Sterling B2B Integrator

Windows Cluster Environment Upgrade

Version 5.2.3 - 5.2.5

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Note
Before using this information and the product it supports, read the information in "Notices" on page 91.

Contents

Windows Cluster Environment Upgrade (V5.2.3 - 5.2.5)

You can upgrade the IBM® Sterling B2B Integrator software in a Windows cluster (multiple node) environment.

Clustering is not supported for Sterling B2B Integrator systems that use the MySQL database.

You should also review these documents:

- System Requirements
- Release Notes
- What's New
- Installation and Upgrade Information

It is important to remember that upgrading involves a full installation of Sterling B2B Integrator. You need to prepare for an upgrade the same way that you would prepare for an installation. It is also recommended that you thoroughly test this process in a test or development environment prior to implementing in a production environment.

This upgrade does not overwrite your current Sterling B2B Integrator directory structure on disk. Instead, it creates a new installation of Sterling B2B Integrator that points to and upgrade the database of your current installation of Sterling B2B Integrator. This means your original instance will no longer be operational after performing the upgrade. After the upgrade, you will be starting your Sterling B2B Integrator instance only from the newly created directory structure.

For new installations, use the *Sterling B2B Integrator Windows Cluster Installation Guide*.

Intended audience

This document can be used by different members of your organization.

This document is intended for use by:

- System administrators
- Installation engineers
- 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.

Upgrade Scenarios

Upgrade Scenarios (Windows Cluster Environment)

Upgrading to Sterling B2B Integrator can follow one of these paths. Keep these scenarios in mind as you plan for your upgrade:

Upgrade Scenario	Example
Operating system and the database are the same between the old Sterling Gentran Integration Suite version and this version of Sterling B2B Integrator	If you are upgrading from Sterling Gentran Integration Suite 4.3 (on Windows 2003 and using Microsoft SQL Server 2005) to this version of Sterling B2B Integrator (on Windows 2003 and using Microsoft SQL Server 2005), the upgrade steps are as follows: • Export the configuration data. • Back up the database. • Upgrade to Sterling B2B Integrator.
Database upgrade before the upgrade to this version of Sterling B2B Integrator when the old Sterling Gentran Integration Suite database is not supported by this version of Sterling B2B Integrator	If you are upgrading from Sterling Gentran Integration Suite 4.0 (on Windows 2003 and using DB2 8.1 Fixpack 5) to this version of Sterling B2B Integrator (on Windows 2003 and using DB2 9.2), the upgrade steps are as follows: • Export the configuration data. • Back up the database. • With help from a database administrator (DBA), copy the database to DB2 9.2. • Back up the newly created database. • Upgrade by pointing to the newly created database. If the upgrade stops, and leaves the newly created database in an incomplete state, you can re-start the upgrade using the backup of the database.
Your Sterling Gentran Integration Suite operating system is not supported by this version of Sterling B2B Integrator	If you are upgrading from Sterling Gentran Integration Suite 4.0 (on Windows 2000 and using Oracle) to this version of Sterling B2B Integrator (on Windows 2003 and using Oracle), the upgrade steps are as follows: • Export the configuration data. • Back up the database. • Upgrade to this version of Sterling B2B Integrator on the RH EL 5.0 machine while pointing to Oracle.
Moving your current Sterling B2B Integrator (5.0 or higher) instance to a new operating system	For example, if you are upgrading from Sterling B2B Integrator 5.0 on Windows Server 2003 to this version of Sterling B2B Integrator on Windows Server 2008 using your current database. • Export the configuration data and back up the database. • Upgrade to this version of Sterling B2B Integrator on the Windows Server 2008 machine while pointing at your current database.

Upgrade Impacts

Upgrade Impacts Overview

This documentation provides information on how system behavior has changed based on upgrading your system from 4.3 (or later) to this version. You need to review all of the information before you begin your upgrade.

Upgrade Impacts

Before you begin an upgrade, you should review the following information.

Features/Services Not Supported in V5.2

The following features/services are no longer supported:

- Channels portlet
- Federated Systems
- Community Management (AFT Communities are still available)
- Sterling Community Management (SCM) Integration
- Archive Commandline Service
- Sync Engine Data Clean Manager Service
- Sync Engine Task Manager Service

If you need more information, please contact your IBM sales representative.

Port Allocation Changes

If you are upgrading to V5.2, and have configured the CLA2 or the SWIFTNet HTTP Server Adapter, the remote port numbers have changed. The port numbers are as follows:

Table 1. Remote Port Numbers

Adapter Name	Version 5.2.0 Base Port	Version 5.2.1 Base Port	Version 5.2.2 Base Port	Version 5.2.3 Base Port
CLA2	+51	+52	+53	+54
SWIFTNet HTTP Server	+52	+53	+54	+55

Note: You should check adapter configurations and the sandbox.cfg file for ports greater than 51 which may have changed.

For Version 4.3 and Version 5.0, the remote port numbers are the same as the 5.2.1 release.

After upgrading to 5.2.X, you need to change any references to the old remote port numbers. For example, if you have any business processes that use the CLA2 adapter, you will need to update the remote ports in the business process.

Database Table Sizes

While upgrading if you encounter any database table size issues, you may have to manually adjust the database tables and restart the upgrade process. An upgrade

using the production database in a test environment can be used to help you determine what tables need to be manually adjusted.

Resource Tags

If you are using resource tags in your current version, you should check all of your existing resource tags before you start the upgrade process. The resource tags you should check are:

- Adapter Policies
- Agreements
- Sterling Connect:Direct® Netmaps
- Proxy Servers
- Security Tokens
- SSH Resources
- SWIFTNet Copy Service Profiles
- SWIFTNet Service Profiles

You can check the resource tags by running the following SQL query from the SQL Manager page (**Operations > Support Tools)**:

```
SELECT * FROM TAG_RESOURCE_ASSOC WHERE TYPE=41 OR TYPE=42 OR TYPE=43 OR TYPE=44 OR
TYPE=45 OR TYPE=52 OR TYPE=53
```

The TAG_NAME column in the SQL results will contain the names of any resource tags that need to be edited or deleted.

If any of the resource tags contain tagged resources using the types listed, remove those resources from the resource tags or delete the resource tags that contain these resource types.

Silent Installation Parameters

The following parameters are new or have an updated definition:

What has changed	parameter	Definition
Parameter definition has changed	LICENSE_FILE_PATH	(Required) Full path to Core_License.xml.
New parameter	LICENSE_FILE_# (where # is a number between 1 and 99)	(Required) This is required for each license you install. You must add an entry for each license file to 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

Channels and Community Management Tabs (Optional)

The Dashboard PSML files are not updated during an upgrade. The PSML file impacts any custom tabs you may have configured, such as Channels or Operator. The Channels and Community Management tabs appear in your browser but are no longer operational.

To remove the Channels and Community Management tabs:

Warning: The psmlRestore command gets the 5200 psml file which resets ALL of the custom tabs from the previous release.

1. Navigate to the installation directory.
2. Navigate to the bin directory.
3. Enter this command: `./psmlRestore.sh admin`

Custom BI Fact Models Need to be Upgraded

Scripts named recreateBITablePKs.cmd.in (Windows) and recreateBITablePKs.sh.in (UNIX) are now provided which allow you to upgrade any custom BI fact models tied to a separate BI repository.

BI fact models need to be upgraded to continue to work with the Entity Framework, which replaced Hibernate usage in the BI framework in version 5.2.0.

Upgrade impacts (V5.2.5)

Upgrading to Sterling B2B Integrator V5.2.5 has unique impacts.

Only JDK 7 is supported as of V5.2.5

For more information see:

- System Requirements
- "Upgrading your JDK (Windows and UNIX)" on page 84

JDK 7 does not support the TLS_RSA_WITH_3DES_EDE_CBC_MD5 cipher

If you are using JDK 7 with Sterling B2B Integrator V5.2.5, and you want to use a cipher to secure the Sterling B2B Integrator dashboard, you must set one of the following values in the **dashboardCipherSuite** parameter in the `security.properties_platform_asi_ext.in` property file or in `customer_overrides`:

- *JDK* (includes all strong ciphers except the one not supported by JDK 7)
- *Weak*

Do not use *Strong* or *All* with JDK 7 or Sterling B2B Integrator will not start.

Reconciliation of HIPAA Level 5 code lists

When you upgrade to Sterling B2B Integrator 5.2.5, customized HIPAA Level 5 code lists from the previous version are preserved in the system where they were entered, but they are not the default code lists after the upgrade. After the upgrade, you must manually make any customized code lists the default code lists.

For example, you customized the ICD9 or HCPCSCPT code list in the previous version of Sterling B2B Integrator. After the upgrade to version 5.2.5, you must

replace the default ICD9 or HCPCSCPT code list with the customized ICD9 or HCPCSCPT code list.

Properties file change to prevent timeout during start (5.1.0.4 to 5.2.5 upgrade)

Before you start Sterling B2B Integrator after you upgrade the application from version 5.1.0.4 to 5.2.5, you must change the values of the following properties in the `centralops.properties` file to `600`. This action prevents the start command from timing out before Sterling B2B Integrator starts. The `centralops.properties` file is in the `properties` subdirectory of the installation directory.

- **`OpsServer.commandTimeout`**
- **`PassPhrase.urlTimeout`**

jGroups upgrade in V5.2.5 prevents Sterling B2B Integrator from starting for some customers

jGroups is upgraded with V5.2.5. Some of the properties defined in jgroups_cluster.properties have changed. If you modified these files or added custom changes for them to customer_overrides.properties, the upgrade changes are not applied and Sterling B2B Integrator will not start.

This issue is fixed in V5.2.5, Interim Fix 1, where all necessary properties files are changed for you. You can also disable this fix if desired. See APAR IT06654 for more information.

Note: The original and modified properties are output to the noapp.log file. This allows you to see how your properties were modified. Search the log using the value “Initializing jgroups_cluster.property_string" to see the new and changed values for the two affected startup properties. The jgroups_cluster.lock.protocolStack property is also modified with this fix, but is only written to the log when it is used, not at startup.

If you want to manually fix your installation without applying V5.2.5, Interim Fix 1, complete the following steps:

1. Delete the following options (if they exist) from customer_overrides.properties for the jgroups.cluster property file. These occur in the jgroups_cluster.property_sting, jgroups_cluster.distributed_property_string, and jgroups_cluster.lock.protocolStack files:
   - gc_lag
   - up_thread
   - down_thread
   - join_retry_timeout
   - max_xmit_size
   - shun
2. Remove the protocol parameter **`VIEW_SYNC`** and all of its attributes.
3. In the jgroups_cluster.property_string, replace ‘start_port’ with ‘bind_port’.
4. In the jgroups_cluster.distributed_property_string and jgroups_cluster.lock.protocolStack properties, add the following items:
   - In distribution_property_string the attribute **`thread_pool_rejection_policty=run`** should be added to the protocol ‘TCP’. For example,

TCP(bind_port=22261;**thread_pool_rejection_policy=run**)

- In lock.protocolStack: the protocol and attribute **CENTAL_LOCK(num_backups=2)** should be added to the end of the property. For example,

  lock.protocolStack=UDP(bind_addr=&HOST_ADDR;;bind_port=
  &MULTICAST_NODE_PORT3;;mcast_addr=239.255.166.17;<other
  protocol parameters here>pbcast.GMS(join_timeout=5000;print_local_
  addr=true):**CENTRAL_LOCK(num_backups=2)**

Backups Are Not Generated During Install, Upgrade, or When Applying a Fix Pack or Interim Fix

Before you begin an upgrade, review the following backup information.

Some of the standard resources installed during install or upgrade use the import mechanism available to customers to load the standard resources into the database. The standard import mechanism by default creates a backup of the table containing the resource prior to importing to provide the ability to restore to the previous state if later it was decided that the import should not have been performed. This table backup was also being performed by default during the basic installation processes. And, since the import mechanism was sometimes used multiple times during the installation processes, some of the tables were backed up several times. Depending on the size of the table, this could add a very large amount of time to the installation process. Since it is recommended that a backup is completed prior to beginning any of these installation processes, the default behavior has changed to not perform the backup by default. If you would like backups to be performed, then SKIPIMPORTBACKUP=false should be added to the **sandbox.cfg** file.

Capitalization Insensitivity for Header Value

About this task

Before you begin an upgrade, review the following AS3 information.

For AS3, when searching for a header value in a multipart/report, you do not need to consider whether the header value contains any capitalization. The search has been enhanced to be capitalization insensitive.

For example, the following searches will result in a match:

- Multipart/Report
- Multipart/report
- multipart/Report
- multipart/report

The search would not find the following as a match:

- MulTiPart/RePorT

CA Certificates Impacts

Before you upgrade, review the following information on CA certificates.

Users may add multiple copies of the same certificates to the database. Having multiple copies of the same certificate in the database is not, in principle, a problem for the system except for the minor amount of wasted storage. Each copy has a different object ID in the database and is a separate database object.

The specific changes in this release is the ability to easily populate the product database with the set of authority root certificates distributed with the JVM.

Perimeter Server Installation

About this task

Before you begin an upgrade, review the following Perimeter Server installation information.

Silent install is the **now** the default installation mode. If you want to complete the Perimeter Server installation using an interactive mode, you need to use the following command:

```
java -jar ps_4400.jar -interactive
```

Retry Logic Added to WebSphere MQ Suite Adapter PUT Service

About this task

Before you begin an upgrade, review the following WebSphere MQ Suite Adapter PUT Service information.

Retry logic has been added to the WebSphere MQ Suite. To accommodate this new functionality, you need to configure two new parameters for the PUT service:

- wsmq_send_retryCount
- wsmq_send_retrySleepInterval

To configure the new parameters:

Procedure

1. Log into Sterling B2B Integrator.
2. From the **Admin Console Home**, you need to start the Graphical Process Model (GPM).
3. Log into the GPM. You will need a **User ID** and **Password**.
4. In the GPM, select **View > Stencil > Services**.
5. Select **File > New**.
6. Drag the **WebSphere MQ Suite Put Message Service** from the **All Services** pane into the center pane.
7. Double click the **WebSphere MQ Suite Put Message Service**.
8. Select the configuration from the **Config** dropdown.
9. Enter the number of retries in to the **wsmq_send_retryCount** value.
10. Enter the sleep interval in seconds in to the **wsmq_send_retrySleepInterval** value.
11. Save the changes to the service configuration.
12. Exit from the GPM.

Services and Adapters - Show Advance State Button

Before you begin an upgrade, review the folllowing Show Advance State button information.

The Show Advanced State check box has been removed from the Services Configuration search screen. Instead, the default has been changed to always show the advanced state without needing to check a checkbox on the search screen to display it.

Some Certificate Fields Are Optional

About this task

Before you begin an upgrade, review the following certificate field information.

When generating certificate keys, the following fields may have been missing in the release you are upgrading from, but the entries are now optional:

- alt.name.dns
- alt.name.IP

Support for Multiple AS2 Organizations

Before you begin an upgrade, review the following AS2 schema information.

Sterling B2B Integrator now supports multiple sponsoring organizations and multiple partners for AS2. During upgrade, the single organization will be flagged as the default organization.

Once you have upgraded to this version, a prefix designation is used to differentiate between an AS2 organization (AS2_ORG_) and an AS2 partner (AS2_PART_). Each of these will require the full configuration of a trading partner to allow for a partner to trade with multiple organizations as well as an organization that trades with multiple partners.

The AS2_TRADEPART_INFO and AS2_EMAIL_INFO tables have been modified and the AS2_PROFILE table is newly introduced. Updates to these tables will occur during the SI in-place upgrade process in the following manner:

- Identify the default organization and populates the AS2_PROFILE table with organization information. A default organization is an AS2 organization profile named "profile_ORGANIZATION" present in the system before upgrade.
- Identify partner records and populates the AS2_PROFILE table with partner information.
- Populate the new columns of table AS2_TRADEPART_INFO with the default organization information.
- Populate the new PROFILE_ID column in the AS2_EMAIL_INFO table with the profile id of the AS2 organization profile present in the system.

Web Services

Before you begin an upgrade, review the following Web Services information.

Many of the Web Services configuration settings that were generated from the WebServices Provider Configuration UI have moved from the property files into database tables. This change was made to allow a single location of these settings in cluster environments and to ensure that these settings would not be reset during a fix pack installation.

After you have completed your upgrade, you should run the convertWSSoaProperties script found in the installation bin folder. This script reads

the settings from the property file and places them into the proper database tables. You can then review the results in the WebServices Provider Configuration UI.

Windows 2003/2008 Does Not Start with Silent Install

About this task

Before you begin an upgrade, review the following silent installation information.

If you used the silent install method for your upgrade, you must manually run the InstallWindowsService.cmd file to register the service.

Upgrade Planning

Upgrade Planning Information

Before you begin an upgrade you should:

- Read and become familiar with this document so that you have a clear understanding of what the upgrade requires.
- Review upgrade scenarios to determine which scenario you want to use.
- Review and record system configuration information.
- Review and record performance and tuning information.

Upgrade Planning Checklist

To assist you with your upgrade planning, review the following planning checklist:

#	Upgrade Planning Checklist	Your Notes
1	Read through this entire document so that you have a clear understanding of what the upgrade requires.	
2	Download and review the following information from the Sterling B2B Integrator documentation library. • *System Requirements* - With each release, IBM introduces leading edge technology to improve and enhance its software. Review the *System Requirements* to confirm that your system and databases meet the requirements for this release. • *Release Notes* - Review the release notes to obtain information about issues and resolutions which have been identified for this release. • *What's New in this Release* - Review this guide to find out about new features and functionality provided in this release. • *Installation and Upgrade Information* - Lists the installation and upgrade documents available for this version of Sterling B2B Integrator.	

#	Upgrade Planning Checklist	Your Notes
3	Review the Customer Center Knowledgebase and search for any additional information on upgrade issues. **CAUTION:** **Before upgrading to the latest product version, contact your sales representative to verify that it includes all of your current functionality. Depending on the timing, even though it's in a higher version that the one you have installed, a particular mod release or fix pack might not include all the fiunctionality in your current version or fix pack.**	
4	Collect information on third-party libraries used for adapter configurations that were added to your current release. You will need to add each of these libraries to the upgraded system.	
5	Locate any configuration file changes for JDBC adapter or Lightweight JDBC adapter in your current release. You will need to copy these changes to the upgraded system.	
6	Record your performance tuning configuration. You will need to restore these settings after the system has been upgraded.	
7	Review and note the adapters, business processes, and other configurations in your current release. This information will help you identify the need for updating transport messages, third-party adapters, or configurations to adapters, such as File System or Command Line adapters.	
8	Determine if you have edited any of the pre-defined business processes. If you are upgrading from 4.2 or if you are upgrading from 4.3 and are using the 5.0 GA or 5001 Media, the upgrade process overwrites pre-defined business processes. Your customized business processes are preserved in the system, but they are not the default business process after the upgrade. If you are upgrading from 4.3 and are using the 5002 Media or later, customized business processes are preserved in the system and remain as the default.	
9	Determine if you have edited any of the property files (.properties or .properties.in). The upgrade process overwrites these property files, unless these changes were made using the customer_overrides.properties file. Your previous property file edits might not be applicable this version of the software.	

#	Upgrade Planning Checklist	Your Notes
10	Determine if you edited any of the following cdinterop files: • cdinterop-proxy-records.properties • cdinterop-spoe-auth.properties • cdinterop-spoe-policy.properties • cdinterop-user-records.properties You must back them up before upgrading. The cdinterop files do not have initialization (*.in) files. After the upgrade, use the backup version of the files in your upgraded installation.	
11	Determine if you have LDAP (Lightweight Directory Access Protocol) configuration information in the security.properties file. This information will automatically be moved to the authentication_policy.properties file.	
12	Determine whether Sterling B2B Integrator is using an application server (JBoss™, WebLogic® or WebSphere®). Sterling B2B Integrator does not require an application server for installation or at runtime. Sterling B2B Integrator supports integration with JBoss and WebLogic during the installation. You can also integrate with WebSphere, JBoss, or WebLogic by using the Sterling B2B Integrator EJB Adapter. This does not represent a WebLogic server for deploying the Application Console.	
13	If you use a File System as your document storage method, determine and record the path to the File System. You will need the File System path structure so that after the upgrade, you can copy/mount the documents to the new installation directory. The directory structure (path to the File System) must be the same in the current and in the upgraded system.	
14	Review the EDI Sequence Check Queue to ensure that no interchanges are in the queue. The EDI Sequence Check Queue is used for X12 and EDIFACT sequence and duplicate checking.	
15	Determine if you have any JVM Containers configured. If yes, you will have to reconfigure the JVM containers after you have upgraded the software.	

Supporting Information

Access the Sterling B2B Integrator Knowledgebase

About this task

Before you upgrade, you may want to access the Sterling B2B Integrator knowledgebase. The knowledgebase contains many topics and has a search engine to assist you in finding information. To access the knowledgebase:

Procedure

1. Navigate to the Customer Center web site.
2. Enter your **User Name** and **Password**.
3. Click **Support Center**.
4. Under **Self Support Tools**, select **Knowledgebase**.
5. Enter search criteria and click **Find**.

Prepare Your Windows System for the Upgrade

Prepare Your Windows System for the Upgrade Checklist

Use this checklist to prepare your windows systems for the upgrade.

#	Windows System for the Upgrade Checklist	Your Notes
1	Complete the Pre-Upgrade System Checklist	
2	Complete the Pre-Upgrade Database Checklist	
3	Download the correct version of the JDKs, JCE, and JDBC drivers required. See the *System Requirements* for information on how to download the correct version of each.	

Pre-Upgrade System Checklist

Before you begin an upgrade, you need to:

#	Pre-Upgrade System Checklist	Your Notes
1	Use the system requirements to verify that your system hardware and software meet the requirements specified for this release. Verify you have the correct: • Patches required by Java™ for the operation system • Version of the JDK • JDK Patches • Absolute path to JDK and patches • Database must match the version listed in the requirements If any of the above requirements are not met, the installation will fail and print/log a report of all items that were non-compliant.	

#	Pre-Upgrade System Checklist	Your Notes
2	Review your current system to determine if you need to apply a fix pack prior to upgrading. If you have recently applied an interim fix, it might not be included in the latest fix pack. If you are not on the latest fix pack, the upgrade will fail. The following are the minimum levels for upgrading to this release: • Release 4.0 - Patch 4.0.3-5 • Release 4.1 - base release or any patch • Release 4.2 - base release or any patch • Release 4.3 - base release or any patch	
3	For systems with multiple IP addresses, verify that the IP address on which Sterling B2B Integrator resides is accessible by any client computer that is running a browser interface. If you do not verify the IP addresses, your system may not operate properly after installing Sterling B2B Integrator.	
4	If you are using a non-English environment, confirm that you are using the appropriate character set.	
5	Verify the file system has adequate free disk space.	
6	Obtain the upgrade media. It is a best practice to check the Product Updates & Downloads site to ensure you have the latest version of the media.	
7	Backup your Sterling B2B Integrator installation directory and the database. If there are problems with your upgraded system, the only way to ensure that you can roll-back to your previous version is to back up Sterling B2B Integrator and the database.	
8	Archive your data. Archived data can only be restored from the same version of Sterling B2B Integrator from which it was archived. If you need to restore archived data that was archived prior to performing the upgrade, then you must have a running instance of Sterling B2B Integrator that matches the version from which the archive was taken.	
9	Purge any unneeded data.	
10	Export any business objects that can not be upgraded. Including business processes, service configurations, trading partners, maps, etc. The exported business object can be imported into the upgraded system if you need them.	
11	Create an process output log.	

#	Pre-Upgrade System Checklist	Your Notes
12	Disable the virus protection software on the server. If the virus protection software is enabled, the upgrade will fail.	

Pre-Upgrade Database Checklist (Cluster Environment)

Before you begin an installation, you need to:

#	Pre-Upgrade Database Checklist (Cluster Environment)	Your Notes
1	If required, copy the Microsoft SQL Server 2000 Database to an SQL Server 2005 Database. This is an optional procedure, and it is the customer's responsibility to perform it. (IBM Customer Support can not help with this procedure.)	
2	If you are using Oracle 8i with Sterling B2B Integrator 4.0, upgrade to Oracle 9i before upgrading to this version of Sterling B2B Integrator.	
3	If you plan to import an Oracle 9 or Oracle 10 database, while upgrading to this version of Sterling B2B Integrator, you must import the database without the indexes. For example, if you are using the Oracle import (imp) tool, you should use the INDEXES=N option. If you attempt upgrading to this version of Sterling B2B Integrator with indexes turned on, the upgrade will fail. If you had created any custom indexes in Oracle database, add them after performing the upgrade as they are not imported.	
4	If you are using MySQL, a new MySQL database will be created in this version of Sterling B2B Integrator and information will be copied from the MySQL database in your previous version of Sterling B2B Integrator to the new database. The MySQL database in your previous version of Sterling B2B Integrator will still work. When you copy your database, if you encounter Data Overflow or Invalid Time Format errors while copying the WORKFLOW_CONTEXT table, run this query: `UPDATE WORKFLOW_CONTEXT SET ENTERQ = NULL, EXITQ = NULL where ENTERQ IS NOT NULL OR EXITQ IS NOT NULL`	

Supporting Information

Verification of the system requirements

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 requirements. Your system requirements exceed these requirements if you are running other applications on the same machine as Sterling B2B Integrator.

The installation strictly enforces the following system requirements:

- Operating system version must match requirement exactly.
- The minimum patch level for the operating system is enforced, but you can apply higher patch 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.

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

Obtain Upgrade Media

About this task

Before you upgrade, ensure that you have the latest version of the upgrade media from the Passport Advantage online site.

For the latest version and for online support, go to: http://www.ibm.com/software/howtobuy/passportadvantage/pao_customers.htm

Create an Process Output Log in Windows

About this task

A log of process activity during the upgrade will help if troubleshooting is required. Output is automatically logged to the upgrade log files (PreInstallSi.log and InstallSi.log). Use this procedure to generate a separate output log for each process you want to log.

In Windows, you must redirect the standard output and standard error of each command to create a log file.

To create an process output log:

Procedure

1. Enter a command similar to the following: `process.cmd > processoutput.log 2>&1` Where process is the name of the command and processoutput is the name of the output log. The log-writing process time varies, depending on the size of your database and your system hardware.

   Note: If you attempt to view the log while it is being written, the upgrade.cmd script stops running and does not create a log of the upgrade process.
2. After you complete the command, you can review the output log using any text editor (for example, Microsoft Notepad).

Copy a Microsoft SQL Server 2000 Database to an SQL Server 2005 Database

About this task

This is an optional procedure. It is the customer's responsibility to perform it. IBM Customer Support cannot help with this procedure.

Before upgrading, it is recommended that you first make a backup of your Microsoft SQL Server 2000 database. One way to accomplish this is to make a separate copy of your existing database so that you can preserve your current system. If you are moving from a Microsoft SQL Server 2000 database to an SQL Server 2005 database, use the following procedure. Your existing Sterling Gentran Integration Suite instance will no longer function if you upgrade your existing database without making a copy.

After this procedure, you will have two databases:

- A database that you will use in your upgraded version of Sterling B2B Integrator.
- A database that you can use in your old version of Sterling B2B Integrator.

Procedure

1. Perform a full database backup to the file system on the source SQL 2000 server of the source database.
2. Copy the resultant backup (.bak) file from the file system on the source server file system to the file system on the SQL 2005 server.
3. Connect to the SQL 2005 database server as a Windows authenticated user with administrative privileges on the database server using SQL Server Management Studio 2005.
4. Make sure that the destination database is not in use (disconnect any connected applications).
5. Restore the backup of the SQL 2000 database over the existing SQL 2005 database, using the Tasks | Restore | Database wizard. The restore will be from a “device,” the file created above. Specify on the Options tab the correct locations for the data and log files (since the locations in the backup may not be the same as the correct locations for files on the on SQL 2005 database server); also select the check box to specify that the existing database is to be overwritten. Confirm that the restore is reported as successful.
6. Check to make sure that existing users in the database match existing users on the server using the command sp_change_users_login 'report'. If no rows are returned, go to step 8.
7. If rows are returned, execute the command sp_change_users_login 'update_one', 'username', 'username' substituting the unlinked login name in each execution to correct links between existing users in the restored database and existing logins on the server.
8. Examine the users of the database using the SQL Studio or sp_helpuser. If the login (existing on the server) who will be working with this database is not currently a user of the restored database, add that login as a user of the database by executing the following commands (login_name and user_name should generally be the same):

```
USE database_name
Go
EXEC sp_grantdbaccess 'login_name', 'user_name'
Go
EXEC sp_addrolemember 'db_owner', 'username'
```

```
Go
CHECKPOINT
Go
USE master
Go
EXEC sp_defaultdb 'username', 'database_name'
Go
```

Note:

The spaces in the quoted strings in the SQL commands should not be included in the final procedure, as spaces are significant to the procedure and the commands will fail if they are there (EXEC sp_grantdbaccess 'login_name', 'user_name' should be EXEC sp_grantdbaccess 'login_name', 'user_name').

9. Examine the user tables in the SQL 2005 database to determine which schema they currently are in. Using the SQL Studio, the schema will be the prefix before each table listed in the Table tree.

   Note:

   This assumes that the schema of the user objects is not changed, even if it is a schema name with the same name as a user other than the user who will be accessing the data.

10. Execute the following command in the SQL 2005 database to ensure that the default schema for the user who will interact with the database matches the schema containing the restored user objects. If the objects are in the dbo schema, use dbo as the schema_name.

```
USE database_name
Go
ALTER USER user_name WITH DEFAULT_SCHEMA = schema_name
Go
```

What to do next

Note: You will need to configure Snapshot for your Microsoft SQL Server. See the *Configure Snapshot for Microsoft SQL Server* for further information.

Configuring the snapshot feature 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.

Procedure

Enter the following command to enable the snap shot feature:

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

Upgrading DB2 to version 10.1

To upgrade from DB2 9.5 or 9.7 to 10.1, you must make configuration changes. DB2 version 10.1 is only supported on Sterling B2B Integrator 5.2.4.1_2 or higher.

Procedure

1. Complete the steps in the following table that pertain to your version of Sterling B2B Integrator before you proceed to step 2.

   Important: Back up all files before you change any settings.

If you are upgrading from ...	Do the following steps:
Sterling B2B Integrator 4.3	1. If you are using DB2 9.1 or 9.2, you must first copy your database content to DB2 9.5 or 9.7 2. Upgrade Sterling B2B Integrator to 5.2.4 and point to the DB2 9.5 or 9.7 database 3. Upgrade your 5.2.4 installation to 5.2.4.1
Sterling B2B Integrator 5.0	1. If you are using DB2 9.1 or 9.2, you must first copy your database content to DB2 9.5 or 9.7 2. Upgrade Sterling B2B Integrator to 5.2.4 and point to the DB2 9.5 or 9.7 database 3. Upgrade your 5.2.4 installation to 5.2.4.1
Sterling B2B Integrator 5.1	1. Upgrade Sterling B2B Integrator to 5.2.4 and point to your DB2 9.5 or 9.7 database 2. Upgrade your 5.2.4 installation to 5.2.4.1
Sterling B2B Integrator 5.2	Upgrade your 5.2.4 installation to 5.2.4.1

2. Copy your DB2 9.5 or 9.7 database content to DB2 10.1.
3. Take a backup of the database driver located at `/install_dir/dbjar/jdbc/DB2/` and then replace it with the DB2 10.1 version.
4. Update the following `sandbox.cfg` file fields with your environment-specific parameters:

```
DB_PASS=
DB_SCHEMA_OWNER=
DB_DRIVERS_VERSION=
YANTRA_DB_PORT=
DB_DATA=
DB_HOST=
YANTRA_DB_USER=
DB_PORT=
YANTRA_DB_PASS=
YANTRA_DB_DATA=
YANTRA_DB_HOST=
DB_DRIVERS=
DB_USER=

DB2_PORT=
DB2_USER=
DB2_PASS=
DB2_DATA=
DB2_HOST=
```

5. Edit the following in the `activemq.xml` file:

```
activemq.xml: <value>jdbc:db2//DB_HOST:DB_PORT/DB_DATA</value>
```

6. Run the `setupfiles` script.
7. Run the `deployer` script.
8. Start Sterling B2B Integrator.

Information Gathering Checklist

Information Gathering Checklist for Upgrades (Windows Cluster)

Before you begin the upgrade, you should review the information in the Information Gathering Checklist. The checklist contains all of the information that you will need to have while running the upgrade scripts. Supporting information and details are included at the end of this chapter.

The checklist contains:

- Brief descriptions for tasks (detailed procedures are provided after the checklist)
- Information you need to gather to prior the starting the upgrade

You may want to make a copy of the following checklist and use it to record the information you collect for each node in the cluster.

The cluster environment does not support the following items:

- MySQL database
- AS2 Edition

#	**Information Gathering Checklist for Windows Cluster Upgrades**	**Your Notes**
1	Review your IBM contract to determine what software you have licensed. You need to know this *License Information* so that you can select the correct components/features to upgrade.	
2	Determine which upgrade method you are going to use: • IBM Installation Manager (Graphical User Interface) • IBM Installation Manager (Text Based) • Silent Installation	
3	Determine if you are going to run the pre-upgrade checks during the upgrade.	
4	Determine if you are going to use multicast ports.	
5	Decide which type of security certificates you will use: • The default self-signed SSL (Secure Sockets Layer) certificate that is automatically installed. • A Certificate Authority-related certificate that you install before installing the software.	
6	If you are using an Oracle, SQL Server (2005 or 2008), or DB2 database, decide if you are going to manually or automatically apply Database Definition Language (DDL) Statements (schema) to the database.	
7	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.	

#	Information Gathering Checklist for Windows Cluster Upgrades	Your Notes
8	Determine if you are going to use FIPS (Federal Information Processing Standards) mode.	
9	Record the Hostname on which you plan to install the software.	
10	Record the Directory Name where you plan to install the software.	
11	Record the Login to host machine.	
12	Record the Password to the host machine.	
13	Record the path to the JDBC drivers.	
14	Record the path to the installation wizard and file name.	
15	Record the path to JDK.	
16	Record the path to JCE file.	
17	Record the Host IP address.	
18	Record the Initial Port Number.	
19	Record the System passphase.	
20	Record the Administrative e-mail address to which system alert messages are sent.	
21	Record the SMTP Server IP address used for sending alert messages.	
22	Record the Database vendor name.	
23	Record the Database user name.	
24	Record the Database password.	
25	Record the Database (catalog) name.	
26	Record the Database host name.	
27	For Oracle or Microsoft SQL Server, record the Path and file name for the JDBC Driver.	
28	For DB2, record the Absolute paths and file names for two JDBC drivers.	

Supporting Information

Pre-Upgrade Check for Clusters

Pre-upgrade check reviews Oracle, SQL Server, and DB2 database environments prior to starting the upgrade. This is an optional installation feature which looks for are common upgrade errors. You only need to run the pre-check for node 1.

The pre-upgrade checks ensure:

- SI_VERSION table exists
- Database character set is correct for Oracle and DB2
- Schedule start times are not later than the end times
- Passphrase entered matches the existing passphrase in the database
- Database implementation for Oracle Long Raw and BLOB
- User has permission to perform the upgrade
- Collation settings are validated for MS SQL

- OBJECT_NAME is table SCI_ENTITY is no longer than 100 characters
- Default schema you identified during upgrade matches the existing database

If any of these items are not validated, the upgrade fails. You are provided with an error message and must correct the situations and then restart the upgrade.

License information

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.

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 Customer Support audits the system as soon as your system is in use.

After the installation finishes, if you determine that you need to modify licenses files, see "License modifications" on page 82.

Extracting the core license file

The `Core_License.xml` file is required during the installation or upgrade of Sterling B2B Integrator.

About this task

To extract the `Core_License.xml` file:

Procedure

1. Download the `SI_5020400.jar` file from Passport Advantage® to a temporary location.
2. From a command line, open the directory where the `SI_5020400.jar` file is located.
3. Type the following command to extract the contents of the JAR file: `jar -xvf SI_5020400.jar`
4. Type the following command to change directories to the middleware folder: `cd ./middleware`
5. From the middleware directory, extract the `Core_License.xml` file by typing the following command: `jar -xvf h_B2BF_4020400.jar`
6. The `Core_License.xml` file is in the newly extracted directory: `B2BF/components/b2b_base/files/properties/licensefiles`
7. Copy the `Core_License.xml` file to a temporary location where you can point to it during your installation or upgrade.

Multicast ports in node to node communications

Cluster nodes are configured to communicate with each other using JGroups, an open source toolkit that provides flexibility for protocol configuration.

JGroups provides rich open management features, along with multiple protocol support. JGroups supports multicast (UDP) and TCP-based communication protocols.

When JGroups is configured to use multicast (UDP), all cluster nodes communicate with each other on a specific IP address and port. The configuration of multicast

ports is based on the installation base port. All clusters that are on the same subnet that is configured on the same base port send multicasting messages on the same multicast IP address and port.

To avoid this situation, each cluster on the same subnet needs to be configured on different base ports. Install your clusters on different port ranges or on different network segments with multicast forwarding restricted, so that they do not interfere with each other. The default multicast address is 239.255.166.17. This address is configurable, with a port range of 10 ports, starting with the multicast base port for the instance.

All nodes that are participating in the same cluster must be installed on the same multicast base port (the **multicastBasePort** property in the noapp.properties_platform_ifcresources_ext.in file). This value is usually computed from the system base (non-multicast) port, but can be configured separately in the noapp.properties_platform_ifcresources_ext.in file, to allow different nodes in a cluster to be installed at different (non-multicast) port ranges. Also, all the nodes in the cluster must be installed in the same subnet.

For node to node communications, the properties are defined in the jgroups_cluster.properties file. The following attributes are used to define communications:

- **property_string** - default value is UDP.
- **distribution_property_string** - default value is TCP. This attribute must never be set to UDP.

If you want to change the communication for cluster multicast from the UDP protocol to TCP, you need to change the value of the **property_string** property in the jgroups_cluster.properties.in file (after you back up the file). Then, run the **setupfiles** command. You can change this value right after the installation or after you start running the cluster. If you change the file after you start the cluster, you need to stop all nodes of the cluster, change the value on each node, and then restart your cluster.

To change the communication for cluster multicast from the UDP protocol to TCP, use the following value for the **property_string** property in the jgroups_cluster.properties.in file:

```
property_string=TCP(start_port=any_available_port_number):
TCPPING (initial_hosts=this_instance_host_ip[start_port_number],
theothernode_instance_host_ip[theothernode_start_port_number];port_range=2;
timeout=5000;num_initial_members=3;up_thread=true;down_thread=true):
VERIFY_SUSPECT(timeout=1500):pbcast.NAKACK(down_thread=true;up_thread=true;
gc_lag=100;retransmit_timeout=3000):pbcast.GMS(join_timeout=5000;
join_retry_timeout=2000;shun=false;print_local_addr=true;
down_thread=true;up_thread=true)
```

For more information about UDP, TCP, and JGroups communications, see the *Sterling B2B Integrator Clustering* documentation.

Security certificates

You can choose between different security certificates before you install Sterling B2B Integrator.

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 change the certificate 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 between 1025 and 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 need to make sure that 10100 through 10199 are not used by any other applications on your system.

  Note: Because of RMI, on occasion, a port number outside the range may 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.

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 could 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.

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.

Upgrade the Software

General Windows Cluster Upgrade Information

CAUTION: Sterling B2B Integrator 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.

Upgrade Methods

Use one of the following methods to upgrade your system:

- Upgrade a Cluster using the GUI-Based method
- Upgrade a Cluster using the Silent Install File method

The cluster environment does not support the following items:

- MySQL database
- AS2 Edition

Windows Cluster Information

Upgrading Sterling B2B Integrator cluster nodes is similar to upgrading a Sterling B2B Integrator single node, with the following restrictions on all nodes:

- All nodes must use the same database.
- All nodes must use the same passphrase.
- All nodes must use the same operating system.
- When installing nodes on different machines, the initial port numbers must be the same. Installing nodes on different machines helps you take more advantage of the reliability, availability, and scalability features of clustering, including failover.
- When installing nodes on the same machine, you must install nodes 2 and higher in different directories and use different initial port numbers. Each initial port number must be at least 100 higher or lower than other initial port numbers.
- Nodes must be installed sequentially, one at a time, starting with the first node.
- After installing all of the nodes, nodes must be started sequentially, one at a time, starting with the first node.
- Obtain a valid Sterling B2B Integrator license for multiple IP addresses of all the nodes where Sterling B2B Integrator will be installed and configured as a cluster.
- 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 using FTP to copy the files, verify that your session is set to binary mode.
- Sterling B2B Integrator does not support IPv6 installation on Windows. Before applying an IPv6 address, see the *IPv6 Capabilities* section in Sterling B2B Integrator *System Requirements* guide.
- 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.
- Clustering is not supported for Sterling B2B Integrator systems that use the MySQL database, even though it appears as an option.
- 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.
- If you are running the upgrade on an active installation of Sterling B2B Integrator, you will need to run the soft stop command to gracefully stop traffic.

For more information on performing a soft stop, see the Soft Stop documentation in the System Administration Guide on the Sterling B2B Integrator 5.2 Information Center.

Installation Wizard Information

The installation wizard provides:

- The option of either entering the paths or selecting (Select File) the paths and files.
- For every screen in the 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.

General Installation Manager information

The IBM Installation Manager Software Delivery Platform is an installation management tool that installs and maintains Installation-Manager-based software packages.

Use the Installation Manager to modify feature sets and search for updates of installed software. The Installation Manager ensures that only compatible fixes are applied to a software installation.

Important: The on-screen options **Manage Licenses**, **Roll Back**, **Modify**, and **Update** are not functional as part of the Sterling B2B Integrator release 5.2.3. Additionally, the **Uninstall** option only removes Sterling B2B Integrator from the Installation Manager. The uninstall procedure as described in *Uninstall Sterling B2B Integrator from a Windows Non-Cluster Environment* still must be performed to completely uninstall Sterling B2B Integrator.
Attention: If you are using Installation Manager to install Sterling B2B Integrator version 5.2.3 and you plan on using the Financial Services License, you need to manually install the license.

The Installation Manager must be installed on each computer on which Sterling B2B Integrator is being installed. If you have an existing version of Installation Manager installed on your computer for use with other IBM applications, it can be used with Sterling B2B Integrator. If you do not have the Installation Manager installed, it is provided as part of the installation media and can be installed as part of the Sterling B2B Integrator installation.

The Installation Manager user interface provides the following features:

- The choice of either entering the paths or selecting the paths and files (**Select File**).
- Internal navigational buttons on every screen in the Installation Manager. You need to click **Next** to move to the next step. The click **Next** step is not represented in each step in the procedure.

  Important: The **Next** button does not activate until you enter data on a screen. For fields that require validation, you must click out of the field somewhere on the screen to trigger the validation and after validation completes, the button activates.
- For every screen in the text-based installation wizard, you need to press Enter to move to the next step. The press Enter step is not represented in each step in the procedure.
- Numbered options for each step in the Installation Manager's text mode, you need to press Enter to move to the next step.

- The ability to navigate to the different installation configuration pages out of sequence. The following icons indicate the status of a configuration page:
  –

    - page is completed
  –

    - current page you are on
  –

    - required entry
  –

    - page not completed

  Note: All the pages must have a

  to continue.

Additional heap memory parameters

The heap memory parameters specify the amount of memory the Installation Manager can use during the installation process. The heap memory pool sizes that are used by the Installation Manager are hardcoded defaults. If these defaults are not sufficient for your environment, you can specify different values by adding parameters to the Installation Manager's `config.ini` file.

Important: These additional parameters are needed only if you are experiencing `Out Of Memory` errors during the installation process.

The following parameters can be added:

- `memoryMin=user.sb.INSTALL_<OS>_INIT_HEAP.<amount_of_memory>`
- `memoryMax=user.sb.INSTALL_<OS>_MAX_HEAP.<amount_of_memory>`

Where *<OS>* is the user's operating system and *<amount_of_memory>* is the specified amount of memory.

Operating System	Parameter	Example Entry
Sun-Solaris	Initial Heap Size **INSTALL_SUN_INIT_HEAP**	`memoryMin=user.sb.INSTALL_SUN_INIT_HEAP.3072m`
	Maximum Heap Size **INSTALL_SUN_MAX_HEAP**	`memoryMax=user.sb.INSTALL_SUN_MAX_HEAP.3072m`

Operating System	Parameter	Example Entry
Linux	Initial Heap Size **INSTALL_LINUX_INIT_HEAP**	memoryMin=user.sb.INSTALL_LINUX_INIT_HEAP.3072m
	Maximum Heap Size **INSTALL_LINUX_MAX_HEAP**	memoryMax=user.sb.INSTALL_LINUX_MAX_HEAP.3072m
AIX®	Initial Heap Size **INSTALL_AIX_INIT_HEAP**	memoryMin=user.sb.INSTALL_AIX_INIT_HEAP.3072m
	Maximum Heap Size **INSTALL_AIX_MAX_HEAP**	memoryMax=user.sb.INSTALL_AIX_MAX_HEAP.3072m
HP-UX	Initial Heap Size **INSTALL_HPUX_INIT_HEAP**	memoryMin=user.sb.INSTALL_HPUX_INIT_HEAP.3072m
	Maximum Heap Size **INSTALL_HPUX_MAX_HEAP**	memoryMax=user.sb.INSTALL_HPUX_MAX_HEAP.3072m
Windows	Initial Heap Size **INSTALL_WIN_INIT_HEAP**	memoryMin=user.sb.INSTALL_WIN_INIT_HEAP.3072m
	Maximum Heap Size **INSTALL_WIN_MAX_HEAP**	memoryMax=user.sb.INSTALL_WIN_MAX_HEAP.3072m

Upgrading in a Windows cluster environment with the IBM Installation Manager in GUI mode

You can upgrade Sterling B2B Integrator in a Windows cluster environment with the IBM Installation Manager in a graphical user interface (GUI) mode.

Before you begin

- Access the JAR file for your upgrade. The JAR file depends on your operating system and current version of Sterling B2B Integrator. Refer to the following websites for the correct JAR file. Consult with your IBM representative to identify the correct JAR file for your upgrade path.
  - Refer to Fix Central to see if you must use an interim fix or fix pack JAR file for the upgrade.
  - Refer to Passport Advantage to see if you must use an installation JAR file for the upgrade.
- Complete the "Information Gathering Checklist for Upgrades (Windows Cluster)" on page 20.
- You must have administrative privileges and a login on the host machine to do an upgrade.
- The Upgrade Pre-check is not available for MySQL.
- If you are using the Standards Processing Engine (SPE) application with Sterling B2B Integrator, you must upgrade SPE before you upgrade Sterling B2B Integrator.
- If you are using the EBICS Banking Server application with Sterling B2B Integrator 5.2.5, the data encryption for storage within the installation location is not supported.

About this task

This upgrade changes the administrative password to the default password. After the upgrade, change the password back to the administrative password to minimize security risks. This is the Admin password for logging into the user interface (/dashboard or /ws).

Procedure

1. Close all open Windows programs and any command prompt windows.
2. From the installation media, copy the compressed upgrade package to a location on your desktop.
3. Uncompress the upgrade package.
4. Navigate to the IMSI (Installation Manager) folder located in the directory structure created when the installation package was uncompressed. You should see several IM_*OperatingSystem*.zip files.
5. Uncompress the `IM_Win.zip` file. This creates a new IMSI folder.
6. Navigate to the new IMSI folder.
7. To start the upgrade, click:

   install.exe

   Note: Additional memory settings can be specified for the Installation Manager by adding the following parameters to the installation command.
   - -DmemoryMax=-Xmx3072m
   - -DmemoryMin=-Xms1024m

   The Installation Manager opens.
8. Click **Next** to start the upgrade.
9. Review the license agreement and select the option **I accept the terms in the license agreements** to continue.

   If you do not accept the agreement, the upgrade process is cancelled.
10. Choose an install package group to use:
    a. Select the appropriate option for this upgrade:
       - **Use the existing package group**
       - **Create a new package group**

    b. Specify the path to the Sterling B2B Integrator **Installation Directory**.

       Below the installation directory, the installer creates a directory named `install`. This directory contains the installation files.

       Note: The Shared Resources directory cannot be a sub-directory of the Installation Manager installation.

       The specified Shared Resources and Installation Manager directories must be empty.
11. Select the feature packages to install.

    Clear the check box of any features you do not want to install.

    If you have other products installed that use the Installation Manager, updates for them may appear in your listing.

    Note: At this time, the system confirms you have enough space on your system to complete the install.
12. Enter the full path to the **JDK directory**.

13. Select the **Features** to install. The following list is displayed:
    - **IBM Sterling B2B Integrator and/or IBM Sterling File Gateway**

      Important: Sterling File Gateway requires extra installation steps. See Installing Sterling File Gateway (2.2.2 and higher).
    - **FIPS Module**
      - **FIPS Compliance Mode (Must enable FIPS Module)**
    - (5.2.5 and higher) **NIST 800-131a Compliance Mode**
      - **off** (default value)
      - **transition**
      - **strict**
    - **AS2 Edition Module**
    - **Financial Services Module**
    - **EBICS Banking Server Module**
    - (5.2.5 and higher) **SPE Integration Module (Requires pre-install of SPE, WTX optional)**

      If you select the SPE option, you are prompted for the following information:
      - SPE installation directory
      - (Optional) WebSphere® Transformation Extender (WTX) installation directory
      - SPE UI port

      For more information, see the documentation for the integration of Sterling B2B Integrator and SPE.

    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.

    Note: If you are upgrading to Sterling B2B Integrator version 5.2.4 from a previous 5.2.x release, you must manually install the EBICS client. For more information about installing the EBICS Client manually, see the EBICS Client User Guide on the Sterling B2B Integrator 5.2 Information Center.
14. Enter the full path to your **JCE file**.
15. Enter the full path to the JAR file that you are using for the upgrade.
16. Enter your **Installation panel properties** information:
    a. Enter the explicit IP address for the server or use the default value of localhost.
    b. Enter the Initial Port number or use the default value of 8080.
17. Enter your **System Passphrase** information:
    a. Enter a passphrase.
    b. Confirm the passphrase.
18. Enter you **E-Mail Information**:
    a. Enter the E-mail address to which you want system alert messages sent.

b. Enter the SMTP mail server (IP address or host name) that you want to use for system alert messages and other administrative notices.

19. Specify if you want to **Enable FIPS** (Federal Information Processing Standards) mode, select the check box. The default is FIPS mode is disabled.
20. Select the database vendor you want to use:
    - Oracle
    - (5.2.3 - 5.2.4.2) Microsoft SQL Server 2005
    - (5.2.5 and higher) Microsoft SQL Server 2012
    - DB2®
    - MySQL

    Clustering is not supported for Sterling B2B Integrator systems that use the MySQL database, even though it appears as an option.
21. Select all options that apply to this node:

Choices:	Action
This installation is for a cluster node 2 or higher (Not applicable for MySQL)	• For node 1: Do not select the check box. • For node 2 or higher: Select the check box.
Apply database schema automatically? (Not applicable for MySQL)	If yes, no action required. The default is to automatically apply the DDL statements. If you want to manually create the database schema, then clear the **Apply database schema automatically** check box and continue with the remaining upgrade steps. **Note:** Once the upgrade starts, it runs for a short time and stops without error. When the upgrade stops, you must perform additional actions as given in Step 26 of this procedure.
(Oracle only) Select the appropriate check box for 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.

22. 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.
23. Click **Add** to browse to the file location for the appropriate JDBC driver.

24. Click **Test** next to the database driver path.

    Note: The Installation Manager must successfully validate the connection to the database before you can continue with the upgrade. If there is a validation failure you can view the system log to determine more information about the failure. Perform the following:

    a. Identify the location of the user's application directory. Select **Start -> Run** and enter `%APPDATA%`.
    b. Navigate to the user's application directory: *local_path*`\IBM\Installation Manager\logs`
    c. Open the **index.xml** file in a browser.
    d. Identify the log file based upon the timestamp of when you started your upgrade.
    e. Click on the install file to view a listing of errors that occurred during that upgrade.

25. Determine what **Other options** apply to this installation. Select the applicable options:
    - **Verbose install**
    - **This installation is an upgrade from a prior version** - Select this option.

      Note: After you select the upgrade option, an additional option is displayed.
    - **Would you like to run upgrade pre-check?** - To run the pre-check, click **Test**.

26. Specify the **Performance configuration** that applies to this upgrade. Select the applicable options:
    - **Number of Processor Cores** - Accept default value or enter appropriate value.
    - **Physical Memory (MB) allocated to Sterling B2B Integrator** - Accept default value or enter appropriate value.

27. Review the installation package summary information
28. Click **Install** to continue.

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

    a. Navigate to your install directory.
    b. Locate the InstallSI.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

Important: ActiveMQ uses dynamically generated table names based on the name of the install node. Table generation is not included in the above scripts, but is performed automatically during the initial start of Sterling B2B Integrator or when a new cluster node is added. Table generation may fail if security restrictions have reduced the Sterling B2B Integrator database user permissions. To avoid this issue, ensure that the DBADM role permissions are enabled during the initial startup. If further issues arise, contact IBM customer support for guidance.

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 Progress** screen indicates which component of the installation is currently in process.

A status bar below the **Repository Information** heading displays the progress of component installation. When the installation completes, a large green circle with a checkmark displays with the message `The packages are installed`. A link is provided to view the installation log file.

The installation completes automatically. When the installation is finished, the system displays a dialog box with the message `The install completed successfully.`

Installation information is in the InstallSI.log file.

29. Click **Finish**. The Installation Manager closes and you are returned to your desktop.

    Check the **InstallSI.log** to verify all the components have installed properly.

    You will need to perform the *Configure the Sterling B2B Integrator Desktop Icon for Windows Server 2008* procedure if you use Windows Servers 2008.
30. Upgrade each subsequent node, from node 2 onwards. Navigate to your working directory. For example, `cd` *parent_install* directory.
31. You need to start the Installation Manager for each additional node, click:

install.exe You will follow the same steps as you did for node 1 until you get to Step 19. When prompted, select the **This installation is for a cluster node 2 or higher** check box.

32. If you used different base ports for node 2 onward, you need to complete the following additional steps:

Step	Action	Your Notes
1	Navigate to *install_dir*\install\properties for node 1.	
2	In the noapp.properies_platform_ifcresources_ext file, record the value for multicastBasePort.	
3	In the jgroup_cluster.properties file, record the value for mcast_port.	
4	For each subsequent node, you need to perform the remaining steps.	
5	Navigate to *install_dir*\install\properties for each node (node 2 and higher).	
6	In the noapp.properies_platform_ifcresources_ext.in file, update the value of the multicastBasePort to match the value for node 1. For example, replace the string &MULTICAST_NODE_PORT1; with the port number 45460: • (before) `multicastBasePort=&MULTICAST_NODE_PORT1;` • (after) `multicastBasePort=45460`	
7	In the `jgroups_cluster.properties.in` file, update all occurrences of the **`mcast_port`** property to match the value for node 1.	
8	After you have updated the attributes for all of the nodes, enter: *install_dir*\install\bin\setupfiles.cmd for node 2 and higher.	

33. On each node, starting with node 1, run the `command startCluster.cmd` nodeNumber from the \install_dir\install\bin directory where nodeNumber is the sequential number assigned to each node starting with 1. For example, on the first two nodes, you would run the following commands:

    For Node 1:

    `startCluster.cmd 1`

    When the cluster environment is configured, you will get the message *BUILD SUCCESSFUL*.

    For Node 2:

    `startCluster.cmd 2`

    Enter the passphrase.

    When the cluster environment is configured, you will get the message *Deployment to application server successful*.

34. After the cluster configuration is complete, go to the *install_dir*\install\bin directory for each node, starting with the first node, enter:

    `StartWindowsService.cmd`

    When prompted, enter the passphrase that you entered earlier.

    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 where Sterling B2B Integrator resides on your system.

Depending on system load, it may take several minutes for the user interface to be ready.

Make a note of the URL address so that you can access Sterling B2B Integrator later.

To make a dynamic addition of new nodes to the cluster, install new nodes to the cluster as described above and configure the servers for the cluster.

35. (This step applies only if you are upgrading to Sterling B2B Integrator 5.2.5.0.)

    After the Sterling B2B Integrator 5.2.5.0 installation is complete, install Sterling B2B Integrator 5.2.5.0 interim fix 3 (5020500_3). See "Install an interim fix (Windows Cluster)" on page 77 for instructions.

    This interim fix (`si_52_build_5020500_interimfix_3.jar`) is included in the Sterling B2B Integrator 5.2.5 installation media released in April 2015, but is not automatically installed. It must be installed separately. In this case, use the included `si_52_build_5020500_interimfix_3.jar` file rather than downloading from Fix Central.

36. Determine whether you need to apply a fix pack or interim fix to the installation. Refer to "Install an interim fix (Windows Cluster)" on page 77 for information.

Upgrading in a Windows cluster environment with the IBM Installation Manager in text mode

You can upgrade Sterling B2B Integrator in a Windows cluster environment with the IBM Installation Manager in a text-based mode that uses a command prompt.

Before you begin

- Access the JAR file for your upgrade. The JAR file depends on your operating system and current version of Sterling B2B Integrator. Refer to the following websites for the correct JAR file. Consult with your IBM representative to identify the correct JAR file for your upgrade path.
  - Refer to Fix Central to see if you must use an interim fix or fix pack JAR file for the upgrade.
  - Refer to Passport Advantage to see if you must use an installation JAR file for the upgrade.
- Complete the "Information Gathering Checklist for Upgrades (Windows Cluster)" on page 20.
- You must have administrative privileges and a login on the host machine to do an upgrade.
- The Upgrade Pre-check is not available for MySQL.
- If you are using the Standards Processing Engine (SPE) application with Sterling B2B Integrator, you must upgrade SPE before you upgrade Sterling B2B Integrator.
- If you are using the EBICS Banking Server application with Sterling B2B Integrator 5.2.5, the data encryption for storage within the installation location is not supported.

About this task

This upgrade changes the administrative password to the default password. After the upgrade, change the password back to the administrative password to minimize security risks. This is the Admin password for logging into the user interface.

Procedure

1. Close all open Windows programs and any command prompt windows.
2. From the installation media, copy the compressed upgrade package to a location on your desktop.
3. Uncompress the installation package.
4. Navigate to the IMSI (Installation Manager) folder located in the directory structure created when the installation package was uncompressed. You should see several IM_*OperatingSystem*.zip files.
5. Uncompress the `IM_Win.zip` file. This creates a new IMSI folder.
6. Navigate to the new IMSI folder.
7. Start the upgrade:

For Windows Server 2003 or earlier	For Windows Server 2008
From a command prompt (or from the **Run** dialog box), enter `installc.exe -c`	Complete the following steps: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed. • Enter `installc.exe -c`

   Note: Additional memory settings can be specified for the Installation Manager by adding the following parameters to the installation command.
   - -DmemoryMax=-Xmx3072m
   - -DmemoryMin=-Xms1024m

   The Installation Manager (text mode) starts.

   An **[X]** next to an option number indicates that option is selected.
8. Select the packages to install. Press **Enter** to accept the default selections.

   Note: The appropriate packages are selected by default. If you only want to proceed with the install of Installation Manager, you can deselect the Sterling B2B Integrator upgrade package.
9. Review the license agreement. Enter:

   Note: Displayed options may change based on available upgrade packages.
   - **1** to view the Sterling B2B Integrator license agreement.
   - **A** to accept the agreement.
   - **D** to decline the agreement.

     Note: If you do not accept the agreement, the installation process is cancelled.

   The screen refreshes with an [X] in front of your selected option. Press **Enter** to continue.

10. Choose an install package group to use:
    a. Select the appropriate option for this upgrade:
       - **M** to change the location where the package resides.
       - **N** to accept the default path.

    The screen refreshes with an [X] in front of your selected option. Enter **N** to continue.
11. Enter the full path of your JDK directory.
12. Select the Licenses/Features to install. Enter **[Y]es** to select a feature or **[N]o** to decline a feature when prompted. You are prompted for each of the following licenses:
    - **IBM Sterling B2B Integrator and/or IBM Sterling File Gateway**
    - **FIPS Module**
      – **FIPS Compliance Mode (Must enable FIPS Module)**
    - (5.2.5 and higher) **NIST 800-131a Compliance Mode**

      For this feature, you are prompted to enter a number for the option.
      – **off** (default value)
      – **transition**
      – **strict**
    - **AS2 Edition Module**
    - **Financial Services Module**
    - **EBICS Banking Server Module**
    - (5.2.5 and higher) **SPE Integration Module (Requires pre-install of SPE, WTX optional)**

      If you select the SPE option, you are prompted for the following information:
      – SPE installation directory
      – (Optional) WebSphere Transformation Extender (WTX) installation directory
      – SPE UI port

      For more information, see the documentation for the integration of Sterling B2B Integrator and SPE.

    Note: Select only the licenses/features that have been defined by your IBM contract. If you are unsure which to select, the upgrade 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.

    Note: If you are upgrading to Sterling B2B Integrator version 5.2.4 from a previous 5.2.x release, you must manually install the EBICS client. For more information about installing the EBICS Client manually, see the EBICS Client User Guide on the Sterling B2B Integrator 5.2 Information Center.
13. Enter the full path to unlimited strength JCE policy file.
14. Enter the full path to the JAR file that you are using for the upgrade.
15. Enter an explicit IP address or host name.
16. Enter the initial port number. Default is 8080.

17. Enter your system passphrase.

    This password is not hidden. It appears in dot format on your screen.
18. Enter your system passphrase again to confirm it.
19. Enter the e-mail address to which you want system alert messages sent.
20. Enter the SMTP mail server host name that you want to use for system alert messages and other administrative notices.
21. Do you want to use FIPS (Federal Information Processing Standards) mode?
    - **[Y]es**.
    - **[N]o**.
22. Enter the number of the database vendor as listed in the display:
    - **[1] DB2**
    - **[2] Oracle**
    - **[3] MySQL**
    - (5.2.3 - 5.2.4.2) **[4] MSSQL2005**
    - (5.2.5 and higher) **[4] MSSQL2012**
23. (Skip for MySQL) Specify if this installation is for a cluster node 2 or higher. Enter:
    - **[N]o** for cluster node 1
    - **[Y]es** for cluster node 2 and higher
24. (Skip for MySQL) Specify if you want to apply database schema automatically:
    - To automatically apply the database schema, enter **[Y]es**.
    - To manually create the database schema, enter **[N]o** and continue with the remaining upgrade steps.

      Note: Once the upgrade starts, it runs for a short time and stops without error. When the upgrade stops, you must perform additional actions as given in Step 28 of this procedure.
25. Configure your database by entering the following information:
    - Database user name.
    - Database password (and confirmation).

      This password is not hidden. It appears in dot format on your screen.
    - Database catalog name.
    - Database host name.
    - Database host port number.
    - For Oracle, Microsoft SQL Server, and MySQL - Absolute path and file name for one JDBC driver.
    - For DB2 - Absolute paths and file names for two JDBC drivers.

      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 Sterling B2B Integrator to the DB2 server.
    - For Oracle only - At the *What Data type would you like to use?* prompt, choose a data type for binary data (BLOB or Long Raw).

      To use caching for BLOB (binary large object) columns, enter **BLOB** . You can significantly improve performance by enabling the cache on the BLOB data object in Oracle. For more information, refer to the documentation for slow performance in Oracle.

      To use the Long Raw data type, enter **Long**.

Note: The Installation Manager must successfully validate the connection to the database before you can continue with the upgrade. If there is a validation failure, the upgrade is cancelled. You can view the system log to determine more information about the failure.

26. Specify if this installation is an upgrade from a prior version. Enter **[Y]es**.
27. Specify if you want to use the verbose install option. Enter the appropriate option:
    - **[Y]es**.
    - **[N]o**

    Confirm your entry by pressing **Enter**.
28. Specify if you want to perform an upgrade precheck:
    - **[Y]es**.
    - **[N]o**
29. Specify the **Performance configuration** that applies to this upgrade. Select the applicable options:
    - **Number of Processor Cores** - Accept default value or enter appropriate value.
    - **Physical Memory (MB) allocated to Sterling B2B Integrator** - Enter the appropriate value.

    A Summary page of upgrade information with your selections is displayed.
30. Review the Summary page. Specify the next course of action:

Course of action to take ...	Select ...
Generate a text file of your entries, (Not functional for release 5.2.3)	G. Generate installation response file.
Return to step 9 of this procedure to correct/modify previous entries,	B. Back,
Begin the upgrade,	I. Install,
Cancel the upgrade,	C. Cancel

If you selected I, the upgrade begins.

Note: If you DID NOT select the option to **Apply database schema automatically**, the upgrade stops and you must perform additional steps to complete the installation with manual DDL statements:

a. Navigate to your install directory.
b. Locate the InstallSI.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

Important: ActiveMQ uses dynamically generated table names based on the name of the install node. Table generation is not included in the above scripts, but is performed automatically during the initial start of Sterling B2B Integrator or when a new cluster node is added. Table generation may fail if security restrictions have reduced the Sterling B2B Integrator database user permissions. To avoid this issue, ensure that the DBADM role permissions are enabled during the initial startup. If further issues arise, contact IBM customer support for guidance.

g. Exit from the database.
h. Navigate to the parent directory of *install_dir*.
i. Delete (or Rename as a backup) the Sterling B2B 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.

Installation information can be found in the InstallSI.log file.The installation automatically continues. When the installation is finished, the system displays the following message:

```
The install completed successfully
```

31. Press **Enter** to select **Finish**.

    Check the **InstallSI.log** to verify all the components have installed properly.
32. Upgrade each subsequent node, from node 2 onwards. Navigate to your working directory. For example, `cd` *parent_install* directory.
33. You need to start the Installation Manager for each additional node:

For Windows Server 2003 or earlier	For Windows Server 2008
From a command prompt (or from the **Run** dialog box), enter `installc.exe -c`	Complete the following steps: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed. • Enter `installc.exe -c`

You will follow the same steps as you did for node 1 until you get to Step 21. When prompted, select the **This installation is for a cluster node 2 or higher** check box.

34. If you are upgrading multiple nodes on the same machine or used different base ports for node 2 onward, you need to complete the following additional steps:

Step	Action	Your Notes
1	Navigate to *install_dir*\install\properties for node 1.	
2	In the noapp.properies_platform_ifcresources_ext file, record the value for multicastBasePort.	
3	In the jgroup_cluster.properties file, record the value for mcast_port.	
4	For each subsequent node, you need to perform the remaining steps.	
5	Navigate to *install_dir*\install\properties for each node (node 2 and higher).	
6	In the noapp.properies_platform_ifcresources_ext.in file, update the value of the multicastBasePort to match the value for node 1. For example, replace the string &MULTICAST_NODE_PORT1; with the port number 45460: • (before) `multicastBasePort=&MULTICAST_NODE_PORT1;` • (after) `multicastBasePort=45460`	
7	In the jgroups_cluster.properties.in file, update all occurrences of mcast_port to match the value for node 1.	
8	After you have updated the attributes for all of the nodes, enter: *install_dir*\install\bin\setupfiles.cmd for node 2 and higher.	

35. On each node, starting with node 1, run the `command startCluster.cmd` nodeNumber from the \install_dir\install\bin directory where nodeNumber is the sequential number assigned to each node starting with 1. For example, on the first two nodes, you would run the following commands:

    For Node 1:

    `startCluster.cmd 1`

    When the cluster environment is configured, you will get the message *BUILD SUCCESSFUL*.

    For Node 2:

    `startCluster.cmd 2`

    Enter the passphrase.

    When the cluster environment is configured, you will get the message *Deployment to application server successful*.

36. After the cluster configuration is complete, go to the *install_dir*\install\bin directory for each node, starting with the first node, enter:

    `StartWindowsService.cmd`

    When prompted, enter the passphrase that you entered earlier.

    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 where Sterling B2B Integrator resides on your system.

Depending on system load, it may take several minutes for the user interface to be ready.

Make a note of the URL address so that you can access Sterling B2B Integrator later.

To make a dynamic addition of new nodes to the cluster, install new nodes to the cluster as described above and configure the servers for the cluster.

37. Start Sterling B2B Integrator.

    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 where resides on your system.

    Depending on system load, it may take several minutes for the UI to be ready.

    Make a note of the URL address so that you can access later.

38. (This step applies only if you are upgrading to Sterling B2B Integrator 5.2.5.0.)

    After the Sterling B2B Integrator 5.2.5.0 installation is complete, install Sterling B2B Integrator 5.2.5.0 interim fix 3 (5020500_3). See "Install an interim fix (Windows Cluster)" on page 77 for instructions.

    This interim fix (`si_52_build_5020500_interimfix_3.jar`) is included in the Sterling B2B Integrator 5.2.5 installation media released in April 2015, but is not automatically installed. It must be installed separately. In this case, use the included `si_52_build_5020500_interimfix_3.jar` file rather than downloading from Fix Central.

39. Determine whether you need to apply a fix pack or interim fix to the installation. Refer to "Install an interim fix (Windows Cluster)" on page 77 for information.

Silent Installation Method for Upgrades

The silent installation method automates part of the upgrade process and limits your manual interaction with the upgrade program. To use the silent installation method, you will need to first create a silent install file using a text editor.

Create the Silent Installation File for the Windows Cluster Upgrade

About this task

The following entries correlate to prompts in the Install Using the IBM Installation Manager procedure. Create a silent installation file with the following variables:

Note: Special characters need to be proceeded 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.

Entry	Description
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. **Attention:** If you are installing or upgrading Sterling B2B Integrator to version 5.2.4, refer to the section: *Extracting the Core License File*.
LICENSE_FILE_# (where # is a number between 1 and 99)	(Required) This is required for each license you install. You need to add an entry for each license file to 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= SSI_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.
REINIT_DB	(Required) Indicates if database should be initialized. • For node 1 of a cluster, this property is true. • For node 2 and higher of a cluster, this property is false. Default: true
CLUSTER	(Required) Indicates if this is the second or higher node of a cluster installation. Valid values: • true - This is the second or higher node of a cluster installation. • false (default) - This is the first node of a cluster or a single node (non-cluster) installation.

Entry	Description
INSTALL_IP	(Required) Host name or IP address. Valid values: • localhost (default) • Your IP address or host name 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. **Note:** Sterling B2B Integrator does not support IPv6 installation on Windows. Before applying an IPv6 address, see the *IPv6 Capabilities* section in the *System Requirements*. You must install using a host name, not an IPv6 address, otherwise the Lightweight JDBC adapter and Graphical Process Modeler (GPM) will not work.
PORT1	(Required) Base port for ASI server. Ports are assigned consecutively from this port. Default: 8080
APSERVER_PASS	(Required) Passphrase used to secure all encrypted data in database.
SI_ADMIN_MAIL_ADDR	(Required) E-mail address for the administrative user. Example: abc@xyz.com
SI_ADMIN_SMTP_HOST	(Required) Valid SMTP host through which the system can e-mail the administrative user. Example: mail.xyz.com
FIPS_MODE	(Optional) Indicates if you are using FIPS (Federal Information Processing Standards) mode. Valid values: • true - Enable FIPS mode. • false (default) - Disable FIPS mode.
DB_VENDOR	(Required) Database vendor. Valid values: • Oracle • MSSQL2005 (use this value for Microsoft SQL 2005 and 2008) • DB2 • MySQL
UPGRADE	(Required) Indicates if you are upgrading. Set this value to true. Default: false

Entry	Description
DB_CREATE_SCHEMA	(Required) Indicates if you want the database schema automatically created. Valid values: • true (default) - Automatically create the schema. • false - Manually create the schema. This is not a valid choice for MySQL. If you create the database schema manually, restart the installation procedure in a new installation directory. You can delete the installation directory created earlier.
DEBUG	(Optional, highly recommended) Records events that occur during the installation in InstallSI.log file. Valid values: • 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.
DB_DRIVERS	(Required) Full path to JDBC driver files. If DB_VENDOR is: • Oracle or MSSQL, specify one driver. • DB2, specify two drivers. If you specify more than one driver, use colons (:) to separate the file names. Examples: • *JDBC_driver_dir*\db2jdbc.jar • *JDBC_driver_dir*\db2_1_jdbc.jar:*JDBC_driver_dir*\db2_2_jdbc.jar
ORACLE_USE_BLOB	(Required if DB_VENDOR=Oracle) Indicates the data type to use for caching. • true (default) - BLOB (binary large object) • false - Long Raw
MSSQL2005	(Required for Microsoft SQL Server 2005) This attribute is case-sensitive. • Set this attribute to the default value of true. • (All other servers) Do not include this attribute.
JDK64BIT	(Optional) Indicates if a 32-bit or 64-bit JDK is being used. Refer to the *System Requirements* to determine the type of JDK for your operating system. Valid values: • true (default) - 64-bit • false - 32-bit

Entry	Description
Icons	(Required) Indicates whether to create a desktop icon for accessing Sterling B2B Integrator. Valid values: • true - Create a desktop icon. • false (default) - Do not create a desktop icon. If you created the desktop icon and are using Windows Server 2008, you need to complete the *Configure the Desktop Icon for Windows Server 2008* task after the installation is complete.

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
JDBC_VENDOR	JDBC driver vendor. Used when multiple vendors are available (DB2 iSeries: DB2APP, DB2TOOLBOX, DB2). Default: Microsoft
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: • 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.
DB_CLEAN	Indicates if database should be wiped at the beginning of the installation. Default: no

Upgrade the Cluster Using a Silent Installation File (Windows Cluster)

You can upgrade Sterling B2B Integrator in a Windows cluster environment using a silent installation file.

About this task

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

To upgrade in the windows cluster environment using a silent installation file:

Procedure

1. From the installation media, copy SI_<*build_number*>.jar to a Windows directory.
2. If you want to run the upgrade pre-check, from the upgrade media, copy IBMUpgradePreCheck.jar to a Windows directory.
3. Set up your silent installation file and record the location.
4. If you want to run the pre-check, in a command window enter the following (which includes paths to the JDK, the IBMUpgradePreCheck.jar file, and the silent installation file):

   ```
   \absolutePath\bin\java -jar \absolutePath\IBMUpgradePreCheck.jar -f
   \absolutePath\SilentInstallFile
   ```

   The validation starts. If the pre-check generates an error message, you must resolve the error situation, before the upgrade can be restarted.When the pre-check finishes without any errors, the system displays the following message: *SI upgrade pre-check has been completed successfully*
5. To start the upgrade, use one of the follow methods:

For Windows Server 2003 or earlier	**For Windows Server 2008**
• Open a command prompt window (from the Run dialog box). • Enter `\absolutePath\bin\java -Xmx512m -jar \absolutePath\SI.jar -f \absolutePath\SilentInstallFile`	Complete the following steps: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed. • Enter `\absolutePath\bin\java -Xmx512m -jar \absolutePath\SI.jar -f \absolutePath\SilentInstallFile`

   The upgrade begins. The program verifies support for your operating system and JDK. 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.
   ```

   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.
6. (Skip this step if you are applying database schema automatically.) If you are going to manually create the database schema, the upgrade starts and runs for a short time before stopping without error.

Note: After the upgrade stops, you must perform these additional steps to complete the upgrade with manual DDL statements:

a. Navigate to your install directory.
b. Locate the InstallSI.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

   Important: ActiveMQ uses dynamically generated table names based on the name of the install node. Table generation is not included in the above scripts, but is performed automatically during the initial start of Sterling B2B Integrator or when a new cluster node is added. Table generation may fail if security restrictions have reduced the Sterling B2B Integrator database user permissions. To avoid this issue, ensure that the DBADM role permissions are enabled during the initial startup. If further issues arise, contact IBM customer support for guidance.
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 upgrade and provide the same options you provided before.

7. Check the **InstallSI.log** to verify all the components have installed properly.
8. To upgrade each subsequent node, from node 2 onwards and if you are installing nodes on separate machines, enter the same information in the silent installation file that you entered for node 1, with the following exceptions:
   - Set `REINIT_DB=false`. This prevents the database from being re-initialized.

- Set `CLUSTER=true`.
- Use a different installation directory for each node (the INSTALL_DIR property).
- Use an initial port number that is 200 port numbers higher or lower than the initial port number on other nodes (the PORT1 property). Each node will be configured on a different port range.

After all the nodes are installed, proceed to the next step.

9. To start the installation of nodes 2 and higher of the cluster:

For Windows Server 2003 or earlier	For Windows Server 2008
• Open a command prompt window (from the Run dialog box). • Enter `\absolutePath\bin\java -Xmx512m -jar \absolutePath\SI.jar -f \absolutePath\SilentInstallFile - cluster`	Complete the following steps: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed. • Enter `\absolutePath\bin\java -Xmx512m -jar \absolutePath\SI.jar -f \absolutePath\SilentInstallFile - cluster`

10. If you installed multiple nodes on the same machine or used different base ports for node 2 onward, you need to complete the following additional steps:

Step	Action	Your Notes
1	Navigate to *install_dir*\install\properties for node 1.	
2	In the noapp.properies_platform_ifcresources_ext file, record the value for multicastBasePort.	
3	In the jgroup_cluster.properties file, record the value for mcast_port.	
4	For each subsequent node, you need to perform the remaining steps.	
5	Navigate to *install_dir*\install\properties for each node (node 2 and higher).	
6	In the noapp.properies_platform_ifcresources_ext.in file, update the value of the multicastBasePort to match the value for node 1. For example, replace the string `&MULTICAST_NODE_PORT1;` with the port number `45460`: • (before) `multicastBasePort= &MULTICAST_NODE_PORT1;` • (after) `multicastBasePort=45460`	
7	In the jgroups_cluster.properties.in file, update all occurrences of mcast_port to match the value for node 1.	

Step	Action	Your Notes
8	After you have updated the attributes for all of the nodes, enter: *install_dir*\install\bin\setupfiles.cmd for node 2 and higher.	

11. On each node, starting with node 1, run the `command startCluster.cmd` nodeNumber from the \install_dir\install\bin directory where nodeNumber is the sequential number assigned to each node starting with 1. For example, on the first two nodes, you would run the following commands:

    For Node 1:

    `startCluster.cmd 1`

    When the cluster environment is configured, you will get the message *BUILD SUCCESSFUL*.

    For Node 2:

    `startCluster.cmd 2`

    Enter the passphrase.

    When the cluster environment is configured, you will get the message *Deployment to application server successful*.

12. Once the cluster configuration is complete, go to the \install_dir\install\bin directory for each node and issue the following commands to install and start Windows services:

    `InstallWindowsService.cmd startWindowsService.cmd`

13. Enter your passphrase.

    The final startup processes run, concluding with the following messages:

    Open your Web browser to [URL]

    Depending on system load, it may take several minutes for the UI to be ready.

    Make a note of the URL address so that you can access Sterling B2B Integrator later.

    The system returns you to a Windows prompt.

    To make a dynamic addition of new nodes to the cluster, install new nodes to the cluster as described above and configure the servers for the cluster.

14. (This step applies only if you are upgrading to Sterling B2B Integrator 5.2.5.0.)

    After the Sterling B2B Integrator 5.2.5.0 installation is complete, install Sterling B2B Integrator 5.2.5.0 interim fix 3 (5020500_3). See "Install an interim fix (Windows Cluster)" on page 77 for instructions.

    This interim fix (`si_52_build_5020500_interimfix_3.jar`) is included in the Sterling B2B Integrator 5.2.5 installation media released in April 2015, but is not automatically installed. It must be installed separately. In this case, use the included `si_52_build_5020500_interimfix_3.jar` file rather than downloading from Fix Central.

15. Determine whether you need to apply a fix pack or interim fix to the installation. Refer to "Install an interim fix (Windows Cluster)" on page 77 for information.

16. From the installation directory, install windows services by running the command **installWindowsService.cmd**.

Configure the Sterling B2B Integrator Desktop Icon for Windows Server 2008

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.

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.

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 Software

Validate the Cluster Upgrade Checklist

As part of the upgrade, you need to run the following tests to ensure that the software upgrade was successful. All of the following tests are not required. Complete the following tasks:

Number	Validate Cluster Upgrade Task	Completed
1	Verify the Cluster Environment Settings in Property Files.	
2	Configure the Nodes in Windows Cluster.	
3	Start the Windows Cluster.	
4	Access Sterling B2B Integrator.	
5	Validate the Installation (Sample Business Process).	
6	Verify the Cluster is Running from the User Interface.	
7	Stop a Node in the Windows Cluster Configuration.	
8	Stop Sterling B2B Integrator (Windows Cluster).	
9	Stop Sterling B2B Integrator in a Windows Cluster Environment (Hardstop or Softstop).	
10	Restart the Windows Cluster.	

Verifying the cluster environment settings in the properties files

Procedure

To verify the cluster environment is correct, check these properties file settings on node 2:

1. Verify that the value `CLUSTER=true` is in the `sandbox.cfg` property file.
2. Verify that the value `CLUSTER=true` is in the `centralops.properties` property file.
3. Verify that the value `CLUSTER=true` is in the `noapp.properties` property file.
4. Verify that the value `cluster_env property=true` is in the `ui.properties` property file.

Configure the Nodes in Windows Cluster

About this task

The first time you configure a cluster, you need to use the startCluster command with true option (startCluster.cmd nodeNumber true). Initial configuration should be the only time you need to use the startcluster command. However. if you should need to use the command again, use the startcluster command with the false option (startCluster.cmd nodeNumber false). The false option prevents any configuration changes from affecting the system, especially after installation of a fix pack or interim fix.

To configure the nodes in a Windows cluster environment, you need to perform the following task for each node, starting with node 1:

Procedure

1. Navigate to *install_dir*\install\bin for the node 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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

2. Enter `startCluster.cmd <nodeNumber> <true or false>`. Where <nodeNumber> is the number of the node, true performs database updates and false prevents database updates. For example for node 1, enter `./startCluster.cmd 1 true`.
3. Enter `startWindowsService.cmd`. Perform this step for each node. The final startup processes run, concluding with the following message: `Open your Web browser to http://host:port/dashboard` where *host:port* is the IP address and port number on your system.
4. Record the URL address so that you can access Sterling B2B Integrator.

Starting Sterling B2B Integrator in a Windows cluster environment

After you run the upgrade software, you can start Sterling B2B Integrator.

Before you begin

If you are starting Sterling B2B Integrator after you upgrade the application from version 5.1.0.4 to 5.2.5, change the values of the following properties in the `centralops.properties` file to `600`. This action prevents the **`StartWindowsService.cmd`** command from timing out before Sterling B2B Integrator starts. The `centralops.properties` file is in the *`install_dir`*`\install\properties` directory.

- **`OpsServer.commandTimeout`**
- **`PassPhrase.urlTimeout`**

About this task

Perform this task for each node in the cluster, starting with node 1.

Procedure

1. Open the `\`*`install_dir`*`\install\bin` 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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

2. Enter `startWindowsService.cmd`.
3. Enter your passphrase.
4. The final startup processes run, concluding with the following message: `Open your Web browser to http://`*`host:port`*`/dashboard`

   Where *`host`*`:`*`port`* is the IP address and port number where Sterling B2B Integrator is located on your system.

   Depending on system load, it might take several minutes for the UI to be ready.
5. Record the URL address so that you can access Sterling B2B Integrator.

What to do next

If you need to release all the locks in a cluster and both nodes are down, use the `restart` parameter for node 1.

Note: The `restart` parameter can be used on only node 1. It cannot be used on any other nodes.

For example:

For node 1, enter:

```
startWindowsService.cmd restart
```

For node 2 and higher, enter:

```
startWindowsService.cmd
```

Accessing Sterling B2B Integrator

You can access Sterling B2B Integrator through a web browser.

Procedure

1. Open a browser window and enter the address that is displayed at the end of the start.
2. On the login page, 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.

Validating the installation with a sample business process

You can validate the installation by testing a sample business process.

Procedure

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

Verifying from the user interface that the cluster is running

You can use the user interface to verify that the cluster is running, including queue information and adapter status.

Procedure

1. From the **Administration Menu**, click **Operations** > **System** > **Troubleshooter**. Ensure you can view the Queue information for each node.
2. From the **Administration Menu**, click **Operations** > **System** > **Troubleshooter**. Ensure you can view the JNDI Tree for each node.
3. From the **Administration Menu**, click **Operations** > **System** > **Troubleshooter**. Ensure you can view the host, state, status, adapters, and memory usage information for each node.
4. From the **Administration Menu**, click **Operations** > **System** > **Troubleshooter**. Ensure you can view the adapter status for each node.

Stop a Node in the Windows Cluster Configuration (Hard Stop)

About this task

You can stop a single node Sterling B2B Integrator in a Windows cluster environment. To run a hardstop, perform this task for each node:

Procedure

1. 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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

2. Enter `StopWindowsService.cmd`.
3. Enter your passphrase. You can also perform this task by selecting **Operations > System > Troubleshooter**. Then click the **shutdown** link for the node you want to stop.

Stop Sterling B2B Integrator (Windows Cluster)

About this task

To stop the entire cluster 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.

Stop Sterling B2B Integrator (Hardstop Windows)

About this task

To stop Sterling B2B Integrator in a Windows environment:

Procedure

1. 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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

2. Enter `StopWindowsService.cmd`. Your should receive a message that services have been stopped. Services include Noapps, Opsserver, WebDav, and Database-related service.

Stop Cluster (Softstop Windows)

About this task

Soft stop in a cluster environment suspends all scheduled bushiness processes. It is recommended to run the hardstop command on each of the nodes.

To soft stop the cluster:

Procedure

1. 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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

2. Enter `softstop.cmd`. You should receive a message that services have been stopped. Services include Noapps, Opsserver, WebDav, and Database-related service.

   For more information about the softstop command line options, refer to the performance management documentation.

Restart the Windows Cluster

About this task

To restart the entire cluster in a Windows environment:

Procedure

1. 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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

2. Enter `startWindowsService.cmd restart`.

What to do next

If you need to release all the locks in a cluster and both nodes are down, use the `restart` parameter for **Node 1**.

Note: The `restart` parameter can only be used on **Node 1**. It cannot be used on any other nodes.

For example:

For **Node 1**, enter:

```
startWindowsService.cmd restart
```

For **Nodes 2 and higher**, enter:

```
startWindowsService.cmd
```

Post Upgrade Configuration

Post upgrade configuration checklist (Windows cluster)

After the upgrade software finishes running, you must perform some post upgrade procedures.

Review all of the procedures in the checklist. Some procedures might not be required.

Task number	Task	Your notes
1	For security purposes, change all default user ID passwords immediately after installation is completed. See the account update topic in the security documentation.	
2	"Determine If You Need to Apply a Fix Pack (Windows)" on page 73	
3	"Change the Administrative Password" on page 58	
4	"Configure Cluster Environment in Windows" on page 58	
5	"Change the Network Interface Bindings (Windows)" on page 58	
6	"Disable Services" on page 59	
7	"Download of the Sterling B2B Integrator tools" on page 59	
8	"Enable Business Processes" on page 60	
9	"Property files configuration in a Windows environment" on page 60	
10	"Add cdinterop Files" on page 60	
11	"Updating the sandbox.cfg file with a new JCE file" on page 60	
12	"Add Third-Party Libraries" on page 61	
13	"Review the EDI Sequence Check Queue" on page 61	
14	"Configure Document File Systems" on page 66	
15	"Configure Services and Adapters" on page 61	
16	"Configure JDBC Adapter and Lightweight JDBC Adapter" on page 62	
17	"Configure File System Adapter and Command Line2 Adapters" on page 62	
18	"Configure Odette FTP Adapter" on page 63	
19	"Restore Performance Tuning Configuration" on page 65	
20	"Add Advanced File Transfer Tab" on page 65	
21	"Reconfigure Archive Settings" on page 66	
22	"Correct Missing Manager IDs" on page 66	
23	"Manage Nodes in a Cluster" on page 67	
24	"Configure ActiveMQ for a Cluster Environment (Windows)" on page 69	

Task number	Task	Your notes
25	"Configure Shared File Systems as Document Storage (Windows Cluster)" on page 70	
26	"Add host[port] From all the Nodes to the jgroups_cluster.property.in for Each Node" on page 71	
27	"Configure JVM Containers" on page 72	

Configure Cluster Environment in Windows

About this task

For each node in the cluster, starting with node1:

Procedure

1. 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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

2. On each node, starting with node 1, run the `command startCluster.cmd` nodeNumber. Where nodeNumber is the sequential number assigned to each node starting with 1. For example, on the first two nodes, you would run the following commands:

   For Node 1:

   ```
   startCluster.cmd 1
   ```

   When the cluster environment is configured, you will get the message *BUILD SUCCESSFUL*.

   For Node 2:

   ```
   startCluster.cmd 2
   ```

   Enter the passphrase.

   When the cluster environment is configured, you will get the message *Deployment to application server successful*.

Change the Administrative Password

This upgrade changes the administrative password to the default password. After the upgrade, change the password to minimize security risks. This is the Admin password for logging into the UI.

Change the Network Interface Bindings (Windows)

About this task

To increase the security of the Administrator Console user interface, Sterling B2B Integrator binds only to specific network interfaces. After installing, if the URL returns the error message **Page cannot be displayed**, you can adjust property settings to correct the problem.

To update the property settings:

Procedure

1. On the server where Sterling B2B Integrator resides, edit the noapp.properties_platform_ifcresources_ext.in file.
2. Locate the admin_host parameter.

   Where *hostname1* is the name of primary network interface, the one given highest priority by Sterling B2B Integrator.

   Where *localhost* is the name of the network interface on the server where Sterling B2B Integrator resides.

   ```
   admin_host.1 = hostname1
   admin_host.2 = localhost
   ```
3. If no interface is being displayed, edit hostname1 so that it correctly identifies the primary network interface that accesses Sterling B2B Integrator.
4. If an additional network interface needs to access Sterling B2B Integrator, add an additional admin_host entry. For example:
   - `admin_host.1 = hostname1`
   - `admin_host.2 = localhost`
   - `admin_host.3 = hostname2`
5. Stop Sterling B2B Integrator.
6. Navigate to *install_dir*\install\bin.
7. Enter setupfiles.cmd.
8. Restart Sterling B2B Integrator.

Disable Services

About this task

The upgrade process enables services that might have been disabled before the upgrade. If you want to disable these services again, you must disable them in after the upgrade process.

Download of the Sterling B2B Integrator tools

After you install Sterling B2B Integrator, you can install tools like the Map Editor and the Graphical Process Modeler (GPM).

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 require MESA Developer Studio if you want to use the plug-ins to create fact models and custom reports

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

Enable Business Processes

About this task

During the upgrade process, your customized business processes are preserved, but they may not be the default business process. Review the business processes and enable the customized versions.

Property files configuration in a Windows environment

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 or not 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.

After installing 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, for example setting a different logging level - you will need to edit (or in some cases, create) certain property or .xml files.

Before changing 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 need to 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

Add cdinterop Files

About this task

During the upgrade, the cdinteropt files were replaced. Copy the customized version into the upgrade.

Updating the sandbox.cfg file with a new JCE file

If you upgrade from Sterling B2B Integrator release 5.2.4.2 to 5.2.5 and you change the JDK from Sun to IBM, you must manually update the Java Cryptography Extension (JCE) policy file information in the `sandbox.cfg` file.

Procedure

1. Open the *install_dir*`\install\properties` directory.
2. Open the `sandbox.cfg` file.
3. Change the **`JCE_DIST_FILE`** property to the path to the JCE file that you specified during the upgrade.
4. Save and close the `sandbox.cfg` file.
5. Open the *install_dir*`\install\bin` directory.
6. Enter the `setupfile.cmd` command to update your installation with the new **`JCE_DIST_FILE`** property value.

Add Third-Party Libraries

About this task

If you added third-party libraries to configure adapters for the previous release, you need to add each of the libraries again after you complete the upgrade. See the documentation for each third party adapter you use.

Review the EDI Sequence Check Queue

About this task

The EDI Sequence Check Queue is used for X12 and EDIFACT sequence and duplicate checking. You can check the contents of the queue through the UI (**Trading Partner > Document Envelopes > EDI Sequence Check Queue**). Any interchanges that are in the queue will not be able to be processed after upgrade because the EDI compliance report serialized format has changed.

If you installed the 5005 media or upgrade to 5005 and higher, the EDI Post Processor displays the following error:

```
The compliance report for interchange <interchange document ID> could not be
deserialized because the format has changed. The entry for this interchange
should be manually removed from the EDI Sequence Check Queue through the UI,
and the inbound deenvelope workflow should be rerun (WF ID <wfid>).
```

If you receive this error, you should follow the instructions in the error message to correct the situation.

Configure Services and Adapters

About this task

You may need to reconfigure services and adapters after an upgrade. During an upgrade, packages for services and adapters are reprocessed to update the service configurations.

After an upgrade, the configurations of default adapters and services are re-set to their default configurations. This includes directory paths, which are restored to their default paths. You need to reconfigure those adapters and services, which include, but are not limited to:

- All default FTP adapters
- All default SFTP adapters
- Connect:Enterprise UNIX Server Adapter
- OdetteFTP Adapter
- SAP Suite Adapter
- SWIFTNet Client Service
- SWIFTNet Server Adapter

If you modified the standard configuration for a service or adapter, you may need to reconfigure or reactivate the service or adapter following an upgrade. You may also need to reconfigure adapters that used directories or scripts in the installation directory of your previous release.

Examples of services and adapters that commonly need to be reconfigured following an upgrade include:

- FTP adapter

- System services such as the Alert service and the BP Fault Log adapter

The following adapters need special consideration following an upgrade:

- JDBC Adapter and Lightweight JDBC Adapter
- File System Adapter and Command Line2 Adapters
- Odette FTP Adapter

Configure JDBC Adapter and Lightweight JDBC Adapter

About this task

Storage locations of the database pool properties that allow the JDBC adapter and the Lightweight JDBC adapter to communicate with your external database have been streamlined. The poolManager.properties file has been eliminated and some of its pool properties are now included in the jdbc.properties file, along with some new properties. You will need to manually update your existing jdbc_customer.properties.in file to add some new database pool properties. If you do not have a jdbc_customer.properties.in file, create one since customer.properties are not affected by product updates.

Configure File System Adapter and Command Line2 Adapters

About this task

You must configure your File System and Command Line2 adapters before you remove the previous release directory. Reconfigure any File System and Command Line2 adapters that were configured to use directories or scripts in the installation directory for the previous release. Ensure that you create new directories and save scripts outside of the current installation directory and edit each configuration to use the appropriate directories and scripts.

Consider the following:

- If you are using the Command Line2 adapter and have located the CLA2Client.jar file anywhere other than the default location, you must replace it with the new version. For information about the default location and how to start the Command Line2 adapter, see the *Command Line2 adapter*.
- If you are upgrading to this version of Sterling B2B Integrator from a version lower than 4.0.1 and are using the Command Line2 adapter, you must update the version of the CLA2Client.jar file with the CLA2Client.jar located in the /*install_dir*/install/client/cmdline2 UNIX directory or in the *install_dir*\install\client\cmdline2 for Windows. If you installed the CLA2Client.jar file anywhere other than the default location, you must replace each copy of the file with the new version. If you only installed it in the default location, the update occurs automatically during the upgrade process.
- If you are upgrading to this version of Sterling B2B Integrator from a version prior to 4.0 and are using the Command Line adapter, you must update the version of the CLAClient.jar file with the CLA2Client.jar located in the /*install_dir*/install/client/cmdline2 UNIX directory or in the *install_dir*\install\client\cmdline2 for Windows. If you installed the CLAClient.jar file anywhere other than the default location, you must replace each copy of the file with the new version. If you only installed it in the default location, the update occurs automatically during the upgrade process.

The CLA instances are now pointing to the CLA2 Service definition. After importing old service instances of CLA onto Sterling B2B Integrator, you need to

reconfigure the imported CLA services to re-set the Remote Name and Remote Port service configuration parameters. For more information, refer to the documentation for the Command Line Adapter and Command Line2 Adapter.

Configure Odette FTP Adapter

About this task

If you use the Odette FTP Adapter and are using the Partner Profile XML file version 2.00 used in Sterling Gentran Integration Suite 4.3, you must modify it to match the new Partner Profile version 3.00. To modify the XML file, refer to the following table:

Section	Name of Structure or Field	Action	Comment
Partner Profiles	<GeneralParameters> <PartnerProfileVersion>3.00 </PartnerProfileVersion> </GeneralParameters>	Use correct version label of the Partner Profile.	New Version label: 3.00
Physical Partner	Description	Add field and description content	Mandatory in OFTP Partner database
Physical Partner	SubMailbox	Add field, if used.	Optional
Physical Partner	<AuthenticationCertificate type =”...”> <Subject>string</Subject> <Issuer>string</Issuer> <Serial> Bignumber_string </Subject> </AuthenticationCertificate>	Add Structure, if used.	OFTP 2.0: Mandatory for security only. Structure may be repeated.
Physical Partner	<AuthenticationCertificate type =”Private Key”> <Subject>string</Subject> <Issuer>string</Issuer> <Serial>Bignumber_string </Subject> </AuthenticationCertificate>	Add Stucture, if used.	OFTP 2.0: Mandatory for security only.
Physical Partner/ CAPI	DWindowSize	Delete field	
Physical Partner/ IP	IPFilter		Uses IPv4 or IPv6 addresses.
Physical Partner IP	SSL	Add field, if used.	OFTP 2.0: Mandatory for security only.
Physical Partner IP	CipherStrength	Add field, if used.	OFTP 2.0: Mandatory for security only.

Section	Name of Structure or Field	Action	Comment
Physical Partner IP	<SSLCertificate type =”...”> <Subject>string</Subject> <Issuer>string</Issuer> <Serial> Bignumber_string </Subject> </SSLCertificate>	Add structure, if used.	OFTP 2.0: Mandatory for security, only. Structure may be repeated.
Physical Partner Contract	Description	Add field and description content.	Mandatory in OFTP Partner database.
Physical Partner Contract	MultipleLoginSessions		Now used.
Physical Partner Contract	DuplicateFilePeriod	Rename DuplicateFileProcessingTestings To DuplicateFilePeriod	
Physical Partner Contract	SessionLogLevel	Add fields.	Optional
Physical Partner Contract	GroupNameList	Add fields, if used.	Optional
Physical Partner Contract	SecureAuthentication	Add fields.	OFTP 2.0: Mandatory
Physical Partner Contract	<TimeScheduleTable> ... <TimeScheduleTable>	Delete structure and create schedules in the Scheduler.	Initiator Business Process and Business Process user fields are still used.
Physical Partner Contract	OdetteFTPAPILevel	Rename OdetteAPILevel to OdetteFTPAPILevel	
Logical Partner	Description	Add field and description content.	Mandatory in OFTP Partner database.
Logical Partner	<FileServiceCertificate type =”...”> <Subject>string</Subject> <Issuer>string</Issuer> <Serial>string</Subject> </FileServiceCertificate>	Add structure, if used.	OFTP 2.0: Mandatory for security, only. Structure may be repeated.
Logical Partner Contract	Description	Add field and description content.	Mandatory in OFTP Partner database.
Logical Partner Contract	FileTransmissionRetries	Rename FileTransmitRetries to FileTransmissionRetries	
Logical Partner Contract	SignedEERPRequest	Add field, if used.	
Logical Partner Contract	EERP/NERPSignatureCheck	Add field, if used.	

Section	Name of Structure or Field	Action	Comment
Logical Partner Contract	File Signing	Add field, if used.	
Logical Partner Contract	File Encryption	Add field, if used.	
Logical Partner Contract	CipherSuite	Add field, if used.	
Logical Partner Contract	File Compression	Add field, if used.	
Logical Partner Contract	CharEncoding	Add field, if used.	
Logical Partner Contract	Receive VitualFilenamePattern	Add field, if used.	
Logical Partner Contract	EERPTimeout	Rename WaitForEERP to EERPTimeout	
Logical Partner Contract	FileScheduleTimeout	Add field, if used.	
Logical Partner Contract	InboundBusinessProcess	Add field, if used.	Optional
Logical Partner Contract	InboundBusinessProcessUser	Add field, if used.	Optional, if no Inbound business process is specified.

After changing the Partner Profile for version 3.00, import the Partner Profile into the new Odette FTP Partner Profile database. For additional information, see Odette FTP Partner Profile.

Restore Performance Tuning Configuration

About this task

Before you begin this procedure, you need to add the Advanced File Transfer Tab.

To restore the performance tuning configuration:

Procedure

1. From the **Administration Menu**, select **Operations** > **System** > **Performance** > **Tuning**.
2. Next to **Edit Performance Configuration**, click **Go!**
3. Click **Edit settings**.

Add Advanced File Transfer Tab

About this task

The Advanced File Transfer tab will not be enabled by default after an upgrade. If you have a license for Advanced File Transfer, perform the following steps to add the Advanced File Transfer tab:

Procedure

1. Log in as **Admin**.
2. Click **Manage Layout**.
3. Click **Add Pane**.

4. Enter the following name: `Advanced File Transfer`
5. Click **Apply**.
6. Click the **customize** icon for the new **Advanced File Transfer** tab.
7. Click **Add Portlet**.
8. Select the Add box for **Advanced File Transfer Management**.
9. Click **Apply**.
10. Select **Clear Borders and Title** from the Decoration menu.
11. Click **Save and Apply**.

Reconfigure Archive Settings

About this task

The upgrade does not automatically reconfigure the archive configuration. You must reconfigure the Backup Directory setting in Archive Manager after an upgrade.

To reconfigure your Archive settings, use the following procedure:

Procedure

1. From the **Administration Menu**, select **Operations** > **Archive Manager**.
2. Next to **Configure Archive Settings**, click **Go!**
3. If a message displays about the UI Lock, click **OK** to continue.
4. Click **Next**.
5. Update the Backup Directory field with the correct path information:
6. Click **Save**.
7. Confirm the settings and click **Finish**.

Correct Missing Manager IDs

About this task

If you created a Manager ID with no corresponding User ID in your previous version, the Manager ID may be missing after upgrading. If this occurs, create a user in the system with a User ID that matches the missing Manager ID.

Configure Document File Systems

About this task

If you use a File System as your document storage method, determine and record the path to the File System.

You will need the File System path structure so that after the upgrade, you can copy/mount the documents to the new installation directory. The directory structure (path to the File System) must be the same in the current and in the upgraded system.

Update the Database (dbupdate) with the startCluster Command

About this task

The `startCluster.sh nodeNumber` command on node 1 will automatically update the database, unless you use the command `startCluster.sh 1 false`. The `startCluster.sh nodeNumber` command on all other nodes will not update the database.

When you configure Sterling B2B Integrator cluster for the first time, you should run the startCluster.sh command with the database update value set to true (startCluster.sh 1 true), or just startCluster.sh 1, since on node 1, dbupdate defaults to true. This makes all cluster-related configurations take effect. The database update will synchronize the scheduled jobs between the nodes by assigning them all to node 1.

The startCluster.sh command with the database update value turned off (startCluster.sh 1 false) prevents any configuration changes from affecting the system, especially after you install a fix pack or interim fix.

For current database updates, the following services are tied to node 1:

- Schedule
- FileSystem
- CmdLine
- CDServerAdapter
- CDAdapter
- CDRequesterAdapter
- CEUServerAdapter
- HttpServerAdapter
- B2B_HTTP_COMMUNICATIONS_ADAPTER
- HTTP_COMMUNICATIONS_ADAPTER
- HTTPClientAdapter
- FTPClientAdapter
- FtpServerAdapter
- SFTPClientAdapter

The following services have storage set to the database:

- HttpServerAdapter
- CEUServerExtractServiceType
- CDSERVER_ADAPTER

The default storage of all workflows is set to the database.

Manage Nodes in a Cluster

About this task

You can add or remove nodes in a cluster environment. The following prerequisites should be considered before performing any modification in the cluster environment:

- New nodes should have the same range of ports available as the current nodes.

- Sterling B2B Integrator license file should be updated to include the IP address of the new nodes.
- Directory structure on the new nodes should match with the directory structure of the existing nodes.
- Perimeter servers should be updated with the new IP addresses to ensure proper configuration.
- Any adapters, services, or business processes assigned to or scheduled to run on the node being removed should be assigned to run on other nodes.

Add a Node to the Cluster (Windows)
About this task

You do not need to stop the cluster environment while adding a new node.

To add a node into the cluster:

Procedure

1. Install a new Sterling B2B Integrator node to be added into the cluster with the –cluster option during installation. Refer to the *Upgrade the Cluster using GUI-Based Method in Windows*. Ensure that the new node being added is not a primary node.
2. Update jgroups_cluster.properties file and jgroups_cluster.properties.in file with the new node details.
3. Configure the new node by running the `startcluster.cmd nodeNumber` from the \install_dir\install\bin directory. The node number should be greater than 1.

   You should run startCluster.cmd command only after you install Sterling B2B Integrator. You should not run startCluster.cmd command when you restart a Sterling B2B Integrator instance.
4. Start the new node.

Remove a Node from the Cluster
About this task

To remove a node from the cluster:

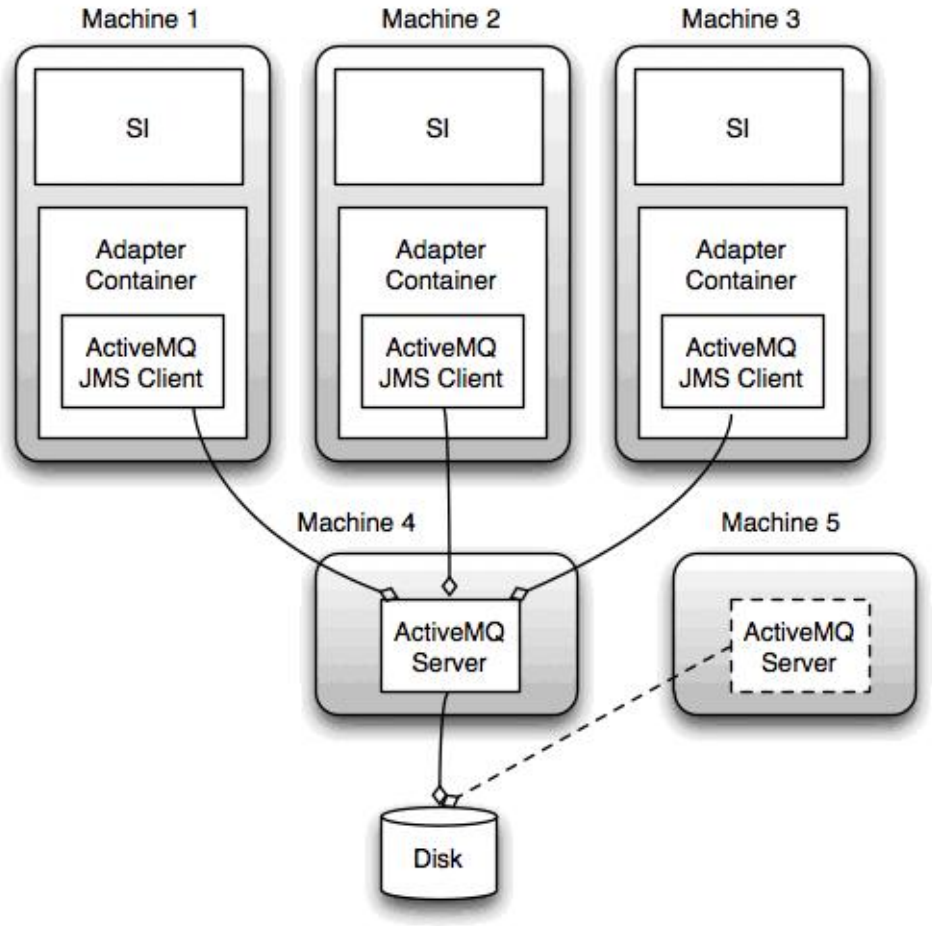
Procedure

1. Reassign or stop any adapters, services, or business processes assigned to or scheduled to run on the node being removed.
2. Perform backup of the node being removed.
3. Edit jgroups_cluster.properties file and jgroups_cluster.properties.in file in all nodes to remove the IP address of the node being removed.
4. Restart the cluster environment.

JMS Cluster Configuration for Failover

To allow proper JMS execution and failover in the Sterling B2B Integrator cluster environment, you must configure an external ActiveMQ using the *Configure ActiveMQ for a Cluster Environment* task.

The following diagram illustrates how the ActiveMQ can be configured to increase availability and failover.



Configure ActiveMQ for a Cluster Environment (Windows)

About this task

To configure ActiveMQ for the windows cluster environment:

Procedure

1. Download ActiveMQ 5.2 from http://activemq.apache.org/activemq-520-release.html for the appropriate OS.
2. Deploy an instance of ActiveMQ 5.2. This can be on the same machine as Sterling B2B Integrator or on a separate machine.
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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

4. Copy the **activemq.xml** file to the AMQ conf directory. This file configures the ActiveMQ to:
   - Use failover clustering,
   - Use the SI database for storage
   - Configures the AMQ port usage

   By default, ActiveMQ is configured to listen at the Sterling B2B Integrator base port + 64 and the ActiveMQ interface will be at base port + 65 (http://server:base port + 66/admin). The port can be changed by editing the config file directly. The port number must be higher than 1024.
5. 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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

6. On each Sterling B2B Integrator node and each Sterling B2B Integrator container node, the queue configuration must be re-directed to utilize the ActiveMQ cluster. In each node, add the following to the customer_overrides.properties:

   For FIFO Processing:

   ```
   fifo.broker.username=
   fifo.broker.password=
   fifo.broker.url=failover:(tcp://amq_master_hostname:amq_master_port,
   tcp://amq_slave_hostname:amq_slave_port)
   ```

   For adapters running in separate JVM containers:

   ```
   iwfcqueue.username=
   iwfcqueue.password=
   iwfcqueue.protocol_config=failover:(tcp://amq_master_hostname:amq_master_port,
   tcp://amq_slave_hostname:amq_slave_port)
   ```
7. Start the ActiveMQ instances. To start ActiveMQ, it is necessary to supply the activemq.hostname property with the hostname for the current system. For example:

   ```
   activemq.bat -Dactivemq.hostname=ExampleHostname
   ```

   See http://activemq.org for additional information about running an ActiveMQ instance.
8. Start Sterling B2B Integrator.

Configure Shared File Systems as Document Storage (Windows Cluster)

About this task

To configure the shared file systems as document storage:

Procedure

1. Navigate to *install_dir*\install\properties for the node 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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

2. Open the jdbc.properties.in file.
3. Update the value of the *document_dir* attribute to point to the shared files system directory where you store documents.
4. Save and close the file.
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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

6. Enter `setupfiles.cmd`.
7. Restart Sterling B2B Integrator.

Add host[port] From all the Nodes to the jgroups_cluster.property.in for Each Node

About this task

Complete this task for both vertical and horizontal clusters. You will need to complete this task for each node, starting with node 1.

Before you begin, it is important to note that you should never override mcast_addr in the jgroup_cluster.properties.

To add the host [port] to the jgroups_cluster.property.in file:

Procedure

1. Navigate to the properties file directory for the node.
2. Determine the initial_hosts port for each node:
   - Navigate to the properties file directory for the node.
   - Find the initial_hosts from the jgroups_cluster.property (initial_hosts=host{port}).
   - Record the value from the initial_hosts for each node.
3. Open the jgroups_cluster.property.in file.
4. Add the initial_hosts property to the file. For example, if node 1 is on host1 and node 2 is on host2. For node 1, you would add:

   ```
   initial_hosts=host1[port1],host2[port2]
   ```

   For node 2, you would add:

```
initial_hosts=host2[port2],host1[port1]
```

5. Save and close the file.

Configure JVM Containers

About this task

After you have upgraded the system, you will need to reconfigure the JVM containers.

Before you reconfigure the JVM containers, you need to know the container numbers from the previous installation.

For example, if you configured the container using the command, setupContainer.sh (or cmd) 1, then the container number is 1.

Use one of the following tasks to reconfigure your containers:

- *Set Up Adapter Container - iSeries*
- *Set Up Adapter Container - UNIX/Linux*
- *Set Up Adapter Container - Windows*

System Maintenance

Cluster Maintenance Overview

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

- Applying a fix pack
- Applying a interim fix
- Performing a Checksum
- Generating a Fix Pack Change Report
- Adding or removing a license

Applying a fix pack or interim fix in a Windows Cluster environment

From time to time, you will need to apply either a fix pack or a interim fix to your Sterling B2B Integration installation:

- All nodes in the cluster must be on the same fix pack. You must stop all nodes in the cluster before installing a fix pack, then install the fix pack on each node. Attempting to apply a fix pack while part of the cluster is running should only be done with the advice of IBM Customer Support.
- Fix packs contain cumulative fixes for a specific version of Sterling B2B Integrator. Because each fix pack contains the fixes from previous fix packs, you only need to install the most recent fix pack. You should periodically check the web site to verify that you have the most recent fix pack.
- An Interim fix is one or more fixes applied to a specific existing fix pack.

It is possible to apply fix packs to nodes while other nodes are processing. However a fix pack containing any of the following, requires the entire cluster to be down:

- Critical cluster functionality
- Engine-related changes

- Changes to the database

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 fix pack.

When a fix pack, 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 fix pack 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 fix pack.

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

Determine If You Need to Apply a Fix Pack (Windows)

Fix Packs contain cumulative fixes for a specific version of Sterling B2B Integrator.

About this task

Fix packs are available on the IBM Fix Central web site. Because each fix pack contains the fixes from previous fix packs, you only need to install the most recent fix pack.

Note: During installation, the dbVerify utility compares the list of standard indexes with those present in the database and drops the custom indexes. You should recreate the custom indexes after the installation is complete.

Fix packs are named using the following naming convention:

si_<*release number*>_<*build number*>.jar

Information about a fix pack is located in a PDF file with a similar name. The naming convention for PDF files is:

si_<*release number*>_<*build number*>.pdf

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

- Preserve your custom changes to system resources.
- The installation may use one or more property override files. These files will be named *propertyFile_patch*.properties. Do not alter these files.
- Property changes made directly in *.properties or *.properties.in files may be overwritten during the installation. Properties overridden using the customer_overrides.properties file are not affected. IBM recommends that you maintain property file changes using (when possible) the customer_overrides.properties file. For more information about this file, refer to the property file documentation.
- If you edited any of the cdinterop files, you must back them up before applying the fix pack. The cdinterop files do not have initialization (*.in) files. After applying the fix pack, use the backup version of the files in your 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 installation is automatically logged to *install_dir*\install\logs\InstallService.log.
- If you need to rollback a fix pack, see the *Fix Pack Change Report*.

Preserve Custom Changes in Windows Cluster Environment

About this task

As part of a default cluster configuration, certain values in the database for service or adapter configurations, and default document storage, need to be updated to get the cluster working. The default settings do not include a shared or mounted file system with a line of sight from all cluster nodes. Certain service or adapter configurations are forcibly deployed on node 1 and the default document storage type is set up to "Database" for all business processes.

To keep these custom configuration changes from being overwritten, you can run the following cluster configuration script:

```
startCluster.cmd nodeNumber true/false
```

Where:

- nodeNumber is the cluster node number
- True performs database updates
- False prevents data base updates.

The first time you configure a cluster, you need to have the option set to true. After the first configuration, you can use the false option. The false option prevents any configuration changes from affecting the system, especially after installation of a fix pack or interim fix.

Install a critical fix pack to the cluster (Windows)

Fix packs are used to update Sterling B2B Integrator.

About this task

To install a critical fix pack to the entire cluster in a Windows environment (where you need to stop the entire cluster):

Procedure

1. Navigate to the IBM Fix Central web site.
2. Download the most recent fix pack 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 all the nodes in the cluster.
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 fix pack installation.
8. Is the database password encrypted? If Yes, decrypt the password.
9. Close all command prompt windows.

10. Navigate to *install_dir* for the node (starting with node 1), 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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

11. Enter: `InstallService.cmd <path>\si_<version>_sp_0_fix pack_<number>_<app_server>.jar`

    where:

    <path> is fully qualified path to maintenance fix pack file

    <version> is Sterling B2B Integrator version

    <number> is fix pack number

    <app_server> is Application server

    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 (in the *install_dir*\install directory) and to the fix pack.log file.

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

12. Press **Enter** to continue.
13. If you want to accept the license agreement, enter `Y`.
14. 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.
    ```

15. After you have completed the fix pack for node 1, you can now perform the steps for node 2 and greater. For node 2 and greater, you must update the value of REINIT_DB to false. When REINIT_DB is false, database updates are not applied during each fix pack. The REINIT_DB attribute is in the *install_dir*\install\properties\ sandbox.cfg file.
16. Repeat Steps 10 to 14 to apply the fix pack to each node.
17. If you decrypted the database password, re-encrypt the password.
18. For each node, navigate to the install_dir and start the nodes, 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). • Enter `startCluster.cmd nodeNumber`.	Complete the following steps: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed. • Enter `startCluster.cmd nodeNumber`.

19. Restart Sterling B2B Integrator.

    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.

Apply a fix pack (rolling update) - Windows

Use this topic if you want to install a fix pack on a clustered installation, stopping one node at a time.

Before you begin

You can only use this update method if there are no database changes in the fix pack. Check for the following items:

- Database update information in release notes
- DB partitions - you should undo partitions prior to applying a fix pack
- Schema differences or alterations
- Corrupted or missing database indexes
- Oracle 11g issues with INT vs. NUM fields - you should update your driver and patch for Oracle 12g.

You should always perform a full backup of the software and your database prior to applying a fix pack or interim fix.

About this task

Use this procedure to apply a fix pack, where you stop one node at a time.

Procedure

1. Review the following settings in the `<install>/properties/sandbox.cfg` file prior to applying a fix pack. Update them if needed. These settings govern database updates:
   - Node 1:

     `REINIT_DB=true`

     `CLUSTER=true`
   - Node 2 and higher:

     `REINIT_DB=false`

     `CLUSTER=true`
2. Navigate to the IBM Fix Central web site.
3. Download the most recent fix pack 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.
4. Verify that the database server is up and ready to accept connections.
5. Log in to the server where Sterling B2B Integrator is installed with the user ID and password that was used for the installation.
6. Navigate to `\install_dir\install\bin`:
   a. Click **Start**.

      Right-click **Command Prompt** and select **Run as administrator**.

      The Administrator: Command Prompt dialog box is displayed.
7. Enter `StopWindowsService.cmd` to stop the node. Wait until the perimeter server of the node is completely down before installing the fix pack.

8. Perform a full backup of the Sterling B2B Integrator installation directory, including all subdirectories.
9. Perform a back up of the database.
10. 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.
11. Is the database password encrypted? If Yes, decrypt the password.
12. Close all command prompt windows.
13. Navigate to installation directory, using one of the following methods:
    a. Click **Start**.

       Right-click **Command Prompt** and select **Run as administrator**.

       The Administrator: Command Prompt dialog box is displayed.
14. Enter: `InstallService.cmd <path>\si_<version>_sp_0_fix pack_<number>_<app_server>.jar`

    where:

    <*path*> is fully qualified path to maintenance fix pack file

    <*version*> is Sterling B2B Integrator version

    <*number*> is fix pack number

    <*app_server*> is Application server

    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 (in the *install_dir*\install directory) and to the fix pack.log file.

    Attention: Running **`InstallService.cmd`** removes any previously installed interim fix to prevent conflicts with what is being installed.
15. Press **Enter** to continue.
16. If you want to accept the license agreement, enter `Y`.
17. 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.
    ```
18. After you have completed the fix pack for node 1, you can now perform the steps for node 2 and greater. For node 2 and greater, you must update the value of REINIT_DB to false. When REINIT_DB is false, database updates are not applied during each fix pack. The REINIT_DB attribute is in the *install_dir*\install\properties\ sandbox.cfg file.
19. Repeat Steps 11 to 15 for each node.
20. If you decrypted the database password, re-encrypt the password.
21. Start Sterling B2B Integrator.

    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.

Install an interim fix (Windows Cluster)

After you install Sterling B2B Integrator you may need to install an interim fix.

About this task

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

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 in a Windows Cluster environment, starting with node 1:

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* for the node (starting with node 1), 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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

8. Enter `InstallService.cmd \absolutePath\ccaseid.jar` to install an interim fix.

   You may need to complete this step twice depending on the fix pack. 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. After you have completed an interim fix for node 1, you can now perform the steps for node 2 and greater. For node 2 and greater, you must update the value of REINIT_DB to false. When REINIT_DB is false, database updates are not applied during each fix pack. The REINIT_DB attribute is in the `\install_dir\install\properties\ sandbox.cfg` file.
10. Repeat Steps 7 and 8 for each node.
11. If you decrypted the database password, re-encrypt the password.
12. For each node, navigate to the *install_dir* (starting with node 1) and start the cluster, 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). • Enter `startCluster.cmd nodeNumber`	Complete the following steps: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed. • Enter `startCluster.cmd nodeNumber`

13. Start Sterling B2B Integrator.
14. Navigate to the *install_dir*\install\bin directory, run the **dump_info** command to verify that an interim fix was successfully installed, 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). • Enter `dump_info.cmd`	Complete the following steps: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed. • Enter `dump_info.cmd`

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.

In Sterling B2B Integrator, a verification process compares the checksum between the existing default resource and the resource that was added after applying a fix pack or upgrading. The DB Checksum tool, a resource difference tool generates a granular report of the changes in the system that was not permitted to 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)

About this task

To run the DB Checksum tool in the Windows environment:

Procedure

1. Navigate to *install_dir*\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: • 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 (optional).

   1 is WFD.

   2 is MAP.

   3 is SCHEMA.

   4 is SII.

   5 is TEMPLATE.

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

   -o is the file name to output all the messages (optional).

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

   -h is the help screen.

   The DB Checksum tool performs the relevant checksum operation based on the command options and generates the output message.

Fix Pack Changes Report

The Fix Pack Changes Report is used to obtain information if you need to roll back a fix pack.

The fix pack report can be found in the installation directory `fix pack_reports` folder. The report contains the following fix pack information:

- Fix pack ID
- Fix pack changes
- Number of files deleted
- Number of JAR files removed
- Number of JAR files 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 `fix pack_reports` folder contains the `fix pack_Report.html` file. When you open this file, you can view the fix pack information.

Example: Fix Pack Changes Report

The Fix Pack Changes Report includes both summary and detailed report information.

The following is an example of a Fix Pack Changes Report:

```
Summary of Changes
Fix Pack ID: Platform_2.0
Fix Pack 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.bpml version: 4
Time: Wed May 13 15:23:07 EDT 2009
BP Added: Recovery.bpml version: 17
Time: Wed May 13 15:23:07 EDT 2009
BP Added: Schedule_AutoTerminateService.bpml version: 10
```

```
Time: Wed May 13 15:23:07 EDT 2009
BP Added: Schedule_DBMonitorService.bpml 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 modifications

After the installation finishes, you can modify the software licenses that you loaded with 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 in the following directories:

- 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. On the Administration Menu, click **System** > **B2B Console** > **Operations** > **System** > **Licenses**.

AddLicenseSet Command Parameters

Use the **AddLicenseSet** command to modify a single license file or the entire license file directory.

To use the **AddLicenseSet** command, you must do the following:

- Open 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 Parameter	Description
-reload	Use this parameter to reload the license files. 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 locations: • UNIX - */install_dir*/install/logs/security/old_licenses • Windows - *install_dir*\install\logs\security\old_licenses • iSeries - */install_dir*/logs/security/old_licenses
-upgrade	Use this parameter during an upgrade only. 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 locations: • UNIX - */install_dir*/install/logs/security/upgrade • Windows -*install_dir*\install\logs\security\upgrade • iSeries -*/install_dir*/logs/security/old_licenses

The **AddLicenseSet** command will check if Sterling B2B Integrator is running. If it is running, the commond will call the Ops server to refresh the license from the database. If you have any problems with your licenses after running the **AddLicenseSet** command, stop and restart Sterling B2B Integrator.

License Modification: Examples

There are several different ways you can use the **AddLicenseSet** command to modify your licenses.

UNIX Examples

From the *install_dir*/bin directory:

Scenario	Command usage (UNIX example)
Reload a single license file	./AddLicenseSet.sh */install_dir*/install/properties/licensefiles/SI_SFG_License.xml -reload
Reload all of the license files in the directory	./AddLicenseSet.sh */install_dir*/install/properties/licensefiles/ -reload
Upgrade a single license file	./AddLicenseSet.sh */install_dir*/install/properties/licensefiles/SI_SFG_License.xml -upgrade
Upgrade all of the license files in the directory	./AddLicenseSet.sh */install_dir*/install/properties/licensefiles/ -upgrade

Windows Examples

From the *install_dir*\bin directory:

Scenario	Command usage (Windows example)
Reload a single license file	`AddLicenseSet.cmd\install_dir\install\properties\licensefiles\SI_SFG_License.xml -reload`
Reload all of the license files in the directory	`AddLicenseSet.cmd\install_dir\install\properties\licensefiles\ -reload`
Upgrade a single license file	`AddLicenseSet.cmd\install_dir\install\properties\licensefiles\SI_SFG_License.xml -upgrade`
Upgrade all of the license files in the directory	`AddLicenseSet.cmd\install_dir\install\properties\licensefiles\ -upgrade`

Upgrading your JDK (Windows and UNIX)

Sometimes you need to upgrade your JDK version to support a new version of Sterling B2B Integrator.

About this task

If you have V5.2.4.1 or later installed, you can use the **upgradeJDK** script to upgrade your version of the JDK. See *bin Directory Files* for more information. If you have V5.2.4.0 or earlier installed, follow the steps below to upgrade your JDK.

Procedure

1. Download the Unrestricted.zip policy file for the IBM JDK.
2. Back up the existing JDK in <*Install Dir*>/jdk. Change the folder name to jdk_back)
3. Copy the new IBM JDK (1.7.0) folder to the installation Directory. Directory Name should be jdk)
4. Copy all the jars present in <*Install Dir* >jdk_back\jre\lib\ext to <*install Dir*>jdk\jre\lib\ext directory.
5. If your installation of V5.2.4 or lower was built using the SUN JDK, continue to the next step. Otherwise skip to step 6.
   a. Edit the sandbox.cfg property file.
   b. Set JCE_DIST_FILE=<*New Path of Unrestricted.zip File*>. For example, JCE_DIST_FILE=D\:\\IBM\\unrestricted.zip7.
   c. Back up the local_policy.jar and US_export_policy.jar files present in <*Install Dir*>jdk\jre\lib\security.8.
   d. Unzip the Unrestricted.zip file and copy local_policy.jar and US_export_policy.jar to <*Install Dir*>jdk\jre\lib\security.
6. Run **updateJavaSecurity.cmd**.
7. Verify that security providers have been updated in<*Install Dir*>\jdk\jre\lib\security\java.security.
8. Follow the Upgrade Guide instructions for your upgrade scenario.

User Documentation

Sterling B2B Integrator user documentation

The user documentation is available from an 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.

If you need a printed copy of the documentation, you can print topics of information through your Internet browser, or you can download documents in PDF format, after you add it to a collection on IBM Knowledge Center.

To access the documentation site from within Sterling B2B Integrator or one of its tools, select the help  icon. The system must reside on a computer that supports Internet access and an Internet browser.

Improving your access to online documentation

You can improve your access to online documentation by using several methods.

About this task

After you access the IBM Knowledge Center, you can perform the following tasks:

- 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.
- Add documents to your collection and download them in PDF format.

Request a Documentation CD

About this task

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

Uninstall Sterling B2B Integrator from a Windows Cluster Environment

About this task

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

Additionally, you may perform 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, perform the following steps for each node:

Procedure

1. 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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

2. Enter StopWindowsService.cmd. Wait for the shutdown to complete. If you begin removing files before all business processes and the system is stopped, you may be unable to remove the software successfully.
3. Back up the file system and database.

   This step is optional. However, by backing up the file system and database, you are ensured that Sterling B2B Integrator is completely recoverable.
4. Remove the installation directory by entering the following command in the parent directory of your installation directory: rd /s /q *install_dir*\install
5. If you use an Oracle, Microsoft SQL Server, or DB2 database, these 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 reside.
6. Navigate into the _uninst subdirectory of your JDK installation 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: • Click **Start**. • Right-click **Command Prompt** and select **Run as administrator**. The Administrator: Command Prompt dialog box is displayed.

7. To manually remove the JDK, enter uninstall.cmd.
8. After you remove Sterling B2B Integrator from the server, you can remove Eclipse, and any tools that were downloaded to the desktop, including the following:
   - 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, including:
     - 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 requires 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 for Windows

Troubleshooting Tips for Windows Environment

Situation	Message or Symptom	Explanation/Resolution
Installing	You encounter errors or problems during installation.	**Explanation** The installation creates several log files that you can use to diagnose problems like the failure of an installation. **Resolution** Examine the log files generated during installation: • ant.install.log (in the *install_dir* directory) • *install_dir*\PreInstallSI.log
Installing	When you entered an absolute path during installation, a message indicated that the command was not found.	**Explanation** You entered an incorrect path. Check the information entered. **Resolution** Enter the correct path.
Installing	IM is installed successfully, but SI Fails to install.	Go to Start Open IM select Help and then Export logs to a file for analysis.

Situation	Message or Symptom	Explanation/Resolution
Installing a desktop tool or resource	Cannot download any of the following: • Map Editor and associated standards • Graphical Process Modeler • Web Template Designer • (If licensed) MESA Developer Studio plug-ins, including: – MESA Developer Studio Software Development Kit (SDK) – 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.	**Explanation** 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 may not be able to download the desktop tools and resources. The firewall will reject the internal IP address from a client residing outside of the firewall. **Resolution** Modify the system files that contain the invalid IP address. Follow these steps: 1. Navigate to *install_dir*\install\bin. 2. Stop Sterling B2B Integrator. 3. Enter the following command followed by the external IP address: `patchJNLP.cmd external_IP_address` 4. Restart Sterling B2B Integrator.
Cluster Installation or Upgrade	When configuring TCPS the following warning can be found in the activemqbroker.log: sun.security.provider.certpath. SunCertPathBuilderException: unable to find valid certification path to requested target	**Resolution** Add the system certificate to the trust store using the KeyTool command.
Cluster Installation or Upgrade	When configuring TCPS the following warning can be found in the activemqbroker.log: Do not mention any SSL cipher in the ActiveMQconfig. xml. oracle.net.ns.NetException: Invalid cipher suites specified.	**Resolution** Do not mention any SSL cipher in the ActiveMQconfig.xml.

Situation	Message or Symptom	Explanation/Resolution
e-Invoice Upgrade: Oracle Add Constraint Error	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`, this occurs because the default behavior for the `drop constraint` command changed in Oracle 10.	**Explanation** 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 install. 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 `imp` command exported the indexes and constraints separately. There is no way to determine when the imp command will 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 executes two steps: 1. First, it drops the unique constraint so the next step can redefine it using additional 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 already exists, which causes the `name is already used by an existing object` error. **Resolution** 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 you should use is: `drop index UNQ_EINV_CANON`

Situation	Message or Symptom	Explanation/Resolution
Apply a fix pack or Upgrade	The *install_dir*\install\installed_data directory is created (if clustered, on each node) during an upgrade or applying a fix pack. This directory can become very large and take up needed space on the file system.	**Explanation** The information in this directory is used during upgrade or applying a fix pack, but is not required afterward. The deployment/cleanup tasks for the upgrade or fix pack do not remove this directory. **Resolution** The directory can be manually removed to increase the available space for the file system: 1. Navigate to *install_dir*\install 2. Enter `rd /S installed_data` 3. If prompted to confirm deletion, enter `Y` for yes.

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