

Sterling Integrator®

Windows Cluster Upgrade

Version 5.1



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Windows Cluster Upgrade

Windows Cluster Upgrade Overview

Use this guide to upgrade in a Windows cluster (multiple node) environment. This guide includes pre-upgrade and post-upgrade processes.

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

This guide includes the pre-upgrade and post-upgrade processes. Additional upgrade documents include:

- System Requirements
- Release Notes
- Pre-Upgrade Analysis

For new installations, use the Sterling Integrator 5.1 Windows Cluster Installation Guide.

It is important to remember that upgrading to 5.1 involves a full installation of Sterling 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 Integrator directory structure on disk. Instead, it creates a new installation of Sterling Integrator 5.1 that will point to and upgrade the database of your current installation of Sterling Integrator. This means your original instance will no longer be operational after performing the upgrade. After the upgrade, you will be starting your Sterling Integrator instance only from the newly created directory structure.

Assumptions for this Guide

The procedures in this guide are accurate as of the publication date and are specific to Sterling Integrator 5.1.

Intended Audience

This document is intended for use by:

- System Administrators
- Installation Engineers
- Database Administrators

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 5.1. You need to review all of the information before you begin your upgrade.

Backups Are Not Generated During Install, Upgrade, Patch or Hotfix

Before you begin an upgrade to Sterling Integrator 5.1, review the following backup information.

In Sterling Integrator 5.1, some of the standard resources installed during install, upgrade, patch, or hotfixes 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 `sandbox.cfg` file.

Capitalization Insensitivity for Header Value

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 to Sterling Integrator 5.1, you need to review CA certificates upgrade information.

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

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 WebSphereMQ Suite Adapter PUT Service

Retry logic has been added to the WebSphereMQ 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:

1. Log into the application.
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 **WebSphereMQ Suite Put Message Service** from the **All Services** pane into the center pane.
7. Double click the **WebSphereMQ 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 to Sterling Integrator 5.1, review the following Show Advance State button information.

In Sterling Integrator 5.1, 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 check box on the search screen to display it.

Some Certificate Fields Are Optional

When generating certificate keys, the following fields were mandatory in the previous release, but now are optional entries:

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

Support for Multiple AS2 Organizations

Before you begin an upgrade to Sterling Integrator 5.1, review the following schema information.

Sterling Integrator 5.1 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 5.1, 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 to Sterling Integrator 5.1, review the following web services information.

In Sterling Integrator 5.1, 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 patch installation.

After you have completed your upgrade to Sterling Integrator 5.1, 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 Does Not Start with Silent Install

Windows services are not installed during a silent installation. After the installation completes, you must go to `\install_dir\bin\` and run `installwindowsServices.cmd`

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 Integrator 5.1 library page http://www.sterlingcommerce.com/Documentation/SI51/HomePage.htm . <ul style="list-style-type: none">• <i>System Requirements</i> - With each release, Sterling Commerce introduces leading edge technology to improve and enhance its software. Review the <i>System Requirements</i> to confirm that your system and databases meet the requirements for this release.• <i>Release Notes</i> - Review the release notes to obtain information about issues and resolutions which have been identified for this release of Sterling Integrator.• <i>What's New in this Release</i> - Review this guide to find out about new features and functionality provided in this release of Sterling Integrator.	

#	Upgrade Planning Checklist	Your Notes
3	Review the Customer Center Knowledgebase and search for any additional information on upgrade issues.	
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 Sterling Integrator.	
10	Determine if you edited any of the following cdinterop files: <ul style="list-style-type: none"> • cdinterop-proxy-records.properties • cdinterop-spoee-auth.properties • cdinterop-spoee-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.	

#	Upgrade Planning Checklist	Your Notes
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 Integrator is using an application server (JBoss™, WebLogic® or WebSphere®). Sterling Integrator does not require an application server for installation or at runtime. Sterling Integrator supports integration with JBoss and WebLogic during the installation. You can also integrate with WebSphere, JBoss, or WebLogic by using the Sterling 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.	

Supporting Information

Access the Sterling Integrator Knowledgebase

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

1. Go to <https://customer.sterlingcommerce.com>.
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**.

Upgrade Scenarios

Upgrade Scenarios (Windows Cluster Environment)

Upgrading to Sterling 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 Gentran Integration Suite version and Sterling Integrator 5.1	If you are upgrading from Gentran Integration Suite 4.3 (on Windows 2003 and using Microsoft SQL Server 2005) to Sterling Integrator 5.1 (on Windows 2003 and using Microsoft SQL Server 2005), the upgrade steps are as follows: <ul style="list-style-type: none">• Export the configuration data.• Back up the database.• Upgrade to Sterling Integrator.
Database upgrade before the upgrade to Sterling Integrator 5.1 when the old Gentran Integration Suite database is not supported by Sterling Integrator 5.1	If you are upgrading from Gentran Integration Suite 4.0 (on Windows 2003 and using DB2 8.1 Fixpack 5) to Sterling Integrator 5.1 (on Windows 2003 and using DB2 9.2), the upgrade steps are as follows: <ul style="list-style-type: none">• 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 Gentran Integration Suite operating system is not supported by Sterling Integrator 5.1	If you are upgrading from Gentran Integration Suite 4.0 (on Windows 2000 and using Oracle) to Sterling Integrator 5.1 (on Windows 2003 and using Oracle), the upgrade steps are as follows: <ul style="list-style-type: none">• Export the configuration data.

Upgrade Scenario	Example
	<ul style="list-style-type: none"> • Back up the database. • Upgrade to Sterling Integrator 5.1 on the RH EL 5.0 machine while pointing to Oracle.
Moving your current Sterling Integrator (5.0 or higher) instance to a new operating system	<p>For example, if you are upgrading from Sterling Integrator 5.0 on Windows Server 2003 to Sterling Integrator 5.1 on Windows Server 2008 using your current database.</p> <ul style="list-style-type: none"> • Export the configuration data and back up the database. • Upgrade to Sterling Integrator 5.1 on the Windows Server 2008 machine while pointing at your current database.

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	Pre-Upgrade System Checklist	
2	Pre-Upgrade Database Checklist	

Pre-Upgrade System Checklist

Before you begin an upgrade, you need to:

#	Pre-Upgrade System Checklist	Your Notes
1	<p>Use the system requirements to verify that your system hardware and software meet the requirements specified for this release.</p> <p>Verify you have the correct:</p> <ul style="list-style-type: none"> • 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 <p>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.</p>	
2	<p>Review your current system to determine if you need to apply a patch prior to upgrading.</p> <p>If you have recently applied a hot patch, the hot patch may not be included in the latest patch. If you are not on the latest patch, the upgrade will fail. The following are the minimum patch level for upgrading to this release:</p> <ul style="list-style-type: none"> • Release 4.0 - Patch 4.0.3-5 	

#	Pre-Upgrade System Checklist	Your Notes
	<ul style="list-style-type: none"> • 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	<p>For systems with multiple IP addresses, verify that the IP address on which Sterling Integrator resides is accessible by any client computer that is running a browser interface.</p> <p>If you do not verify the IP addresses, your system may not operate properly after installing Sterling Integrator.</p>	
4	<p>If you are using a non-English environment, confirm that you are using the appropriate character set.</p>	
5	<p>Verify the file system has adequate free disk space.</p>	
6	<p>Obtain the most recent upgrade media.</p> <p>It is a best practice to check the Product Updates & Downloads site to ensure you have the latest version of the media.</p>	
7	<p>Backup your Sterling Integrator installation directory and the database.</p> <p>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 Integrator and the database.</p>	
8	<p>Archive your data.</p> <p>Archived data can only be restored from the same version and patch of Sterling 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 Integrator that matches the version and patch from which the archive was taken.</p>	
9	<p>Purge any unneeded data.</p>	
10	<p>Export any business objects that can not be upgraded. Including business processes, service configurations, trading partners, maps, etc.</p> <p>The exported business object can be imported into the upgraded system if you need them.</p>	
11	<p>Create an process output log.</p>	
12	<p>Obtain/install the license file to use the new licensed features in this release.</p>	
13	<p>Disable the virus protection software on the server.</p> <p>If the virus protection software is enabled, the upgrade will fail.</p>	

Pre-Upgrade Database Checklist (Cluster Environment)

Before you begin an installation, you need to:

#	Pre-Upgrade Database Checklist (Cluster Environment)	Your Notes
1	<p>If required, copy the Microsoft SQL Server 2000 Database to an SQL Server 2005 Database.</p> <p>This is an optional procedure, and it is the customer's responsibility to perform it. (Sterling Commerce Sterling Commerce Customer Support can not help with this procedure.)</p>	
2	<p>If you are using Oracle 8i with Sterling Integrator 4.0, upgrade to Oracle 9i before upgrading to Sterling Integrator 5.1.</p>	
3	<p>If you plan to import an Oracle 9 or Oracle 10 database, while upgrading to Sterling Integrator 5.1, you must import the database without the indexes.</p> <p>For example, if you are using the Oracle import (imp) tool, you should use the INDEXES=N option. If you attempt upgrading to Sterling Integrator 5.1 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.</p>	

Supporting Information

Verify Your System Meets the System Requirements

Before you begin the installation, verify that your system meets the hardware and software requirements specified for this release. The hardware requirements listed are the minimum required. Your system requirements will exceed these if you are running other applications on the same machine as the Sterling 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 should 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 the these requirements are not met, the installation will fail. If the installation fails, review the installation log for a list of non-compliant items.

Obtain Upgrade Media for 5.1

Before you upgrade, it is a best practice to always check the Product Updates & Downloads site to ensure you have the latest version of the upgrade media.

To obtain the most recent version of upgrade media:

1. Go to <https://customer.sterlingcommerce.com>.
2. Enter your **User Name** and **Password**.
3. Click **Support Center**.
4. Under **Product Support**, select **Sterling Integrator > Product Updates & Downloads**.

5. Under the **Upgrading Sterling Integrator/GIS**, select **Request Upgrade Jar File - Sterling Integrator Version 5.1**.
6. Enter the following information for a Sterling Integrator/GIS Upgrade Request form:
 - Company Name
 - Billing Account Name
 - Ship to Contact Name
 - Ship to Street Address
 - Email Address
 - PSP number - The PSP Number (unique number that identifies a licensed software asset in your Sterling Integrator installation) is present in the temporary or previous version of the keyfile you received from Sterling Commerce.
 - Delivery Method (ground shipment 5 to 7 days or electronic software delivery)
 - Current Software Version
 - IP Address
 - License Filekey
 - Operating System
7. Select the adapter which you are running from the list.
8. Click **Submit**.

Your upgrade media will be shipped to you via the delivery method you selected

Create an Process Output Log in Windows

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:

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

This is an optional procedure. It is the customer's responsibility to perform it. Sterling Commerce 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 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 Integrator.
 - A database that you can use in your old version of Sterling Integrator.
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
```

License File

After your company signed the sales contract with Sterling Commerce, Sterling Commerce creates a license file containing information about your company, your system, and the packages (components) that your company selected to use, such as services, maps, and adapters.

Your first license file is a temporary keyfile that is e-mailed to you after you purchase Sterling Integrator. It allows you to run the software and all of the licensed features for a limited period. Before the keyfile expires, you must replace the temporary key with a permanent key. Failure to either extend your temporary keyfile or replace it with a permanent keyfile will result in the keyfile expiry and Sterling Integrator will fail to start.

The permanent license keyfile contains your specific operating system and the IP address of your system, and is valid for 20 years from the date of issue.

The permanent license file contains a single or multiple IP addresses in your computing environment. If you change an IP address in your computing environment that is present in your license file, the software will cease to operate. You should take necessary precautions to avoid this potential outage, including notifying the appropriate contacts within your organization (Information technology and related departments) and include the license file updates in your computing environment change plans.

Obtain a License File

To obtain a license file:

1. Navigate to the Sterling Commerce Customer Center (<https://customer.sterlingcommerce.com>).
2. Click **Support Center > Sterling Integrator > Key Requests**.
3. Enter the following information:
 - Company Name
 - Contact Name
 - Phone Number
 - Fax number
 - Email Address
 - Requested Key Type (Permanent or Temporary)
 - PSP number - The PSP Number (unique number that identifies a licensed software asset in your Sterling Integrator installation) is present in the temporary or previous version of the keyfile you received from Sterling Commerce.
 - CD Key (if no PSP number is present in your license key)
 - Order Number
 - Product

- Platform
- Environment
- IP Addresses
- Previous IP Address
- Sterling Account Executive
- Comments

4. Click **Submit**.

Your new keyfile will be generated and delivered to you as an attachment to an email. Save this attachment and record the absolute path. This will be used during the install process.

Install the License Key (Windows)

To install the license key in a Windows environment:

1. When you receive the permanent license keyfile, make a copy of it, and keep the copy in a safe place.
2. Stop Sterling Integrator.
3. Copy your license keyfile to the machine where Sterling Integrator is installed.
4. 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: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

5. Enter `AddLicenseSet.cmd <path>`.

Where *<path>* is the path to the license keyfile.

6. Start Sterling Integrator.

You can also install or update your license file from the Licenses screen (**Operations > System > Licenses**) when Sterling Integrator is running.

Download the JCE Distribution File for the SUN JDK 1.6

The Java Cryptography Extension (JCE) is a set of Java packages from Sun Microsystems, Inc. or IBM that provides a framework and implementations for encryption, key generation and key agreement, and Message Authentication Code (MAC) algorithms. By default, the software uses the limited strength JCE file that is included in the JDK that you use during the installation. Installing unlimited strength JCE file will overwrite the limited strength JCE file.

If you are installing the software outside of the United States, check to see if you can get the JCE unlimited strength jurisdiction policy files. The unlimited strength jurisdiction policy files can only be exported to countries to which the United States permits the export of higher-level encryption.

To obtain this file for the Sun JDK 1.6:

1. Open your browser and navigate to <http://java.sun.com/javase/downloads/index.jsp>.

2. At the bottom of the page (Additional Resources), locate the **Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files 6** and click **Download**.
3. Click the [jce_policy-6.zip](#) link start the download.
4. Save the jce_policy-6.zip file to your system.
5. Record the directory and the zip file name.
You will need this information during the installation process.

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, while more 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	Determine which upgrade method you are going to use: <ul style="list-style-type: none">• GUI-based• Silent Installation	
2	Determine if you are going to run the pre-upgrade checks during the upgrade.	
3	Determine if you are going to use multicast ports.	
4	Decide which type of security certificates you will use: <ul style="list-style-type: none">• The default self-signed SSL (Secure Sockets Layer) certificate that is automatically installed.• A Certificate Authority-related certificate that you install before installing the software.	

#	Information Gathering Checklist for Windows Cluster Upgrades	Your Notes
5	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.	
6	Determine if you are going to use FIPS (Federal Information Processing Standards) mode.	
7	Record the Hostname on which you plan to install the software.	
8	Record the Directory Name where you plan to install the software.	
9	Record the Login to host machine.	
10	Record the Password to the host machine.	
11	Record the path to the JDBC drivers.	
12	Record the path to the installation wizard and file name.	
13	Record the path to JDK.	
14	Record the path to the License File.	
15	Record the path to JCE file.	
16	Record the Host IP address.	
17	Record the Initial Port Number.	
18	Record the System passphrase.	
19	Record the Administrative e-mail address to which system alert messages are sent.	
20	Record the SMTP Server IP address used for sending alert messages.	
21	Record the Database vendor name.	
22	Record the Database user name.	
23	Record the Database password.	
24	Record the Database (catalog) name.	
25	Record the Database host name.	
26	For Oracle or Microsoft SQL Server, record the Path and file name for the JDBC Driver.	
27	For DB2, record the Absolute paths and file names for two JDBC drivers.	

Supporting Information

Pre-Upgrade Check for Clusters

Pre-upgrade checks 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 item are not validated, the upgrade fails. You are provided with an error message and must correct the situations and then restart the upgrade.

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

To avoid this, each Sterling Integrator 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 will not interfere with each other. The default multicast address used 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 participating in the same cluster must be installed on the same multicast base port (the multicastBasePort property in the noapp.properties file). This is usually computed from the system base (non-multicast) port, but can be configured separately in the noapp.properties file, to allow different nodes in a cluster to be installed at different (non-multicast) port ranges. Also, all the nodes in the cluster should be installed in the same subnet.

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

- property_string - default value is UDP.
- distribution_property_string - default value is TCP. This attribute should 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 backing up the file), and then run the `setupfiles.cmd` command. You can make this change right after the installation or after you have started running the cluster. If you change the file after starting the cluster, you need to stop all nodes of the cluster, make the change on each node, and then re-start 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, refer to the *Sterling Integrator Clustering* documentation.

Security Certificates

Before you begin the installation, you must decide which of the following security certificates you will 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 installing the software.

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

Port Numbers in a Windows Environment

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

To specify an initial port number, follow these guidelines:

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

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

During the upgrade, about 50 default ports are pre-assigned for different services. For example, if you do not want xxx32 (10132) to be a default port, you 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 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 option is not available for MySQL databases.

This feature increases database security by reducing the database permissions of the Sterling 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.

If you:	Then
Choose to manually apply the DDL statements	<p>Before you begin the installation, you will need to manually create the database schema using the sql files in the <code>\install_dir\install\repository\scripts</code> directory. For more information, refer to the utilities configuration documentation.</p> <p>You need to apply the DDL statements in a specific order. To find an example of the correct order, run an installation where the database schema was applied automatically and then look in the installation log file.</p> <p>The installation process will validate the database with a Sterling Integrator tool called DBVerify and warn you if there are issues, and will exit the installation.</p>
Choose NOT to manually apply the DDL statements	The installation will apply the DDL statements.

Upgrade the Software

General Windows Cluster Upgrade Information

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

Windows Cluster Information

Clustering is not supported for Sterling Integrator systems that use the MySQL database, even though it appears as an option. Upgrading Sterling Integrator cluster nodes is similar to upgrading a Sterling 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 Integrator license for multiple IP addresses of all the nodes where Sterling Integrator will be installed and configured as a cluster.
- To install more than one instance of the Sterling 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 Integrator 5.1 does not support IPv6 installation on Windows. Before applying an IPv6 address, see the *IPv6 Capabilities* section in Sterling Integrator 5.1 *System Requirements* guide.

The cluster environment does not support the following items:

- MySQL database
- AS2 Edition

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.

Upgrade the Cluster using the GUI-Based Method in Windows

Before you begin:

- You should have completed the *Information Gathering Checklist for Upgrades*.
- The license file must reside on the host machine on which the application is being installed. If you saved the license file to a Windows client, transfer the license file to the host.
- *install_dir* refers to the installation directory where the software is installed. Do not use any pre-existing directory name or an old version of the Sterling Integrator installation directory. If you do, you could inadvertently overwrite the existing installation.
- *parent_install* refers to the parent directory of the installation directory that you create during the installation.
- If you are installing Sterling 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 Integrator.
- 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.
- 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 UI (/dashboard or /ws).
- Sterling Integrator 5.1 does not support IPv6 installation on Windows. Before applying an IPv6 address, see the *IPv6 Capabilities* section in Sterling Integrator 5.1 *System Requirements* guide.

To upgrade, starting with node 1:

1. Close all open Windows programs and any command prompt windows.
2. From the installation media, copy SCIIInstallWizard.jar and SI.jar to your desktop or to a Windows directory.
3. To start the upgrade, use one of the follow methods:

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

For Windows Server 2003 or earlier	For Windows Server 2008
	<ul style="list-style-type: none"> • Enter <code>\path_to_java\bin\java -jar \absolutePath\SCIInstallWizard.jar</code>

The installation dialog box appears.

4. Click **Next** to start the installation program.
5. Review the License conditions and click **Accept** to accept the terms.
6. Enter the full path to the **JDK** directory.
7. Enter the full path to the **license file**.

If you have not installed a license file, you can minimize this window, obtain the license file, and then return to the installation process.

8. Enter the full path to your **JCE file**.
9. Enter the path to installation directory. If the directory does not exist, click **Yes** at the prompt *The directory does not exist, create it?*

The installer creates the installation directory. This installation directory is referred to as *install_dir*. Below the installation directory, the installer creates a directory named *install*. This directory contains the installation files.

10. Enter the path to the install jar file (SI.jar).
11. Enter the **explicit IP address** for the server or use the default value of localhost.
12. Enter the **initial port number** or use the default value of 8080.
13. Enter your system **passphrase**.
14. Re-enter the system **passphrase**.
15. Enter the **administrative e-mail address** to which you want system alert messages sent.
16. Enter the **SMTP mail server** (IP address or host name) that you want to use for system alert messages and other administrative notices.
17. If you want to enable **FIPS** (Federal Information Processing Standards) mode, select the checkbox.
The default is disable FIPS mode.
18. Select the database that you want to use (Oracle, Microsoft SQL Server, or DB2).
19. Select all options that apply to this node:

Choices:	Action
(Skip for Version 5.2.0) This installation is an upgrade from a prior version.	Select this option. By default, the checkbox is not selected.
This installation is for a cluster node 2 or higher	<ul style="list-style-type: none"> • For node 1: Do not select the check box. • For node 2 or higher: Select the check box.
(Skip for MySQL) Apply database schema automatically?	<ul style="list-style-type: none"> • 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. After the installation wizard stops, you must perform these additional steps:

Choices:	Action
	<ol style="list-style-type: none"> 1. Manually create the database schema. 2. Rename or delete the <i>install_dir</i> directory. 3. Start the installation wizard again. <p>When you are executing the scripts, it is important to execute the SQL scripts in a particular order. The SQL script order is dependant on the database configured with your system. See the database documentation for further information.</p> <p>Important: In version 5.1 of Sterling Integrator, there is an issue with this feature and the installation wizard. For information on the corrective workaround, see InQuira Article NFX11576.</p>
Verbose install?	<ul style="list-style-type: none"> • By default, the check box is not selected. • Select the checkbox to generate the installation log. The events that occur during the installation are recorded in InstallSI.log file.

20. Enter the database connection information.

- Database user name
- Database password (and confirmation)
- Database catalog name
- Database host name
- Database port
- (Oracle and Microsoft SQL Server only) Absolute path and file name for one JDBC driver file
- (DB2 only) 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 Sterling Integrator to the DB2 server.

- (Oracle only) Select the check box to select the data type to use for caching. 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 Integrator documentation for slow performance in Oracle.

21. Review and confirm the database information.

22. Do you want to run the **Upgrade Pre-check**?

- If yes, click **Next**. Default is Yes. You only need to run the pre-check for node 1 in the cluster. Then you will need to **Confirm Running Upgrade Pre-Check**. If the pre-check generates an error message, you will need to resolve the error situation, before the upgrade can be restarted.
- If no, click **No** to skip the pre-check.

23. Review the default **Install Actions**. The following check boxes are automatically selected and you can not clear them:

- Verify Operating System is supported
- Verify the selected JDK is supported
- Install Components

- Save install files
- Clean Up Files
- Install Windows Service

24. Select the appropriate JDK. By default, the 64-bit JDK is selected.

25. If you want to **Create Desktop Icons (Windows & Linux)**, click **Next**. By default, the check box is selected. 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.

26. Click **Next** to continue.

The **Installation Progress** screen appears. You can click **Show Details** to confirm your installation information before starting the installation.

27. Click **Install** to finish the upgrade.

The **Installation Progress** screen shows the general progress of the installation through different stages. For more information about these stages, click **Show Details**.

For more detailed information about the installation, refer to the `\install_dir\PreInstallSI.log` file. The installation completes automatically. When the installation is finished, the system displays a dialog box with the message *Installation Wizard completed*. Please see the installation guide for next steps.

Installation information is in the following files:

- ant.install.log (in the `install_dir` directory)
- InstallSI.log (in the `\install_dir\install` directory)

28. 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 <code>\install_dir\install\properties</code> for node 1.	
2	In the <code>noapp.properies_platform_ifcresources_ext</code> file, record the value for <code>multicastBasePort</code> .	
3	In the <code>jgroup_cluster.properties</code> file, record the value for <code>mcast_port</code> .	
4	For each subsequent node, you need to perform the remaining steps.	
5	Navigate to <code>\install_dir\install\properties</code> for each node (node 2 and higher).	
6	In the <code>noapp.properies_platform_ifcresources_ext.in</code> file, update the value of the <code>multicastBasePort</code> to match the value for node 1. For example, replace the string <code>&MULTICAST_NODE_PORT1;</code> with the port number 45460: <ul style="list-style-type: none"> • (before) <code>multicastBasePort=&MULTICAST_NODE_PORT1;</code> • (after) <code>multicastBasePort=45460</code> 	
7	In the <code>jgroups_cluster.properties.in</code> and <code>jgroups_cluster.properties_fifo_ext.in</code> files, update all occurrences of <code>mcast_port</code> to match the value for node 1.	
8	After you have updated the attributes for all of the nodes, enter: <code>\install_dir\install\bin\setupfiles.cmd</code> for node 2 and higher.	

29. 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*.

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

```
run.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 Integrator 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 Sterling 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.

31. Determine if you need to apply any maintenance patches to the installation.
Refer to *Installation Maintenance* to get information on how to install the latest patch.

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

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

Entry	Description
ACCEPT_LICENSE	(Required) Indicates if the user accepts the license agreement.

Entry	Description
	Default: YES
JVM_LOC	(Required) Full path to JDK directory.
LICENSE_FILE_PATH	(Required) Full path to a valid license file. Example: <code>\absolutePath\Full_License.xml</code>
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. Example: <code>\absolutePath\unrestrict123.zip</code>
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. It can include the following: <ul style="list-style-type: none"> • The installation directory that you specify during an interactive installation. • The subdirectory "install". Although you can enter your own path, the <code>\install_dir\install</code> path matches the path that is created during an interactive installation.
REINIT_DB	(Required) Indicates if database should be initialized. <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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.
INSTALL_IP	(Required) Host name or IP address. Valid values: <ul style="list-style-type: none"> • localhost (default) • Your IP address or host name If you are installing Sterling 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 Integrator.

Entry	Description
	<p>Note: Sterling Integrator 5.1 does not support IPv6 installation on Windows. Before applying an IPv6 address, see the <i>IPv6 Capabilities</i> section in Sterling Integrator 5.1 <i>System Requirements</i> guide.</p> <p>You must install using a host name, not an IPv6 address, otherwise the Lightweight JDBC adapter and Graphical Process Modeler (GPM) will not work.</p>
PORT1	<p>(Required) Base port for ASI server. Ports are assigned consecutively from this port.</p> <p>Example: 12345</p> <p>Default: 8080</p>
APSERVER_PASS	<p>(Required) Passphrase used to secure all encrypted data in database.</p>
SI_ADMIN_MAIL_ADDR	<p>(Required) E-mail address for the administrative user.</p> <p>Example: abc@xyz.com</p>
SI_ADMIN_SMTP_HOST	<p>(Required) Valid SMTP host through which the system can e-mail the administrative user.</p> <p>Example: mail.xyz.com</p>
FIPS_MODE	<p>(Optional) Indicates if you are using FIPS (Federal Information Processing Standards) mode.</p> <p>Valid values:</p> <ul style="list-style-type: none"> • true - Enable FIPS mode. • false (default) - Disable FIPS mode.
DB_VENDOR	<p>(Required) Database vendor.</p> <p>Valid values:</p> <ul style="list-style-type: none"> • Oracle • MSSQL2005 (use this value for Microsoft SQL 2005 and 2008) • DB2 • MySQL (default)
UPGRADE	<p>(Required) Indicates if you are upgrading. Set this value to true.</p> <p>Default: false</p>
DB_CREATE_SCHEMA	<p>(Required) Indicates if you want the database schema automatically created.</p> <p>Valid values:</p> <ul style="list-style-type: none"> • true (default) - Automatically create the schema. • false - Manually create the schema. <p>If you create the database schema manually, restart the installation procedure in a new installation directory. You can delete the installation directory created earlier.</p>

Entry	Description
DEBUG	(Optional) Records events that occur during the installation in InstallSI.log file. Valid values: <ul style="list-style-type: none"> • true - records events that occur during the installation. • false (default) - does not record the events that occur during installation.
DB_USER	(Required) Database user name. Example: abcd_123_1
DB_PASS	(Required) Database password. Example: xyz
DB_DATA	(Required) Database catalog name. Example: abcd
DB_HOST	(Required) Database host name. Example: abcd Default: localhost
DB_PORT	(Required) Database port. Example: 1234
DB_DRIVERS	(Required) Full path to JDBC driver files. If DB_VENDOR is: <ul style="list-style-type: none"> • Oracle or MSSQL, specify one driver. • DB2, specify two drivers. If you specify more than one driver, use colons (:) to separate the file names. Examples: <ul style="list-style-type: none"> • <i>JDBC_driver_dir\db2jdbc.jar</i> • <i>JDBC_driver_dir\db2_1_jdbc.jar:JDBC_driver_dir\db2_2_jdbc.jar</i>
ORACLE_USE_BLOB	(Required if DB_VENDOR=Oracle) Indicates the data type to use for caching. <ul style="list-style-type: none"> • true (default) - BLOB (binary large object) • false - Long Raw
MSSQL2005	(Required for Microsoft SQL Server 2005) This attribute is case-sensitive. <ul style="list-style-type: none"> • Set this attribute to the default value of true. • (All other servers) Do not include this attribute.
JDK64BIT	(Optional) Indicates if a 32-bit or 64-bit JDK is being used. Refer to the <i>System Requirements</i> to determine the type of JDK for your operating system. Valid values:

Entry	Description
	<ul style="list-style-type: none"> • true (default) - 64-bit • false - 32-bit
Icons	<p>(Required) Indicates whether to create a desktop icon for accessing Sterling Integrator.</p> <p>Valid values:</p> <ul style="list-style-type: none"> • true - Create a desktop icon. • false (default) - Do not create a desktop icon. <p>If you created the desktop icon and are using Windows Server 2008, you need to complete the <i>Configure the Desktop Icon for Windows Server 2008</i> task after the installation is complete.</p>

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	<p>(Optional) Free form version string for JDBC driver. This is informational only.</p> <p>Example: 8_1_5</p>
JDBC_VENDOR	<p>JDBC driver vendor. Used when multiple vendors are available (DB2 iSeries: DB2APP, DB2TOOLBOX, DB2).</p> <p>Default: Microsoft</p>
LOAD_FACTORY_SETUP	<p>(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.</p> <p>Valid values:</p> <ul style="list-style-type: none"> • true (default).- loads factory setup during installation. • false - does not load factory setup during installation. Run loadDefaults command after installation.
CONFIG_GS	<p>(Optional) Indicates whether integration with Gentran Server should be configured.</p> <p>Default: No</p>
NO_DBVERIFY	<p>(Optional) Valid values are true or false. When set to true during installation and installservice, dbverify will not be run.</p> <p>This means that the Sterling Integrator will not generate DDL to make the database like the XML entity repository.</p>
DB_CLEAN	<p>Indicates if database should be wiped at the beginning of the installation.</p> <p>Default: no</p>

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

Sterling Integrator 5.1 does not support IPv6 installation on Windows. Before applying an IPv6 address, see the *IPv6 Capabilities* section in Sterling Integrator 5.1 *System Requirements* guide.

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

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

1. From the installation media, copy `SI.jar` to a Windows directory.
2. If you want to run the upgrade pre-check, from the upgrade media, copy `SCIUpgradePreCheck.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 `SCIUpgradePreCheck.jar` file, and the silent installation file):

```
\absolutePath\bin\java -jar \absolutePath\SCIUpgradePreCheck.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
<ul style="list-style-type: none">• Open a command prompt window (from the Run dialog box).• Enter <pre>\absolutePath\bin\java -Xmx512m -jar \absolutePath\SI.jar -f \absolutePath\SilentInstallFile</pre>	<p>Complete the following steps:</p> <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p> <ul style="list-style-type: none">• Enter <pre>\absolutePath\bin\java -Xmx512m -jar \absolutePath\SI.jar -f \absolutePath\SilentInstallFile</pre>

The installation begins. The program verifies support for your operating system and JDK. You can follow the progress of the installation on screen.

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

Installation has completed successfully.

Important: Windows services are not installed during a silent installation. After the installation completes, you must go to `\install_dir\bin\` and run `installwindowsServices.cmd`

6. (Skip this step if you are applying database schema automatically.) If you are going to manually create the database schema, the installation will stop. After it has stopped, you need to perform the following steps:

1. Manually create the database schema.
2. Rename or delete the *install_dir* directory.
3. Start the silent installation again.

When you are executing the scripts, it is important to execute the SQL scripts in a particular order. The SQL script order is dependant on the database configured with your system. See the database documentation for further information.

Important: In version 5.1 of Sterling Integrator, there is an issue with this feature and the installation wizard. For information on the corrective workaround, see InQuira Article NFX11576.

7. 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.

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

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

9. 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 <code>\install_dir\install\properties</code> for node 1.	
2	In the <code>noapp.properties_platform_ifcresources_ext</code> file, record the value for <code>multicastBasePort</code> .	
3	In the <code>jgroup_cluster.properties</code> file, record the value for <code>mcast_port</code> .	
4	For each subsequent node, you need to perform the remaining steps.	

Step	Action	Your Notes
5	Navigate to <code>\install_dir\install\properties</code> for each node (node 2 and higher).	
6	In the <code>noapp.properties_platform_ifcresources_ext.in</code> file, update the value of the <code>multicastBasePort</code> to match the value for node 1. For example, replace the string <code>&MULTICAST_NODE_PORT1</code> ; with the port number 45460 : <ul style="list-style-type: none"> • (before) <code>multicastBasePort=&MULTICAST_NODE_PORT1</code> ; • (after) <code>multicastBasePort=45460</code> 	
7	In the <code>jgroups_cluster.properties.in</code> and <code>jgroups_cluster.properties_fifo_ext.in</code> files, update all occurrences of <code>mcast_port</code> to match the value for node 1.	
8	After you have updated the attributes for all of the nodes, enter: <code>\install_dir\install\bin\setupfiles.cmd</code> for node 2 and higher.	

10. 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*.

11. 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
```

12. 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 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.

13. Determine if you need to apply any maintenance patches to the installation.
Refer to *Installation Maintenance* to get information on how to install the latest patch.

Configure the Sterling Integrator Desktop Icon for Windows Server 2008

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 Integrator. If you disable the UAC, which requires a reboot, the installation process and daily processing for Sterling Integrator remains the same as in previously supported Windows version.

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

1. Right-click on the Sterling 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.	
2	Configure the Nodes in Windows Cluster.	
3	Start the Windows Cluster.	
4	Access Sterling Integrator.	
5	Validate the Installation.	
6	Stop a Node in the Windows Cluster Configuration.	
7	Stop Sterling Integrator (Windows Cluster).	
8	Stop the Sterling Integrator in a Windows Cluster Environment (Hardstop or Softstop).	
9	Restart the Windows Cluster.	

Verify the Cluster Environment Settings in Property Files

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

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

Configure the Nodes in Windows Cluster

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 patch or hot fix.

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

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: <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

2. Enter `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 Integrator.

Start the Windows Cluster

For each node in the cluster, starting with node1:

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: <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

2. Enter `startWindowsService.cmd`.

It takes several minutes for the Sterling Integrator components to initialize and start up. 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 Integrator resides on your system.

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

Access Sterling Integrator

To log in to Sterling Integrator:

1. Open a browser window and enter the address displayed at the end of startup. The login page displays.
2. Enter the default user ID (`admin`) and password (`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.

Validate the Installation

Validate the installation by testing a sample business process:

1. From the Administration Menu, select **Business Process > Manager**.
2. In the Process Name field, enter `Validation_Sample_BPML` and click **Go!**
3. Click **execution manager**.
4. Click **execute**.
5. Click **Go!**

The `Status: Success` message displays in the upper left side of the page.

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

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

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: <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

2. Enter `hardstop.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 Integrator (Windows Cluster)

To stop the entire cluster in a Windows environment:

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

Stop Sterling Integrator (Hardstop Windows)

To stop Sterling Integrator in a Windows environment:

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: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

2. Enter `hardstop.cmd`.

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

Stop Cluster (Softstop Windows)

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

To soft stop the cluster:

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: <ul style="list-style-type: none"> • Click Start.

For Windows Server 2003 or earlier	For Windows Server 2008
	<ul style="list-style-type: none"> Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p>

2. Enter `softstop.cmd`.

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

Restart the Windows Cluster

To restart the entire cluster in a Windows environment:

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: <ul style="list-style-type: none"> Click Start. Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p>

2. Enter `startWindowsService.cmd restart`.

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

The upgrade is complete. You need to now perform some post upgrade procedures. Review all of the procedures in the checklist. Some procedures may not be required.

#	Post Upgrade Configuration Checklist	Your Notes
1	Determine if You Need to Apply a Maintenance Patch to the Cluster	
2	Change Default Passwords	
3	Configure Cluster Environment in Windows	
4	Changes to Network Interface Bindings	
5	Disable Services	
6	Download Sterling Integrator Tools	
7	Enable Business Processes	
8	Configure Property Files	
9	Add cdinteropfiles	
10	Add Third-Party Libraries	
11	Review the EDI Sequence Check Sequence	
12	Configure Document File Systems	
13	Configure Services and Adapters	
14	Configure JDBC Adapter and Lightweight JDBC Adapter	
15	Configure File System Adapter and Command Line2 Adapters	

#	Post Upgrade Configuration Checklist	Your Notes
16	Configure Odette FTP Adapter	
17	Restore Performance Tuning Configuration	
18	Add Advanced File Transfer Tab	
19	Reconfigure Archive Settings	
20	Correct Missing Manager ID	
21	Manage Nodes in a Cluster	
22	Configure ActiveMQ for a Cluster Environment	
23	Configure Shared File System as Document Storage	
24	Add host[port] From all the Nodes to the jgroups_cluster.property.in for Each Node	

Configure Cluster Environment in Windows

For each node in the cluster, starting with node 1:

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: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p>

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 Default Passwords

This upgrade changes the administrative password to the default password.

For security purposes, change the default user ID passwords immediately after the installation is completed. See the *Update My Account Information* task in the documentation library.

Change the Network Interface Bindings (Windows)

To increase the security of the Administrator Console User Interface, the system binds only to specific network interfaces. By default, previous versions had been bound to all 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:

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

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

Where *localhost* is the name of the network interface on the server where Sterling 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 Integrator.
4. If an additional network interface needs to access Sterling Integrator, add an additional `admin_host` entry.

For example:

```
• admin_host.1 = hostname1
```

```
• admin_host.2 = localhost
```

```
• admin_host.3 = hostname2
```

5. Stop Sterling Integrator.
6. Navigate to `\install_dir\install\bin`.
7. Enter `setupfiles.cmd`.
8. Restart Sterling Integrator.

Disable Services

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 Sterling Integrator Tools

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

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

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

Enable Business Processes

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

Property files contain properties that control the operation of the Sterling Integrator. For example, the REINT_DB property in the sandbox.cfg file controls whether or not a database is initialized when you install Sterling Integrator.

By modifying the values of these properties, you can customize the Sterling Integrator to suit your business and technical needs. Most property files are in the:

- For UNIX, */install_dir/install/properties* directory
- For Windows, *\install_dir\install\properties* directory

After installing the Sterling 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 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
- Securing the Interop Servlet

Add cdinterop Files

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

Add Third-Party Libraries

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

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

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:

- Federation adapter
- 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

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

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 Sterling Integrator 5.1 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 Sterling Integrator 5.1 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 Integrator 5.1, 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

If you use the Odette FTP Adapter and are using the Partner Profile XML file version 2.00 used in 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	<pre><GeneralParameters> <PartnerProfileVersion>3.00 </PartnerProfileVersion> </GeneralParameters></pre>	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	<pre><AuthenticationCertificate type = "..."> <Subject>string</Subject> <Issuer>string</Issuer> <Serial> Bignumber_string </Subject> </AuthenticationCertificate></pre>	Add Structure, if used.	OFTP 2.0: Mandatory for security only. Structure may be repeated.
Physical Partner	<pre><AuthenticationCertificate type = "Private Key"> <Subject>string</Subject> <Issuer>string</Issuer> <Serial>Bignumber_string </Subject> </AuthenticationCertificate></pre>	Add Structure, 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.
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>	Add structure, if used.	OFTP 2.0: Mandatory for security, only. Structure may be repeated.

	<Serial>string</Subject> </FileServiceCertificate>		
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	SignedEERPRRequest	Add field, if used.	
Logical Partner Contract	EERP/NERPSignatureCheck	Add field, if used.	
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 VirtualFilenamePattern	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

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

To restore the performance tuning configuration:

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

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:

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

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:

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

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

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

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 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 patches or hot-fixes.

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

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 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)

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

To add a node into the cluster:

1. Install a new Sterling 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 Integrator. You should not run `startCluster.cmd` command when you restart a Sterling Integrator instance.

4. Start the new node.

Remove a Node from the Cluster

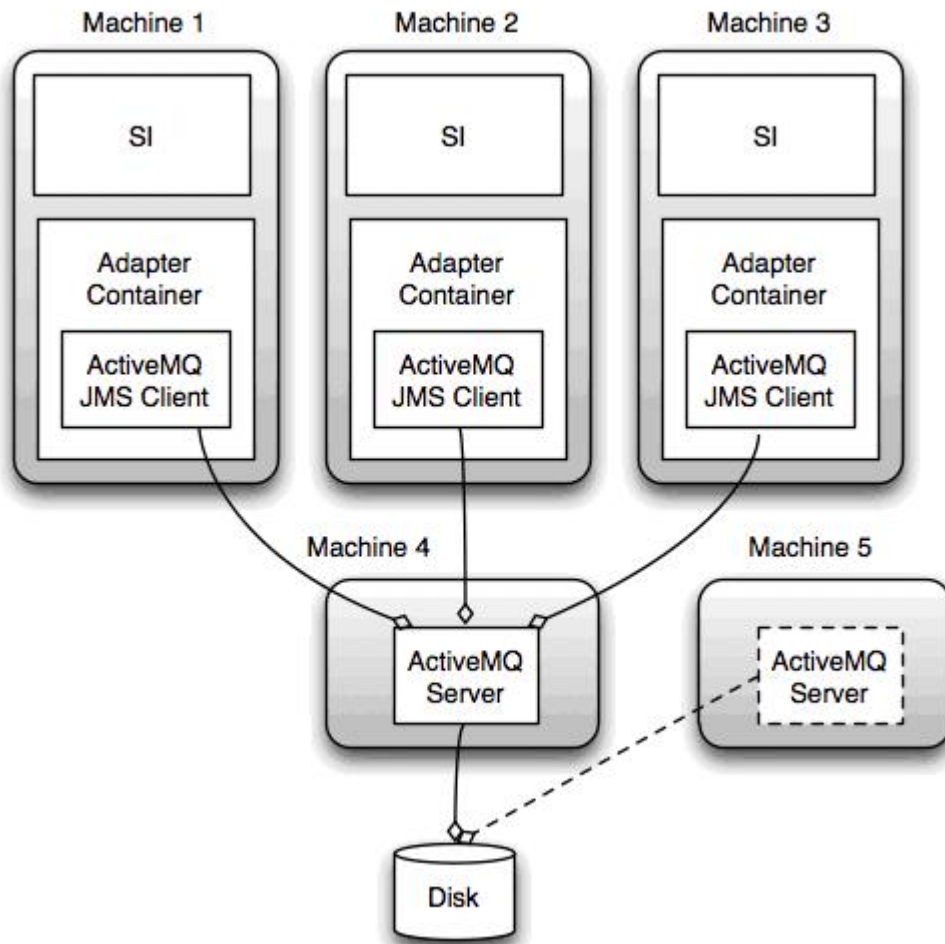
To remove a node from the cluster:

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 Integrator 5.1 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)

To configure ActiveMQ for the windows cluster environment:

1. Download the 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 Integrator or on a separate machine.

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

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

- 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 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.

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

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

- On each Sterling Integrator application node and each Sterling 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 Integrator.

Configure Shared File Systems as Document Storage (Windows Cluster)

To configure the shared file systems as document storage:

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: <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

2. 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: <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

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

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

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:

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.

Installation Maintenance

Installation Maintenance for a Windows Cluster Environment

From time to time, you will need to apply either a patch or a hotfix to your Sterling Integration installation:

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

It is possible to apply patches to nodes while other nodes are processing. However a patch 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 patch.

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

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

Determine If You Need to Apply a Maintenance Patch (Windows)

Patches contain cumulative fixes for a specific version of Sterling Integrator. Patch files are available on the Sterling Commerce Support on Demand web site. Because each patch contains the fixes from previous patches, you only need to install the most recent patch.

Note: During patch 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 patch installation is complete.

Patch files are named using the following naming convention:

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

Information about a patch is located in a PDF file with a similar name. The naming convention for PDF files containing information about a particular patch is:

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

Before you install the patch, review the following items:

- Preserve your custom changes to system resources.
- The patch installation may use one or more patch 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 patch installation. Properties overridden using the `customer_overrides.properties` file are not affected. Sterling Commerce 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 patch. The `cdinterop` files do not have initialization (`*.in`) files. After applying the patch, use the backup version of the files in your patched installation. These files include the following files: `cdinterop-proxy-records.properties`; `cdinterop-spoee-auth.properties`; `cdinterop-spoee-policy.properties`; and `cdinterop-user-records.properties`.
- Information about the patch installation is automatically logged to `\install_dir\install\logs\InstallService.log`.
- If you need to rollback a patch, see the *Patch Change Report*.

Preserve Custom Changes in Windows Cluster Environment

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 a patch or hot fix.

Install a Critical Maintenance Patch to the Cluster (Windows)

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

1. Go to the Sterling Commerce Support on Demand Web site, at <https://support.sterlingcommerce.com/user/login.aspx>.
2. Download the most recent patch file for your version of Sterling 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 Integrator installation directory, including all subdirectories.
6. Perform a backup of the database.
7. If you edited any property files, ensure that the associated properties.in files have the most current changes. Property files will be overwritten with the contents of the associated properties.in files during the patch installation.
8. Is the database password encrypted? If Yes, decrypt the password.
9. Close all command prompt windows.
10. 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: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

11. Enter:

```
InstallService.cmd <path>\si_<release number>_build_<build number>.jar
```

where:

- <path> is fully qualified path to maintenance patch file
- <release number> is Sterling Integrator version
- <build number> is build number

If the patch attempts to modify the database schema and the modification fails, you will receive an error message about the failure. The message will provide the error message code from the database and the SQL

command that failed. The failure information is also logged to the system.log file (in the `\install_dir\install` directory) and to the patch.log file.

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

Information about the patch is displayed. After the patch has been applied, the following message is displayed: Deployment to application server successful.

15. After you have completed the patch 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 REINTDB to false.

When REINTDB is false, database updates are not applied during each patch. The REINTDB attribute is in the `\install_dir\install\properties\sandbox.cfg` file.

16. Repeat Steps 10 to 14 to apply the patch 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
<ul style="list-style-type: none"> • Open a command prompt window (from the Run dialog box). • Enter <code>startCluster.cmd nodeNumber</code>. 	<p>Complete the following steps:</p> <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p> <ul style="list-style-type: none"> • Enter <code>startCluster.cmd nodeNumber</code>.

19. Restart Sterling Integrator.

If you are using a perimeter server in the DMZ, you will to review the information on apply a patch to the perimeter server.

Install a Maintenance Patch One Node at a Time to the Cluster (Windows)

To install a patch to the one node at a time in a Windows Cluster environment, starting with node 1:

1. Go to the Sterling Commerce Support on Demand Web site, at <https://support.sterlingcommerce.com/user/login.aspx>.
2. Download the most recent patch file for your version of Sterling 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. 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:

For Windows Server 2003 or earlier	For Windows Server 2008
	<ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p>

5. Enter `hardstop.cmd` to stop the node.
Wait until the perimeter server of the node is completely down before installing the patch.
6. Perform a full backup of the Sterling Integrator installation directory, including all subdirectories.
7. Perform a back up of the database.
8. If you edited any property files, ensure that the associated `properties.in` files have the most current changes. Property files will be overwritten with the contents of the associated `properties.in` files during the patch installation.
9. Is the database password encrypted? If Yes, decrypt the password.
10. Close all command prompt windows.
11. Navigate to 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: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p>

12. Enter:

```
InstallService.cmd <path>\si_<release number>_build_<build number>.jar
```

where:

- <path> is fully qualified path to maintenance patch file
- <release number> is Sterling Integrator version
- <build number> is build number

If the patch attempts to modify the database schema and the modification fails, you will receive an error message about the failure. The message will provide the error message code from the database and the SQL command that failed. The failure information is also logged to the `system.log` file (in the `install_dir\install` directory) and to the `patch.log` file.

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

Information about the patch is displayed. After the patch has been applied, the following message is displayed: Deployment to application server successful

16. After you have completed the patch 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 REINTDB to false.

When REINTDB is false, database updates are not applied during each patch. The REINTDB attribute is in the `\install_dir\install\properties\sandbox.cfg` file.

17. Repeat Steps 11 to 15 for each node.

18. If you decrypted the database password, re-encrypt the password.

19. Start Sterling Integrator.

If you are using a perimeter server in the DMZ, you will to review the information on apply a patch to the perimeter server.

Install a Hot-Fix (Windows Cluster)

After you install the Sterling Integrator you may need to install a hot-fix. A hot-fix is one or more fixes applied to a specific existing patch.

Before you can install a hot-fix developed for your company, you must have completed the following:

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

To install a hot-fix in a Windows Cluster environment, starting with node 1:

1. Log in to the computer that you are installing the hot-fix on.
2. If the database password was encrypted, decrypt the password.
3. Enter `ftp theworld.stercomm.com`.
4. Enter your user name and password. If you do not know your user name and password, contact Sterling Commerce Customer Support.
5. Enter `bin` and press **Enter** to select Binary as your transfer mode.
6. At the FTP prompt, enter `get ccaseid.jar`, where `ccaseid` includes the ID number you received from Customer Support.
7. Stop the Sterling Integrator.
8. 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: <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

9. Enter `installService.cmd \absolutePath\ccaseid.jar` to install the hot-fix.

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

10. After you have completed the hot-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 REINTDB to false.

When REINTDB is false, database updates are not applied during each patch. The REINTDB attribute is in the `\install_dir\install\properties\sandbox.cfg` file.

11. Repeat Steps 8 and 9 for each node.
12. If you decrypted the database password, re-encrypt the password.
13. 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
<ul style="list-style-type: none"> • Open a command prompt window (from the Run dialog box). • Enter <code>startCluster.cmd nodeNumber</code> 	<p>Complete the following steps:</p> <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. <p>The Administrator: Command Prompt dialog box is displayed.</p> <ul style="list-style-type: none"> • Enter <code>startCluster.cmd nodeNumber</code>

14. Start the Sterling Integrator.
15. Navigate to the `install_dir\install\bin` directory, run the `dump_info` command to verify that the hot-fix was successfully installed, using one of the following methods:

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

DB Checksum Tool

A checksum is a simple redundancy check used to detect errors in data. In Sterling Integrator 5.1, a verification process is used to compare the checksum between the existing default resource and the resource added after applying a patch 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)

To run the DB Checksum tool in the Windows environment:

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: <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

2. Enter

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

Where:

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

-i is the resource type integer (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.

Patch Changes Report

The Patch Changes Report is used to obtain information if you need to rollback a patch. The patch report can be found in the installation directory `patch_reports` folder. The report contains the following patch information:

- Patch ID

- Patch Changes
- Number of files deleted
- Number of JARs removed
- Number of JARs added
- Number of files added
- Number of files changed
- Number of properties added
- Number of business processes added
- Number of service instances added
- Number of service definitions added
- Number of templates added
- Number of reports added
- Number of maps added
- Number of schemas added
- Number of business rules added

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

Example: Patch Changes Report

The following is an example of a Patch Changes Report.

```

Summary of Changes
Patch ID: Platform_2.0
Patch Changes: 1287
Number of Files Deleted: 0
Number of JARs Removed: 2
Number of JARs Added: 0
Number of Files Added: 3
Number of Files Changed: 3
Number of Properties Added: 4
Number of BPs Added: 4
Number of Service Instances Added: 2
Number of Service Definitions Added: 3
Number of Templates Added: 0
Number of Reports Added: 0
Number of Maps Added: 3
Number of Schemas Added: 3
Number of Business Rules Added: 0

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

```

List of Files Added:

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

List of Files Changed:

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

List of Properties Added:

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

List of BPs Added:

BP Added: Schedule_AssociateBPsToDocs.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

User Documentation

Sterling Integrator User Documentation

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

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


Access the Online Documentation

You can also access the Documentation site by opening your Internet browser and entering the following URL:

<http://www.sterlingcommerce.com/Documentation/SI51/homepage.htm>

After you are in the documentation library, you can:

- Enter a word or phrase and search the entire library for information.
- Move through a hierarchy of contents pages to identify the topic you want to read or print.
- Print topics by using your browser's Print function.
- Download entire documents in PDF format. To download PDF documents, click the Documentation in PDF Format link from the main online documentation page.

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

Request a Documentation CD

You can request a CD that contains all the documentation found on the Documentation site. To submit a request, go to the following URL:

http://support.sterlingcommerce.com/forms/Gentran_GIS_UpgradeRequest.aspx

Uninstall the Software

Uninstall the Sterling Integrator from a Windows Cluster Environment

When you uninstall the Sterling Integrator, the Sterling 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 the Sterling Integrator from a Windows environment, perform the following steps for each node:

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: <ul style="list-style-type: none">• Click Start.• Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

2. Enter `hardstop.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 Sterling Integrator 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 the Sterling Integrator is completely recoverable.

4. Remove the installation directory by entering the following command in the parent directory of your installation directory:

```
rm -rf install_dir
```

5. If you use an Oracle, Microsoft SQL Server, or DB2 database, these remain intact even after you remove the Sterling 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 the Sterling 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: <ul style="list-style-type: none"> • Click Start. • Right-click Command Prompt and select Run as administrator. The Administrator: Command Prompt dialog box is displayed.

7. To manually remove the JDK, enter `uninstall.cmd`.
8. After you remove the Sterling 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.	<p>Explanation</p> <p>The installation creates several log files that you can use to diagnose problems like the failure of an installation.</p> <p>Resolution</p> <p>Examine the log files generated during installation:</p> <ul style="list-style-type: none"> • ant.install.log (in the <i>install_dir</i> directory) • <i>install_dir</i>\PreInstallSI.log
Installing	When you entered an absolute path during installation, a message indicated that the command was not found.	<p>Explanation</p> <p>You entered an incorrect path. Check the information entered.</p> <p>Resolution</p> <p>Enter the correct path.</p>
Installing	The license file cannot be found.	<p>Explanation</p> <ul style="list-style-type: none"> • You did not obtain the license file. • The license file is corrupt. • You downloaded the license file to a PC but have not moved it to the server. <p>Resolution</p> <p>You need to obtain the license file. If the license file resides on a PC, save the license file to the server.</p>
Installing a desktop tool or resource	Cannot download any of the following: <ul style="list-style-type: none"> • Map Editor and associated standards • Graphical Process Modeler • Web Template Designer 	<p>Explanation</p> <p>When you install the Sterling Integrator, system files are created that contain an internal IP address. If you install the Sterling Integrator behind a firewall, and your firewall is configured to accept an external IP address from a client computer, you may</p>

Situation	Message or Symptom	Explanation/Resolution
	<ul style="list-style-type: none"> • (If licensed) MESA Developer Studio plug-ins, including: <ul style="list-style-type: none"> • 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. 	<p>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.</p> <p>Resolution</p> <p>Modify the system files that contain the invalid IP address. Follow these steps:</p> <ol style="list-style-type: none"> 1. Navigate to <code>\install_dir\install\bin</code>. 2. Stop the Sterling Integrator. 3. Enter the following command followed by the external IP address: <pre style="background-color: #f0f0f0; padding: 5px; margin: 5px 0;">patchJNLP.cmd external_IP_address</pre> 4. Restart the Sterling Integrator.
Cluster Installation	Cluster is not working properly and your machine is running dual-stack - ipv4 and ipv6.	<p>Explanation</p> <p>You can see the node went down from User Interface, but the node is running.</p> <p>Resolution</p> <ul style="list-style-type: none"> • Find the ipv6 address in the <code>/etc/hosts</code> file and update the <code>noapp.properties.in</code> file <code>admin_host.2 = <ipv6_address></code>. • Edit the <code>jgroups_cluster.properties.in</code> file and replace the <code>&HOST_NAME</code> with the ipv6 address string and change <code>mcast_addr=FFFF::239.255.166.17</code>. • Enter <code>setupfiles.cmd</code>.

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<http://www.sterlingcommerce.com/Documentation/SI51/CopyrightPage.htm>

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