SYBASE®

Installation Guide

# Sybase® Data Integration Suite

1.0

[ Windows and 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” provides a basic 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. It also describes the post-installation tasks.
- Chapter 4, “Uninstallation” describes how to uninstall DI Suite components.
- Chapter 5, “Typical Deployment Scenarios” provides typical deployment scenarios for all DI Suite components.

**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.

  A more recent version of the release bulletin may be available on the World Wide Web. To check for critical product or document information that was added after the release of the product CD, use the Getting Started CD.
- *Sybase Data Integration Suite Installation Guide* (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:
  - Avaki® EII 7.0
  - EAServer 5.3
  - Enterprise Connect™ Data Access 12.6.1
  - Real-Time Data Services 3.5
  - RepConnector™ 15.0
  - Replication Agent™ 12.6
  - Replication Server® 15.0
  - Sybase Search 3.1

DI Suite provides a separate SyBooks CD for each DI Suite component.

- SyBooks CD for Data Federation includes:
  - *Sybase Data Integration Suite Overview Guide* – introduces DI Suite and provides information on how to use the various components for your data integration needs.
  - Product manuals for Avaki EII.
- SyBooks CD for Replication includes:
  - *Sybase Data Integration Suite Overview Guide* – introduces DI Suite and provides information on how to use the various components for your data integration needs.
  - *Sybase Software Asset Management User's Guide* – describes asset management configuration concepts and tasks.
  - Product manuals for these Sybase products, which are included with the Replication component of DI Suite:
    - Enterprise Connect Data Access 12.6.1
    - Replication Agent 12.6
    - Replication Server 15.0
- SyBooks CD for Real-Time Events includes:
  - *Sybase Data Integration Suite Overview Guide* – introduces DI Suite and provides information on how to use the various components for your data integration needs.

- *Sybase Software Asset Management User's Guide* – describes asset management configuration concepts and tasks.
- Product manuals for these Sybase products, which are included with the Real-Time Events component of DI Suite:
  - RepConnector 15.0
  - Real-Time Data Services 3.5
  - Replication Server 15.0
  - EAServer 5.3
  - Adaptive Server® Anywhere 9.0.2
- *Real-Time Data Services Messaging User's Guide for Adaptive Server Enterprise* – describes how to use Real-Time Data Services to integrate messaging services with all ASE database applications.
- *Data Integration Common Services* online topics

- SyBooks CD for Search includes:
  - *Sybase Data Integration Suite Overview Guide* – introduces DI Suite and provides information on how to use the various components for your data integration needs.
  - Product manuals for Sybase Search.

**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:<br>• Command names used in descriptive text<br>• C++ and Java method or class names used in descriptive text<br>• Java package names used in descriptive text |
| *myCounter* variable<br>*Server.log*<br>*myfile.txt* | Italic font indicates:<br>• Program variables<br>• Parts of input text that must be substituted<br>• Directory and file names |
| *sybase\bin* | A backward slash ("\") indicates cross-platform directory information. A forward slash ("/") applies to information specific only to UNIX.<br>Directory names appearing in text display in lowercase unless the system is case sensitive. |

| Formatting example | Indicates |
|---|---|
| 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." |
| create table<br>table created | Monospace font indicates:<br>• Information that you enter on a command line or as program text.<br>• Example output fragments |
| setup -is:tempdir <*full path to alternate temp directory*> | Brackets indicate information that must be supplied by the user. |

**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.

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**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.

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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, and data search, with integrated tools for development and administration.

DI Suite includes the following components:

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

In addition, Sybase also offers the following tools for administration and development:

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

### Sybase Replication

The Sybase Replication component replicates transactional data and synchronizes operational data across heterogeneous databases in your enterprise.

It includes the following 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.

**Note** Sybase Replication supports replication of transactional data from DB2 UDB running on a mainframe system to target databases through Sybase Replication Agent for DB2 UDB for OS/390. This is an option, which you need to purchase separately.

### Sybase Search

The Sybase Search component uses a natural language search to query and find information from structured and unstructured data in your enterprise.

It includes the following subcomponents, which you can install using 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 a search server container that runs search server modules that you specify, for example, the file system import module or delegate query module.
- Web Administration – includes the JSP/Servlet container used for search server administration.

### Sybase Data Federation

The Sybase Data Federation component provides access to multiple, diverse data sources, and the ability to create a single, integrated view of enterprise data.

It includes the following 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 all data federation and administration tasks using the command-line interface.

### Sybase Real-Time Events

The Sybase Real-Time Events component captures and moves time-critical events from your heterogeneous data sources to business applications through a messaging infrastructure.

There are two Sybase Real-Time Events components you can install and use to capture data changes and propagate these changes to standard messaging architectures:

- Sybase Real-Time Events – captures events from databases such as ASE and Oracle. It delivers these events to any standard messaging infrastructure such as Java Message Services (JMS) or messaging services from IBM WebSphere MQ. It contains the RepConnector, Replication Server, and Replication Agents subcomponents.

  An integrated set of common services is installed with the Sybase Real-Time Events component, which are used internally by its components but not directly accessible by the user. These services include an application server, service container, messaging system, global catalog, and security infrastructure. To know more about these common services, see the *Sybase Data Integration Suite Overview Guide*.

- Sybase Real-Time Events ASE Active Messaging – captures events from the ASE database and publishes directly to any standard messaging infrastructure such as Java Message Services or messaging services from IBM WebSphere MQ. This option is easy to configure, provides high performance, and enhanced transactional messaging support.

  **Note** Sybase Real-Time Events ASE Active Messaging supports Adaptive Server Enterprise (ASE) 12.5.4 or later, or ASE 15.0 ESD#2 or later.

### Sybase Data Services Administrator

Sybase Data Services Administrator (DSA) is the centralized management console for the administration of 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.

Data Services Administrator is available for installation with every DI Suite component.

### Sybase WorkSpace

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

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.

**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 *Sybase Data Integration Suite Overview Guide*.

CHAPTER 2

# Before You Begin

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



## Reviewing 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:

Windows

- Windows XP Professional (x86) Service Pack 2 (32-bit)
- Windows 2003 (x86) Server:
  - Enterprise Edition Service Pack 1 (32-bit)
  - Standard Edition Service Pack 1 (32-bit)

Solaris

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

## Hardware requirements

The installation media for DI Suite is DVD. Make sure the machine identified for DI Suite installation has a DVD drive.

Table 2-1 and Table 2-2 describe the minimum hardware requirements for installing DI Suite components on supported platforms.

### Windows

Table 2-1 lists the minimum hardware requirements for installing DI Suite components and subcomponents on Windows.

***Table 2-1: Minimum hardware requirements for Windows***

| Component and subcomponents | Memory | Disk space | CPU |
|---|---|---|---|
| Sybase Replication (Full) | 1GB RAM | 1GB | Intel-Xeon compatible processor with a minimum of 1GHZ |
| Replication Server | 512MB RAM | 450MB | |
| Replication Agents | 128MB RAM | 300MB | |
| DirectConnect | 512MB RAM | 300MB, plus at least 500KB for each locale you plan to support | |
| Sybase Search (Full) | 512MB RAM | 100MB for installation files, plus 1GB for generated data files | Intel-Xeon compatible processor with a minimum of 1GHZ |
| Container without a document store manager | 256MB RAM | 100MB | |
| Container with a document store manager | 512MB RAM | 100MB for installation files, plus 1GB for generated data files | |
| Sybase Data Federation (Full) | 512MB RAM | 2GB | Intel-Xeon compatible processor with a minimum of 1GHZ |
| Share server | 256MB RAM | 200MB | |
| Data grid access server | 1GB RAM | 120MB | |
| Proxy server | 256MB RAM | 120MB | |
| Command-line Client | 256MB RAM | 120MB | |
| Grid server | 512MB RAM | 512MB or 120MB plus about 1K per shared file | |
| Sybase Real-Time Events (Full) | 1GB RAM | 300MB | Intel-Xeon compatible processor with a minimum of 1GHZ |
| Replication Server | 512MB RAM | 450MB | |
| Replication Agents | 128MB RAM | 300MB | |

| Component and subcomponents | Memory | Disk space | CPU |
|---|---|---|---|
| RepConnector Server | 512MB RAM | 160MB, plus a minimum of 50MB in the system temporary directory (*TEMP*) | |
| Sybase Real-Time Events ASE Active Messaging | 512MB RAM | 70MB | Intel-Xeon compatible processor with a minimum of 1GHZ |
| Sybase Data Services Administrator | 512MB RAM | 150MB | Intel-Xeon compatible processor with a minimum of 1GHZ |

## Solaris

Table 2-2 lists the minimum hardware requirements for installing DI Suite components and subcomponents on Solaris.

***Table 2-2: Minimum hardware requirements for Solaris***

| Component and subcomponents | Memory | Disk space | CPU |
|---|---|---|---|
| Sybase Replication (Full) | 512MB RAM | 1GB | Sun Solaris (SPARC) |
| Replication Server | 512MB RAM | 450MB | |
| Replication Agents | 128MB RAM | 300MB | |
| DirectConnect | 256MB RAM | 300MB, plus at least 500KB for each locale you plan to support | |
| Sybase Search (Full) | 512MB RAM | 100MB for installation files, plus 1GB for generated data files | Sun Solaris (SPARC) |
| Container without a document store manager | 256MB RAM | 100MB | |
| Container with a document store manager | 512MB RAM | 100MB for installation files, plus 1GB for generated data files | |
| Sybase Data Federation (Full) | 512MB RAM | 2GB | Sun Solaris (SPARC) |
| Share server | 256MB RAM | 200MB | |
| Data grid access server | 1GB RAM | 120MB | |
| Proxy server | 256MB RAM | 120MB | |
| Command-line Client | 256MB RAM | 120MB | |
| Grid server | 512MB RAM | 512MB or 120MB plus about 1K per shared file | |

| Component and subcomponents | Memory | Disk space | CPU |
|---|---|---|---|
| Sybase Real-Time Events (Full) | 1GB RAM | 300MB | Sun Solaris (SPARC) |
| Replication Server | 512MB RAM | 450MB | |
| Replication Agents | 128MB RAM | 300MB | |
| RepConnector Server | 512MB RAM | 160MB plus a minimum of 50MB in the system temporary directory (*/tmp*) | |
| Sybase Real-Time Events ASE Active Messaging | 512MB RAM | 70MB | Sun Solaris (SPARC) |
| Sybase Data Services Administrator | 512MB RAM | 150MB | Sun Solaris (SPARC) |

## Interoperability matrix

Table 2-3 shows the interoperability matrix for DI Suite components against other Sybase products across different versions.

***Table 2-3: DI Suite interoperability with other Sybase products***

| DI Suite | Compatible Sybase products | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ASE | | Replication Server | | Sybase IQ | | | DirectConnect | Replication Agent |
| | 12.5.x | 15.0.x | 12.6 | 15.x | 12.5 | 12.6 | 12.7 | 12.x | 12.x |
| Sybase Replication | | | | | | | | | |
| Replication Server | n | y | y | y | n | n | y | y | y |
| DirectConnect | y | y | y | y | y | y | n | y | y |
| Replication Agents | y | y | y | y | y | y | y | y | y |
| Sybase Search | y | y | y | y | y | y | y | y | y |
| Sybase Data Federation | y | y | y | y | y | y | y | y | y |
| Sybase Real-Time Events | | | | | | | | | |
| Replication Server | n | y | y | y | n | n | y | y | y |
| Replication Agents | y | y | y | y | y | y | y | y | y |
| RepConnector Server | y | y | y | y | y | y | y | y | y |
| Sybase Real-Time Events ASE Active Messaging | | | | | | | | | |
| ASE messaging libraries | y | y | y | y | y | y | y | y | y |
| LEGEND: y = compatible; n = not fully compatible | | | | | | | | | |

# Obtaining licenses for DI Suite components

DI Suite uses the Sybase Software Asset Management (SySAM) licensing mechanism for license administration and asset management tasks. Once you have purchased DI Suite components, go to the SPDC Web site at http://sybase.subscribenet.com to obtain and generate the licenses. For more information, 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 components that are distributed across the network. To use 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 installed locally.

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

DI Suite licenses

Table 2-4 describes the licenses available for DI Suite:

***Table 2-4: DI Suite licenses***

| License | Description |
|---|---|
| Sybase Replication | Installs all features of the Sybase Replication component, including administration capabilities provided by Data Services Administrator. |
| Sybase Search | Installs all features of the Sybase Search component, including administration capabilities provided by Data Services Administrator. |
| Sybase Data Federation | Installs all features of the Sybase Data Federation component, including administration capabilities provided by Data Services Administrator. |
| Sybase Real Time Events | Installs all features of the Sybase Real-Time Events component, including administration capabilities provided by Data Services Administrator. |
| Sybase Real Time Events ASE Active Messaging | Installs all features of the Sybase Real-Time Events ASE Active Messaging component, including administration capabilities provided by Data Services Administrator. In addition to this license, you will also get the license for Sybase Real-Time Events component. |

**Note** For development tooling licenses provided by Sybase WorkSpace, see the Sybase WorkSpace documentation at http://www.sybase.com/support/manuals/.

# Determining the installation directory

DI Suite components are, by default, installed in the Sybase home directory. During installation, the installer checks the %SYBASE% (Windows) or $SYBASE (UNIX) environment variable for any existing Sybase directory that was created for another Sybase product. If the installer locates a Sybase directory, it by default installs the components in this directory. If the installer 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.

# Determining the installation type

The DI Suite setup program provides you with the following two installation options, allowing you to install the configuration most appropriate for your system:

- 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.

**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 5, “Typical Deployment Scenarios,” for information you may need before using this option.

# Determining the installation mode

There are three modes for installing DI Suite components using the installation media:

- 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 15.
- Console mode (Solaris only) – allows you to install components using a command line interface. See “Installing in console mode (Solaris only)” on page 21.
- 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 22.

CHAPTER 3

# Installation

This chapter describes the different installation modes you can use to install DI Suite components. It also lists the post-installation tasks you must perform to validate the installation.



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 “Reviewing system requirements” on page 5.

  For Solaris, make sure your home directory ($HOME) has at least 1MB of free disk space and *write* permissions.
- Review the compatibility of DI Suite components against other Sybase products across different versions. See “Interoperability matrix” on page 8.
- Review the SySAM license requirements. See “Obtaining licenses for DI Suite components” on page 9.
- Create a “sybase” account on your system to perform all installation tasks.
  - On Windows, the “sybase” user must have administrative privileges on the machine where the DI Suite will be installed.
  - On UNIX, the “sybase” user must have write permissions on the directory where the DI Suite will be installed.

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

**Note** If you specify a different user name that contains non-ASCII characters, DI Suite installation can 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 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

Installing using DVD

Use the installation steps described in “Installing in GUI mode” on page 15.

Installing from SPDC

The setup program is packaged as a set of *zip* files (Windows) or *tgz* files (Solaris). Table 3-1 lists the various download files for each DI Suite component.

***Table 3-1: DI Suite download files***

| DI Suite components | Description on SPDC | Filename |
|---|---|---|
| Sybase Data Federation | • Sybase DI Core – provides core install framework for DI Suite.<br>• Sybase DI Federation – provides Data Federation component. | • *di_core*<br>• *di_federation* |
| Sybase Search | • Sybase DI Core – provides core install framework for DI Suite.<br>• Sybase DI Search – provides Search component. | • *di_core*<br>• *di_search* |
| Sybase Replication | • Sybase DI Core – provides core install framework for DI Suite.<br>• Sybase DI Rep RA – provides Replication Server and Replication Agent subcomponents.<br>• Sybase DI Rep DC – provides DirectConnect subcomponent. | • *di_core*<br>• *di_repsvr_ra*<br>• *di_rep_dc* |
| Sybase Real-Time Events | • Sybase DI Core – provides core install framework for DI Suite.<br>• Sybase DI Rep RA – provides Replication Server and Replication Agents subcomponents.<br>• Sybase DI RTE – provides Real-Time Events component. | • *di_core*<br>• *di_repsvr_ra*<br>• *di_rte* |
| Sybase Real-Time Events ASE Active Messaging | • Sybase DI Core – provides core install framework for DI Suite.<br>• Sybase DI RTE ASE – provides Real-Time Events ASE Active Messaging component. | • *di_core*<br>• *di_rte_ase* |

❖ **Installing DI Suite components from SPDC**

1 For the DI Suite component you want to install, download the required files to your hard drive. See Table 3-1 for a list of download files for each DI Suite component.

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**Note** Certain download files are common to DI Suite components and these common files can be downloaded once for multiple DI Suite components. For example, *di_core* is common to all DI Suite components and therefore, you can download this file only once for multiple DI Suite components.

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2 Use an appropriate extraction utility to extract the download files to a temporary directory.

UNIX download files are compressed using the GNU Tar format (.tgz). To uncompress, use the GNU tar utility.

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

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The extracted files include the setup program file, which you can run to start installing the DI Suite components. For installation procedure, see “Installing in GUI mode” on page 15.

# Installing in GUI mode

1 Insert the DI Suite installation media.

- On Windows, the setup program should start automatically.

  If it does not start automatically, start the program manually by selecting Start | Run from the Windows Start menu. Browse to *setup.exe*.

- On Solaris, enter the following at the command prompt:

```
/cdrom/setup
```

2 The Welcome window displays. Click Next to proceed.

3 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.

**Note** If the country you are located is not listed, select the most appropriate region.

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 "Obtaining licenses for DI Suite components" on page 9.

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 panel displays the license information.

  Alternately, copy and paste the license information directly in the license panel.

  If necessary, click Clear to remove the license information from the license panel. Click Next to proceed.

  The installer determines if the license you have entered is a served or an unserved license. If you have entered a served license that requires a 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. Click Next.

  **Note** If you specify a served license that is activated for another machine, then the installation will not proceed. To proceed with the installation, you must set up a license server on that machine, deploy the license, and then select Use Previously Deployed License server option, explained next.
  To set up a license server, use the installation program available in the *SySAM* directory on the DI Suite installation media or in the temporary directory where you have extracted the DI Suite installation image.

- 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 you use a non-default port number. Click Next.

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

5 Depending on the license information you provided, the components that are available for installation appear highlighted. You may see any or all of the following components:

- Sybase Replication
- Sybase Search
- Sybase Data Federation
- Sybase Real-Time Events
- Sybase Real-Time Events ASE Option

**Note** Sybase Real-Time Events ASE Active Messaging is referred to as Sybase Real-Time Events ASE Option in the installer. To install Sybase Real-Time Events ASE Active Messaging, you must have ASE 12.5.4 or later, or ASE 15.0 ESD#2 or later, installed on your machine.

Review and verify the list. If you do not see a component you want to install, return to the previous window and provide the license for the component. Click Next.

6 Specify the installation directory. Click Browse to select a directory, click Next to accept the default directory, or enter a new directory that will be created. The default directory is *C:\sybase* on Windows, or */opt/sybase* on Solaris. If a Sybase directory exists on your machine, it is recommended to install DI Suite components into this directory.

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

7 If the installation directory you selected already exists, and contains an earlier installation, you see the following message:

```
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 the previous installation.

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

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

Click Yes. If the installer detects the %SYBASE% (Windows) or the $SYBASE (UNIX) environment variable that was created for another Sybase product, you see a message asking if you want to install the components in a different directory. 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 Sybase product in this directory, it displays a warning. For compatibility information of DI Suite components against other Sybase products, see "Interoperability matrix" on page 8.

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

9 Select either Full or Custom installation type. For more information, see "Determining the installation type" on page 10.

- 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.
- Select Custom to choose specific subcomponents you want to install for each selected component. 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. Click Next.

**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 5, "Typical Deployment Scenarios," for information you may need before using this option.

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

10 If you have selected to install the Sybase Real-Time Events ASE Active Messaging component (referred to as Sybase Real-Time Events ASE Option in the installer) or Sybase Search components, using Full or Custom options, you are prompted for additional information:

- For Sybase Real-Time Events ASE Active Messaging component, enter or select an existing Adaptive Server Enterprise installation directory. Click Next to proceed.

  **Note** Sybase Real-Time Events ASE Active Messaging supports ASE 12.5.4 or later, or ASE 15.0 ESD#2 or later.

  If the installer detects that the Adaptive Server installed in the specified directory is a supported version, it proceeds to the Installation Summary window.

  If the installer detects multiple supported versions of Adaptive Server 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 Adaptive Server installation in the specified directory, or detects an unsupported Adaptive Server version, you are asked if you want to continue installing without the Sybase Real-Time Events ASE Active Messaging component. Click Yes if you want to continue. Click Next.

- For the Sybase Search component, depending on the installation type you chose, the installer displays the configuration parameters as listed in Table 3-2. Modify or accept the default values. Click Next.

***Table 3-2: Sybase Search configuration parameters***

| Installation type | Parameter name | Description |
|---|---|---|
| Custom | Container ID | Identifies the unique container ID. Enter an appropriate value between 2 and 99. |
| Full or Custom | Hub Container Port | Identifies the port number on which the single container will run. Enter an appropriate value between 1024 and 65535. |
| Full or Custom | Container RMI Port | Identifies the port number on which the hub container RMI service will run. Enter an appropriate value between 1024 and 65535. |
| Custom | Container Port | Identifies the port number on which the satellite container will run. Enter an appropriate value between 1024 and 65535. |
| Custom | Hub Container Host Name | Identifies the host name on which the hub container runs. Enter a host name. |
| Full or Custom | Web Administration Port | The port number on which the Hyena Web server will run. Enter an appropriate value between 1024 and 65535. |

11 The Installation Summary window displays the selections you have made. Review the information, and click Next.

12 If the software is installed successfully, a final window appears, indicating that the installation was successful. It also advises you to read the configuration guides for configuration information, 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.

**Note** 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 “Check for a valid installation” on page 26.
- Configure the installed components. See “Configure individual components” on page 35.

Installing additional components

To install additional components after you have completed an initial installation, you can 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 15.

# Installing in console mode (Solaris only)

To run the installer without the graphical user interface (GUI), launch InstallShield in console mode.

The steps for installing components in console mode are the same as those described in “Installing in GUI mode” on page 15, except that you run InstallShield from the command line using the setup -console command.

Enter the following command:

```
./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 15.

# Installing using a response file

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

There are two ways of creating a response file for InstallShield; using record mode or template mode.

## Creating a response file using record mode

In this mode, InstallShield 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:

On Windows:

```
setup.exe -options-record responseFileName
```

On Solaris:

```
./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.

On Windows, enter the following at the command line:

```
setupConsole.exe -options-record responseFileName
```

On Solaris, enter:

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

The following are the results:

- 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, InstallShield creates a response file containing commented-out values for all required responses and selections. However, you need not install the product, and you can cancel the installation after the response file has been created. To create this template file, enter:

On Windows:

```
setupConsole.exe -options-template responseFileName
```

On Solaris:

```
./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.

If run in console mode, as shown in the previous example, InstallShield provides a message indicating that the template creation was successful. If run in GUI mode, no such message is provided.

If you use this response file for a silent installation, the default values for all responses are used. 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.

On Windows, enter the following at the command line:

```
setup.exe -options responseFileName
```

On Solaris, 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 being taken from the response file that 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.

On Windows, enter the following at the command line:

```
setupConsole.exe -silent -options responseFileName
-W SybaseLicense.agreeToLicense=true
```

On Solaris, 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.

**Warning!** On Windows, Sybase recommends that you use *setupConsole.exe* rather than *setup.exe*. *setupConsole.exe* runs in the foreground when you are running a silent installation, while *setup.exe* runs in the background, giving the impression that the installation has terminated, and resulting in additional installation attempts using the silent installation. Multiple simultaneous installations may corrupt the Windows Registry and lead to a failure to restart the operating system.

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

## Command line options

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

***Table 3-3: Command line options***

| Option | Description |
|---|---|
| -console | Runs the installer in console mode. This is applicable for Solaris only.<br>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 for only 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. |

| Option | Description |
|---|---|
| -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.<br>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. |
| -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.<br>These are the *globalWizardProperty=“value”* options you can specify:<br>• replaceExistingResponse=”yes \| no \| yesToAll \| noToAll”<br>Set this to store the end-user response whether to replace a file that currently exists on their system with the one being installed.<br>• replaceNewerResponse=”yes \| no \| yesToAll \| noToAll”<br>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.<br>• removeExistingResponse=”yes \| no \| yesToAll \| noToAll”<br>Set this to store the end-user response to whether to remove a file that currently exists on their system.<br>• removeModifiedResponse= ”yes \| no \| yesToAll \| noToAll”<br>Set this to store the end-user response whether to remove a file that has been modified since installation.<br>• overwriteJVM=”yes \| no \| cancel”<br>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*.

# Post-installation tasks

After installing the DI Suite components:

- "Check for a valid installation" on page 26
- "Configure individual components" on page 35
- "Start a DirectConnect server as a Windows service" on page 35

## Check 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 has been successfully installed.

Replication Server

To verify that the Replication Server is installed successfully:

1 Create and start the sample Replication Server.

On Windows:

- From the command prompt, go to the *%SYBASE%\REP-15_0\install* directory and enter:

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

On Solaris:

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 line 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 Agents

To verify that Replication Agents are installed successfully:

1 Create a Replication Agent instance. The example below adds an instance for MS SQL Server.

On Windows:

a From the command prompt, go to the *%SYBASE%\RAX-12_6\bin* directory and enter:

```
ra_admin -c repagent -p 10000 -t mssql
```

b Use the dsedit utility to add the following entry into the *sql.ini* file in the *%SYBASE%\ini* directory. To invoke dsedit, select Start | Programs | Sybase | Connectivity | Open Client Directory Service Editor.

```
[repagent]
master=tcp, RepAgent_installed_HOST_name, 10000
query=tcp, RepAgent_installed_HOST_name, 10000
```

On Solaris:

a Go to the $SYBASE directory and enter:

```
source SYBASE.csh
```

b Go to the *$SYBASE/RAX-12_6/bin* directory and enter:

```
./ra_admin.sh -c repagent -p 10000 -t mssql
```

c Use the dsedit utility to add the following entry into the *interfaces* file in the $SYBASE directory. To invoke dsedit, go to *$SYBASE/OCS-15_0/bin/dsedit*.

```
repagent
master tcp ether RepAgent_installed_host_name 10000
query tcp ether RepAgent_installed_host_name 10000
```

The command prompt displays that the Replication Agent instance has been successfully created.

2 Start the Replication Agent instance.

On Windows:

- From the command prompt, go to the *%SYBASE%\RAX-12_6\bin* directory and enter:

```
ra -i repagent
```

On Solaris:

a Go to the $SYBASE directory and enter:

```
source SYBASE.csh
```

b Go to the *$SYBASE/RAX-12_6/bin* directory and enter:

```
./ra.sh -i repagent
```

3 If you installed Replication Agent into a different directory than Replication Server, add an entry for Replication Agent to the Replication Server *sql.ini* file (Windows) or *interfaces* file (Solaris).

4 Log in to Replication Agent from the command line using isql, to check the status. Enter:

```
isql -Usa -P -Sinst_name
```

where *inst_name* is the name of the Replication Agent instance.

If the installation is successful, you can connect to the Replication Agent.

DirectConnect

To verify that DirectConnect has installed successfully:

1 Create a DirectConnect server.

On Windows, from the command prompt:

a Go to the *%SYBASE%\DC-12_6* directory and enter the following to ensure that all the appropriate Sybase environment variables are set properly:

```
DC_SYBASE.bat
```

b Go to the *%SYBASE%\DC-12_6\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 *sql.ini* file before starting the DirectConnect server.

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

c Open another command prompt and go to the *%SYBASE%\DC-12_6* directory. Enter:

```
DC_SYBASE.bat
```

On Solaris:

a Go to the *$SYBASE/DC-12_6/bin* directory and enter:

```
AddServer server_name port_number
```

where *server_name* is the name of the new 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 prompt displays that the new server has been started and is ready for connections.

b To set the environment variables, go to the *$SYBASE/DC-12_6/bin* directory and enter:

```
source DC_SYBASE.csh
```

2 Verify that the server is set up properly. On either of the platforms, 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.

**Note** To verify if DirectConnect for Oracle (DCO) is installed successfully, first use the DCOConfig utility in the *DCO-12_6/install* directory to configure and start the DCO. Then use isql to the configured and started DCO with a valid Oracle user ID and password. For details on how to configure and start a DCO, see the *Sybase Enterprise Connect Data Access Option for Oracle 12.6 Server Administration and User's Guide*.

## 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 Windows:

- Select Start | Programs | Sybase | Sybase Search 3.1 | Start Single Server.

On Solaris:

a Go to the *$SYBASE/Search-3_1/OmniQ/bin* directory and enter:

```
../env.sh
./OmniQEnterprise.sh start 1
```

b Go to the *$SYBASE/Search-3_1/Hyena/bin* directory and enter:

```
./Hyena.sh start
```

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

On Windows:

- Select Start | Programs | Sybase | Sybase Search 3.1 | Start *Search Server.*

  where *Search Server* can be the hub container, satellite containers, or Web administration servers.

On Solaris:

a Go to the *$SYBASE/Search-3_1/OmniQ/bin* directory and start the hub container:

```
../env.sh
./OmniQEnterprise.sh start 1
```

b Go to the *$SYBASE/Search-3_1/OmniQ/bin* directory and start the satellite container:

```
../env.sh
./OmniQEnterprise.sh start 2
```

c Go to the *$SYBASE/Search-3_1/Hyena/bin* directory and start the Web administration server:

```
./Hyena.sh start
```

2 Invoke the Web administration console:

a Start Sybase Central.

On Windows:

- Select Start | Programs | Sybase | Sybase Central 4.3.

On Solaris:

1 Go to the $SYBASE directory and enter:

```
source SYBASE.csh
```

2 Go to the $SYBASE directory and enter:

```
./startdsa
```

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 3.1 administration page displays.

3 On the Sybase Search 3.1 administration page, click the System tab. If the installation is successful, you can view the environment details, memory usage, and events for all containers within the Sybase Search installation.

## Sybase Data Federation

To check for a valid installation of Sybase Data Federation:

1 Start the data grid server.

On Windows:

- From the command prompt, go to the *%SYBASE%\DF-7_0* directory and enter:

```
grid-server --start
```

On Solaris:

- Go to the *$SYBASE/DF-7_0* directory and enter:

```
grid-server --start
```

2 Invoke the Web administration console:

a Start Sybase Central.

On Windows:

- Select Start | Programs | Sybase | Sybase Central 4.3.

On Solaris:

- Go to the $SYBASE directory and enter:

```
./startdsa
```

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

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

d Right-click Grid Server and select Open. The Create Grid Domain screen displays.

3 In the Create Grid Domain screen, provide a grid domain name for your domain. Accept the default grid domain controller connect port and click Submit.

4 The Avaki Data Grid login screen appears. Log in to the Avaki environment using Administrator as both the user name and password. Click Sign in.

If your installation is valid and successful, the Avaki Data Grid page appears.

## Sybase Real-Time Events

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

RepConnector

To verify the RepConnector installation for EAServer:

1 Start EAServer.

On Windows:

- Select Start | Programs | Sybase | Data Integration Common Services | EAServer | Start EAServer (JDK 1.4).

  If RepConnector is installed successfully, you see the *repra.log* file in the *%SYBASE%\EAServer\repra\logs* directory. This log file contains RepConnector start-up information.

On Solaris:

- Go to the $SYBASE directory and enter:

  ```
  source SYBASE.csh
  ```

- Go to the *$SYBASE/EAServer/bin* directory and enter:

  ```
  ./serverstart.sh -jdk14
  ```

  If RepConnector is installed successfully, you see the *repra.log* file in the *$SYBASE/EAServer/repra/logs* directory. This log file contains RepConnector start-up information.

Sybase Real-Time Events ASE Active Messaging

To verify that Sybase Real-Time Events ASE Active Messaging has been installed successfully:

1 Make sure you have the message bus software, such as IBM WebSphere MQ installed in your environment, and you have already set your environment variables to include:

- *%IBM_MQ%\bin* to PATH on Windows.
- *$IBM_MQ/lib* to LD_LIBRARY_PATH on Solaris.

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

2 Make sure the Sybase Real-Time Events ASE Active Messaging component has been installed successfully. To verify:

- On Windows, go to the *%SYBASE%\ASE-15_0\bin* directory and check if *sybibmmq.dll* exists.

- On Solaris, go to *$SYBASE/ASE-15_0/lib* directory and check if the *libsybibmmq.so* file exists.

3 Make sure Adaptive Server is up and running.

4 On Windows, go to the *%SYBASE%\ASE-15_0\scripts* directory using a command prompt. Using isql, enter:

```
isql -Usa -P –Sserver_name -i instmstr
isql -Usa -P -Sserver_name -i installmsgsvss
isql -Usa -P -Sserver_name -i instmsgs.ebf
```

On Solaris, 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 script returns 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 Restart the ASE server.

6 On Windows, go to the %SYBASE% directory using a command prompt. On Solaris, go to the $SYBASE directory. Using isql, enter:

```
isql –Sserver_name –Usa -P
```

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

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

8 To verify if real-time messaging has been enabled, check the following directory to see if the *SERVER.log* file exists:

- On Windows: *%SYBASE%\ASE-15_0\install*
- On Solaris: *$SYBASE/ASE-15_0/install*

## Configure individual components

After validating a successful installation, configure the components using the procedures described in the documents listed in Table 3-4. You can access these documents 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.

***Table 3-4: Configuration documents***

| Components | Subcomponent | Configuration documents |
|---|---|---|
| Sybase Replication | • Replication Server | • *Replication Server 15.0 Configuration Guide* |
| | • Replication Agents | • *Replication Agent 12.6 Administration Guide*<br>• *Replication Agent 12.6 Reference Guide* |
| | • DirectConnect | • *Enterprise Connect Data Access Option for Oracle 12.6 Server Administration and User's Guide*<br>• *Enterprise Connect Data Access Option 12.6 User's Guide for Access Services*<br>• *Enterprise Connect Data Access and Mainframe Connect 12.6 Server and Administration Guide*<br>• *Enterprise Connect Data Access 12.6.1 Installation Guide* |
| Sybase Search | Search | *Sybase Search 3.1 Installation and Administration Guide* |
| Sybase Data Federation | Data Federation Servers | *Sybase Avaki Administration Guide* |
| Sybase Real-Time Events | RepConnector | *RepConnector 15.0 Configuration and User's Guide* |
| Sybase Real-Time Events ASE Active Messaging | Real-Time Events ASE Active Messaging | *Real-Time Data Services Messaging Services 3.5 User's Guide for Adaptive Server Enterprise* |

## Start a DirectConnect server as a Windows service

After you configure the DirectConnect server, Sybase recommends that you add and start DirectConnect as a Windows service. For information on configuring, starting, and stopping the DirectConnect server, see the *Sybase Enterprise Connect Data Access* documentation available on the SyBooks CD for Sybase Replication, or the Sybase Product Manual Web site at http://www.sybase.com/support/manuals.

### Adding DirectConnect as a Windows service

You can add DirectConnect as a Windows service by invoking the *ServiceWrapper.exe* available in the *ServiceWrapper* directory. This is available on the DI Suite installation media or in the directory where you have extracted the *di_core.zip* file.

Copy the *ServiceWrapper.exe* to your installation directory (%SYBASE%) and invoke:

```
%SYBASE%\ServiceWrapper.exe --install service_name
--user=DOMAIN_NAME\username --password=password
installation directory\DC-12_6\bin\DCStart.bat
-Sserver_name
```

where:

- *service_name* is the Windows service name.
- *username* includes the domain name and the user name under which the service will run.

  **Note** If your Windows machine is not a member of a Windows domain, but is a Workgroup member instead, use the *COMPUTER_NAME* in place of *DOMAIN_NAME*.

- *password* is the password for the user name.
- *server_name* is the name of the DirectConnect server you created earlier using the AddServer command. See “DirectConnect” on page 28.

For example:

```
C:\Sybase\ServiceWrapper.exe --install Syb_DCserver
--user=SYBASE\jdoe --password=jdpassword
c:\Sybase\DC-12_6\bin\DCStart.bat -SDCserver
```

**Note** You must specify the *.bat* suffix for DCStart.

### Starting DirectConnect as a Windows service

1. Select Start | Settings | Control Panel | Administrative Tools | Services. The Services window opens.
2. Select the name of the service you just installed. Right-click and select Properties. In the Properties dialog, select the Log On tab, and ensure “This Account” is selected. Verify that the user name is the same as the one you specified while adding the service.
3. Use the Recovery tab to specify any desired actions in case the service fails.

4 Use the General tab to provide a description of the service and to specify whether the service should start automatically or manually. Click Start to start the service.

### Removing DirectConnect as a Windows service

You can use the *ServiceWrapper.exe* to remove the service using the following command:

```
%SYBASE%\ServiceWrapper.exe --uninstall service_name
```

where *service_name* is the name of the service.

CHAPTER 4

# 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.
- Read important notes about DI Suite uninstallation. For more information, see “Notes on the uninstallation of DI Suite components” on page 39.
- Determine the mode of uninstallation. You can invoke the uninstaller using either the GUI or console mode. Sybase recommends that you use the GUI mode.

## Notes on the uninstallation of DI Suite components

Table 4-1 describes various uninstallation scenarios and expected behavior when DI Suite components are uninstalled from the directory that contains other Sybase products, or vice versa.

***Table 4-1: DI Suite uninstallation scenarios***

| Installation environment | Expected behavior | Recommendations, if any |
|---|---|---|
| Only DI Suite components are present. | DI Suite uninstaller:<br>• Removes DI Suite component and its subcomponents<br>• Does not remove component-related DSA plug-ins | None |
| Sybase DI Suite components coexist with Sybase IQ 12.x. | Sybase IQ uninstaller:<br>• Removes Sybase IQ, and the connectivity products installed with it. Removal of connectivity products can affect the working of DI Suite components<br>• Does not remove DI Suite components<br>DI Suite uninstaller:<br>• Removes DI Suite component and its subcomponents<br>• Does not remove component-related DSA plug-ins<br>• 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:<br>• Removes ASE but may make the DI Suite components inoperable<br>DI Suite uninstaller:<br>• Removes component and its subcomponents<br>• 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 component coexists with ASE. | ASE uninstaller:<br>• Removes ASE but may make the Sybase Real-Time Events component inoperable<br>DI Suite uninstaller:<br>• Removes ASE messaging libraries<br>• Does not remove component-related DSA plug-in<br>• Does not affect ASE installation | None |
| Sybase DI Suite components coexist with Replication Server 12.5.x, DirectConnect 12.x, and Replication Agent 12.x. | Replication Server, DirectConnect, or Replication Agent uninstaller:<br>• Removes these products, but may make the DI Suite components inoperable<br>DI Suite uninstaller:<br>• Removes Sybase Replication and its subcomponents such as Replication Server, Replication Agent, and DirectConnect<br>• Does not remove component-related DSA plug-in<br>• Removes existing Replication Server 12.5.x. | Do not uninstall existing Replication Server 12.5.x, DirectConnect 12.x, or Replication Agent 12.x, or reinstall DI Suite components after uninstalling existing Replication Server, DirectConnect, or Replication Agent. |

# Uninstalling in GUI mode

1 Invoke the uninstaller.

On Windows:

- Select Start | Settings | Control Panel | Add or Remove Programs. Select Sybase Data Integration Suite and click Change/Remove, or;
- At the command line, enter:

```
%SYBASE%\uninstall\DI\uninstall.exe
```

On Solaris:

- At the command line, enter:

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

The InstallShield Uninstaller Wizard Welcome screen displays. Click Next.

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

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

The selected components and its 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 uninstall is completed, click Finish to exit the uninstaller.

**Note** 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 (Solaris only)

1 To uninstall DI Suite in console mode, at the command line, 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 3-3 on page 24.

CHAPTER 5

# Typical Deployment Scenarios

This chapter provides 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 primary database to target databases in your enterprise.

Before installing Sybase Replication, have a clear understanding of the replication needs of your enterprise. Use the following 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 your enterprise:
  - In a unidirectional replication, data transactions are replicated one way; from a primary database to replicate databases.
  - In a 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 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 Agents captures transactions from the non-Sybase database and transfers them to Replication Server.

This subcomponent is required for heterogeneous replication.

**Note** Sybase Replication supports replication of transactional data from DB2 UDB running on a mainframe system to target databases through Sybase Replication Agent for DB2 UDB for OS/390. This is available with a separate license, which you need to purchase before you use this product.

- DirectConnect – installs DirectConnect software for Microsoft SQL Server, IBM DB2, or Oracle. DirectConnect enables replication to a variety of LAN-based, heterogeneous databases, as well as mainframe data sources.

  DirectConnect is required for heterogeneous replication. Depending on the target database you have in your replication environment, you must install the relevant DirectConnect software for that 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.

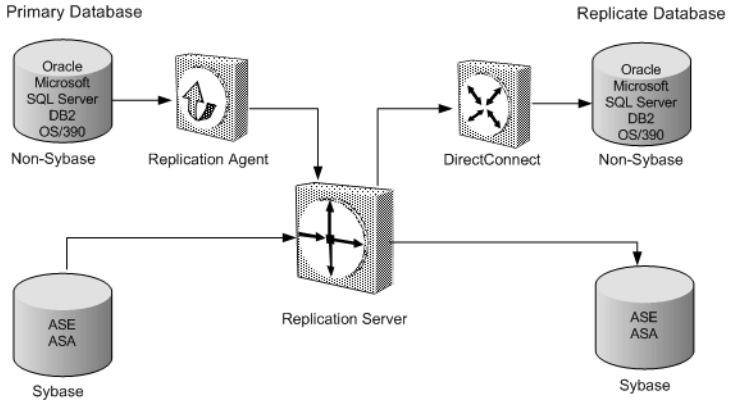
- Install one Replication Agent per database. The DI Suite installer installs Replication Agent software for all supported heterogeneous databases. You must configure the appropriate Replication Agent software for the non-Sybase database to which you want to connect.
- Install Replication Agent for Oracle on the same server that contains Oracle database and 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.
- 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 Microsoft SQL Server, IBM DB2, and Oracle database.
- Install DirectConnect on the same server that contains the replicate database. This eliminates a network hop and improves performance.

Example deployment architecture

Figure 5-1 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 5-1: 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 locating relevant business information within the masses of unstructured information stored in your organization's file systems, network drives, and databases.

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 what components are required to set up Sybase Search.

Sybase Search subcomponents

Using DI Suite installer 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 needs of the Sybase Search installation.

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 would require five servers.

- For a 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, which consists of 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 5-1 to identify your setup type and plan your Sybase Search deployment accordingly:

***Table 5-1: Sybase Search deployment setup information***

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

After you have determined the hardware requirements based on the search requirements of your enterprise, determine how to deploy Sybase Search for these configurations:

- Deployment across multiple servers

  There should be no more than one container per server. Multiple containers residing on a server must access the same disk drive, which can slow down 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 two containers are installed 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.

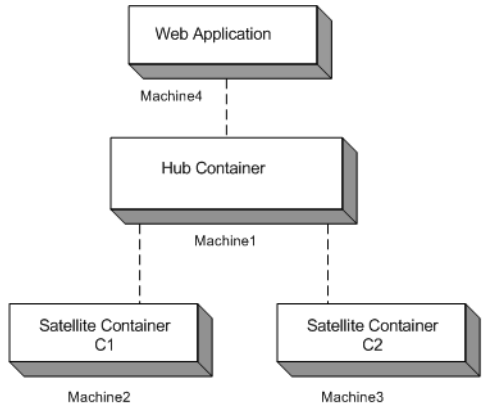
**Note** Each container runs within a Java virtual machine (JVM) tied to a single CPU. You can run multiple containers on a server with multiple CPUs, with each container's JVM attached to a different CPU.

Example deployment architecture

Figure 5-2 shows an example architecture of a distributed system that contains the following Sybase Search subcomponents installed across multiple servers:

- A central hub on Machine1
- Two satellite containers on Machine 2 and Machine 3
- A J2EE server containing the Web application on Machine 4

***Figure 5-2: Sybase Search deployment architecture***




# Sybase Data Federation deployment

Sybase Data Federation is enabled via Avaki 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 Avaki required in your domain, 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 listed below. The Sybase Data Federation domain can consist of one or more of the servers that together implement the data catalog and provide data integration framework and its provisioning and access services.

*Basic Avaki domain*

A basic Avaki domain can contain one or two 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 an Avaki domain is initially started. The grid domain controller has all the functionality of a grid server. An Avaki domain must have at least one grid domain controller.

  In an Avaki 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 is unreachable.

*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*

- Proxy server – allows Avaki 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.

Avaki domains can be accessed by a number of different clients. In some cases, clients require no 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 Avaki via SOAP calls. Clients that require some Sybase software installed include ODBC or JDBC clients and machines that are used for running the Avaki command line interface (CLI) client.

*Avaki Client*

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

---

**Note** To use Sybase Data Federation tooling capabilities, 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 Avaki domain. These are general guidelines that do not cover all possibilities. Planning an Avaki domain is a complex activity that must be performed in consultation with a Sybase deployment architect.

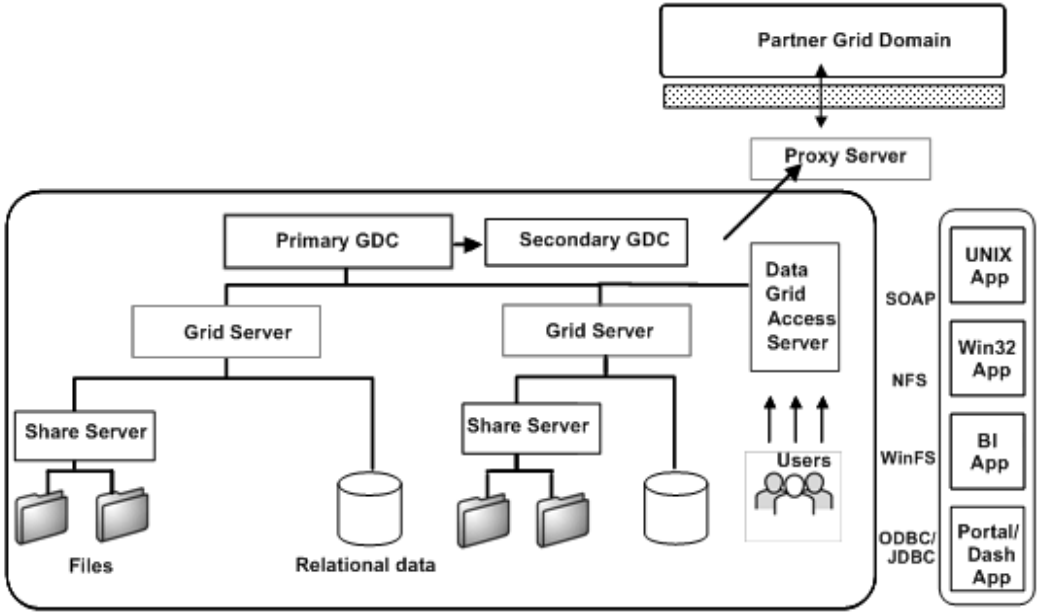
- Some data grids are used primarily for file access, some primarily for database access, and some are used for both. Based on the usage scenarios for your data grid, choose the appropriate Avaki servers to deploy.
- The GDC functions as the first grid server in the domain. Add more grid servers to accommodate 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 a secondary GDC in your Avaki domain, set it up after you set up the primary GDC, but before you set up the other Avaki servers in the domain. If you set up other servers before the secondary GDC, the Avaki failover mechanism will 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.

### Example deployment architecture

Figure 5-3 shows an example deployment architecture of an Avaki domain with primary and secondary grid domain controllers, grid servers, share servers, a proxy server, and a data grid access server deployed. Users and applications can access relational data and Web services via Avaki services configured on the grid servers and files via the data grid access server using NFS or CIFS (Windows) clients.

***Figure 5-3: 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 Java Message Services (JMS) or IBM WebSphere MQ.

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

- Sybase Real-Time Events ASE Active Messaging – uses Adaptive Server Enterprise (ASE), with a licensed feature that provides messaging-services capability to capture events from the ASE database and publish directly to any standard message bus.

- Sybase Real-Time Events – uses RepConnector, along with Replication Server, to capture events from any heterogeneous database such as Oracle or ASE and deliver these events to any standard message bus.

The Sybase Real-Time Events ASE Active Messaging and Sybase Real-Time Events configuration are separate licenses enabled through the DI Suite installer. Depending on the license you enter, the DI installer displays the relevant Sybase Real-Time Events component you can install.

**Note** With Sybase Real-Time Events ASE Active Messaging license, you will also obtain the Sybase Real-Time Events license. You can choose to install either license or both of these licenses to suit your requirements.

Before you install, read the following sections, which contain Sybase-recommended deployment architecture and installation recommendations for each Sybase Real-Time Events component.

## Sybase Real-Time Events ASE Active Messaging Deployment

Sybase Real-Time Events ASE Active Messaging requires ASE 12.5.4 or later, or an ASE 15.0 ESD#2 or later, and a standard message bus in your environment.

**Note** DI Suite installer does not install ASE or the messaging software. You must purchase ASE separately and install it before you install the Sybase Real-Time Events component. You must also have the message bus software installed in your environment.

### Installation recommendations

- Install Sybase Real-Time Events ASE Active Messaging on a machine that already contains an ASE 12.5.4 or later, or an ASE 15.0 ESD#2 or later installation.
- Set the following environment variables correctly:

| Environment variable | Value |
|---|---|
| %SYBASE% (Windows)<br>$SYBASE (UNIX) | Installation directory of Real-Time Events |
| PATH (Windows)<br>LD_LIBRARY_PATH (Solaris) | Location of messaging software's shared libraries |

- Install messaging software on a separate machine.

## Sybase Real-Time Events using RepConnector and Replication Server deployment

Sybase Real-Time Events includes these subcomponents:

- RepConnector Server – contains event capture, event transformation, and event sender modules.
- Replication Server – detects business events that occur in the database and sends them to RepConnector Server.
- Replication Agents – captures transactions in the heterogeneous database and transfers them to Replication Server.

---

**Note** RepConnector Manager is the graphical tool that enables you to set up RepConnector connection profiles and connections to Sybase Replication Server. This tool is provided as part of the Sybase WorkSpace installation.

---

Installation recommendations

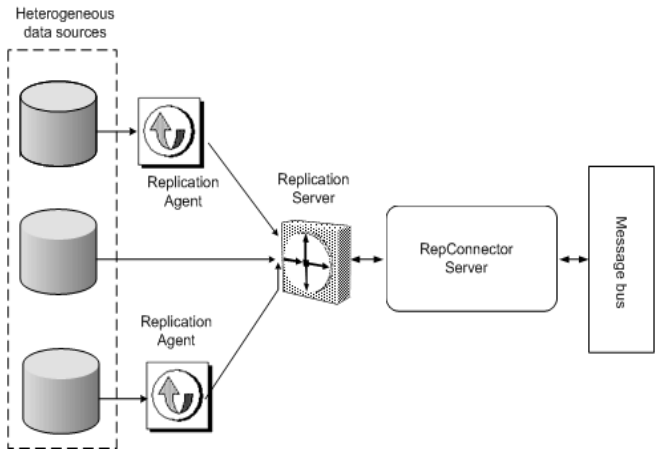
- Install messaging software on a separate machine.
- Install Replication Agent for Oracle on the same server that contains Oracle database and Replication Agent for DB2 UDB for OS/390 on mainframe system that runs DB2. For other databases, you can install the appropriate Replication Agent on any server.
- 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.

Example deployment architecture

Figure 5-4 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

***Figure 5-4: Sybase Real-Time Events deployment architecture***



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