

Sterling B2B Integrator



Windows Non-Cluster Environment Installation

Version 5.2.0 - 5.2.2

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Note

Before using this information and the product it supports, read the information in "Notices" on page 65.

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Windows Non-Cluster Environment Installation (5.2.0 - 5.2.2)

You may follow different installation and upgrade scenarios when you install and upgrade IBM® Sterling B2B Integration in a Windows Non-Cluster (single node) environment.

Installation Scenarios for Version 5.2.1 and 5.2.2

It is important to review the following installation scenarios:

Scenario	Instructions
Version 5.2.0 is installed as the base release and it needs to be patched to the 5.2.1 level.	Use the <i>Install Version 5.2.1 or 5.2.2 as a Patch</i> instructions provided in the <i>Install the Software</i> chapter.
Version 5.2.1 is being installed as the base release.	You will need to review this document and use the installation instructions in the <i>Install the Software</i> chapter.
Version 5.2.1 is installed as the base release and it needs to be patched to the 5.2.2 level.	Use the <i>Install Version 5.2.1 or 5.2.2 as a Patch</i> instructions provided in the <i>Install the Software</i> chapter.
Version 5.2.2 is being installed as the base release.	You will need to review this document and use the installation instructions in the <i>Install the Software</i> chapter.

Installation Overview

Prerequisite Knowledge for Windows Installation

Before you begin the installation, you should be knowledgeable on the following topics:

- Application servers
- Database administration
- System Requirements for this release of Sterling B2B Integrator.

Intended Audience

The intended audience for this document is for system administrators, installation engineers, and database administrators.

Assumptions for this Guide

The procedures in this guide are accurate as of the publication date and are specific to this version of the document.

Prepare Your System for Installation

Before you begin the installation in a Windows environment

Before you begin the installation:

- Perform some system verification tasks

- Download the correct version of the JDK, JCE, and JDBC drivers required. See the System Requirements guide for information about how to download the correct version of each.

System verification tasks for a Windows environment

Before you begin an installation, you must:

#	System Verification Items	Your Notes
1	<p>Use the system requirements to verify that your system hardware and software meet the requirements that are specified for this release.</p> <p>Verify that you have the correct:</p> <ul style="list-style-type: none"> • Patches required by Java™ for the operation system • Version of the JDK • Absolute path to JDK and patches 	
2	<p>Verify that the file system has adequate free disk space.</p>	
3	<p>Verify that your database was installed and configured.</p> <p>If you are going to manually apply DDL statements, you must complete the database schema work before you begin the installation.</p>	
4	<p>If you are using a non-English-language environment, confirm that you are using the appropriate character set.</p>	

Verifying that your system meets the system requirements

If any of these requirements are not met, the installation fails. If the installation fails, review the installation log for a list of non-compliant items.

Before you begin the installation, verify that your system meets the hardware and software requirements that are specified for this release. The hardware requirements that are listed in the *System Requirements* are the minimum that is required. Your system requirements exceed the minimum if you are running other applications on the same system as Sterling B2B Integrator.

The installation strictly enforces the following system requirements:

- Operating system version must match requirement exactly.
- The minimum fix pack level for the operating system is enforced, but you can apply higher fix pack levels.
- JDK version must match requirement exactly.
- The disk space is a minimum for the installation. The system must be separately sized to handle whatever load is going to be put on the system.
- Database version must match exactly.
- JDBC driver version supports exact matches and wildcard matches.

Configure the Database

Supported database servers in a non-cluster environment

In a non-clustered environment, the following databases can be configured:

- Oracle®
- DB2
- Microsoft SQL Server - In this document, wherever Microsoft SQL Server (MSSQL) is mentioned, it applies to both 2005 and 2008 depending on which version that is installed. If the information is specific to one version or the other version, the version is stated.
- MySQL

See the *System requirements* for the supported database version information.

You must install, create, and configure a database so that each Sterling B2B Integrator instance has a dedicated schema and login for the database.

Database Information You Need Before You Install Sterling B2B Integrator in a Non-Cluster Environment

Before you begin to install Sterling B2B Integrator, you need to install and configure your database. Review and gather the following information. An “x” indicates the information is required.

Information to Gather	Oracle	DB2	Microsoft SQL Server	MySQL	Record Information Here
Database User Name	x	x	x	x	
Database Password	x	x	x	x	
Database Catalog Name	x	x	x	x	
Database Host	x	x	x	x	
Database Port	x	x	x	x	
JDBC Driver #1	x	x	x	x	
JDBC Driver #2		x			
Use BLOB data?	x		x		
Enable Multibyte Support?	x	x	x		

Database Sizing and Capacity Planning

Database sizing is designed to give you estimates of the database growth and to assist in planning the disk requirements.

There are many factors to consider when estimating the amount of disk space that will be required for Sterling B2B Integrator. As a result, trying to consider all growth factors is impractical because the user may not know the answers to many questions that are required to do a detailed forecast. Over the years the cost of disks has dramatically decreased, and the capacity and speed of disks has increased. The method of how information system managers order disk capacity has also changed, from purchasing disk arrays that are dedicated to a particular database server and project, to the concept of SANS (Storage Area Networks).

Sterling B2B Integrator provides a methodology to estimate your initial disk requirements. Consider the confidence that you have in your data estimates when making the final purchase decision and adjust accordingly. After the initial purchase and production deployment, disk growth should be tracked for future purchase forecasts.

You should track your actual database storage usage and the number of database records regularly. Correlating these two metrics enabled you to plan your future disk requirements. Moreover, determining the average amount of space used for each order line or shipment line, enables you to accurately predict your future growth requirements.

Database Definition Language (DDL) Statements

When you install Sterling B2B Integrator, you can manually apply Database Definition Language (DDL) statements to your database tables instead of requiring the installation process to do it directly.

This feature increases database security by reducing the database permissions of the Sterling B2B Integrator database user. The rights to database objects can be reserved for a secure user like a customer database administrator (DBA). A business can require that only a DBA with the proper permissions can make database changes.

Configure the DB2 Database

DB2 Database Configuration Checklist

Before you begin:

- If you do not have DB2 installed, follow the procedures in the DB2 Installation manual.
- The installation script creates tables and indexes. Certain tables require a page size of 32K. You should have a temporary table space to accommodate such tables. DB2 automatically places tables and indexes in the available table spaces using its internal logic. You can move the tables to a different tablespace after the installation is complete.
- If you are reinstalling the software, be aware that data in your existing database will be deleted. To prevent this, either back up the existing database or save it under a different name.
- After creating and configuring your database, recycle the database. Then stop and restart to apply the changes.

Use the following checklist to configure DB2 for Sterling B2B Integrator:

#	DB2 Database Configuration Checklist	Your Notes
1	<p>Create the database.</p> <p>Refer to the DB2 documentation on creating the database, including creating a schema repository, login, and tablespace.</p> <p>Be sure to install the correct version and patches. See System Requirements for supported version information.</p>	
2	<p>Install Client Components, Compilers, and Fix Pack.</p>	

#	DB2 Database Configuration Checklist	Your Notes
3	Review the DB2 Parameters.	
4	Ensure the DB2 User Privileges are set.	
5	Install JDBC Drivers for DB2.	

DB2 parameters

When you install Sterling B2B Integrator with the DB2[®] database, you must set certain DB2 parameters. Other DB2 parameter settings are recommended for the efficient performance of Sterling B2B Integrator.

When you install Sterling B2B Integrator with DB2, you must set the DB2 parameters that are listed in the following topics:

- Mandatory settings for IBM DB2 registry variables
- Mandatory settings for DB CFG parameters

After you install Sterling B2B Integrator with DB2, you can improve the DB2 database performance by setting the recommended parameters that are listed in the performance documentation for the following items:

- DB2 registry variables
- DBM CFG parameters
- DB CFG parameters
- DB2 9.7
- DB2 for Linux on System z[®] (5.2.4.0 or later)
- DB2 for LUW configuration and monitoring

Install DB2 Client Components, Compilers, and Fix Pack

About this task

Sterling B2B Integrator uses stored procedures for DB2. You must install or set up the following components:

Procedure

1. Install the Administration client.
2. Install the necessary fix pack after you install the client components and compilers. Otherwise, the clients will overwrite the fix pack binaries.
3. Set the path for the compiler by using the **db2set** command.

What to do next

For more information about these tasks, see the IBM documentation.

Install JDBC Drivers for DB2

About this task

For DB2, install the appropriate DB2 JDBC Type 4 driver and any correlating patches. See *System Requirements* for supported version information.

You can obtain these files from the IBM Web site. After you obtain this JDBC driver, record the absolute path to its location on your system. You must supply this absolute path during installation.

If the JDBC driver provided by your database vendor is distributed among multiple files, you must place all the files that comprise the JDBC driver into one .jar file. Follow these steps to create one .jar file:

Procedure

1. Identify all the vendor database jar files for the JDBC driver.
2. Record the absolute path to the .jar file you created on the Preinstallation Checklist.

The type-4 driver does not require a separate Java listener running on the database server. Instead, connect directly to the DB2 port.

DB2 database user privileges

The DBADM role is required for administrative operations in the DB2 database.

Configure the Oracle Database

Oracle database configuration checklist

About this task

You can use an Oracle database for maintaining information with Sterling B2B Integrator.

Before you begin:

- If you are reinstalling the software, be aware that data in your existing database is deleted. To prevent the data from being deleted, either back up the existing database or save it under a different name.
- After you create and configure your database, recycle the database. Then, stop and restart to apply the changes.

Use the following checklist to configure Oracle for Sterling B2B Integrator:

#	Oracle database configuration checklist	Your Notes
1	<p>Create the database.</p> <p>Refer to the Oracle documentation on creating the database, including creating a schema repository, login, and table space.</p> <p>Be sure to install the correct version and patches.</p> <p>See <i>System requirements</i> for supported version information.</p>	
2	Configure an Oracle instance.	
3	Configure Oracle rollback.	
4	Install the Oracle JDBC driver.	
5	Enable failover in a multiple node Oracle RAC database cluster.	

#	Oracle database configuration checklist	Your Notes
6	<p>After Sterling B2B Integrator is installed, if you want to encrypt the data traffic, do one of the following tasks:</p> <ul style="list-style-type: none"> • Configure Sterling B2B Integrator for data traffic encryption • Configure Sterling B2B Integrator for data traffic encryption with SSL 	

Configuring an Oracle instance

About this task

Before beginning:

- You must have the Oracle database installed. Ensure that you installed the correct versions and patches. See *System Requirements* for supported version information.
- Ensure that the user responsible for creating and modifying the Oracle database has a specified quota (extent) assigned in the tablespace, even if the user was assigned an unlimited tablespace. Otherwise, the installer can throw the error *ORA-09150: no privileges on tablespace name*.

To configure the Oracle database:

Procedure

1. Run the create instance procedure. Use AL32UTF8 as the character set.
2. Configure the INIT<INSTANCE_NAME>.ORA file. The following parameter settings are required:

Parameter	Parameter Definition	Value
OPEN_CURSORS	Number of open cursors	Greater than or equal to 2000
SHARED_POOL_SIZE	Shared pool size	Greater than or equal to 90000000
LARGE_POOL_SIZE	Large pool size	Greater than or equal to 614400
JAVA_POOL_SIZE	Java pool size	Greater than or equal to 20971520
PROCESSES	Number of processes	Greater than or equal to 500 Must be greater than the number of connections that are required by Sterling B2B Integrator (sum of transactional or local and NoTrans pools in jdbc.properties), and operational management tools.
LOG_BUFFER	Log buffer	Greater than or equal to 163840
DB_BLOCK_SIZE	Database block size	Greater than or equal to 8192
	Maximum extends	Unlimited
	Character set	AL32UTF8
NLS_LENGTH_SEMANTICS	NLS Length semantics	CHAR When you change the multi-byte character set to CHAR, Oracle reserves space equivalent to "n" characters, which is more than "n" bytes.

Parameter	Parameter Definition	Value
SGA_MAX_SIZE	SGA maximum size	1 GB to <i>n</i> GB, depending on the amount of physical memory on your database server. If the server is running only this database, up to 80% of physical memory.
SGA_TARGET	SGA components total size	1 GB to <i>n</i> GB, depending on the amount of physical memory on your database server. If the server is running only this database, up to 80% of physical memory.
PGA_AGGREGATE_TARGET	PGA target aggregate memory	1 GB to <i>n</i> GB, depending on the amount of physical memory on your database server. If the server is running only this database, up to 80% of physical memory.
cursor_sharing	Cursor sharing	exact
timed_statistics	Timed Statistics	true
optimizer_mode	Optimizer mode	All_rows

3. Identify or create a tablespace for user tables and indexes.
4. Create a user. Unless stated for a task, the user does not require database administrator (DBA) privileges.
5. Grant permissions to the user. The following permissions are required for the administrative user for creating and modifying the Oracle database:
 - GRANT "CONNECT" TO SI_USER
 - ALTER USER SI_USER DEFAULT ROLE "CONNECT"
 - GRANT CREATE SEQUENCE TO SI_USER
 - GRANT CREATE TABLE TO SI_USER
 - GRANT CREATE TRIGGER TO SI_USER
 - GRANT SELECT ON CTXSYS.CTX_USER_INDEXES TO SI_USER
 - GRANT SELECT ON SYS.DBA_DATA_FILES TO SI_USER
 - GRANT SELECT ON SYS.DBA_FREE_SPACE TO SI_USER
 - GRANT SELECT ON SYS.DBA_USERS TO SI_USER
 - GRANT SELECT ON SYS.V_\$PARAMETER TO SI_USER
 - GRANT SELECT ANY DICTIONARY TO SI_USER
 - GRANT ALTER SESSION TO SI_USER
 - GRANT CREATE SESSION TO SI_USER
6. If you are using Oracle AQ, grant the AQ_ADMINISTRATOR_ROLE permission.

Configuring Oracle rollback

About this task

You can roll back changes in Oracle with AUTO UNDO management. Use this option to avoid any manual monitoring of UNDO segments.

If a server is upgraded from Oracle 8i, set the UNDO_MANAGEMENT=AUTO parameter in `init<SID>.ora`. Your database administrator must determine the UNDO_RETENTION setting. Ensure that the file system, which has the UNDOTBS1 table space, has enough space to use the AUTOGROW setting.

Install the Oracle JDBC driver

Sterling B2B Integrator requires the appropriate JDBC driver for Oracle database. These drivers are thin client-based pure Java JDBC drivers. See *System requirements* for supported version information. The supported versions of the JDBC driver build the correct Sterling B2B Integrator directory structure.

Enable Failover in a Multiple Node Oracle RAC Database Cluster

About this task

You can enable failover in a multiple node Oracle RAC database cluster in Windows using traditional RAC or RAC with SCAN.

Procedure

1. Navigate to `\install_dir\install\properties` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

2. In the `sandbox.cfg` file, add a new property for `ORACLE_JDBC_URL`, which contains the Oracle RAC connection URL.

Choose one of the following depending on whether you are using traditional RAC or RAC with SCAN. The property value must be one string of text starting with `ORACLE_JDBC_URL=`. Your database administrator (DBA) can modify this URL as needed:

- To configure traditional RAC, use this format:

```
jdbc:oracle:thin:@
  (DESCRIPTION=
    (ADDRESS_LIST=
      (FAILOVER=ON)
      (LOAD_BALANCE=OFF)
      (ADDRESS=(PROTOCOL=TCP)(HOST=myhost1)(PORT=1521))
      (ADDRESS=(PROTOCOL=TCP)(HOST=myhost2)(PORT=1521))
    )
    (CONNECT_DATA = (SERVER = DEDICATED)(SERVICE_NAME=myservicename OR mySID))
  )
```

Note: This method uses the default Oracle RAC service provided by Oracle.

- To configure RAC with SCAN, use this format:

```
jdbc:oracle:thin:@host:port/service
```

For example:

```
jdbc:oracle:thin:@RAC-SCAN:1521/ORCL
```

Where:

RAC-SCAN is resolved to an IP address by DNS

1521 = Port number

ORCL = the name of your Oracle RAC service

Important: In order to use RAC with SCAN, you must also define a new Oracle RAC service (you cannot use the default service) that defines one node as the preferred node and at least one node as a failover node.

3. Navigate to `\install_dir\install\bin` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p>

4. Enter `setupfiles.cmd`.

Data Traffic Encryption in Oracle Database 11g

You can encrypt transactions between Sterling B2B Integrator and Oracle Database 11g. This prevents anyone outside the system from viewing the data while it tracks between Sterling B2B Integrator and the database.

The following is a list of important aspects of enabling database encryption:

- The default configuration for encryption at installation is no encryption. If you want your database transactions to be encrypted, you must perform the tasks provided in this topic.
- The encryption can be enabled at any time.
- Once you enable encryption, it applies to all database transactions between Sterling B2B Integrator and the database.

System performance may be impacted when encryption is enabled. The extent of this impact will depend on your hardware, database configuration, transaction volume, and the relative amount of processing time spent by the system against other activities.

Addition information on data traffic configuration can be found in the Oracle documentation, which can be accessed from http://www.oracle.com/technology/tech/java/sqlj_jdbc/pdf/wp-oracle-jdbc_thin_ssl.pdf.

Before you encrypt data traffic for an Oracle 11g database

Consider the following when you configure database traffic encryption:

- Sterling B2B Integrator must be installed in TCP (clear) mode before you can configure encryption.
- Make these configuration changes to your database before you install Sterling B2B Integrator.
- Configure wallets for encryption only mode even if the wallet used is empty. Enable auto login for all wallets.
- If you want to use SSL for encryption only, follow the instructions in the Oracle *CASE #1: USE SSL FOR ENCRYPTION ONLY* section of the Oracle documentation. It is not necessary to configure certificates for the wallet. In this mode, Diffie-Hellman ciphers are used and the server and client are not authenticated through SSL. You must authenticate by using a user name and a password. However, if you are running Sterling B2B Integrator on an operating system that requires an IBM JDK, you cannot use this mode, as IBM JSSE TrustManager does not allow anonymous ciphers. You must configure wallets with certificates.
- If you want to use SSL for encryption and for server authentication, follow the instructions in the Oracle *CASE #2: USE SSL FOR ENCRYPTION AND SERVER AUTHENTICATION* section of the Oracle documentation.

- If you want to use SSL for encryption and for server authentication of both tiers, follow the instructions in the Oracle *CASE #3: USE SSL FOR ENCRYPTION AND AUTHENTICATION OF BOTH TIERS* section of the Oracle documentation, depending on how you intend to configure client authentication, server authentication, or both.
- After you configure your database for data traffic encryption, the database accepts both TCP (clear) and TCPS (encrypted) connections.
- There is a known issue in Oracle database 11g when the listener is configured only for TCPS. The lsnrctl utility (used to start/stop DB listeners) attempts to contact the listener, which is enabled first. Define the address list of the listener to contact either TCP or IPC before you contact TCPS.

Configure Sterling B2B Integrator for Data Traffic Encryption in Oracle (Windows)

About this task

Use this procedure if you want to enable encryption only, with anonymous authentication, and not SSL authentication.

If you want to use SSL for encryption only, it is recommended to follow the instructions in the Oracle *CASE #1: USE SSL FOR ENCRYPTION ONLY* section of the Oracle documentation. It is not necessary to configure certificates for the wallet. In this mode, Diffie-Hellman ciphers are used and neither the server nor the client is authenticated through SSL. You must authenticate by using a username and a password. However, if you are running Sterling B2B Integrator on a platform that requires an IBM JDK, you cannot use this mode, as IBM JSSE TrustManager does not permit anonymous ciphers. You must configure wallets with certificates.

This procedure is applicable only if you are running Sterling B2B Integrator on a platform that requires Sun JDK. The IBM JSSE TrustManager does not permit anonymous ciphers.

If your Sterling B2B Integrator is a cluster installation, you will need to perform this procedure on each node, starting with node 1.

Procedure

1. Install Sterling B2B Integrator in TCP (clear) mode.
2. Stop Sterling B2B Integrator.
3. Navigate to `\install_dir\install\properties` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

4. Open the `customer_overrides.properties` file and add the following additional database connection information:

```
jdbcService.oraclePool.prop_oracle.net.ssl_cipher_suites=
(SSL_DH_anon_WITH_3DES_EDE_CBC_SHA, SSL_DH_anon_WITH_RC4_128_MD5,
 SSL_DH_anon_WITH_DES_CBC_SHA)
jdbcService.oraclePool.prop_oracle.net.ssl_server_dn_match=false
```

If you have a container configured, ensure that the same database information is added to the `customer_overrides.properties.in` file. To locate the file, navigate to `\install_dir\install\properties\nodexACy`. Where *x* gives the node number and *y* gives the container number. Perform this step for all the containers configured in the system.

5. Repeat Step 4 for the following Oracle connection pools by changing only the poolname:
 - oraclePool_local
 - oraclePool_NoTrans
 - oracleArchivePool
 - oracleUIPool

If you have any other database pools, you will need to add the properties for those pools.

6. Open the `sandbox.cfg` file and change the database connection information as shown:

```
ORACLE_JDBC_URL= jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS=(PROTOCOL=tcps)
(HOST=<DB host>)(PORT=<TCPS port as configured in DB config section above>))
(CONNECT_DATA=(SERVICE_NAME=<service name>)))
```

Make sure you enter the HOST, PORT, and SERVICE_NAME.

7. Open the `activemqconfig.xml.in` file and modify the database connection information:

- Remove or comment out the following default ActiveMQ database configuration information:

```
<bean id="gis-ds" class="org.apache.commons.dbcp.BasicDataSource"
  destroy-method="close" singleton="true" lazy-init="default"
  autowire="default" dependency-check="default"
  SCIOVERRIDEName="persistence-bean">
  <property name="driverClassName">
  <value>oracle.jdbc.driver.OracleDriver</value>
  </property>
  <property name="url">
  #ifdef ORACLE_JDBC_URL
  <value>&ORACLE_JDBC_URL;</value>
  #else
  <value>jdbc:oracle:thin:@&ORA_HOST;:&ORA_PORT;:&ORA_DATA;</value>
  #endif
  </property>
  <property name="username">
  <value>&ORA_USER;</value>
  </property>
  <property name="password">
  <value>&ORA_PASS;</value>
  </property>
  <property name="maxActive">
  <value>32</value>
  </property>
</bean>
```

- Add the following ActiveMQ database configuration information:

```
<bean id="gis-ds"
class="oracle.jdbc.pool.OracleDataSource" destroy-method="close"
singleton="true" lazy-init="default"
autowire="default"
dependency-check="default">
<property name="URL"><value>&ORACLE_JDBC_URL;</value></property>
<property name="user"><value>&ORA_USER;</value></property>
<property name="password"><value>&ORA_PASS;</value></property>
<property name="connectionProperties"><value> oracle.net.ssl_cipher_suites:
```

```

(SSL_DH_anon_WITH_3DES_EDE_CBC_SHA, SSL_DH_anon_WITH_RC4_128_MD5,
SSL_DH_anon_WITH_DES_CBC_SHA)
oracle.net.ssl_client_authentication: false
oracle.net.ssl_version: 3.0
driverClassName:oracle.jdbc.driver.OracleDriver
maxActive: 32
</value>
</property>
</bean>

```

8. Navigate to `\install_dir\install\bin` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

9. Enter `StartWindowsService.cmd`.

10. Restart Sterling B2B Integrator. All the database connections from Sterling B2B Integrator are now connected through TCPS (encrypted) mode.

Configure Sterling B2B Integrator for Data Traffic Encryption in Oracle with SSL Authentication (Windows)

About this task

Use this procedure to enable encryption and SSL authentication. This procedure is applicable if you are running Sterling B2B Integrator on a platform that requires either Sun JDK or IBM JDK.

The example in this procedure uses 2-way SSL authentication. If you want to use SSL for encryption and for server authentication, it is recommended to follow the instructions in the Oracle *CASE #2: USE SSL FOR ENCRYPTION AND SERVER AUTHENTICATION* section of the Oracle documentation.

You can also configure 1-way SSL authentication. If you want to use SSL for encryption and for server authentication of both tiers, it is recommended to follow the instructions in the Oracle *CASE #3: USE SSL FOR ENCRYPTION AND AUTHENTICATION OF BOTH TIERS* section of the Oracle documentation, depending on how you intend to configure client and/or server authentication. For more information about 1-way SSL authentication, refer to Oracle documentation, which can be accessed from http://www.oracle.com/technology/tech/java/sqlj_jdbc/pdf/wp-oracle-jdbc_thin_ssl.pdf.

If your Sterling B2B Integrator is a cluster installation, you will need to perform this procedure on each node, starting with node 1.

Procedure

1. Install Sterling B2B Integrator in TCP (clear) mode.
2. Stop Sterling B2B Integrator.
3. Navigate to `\install_dir\install\properties` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p>

4. Open the customer_overrides.properties file and add additional database connection information:

```
jdbcService.oraclePool.prop_javax.net.ssl.trustStore=.../path/.../
ClientKeyStore.jks
jdbcService.oraclePool.prop_javax.net.ssl.trustStoreType=JKS
jdbcService.oraclePool.prop_javax.net.ssl.trustStorePassword=password
jdbcService.oraclePool.prop_oracle.net.ssl_version=3.0
jdbcService.oraclePool.prop_javax.net.ssl.keyStore=.../path/.../
ClientKeyStore.jks
jdbcService.oraclePool.prop_javax.net.ssl.keyStoreType=JKS
jdbcService.oraclePool.prop_javax.net.ssl.keyStorePassword=password
```

5. Repeat step 4 for the following Oracle connection pools by changing only the poolname:

- oraclePool_local
- oraclePool_NoTrans
- oracleArchivePool
- oracleUIPool

If you have any other database pools, you will need to add the properties for those pools.

6. Open the sandbox.cfg file and change the database connection information to:

```
ORACLE_JDBC_URL= jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS=(PROTOCOL=tcps)
(HOST=<DB host>)(PORT=<TCPS port as configured in DB config section above>))
(CONNECT_DATA=(SERVICE_NAME=<service name>)))
```

7. Navigate to `\install_dir\install\activemq\conf` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p>

8. Open the activemqconfig.xml.in file and modify the database connection information:

- Remove or comment out the following default ActiveMQ database configuration information:

```
#:ifdef ORACLE
<bean id="gis-ds" class="org.apache.commons.dbcp.BasicDataSource"
destroy-method="close" singleton="true" lazy-init="default"
autowire="default" dependency-check="default"
SCIOVERRIDEName="persistence-bean">
<property name="driverClassName">
<value>oracle.jdbc.driver.OracleDriver</value>
</property>
```

```

<property name="url">
#:ifdef ORACLE_JDBC_URL
<value>&ORACLE_JDBC_URL;</value>
#:else
<value>jdbc:oracle:thin:@&ORA_HOST;:&ORA_PORT;:&ORA_DATA;</value>
#:endif
</property>
<property name="username">
<value>&ORA_USER;</value>
</property>
<property name="password"><value>&ORA_PASS;</value>
</property>
<property name="maxActive"><value>32</value>
</property>
</bean>
#:endif

```

- Add the following ActiveMQ database configuration information:

```

<bean id="gis-ds"
class="oracle.jdbc.pool.OracleDataSource" destroy-method="close"
singleton="true" lazy-init="default" autowire="default"
dependency-check="default">
<property name="URL"><value>&ORACLE_JDBC_URL;</value></property>
<property name="user"><value>&ORA_USER;</value></property>
<property name="password"><value>&ORA_PASS;</value></property>
<property name="connectionProperties"><value>
javax.net.ssl.trustStore: /.../path/.../ClientKeyStore.jks
javax.net.ssl.trustStoreType:JKS
javax.net.ssl.trustStorePassword:password
oracle.net.ssl_version:3.0
javax.net.ssl.keyStore: /.../path/.../ClientKeyStore.jks
javax.net.ssl.keyStoreType:JKS
javax.net.ssl.keyStorePassword: password
driverClassName:oracle.jdbc.driver.OracleDriver
maxActive:32
</value>
</property>
</bean>

```

9. Navigate to `\install_dir\install\bin` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

10. Enter `StartWindowsService.cmd`.
11. Restart Sterling B2B Integrator. All the database connections from Sterling B2B Integrator are now connected through TCPS (encrypted) mode.

Configure the Microsoft SQL Server Database

Microsoft SQL server database configuration checklist About this task

You can use a Microsoft SQL server database for maintaining information in Sterling B2B Integrator.

Before you begin:

- If you are reinstalling the software, be aware that data in your existing database is deleted. To prevent data deletion, either back up the existing database or save it under a different name.
- After you create and configure your database, recycle the database. Then, stop and restart it to apply the changes.

Use the following checklist to configure Microsoft SQL Server for Sterling B2B Integrator:

#	Microsoft SQL server database configuration checklist	Your Notes
1	<p>If you do not have Microsoft SQL Server installed on your system, follow the installation procedures in the SQL server installation manual.</p> <p>Refer to the Microsoft SQL server documentation on creating the database, including creating a schema repository, login, and table space.</p> <p>Be sure to install the correct version and patches.</p> <p>See <i>System requirements</i> for supported version information.</p>	
2	For Microsoft SQL 2005, install the Microsoft SQL 2005 Server Service Pack and Hotfix.	
3	Ensure that the Microsoft SQL database parameters are set.	
4	Review the Microsoft SQL server database user privileges.	
5	Configure snapshot for Microsoft SQL server.	
6	Install the Microsoft SQL server JDBC driver.	

Microsoft SQL Server database user privileges

In Microsoft SQL Server, you must grant DBO (Database Owner) permission to the user. The DB_DDLADMIN role is required for creating objects in the SQL Server database.

Installing Microsoft SQL Server 2005 Service Pack and hotfix About this task

Before you begin:

- Ensure that Named Pipes & TCP/IP protocols are enabled in the network utility of the SQL Server.
- For SQL Server 2005, do not use case-sensitive column names in the database. Case-sensitive names prevent the SQL Server 2005 System Management Console from loading.

To install Microsoft SQL Server 2005, Service Pack 2 and hotfixes:

Procedure

1. Install the Microsoft SQL Server 2005 base release.
2. Install the Microsoft SQL Server 2005 Service Pack 2. You can download it from [http://support.microsoft.com/default.aspx?scid=kb;EN-US;933097](#).
3. Apply the cumulative hotfix package. You can download it from <http://support.microsoft.com/default.aspx?scid=kb;EN-US;933097>.
4. Apply the GDR2 hotfix. You can download it from <http://support.microsoft.com/kb/934459/>.

Microsoft SQL Server database parameters

To create a database, ensure that the collation property you select supports all the characters for your database. The following parameter settings are required in your Microsoft SQL Server database:

Parameter	Value
Collation Setting	SQL_Latin1_General_CP850_BIN
Sort order	Binary
Security authentication	SQL Server and Windows
Page Verify Parameter	None

Installing the JDBC driver in Microsoft SQL server 2005

About this task

Sterling B2B Integrator requires the correct Microsoft SQL server driver. See *System requirements* for supported version information.

Go to the Microsoft website to download the driver and any appropriate patches.

Procedure

1. Download `sqljdbc_version_language.tar.gz` to a temporary directory.
2. To unpack the compressed tar file, navigate to the directory where you want the driver to be unpacked and type the following command: `gzip -d sqljdbc_version_language.tar.gz`
3. To unpack the tar file, move to the directory where you want the driver to be installed and type the following command: `tar -xf sqljdbc_version_language.tar`

After the package unpacks, you can find out more information about using this driver by opening the JDBC Help System in the `\absolutePath\sqljdbc_version\language\help\default.htm` file. Viewing this file displays the help system in your Web browser.

4. When the Sterling B2B Integrator installation asks for the location of the JDBC drivers, specify the extracted jar file that is created after the archive is unpacked (named `sqljdbc.jar`). The JDBC driver version is the same as the version of the drivers that are downloaded from Microsoft.

Configure Snapshot for Microsoft SQL Server

The snapshot feature in Microsoft SQL Server allows you to view a read-only copy of the database even when it is locked. Configuring the snapshot feature can also reduce deadlocks.

About this task

Enter the following command to enable the snap shot feature:

```
ALTER DATABASE db_name SET READ_COMMITTED_SNAPSHOT ON;
```

Configure the MySQL Database

MySQL database configuration checklist

You can use a MySQL database for maintaining information in Sterling B2B Integrator. Only non-clustered installations of Sterling B2B Integrator can use the MySQL database.

MySQL is not case-sensitive for searches with string values. For example, the search results are the same when you search for users 'Admin' and 'admin'. As a result, it impacts searches for maps, business processes, services, mailboxes, user names, and other data that are stored in the database.

Use the following checklist to configure the MySQL database for Sterling B2B Integrator:

#	MySQL database configuration checklist	Your Notes
1	Install MySQL database. Refer to MySQL documentation for information about installing the MySQL database. Be sure to install correct version and patches. See <i>System requirements</i> for supported version information.	
2	Set the MySQL Parameters.	
3	Create the database. For example, you can run the following command to create the database: CREATE DATABASE database_name For more information about creating the database, see the MySQL documentation.	
4	Create a user account and grant permissions.	
5	Install the JDBC Drivers for MySQL.	

If you need more MySQL database information, see the documentation that is provided by the vendor at <http://dev.mysql.com/doc/refman/5.0/en/>.

Update the MySQL parameters

The parameter values that are recommended are minimum values. You can increase the values dependent on your requirements or if the database server is used by more than one instance of Sterling B2B Integrator.

Sterling B2B Integrator requires the following parameter settings in your MySQL database.

Configure a data file for auto extension (innodb_data_file_path = ibdata1:400M:autoextend).

Parameter	Value
max_connections	500
max_allowed_packet	100M
default-table-type	INNODB
wait_timeout	31536000
max_write_lock_count	500000
transaction-isolation	READ-COMMITTED
character-set-server	utf8
binlog_format	mixed
table_open_cache	512
key_buffer_size	384M
sort_buffer	512K
connect_timeout	15
innodb_data_file_path	ibdata1:400M:autoextend
innodb_data_home_dir	<i>/install_dir/mysql/var/</i>
innodb_log_group_home_dir	<i>/install_dir/mysql/var/</i>
innodb_flush_log_at_trx_commit	1
innodb_mirrored_log_groups	1
innodb_log_files_in_group	3
innodb_file_io_threads	4
innodb_lock_wait_timeout	600
innodb_log_file_size	5M
innodb_log_buffer_size	8M
innodb_buffer_pool_size	128M
innodb_additional_mem_pool_size	32M

Review the innodb_buffer_pool_size and the innodb_additional_mem_pool_size in the */install_dir/install/mysql/data my.cnf*. If the values from the previous Sterling B2B Integrator tuning.properties are larger than what is in your new my.ini file, you must adjust them.

Creating a user account and granting MySQL database user privileges

You must grant all privileges on the MySQL database to the Sterling B2B Integrator administrative user.

About this task

The following example creates and grants all privileges to the user in the MySQL database:

```
GRANT ALL PRIVILEGES ON database_name.* TO user@localhost IDENTIFIED BY 'password' WITH GRANT OPTION
```

Where:

- `database_name` - refers to the name of the database created.
- `user` - refers to the database user account that is used by Sterling B2B Integrator.
- `password` - refers to the password associated with the database user account.

After you grant all privileges, you must FLUSH the privileges to complete the setup. Run this command from the SQL prompt:

```
FLUSH PRIVILEGES;
```

Installing the JDBC drivers for MySQL

Sterling B2B Integrator requires appropriate JDBC driver for MySQL database. These drivers are platform independent and architecture independent drivers.

About this task

See *System requirements* for supported version information.

After you obtain the correct JDBC driver, record the absolute path to its location on your system. You must supply this absolute path when you install Sterling B2B Integrator.

Database Password Management

Database Passwords

A password is used by the system to connect to its database. The password is stored as clear text in a system property file. If the security policies at your company require you to encrypt these passwords, you can do so after you install the system. Encrypting these passwords is optional.

Database Passwords Encryption Methods

Database passwords are encrypted using one of two methods, `OBSCURED` or `ENCRYPTED`. The encryption method is decided by the value of the `encryptionPrefix` in `propertyEncryption.properties` or `propertyEncryption.properties_platform_security_ext` file.

Decrypt Database Passwords (Windows)

About this task

To decrypt the database password:

Procedure

1. Stop Sterling B2B Integrator.
2. Navigate to `\install_dir\install\properties` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p>

3. Open the `sandbox.cfg` file.
4. Copy encrypted password from the `database_PASS` property.

Use the text that appears after the database_PASS= text. For example, if database_PASS= OBSCURED:123ABCxyz321, you would copy the text OBSCURED:123ABCxyz321. (OBSCURED is the encryption method for the password.)

5. Navigate to `\install_dir\install\bin` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

6. Enter `decrypt_string.cmd encrypted_password`.

For `encrypted_password`, use the text that you copied in Step 4.

You are prompted for the system passphrase.

Your decrypted password appears.

7. Navigate to `\install_dir\install\properties` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

8. Edit the `sandbox.cfg` file to replace the encrypted password with the password that was returned in Step 6.

9. You need to decrypt the entries for `YANTRA_DB_PASS` and `DB_PASS`. Repeat Steps 4 to 8 to decrypt these entries. You should also decrypt any passwords present in the property files. Encrypted passwords typically reside in the following property files:

- `sandbox.cfg`
- `apservsetup`
- `jdbc.properties/.in`
- `customer_overrides.properties/.in`

10. Navigate to `\install_dir\install\bin` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

11. Enter `setupfiles.cmd`.

12. Enter `deployer.cmd`.

13. Enter `startWindowsService.cmd` to start Sterling B2B Integrator.

Encrypt Database Passwords (Windows)

About this task

To encrypt the database password:

Procedure

1. Stop Sterling B2B Integrator.
2. Navigate to `\install_dir\install\bin` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

3. Enter `enccfgs.cmd`.
4. Enter `setupfiles.cmd`.
5. Enter `deployer.cmd`.
6. Enter `startWindowsService.cmd` to start Sterling B2B Integrator.
7. Enter your passphrase.

Installation Checklist

Installation Checklist for Windows

The installation checklist contains the items you need to gather and tasks you need to complete prior to installing Sterling B2B Integrator. The checklist contains:

- Brief descriptions for tasks (detailed procedures are provided after the checklist)
- Information you need to gather to complete the installation

You may want to make a copy of the following checklist and use it to record the information you collect.

#	Installation Checklist for Windows	Your Notes
1	Review your IBM contract to determine what software you have licensed. You need to know this <i>License Information</i> so that you can select the correct components/features to install.	
2	Determine which installation method you are going to use: <ul style="list-style-type: none"> • GUI- based • Silent Installation 	
3	Decide which type of security certificates you will use: <ul style="list-style-type: none"> • The default self-signed SSL (Secure Sockets Layer) certificate that is automatically installed. • A Certificate Authority-related certificate that you install before installing Sterling B2B Integrator. 	

#	Installation Checklist for Windows	Your Notes
4	If you are using an Oracle, Microsoft SQL Server, or DB2 database, decide if you are going to manually or automatically apply Database Definition Language (DDL) Statements (schema) to the database.	
5	If you are using an Oracle 11.1 database, you must set it up for native compilation by allocating space and by setting the plsql_native_library_dir parameter.	
6	Determine if the database password need to be encrypted.	
7	Record the Hostname on which you plan to install the software.	
8	Record the Directory Name where you plan to install the software.	
9	Record the Login to host machine.	
10	Record the Password to the host machine.	
11	Record the path to the JDBC drivers.	
12	Record the path to the installation wizard and the file name.	
13	Record the path to JDK.	
14	Record the path to JCE file.	
15	Record the Host IP address.	
16	Record the Initial Port Number.	
17	Record the System passphrase.	
18	Record the Database vendor name.	
19	Record the Database user name.	
20	Record the Database password.	
21	Record the Database (catalog) name.	
22	Record the Database host name.	
23	For Oracle, Microsoft SQL Server, and MySQL, record the path and file name for the JDBC Driver.	
24	For DB2, record the absolute paths and file names for two JDBC drivers.	
25	Determine if your windows environment is: <ul style="list-style-type: none"> • Windows 2003 or earlier • Windows Server 2008 	
26	Ensure you have read and write privileges on the parent installation directory.	

License Information

A separate license is required for each Sterling B2B Integrator feature that you purchased. During installation, you must choose the license files according to what you purchased.

IBM provides the license files for each feature of Sterling B2B Integrator that you purchased with the software media. You do not have to contact IBM customer support to get the license files.

IBM customer support will audit your system after it is in use.

For more information about modifying licenses files, see the topic on License Modification.

Security Certificates

Before you begin the installation, you must decide which security certificates to use.

Before you begin the installation, you must decide which of the following security certificates to use:

- The default self-signed SSL (Secure Sockets Layer) certificate that is automatically generated by the installation.
- A Certificate Authority-related certificate that you generate before you install the software.

If you install with the default SSL certificate, but you later want to switch to a CA-related certificate, you can switch with the `sslCert` property in the `noapp.properties_platform_ifcresources_ext.in` file.

Port numbers in a Windows environment

During installation or an upgrade, you are prompted to specify the initial port number for Sterling B2B Integrator.

To specify an initial port number, follow these guidelines:

- Sterling B2B Integrator requires a range of 200 consecutive open ports within the range of 1025 - 65535. The port range starts with the initial port number and ends with the number that equals the initial port number plus 200. For example, if you specify 10100, then you must make sure that 10100 through 10299 are not used by any other applications on your system.

Note: Because of RMI, on occasion, a port number outside the range can be assigned.

- The initial port number represents the beginning port number in the range.
- Make sure that port numbers in the port range are not used by any other applications on your system.

For the other ports after the initial port, you can accept the default port number suggested by the installation program, or you can individually reassign the pre-assigned default port numbers within the specified port range.

During the upgrade, about 50 default ports are pre-assigned for different services. For example, if you do not want xxx32 (10132) to be a default port, you can assign that port to xxx97 or another number within the port range.

After your installation or upgrade, refer to the `\install_dir\install\properties\sandbox.cfg` file for all of the port assignments.

Install the Software

General Installation/Upgrade Information for a Windows Environment

CAUTION:

Sterling B2B Integration should be installed behind a company firewall for security purposes. See the *Perimeter Server and Security* topics in the Sterling B2B Integration documentation library for more information on secure deployment options.

Installation Scenarios for Version 5.2.1 and 5.2.2

It is important to review the following installation scenarios:

Scenario	Instructions
Version 5.2.0 is installed as the base release and it needs to be patched to the 5.2.1 level.	Use the <i>Install Version 5.2.1 or 5.2.2 as a Patch</i> instructions provided in the <i>Install the Software</i> chapter.
Version 5.2.1 is being installed as the base release.	You will need to review this document and use the installation instructions in the <i>Install the Software</i> chapter.
Version 5.2.1 is installed as the base release and it needs to be patched to the 5.2.2 level.	Use the <i>Install Version 5.2.1 or 5.2.2 as a Patch</i> instructions provided in the <i>Install the Software</i> chapter.
Version 5.2.2 is being installed as the base release.	You will need to review this document and use the installation instructions in the <i>Install the Software</i> chapter.

Installation Methods

Use one of the following methods to install your system:

- Installation Wizard
- Silent Installation

General Installation Guidelines

General installation guidelines include the following:

- The installation directory can be added manually and selected during the upgrade. If you create the installation directory before you begin, the directory must be empty. If the installation directory has any files in it, an error is generated.
- The installation directory must have adequate free disk space.
- The name of the directory cannot include spaces and must be less than 30 characters long excluding separators. Using a directory name of more than 30 characters could create an install that is impossible to delete. An example of an installation directory is C:\SI_52\install_dir\install.
- If you need to install more than one instance of Sterling B2B Integrator on the same Windows server, you must install the second instance in a different directory.
- If you are installing Sterling B2B Integrator on VMware, provide the IP address of the virtual machine, not the IP address of the VMware host. For example, if

10.251.124.160 is the IP address of the VMware host and 10.251.124.156 is the IP address of the Windows 2003 server it is hosting, you should use 10.251.124.156 as the correct IP address to install Sterling B2B Integrator.

- Sterling B2B Integrator does not support IPv6 installation on Windows. Before applying an IPv6 address, see the *IPv6 Capabilities* section in *System Requirements*.
- The installation creates subsequent ports based on the initial port number. For all of the port assignments, see the `\install_dir\install\properties\sandbox.cfg` file.

General Installation Wizard Information for Windows

The installation wizard provides:

- The option of either entering the paths or selecting the paths and files (**Select File**).
- For every screen in the GUI-Based installation wizard, you need to click **Next** to move to the next step the wizard. The click **Next** step is not represented in each step in the procedure.

Install Sterling B2B Integrator Using the Installation Wizard (Windows)

About this task

Before you begin:

- You should have completed the *Installation Checklist for Windows*.
- `install_dir` refers to the installation directory where the software is installed. Do not use any pre-existing directory name or an old version of the Sterling B2B Integrator installation directory. If you do, you could inadvertently overwrite the existing installation.

To install Sterling B2B Integrator:

Procedure

1. Close all open Windows programs and any command prompt windows.
2. From the installation media, copy the `IBMInstallWizard.jar` and the `SI.jar` to a location on your desktop.
3. Start the installation process using one of the follow methods:

For Windows Server 2003 or earlier	For Windows Server 2008
<ul style="list-style-type: none"> • From the desktop, double-click <code>IBMInstallWizard.jar</code>. • From a command prompt (or from the Run dialog box), enter the following command: <code>\absolutePath\bin\java -jar \absolutePath\IBMInstallWizard.jar</code> <p>The installation dialog box appears.</p>	<ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed. • Enter the following command: <code>\absolutePath\bin\java -jar \absolutePath\IBMInstallWizard.jar</code> <p>The installation dialog box appears.</p>

4. Click **Next** to start the installation.
5. Enter the full path to the **JDK directory**.
6. Select the **Licenses/Features** to install. The following list is displayed:

- IBM Sterling B2B Integrator and/or IBM Sterling File Gateway
- FIPS Module
- AS2 Edition Module
- Financial Services Module
- EBICS Banking Server Module

Note: Select only the licenses/features that have been defined by your IBM contract. If you are unsure which to select, the installation can proceed without making a selection and will complete successfully. Start up and operation of the software, however, requires one of the licenses to be selected. See *License Modification* to apply licenses post-install.

Note: Sterling File Gateway requires additional installation steps. See the *Sterling File Gateway Installation Guide* for more information.

7. Enter the full path to your **JCE file**.
8. Enter the path to **installation directory**. If the installation directory does not exist, click **Yes** at the prompt *The directory does not exist, create it?* The installer creates the directory (*install_dir*).
Below the installation directory, the installer creates a directory named *install*. This directory contains the installation files.
9. Enter the path to the **installation jar file** (SI.jar).
10. Enter the explicit **IP address** for the server or use the default value of localhost.
11. Enter the **initial port number** or use the default value of 8080.
12. Enter your **system passphrase**.
13. Re-enter the **system passphrase**.
14. Enter the **e-mail address** to which you want system alert messages sent.
15. Enter the **SMTP mail server** (IP address or host name) that you want to use for system alert messages and other administrative notices.
16. If you want to enable **FIPS** (Federal Information Processing Standards) mode, select the check box. The default is FIPS mode is disabled.
17. Select the **database** that you want to use (Oracle, Microsoft SQL Server, DB2, or MySQL).
18. Select all options that apply to this installation:

Choices:	Action
(Skip for Version 5.2.0) This installation is an upgrade from a prior version	Do not select this option.
This installation is for a cluster node 2 or higher.	Do not select this option.
Apply database schema automatically?	<p>If yes, no action required. The default is to automatically apply the DDL statements.</p> <p>If you want to manually create the database schema, then clear the Apply database schema automatically check box and continue with the remaining installation steps.</p> <p>Note: Once the install starts, it will run for a short time and then exit. When the installation stops, you must perform additional actions as given in Step 24 of this procedure.</p>

Choices:	Action
Verbose install?	<ul style="list-style-type: none"> • By default, the check box is not selected. • Select the check box to generate the installation log. The events that occur during the installation are recorded in InstallSI.log file.

19. Enter the database connection information.
 - Database user name.
 - Database password (and confirmation).
 - Database catalog name.
 - Database host name.
 - Database port.
 - For Oracle, Microsoft SQL Server, and MySQL - Absolute path and file name for one JDBC driver file.
 - For DB2 - Absolute paths and file names for two JDBC driver files. Use the Type-4 JDBC driver. This type of driver converts JDBC calls into the network protocol used directly by DB2, allowing a direct call from the system to the DB2 server.
 - For Oracle only - Select the check box to select the data type to use for binary data. Select either the default BLOB (binary large object) columns data type or the Long Raw data type. You can significantly improve performance by enabling the cache on the BLOB data object in Oracle. For more information, refer to the Sterling B2B Integrator documentation for slow performance in Oracle.
20. Review and confirm the database information.
21. Review the default *Install Actions*. The following check boxes are automatically selected and you can not clear them:
 - Verify Operating System is supported
 - Verify the selected JDK is supported
 - Install Components
 - Save install files
 - Install Windows Service
 - Clean Up Files
22. If you do not want to *create a desktop icon* for launching Sterling B2B Integrator, uncheck the check box. By default, the check box is selected. If you created a desktop icon and use Windows Servers 2008, you will need to perform the *Configure the Sterling B2B Integrator Desktop Icon for Windows Server 2008* procedure after the installation has been completed.
23. Click **Next** to continue. The Installation Progress screen appears. You can click **Show Details** to confirm your installation information before starting the installation.
24. Click **Install**. The Installation Progress screen shows the general progress of the installation through different stages. For more information about these stages, click **Show Details**.

Note: If you DID NOT select the option to **Apply database schema automatically** , the installation stops and you must perform these additional steps:

Important: In version 5.2.x of Sterling B2B Integrator, there is an issue with manually applying the database schema and the installation wizard. Once you start the installation, an error occurs as the SQL scripts are generated. A dialog box appears with the message, Install failed Error running the install.

To complete the installation with manual DDL statements:

- a. Navigate to your install directory.
- b. Locate the PreInstallSI.log file and open it with a file editor.
- c. Search the file for these error messages:
 - <SI_Install>/repository/scripts/EFrame_IndexAdds.sql must be applied to the database.
 - <SI_Install>/repository/scripts/EFrame_Sequence.sql must be applied to the database.
 - <SI_Install>/repository/scripts/EFrame_TableChanges.sql must be applied to the database. Exiting installation..."

Note: If you do not find the above error messages in the log file, the installation failed because of another reason and you must resolve that error and attempt the installation again. If you did find these messages, continue with the remaining steps.

- d. Edit each .sql script and make changes appropriate for your database. This may include changing the SQL delimiter or adding tablespace options.
- e. Log in to your database as the DB schema user.
- f. Execute the SQL files manually in this order:

Note: When you are executing the scripts, it is important to execute the SQL scripts in the specified order.

- EFrame_TableChanges.sql
 - EFrame_IndexAdds.sql
 - EFrame_TextIndexAdds.sql
 - EFrame_Sequence.sql
 - EFrame_TextIndexModify.sql
 - EFrame_TextIndexUpdates.sql
 - EFrame_TextIndexUpgrade.sql
 - EFrame_Static.sql
- g. Exit from the database.
 - h. Navigate to the parent directory of *install_dir*.
 - i. Delete (or Rename as a backup) the Sterling Integrator install directory.
 - j. Restart the installation wizard and provide the same installation options you provided before including clearing the **Apply database schema automatically** check box.

The installation completes automatically. When the installation is finished, the system displays a dialog box with the message Installation Wizard completed. Please see the installation guide for next steps.

Installation information is in the following files:

- PreInstallSI.log
- ant.install.log
- InstallSI.log

25. Determine if you need to apply any maintenance patches. Refer to *System Maintenance* for information on how to install the latest patch.

Related tasks:

“Configure the Sterling B2B Integrator Desktop Icon for Windows Server 2008” on page 36

If you installed or upgraded Sterling B2B Integrator on a Windows Server 2008 and you created a desktop icon for Sterling B2B Integrator, you must complete this task in order for the desktop icon to work.

Silent installation

The silent installation method automates part of the installation process and limits your manual interaction with the installation program. To use the silent installation method, you must first create a silent installation file with a text editor.

Create the Silent Installation File (Windows)

About this task

The following entries correlate to prompts in the Install Using the GUI-Based method procedure. Create a silent installation file with the following variables:

Note: Special characters need to be preceded by a \ (backslash) esc character.

Entry	Description
ACCEPT_LICENSE	(Required) Indicates if the user accepts the license agreement. Default: YES
JVM_LOC	(Required) Full path to JDK directory.
LICENSE_FILE_PATH	(Required) Full path to Core_License.xml. The Core_License.xml file is located on the same media as the install wizard jar and the installation jar.
LICENSE_FILE_# (where # is a number between 1 and 99)	(Required) This is required for each license you install. You need a entry for each license file in the silent install file. The LICENSE_FILE numbering (#) does not need to be sequential. For example: LICENSE_FILE_1= SI_SFG_License.xml LICENSE_FILE_2= Fin_Serv_License.xml LICENSE_FILE_3= SI_SFG_FIPS_License.xml LICENSE_FILE_4= AS2_License_.xml LICENSE_FILE_5= EBICS_License_.xml
SI_LICENSE_AVAILABLE	(Optional) Indicates if a license is being passed in and is required for the installation. Default: YES
JCE_DIST_FILE	(Required) Full path to unlimited strength JCE policy file. If present, this file will overwrite the JCE file in the JDK.
INSTALL_DIR	(Required) Directory that includes the bin subdirectory (where many commands are stored) and the properties subdirectory (where many properties are stored).The INSTALL_DIR property cannot point to a pre-existing directory or the installation will fail.

Entry	Description
INSTALL_IP	<p>(Required) Host name or IP address.</p> <p>Valid values:</p> <ul style="list-style-type: none"> • localhost (default) • Your IP address or host name <p>If you are installing Sterling B2B Integrator on VMware, provide the IP address of the virtual machine, not the IP address of the VMware host. For example, if 10.251.124.160 is the IP address of the VMware host and 10.251.124.156 is the IP address of the Windows 2003 server it is hosting, you should use 10.251.124.156 as the correct IP address to install Sterling B2B Integrator.</p> <p>Note: Sterling B2B Integrator does not support IPv6 installation on Windows. Before applying an IPv6 address, see <i>IPv6 Capabilities</i> section in the <i>System Requirements</i>.</p> <p>You must install using a host name, not an IPv6 address, otherwise the Lightweight JDBC adapter and Graphical Process Modeler (GPM) will not work.</p>
PORT1	<p>(Required) Base port for ASI server. Ports are assigned consecutively from this port.</p> <p>Example: 12345</p> <p>Default: 8080</p>
APSERVER_PASS	<p>(Required) Passphrase used to secure all encrypted data in database.</p>
SI_ADMIN_MAIL_ADDR	<p>(Required) E-mail address for the administrative user.</p> <p>Example: abc@xyz.com</p>
SI_ADMIN_SMTP_HOST	<p>(Required) Valid SMTP host through which the system can e-mail the administrative user.</p> <p>Example: mail.xyz.com</p>
FIPS_MODE	<p>(Optional) Indicates if you are using FIPS (Federal Information Processing Standards) mode.</p> <p>Valid values:</p> <ul style="list-style-type: none"> • true - Enable FIPS mode. • false (default) - Disable FIPS mode.
DB_VENDOR	<p>(Required) Database vendor.</p> <p>Valid values:</p> <ul style="list-style-type: none"> • Oracle • MSSQL2005 (use this value for Microsoft SQL 2005 and 2008) • DB2 • MySQL (default)
DB_CREATE_SCHEMA	<p>(Required) Indicates if you want the database schema automatically created.</p> <p>Valid values:</p> <ul style="list-style-type: none"> • true (default) - Automatically create the schema. This is not a valid choice for MySQL. • false - Manually create the schema.

Entry	Description
DEBUG	(Optional) Records events that occur during the installation in InstallSI.log file. Valid values: <ul style="list-style-type: none"> • true - records events that occur during the installation. • false (default) - does not record the events that occur during installation.
DB_USER	(Required) Database user name.
DB_PASS	(Required) Database password.
DB_DATA	(Required) Database catalog name.
DB_HOST	(Required) Database host name. Default: localhost
DB_PORT	(Required) Database port. Example: 1234
DB_DRIVERS	(Required) Full path to JDBC driver files. If DB_VENDOR is: <ul style="list-style-type: none"> • Oracle, MSSQL, or MySQL, specify one driver. • DB2, specify two drivers. If you specify more than one driver, use colons (:) to separate the file names. Examples: <ul style="list-style-type: none"> • <i>JDBC_driver_dir</i>\db2jdbc.jar • <i>JDBC_driver_dir</i>\db2_1_jdbc.jar:<i>JDBC_driver_dir</i>\db2_2_jdbc.jar
ORACLE_USE_BLOB	(Required if DB_VENDOR=Oracle) Indicates the data type to use for caching. <ul style="list-style-type: none"> • true (default) - BLOB (binary large object) • false - Long Raw
MSSQL2005	(Required for Microsoft SQL Server 2005) This attribute is case-sensitive. <ul style="list-style-type: none"> • Set this attribute to the default value of true. • (All other servers) Do not include this attribute.
JDK64BIT	Indicates if a 32-bit or 64-bit JDK is being used. Refer to the <i>System Requirements</i> to determine the type of JDK for your operating system. Valid values: <ul style="list-style-type: none"> • true (default) - 64-bit • false - 32-bit
Icons	(Required) Indicates whether to create a desktop icon for accessing Sterling B2B Integrator. Valid values: <ul style="list-style-type: none"> • true - Create a desktop icon. • false (default) - Do not create a desktop icon. If you created a desktop icon and use Windows Servers 2008, you will need to perform the <i>Configure the Sterling B2B Integrator Desktop Icon for Windows Server 2008</i> procedure after the installation has been completed.

The following entries do not directly correlate to prompts in the installation procedure. Use these entries to customize or document your installation.

Entry	Description
DB_DRIVERS_VERSION	(Optional) Free form version string for JDBC driver. This is informational only. Example: 8_1_5
LOAD_FACTORY_SETUP	(Optional) Indicates whether factory setup should be loaded during installation. To manually set LOAD_FACTORY_SETUP to false after an installation where LOAD_FACTORY_SETUP=true (the default value), change LOAD_FACTORY_SETUP to false in sandbox.cfg file. Valid values: <ul style="list-style-type: none"> • true (default).- loads factory setup during installation. • false - does not load factory setup during installation. Run loadDefaults command after installation.
CONFIG_GS	(Optional) Indicates whether integration with Sterling Gentran:Server® should be configured. Default: No
NO_DBVERIFY	(Optional) Valid values are true or false. When set to true during installation and installservice, dbverify will not be run. This means that Sterling B2B Integrator will not generate DDL to make the database like the XML entity repository.

Install Sterling B2B Integrator Using a Silent Installation File (Windows)

About this task

Before you begin, you should have already created the silent installation file.

To install Sterling B2B Integrator using a silent installation file:

Procedure

1. From the installation media, copy SI.jar to a Windows directory.
2. Set up your silent installation file and record the file location.
3. Start the installation using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
<ul style="list-style-type: none"> • From a command prompt (or from the Run dialog box), enter the following command: <pre>absolutePath\bin\java -Xmx512m -jar \absolutePath\SI.jar -f \absolutePath\SilentInstallFile</pre> 	<ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed. • Enter the following command: <pre>absolutePath\bin\java -Xmx512m -jar \absolutePath\SI.jar -f \absolutePath\SilentInstallFile</pre>

The installation begins. The program verifies support for your operating system and JDK. You can follow the progress of your installation through the InstallSI.log file. If the installation stops, check the InstallSI.log file for details.

Note: Select only the licenses/features that have been defined by your IBM contract. If you are unsure which to select, the installation can proceed without making a selection and will complete successfully. Start up and operation of the

software, however, requires one of the licenses to be selected. See *License Modification* to apply licenses post-install.

Note: Sterling File Gateway requires additional installation steps. See the *Sterling File Gateway Installation Guide* for more information.

4. (Skip this step if you are applying database schema automatically.) If you are going to manually create the database schema, the install starts and runs for a short time before exiting.

Note: After the installation stops, you must perform these additional steps:

- a. Navigate to your install directory.
- b. Locate the PreInstallSI.log file and open it with a file editor.
- c. Search the file for these error messages:
 - <SI_Install>/repository/scripts/EFrame_IndexAdds.sql must be applied to the database.
 - <SI_Install>/repository/scripts/EFrame_Sequence.sql must be applied to the database.
 - <SI_Install>/repository/scripts/EFrame_TableChanges.sql must be applied to the database. Exiting installation..."

Note: If you do not find the above error messages in the log file, the installation failed because of another reason and you must resolve that error and attempt the installation again. If you did find these messages, continue with the remaining steps.

- d. Edit each .sql script and make changes appropriate for your database. This may include changing the SQL delimiter or adding tablespace options.
- e. Log in to your database as the DB schema user.
- f. Execute the SQL files manually in this order:

Note: When you are executing the scripts, it is important to execute the SQL scripts in the specified order.

- EFrame_IndexDrops.sql
 - EFrame_TableChanges.sql
 - EFrame_IndexAdds.sql
 - EFrame_TextIndexAdds.sql
 - EFrame_Sequence.sql
 - EFrame_TextIndexModify.sql
 - EFrame_TextIndexUpdates.sql
 - EFrame_TextIndexUpgrade.sql
 - EFrame_Static.sql
- g. Exit from the database.
 - h. Navigate to the parent directory of *install_dir*.
 - i. Delete (or Rename as a backup) the Sterling Integrator install directory.
 - j. Restart the installation wizard and provide the same installation options you provided before including clearing the **Apply database schema automatically** check box.
5. Determine if you need to apply any maintenance patches to the installation. Refer to *System Maintenance* to see information on how to install the latest patch.

6. From the installation directory, install windows services by running the command `installWindowsService.cmd`.

Installing version 5.2.1 or 5.2.2 as a fix pack

About this task

Use this procedure to fix pack your non-clustered 5.2.x system to version 5.2.1 or 5.2.2:

Procedure

1. Download the fix pack from the installation media.
2. Verify that the database server is up and ready to accept connections.
3. Log in to the server where Sterling B2B Integrator is installed with the user ID and password that was used for the installation.
4. Stop the system.
5. Perform a full backup of the installation directory, including all subdirectories.
6. Perform a backup of the database.
7. If you edited any property files, ensure that the associated properties.in files have the most current changes. Property files will be overwritten with the contents of the associated properties.in files during the fix pack installation.
8. Is the database password encrypted? If Yes, decrypt the password.
9. To install the fix pack:

- UNIX - Navigate to the directory where the system is installed and enter:
`./InstallService.sh si_<release number>_build_<build number>.jar`

Attention: Running `InstallService.sh` removes any previously installed interim fix to prevent conflicts with what is being installed.

Attention: In Sterling B2B Integrator version 5.2.4.1 or below, running `InstallService.sh` removes any previously installed interim fix (iFix) to prevent conflicts between the service being installed and the iFix. You will need to reinstall the iFix after running `InstallService.sh`. Reinstallation is not necessary in version 5.2.4.2 or higher because running `InstallService.sh` to install a custom service or JAR file does not remove the iFix.

- Windows - From a command prompt or the Run dialog box, enter:
`C:\install_dir\install\bin\InstallService.cmd <path>\si_version_sp_0_patch_<number>_app_server.jar`

Attention: Running `InstallService.cmd` removes any previously installed interim fix to prevent conflicts with what is being installed.

Attention: In Sterling B2B Integrator version 5.2.4.1 or below, running `InstallService.cmd` removes any previously installed interim fix (iFix) to prevent conflicts between the service being installed and the iFix. You will need to reinstall the iFix after running `InstallService.cmd`. Reinstallation is not necessary in version 5.2.4.2 or higher because running `InstallService.cmd` to install a custom service or JAR file does not remove the iFix.

If the fix pack attempts to modify the database schema and the modification fails, you will receive an error message about the failure. The message will provide the error message code from the database and the SQL command that failed. The failure information is also logged to the system.log file and to the patch.log file.

10. Press **Enter** to continue.

11. If you want to accept the license agreement, enter Y.
12. Enter the passphrase.
Information about the fix pack is displayed. After the fix pack has been applied, the following message is displayed: **Deployment to application server successful**
13. If you decrypted the database password, re-encrypt the password.
14. Start the system.
If you are using a perimeter server in the DMZ, you will to review the information on apply a fix pack to the perimeter server.

Configure the Sterling B2B Integrator Desktop Icon for Windows Server 2008

If you installed or upgraded Sterling B2B Integrator on a Windows Server 2008 and you created a desktop icon for Sterling B2B Integrator, you must complete this task in order for the desktop icon to work.

About this task

User Access Control (UAC) is a security component in Windows Server 2008. If you enable the UAC, it affects the installation process and the daily processing for Sterling B2B Integrator. If you disable the UAC, which requires a reboot, the installation process and daily processing for Sterling B2B Integrator remains the same as in previously supported Windows version.

Procedure

1. Right-click on the Sterling B2B Integrator **desktop icon**.
2. Click **Properties**.
3. In the Shortcut tab, click **Advanced**.
4. Select the check box for **Run as Administrator**.
5. Click **OK** to apply the changes to Advanced Properties.
6. Click **OK**.

Validate the Installation

Checklist for validating the installation

As part of the installation, you must run the following tests to ensure that the software installation was successful.

Complete the following tasks:

#	Validate Installation Checklist	Your Notes
1	Start Sterling B2B Integrator.	
2	Access Sterling B2B Integrator.	
3	Validate the installation.	
4	Stop Sterling B2B Integrator.	

Starting Sterling B2B Integrator (Windows)

You can start Sterling B2B Integrator by navigating to `\install_dir\install\bin`.

About this task

To start Sterling B2B Integrator:

Procedure

1. Navigate to `\install_dir\install\bin` with one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

2. Enter `StartWindowsService.cmd`. The final startup processes run, concluding with the following messages: Open your Web browser to `http://host:port/dashboard`
Where `host:port` is the IP address and port number on your system.
3. Record the URL address so that you can access Sterling B2B Integrator.

Accessing Sterling B2B Integrator

You can access Sterling B2B Integrator by entering your user ID and password.

About this task

To log in to Sterling B2B Integrator:

Procedure

1. Open a browser window and enter the address that is displayed at the end of startup. The login page displays.
2. Enter the default user ID and password. The default login is at an administrative level. One of your first tasks as an administrator is to change the administrative password and to register other users with other levels of permission.

Testing a sample business process to validate the installation

You can validate the installation by testing a sample business process from the **Administration Menu**.

About this task

Validate the installation by testing a sample business process:

Procedure

1. From the **Administration Menu**, select **Business Process > Manager**.
2. In the **Process Name** field, enter `Validation_Sample_BPML` and click **Go!**
3. Click **execution manager**.
4. Click **execute**.
5. Click **Go!** The **Status: Success** message displays in the upper left side of the page.

Stopping Sterling B2B Integrator (Windows)

You can stop Sterling B2B Integrator in a Windows environment from the **Administration** menu.

About this task

To stop Sterling B2B Integrator in a Windows environment:

Procedure

1. From the **Administration** menu, select **Operations > System > Troubleshooter**.
2. Click **Stop the System** and wait for shutdown to complete.

Stopping Sterling B2B Integrator (hard stop Windows)

You can hard stop Sterling B2B Integrator in a Windows environment through `\install_dir\install\bin`.

About this task

To stop Sterling B2B Integrator in a Windows environment:

Procedure

1. Navigate to `\install_dir\install\bin` with one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

2. Enter `StopWindowsService.cmd`. You receive a message that services were stopped. Services include Noapps, Opsserver, WebDAV, and Database-related service.

Post Installation Configuration

Post Installation Configuration Checklist (Windows)

After you install Sterling B2B Integrator you need to complete some post installation configuration. Complete the items listed in the post installation checklist:

#	Post Installation Configuration Checklist	Your Notes
1	For security purposes, change all default user ID passwords immediately after installation is completed. See the <i>Update My Account Information</i> task in the documentation library.	
2	Download Sterling B2B Integrator Tools.	
3	Determine if you need to modify any Property Files.	

Download Sterling B2B Integrator Tools

After you install Sterling B2B Integrator, you can install other tools such as the Map Editor, Graphical Process Modeler, Web Template Designer, MESA Developer Studio plug-ins, and Reporting Services.

Sterling B2B Integrator includes tools that run on a desktop or personal computer. After you install Sterling B2B Integrator, you can install the following tools:

- Map Editor and associated standards
- Graphical Process Modeler (GPM)
- Web Template Designer
- (If licensed) MESA Developer Studio plug-ins, including, MESA Developer Studio Software Development Kit (SDK) and MESA Developer Studio Skin Editor
- (If licensed) Reporting Services, which requires MESA Developer Studio if you want to use the plug-ins to create fact models and custom reports.

Conflicting IP addresses can cause problems when you download a desktop tool.

Property files configuration in a Windows environment

After you install Sterling B2B Integrator, most property files and scripts do not need any further configuration for basic operation. However, if you want to customize any specific operations, such as setting a different logging level, you must edit (or in some cases, create) certain property or .xml files.

Property files contain properties that control the operation of Sterling B2B Integrator. For example, the REINIT_DB property in the `sandbox.cfg` file controls whether a database is initialized when you install Sterling B2B Integrator.

By modifying the values of these properties, you can customize the Sterling B2B Integrator to suit your business and technical needs. Most property files are in the `\install_dir\install\properties` directory.

Before you change any property files, refer to the *Working with Property Files* documentation for general information about how to work with Property Files.

Areas where you might make specific property files changes after an installation include:

- LDAP user authentication
- Prevention of cross-site script vulnerabilities
- Logging configuration
- Process-specific property file settings

System Maintenance

System Maintenance

Occasionally, you might need to perform system maintenance such as applying a patch, performing a checksum, or modifying the license files.

From time to time, you may need to perform system maintenance activities. These activities might include any or all of the following:

- Applying a Patch

- Applying a Hot-fix
- Performing a Checksum
- Generating a Patch Change Report
- Modifying the License Files

Preserve Custom Changes

You can preserve your custom changes to system resources (like workflow definitions and maps) when you update your system. During updates, the system can identify when you make a custom change versus when the system makes a change through an upgrade or patch.

When a patch, installation or upgrade is performed, a baseline record of system resources is created. This baseline is not affected by any subsequent customer changes. When another patch is installed, the resources in this baseline are compared to the resources in the existing system. If a baseline and existing resource are not the same, it means that the existing resource was customized and is not overwritten by the patch.

During an update, the baseline is updated with new system resource information, but not with the custom changes to resources.

Determining whether you must apply a fix pack (Windows)

Fix packs contain cumulative fixes for a specific version of Sterling B2B Integrator. Fix pack files are available on the Support Center website.

About this task

Because each fix pack contains the fixes from previous fix packs, you are only required to install the most recent fix pack.

Note: During fix pack installation, the **dbVerify** utility compares the list of standard indexes with the indexes present in the database and drops the custom indexes. Re-create the custom indexes after the fix pack installation is complete.

Fix pack files are named with the following naming convention:

```
si_<release number>_build_<build number>.jar
```

Information about a fix pack is in a PDF file with a similar name. PDF files that contain information about a particular fix pack use the following naming convention:

```
si_<release number>_build_<build number>_patch_info.pdf
```

Before you install the fix pack, review the following items:

- Preserve your custom changes to system resources.
- The fix pack installation might use one or more patch property override files. These files are named *propertyFile_fixPack.properties*. Do not alter these files.
- Property changes made directly in the *.properties or *.properties.in files might be overwritten during the fix pack installation. Properties that are overridden with the customer_overrides.properties file are not affected.

Maintain property file changes with, when possible, the `customer_overrides.properties` file. For more information, see the property file documentation.

- If you edited any of the `cdinterop` files, you must back them up before you apply the fix pack. The `cdinterop` files do not have initialization (*.in) files. After you apply the fix pack, use the backup version of the files in your patched installation. These files include the following files: `cdinterop-proxy-records.properties`; `cdinterop-spoe-auth.properties`; `cdinterop-spoe-policy.properties`; and `cdinterop-user-records.properties`.
- Information about the fix pack installation is automatically logged to `\install_dir\install\logs\InstallService.log`.
- If you must roll back a fix pack, see the *Patch change report*.

Installing a Maintenance Patch (Windows)

You can install the latest patch for Sterling B2B Integrator in a Windows environment from the Support Center website.

About this task

To install the latest patch for Sterling B2B Integrator in a Windows environment:

Procedure

1. Navigate to the Support Center website.
2. Download the most recent patch file for your version of Sterling B2B Integrator and record the absolute path to the downloaded file. Do not rename the file. If you use FTP, you must use Binary mode.
3. Verify that the database server is up and ready to accept connections.
4. Stop Sterling B2B Integrator.
5. Perform a full backup of the Sterling B2B Integrator installation directory, including all subdirectories.
6. Perform a backup of the database.
7. If you edited any property files, ensure that the associated `properties.in` files have the most current changes. Property files will be overwritten with the contents of the associated `properties.in` files during the patch installation.
8. Is the database password encrypted? If Yes, decrypt the password.
9. Close all command prompt windows.
10. To apply the patch:

For Windows Server 2003 or earlier	For Windows Server 2008
<p>From a command prompt or the Run dialog box, enter: <code>C:\install_dir\install\bin\InstallService.cmd</code> <i>path</i>\ <i>si_version_sp_0_patch_number_app_server.jar</i></p> <p>Where:</p> <ul style="list-style-type: none"> • <i>path</i> is the fully qualified path to maintenance patch file • <i>version</i> is the Sterling B2B Integrator version • <i>number</i> is the patch number • <i>app_server</i> is the application server <p>Example:</p> <pre>C:\install_dir\install\bin\ InstallService.cmd \patch\si_22_sp_0_patch_1_jboss.jar</pre>	<p>Complete the following steps:</p> <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p> <ul style="list-style-type: none"> • Enter: <pre>C:\install_dir\install\bin\ InstallService.cmd path\ si_version_sp_0_patch_ number_app_server.jar</pre> <p>Where:</p> <ul style="list-style-type: none"> – <i>path</i> is the fully qualified path to maintenance patch file – <i>version</i> is the Sterling B2B Integrator version – <i>number</i> is the patch number – <i>app_server</i> is the application server <p>Example:</p> <pre>C:\install_dir\install\bin\ InstallService.cmd \patch\si_22_sp_0_patch_1_jboss.jar</pre>

If the patch attempts to modify the database schema and the modification fails, you will receive an error message about the failure. The message will provide the error message code from the database and the SQL command that failed. The failure information is also logged to the system.log file (in the `\install_dir\install` directory) and to the patch.log file. The **InstallService.cmd** command stops the WebDAV server used for MESA Developer Studio. To restart the server, refer to the MESA Studio documentation.

Attention: Running **InstallService.cmd** removes any previously installed interim fix to prevent conflicts with what is being installed.

11. Press **Enter** to continue.
12. If you want to accept the license agreement, enter **Y**.
13. Enter the passphrase.
Information about the patch is displayed. After the patch has been applied, the following message is displayed: **Deployment to application server successful**
14. If you decrypted the database password, re-encrypt the password.
15. Start Sterling B2B Integrator.
If you are using a perimeter server in the DMZ, you will to review the information on apply a patch to the perimeter server.

Installing an interim fix (Windows)

After you install Sterling B2B Integrator you may need to install an interim fix (formerly called hot-fix).

About this task

An interim fix is one or more fixes applied to a specific existing patch.

Before you can install an interim fix developed for your company, you must have completed the following:

- Received the file name of the `ccaseid.jar` to install from IBM Customer Support
- Created a full backup of Sterling B2B Integrator
- Created a full backup of your database
- Preserve your custom changes to system resources

To install an interim fix:

Procedure

1. Log in to the computer that you are installing the interim fix on.
2. If the database password was encrypted, decrypt the password.
3. Navigate to the IBM Fix Central website.
4. Login using your email address and password.
5. Download the `ccaseid.jar` file, where `ccaseid` includes the ID number you received from Customer Support. If you use FTP, you must use Binary mode.
6. Stop Sterling B2B Integrator.
7. Navigate to `\install_dir\install\bin`.
8. To install the interim fix:

For Windows Server 2003 or earlier	For Windows Server 2008
<p>From a command prompt or the Run dialog box, enter:</p> <pre>C:\install_dir\install\bin\ InstallService.cmd absolutePath\ccaseid.jar</pre>	<p>Complete the following steps:</p> <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.• Enter:<pre>C:\install_dir\install\bin\ InstallService.cmd absolutePath\ccaseid.jar</pre>

You may need to complete this step twice depending on the patch. Read the output from the `InstallService` script carefully to see if you need to complete this step twice.

Attention: Running `InstallService.cmd` removes any previously installed interim fix to prevent conflicts with what is being installed.

9. If you decrypted the database password, re-encrypt the password.
10. Start Sterling B2B Integrator.
11. Navigate to `\install_dir\install\bin` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

12. Run the **dump_info** command to verify that the interim fix was successfully installed.

Uninstalling an interim fix

Uninstalling an interim fix is a manual process. IBM support must first determine what is included in the interim fix you want to remove, and then manually backout the changes one at a time. The complexity of this process, therefore, can vary greatly.

If you must remove an interim fix, contact IBM support by creating a PMR (Problem Management Record)

DB checksum tool

A checksum is a simple redundancy check used to detect errors in data. The DB checksum tool generates a granular report of the changes in the system that could not be set as defaults.

The DB Checksum tool generates the difference in resource checksum between the default resource and the latest system resource from the database.

Perform a checksum (Windows)

You can run a checksum by using the DB Checksum tool in the Windows environment.

About this task

To run the DB Checksum tool in the Windows environment:

Procedure

1. Navigate to `\install_dir\bin` with one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

2. Enter `db_checksum_tool.cmd [-d] [-i [1 | 2 | 3 | 4 | 5]] [-r [wfd | map | schema | sii | template]] [-o <output file>] [-g]`

Where:

-d is the mode to dump the difference of resource checksum between the default resource and latest system resource.

-i is the resource type integer.

1 is WFD.

2 is MAP.

3 is SCHEMA.

4 is SII.

5 is TEMPLATE.

-r is the resource name. For example, wfd, map, schema, sii, or template.

-o is the file name to output all the messages.

-g is the file name that lists all the ignored resources.

-h is the help screen.

The DB Checksum tool runs the relevant checksum operation that is based on the command options that are used and generates the output message.

Patch Changes Report

The patch changes report is used to obtain information if you must roll back a fix pack. The patch changes report can be found in the installation directory patch_reports folder.

The report contains the following fix pack information:

- Fix pack ID
- Fix pack changes
- Number of files deleted
- Number of JARs removed
- Number of JARs added
- Number of files added
- Number of files changed
- Number of properties added
- Number of business processes added
- Number of service instances added
- Number of service definitions added
- Number of templates added
- Number of reports added
- Number of maps added
- Number of schemas added
- Number of business rules added

For example, the installation directory patch_reports folder contains the file Patch_Report.html. When you open this html file, you can view the patch information.

Example: Patch Changes Report

The example shows a patch changes report.

The following is an example of a patch changes report.

```
Summary of Changes
Patch ID: Platform_2.0
Patch Changes: 1287
Number of Files Deleted: 0
Number of JARs Removed: 2
Number of JARs Added: 0
Number of Files Added: 3
```

Number of Files Changed: 3
Number of Properties Added: 4
Number of BPs Added: 4
Number of Service Instances Added: 2
Number of Service Definitions Added: 3
Number of Templates Added: 0
Number of Reports Added: 0
Number of Maps Added: 3
Number of Schemas Added: 3
Number of Business Rules Added: 0

List of JARs Removed:

JAR Removed: /SAMPLE_INSTALL_1/jar/jaf/1_0_2/activation.jar
Time: Wed May 13 15:23:08 EDT 2009
JAR Removed: /SAMPLE_INSTALL_1/jar/commons_logging/1_0_3/commons-logging-api.jar
Time: Wed May 13 15:23:08 EDT 2009

List of Files Added:

File Added: /SAMPLE_INSTALL_1/bin/sql/fix_db2_schema.sql
Time: Wed May 13 15:21:30 EDT 2009
File Added: /SAMPLE_INSTALL_1/bin/sql/fix_db2iseries_schema.sql
Time: Wed May 13 15:21:30 EDT 2009
File Added: /SAMPLE_INSTALL_1/bin/errorQueueManager.sh.in
Time: Wed May 13 15:21:30 EDT 2009

List of Files Changed:

File Changed: /SAMPLE_INSTALL_1/properties/lang/en/Reports_en.properties
File Changed: /SAMPLE_INSTALL_1/properties/lang/es/Reports_es.properties
File Changed: /SAMPLE_INSTALL_1/properties/lang/fr/Reports_fr.properties

List of Properties Added:

Property Added: /SAMPLE_INSTALL_1/properties/filesToRemove.txt
Property Added: /SAMPLE_INSTALL_1/properties/filesToRemove.txt.in
Property Added: /SAMPLE_INSTALL_1/properties/csr.properties.sample
Property Added: /SAMPLE_INSTALL_1/properties/csr.properties.sample.in

List of BPs Added:

BP Added: Schedule_AssociateBPsToDocs.bpm1 version: 4
Time: Wed May 13 15:23:07 EDT 2009
BP Added: Recovery.bpm1 version: 17
Time: Wed May 13 15:23:07 EDT 2009
BP Added: Schedule_AutoTerminateService.bpm1 version: 10
Time: Wed May 13 15:23:07 EDT 2009
BP Added: Schedule_DBMonitorService.bpm1 version: 1
Time: Wed May 13 15:23:08 EDT 2009

List of Service Instances Added:

Service Instance Added: RetentionProcessor version: 2
Time: Wed May 13 15:23:28 EDT 2009
Service Instance Added: MESAHttpServerAdapter version: 1
Time: Wed May 13 15:25:11 EDT 2009

List of Service Definitions Added:

Service Definition Added: LockServiceType
Time: Wed May 13 15:22:58 EDT 2009
Service Definition Added: XAPIServiceType
Time: Wed May 13 15:22:59 EDT 2009
Service Definition Added: CleanLockServiceType
Time: Wed May 13 15:22:59 EDT 2009

List of Templates Added:

Template Added: Normalize
Time: Wed May 13 15:23:26 EDT 2009
Template Added: Derive
Time: Wed May 13 15:23:26 EDT 2009

List of Maps Added:

Map Added: IBMPutResponseToXML
 Time: Wed May 13 15:24:05 EDT 2009
 Map Added: http_headers
 Time: Wed May 13 15:24:36 EDT 2009
 Map Added: OracleHttpHeaders
 Time: Wed May 13 15:24:51 EDT 2009

List of Schemas Added:
 Schema Added: E5_V20_Acknowledge_Result.dtd from file: E5_V20_Acknowledge_Result
 Time: Wed May 13 15:24:36 EDT 2009
 Schema Added: E5_V20_Acknowledge_Submit.dtd from file: E5_V20_Acknowledge_Submit
 Time: Wed May 13 15:24:36 EDT 2009
 Schema Added: E5_V20_APIs_Result.dtd from file: E5_V20_APIs_Result
 Time: Wed May 13 15:24:36 EDT 2009

License Modification

You can modify the software licenses you loaded by using the AddLicenseSet command.

If after the installation is finished, you must modify the software licenses you loaded, you can do that by using the AddLicenseSet command. The AddLicenseSet command is in the bin directory of your UNIX or Windows installation. After the initial installation, the license files are at:

- UNIX: */install_dir/install/properties/licensefiles*
- Windows: *\install_dir\install\properties\licensefiles*
- iSeries: */install_dir/properties/licensefiles*

You can add licenses or review the license list from the UI. Go to the **Administration Menu > System > B2B Console > Operations > System > Licenses**.

AddLicenseSet command parameters

The AddLicenseSet command can modify a single license file or the entire license file directory.

To use the AddLicenseSet command:

- Navigate to the bin directory
- Include the absolute path to the license file directory or to a license file

The AddLicenseSet command has the following parameters:

AddLicenseSet Parameters	Description
-reload	<p>Use this parameter to reload the license files.</p> <p>This parameter deletes all of the license files from the database before the new files are loaded. The old license files are saved to the following location:</p> <ul style="list-style-type: none"> • UNIX: <i>/install_dir/install/logs/security/old_licenses</i> • Windows: <i>\install_dir\install\logs\security\old_licenses</i> • iSeries: <i>/install_dir/logs/security/old_licenses</i>

AddLicenseSet Parameters	Description
-upgrade	<p>Use this parameter during an upgrade only.</p> <p>This parameter deletes all of the old license files from the database and installs the new license files. The old license files are saved to the following location:</p> <ul style="list-style-type: none"> • UNIX: /install_dir/install/logs/security/upgrade • Windows: \install_dir\install\logs\security\upgrade • iSeries: /install_dir/logs/security/old_licenses

Configure Non-English Environment

Non-English-language environment checklist

You can install Sterling B2B Integrator in an English-language or a non-English-language environment. The base language for the Configurator can be switched only one time. Use the following checklist to help you change a non-english-language environment:

#	Non-English-language environment checklist	Your notes
1	Install the Sterling B2B Integrator language pack.	
2	Load the Sterling B2B Integrator language pack factory defaults.	
3	Load the Sterling B2B Integrator language pack translators.	
4	Configure encodings.	
5	Configure locales.	

Language settings in a Windows environment

Language settings for Java applications involve both character sets and encoding:

- A character set is a set of characters (letters, numbers, and symbols such as #, \$, and &) that are recognized by computer hardware and software.
- An encoding is a representation of data in a particular character set. An encoding set is a group of encodings.

For information about basic and extended encoding sets, see: <http://download.oracle.com/javase/1.5.0/docs/guide/intl/encoding.doc.html>

The default encoding set includes the following encodings:

- UTF-8 (default)
- ISO-8859-1
- ISO-8859-5
- US-ASCII
- ISO_8859-1
- EUC-JP
- UTF-16
- ISO-2022-JP

Sterling B2B Integrator provides two property files that contain supported encoding sets. These properties files are in the `\install_dir\install\properties` directory.

- `encodings.properties` – Contains the default encoding set used in the user interface.
- `encodings_large.properties` – Contains all supported encoding sets.

You are not limited to the encodings in the `encoding.properties` file. Sterling B2B Integrator makes it possible for you to configure the encodings properties files to expand the number of encodings you can use.

Install the Language Pack (Windows)

About this task

Before installing the language pack be sure that you have successfully installed Sterling B2B Integrator.

To install Sterling B2B Integrator language pack:

Procedure

1. Insert the language CDs into your CD-ROM drive.
2. Navigate to Win Directory using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p>

3. Run the `setup.exe` command.

Loading the language pack factory defaults (Windows)

About this task

To load the language-specific factory defaults, use the `loadDefaults.cmd` script available in the `install_dir\install\bin` directory and pass the locale-specific installer file.

For example:

```
loadDefaults.cmd \install_dir\install\database\FactorySetup\install\  
<language>_<country>_locale_installer.xml
```

The default locale that is shipped with the CD is `ja_JP`.

Loading the language pack translations (Windows)

About this task

Before you load the Sterling B2B Integrator language pack factory defaults, be sure that you successfully complete all instructions in the database chapter.

To load the language pack translation with custom localization literals:

Procedure

1. Navigate to `\install_dir\install\bin` with one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

2. Run the LocalizedStringReconciler tool in the IMPORT mode, enter: `ant.cmd -f localizedstringreconciler.xml import -Dsrc=install_dir\database\FactorySetup\XMLS`

This tool first inserts the value that is specified in the `<from_language>_<from_country>_ycplocalizedstrings_<to_language>_<to_country>.properties` file present in the `install_dir\database\FactorySetup\XMLS\<language>_<country>` directory into the database.

The *basefilename* refers to the file present in the `\database\FactorySetup\XMLS` directory, for which the translations are to be imported into the database.

3. Verify that your locale settings such as currency, time format, and date are correct.

Configure Encodings for Sterling B2B Integrator (Windows)

About this task

To configure your encoding set:

Procedure

1. Stop Sterling B2B Integrator and wait for shutdown to complete.
2. Navigate to `\install_dir\install\bin` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

3. Open the `encodings_large.properties` file.
4. Select the encodings you want to add to the `encodings.properties` file.
5. Open the `encodings.properties.in` file.
6. At the end of the `encodings.properties.in` file, add the encodings you selected from the `encodings_large.properties` file. When adding encodings from one file to the other, first copy the encodings as they appear in the `encodings_large.properties` file. After adding the new encodings, ensure that the index numbers are consecutive. If the index numbers are not consecutive, change the index number or numbers as needed. For example, `encoding54` cannot follow `encoding6`. In this example, change `encoding54` to `encoding7`.

The first name in the definition (before the comma) is the name that will appear in the Sterling B2B Integrator user interface. You can change this name to make it more descriptive. For example: `encoding4 = 819,ISO8859_1` may be changed to `encoding4 = WesternEurope,ISO8859_1`. `ISO8859_1` is the Java canonical name and should not be changed.

- Update the first line in the `encodings.properties.in` file (`numberof`). Change *numberof* to the number of encodings added to the file. For example, if the current value is `numberof = 6` and you add 5 new encodings, the new value is `numberof = 11`.

numberof indicates the total number of encodings located in the file. You must update `numberof` to ensure that the encodings you added will be visible in the user interface.

- Navigate to `\install_dir\install\bin` using one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none"> Click Start. Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p>

- Enter `setupfiles.cmd`.
- Start Sterling B2B Integrator.

Configure Locales (Windows)

About this task

Sterling B2B Integrator runs in any locale that Java supports. If you want to run in a non-default locale, then configure your environment to the specific locale you want to use.

To determine and set your locale in a windows environment:

Procedure

- Select **Control Panel > Regional Options > General**.
- From the Your locale (location) list, select the language and location.
- Click **Set Default** and select the locale from the Set the appropriate locale list.
- To configure your operating system as a non-English environment, consult your operating system's documentation.

Perimeter Server Installation

Perimeter server overview

A perimeter server is an optional software tool for communications management. A perimeter server can be installed within a firewall configuration for securing local area networks (DMZ). A DMZ is a computer host or small network that is inserted as a neutral zone between a company's private network and their public network. A perimeter server requires a corresponding perimeter client.

The perimeter server manages the communications flow between outer layers of your network and the TCP-based transport adapters. A perimeter server can solve

problems with network congestion, security, and scalability, especially in high-volume, Internet-gateway environments.

Installation guidelines for perimeter servers with Sterling B2B Integrator

The installation program installs a perimeter client and a local mode server. The local mode server is useful for testing purposes or in environments that do not require a secure solution. However, if you require high-volume, secure connections, you must install a perimeter server in a remote zone, either a more secure or less secure network than your integration server.

Consider the following before you install a perimeter server:

- Licensing for a perimeter server is determined by the licensing restrictions on the corresponding B2B adapters.
- Each perimeter server is limited to two TCP/IP addresses:
 - Internal interface is the TCP/IP address that the perimeter server uses to communicate with Sterling B2B Integrator.
 - External interface is the TCP/IP address that the perimeter server uses to communicate with trading partners. To use extra TCP/IP addresses, install more perimeter servers.
- You can have multiple perimeter servers that are installed on the same computer interacting with one instance of Sterling B2B Integrator. To install a perimeter server on a computer with an existing instance, install the new perimeter server in a different installation directory.
- The combination of internal TCP/IP address and port must be unique for all perimeter servers that are installed on one computer.
 - If a perimeter server is installed with the wildcard address, then all ports must be unique. The assigned ports are not available for use by adapters that use the server or any other perimeter server on that computer.
 - The internal and external interface can use the same TCP/IP address. However, the port that is used by the perimeter server is not available to the adapters that use the server.

Perimeter Server Installation Methods

You can install perimeter server either in silent mode or in interactive mode. The default installation mode is silent. In the silent mode, you should specify the details in a silent file, whereas in the interactive mode, you should enter the value each time a prompt appears.

Perimeter Server Information Gathering Checklist

Before you install the perimeter server, you need to gather the following information and answer the following questions:

Perimeter Server Information Gathering Checklist	Your Notes
Path to java	
Path to the Sterling B2B Integrator installation directory	
Will this perimeter server be installed in a less secure network?	

Perimeter Server Information Gathering Checklist	Your Notes
TCP/IP address or the DNS address that the perimeter server will listen on.	
Listening port for the perimeter server.	
Local port that the perimeter server will use to connect to Sterling B2B Integrator.	
Port number must be higher than 1024.	

Perimeter server security vulnerabilities

When Sterling B2B Integrator is deployed with a remote perimeter server in a more secure network zone, there is a security vulnerability. An intruder might compromise the host where the proxy is located, and take over the persistent connection to the perimeter server that is in the more secure zone. If this intrusion happens, the perimeter server can relay all of the intruder's network requests past the firewall into this internal zone.

To prevent an intrusion, limit the activities that the remote perimeter server carries out on behalf of the proxy to specifically the activities that the proxy requires for its operation.

Control these limitations by using a configuration that is in the secure network zone with the remote perimeter server, inaccessible by the proxy that might become compromised.

Install a Perimeter Server in a More Secure Network (Windows)

About this task

Before you begin:

- Sterling B2B Integrator needs to be installed.
- You should have completed the Perimeter Server Information Gathering Checklist.

To install a perimeter server in a more secure network in a Windows environment using the interactive mode:

Procedure

1. Close all open Windows programs.
2. Copy the ps_4500.jar installation files from the installation media to a Windows directory. If you are using FTP to copy the file, be sure your session is set to binary mode.
3. To start the perimeter server installation, use one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
<ul style="list-style-type: none"> From a command prompt (or from the Run dialog box), enter the following command: <pre>\path_to_java\java -jar \install_dir\install\packages\ ps_4500.jar -interactive</pre> 	<ul style="list-style-type: none"> Click Start. Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed. Enter the following command: <pre>path_to_java\java -jar install_dir\install\packages\ ps_4500.jar -interactive</pre>

The installation program verifies the operating system, required patch level, and the location and version of the JDK.

- Enter the full path name for the Sterling B2B Integrator installation directory and press **Enter**.

If there is an existing installation in the directory you specify, you can update it using the same settings. Enter yes, and installation will proceed without additional entries.

- Enter yes to confirm that the installation directory is correct.

The program verifies the amount of available disk space.

- Is this server in a less secure network than the integration server, enter no. This installation is for a more secure network.

- Will this perimeter server need to operate on specific network interface:

- Enter yes to select from a list network interfaces available.
- Enter no.

- Enter the TCP/IP address or DNS name that the integration server will listen on for the connection from this perimeter server.

- Enter yes to confirm the TCP/IP address or DNS name.

- Enter the port that the integration server will listen on for the connection from this server. The port number must be higher than 1024.

- Enter the local port number that the perimeter server will use for the connection to the integration server.

The port number must be higher than 1024, except specify a port of zero if you want the operating system to select any unused port.

- Enter yes to confirm the port number.

After the installation is complete, the following messages are displayed:

```
Installation of Perimeter Service is finished
```

```
To start this Perimeter Server change to the install directory and run
the startup script.
```

```
You will also need to configure this server in your integration server
(SI) UI.
```

Install a Perimeter Server in a Less Secure Network (Windows)

About this task

To install a perimeter server in a Windows environment in interactive mode:

Procedure

- Close all open Windows programs.

2. Copy the ps_4500.jar installation files from the installation media to a Windows directory. If you are using FTP to copy the file, make sure your session is set to binary mode.
3. To start the perimeter server installation, use one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
<ul style="list-style-type: none"> • From a command prompt (or from the Run dialog box), enter the following command: <pre>\path_to_java\java -jar \install_dir\install\packages\ ps_4500.jar -interactive</pre> 	<ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed. • Enter the following command:\ <pre>path_to_java\java -jar install_dir\install\packages\ ps_4500.jar -interactive</pre>

The installation program verifies the operating system, required fix pack level, and the location and version of the JDK.

4. Enter the full path name of the installation directory.
5. If there is an existing installation in the directory you specify, you can update it using the same settings. Answer the question:

There is an existing install at that location, update it while keeping existing settings?

If **yes**, the installation will proceed without additional entries.

Note: If you want to change any of the settings, you must use a new directory, or delete the old installation before performing the new installation. You cannot overwrite an existing installation, and you cannot use an existing directory that does not contain a valid installation. The existing installation must be Sterling B2B Integrator 5.2 or later.

6. Confirm that the installation directory is correct.
The program verifies the amount of available disk space.
7. Answer the question:
Is this server in a less secure network than the integration server?
Yes
8. Answer the question:
Will this server need to operate on specific network interfaces?
If **yes**, the program returns a list of the network interfaces available on your host. Select the interfaces for the server to use.
9. Enter the TCP/IP address or DNS name for the internal interface to use to communicate with the integration server (Sterling B2B Integrator). Press **Enter** to use a wildcard for this address.
10. Verify the TCP/IP address or DNS name for the internal interface.
11. Enter the TCP/IP address or DNS name for the external interface to use to communicate with trading partners. Press **Enter** to use a wildcard for this address.
12. Verify the TCP/IP address or DNS name for the external interface.
13. Enter the port that the perimeter server will listen on for the connection from integration server (Sterling B2B Integrator). The port number must be higher than 1024.
14. Verify the port.

When the perimeter server is installed, the following message is displayed:

Installation of Perimeter Service is finished

15. Change to the installation directory.

16. Enter `startupPs.cmd` to start the perimeter server.

Silent installation method for an external perimeter server

You can install an external perimeter server with a silent installation file. The perimeter server can be installed on the same system where you installed Sterling B2B Integrator or on a separate system. Install the perimeter server on a separate system.

To use the silent installation method, you first create the silent installation file and then use it to complete the installation.

Create the Silent Installation File for an External Perimeter Server About this task

Create a silent installation file with the following variables:

Entry	Description
INSTALL_DIR	(Required) The installation directory that stores perimeter server files and related directories. This directory must exist prior to running the silent install.
REVERSE_CONNECT	(Optional) Determines if the perimeter server is to be installed in a more secure network zone. Valid values: <ul style="list-style-type: none">• Y - more secure network zone• N - less secure network zone
PS_PORT	(Required) Determines the perimeter server port to interact with the system.
PS_SECURE_IF	(Required) Determines the TCP/IP address or DNS name for the internal interface to communicate with the integration server (Sterling B2B Integrator). You can use a wildcard (*) for this address.
PS_EXTERNAL_IF	(Required) Determines the TCP/IP address or DNS name for the external interface to communicate with the trading partners. You can use a wildcard (*) for this address.
REMOTE_ADDR	(Optional) Determines the remote perimeter server address. (Not required if REVERSE_CONNECT=N)
REMOTE_PORT	(Optional) Determines the remote perimeter server port. (Not required if REVERSE_CONNECT=N)
MAX_JVM_HEAP	(Required) Determines the maximum Java heap size allocated to the JVM.

Installing an external perimeter server with a silent installation file (Windows)

About this task

Before you begin, create the silent installation file.

To install the external perimeter server with a silent installation file:

Procedure

1. From the installation media, copy SI.jar to a Windows directory.
2. Set up your silent installation file and record the file location.
3. To start the perimeter server silent installation, use one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
<ul style="list-style-type: none">• From a command prompt (or from the Run dialog box), enter the following command: <pre>\path_to_java\java -Xmx512m -jar \install_dir\install\packages\ ps_4500.jar -f silent.txt</pre>	<ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.• Enter the following command: <pre>\path_to_java\java -Xmx512m -jar \install_dir\install\packages\ ps_4500.jar -f silent.txt</pre>

The installation program verifies the operating system, required fix pack level, and the location and version of the JDK.

The installation starts. You can follow the progress of the installation on screen.

When the installation is finished, the system displays the following message:

Installation has completed successfully.

Install Patches in a Remote Perimeter Server (Windows)

About this task

Remote perimeter servers are not automatically updated by a service pack or patch. You must reinstall the perimeter server using the new perimeter server installation file supplied with the service pack or patch.

To update a Remote Perimeter Server:

Procedure

1. Update your installation with the latest maintenance patch. Obtain the maintenance patch file from the Support Center web site. These patches have a name that identifies a build number. For example, si_43_build_4307.jar. For more information, refer to the maintenance patch documentation.
2. Locate your perimeter server patch file in the *install_dir*\install\packages directory of your installation. For maintenance patches, obtain the file from the Support Center web site. These patch files have a name that identifies a version number. For example, ps_2006.jar.
3. Copy the file to a directory on the remote server.
4. Stop the perimeter server.
5. Use one of the following methods to install the patch:

For Windows Server 2003 or earlier	For Windows Server 2008
<ul style="list-style-type: none"> From a command prompt (or from the Run dialog box), enter the following command: <pre>\absolutePath\bin\java -jar filename.jar -interactive</pre> <p>Where the <i>absolutePath</i> is the directory name where the Java version is installed.</p>	<ul style="list-style-type: none"> Click Start. Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed. Enter the following command: <pre>\absolutePath\bin\java -jar filename.jar -interactive</pre> <p>Where the <i>absolutePath</i> is the directory name where the Java version is installed.</p>

The program verifies the operating system, required patch level, and the location and version of the JDK.

- Enter the full path to the installation directory. If you do not want to change any settings for your perimeter server, specify the same directory where the remote perimeter server was originally installed.
- Answer the question:
There is an existing install at that location, update it while keeping existing settings?
If **yes**, the installation will proceed without additional entries.

Note: If you want to change any of the settings, you must use a new directory, or delete the old installation before performing the new installation. You cannot overwrite an existing installation, and you cannot use an existing directory that does not contain a valid installation. The existing installation must be Sterling B2B Integrator 5.2 or later.

When the perimeter server is installed, the following message is displayed:
Installation of Perimeter Service is finished

- Change to the installation directory.
- Start the perimeter server.

Grant Permissions for Specific Activities for a Perimeter Server

About this task

Before you begin:

- Remote perimeter server must be installed for a more secure zone.
- Know what permissions you want to grant
- Understand the content of the restricted.policy file. The first two grant sections in the restricted.policy file are required for correct perimeter server operation. Do not modify these sections.

Procedure

- Install a remote perimeter server, choosing the option for a more secure network zone.
- At the installation prompt *Is this server in a less secure network than the integration server?*, select **No**, which is the option for a more secure network zone.
- Navigate to the perimeter server installation directory.
- Open the restricted.policy file.

5. Add permission lines for each back-end server that you intend to allow the proxy to access. There are commented out examples for each type of server. The first two grant sections are required for correct perimeter server operation. Do not modify these sections.

For example, you can grant permission to a target FTP Server. In the example, servers are configured to listen on the following ports: 33001 (for FTP), 33002 (for HTTP), and 1364 (for C:D). These port numbers can be edited.

```
// To restrict or permit the required Host/Server to communicate with the
// PS, update the "ftphost/httpthost/snode" with that of the Server IP and
// provide the appropriate PORT number where the Server will listen. //
// For each target FTP Server
// permission java.net.SocketPermission "10.117.15.87:33001", "connect"; //
// Control connection.
// permission java.net.SocketPermission "10.117.15.87:lowPort-highPort",
// "connect"; // Passive data connections.
// 10.117.15.87 indicates IP of the FTP Server for which the permission is
// granted by PS for communicating with client //
// For each target HTTP Server
//
// permission java.net.SocketPermission "10.117.15.87:33002", "connect";
// 10.117.15.87 indicates IP of the HTTP Server for which the permission
// is granted by PS for communicating with client //

// For each target C:D snode
//
// permission java.net.SocketPermission "snode:1364", "connect";
// 10.117.15.87 indicates IP of the Connect Direct Node for which
// the permission is granted by PS for communication //
```

6. In the perimeter server installation directory, there is the perimeter server settings file called `remote_perimeter.properties`. Edit it to change the "restricted" setting to a value of true to turn on restrictions.
7. In the future, any attempt by the perimeter server to access disallowed network resources will be rejected and logged in the perimeter server log written to the perimeter server installation directory.

Perform DNS lookup on remote perimeter server

About this task

By default, a perimeter server runs DNS lookups in the main server JVM. If the DNS in your secure area is limited, you can configure the remote perimeter server to look up trading partner addresses in the DMZ.

To enable DNS lookup to occur at the remote perimeter server, edit the `remote_perimeter.properties` file and change the following parameter:

Property Name	Description
<code><psname>.forceRemoteDNS</code>	Forces resolution of DNS names at remote perimeter server. Value is true or false.

Starting perimeter servers (Windows)

About this task

To start a perimeter server in Windows:

Procedure

1. Navigate to the perimeter server installation directory.
2. Navigate to perimeter server installation directory with one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

3. Enter startupPs.cmd.

Stopping perimeter servers in (Windows)

About this task

To stop a perimeter server in Windows:

Procedure

1. Navigate to perimeter server installation directory with one of the following methods:

For Windows Server 2003 or earlier	For Windows Server 2008
Open a command prompt window (from the Run dialog box).	Complete the following steps: <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.


2. Enter stopPs.cmd.

User Documentation

Sterling B2B Integrator user documentation

The user documentation is available on the online documentation site on the web. Providing the documentation in an online environment allows for frequent updates of content that is based on user feedback and usability.

We also understand the need for a printed copy of documentation. You can print topics of information with your Internet browser, or you can download documents in PDF format. You can also request a documentation CD.

To access the documentation site from within Sterling B2B Integrator or one of its tools, select the **Help**  icon. For the link to the documentation site to work, the system must support internet access and an internet browser.

Online Documentation Tips

In the documentation library, you can search the entire library for information, access a hierarchy of contents pages, print topics, and download entire documents in PDF format.

About this task

After you are in the documentation library, you can do the following things:

- Enter a word or phrase and search the entire library for information.
- Move through a hierarchy of contents pages to identify the topic you want to read or print.
- Print topics by using your browser's Print function.
- Download entire documents in PDF format.

Requesting a Documentation CD

You can request a CD that contains all the documentation found on the documentation site. To submit a request, open a support case.

Uninstall the Software

Uninstalling Sterling B2B Integrator from a Windows non-cluster environment

When you uninstall Sterling B2B Integrator, the software is automatically removed from the server.

About this task

Additionally, you can do the following tasks:

- Manually remove the JDK that was installed
- Manually remove any desktop tools that were downloaded
- Free any database space in Oracle, Microsoft SQL Server, or DB2 databases

To uninstall Sterling B2B Integrator from a Windows environment:

Procedure

1. Stop Sterling B2B Integrator and wait for shutdown to complete. Use one of the following methods to stop the system:

For Windows Server 2003 or earlier	For Windows Server 2008
<ul style="list-style-type: none"> • Open a command prompt window (from the Run dialog box). • Navigate to the <code>install_dir\install\bin</code> directory. • Enter <code>StopWindowsService.cmd</code> • Enter <code>uninstallWindowsService.cmd</code> to uninstall Sterling B2B IntegratorWindows Services. 	<p>Complete the following steps:</p> <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed. • Navigate to the <code>install_dir\install\bin</code> directory. • Enter <code>StopWindowsService.cmd</code> • Enter <code>uninstallWindowsService.cmd</code> to uninstall Sterling B2B IntegratorWindows Services.

If you begin removing files before all business processes and the system are stopped, you might be unable to remove the software successfully.

2. Optional: Back up the file system and database.
By backing up the file system and database, you ensure that Sterling B2B Integrator is recoverable.
3. Remove the installation directory by entering the following command in the parent directory of your installation directory: `rd/s/q \install_dir\install`
4. If you use an Oracle, Microsoft SQL Server, or DB2 database, the database remain intact even after you remove Sterling B2B Integrator from the server. If you no longer want to reference the data, contact your database administrator about removing unwanted tables and recovering the database space where Sterling B2B Integrator used to be located.
5. Manually remove the JDK:
 - a. Navigate into the `_uninst` subdirectory of your JDK installation directory
 - b. Enter `uninstall.cmd`
6. After you remove Sterling B2B Integrator from the server, you can remove Eclipse, and any of the following tools that were downloaded to the desktop:
 - Map Editor and associated standards
Refer to the *Map Editor Guide* for information about removing the Map Editor.
 - Graphical Process Modeler
Refer to the *Graphical Process Modeler Guide* for information about removing the Graphical Process Modeler.
 - Web Template Designer
Refer to the *Web Extensions Guide* for information about removing the Web Template Designer.
 - (If licensed) MESA Developer Studio plug-ins:
 - MESA Developer Studio Software Development Kit (SDK)
 - MESA Developer Studio Skin Editor
 Refer to the *MESA Developer Studio* guide for information about removing MESA Developer Studio.
 - (If licensed) Reporting Services, which require MESA Developer Studio if you want to use the plug-ins to create fact models and custom reports.
Refer to the *MESA Developer Studio* guide for information about removing Reporting Services.

Troubleshooting Tips

Troubleshooting tips for Windows environment

Occasionally, you might encounter an error or problem that you must troubleshoot.

Situation	Message or Symptom	Explanation/Resolution
Installing	You encounter errors or problems during installation.	<p>Explanation</p> <p>The installation creates several log files that you can use to diagnose problems like the failure of an installation.</p> <p>Resolution</p> <p>Examine the log files that are generated during installation:</p> <ul style="list-style-type: none"> • <code>ant.install.log</code> (in the <code>install_dir</code> directory) • <code>install_dir\PreInstallSI.log</code>
Installing	When you entered an absolute path during installation, a message indicated that the command was not found.	<p>Explanation</p> <p>You entered an incorrect path. Check the information that you entered.</p> <p>Resolution</p> <p>Enter the correct path.</p>
Installing a desktop tool or resource	<p>Cannot download any of the following:</p> <ul style="list-style-type: none"> • Map Editor and associated standards • Graphical Process Modeler • Web Template Designer • (If licensed) MESA Developer Studio plug-ins: <ul style="list-style-type: none"> – MESA Developer Studio Software Development Kit (SDK) – MESA Developer Studio Skin Editor • (If licensed) Reporting Services, which require MESA Developer Studio if you want to use the plug-ins to create fact models and custom reports. 	<p>Explanation</p> <p>When you install Sterling B2B Integrator, system files are created that contain an internal IP address. If you install Sterling B2B Integrator behind a firewall, and your firewall is configured to accept an external IP address from a client computer, you might not be able to download the desktop tools and resources. The firewall rejects the internal IP address from a client that is located outside of the firewall.</p> <p>Resolution</p> <p>Modify the system files that contain the invalid IP address. Follow these steps:</p> <ol style="list-style-type: none"> 1. Navigate to <code>\install_dir\install\bin</code>. 2. Stop Sterling B2B Integrator. 3. Enter the following command followed by the external IP address: <pre>patchJNLP.cmd external_IP_address</pre> 4. Restart Sterling B2B Integrator.
Cluster Installation or Upgrade	<p>When you configure TCPS the following warning can be found in the <code>activemqbroker.log</code>:</p> <pre>sun.security.provider.certpath. SunCertPathBuilderException: unable to find valid certification path to requested target</pre>	<p>Resolution</p> <p>Add the system certificate to the truststore with the KeyTool command.</p>

Situation	Message or Symptom	Explanation/Resolution
Cluster Installation or Upgrade	<p>When you configure TCPS the following warning can be found in the <code>activemqbroker.log</code>:</p> <p>Do not mention any SSL cipher in the <code>ActiveMQconfig.xml</code>. <code>oracle.net.ns.NetException: Invalid cipher suites specified.</code></p>	<p>Resolution</p> <p>Do not mention any SSL cipher in the <code>ActiveMQconfig.xml</code>.</p>
e-Invoice Upgrade: Oracle Add Constraint Error	<p>When you upgrade Sterling e-Invoicing and are using an Oracle database, if the upgrade fails with the error message name is already used by an existing object, the error occurs because the default behavior for the drop constraint command was changed in Oracle 10. The index that is used to support the constraint is now only removed if the index was generated by the create constraint command. The indexes for Sterling e-Invoicing are always generated from constraints during an installation. If you receive this error during a Sterling e-Invoicing upgrade, it is because of how the database was restored, the version of Oracle you are using, and because the Oracle <code>imp</code> command exported the indexes and constraints separately. There is no way to determine when the <code>imp</code> command does not add a create index command to the export file if it was generated by a constraint – but if it does add the command, the database restore process loses the association of the constraint and its underlying index. The database script that runs during a Sterling e-Invoicing upgrade runs two steps: 1. First, it drops the unique constraint so the next step can redefine it using extra columns. However, the drop constraint command does not remove the underlying index if the association with its index was lost. 2. The next command that redefines this constraint requires a different index definition, but in this scenario the name of the index the constraint wants to use exists, which causes the name is already used by an existing object error.</p>	<p>Resolution</p> <p>If you receive this error message, the solution for this problem is to drop the index and rerun the Sterling e-Invoicing upgrade. The drop index command to use is: <code>drop index UNQ_EINV_CANON</code></p>

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