change at installation time.

At the command line, enter:

```
./setup -options responseFileName
```

where *responseFileName* is the file name containing the installation options you chose. When specifying the response file name, include the full directory path of its location.

Installing in silent mode

A silent-mode installation allows you to install the product with all responses provided in the response file you have set up. There is no user interaction. This is useful when you want multiple identical installations, or you want to automate the installation process.

At the command line, enter:

```
./setup -is:javaconsole -silent -options
responseFileName -W SybaseLicense.agreeToLicense=true
```

where *responseFileName* is the absolute path of the file name containing the installation options you chose. The `-W` option specifies that you agree with the Sybase License Agreement text.

Except for the absence of the GUI screens, all actions of the installer are the same, and the result of an installation in silent mode is the same as one performed in GUI mode with the same responses.

Command line options

Table 3-5 lists the command line options that you can use when installing DI Suite components in console mode, or using a response file.

Table 3-5: Command line options

Option	Description
-console	Runs the installer in console mode. To view installation messages, use -is:javaconsole with this option.
-is:javaconsole	Displays the Java console during installation. This has no effect on the mode in which the installer runs.
-is:javahome *Java home directory*	Indicates that the installer or uninstaller uses the specified JVM rather than the default. You can specify the home directory only for version 1.4.x.
-is:tempdir *directory*	Sets the path to the temporary directory (*directory*) to which the installer should write its temporary files. If the specified directory does not exist or is not a directory, the installer uses the system *temp* directory instead, and no error message is provided.
-log !*filename*	Initializes logging for the installer, where *filename* is the name of a file to save the log information. If you specify "!" without a file name, the default log file name is used.
-options-template *responseFileName*	Automatically generates a response/options "template" type file (*responseFileName*) that you can use to provide user input during installation.
-options-record *responseFileName*	Automatically generates a response/options "record" type file *responseFileName* after the completion of the installation or uninstallation.
-options *responseFileName*	Specifies that a response/options file (*responseFileName*) be used to execute the installation/uninstallation, which contains command line options, one command per line, that set specified properties for the installation. A response/options file is usually used when a silent installation is run (see the next option).
-silent	Specifies to install or uninstall the product in silent mode, where the installation/uninstallation is performed with no user interaction. Use this option with -is:javaconsole option.
-W *beanID.property name.subproperty nam>=value*	Specifies properties to the installer. Use this option to agree to the Sybase license conditions during a silent installation.

Option	Description
-G *globalWizardProperty = "value"*	Sets the global wizard properties on the command line or in a *responseFile*. This option sets the expected response from the end user during silent installation or uninstallation. This option must include at least one argument. These are the *globalWizardProperty="value"* options you can specify: • replaceExistingResponse="yes | no | yesToAll | noToAll" Set this to store the end-user response whether to replace a file that currently exists on their system with the one being installed. • replaceNewerResponse="yes | no | yesToAll | noToAll" Set this to store the end-user response whether to replace a file that currently exists on their system with the one being installed if the existing file is newer than the file being installed. • removeExistingResponse="yes | no | yesToAll | noToAll" Set this to store the end-user response to whether to remove a file that currently exists on their system. • removeModifiedResponse= "yes | no | yesToAll | noToAll" Set this to store the end-user response whether to remove a file that has been modified since installation. • overwriteJVM="yes | no | cancel" Set this to determine whether to overwrite "*_jvm*" directory, if it already exists on the target system. The JVM Resolution bean looks for the value of this property which, if set to "no" or "cancel" prevents the directory from being overwritten.

Note When using the command line option, specify the full path, including the file name, for the *responseFileName*.

CHAPTER 4

Post-Installation Tasks

This chapter describes the post-installation tasks you must perform after installing the DI Suite components, or DI Suite Standard Edition.

Checking for a valid installation

This section describes how to verify a valid and successful installation of DI Suite components.

Sybase Replication

Perform the following tasks to check if the Sybase Replication component is successfully installed.

Replication Server

To verify that the Replication Server is installed successfully:

1 Create and start the sample Replication Server.

   a Go to the $SYBASE directory and enter:

```
source SYBASE.csh
```

   b Go to the *$SYBASE/REP-15_0/install* directory and enter:

```
./rs_init -r ../samp_repserver/SAMPLE_RS.res
```

   The sample Replication Server starts.

2 Log in to Replication Server from the command prompt using isql commands with the *sa* user name. If the installation is successful, you can connect to the Replication Server using isql.

```
isql -Usa -P -SSAMPLE_RS
1>admin who
2>go
```

Note admin who displays the newly created connection.

Logging in to Replication Server is an easy way to find out if Replication Server is running. If you can successfully log in to Replication Server and find it running, then the installation is successful.

Replication Agent

To verify that Replication Agent is installed successfully:

1 Go to the $SYBASE directory and check if the following directories and files exist:

- *_jvmrax*
- *installed*
- *RAX-15_0*
  - *ASA-9_0*
  - *bin*
  - *classes*
  - *config*
  - *JRE-1_4_2*
  - *lib*
  - *scripts*
  - *sysam*
  - *ThirdPartyLegal*
- *SYSAM-2_0*
  - *bin*
  - *licenses*
  - *log*
- *uninstall*

    - *RAX-15_0*
- *log.txt*
- *SYBASE.sh*
- *SYBASE.csh*
    - *SYBASE.env*

2 Go to the *$SYBASE* directory and set the environment variables by sourcing *SYBASE.csh*.

3 Go to the *$SYBASE/RAX-15_0/bin* directory and enter:

```
ra.sh -v
```

Replication Agent is successfully installed, if executing the *ra.sh* script displays the version number and the Sybase copyright information, and all the above listed directories and files exist.

DirectConnect

To verify that DirectConnect is installed successfully:

1 Create a DirectConnect server.

a To set the environment variables, go to the *$SYBASE/DC-15_0* directory and enter:

```
source DC_SYBASE.csh
```

b Go to the *$SYBASE/DC-15_0/bin* directory and enter:

```
AddServer server_name port_number
```

where *server_name* is the name of the new DirectConnect server and *port_number* is the port on which the server listens. The AddServer utility creates the necessary entries in the *interfaces* file before starting the DirectConnect server.

The command line displays that the new server has been started and is ready for connections.

2 Verify that the server is set up properly.

a Set the environment variables. Go to the *$SYBASE/DC-15_0* directory and enter:

```
source DC_SYBASE.csh
```

b Using isql, enter:

```
isql -Sserver_name -Usa -P
1>exec adm_version
2>go
```

If DirectConnect is successfully installed, this command displays the product name, version, platform, and release date, along with other information.

❖ **To verify that DirectConnect for Oracle (DCO) is installed successfully**

To check for a valid installation of DCO, create and configure a DirectConnect instance. Before you do that, make sure:

- You have made a copy of the existing *tnsnames.ora* file, currently being used to connect to Oracle, and placed it in a temporary file location.
- The Oracle connect string is available.
- The name for a valid Oracle account, which will be the administrator for DCO, is available.
- The number of the unused port to be used by DirectConnect for Oracle is available.

To create and configure a DirectConnect instance:

1 Start the Create Server wizard.

Navigate to the *$SYBASE/DCO-15_0/DCWizard* directory and execute *DCWizard.sh* script.

The Welcome Create Server Wizard window appears. Click Next.

2 Select the ECDA Option for Oracle option. Click Next.

3 Enter the server name for the new DirectConnect server and the port number that you want the server to listen on. Click Next.

4 Enter a valid Admin Account name. Click Next.

5 Enter the Oracle connection string as previously defined in the *tnsnames.ora* file, and the path (including the file name) to the previously defined temporary location of the *tnsnames.ora* file. Click Next.

6 Verify the ECDA Server information. If correct, select Create Server otherwise, click Back to return to the previous window and provide the correct information.

7 Verify if the ECDA configuration is successful. If yes, click Next otherwise, click Back to return to the previous window, provide the correct information, and recreate the server.

8 In the Start DirectConnect Server window, click Start *ecda_servername* to start the newly configured ECDA server.

9 Verify if the ECDA server startup is successful and click Finish.

10 Verify if the ECDA Option for Oracle server is properly configured to Oracle.

1 Set the environment variables. Go to the *$SYBASE/DCO-15_0* directory and enter:

```
source DCO_SYBASE.csh
```

2 Using isql enter:

```
isql -Sserver_name -U<valid_oracle_userid> -P
1>select @@oracle_version
2>go
```

If the DCO server is installed and configured properly, this command displays the version of the target Oracle database.

Sybase Search

To check for a valid installation of Sybase Search:

1 Start the Search servers.

- If you have performed a full installation of Sybase Search:

  On Sun Solaris:

  1 Go to the *$SYBASE/Search-3_5/OmniQ/bin* directory and enter:

  ```
  . ./env.sh
  ./sysearch64.sh start 1
  ```

  2 Go to the *$SYBASE/Search-3_5/Hyena/bin* directory and enter:

  ```
  ./Hyena64.sh start
  ```

  On IBM AIX:

  1 Go to the *$SYBASE/Search-3_5/OmniQ/bin* directory and enter:

  ```
  . ./env.sh
  ./sysearch32.sh start 1
  ```

  2 Go to the *$SYBASE/Search-3_5/Hyena/bin* directory and enter:

  ```
  ./Hyena32.sh start
  ```

- If you have performed a custom installation of Sybase Search, you must start the various Search servers.

  1 Go to the *$SYBASE/Search-3_5/OmniQ/bin* directory and start the hub container.

    On Sun Solaris:

    ```
    . ./env.sh
    ./sysearch64.sh start 1
    ```

    On IBM AIX:

    ```
    . ./env.sh
    ./sysearch32.sh start 1
    ```

  2 Go to the *$SYBASE/Search-3_5/OmniQ/bin* directory and start the satellite container:

    On Sun Solaris:

    ```
    . ./env.sh
    ./sysearch64.sh containerID
    ```

    On IBM AIX:

    ```
    . ./env.sh
    ./sysearch32.sh containerID
    ```

  3 Go to the *$SYBASE/Search-3_5/Hyena/bin* directory and start the Web administration server:

    On Sun Solaris:

    ```
    ./Hyena64.sh start
    ```

    On IBM AIX:

    ```
    ./Hyena32.sh start
    ```

2 Invoke the Web administration console:

  a Start Sybase Central.

    1 Go to the $SYBASE directory and enter:

    ```
    source SYBASE.csh
    ```

    2 Go to the *$SYBASE/shared/sybcentral43* directory and execute *scjview.sh*.

  b In the left navigation pane, click Data Services Administrator.

c Select the Sybase Search tab displayed in the right pane of the Sybase Central screen.

d Right-click Web Administration Server and select Open. The Sybase Search 3.5 administration page displays.

Note The default address of the Web Administration Server is *http://<machine-name>:8111/omniq*. Replace *machine-name* with the host name on which the Web Administration Server is running, if Sybase Search is installed on a different host. See the Data Services Administrator online help for information on how to change the Web address.

e Enter the administrator password and click Login. The Sybase Search Home Page appears.

3 On the Sybase Search 3.5 Home Page, click the System tab. If the installation is successful, you can view the environment details, memory usage, and events for all installed containers within the Sybase Search installation.

Sybase Data Federation

To verify a valid installation of Sybase Data Federation, check if the following directories and files exist under the installation directory.

- *sdf*
- *lib*
- *examples*
- *resources*
- *drivers*
- *ServiceWrapper*
- *docs*
- If you have installed Grid Server, also check for:
  - *demo*
  - *grid-server*
  - *grid-server* under the *jboss/server* directory

- If you have installed Share Server, also check for:
  - *share-server*
  - *share-server* under the jboss/server directory
- If you have installed Proxy Server, also check for:
  - *proxy-server*
  - *proxy-server* under the *jboss/server* directory
- If you have installed Data Grid Access Server, check if the *dgas* directory exists.

Note If you configured the Grid Domain Controller during installation, you can check if it has been configured successfully. To verify, open the *$SYBASE/DF-1_2/gdcpostinstall.log* file and see if the following lines exists at the end of the file:
"Grid Domain Controller configuration successful.
Attempting login with default credentials.
Shutting down grid server."

Sybase Real-Time Events

Perform the following tasks to check if the Sybase Real-Time Events components have been successfully installed.

RepConnector

To verify if RepConnector is installed successfully for your application server:

- For EAServer – go to *$SYBASE/EAServer* and check if the *repra* directory exists.
- For BEA Weblogic – go to the *Weblogic_installation_directory* and check if the *repra* directory exists.

Replication Server

To verify if the Replication Server subcomponent has been successfully installed, see "Replication Server" on page 43.

Replication Agent

To verify if the Replication Agent subcomponent has been successfully installed, see "Replication Agent" on page 44.

Sybase ASE Active Messaging

To verify that Sybase ASE Active Messaging has been installed successfully:

1 Make sure you have the message bus software, such as IBM WebSphere MQ, TIBCO EMS, or EAServer JMS installed in your environment, and you have already:

- For IBM WebSphere MQ, set the follwing environment variable:
  - $MQCCSID, the CCSID value of the connected queue managers
  - For IBM AIX, include *$IBM_MQ/lib64* to LIBPATH

  Note *IBM_MQ* is the installation directory for IBM WebSphere MQ.

- For TIBCO EMS and EAServer JMS:
  - If you are using ASE 12.5.4 ESD#6 or later, or ASE 15.0.2 GA, set the $SYBASE_JRE variable to point to *$SYBASE/Shared/jre142*, so that the JVM can start when you enable real-time messaging.
  - If you are using ASE 15.0.2 ESD#1 or later, set the $SYBASE_JRE_RTDS variable to point to *$SYBASE/Shared/jre142*, so that the JVM can start when you enable real-time messaging.

2 Make sure the ASE Active Messaging subcomponent has been installed successfully:

- For IBM WebSphere MQ, go to the *$SYBASE/ASE-15_0/lib* directory and check if the *libsybibmmq.so* file exists.
- For TIBCO EMS and EAServer JMS, go to the *$SYBASE/ASE-15_0/lib* directory and check if the following files exist.
  - *jrtms.jar*
  - *libshmemrtds.so*

3 Make sure Adaptive Server is up and running.

4 Go to the *$SYBASE/ASE-15_0/scripts* directory. Using isql, enter:

```
isql -Usa -P –Sserver_name -i installmaster
isql -Usa -P -Sserver_name -i installmsgsvss
```

```
isql -Usa -P -Sserver_name -i instmsgs.ebf
```

Note The instmstr and installmaster scripts return system procedures to their original version, installmsgsvss script installs system stored procedures for real-time messaging services, and instmsgs.ebf script brings your Adaptive Server messages up to the correct level.

5 If you have installed the ASE Active Messaging subcomponent on top of ASE 12.5.4 ESD#3, go to the *$SYBASE/ASE-12_5/scripts* directory using a command line. Using isql, enter the following for IBM WebSphere MQ and TIBCO EMS:

```
isql -Usa -P -Sserver_name -i installmsgsvss
```

6 Restart ASE.

7 Go to the $SYBASE directory. Using isql, enter:

```
isql –Sserver_name –Usa -P
```

8 To configure the server to use real-time messaging, enter:

- For IBM WebSphere MQ:

```
1>sp_configure "enable real time messaging", 1,
"ibm_mq"
2>go
```

- For TIBCO EMS:

```
1>sp_configure "enable real time messaging", 1,
"tibco_jms"
2>go
```

- For EAServer JMS:

```
1>sp_configure "enable real time messaging", 1,
"eas_jms"
2>go
```

Check the return status value to verify if real-time messaging has been successfully enabled. A return status value of 0 means success.

Note ASE 12.5.4 ESD #6 does not support EAServer JMS.

Sybase ETL

Perform the following tasks to verify if the Sybase ETL Server has been successfully installed.

ETL Server

Go to the *$SYBASE/SybaseETLServer* directory and enter:

```
GridNode.sh -ll
```

If your installation is valid and successful, the license information displays.

Configuring individual components

After validating a successful installation, configure the components using the procedures described in this section. To obtain more information on each component, access the documentation for each component from:

- Sybase Product Manuals Web site at http://www.sybase.com/support/manuals.
- Getting Started CD or the DI Suite component-related SyBooks CD provided with the installation package.

Sybase Replication

Table 4-1 lists the configuration steps and the related documents that describe them.

Table 4-1: Configuration information for Sybase Replication

Configuration steps	Where to find instructions
1. Set up a heterogeneous replication system.	
Know how to set up a heterogeneous replication system and the various components required for such a system.	Chapter 1, "Sybase Replication System Overview" in the *Replication Server 15.0 Heterogeneous Replication Guide*
2. Set up the primary and replicate data servers.	
Set up a non-Sybase primary data server.	
Understand issues and considerations specific to non-Sybase primary data server in a Sybase replication system.	"Primary data servers," in Chapter 4, "Data Server Issues" in the *Replication Server 15.0 Heterogeneous Replication Guide*
b. Set up a replicate data server.	
Understand issues and considerations specific to replication in a heterogeneous replication system.	"Replicate data servers," in Chapter 4, "Data Server Issues" in the *Replication Server 15.0 Heterogeneous Replication Guide*
3. Configure Replication Server.	
a. Plan and prepare your replication system.	Chapter 1, "Preparing to Install and Configure Replication Server" in the *Replication Server 15.0.1 Configuration Guide*
b. Collect and record the information you need to prepare your replication system.	Appendix A, "Worksheets" in the *Replication Server 15.0.1 Configuration Guide*
c. Configure Replication Server.	Chapter 2, "Configuring Replication Server and Adding Databases with rs_init" in the *Replication Server 15.0.1 Configuration Guide*
4. Configure Replication Agent for non-Sybase data server.	
a. Prepare to configure Replication Agent.	"Completing the installation and Setup worksheet," in Chapter 1, "Preparing for Installation" in the *Replication Agent 15.0 Installation Guide*
b. Create Replication Agent for your data server instance.	"Creating the Replication Agent instance," in Chapter 2, "Setting Up and Configuring Replication Agent" in the *Replication Agent 15.0 Administration Guide*

Configuration steps	Where to find instructions
c. Create an entry for the Replication Agent in the interfaces file.	"Using the Replication Agent administration port," in Chapter 2, "Setting Up and Configuring Replication Agent" in the *Replication Agent 15.0 Administration Guide*
d. Configure connectivity to the primary data server, Replication Server, and RSSD.	"Setting up Replication Agent Connectivity," in Chapter 2, "Setting Up and Configuring Replication Agent" in the *Replication Agent 15.0 Administration Guide*
e. (For Microsoft SQL Server) Set up the SQL Server JDBC driver.	"Replication Agent communications," Chapter 2, "Replication Agent for Microsoft SQL Server" in the *Replication Agent 15.0 Primary Database Guide*
f. (For Oracle) Set up the Oracle JDBC driver.	"Replication Agent connectivity," in Chapter 3, "Replication Agent for Oracle" in the *Replication Agent 15.0 Primary Database Guide*
g. (For DB2 UDB) Configure DB2 UDB primary database and JDBC driver.	"DB2 Universal Database Requirements," in Chapter 1, "Replication Agent for UDB" in the *Replication Agent 15.0 Primary Database Guide*
h. Test network connectivity.	Section "Testing network connectivity," in Chapter 2, "Setting Up and Configuring Replication Agent" in the *Replication Agent 15.0 Administration Guide*
i. (For SQL Server and Oracle) Grant necessary permissions to the Replication Agent user ID.	"Replication Agent permissions," in Chapters 2 and 3 in the *Replication Agent 15.0 Primary Database Guide*
j. Mark a table in the primary database for replication.	"Marking objects in the primary database," in Chapter 2, "Setting Up and Configuring Replication Agent" in the *Replication Agent 15.0 Administration Guide*
k. Verify that database objects are replicated in the correct character case.	"Character case of database object names," in Chapters 1, 2, and 3 in the *Replication Agent 15.0 Primary Database Guide*
l. Verify the data server's datatype compatibility with Replication Server.	"Datatype compatibility," Chapters 1, 2, and 3 in the *Replication Agent 15.0 Primary Database Guide*
5. Configure DirectConnect, if replicating to a non-Sybase data server.	

Configuration steps	Where to find instructions
a. Understand the configuration overview and high-level steps.	Chapter 3, "Installation and Configuration Overview" in the *Enterprise Connect Data Access 15.0 Installation Guide*
b. Set up and configure DirectConnect server.	
i. Create a new DirectConnect server using the CreateServer Wizard.	Chapter 5, "Using the Create Server Wizard" in the *Enterprise Connect Data Access 15.0 Installation Guide*
ii. Use DirectConnect Manager to configure the server and services.	"Using DirectConnect Manager," in Chapter 7, "Installing DirectConnect Manager" in the *Enterprise Connect Data Access 15.0 Installation Guide*
iii. Create a new access service.	"Installing DirectConnect," in Chapter 5 and 7 in the *Enterprise Connect Data Access 15.0 Installation Guide*
iv. Configure DSNs.	"Installing DirectConnect," in Chapter 5, "Installing DirectConnect" and "Installing DirectConnect Manager," in Chapter 7, "Installing DirectConnect Manager" in the *Enterprise Connect Data Access 15.0 Installation Guide*
v. Use DirectConnect Manager to create and configure the access services.	"Installing DirectConnect Manager," in Chapter 7, "Installing DirectConnect Manager" in the *Enterprise Connect Data Access 15.0 Installation Guide*
vi. Configure Client Connectivity.	Chapter 8, "After Installation" in the *Enterprise Connect Data Access 15.0 Installation Guide*
c. Set up and configure DirectConnect access service.	Chapter 2, "Configuring the Access Service Library for DirectConnect" and Chapter 3, "Configuring Access Services to Work with Related Products" in the *Enterprise Connect Data Access Option 15.0 User's Guide for Access Services*
6. (Optional) Test sample replication system configuration.	
a. View examples of several replication system configurations with heterogeneous or non-Sybase data servers and understand the issues involved with each configuration.	Chaper 6, "Replication System Configuration Examples" in the *Replication Server 15.0 Heterogeneous Guide*
b. Test a heterogeneous replication test environment to verify the installation and configuration of Replication Agent software and the basic function of other components in your replication system.	"Replication Agent for <data server> setup test scripts," in Chapters 1, 2, and 3 in the *Replication Agent 15.0 Primary Database Guide*

Note For setting up a Sybase replication system for Oracle, see the *DI Suite Quick Start Guide for Oracle to Oracle Replication.*

Sybase Search

Table 4-2 lists the configuration steps and the related documents that describe them.

Table 4-2: Configuration information for Sybase Search

Configuration steps	Where to find instructions
1. Set up Sybase Search system.	"Setting Up Sybase Search," in Chapter 2, "Administering Sybase Search" in the *Sybase Search 3.5 Administration and Users Guide*
2. Configure Sybase Search.	Chapter 3, "Configuring Sybase Search" in the *Sybase Search 3.5 Administration and Users Guide*
3. (Optional) Set key configuration parameters for the Hyena servlet container. Skip this step if you are integrating Sybase Search with a J2EE application server, such as Apache Tomcat.	Chapter 4, "Configuring Web Administration" of the *Sybase Search 3.5 Administration and Users Guide*
4. (Optional) Develop, configure, and use custom HTTP handlers, filters, parsers, and text splitters for use with Sybase Search.	Chapter 5, "Customizing Sybase Search" in the *Sybase Search 3.5 Administration and Users Guide*

Sybase Data Federation

Table 4-3 lists the configuration steps for setting up a single Data Federation domain and the related documents that describe them.

Table 4-3: Configuration information for Sybase Data Federation

Configuration steps	Where to find instructions
Before you start Data Federation servers:	
1. Determine whether you need to set the host name for any Data Federation servers in your grid domain.	"Setting a server's host name or IP address," in Chapter 2, "Installing Data Federation software" in the *Sybase Data Federation Administration Guide*
2. (Optional) Generate self-signed SSL certificates.	"Generating self-signed SSL certificates," in Chapter 2, "Installing Data Federation software" in the *Sybase Data Federation Administration Guide*

Configuration steps	Where to find instructions
3. Install JDBC drivers for the databases you plan to use.	"Installing database JDBC drivers," in Chapter 3, "Setting up Data Federation servers and clients" in the *Sybase Data Federation Administration Guide*
4. Start the GDC. If you discovered any port conflicts on the GDC machine during your planning, resolve them before you initialize the grid domain.	"Starting a primary GDC," in Chapter 2, "Installing Data Federation software" in the *SybaseData Federation Administration Guide*
After you start the GDC:	
1. (Optional) Install an SSL certificate on the GDC.	"Installing an SSL certificate," in Chapter 2, "Installing Data Federation software" in the *Sybase Data Federation Administration Guide*
2. Configure the GDC, if it has not been configured at install time.	"Configuring a primary GDC," in Chapter 2, "Installing Data Federation software" in the *Sybase Data Federation Administration Guide*
3. (Optional) Include a secondary GDC in your domain.	"Starting a secondary GDC" in Chapter 2, "Installing Data Federation software" in the *Sybase Data Federation Administration Guide*
4. (Optional) Start and configure other servers.	• "Setting up grid servers," in Chapter 3, "Setting up Data Federation servers and clients" in the *Sybase Data Federation Administration Guide* • "Setting up share servers," in Chapter 3, "Setting up Data Federation servers and clients" in the *Sybase Data Federation Administration Guide* • "Setting up data grid access servers," in Chapter 3, "Setting up Data Federation servers and clients" in the *Sybase Data Federation Administration Guide*
5. (Optional) Interconnect two Data Federation domains.	"Setting up proxy servers and routing tables" in Chapter 3, "Setting up Data Federation servers and clients" in the *Sybase Data Federation Administration Guide*
After you set up servers:	
1. Set up user accounts.	
a. Import user accounts from an LDAP or NIS service.	"Managing authentication services," in Chapter 5, "Managing authentication services, users, and groups" in the *Sybase Data Federation Administration Guide*
b. Create user accounts in the Data Federation domain.	"Managing users," in Chapter 5, "Managing authentication services, users, and groups" in the *Sybase Data Federation Administration Guide*

Configuration steps	Where to find instructions
2. Set up administrative accounts in Data Federation.	"Setting up administrative accounts," in Chapter 2, "Installing Data Federation software" in the *SybaseData Federation Administration Guide*
3. If your domain includes a Data Grid Access Server, create NFS clients, CIFS clients, or both.	• "Setting up NFS clients," in Chapter 3, "Setting up Data Federation servers and clients" in the *Sybase Data Federation Administration Guide* • "Setting up CIFS clients" in Chapter 3, "Setting up Data Federation servers and clients" in the *Sybase Data Federation Administration Guide*
4. (Optional) If you are an advanced user and want to use the command line interface, set up a command client.	"Setting up command clients" in Chapter 3, "Setting up Data Federation servers and clients" in the *Sybase Data Federation Administration Guide*

Sybase Real-Time Events

You can use RepConnector or Sybase ASE Active Messaging subcomponents to capture data changes and propagate them to standard messaging architectures. Configuration steps for these subcomponents are listed separately in Table 4-4 and Table 4-5.

RepConnector

Table 4-4 lists the configuration steps for RepConnector and the related documents that describe them.

Table 4-4: Configuration information for RepConnector

Configuration steps	Where to find instructions
1. Prepare your system for RepConnector messaging.	
Know how to set up a RepConnector messaging system and the high-level configuration steps.	• Chapter 1, "Overview" in the *RepConnector 15.0.2 Configuration and Users Guide* • Chapter 2, "Overview of RepConnector Configuration" in the *RepConnector 15.0.2 Configuration and Users Guide*
2. Configure Replication Server for RepConnector.	

Configuration steps	Where to find instructions
a. Add an entry for RepConnector in the Replication Server interfaces file.	Chapter 3, “Configuring Replication Server for RepConnector” in the *RepConnector 15.0.2 Configuration and Users Guide*
b. Verify that Replication Server is up and running.	
c. Create a database connection in Replication Server to communicate with RepConnector.	
d. Create a replication definition in Replication Server to identify the data to be replicated.	
e. Create a subscription in Replication Server to identify the location to which the data will be replicated.	
f. Resume the database connection.	
3. Obtain information on how to get started using RepConnector Manager to create, configure, and manage RepConnector connections.	Chapter 4, “Getting Started with RepConnector Manager” in the *RepConnector 15.0.2 Configuration and Users Guide*
4. Configure the RepConnector environment and create a RepConnector connection.	Chapter 5, “Configuring RepConnector” in the *RepConnector 15.0.2 Configuration and Users Guide*
5. Use RepConnector Manager to manage your RepConnector connections.	Chapter 6, “Managing RepConnector Connections” in the *RepConnector 15.0.2 Configuration and Users Guide*
6. (Optional) Learn about the syntax for the ratool utility, including all command line flags and command options.	Chapter 7, “Using the ratool Utility” in the *RepConnector 15.0.2 Configuration and Users Guide*
7. (Optional) Create customized sender and message formatter processors.	Chapter 8, “Customizing the Sender and Formatter Processors” in the *RepConnector 15.0.1 Configuration and Users Guide*
8. (Optional) Customize the message generator for use with TIBCO Active Enterprise for wired message format.	Chapter 9, “Customizing the MessageGenerator for TIBCO AECM” in the *RepConnector 15.0.2 Configuration and Users Guide*
9. (Optional) Troubleshoot the scenarios you may encounter while configuring the RepConnector environment.	Appendix B, “Troubleshooting” in the *RepConnector 15.0.2 Configuration and Users Guide*

Sybase ASE Active Messaging

Table 4-5 lists the configuration steps for Sybase ASE Active Messaging and the related documents that describe them.

Table 4-5: Configuration information for Sybase ASE Active Messaging

Configuration steps	Where to find instructions
1. Prepare your system for real-time messaging.	
a. Learn about the various components required for setting up real-time messaging with ASE messaging libraries.	"Using RTDS with Adaptive Server Enterprise" in the *Sybase Real-Time Data Services 4.5 Installation and Release Bulletin*
b. Enable ASE for real-time messaging.	"Configuring RTDS for Adaptive Server" in the *Sybase Real-Time Data Services 4.5 Installation and Release Bulletin*
c. Configure your installation to install system stored procedures for real-time messaging services.	"Configuring RTDS for Adaptive Server" in the *Sybase Real-Time Data Services 4.5 Installation and Release Bulletin*
d. Set up IBM WebSphere MQ messaging software.	"Configuring RTDS for Adaptive Server" in the *Sybase Real-Time Data Services 4.5 Installation and Release Bulletin*
e. Set up TIBCO EMS using the appropriate TIBCO Administartion tool to create a queue and grant user permission.	TIBCO documentation.
f. Set up EAServer JMS using the appropriate EAS Administration tool to create a queue and grant user permission.	"Message queues," in Chapter 2, "Setting up the Message Service" in the *EAServer Java Messaging Services Users Guide*
2. Configure ASE for your messaging software.	
a. Configure ASE for MQ. **Note** No configuration is required for TIBCO EMS and EAServer JMS.	"Configuring ASE for MQ" in the *Sybase Real-Time Data Services 4.5 Installation and Release Bulletin*
b. (Optional) Troubleshoot problems you may encounter while configuring real-time messaging with ASE.	"Error messages" in the *Sybase Real-Time Data Services 4.5 Installation and Release Bulletin*

Sybase ETL

Table 4-6 lists the configuration steps and the related documents that describe them.

Table 4-6: Configuration information for Sybase ETL

Configuration steps	Where to find instructions
1. Select the default GRID engine to use for project execution.	"Customizing preferences," in Chapter 2, "Sybase ETL Development Desktop" in the *Sybase ETL 4.2 Users Guide*
2. Set up a GRID environment.	
a. Install ETL Server.	Chapter 3, "Installation" in the *Sybase Data Integration Suite Installation Guide*
b. (Optional) Configure and start ETL Server.	Appendix B of the *Sybase ETL 4.2 Users Guide*
c. (Optional) Select the default GRID engine to use for project execution.	"Customizing preferences" in Chapter 2, "Sybase ETL Development Desktop" in the *Sybase ETL 4.2 Users Guide*
d. Register engines in ETL Development. **Note** Embedded ETL Server installed with ETL Development on Windows is not GRID-enabled. Although this server displays in the Engine Monitor, if the same communication port is being used, do not select this server. This server will not accept any remote execution request.	"Using multiple engines to reduce job execution time," in Chapter 5, "Advanced Concepts and Tools" in the *Sybase ETL 4.2 Users Guide*
e. Enable jobs for execution in the GRID environment.	"Defining multi-engine jobs" in Chapter 5, "Advanced Concepts and Tools" in the *Sybase ETL 4.2 Users Guide*
f. Set up the connectivity to all your data sources and targets in all environments participating in the GRID. **Note** Sybase ETL 4.2 does not include Sybase native (Open Client™) connectivity. In order to use Sybase native connectivity, you must install the native libraries from another Sybase product. Contact your Sybase Technical Support representative for information about the best way to obtain Sybase native connectivity for your site.	Vendor documentation

CHAPTER 5

Upgrading

This chapter describes how to upgrade:

- DI Suite version 1.1 to 1.2. See Appendix B, “Component and Subcomponent Versions.”

  Note You cannot upgrade directly from DI Suite 1.0 to DI Suite 1.2.

- Standalone versions of components to DI Suite 1.2.

Upgrading Sybase Replication

This section describes how to upgrade the Sybase Replication subcomponents, which includes Replication Server, Replication Agent, and DirectConnect, from DI Suite 1.1 to DI Suite 1.2.

Note You cannot move the standalone components, Replication Server, Replication Agent, and DirectConnect, to DI Suite.

Upgrading Replication Server

For information on how to upgrade Replication Server, see the *Release Bulletin for Sybase Replication Server 15.0.1* for your platform.

Upgrading Replication Agent

No upgrade is required for Replication Agent, since DI Suite 1.2 uses the same version of Replication Agent as DI Suite 1.1. While installing DI Suite 1.2, if the installer detects an existing installation of Replication Agent, it does not overwrite it.

Note Sybase recommends that you create a backup copy of the existing installation directory before installing DI Suite 1.2.

Upgrading DirectConnect

You cannot upgrade an existing installation of DirectConnect. You must install and configure the current version of DirectConnect.

1 Install DI Suite 1.2 in the existing installation directory. See “Installing DI Suite components” on page 23.

Note The current version of DirectConnect does not overwrite the earlier version as it gets installed in a separate directory.

2 Create the DirectConnect server and services. See the *Enterprise Connect Data Access 15.0 Installation Guide* for information on how to create the DirectConnect servers and services.

Upgrading Sybase Search

This section describes the procedure to upgrade:

- Sybase Search from DI Suite 1.1 to DI Suite 1.2.
- OminQ 3.1 to DI Suite 1.2 Sybase Search.

1 Install DI Suite 1.2 in the existing installation directory. See “Installing DI Suite components” on page 23.

Note The current version of Sybase Search does not overwrite the earlier version as they are installed in two separate directories. This may lead to a port conflict if you try to run both versions simultaneously. However, to run both versions simultaneously, and to avoid the port conflict, change the port numbers. For more information, see Chapter 4, “Configuring Web Administration” of the *Sybase Search 3.5 Administration and Users Guide*. You may also uninstall the previous version of Sybase Search from your machine using the DI Suite uninstaller.

2 Make sure Sybase Search has been successfully installed. See “Checking for a valid installation” on page 43.

3 Import previously indexed documents. To reacquire the previously indexed documents, create document stores and import the previously indexed documents from file systems and databases as done in the earlier version of Sybase Search. See Chapter 2, “Administering Sybase Search,” of the *Sybase Search Administration and Users Guide* for more information.

Upgrading Sybase Data Federation

To upgrade Sybase Data Federation from DI Suite 1.1 to DI Suite 1.2, see the *Release Bulletin for Sybase Data Federation 1.2*.

For upgrading an Avaki domain to DI Suite 1.2 Data Federation:

- If you are running Avaki 6.2.1, upgrade to Avaki 7.0 before upgrading to DI Suite 1.1 Data Federation. See the *Sybase Avaki EII 7.0 Administration Guide* for your platform.
- If you are running Avaki 7.0, upgrade to DI Suite 1.1 Data Federation before upgrading to DI Suite 1.2 Data Federation. See the *Release Bulletin for Sybase Avaki EII 7.1 (Data Federation)* for your platform.
- If you are running Avaki 7.1 or DI Suite 1.1 Data Federation, you can directly upgrade to DI Suite 1.2 Data Federation. See the *Release Bulletin for Sybase Data Federation 1.2* for your platform.

Download the Avaki version you want to upgrade to from the Sybase Product Download Center (SPDC) at https://sybase.subscribenet.com.

Note Avaki Studio is now distributed as an integrated component of Sybase WorkSpace, which is available by itself or as part of the DI Suite. Within WorkSpace and the DI Suite, Avaki Studio is called WorkSpace Data Federation.

Upgrading Sybase Real-Time Events

This section describes how to upgrade:

- Sybase Real-Time Events subcomponents, namely, Sybase ASE Active Messaging, RepConnector, Replication Server, and Replication Agent from DI Suite 1.1 to DI Suite 1.2.
- Standalone versions of Sybase Real-Time Events subcomponents to DI Suite 1.2 Sybase Real-Time Events.

Upgrading Sybase ASE Active Messaging

This section describes how to upgrade:

- Sybase ASE Active Messaging from DI Suite 1.1 to DI Suite 1.2
- RTDS 3.1, 3.5, 4.0, to DI Suite 1.2 Sybase Real-Time Events

1 Install DI Suite 1.2 in the same installation directory as the earlier version. The current version overwrites the earlier version. See “Installing DI Suite components” on page 23.

2 Make sure ASE Active Messaging has been successfully installed. See “Checking for a valid installation” on page 43.

Upgrading RepConnector

This section describes how to upgrade:

- RepConnector from DI Suite 1.1 to DI Suite 1.2

  Note EAServer is automatically upgraded when you install DI Suite.

- RepConnector 2.5, 15.0, 15.0.1 versions to DI Suite 1.2 Sybase Real-Time Events

Upgrading RepConnector from DI Suite 1.1 to DI Suite 1.2 Real-Time Events

To upgrade RepConnector, you must first upgrade the application server, EAServer or BEA WebLogic, on which you will be deploying it.

Note EAServer is automatically upgraded when you install DI Suite.

Upgrading RepConnector on EAServer

1 Create a backup copy of the existing EAServer installation directory.

2 Install DI Suite 1.2 in the same installation directory as the existing one. The new version of RepConnector within the EAServer directory overwrites the earlier version.

See “Installing DI Suite components” on page 23.

3 From the backup copy of the EAServer directory:

   - Copy the **.prop* files in the *repra/conf* directory to the *repra/conf* directory of the new installation directory. This enables you to access all the existing RepConnector connections. Check each connection to verify if any of the values need to be updated.
   - Copy the **.ser* files in the *repra/sers* directory to the *repra/sers* directory of the new installation directory.

4 Modify the *repra/bin/repra_env.sh* file in the new installation directory to include any customizations made to the *repra/bin/repra_env.sh* file in the backup copy of the EAServer directory.

5 Restart EAServer. See the *EAServer Installation Guide*.

Upgrading RepConnector on BEA WebLogic

DI Suite 1.2 works only with versions 10.0 of BEA WebLogic. If you are deploying RepConnector on a BEA WebLogic application server, upgrade BEA WebLogic to the supported version. You can either upgrade your existing installation of the BEA WebLogic Server to the new version, or perform a clean installation of BEA WebLogic Server in a new installation directory.

❖ **Upgrading WebLogic 8.1 (existing installation) to BEA Weblogic to 10.0**

1. Create a backup of the existing BEA WebLogic installation directory.
2. Install the new version of BEA WebLogic server into the existing BEA WebLogic installation directory. See the BEA WebLogic Server documentation.
3. Create a backup of the *registry.xml* file, which is in the *$BEAHOME* directory.
4. Edit the *registry.xml* file to:
   - Delete any <release> XML elements relating to the earlier BEA WebLogic Server.
   - Delete any <java-installation> XML elements relating to JDK 1.4.
5. Restart the BEA WebLogic server.
6. Install the new version of RepConnector using the DI Suite installer.
7. Restore the original *registy.xml* file from the backup you created.

❖ **Installing BEA Weblogic 10.0 in a new installation directory**

1. Install BEA WebLogic 10.0. See the BEA WebLogic Server documentation for installation instructions.
2. Start the BEA WebLogic server.
3. Install the new version of RepConnector using the DI Suite installer.
4. From the earlier version of the BEA WebLogic installation directory:
   - Copy the **.prop* files in the *repra/conf* directory to the *repra/conf* directory of the new installation directory. This enables you to access all the existing RepConnector connections. Check each connection to verify if any of the values need to be updated.
   - Copy the **.ser* files in the *repra/sers* directory to the *repra/sers* directory of the new installation directory.

5 Modify the *repra/bin/repra_env.sh* file in the new installation directory to to include any customizations made to the *repra/bin/repra_env.sh* file in the earlier installation directory of BEA WebLogic.

6 Stop the BEA WebLogic server.

7 Modify the *startWebLogic.sh* start-up script to check for *repra_env.sh* and call it if it exists. Make this change after the *setDomainEnv.sh* call.

The portion of the *startWebLogic.sh* start-up script that you need to modify:

```
# Call setDomainEnv here.

DOMAIN_HOME=" BEA_installation_directory/bea10/user_projects/domains/mydomain"

. ${DOMAIN_HOME}/bin/setDomainEnv.sh $*

if [ -f /BEA_installation_directory/bea10/repra/bin/repra_env.sh ]
then

       . /BEA_installation_directory/bea10/repra/bin/repra_env.sh
        fi
```

Note *BEA_installation_directory* is the path to your BEA installation directory.

8 Start the BEA WebLogic Server.

9 Run the *WLSStart.sh* file under the RepConnector home directory.

Upgrading standalone versions of RepConnector to DI Suite 1.2 Real Time Events

1 Install RepConnector using the DI Suite 1.2 installer.

2 To upgrade the RepConnector Server:

- Copy the **.prop* files in the *repra/conf* directory to the *repra/conf* directory of the new installation directory. This enables you to access all the existing RepConnector connections. Check each connection to verify if any of the values need to be updated.
- Copy the **.ser* files in the *repra/sers* directory to the *repra/sers* directory of the new installation directory.

3 Modify the *repra/bin/repra_env.sh* file in the new installation directory to to include any customizations made to the *repra/bin/repra_env.sh* file in the previously installed RepConnector directory.

4 Use Sybase WorkSpace to read any profiles you created in the earlier version of RepConnector.

Upgrading Replication Server

See “Upgrading Replication Server” on page 63.

Upgrading Replication Agent

See “Upgrading Replication Agent” on page 64.

Upgrading ETL

This section explains how to upgrade the following ETL products to DI Suite 1.2 ETL:

- ETL 4.x
- Tron 4.x, if none of the following features are used:
  - UTL projects
  - XML via SQL Transformer component
  - XML via XSLT Transformer component
  - Job Guard Calculation
  - Job project pre-processing or post-processing
  - Global variables
- ETL Small Business Enterprise (SBE)
- IQEEE

The upgrade procedure for ETL Server and ETL Development is the same for all the ETL products listed above. The only exception is that you need to obtain the new DI 1.2 Sybase ETL Server and DI 1.2 Sybase ETL Development licenses while upgrading all ETL products, except ETL 4.x.

❖ **Upgrading Sybase ETL Server**

1 At the command prompt, shut down any running GridNode:

```
./GridNode.sh --shutdown
```

2 Verify that the GridNode has shut down successfully:

```
ps -e | grep GridNode
```

If the GridNode is still running, kill the process.

3 Use the DI Suite installer to install the new version of Sybase ETL Server in the same installation directory as the existing one.

4 If you are upgrading from Tron 4.x, ETL SBE and IQEEE, obtain the new DI Suite 1.2 Sybase ETL Server licenses from the SPDC and copy it into the *$SYBASE/ETLServer42/licenses* directory.

See the *Sybase Software Asset Management User's Guide*.

Note If you are upgrading from ETL 4.x, do not perform this task.

5 Start the new ETL Server.

- To start the ETL Server directly, enter:

```
GridNode.sh
```

- To start the ETL Server as a service, enter:

```
GridNode --install
```

6 To verify whether the startup is successful, enter:

```
ps -e | grep GridNode
```

CHAPTER 6

Uninstallation

This chapter describes how to uninstall DI Suite components.

Preparing to uninstall

Before beginning the uninstallation process:

- Log in to your machine using an account with administrator privileges.
- Shut down all Sybase applications and processes.
- Determine the mode of uninstallation – GUI or console mode. Sybase recommends that you use GUI mode.

Notes on the uninstallation of DI Suite components

Table 6-1 describes various uninstallation scenarios and expected behavior when you uninstall DI Suite components from the directory that contains other Sybase products, or vice versa.

Table 6-1: DI Suite uninstallation scenarios

Installation environment	Expected behavior	Recommendations, if any
Only DI Suite components are present.	DI Suite uninstaller: • Removes DI Suite component and its subcomponents. • Does not remove component-related DSA plug-ins.	None.
Sybase DI Suite components coexist with Sybase IQ 12.x.	Sybase IQ uninstaller: • Removes Sybase IQ, and the connectivity products installed with it. Removal of connectivity products can affect the working of DI Suite components. • Does not remove DI Suite components. DI Suite uninstaller: • Removes DI Suite component and its subcomponents. • Does not remove component-related DSA plug-ins. • Does not remove Sybase IQ installation but removes the connectivity products installed with it. Removal of connectivity products can affect the working of Sybase IQ.	Do not uninstall Sybase IQ, or reinstall DI Suite components after uninstalling Sybase IQ, or vice versa.
Sybase DI Suite components coexist with ASE.	ASE uninstaller: • Removes ASE but may make the DI Suite components inoperable. DI Suite uninstaller: • Removes DI Suite component and its subcomponents. • Does not remove component-related DSA plug-ins.	Do not uninstall ASE, or reinstall DI Suite components after uninstalling ASE.

Installation environment	Expected behavior	Recommendations, if any
Sybase Real-Time Events ASE Active Messaging subcomponent coexists with ASE.	ASE uninstaller: • Removes ASE but may make the Sybase Real-Time Events component inoperable. DI Suite uninstaller: • Removes ASE messaging libraries. • Does not remove component-related DSA plug-in. • Does not affect ASE installation.	None.
Sybase DI Suite components coexist with Replication Server 15.0.x, DirectConnect 15.0, and Replication Agent 15.x.	Replication Server, DirectConnect, or Replication Agent uninstaller: • Removes these products, but may make the DI Suite components inoperable. DI Suite uninstaller: • Removes Sybase Replication and its subcomponents such as Replication Server, Replication Agent, and DirectConnect. • Does not remove component-related DSA plug-in. • Removes existing Replication Server 12.5.x.	Do not uninstall existing Replication Server 15.0.x, DirectConnect 12.x, or Replication Agent 15.x, or reinstall DI Suite components after uninstalling existing Replication Server, DirectConnect, or Replication Agent.

Uninstalling in GUI mode

This section describes the steps you must perform to uninstall the DI Suite components.

Note To uninstall Replication Server, before you run the DI Suite uninstaller, you must run the Replication Server uninstaller by executing *$SYBASE/REP-15_0/uninstall/REP15012/uninstall -is:javaconsole* at the command line.

1 Invoke the uninstaller.

   At the command line, enter:

   ```
   $SYBASE/uninstall/DI/uninstall
   ```

   The Uninstaller Wizard Welcome window displays. Click Next.

2 Select the components or the subcomponents to remove. Click Next.

3 In the Uninstall Summary window, verify the summary information and if you are satisfied with your selections, click Next.

   The selected components and subcomponents are uninstalled, and all files associated with these components are removed.

   Note You may be prompted to decide whether to remove shared files. Sybase recommends that you do not remove them.

4 When the uninstallation is complete, click Finish to exit the uninstaller.

   After the uninstallation is complete, some files and directories remain. After moving files that you want to keep to another location, you can manually delete these directories.

Uninstalling in console mode

1 To uninstall DI Suite in console mode, enter:

```
$SYBASE/uninstall/DI/uninstall -console -is:javaconsole
```

   The uninstall program starts.

2 Choose the components you want to uninstall and click OK. The selected components are uninstalled.

For a complete list of the available command line options you can use in console mode, see Table 3-5 on page 41.

CHAPTER 7

Typical Deployment Scenarios

This chapter discusses Sybase-recommended deployment scenarios for DI Suite components.

Sybase Replication deployment

Sybase Replication enables heterogeneous replication in your data integration environment. It accesses a variety of heterogeneous databases such as Oracle, Microsoft SQL Server, IBM DB2, Sybase ASE, and mainframe data sources, and replicates transactional data from a primary database to target databases in your enterprise.

Before installing Sybase Replication, have a clear understanding of the replication needs of your enterprise. Use these options to determine the type of replication to enable, the type and number of databases to include in your replication system, and the size of your replication system:

- Unidirectional or bidirectional data replication across heterogeneous databases:
  - In unidirectional replication, data transactions are replicated one way; from a primary database to replicate databases.
  - In bidirectional replication, data transactions are replicated both ways; from a primary database to replicate databases and vice versa.

- Replication system setup options:
  - Replication system with Adaptive Server Enterprise (ASE) as both primary and replicate database.
  - Heterogeneous replication system with:
    - Adaptive Server as your primary or replicate database, and a non-Sybase database (such as DB2 Universal Database) as the other database.
    - Primary and replicate databases are both non-Sybase databases (for example, Oracle is the primary database and DB2 Universal Database is the replicate database).

    To implement a replication system with non-Sybase databases, besides the Replication Server, you must have two additional subcomponents—Replication Agent and DirectConnect—for each non-Sybase database.
  - Decide how many Replication Servers are required and which databases they will manage. A Replication Server can manage one or more databases. One Replication Server is adequate for small replication systems. Medium or large replication systems require one or more Replication Servers at each geographical site, to handle many databases or heavy transaction volumes.

Sybase Replication subcomponents

To set up heterogeneous replication in your environment, you can install any or all of these subcomponents:

- Replication Server – installs all Replication Server components, including Replication Monitoring Services and the Replication Manager plug-in. Replication Server enables distribution and synchronization of operational data in your enterprise.

  If both primary and replicate databases are ASE, you can implement a replication system using only Replication Server. The Replication Agent for ASE is a thread that is internal to the primary ASE.
- Replication Agents – installs Replication Agent software for Microsoft SQL Server, IBM DB2, or Oracle. Replication Agent captures transactions from the non-Sybase database and transfers them to Replication Server. This subcomponent is required to replicate from a non-Sybase database.

- DirectConnect – installs DirectConnect software for ODBC and Oracle. DirectConnect enables replication to a variety of LAN-based, heterogeneous databases, as well as mainframe data targets. DirectConnect is required to replicate to a non-Sybase database. ASE does not require DirectConnect.

Installation recommendations

- Allocate a disk partition of at least 20MB for each Replication Server you install. You can add more partitions later, if necessary. Check each partition to make sure it is available and has write permissions.

  Allocate the entire partition to the Replication Server. If you allocate only a portion of the partition to Replication Server, you cannot use the remainder for any other purpose.

- Install Replication Agent for Oracle on a server where it can directly access the Oracle online redo logs and the archive logs. Install Replication Agent for DB2 UDB for OS/390 on mainframe system that runs DB2. For other databases, you can install the appropriate Replication Agent on any server.

- Install one Replication Agent per database. The DI Suite installer installs Replication Agent software for all supported heterogeneous databases. You must configure the appropriate Replication Agent software for the non-Sybase database to which you want to connect.

- Before you install the DirectConnect component for a target database, set up connectivity between the machine that will host the DirectConnect server and the target database. The DI Suite installer provides you with options to install DirectConnect for ODBC (to access databases such as IBM DB2 and Microsoft SQL Server) and Oracle database.

- To improve performance, install DirectConnect on the same server that contains the replicate databases.

Note For the Standard Edition, you must install DirectConnect on the same machine as the other DI Suite components.

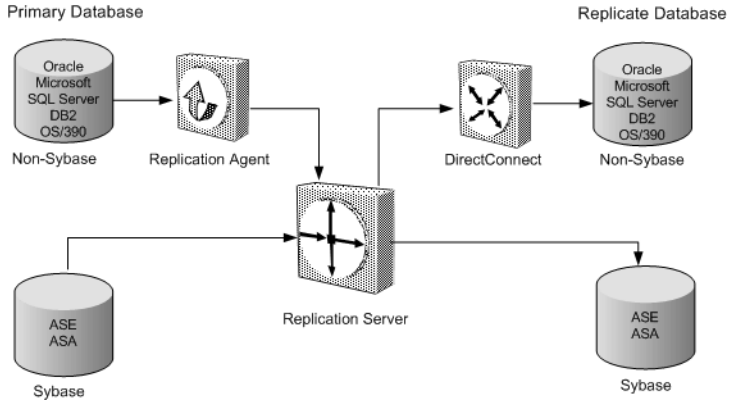
Example deployment architecture

Figure 7-1 shows an example architecture for these replication systems:

- Simple replication system with Adaptive Server Enterprise (ASE) as both primary and replicate databases.

- Heterogeneous replication system with non-Sybase databases.

Figure 7-1: Sybase Replication deployment architecture



For more information about heterogeneous replication concepts and how to set up a heterogeneous replication environment, see the *Heterogeneous Replication Guide* on the SyBooks CD for Sybase Replication or at Sybase product manuals at http://www.sybase.com/support/manuals/.

Sybase Search deployment

Sybase Search automates the process of locating relevant business information from the masses of unstructured information stored in databases, intranets and the Internet, centralized repositories, libraries, file systems, network drives, and existing document management systems in your enterprise.

Before installing Sybase Search, determine how to deploy Sybase Search in your environment. Have a clear understanding of performance expectations, how many servers are needed in your environment, and the components that are required to set up Sybase Search.

Sybase Search subcomponents

You can install any or all of these Sybase Search subcomponents:

- Hub container – runs Sybase Search and coordinates all other satellite containers.
- Satellite container – remote component of Sybase Search that contains the modules required to distribute the indexing and search modules.

- Web administration server – installs Hyena, which is a lightweight J2EE-compliant JSP/servlet container, and the Web application for performing Sybase Search administration tasks. Sybase Data Services Administrator, the common administration tool for DI Suite components, includes a plug-in to Sybase Central that invokes the Web application for administration.

Installation recommendations

Sybase Search is a fully distributed system, with a central hub server and one or more satellite servers. Each server can contain one or many containers with one or more modules for indexing and search features deployed in each container. The exact number of servers, containers, and modules depends on the your search needs.

Depending on your hardware specifications, Sybase recommends that you plan for one server per 500,000 documents indexed, with an additional server for the Sybase Search hub. For example, an estimation of 2 million documents to be indexed require five servers.

- For medium or large installations, you can have combinations of a hub container, satellite container, and Web administration server to be installed across multiple servers.
- For smaller installations, you can install all Sybase Search components on one machine. The components include a single container that contains a hub and satellite installation in one container, and the Web administration server.

Note The Full installation option in the DI Suite installer allows you to install Sybase Search on one machine, whereas the Custom installation option allows you to install Sybase Search across multiple servers.

Use the information in Table 7-1 to identify your setup type and plan your Sybase Search deployment:

Table 7-1: Sybase Search deployment setup information

Setup	Sybase Search feature	Number of servers
Small: Fewer than 500,000 documents to be indexed	Single-server installation	One server
Medium: 500,000 to 1.5 million documents to be indexed	Hub container	One server
	Satellite container	One server
	Web administration	One server
Large: More than 1.5 million documents to be indexed	Hub container	One server
	Satellite container	Five servers
	Web administration	One server

After you have determined the hardware requirements, determine how to deploy Sybase Search:

- Deployment across multiple servers

  Set up only one container per server. Multiple containers residing on a server must access the same disk drive, which slows performance. The Java 2 Platform Enterprise Edition (J2EE) server hosting the Sybase Search Web application should also reside on its own server. Distributing Sybase Search across multiple servers helps maximize resources available to each container and helps prevent I/O bottlenecks.

  Installing one container per server also reduces unnecessary network traffic among containers.

  If you install two containers on one server, their network traffic can be eliminated by combining their internal modules together into a single container. Sybase recommends that you do not run more than one container on a single server.

- Deployment on one server

  For a small installation on one server, Sybase recommends that you use only one container, with the modules shared across multiple containers located together in a single container. For more information, see “Determining module groups” on page 83.

Note Each container runs within a Java virtual machine (JVM) tied to a single CPU. You can run multiple containers on a server with multiple CPUs, with each container’s JVM attached to a different CPU.

Determining module groups

Sybase recommends that you group these modules in the hub container:

- Unique ID (UID) Generator
- Document Group Manager
- Text Manager
- Term Lexicon Manager
- Metadata Manager
- Query Manager
- Repository Manager
- Schedule Manager
- Category Manager
- Category Tree Manager

Sybase recommends that you group these modules in each satellite container:

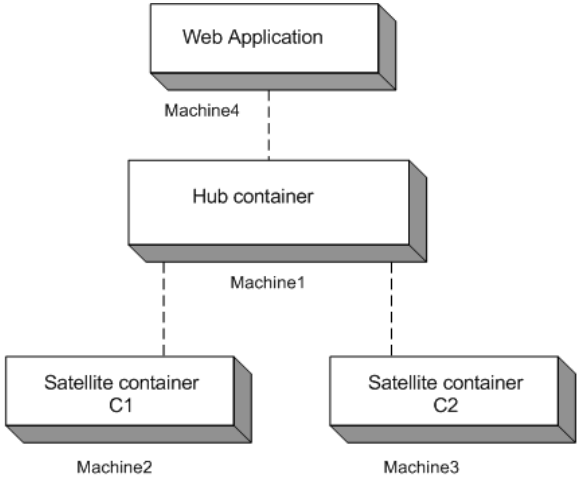
- Term Lexicon Manager Delegate
- Metadata Manager Delegate
- Filter Factory Manager
- File System Import Manager
- Database Import Manager
- Passive Import Manager
- Web Robot Manager

Example deployment architecture

Figure 7-2 shows an example architecture of a distributed system that contains these Sybase Search subcomponents installed across multiple servers:

- A central hub on Machine1
- Two satellite containers on Machine2 and Machine3
- A J2EE server containing the Web application on Machine4

Figure 7-2: Sybase Search deployment architecture



Sybase Data Federation deployment

Sybase Data Federation is enabled via Data Federation servers that provide Enterprise Information Integration (EII) capabilities. These servers simplify provisioning, access, and integration of distributed data for one group, or across the extended enterprise.You can integrate relational data, XML documents, files, and application data across departments, locations, and companies, and allow access to authorized users via a number of protocols and interfaces including transparent file access, ODBC, JDBC, and SOAP.

Before installing Sybase Data Federation, determine how to deploy Data Federation subcomponents in your environment. Decide the number of Data Federation servers required, and the machines on which these servers will run.

Sybase Data Federation subcomponents

Use the DI Suite installer to install the Sybase Data Federation subcomponents. The Sybase Data Federation domain can consist of one or more servers that implement the data catalog and provide data integration framework and its provisioning and access services.

Basic Data Federation domain

A basic Data Federation domain can contain one or more grid servers, with one serving as the grid domain controller (GDC).

- Grid server – hosts the data catalog, provides authorization services for clients requesting data access, serves files shared from the local file system, caches data to improve performance, and runs data services, database operations, and queries.
- Grid domain controller (GDC) – the grid server on which a Data Federation domain is initially started. The grid domain controller has all the functionality of a grid server. A Data Federation domain must have at least one grid domain controller.

  In a Data Federation domain that is configured for failover, there are two GDCs: a primary and a secondary. The secondary GDC is a hot standby that handles requests when the primary GDC cannot be reached.

NFS or Windows file access

- Data grid access server (DGAS) – provides high-performance caching and makes data catalogs and their contents available to Network File System (NFS) and Common Internet File System (CIFS) clients in a secure fashion.

Extended file sharing

- Share server – makes selected data stored in local file systems visible in the data catalog. Share servers are responsible for file I/O.

Interconnecting domains

- Firewall proxy server – allows Data Federation domains on opposite sides of a firewall to communicate securely with one another so that users of each domain can access data in the other.

Data Federation domains can be accessed by a number of different clients. In some cases, clients do not require any Sybase software installed on their machines. This category includes transparent file access clients that access files in the data catalog via NFS or CIFS and Web service clients that access Data Federation via SOAP calls. Clients that require some Sybase software include ODBC or JDBC clients and machines that are used for running the Data Federation command line interface (CLI) client.

Data Federation Client

- Command-line Client – enables you to perform data federation and administration tasks using the command line interface.

Note To use Sybase Data Federation development capabilities through WorkSpace Data Federation, install Sybase WorkSpace. Sybase WorkSpace is packaged separately from DI Suite. You must use the installer provided with Sybase WorkSpace to install this development tool for DI Suite.

Installation recommendations

Consider the following installation guidelines to help you plan your Data Federation domain. These are general guidelines that do not cover all possibilities. Planning a Data Federation domain is a complex activity that must be performed in consultation with a Sybase deployment architect.

- Some data grids are used primarily for file access, some primarily for database access, and some are used for both. Based on the usage scenarios for your data grid, choose the appropriate servers to deploy.
- The GDC functions as the first grid server in the domain. Add more grid servers to accommodate more file data, more data services, more concurrent users, or additional sites that require administrative autonomy.
- If you include a secondary GDC in your domain, install the primary and secondary GDCs on different machines.
- If you want to use a secondary GDC, set it up after you set up the primary GDC, but before you set up the other Data Federation servers in the domain. If you set up other servers before the secondary GDC, the Data Federation failover mechanism does not function properly.
- Install one grid server per machine. Sybase recommends that you use a dedicated machine for each grid server. A dedicated machine is particularly important for a GDC.

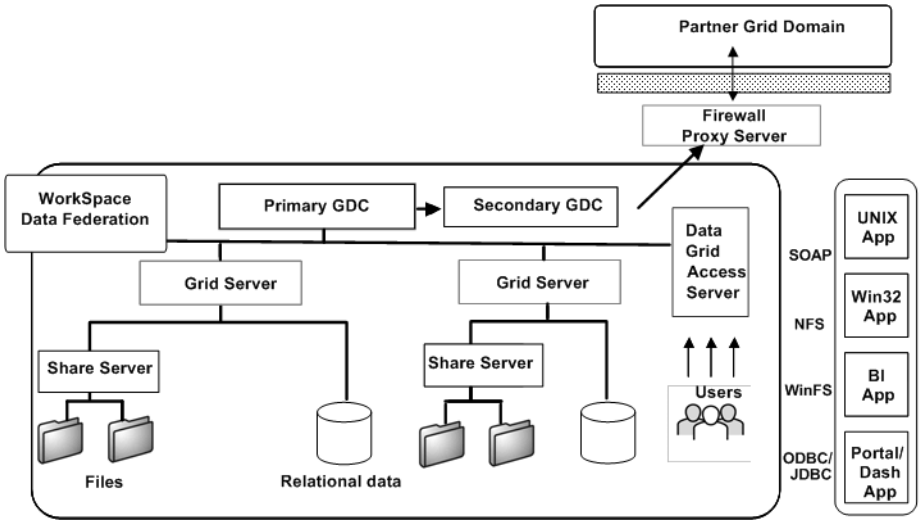
- The location of a grid server that performs caching can affect network loads and the performance and response time experienced by users and applications that consume the cached data. In choosing a location, consider whether the caching will be primarily local or primarily remote. A grid server performing local caching is best located close to the data sources it uses. A grid server performing remote caching is best located close to the consumers of the cached data.
- Each grid server can be associated with several share servers.
- For best performance, install each share server close to its data—if possible, on the same physical machine. A grid server that functions as a share server should also be close to its data, but this consideration must be balanced against the needs of other services the grid server provides, such as caching and data service execution and the desirability of installing grid servers on dedicated machines.
- You can install multiple share servers on one machine; the benefit of this arrangement is to limit the I/O between share server processes and local directories.

See the *Sybase Data Federation Administration Guide* for more information.

Example deployment architecture

Figure 7-3 shows an example deployment architecture of a Data Federation domain with primary and secondary grid domain controllers, grid servers, share servers, a firewall proxy server, and a data grid access server deployed. Users and applications can access relational data and Web Services via Data Federation services configured on the grid servers and files via the data grid access server using NFS or CIFS (Windows) clients. Developers can use WorkSpace Data Federation (upper left) to set up data services that integrate data from multiple sources and deliver it to users or applications on demand.

Figure 7-3: Sybase Data Federation deployment architecture



Sybase Real-Time Events deployment

Sybase Real-Time Events captures transactions (data changes) in a heterogeneous database and delivers them as events to external applications in real time. These events are delivered to applications through a message bus such as WebSphere MQ, BEA WebLogic JMS, TIBCO EMS, or Sybase EAServer JMS.

DI Suite includes the following Sybase Real-Time Events subcomponents that you can use to capture and propagate data changes from heterogeneous databases to standard messaging architectures:

- RepConnector – captures events nonintrusively from databases such as ASE or Oracle, and delivers these events to any standard messaging infrastructure. Real-time messaging through RepConnector is achieved using the Replication Server and Replication Agent subcomponents.

    - Replication Server – detects business events that occur in the database and sends them to RepConnector.
    - Replication Agent – captures transactions in the heterogeneous database and transfers them to Replication Server.
- Sybase ASE Active Messaging – provides messaging-services capability to capture events from the ASE database and publish directly to any standard messaging infrastructure such as WebSphere MQ, TIBCO EMS, and Sybase EAServer JMS. ASE Active Messaging is easy to configure, and provides high performance and enhanced transactional messaging support for ASE databases.

Installation recommendations

This section contains Sybase-recommended deployment architecture and installation recommendations for each Sybase Real-Time Events subcomponent.

Real-Time Events using RepConnector Server and Replication Server deployment

- Install messaging software on a separate machine.
- Install Replication Agent for Oracle on the same server that contains Oracle database and Replication Agent for DB2 UDB for OS/390 on the mainframe system that runs DB2. For other databases, install the appropriate Replication Agent on any server.
- Depending on your deployment setup, you can install:
    - Replication Server and RepConnector Server on separate machines.
    - Replication Server and RepConnector Server on the same machine.
    - Replication Server, RepConnector Server, and Replication Agent on the same machine as the data source. The Full installation option in the DI Suite installer enables you to install all Sybase Real-Time Events components on one machine.

Real-Time Events using ASE Active Messaging and Replication Server deployment

- Make sure that a standard message bus is already installed in your environment.
- Install Sybase ASE Active Messaging on a machine that already has any of these ASE versions installed:
  - ASE 12.5.4 ESD#6 or later
  - ASE 15.0.2 GA or later
- Set the following environment variables:

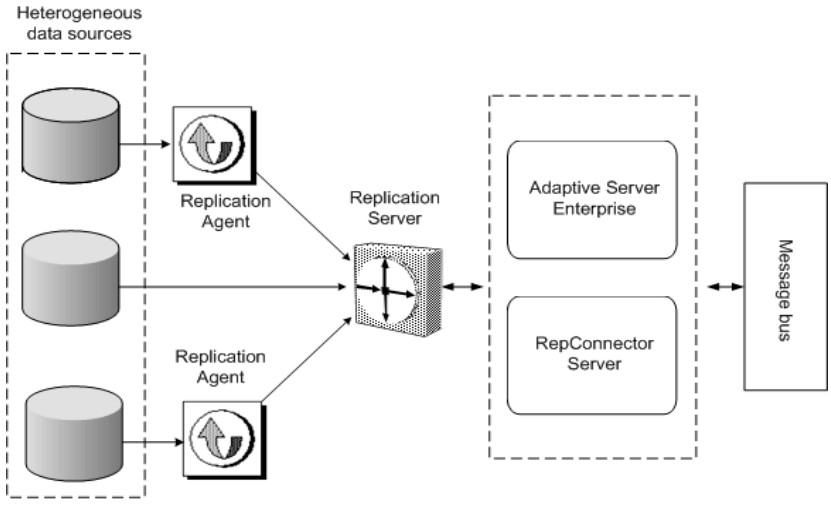
Environment variable	Value
$SYBASE_JRE for ASE 12.5.4 ESD#6 or later, or ASE 15.0.2 GA	Location of the Java runtime environment
$SYBASE_JRE_RTDS for ASE 15.0.2 ESD#1 or later	Location of the Java runtime environment
On IBM AIX – LIBPATH	Location of messaging software's shared libraries
$MQCCSID	CCSID of the connected queue manager

Example deployment architecture

Figure 7-4 shows an example architecture of a distributed system that contains the following real-time events subcomponents installed across multiple servers:

- Replication Agents
- Replication Server
- RepConnector Server
- ASE Active Messaging

Figure 7-4: Sybase Real-Time Events deployment architecture



Sybase ETL

Sybase ETL extracts data from multiple heterogeneous data sources and loads it into one or more data targets using a comprehensive set of transformation functions.

Sybase ETL capabilities include:

- Data extraction – provides the ability to extract data from a variety of data sources, such as Sybase ASE, Sybase IQ, Microsoft Access, Oracle, DB2, Microsoft SQL Server, flat files, XML files, and ODBC data sources.
- Data transformation – provides the ability to convert, cleanse, merge, and split data streams, which you can then insert, update, or delete data in a data target.
- Data loading – provides the ability to load data into a target database via update, insert or delete statements, or in bulk.

Sybase ETL subcomponents

Use the following ETL subcomponents to extract, transform, and load data:

- Sybase ETL Server – provides a scalable and distributed grid engine that connects to data sources and extracts and loads data to data targets using transformation flows designed using ETL Development.
- Sybase ETL Development – provides a GUI tool for ETL development and deployment for use with ETL Server. These tools provide a complete simulation and debugging environment to speed the development of ETL transformation flows.

Note ETL Development is available only on Windows, on a separate media.

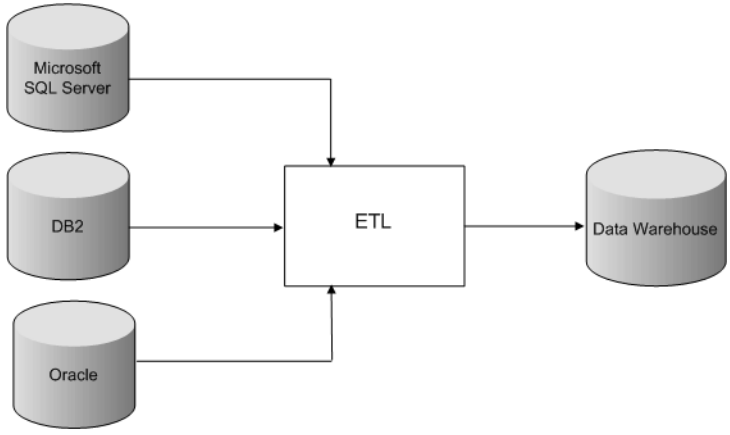
Installation recommendations

On the machine where you have installed ETL Server, make sure the database connectivity libraries are available for the source database you are extracting the data from, and the target database where you are loading the data.

Example deployment architecture

Figure 7-5 shows an example architecture, in which data is extracted from heterogeneous data sources, transformed using the Sybase ETL Server, and loaded into a data warehouse.

Figure 7-5: Sybase ETL deployment architecture



APPENDIX A

Setting up a SySAM Standalone License Server

This appendix describes how to install and set up a standalone license server on a machine different from where you are installing the DI Suite components, and on platforms supported by DI Suite 1.2. For a list of supported platforms, see “System requirements” on page 14.

For installing and setting up a standalone license server on a platform not supported by DI Suite 1.2, go to the SySAM Web site at http://www.sybase.com/sysam to download the license server setup program.

Installing a standalone license server

This section describes the tasks you must complete before you begin installing a standalone license server. It also lists the steps for installing the license server using different installation modes.

Before installing:

- Close any open applications or utilities.
- Make sure your installation machine has a DVD drive.
- Make sure the machine on which you are installing the standalone license server has a minimum of 90MB of disk space on Solaris and 77MB on IBM AIX.
- Create a “sybase” account on your system to perform all installation tasks.

The “sybase” user must have write permissions on the directory where the license server will be installed. The “sybase” user must also have a home directory.

- Log in to the machine as the “sybase” user.

Note User names that contain non-ASCII characters may cause the installation to fail.

Maintain consistent ownership and privileges for all files and directories. A single user—the Sybase System Administrator with read, write, and execute permissions—should perform all installation, upgrade, and setup tasks.

Installing in GUI mode

1 Insert the DI Suite installation media into the DVD drive.

At the command line, enter:

```
/cdrom/SySAM/setup
```

The Welcome window displays. Click Next.

2 Select the geographic location to display the agreement appropriate to your region. Read the End-user License and Copyright Agreement. Select “I agree to the terms of the Sybase license for the install location specified” and click Next.

3 Specify the installation directory.

a Click Browse to select a directory, click Next to accept the default directory, or enter a different directory name where you want to install the standalone license server. The default directory is */opt/sybase*.

Note Make sure that the installation directory name does not have non-ASCII characters or spaces.

b If the installation directory you specified already exists, and contains an earlier installation, you see:

```
You have chosen to install into an existing
directory. Any older versions of the products you
choose to install that are detected in this
directory will be replaced.
```

```
Note: DO NOT install into a pre 12.5.1 ASE release
area as this will break ASE.

Do you want to continue with installation into
this directory?
```

Click Yes to continue installing the license server into the same directory.

If the installation directory you specify does not exist, you see:

```
The directory does not exist. Do you want to
create it?
```

4 Select the installation type. Select Full to install all of these components:

- SySAM License Server
- SySAM License Utilities

Select Custom to choose the components to install. Click Next.

5 The installer displays the selections you have made. Review the information, and click Next.

6 On successful installation, installer displays:

```
The InstallShield Wizard has successfully installed
Sybase Software Asset Management. Choose Next to
continue the wizard.
```

Click Next.

Note In case of an unsuccessful installation, check the *log.txt* file located in the installation directory.

7 A final window appears, indicating a successful installation. It also advises you to check for updates from the Sybase Web site at http://www.sybase.com/downloads.

Click Finish to exit the installer.

You can also install the standalone license server using:

- Console mode – see “Installing in console mode” on page 38.
- A response file – see “Installing using a response file” on page 39.

Deploying DI Suite licenses to the standalone license server

After the standalone license server is successfully installed:

1 Copy the licenses for the DI Suite licenses you have obtained from the SPDC into the *installation_directory/SYSAM-2_0/licenses* directory on the license server. See “Licenses for DI Suite components” on page 7.

2 Start the license server. For information on how to start the license server and for other administration tasks, see the *Sybase Software Asset Management User’s Guide*.

3 Install the DI Suite components or configure the previously installed components to use the newly setup license server by providing the host name and port number of the machine where the license server is running. See “Installing DI Suite components” on page 23.

Uninstalling the license server

This section describes the steps to uninstall the license server using different modes.

Uninstalling in GUI mode

1 Shut down the license server. See the *Sybase Software Asset Management User’s Guide* for instructions.

2 Invoke the uninstaller.

At the command line, enter:

```
$SYBASE/uninstall/SYSAM/uninstall
```

Note $SYBASE is the DI Suite installation directory.

The Uninstaller Wizard Welcome window displays. Click Next.

3 Select the components to remove. Click Next.

4 In the Uninstall Summary window, verify the summary information and if you are satisfied with your selections, click Next.

The selected components are uninstalled, and all files associated with these components are removed.

Note You may be prompted to decide whether to remove shared files. Sybase recommends that you do not remove them.

5 When the uninstallation process is complete, click Finish to exit the uninstaller.

Uninstalling in console mode

1 To uninstall the license server in console mode, at the command line, enter:

```
$SYBASE/uninstall/SYSAM/uninstall -console -is:javaconsole
```

The uninstall program starts.

2 Choose the components to uninstall and click OK. The selected components are uninstalled.

APPENDIX B

Component and Subcomponent Versions

This appendix lists the versions of components and subcomponents in DI Suite 1.1 and DI Suite 1.2.

Table B-1: Component and subcomponent versions

Componen and subcomponent	Version in DI Suite 1.1	Version in DI Suite 1.2
Sybase Replication		
- Replication Server	15.0.1	15.0.1 ESD#2
- Replication Agent	15.0	15.0
- DirectConnect	12.6.1 ESD#2	15.0
Sybase Search	3.2	3.5
Sybase Data Federation	7.1	1.2
Sybase Real-Time Events		
- RepConnector	15.0.1	15.0.2
- ASE Active Messaging	4.0	4.5
- Replication Server	15.0.1	15.0.1 ESD#2
- Replication Agent	15.0	15.0
Sybase ETL	4.2	4.2 ESD#1

Index

I

L

P

R

S

T

U