
Setup Checklist – UNIX or Linux Preinstallation

This document contains information to assist you when planning to install Gentran Integration Suite in a UNIX or Linux environment.

Key Terms

The following terms and definitions will assist you in understanding the concepts discussed in this document:

- ◆ Java 2 Software Development Kit (JDK) – Software development kit (SDK) for producing Java programs. Produced by Sun Microsystems, Inc., the JDK includes JavaBeans component architecture and support for JDBC.
- ◆ Gentran Integration Suite License File – Contains a license that is associated with your specific operating system and the IP address of your system. The license provides access, for a year, to the Gentran Integration Suite packages your company selected.
- ◆ 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.
- ◆ Unlimited Strength Policy File – another name for the Java Cryptography Extension (JCE).
- ◆ Rollback Segment – Enables you to undo (rollback) DML (data manipulation language) transactions that were made against a database.

Checklist for UNIX or Linux Preinstallation

The preinstallation checklist contains the items you need to gather and tasks you need to complete prior to installing Gentran Integration Suite.

Note: When creating a name, such as an account name, permissions name, profile name, or database name, follow these conventions:

- ◆ Use any valid alphanumeric characters and _ (underscore).
- ◆ Do not use spaces or apostrophes.

You may want to make a copy of the following checklist and use it to record the information you collect for installing Gentran Integration Suite:

Step	Description	Your Notes
1	Verify that your system meets the hardware and software requirements specified for this release. See <i>Checking System Requirements</i> on page 6.	

Step	Description	Your Notes
2	<p>Verify that your system has the patches required by Java™ for the operating system that will run Gentran Integration Suite. See <i>Checking System Requirements</i> on page 6.</p> <p>Note: For HP, you must run the HP JConfig utility to obtain the required patches and kernel modifications.</p>	
3	<p>For the AIX 5.2 and 5.3 operating systems, establish these settings:</p> <ul style="list-style-type: none"> ◆ Use the following command to change the ARG/ENV list size in 4K byte blocks kernel parameter to 12: <p>Note: “chdev” is followed by a minus sign.</p> <pre>chdev -l sys0 -a ncargs=12</pre> <p>In some cases, <code>ncargs</code> may already be higher than 12. To find out the current value of <code>ncargs</code>, use this command:</p> <pre>lsattr -El sys0 -a ncargs</pre> <ul style="list-style-type: none"> ◆ Change the following default entries in the <code>/etc/security/limits</code> file: <pre> fsize = -1 core = 2097151 cpu = -1 data = 262144 rss = 65536 stack = 65536 nofiles = 4096 (recommended value is unlimited) </pre>	

Step	Description	Your Notes
4	<p data-bbox="282 264 867 321">For the RedHat Enterprise Linux operating system only, make the following system changes:</p> <ol style="list-style-type: none"><li data-bbox="282 331 867 659">1 If the base locale for the system is English, edit the <code>/etc/sysconfig/i18n</code> file by changing the following variables:<ul style="list-style-type: none"><li data-bbox="331 436 850 464">• Change LANG from <code>en_US.utf8</code> to <code>en_US</code>.<li data-bbox="331 485 867 575">• Change SUPPORTED from <code>en_US.utf8</code> to <code>en_US</code>. You can also allow multiple support using the following format: <code>en_US.utf8:en_US</code>Save and close the <code>/etc/sysconfig/i18n</code> file.<li data-bbox="282 669 867 1146">2 Edit the <code>/etc/security/limits.conf</code> file by adding the following lines:<pre data-bbox="321 737 769 1003">gisuser hard nofile 8196 gisuser soft nofile 4096 gisuser hard memlock 3000000 gisuser soft memlock 3000000 gisuser hard nproc 16000 gisuser soft nproc 16000 gisuser hard stack 512000 gisuser soft stack 512000</pre>This updates the system ulimits. Note: For <code>nofile</code>, the recommended value is unlimited. Save and close the <code>/etc/security/limits.conf</code> file.<li data-bbox="282 1157 526 1184">3 Reboot the system.	

Step	Description	Your Notes
5	<p>For the SUSE Linux operating system only, make the following system changes:</p> <ol style="list-style-type: none"> <li data-bbox="285 331 867 495"> <p>If the base locale for the system is English, edit the <code>/etc/sysconfig/language</code> file by changing the following variables:</p> <p>Change RC_LANG from <code>en_US.UTF8</code> to <code>en_US</code>. Save and close the <code>/etc/sysconfig/language</code> file.</p> <li data-bbox="285 506 829 978"> <p>Edit the <code>/etc/security/limits.conf</code> file by adding the following lines:</p> <pre data-bbox="321 573 764 835">gisuser hard nofile 8196 gisuser soft nofile 4096 gisuser hard memlock 3000000 gisuser soft memlock 3000000 gisuser hard nproc 16000 gisuser soft nproc 16000 gisuser hard stack 512000 gisuser soft stack 512000</pre> <p>This updates the system ulimits.</p> <p>Note: For <code>nofile</code>, the recommended value is unlimited.</p> <p>Save and close the <code>/etc/security/limits.conf</code> file.</p> <li data-bbox="285 989 526 1016"> <p>Reboot the system.</p> 	
6	<p>For systems with multiple IP addresses, verify that the IP address on which Gentran Integration Suite resides is accessible by any client computer that is running a browser interface.</p> <p>For all Linux operating systems only, ensure that <code>/etc/hosts</code> has short-names first for all entries. For example, <code>127.0.0.1localhostlocalhost.localdomain</code></p> <p>Caution: If you do not verify the IP addresses, your system may not operate properly after installing Gentran Integration Suite.</p>	
7	<p>Verify that all client computers are using Microsoft Internet Explorer 5.x or later.</p>	
8	<p>If you are using a non-English environment, confirm that you are using the appropriate character set.</p>	
9	<p>Determine and record information about the JDK. See <i>Installing the Java 2 Software Development Kit</i> on page 6.</p> <ul style="list-style-type: none"> <li data-bbox="285 1644 521 1671">◆ Version of the JDK <li data-bbox="285 1692 773 1719">◆ Absolute path to the JDK files and patches 	

Step	Description	Your Notes
10	Obtain the JCE distribution file and record the absolute path to the zipped file. See <i>Downloading the JCE Distribution File</i> on page 6.	
11	Determine and record the initial port number to be used by Gentran Integration Suite. See <i>Determining Port Numbers</i> on page 7.	
12	Verify that a UNIX user account exists on the host server for each installation of Gentran Integration Suite. See <i>Creating a UNIX Account</i> on page 7.	
13	Set Umask to 002.	
14	<p>If you are using an Oracle, MS SQL, or DB2 database, determine and record information about your database server. Be aware that this information is case sensitive. See <i>Creating and Configuring the Database Server</i> on page 7.</p> <ul style="list-style-type: none"> ◆ Database vendor ◆ Database user name and associated password ◆ Database (catalog) name ◆ Database host name ◆ Database host port number ◆ Absolute path and file name for the JDBC driver ◆ Version of the JDBC driver 	
15	<p>Determine and record information to set up default system alerts from Gentran Integration Suite:</p> <ul style="list-style-type: none"> ◆ The Administrative e-mail address to which system alert messages are sent. ◆ The SMTP Server IP address used for sending alert messages. 	
16	<p>Determine and record the directory in which you plan to install Gentran Integration Suite.</p> <ul style="list-style-type: none"> ◆ The installation directory must not exist because the installation process creates it. ◆ The file system must have adequate free disk space. ◆ The name of the directory is case sensitive. 	
17	<p>Determine and record the passphrase you want to use for the Gentran Integration Suite system.</p> <p>During installation, you are prompted twice to type the passphrase, which is not displayed when you type it.</p>	

Step	Description	Your Notes
18	Obtain the license file and record the absolute path and file name to the license file. Be sure that the path name and the file name consist of alphanumeric, ".", "_", and "-" characters. See <i>Obtaining a License File</i> on page 12.	

Checking System Requirements

Before you begin, verify that your system meets the hardware and software requirements specified for this release. The hardware requirements listed are the minimum required to run Gentran Integration Suite. Your system requirements will exceed these if you are running other applications on the same machine as Gentran Integration Suite.

For current information, see the *System Requirements* posted on the Gentran Integration Suite Documentation Library.

Note: Version 4.2 of Gentran Integration Suite does not require an application server for installation or at run-time. However, Gentran Integration Suite supports integration with JBoss™ and WebLogic®. You can also integrate with WebSphere®, JBoss, or WebLogic after installing version 4.2 by using the Gentran Integration Suite EJB Adapter.

Installing the Java 2 Software Development Kit

You must install the Java 2 Software Development Kit (JDK) and the patches specific to your system. To determine which JDK version and patches you need, see the Gentran Integration Suite *System Requirements*. After you install the JDK, record the absolute path to its location on your system. You must supply the absolute path when you install Gentran Integration Suite.

Downloading the JCE Distribution File

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.

To obtain this file for the Sun JDK 1.4 (Solaris and HP-UX):

1. Open your browser and navigate to <http://java.sun.com/products/jce/index-14.html>.
2. At the bottom of the page, locate the section *Downloading the "Unlimited Strength" Jurisdiction Policy Files* and click **Download JCE Unlimited Strength Jurisdiction Policy Files**.
3. Download the zipped JCE 1.4.2 distribution file to your system. Once the file resides on your system, note the exact directory and file name for this zipped file.

To obtain this file for the IBM JDK 1.4 (RedHat, AIX, and SLES)

1. Open your browser and navigate to <https://www14.software.ibm.com/webapp/iwm/web/reg/pick.do?source=jcesdk>.

2. Enter your IBM ID and password. If you do not have an IBM ID, follow the IBM registration instructions provided on the Sign In page.
3. Click **Submit**.
4. Select *Unrestricted JCE Policy files for SDK 1.4.2* and click **Continue**.
5. Review your personal information and the license agreement and click **I agree** to continue.
6. Download the *unrestrict142.zip* file to your system.
7. Once the file resides on your system, note the exact directory and file name for this zipped file. You will need this information during the installation process.

Determining Port Numbers

During installation, you are prompted to specify the initial port number for Gentran Integration Suite.

To specify an initial port number, follow these guidelines:

- ◆ Gentran Integration Suite requires a range of 100 consecutive open ports between 1025 and 65535.
- ◆ The initial port number represents the beginning port number in the range.
- ◆ The port range starts with the initial port number and ends with the number that equals the initial port number plus 100. All ports in this range must be available for Gentran Integration Suite. 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.

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 installation, 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.

Creating a UNIX Account

In a UNIX or Linux environment, you must create a UNIX administrative account on the host server for each installation of Gentran Integration Suite. For example, if you want to create a test environment and a production environment, you need to create two UNIX accounts on the host server, one for the test and one for the production environment. For more information about creating UNIX accounts, see your operating system documentation.

Creating and Configuring the Database Server

You must install, create, and configure a database so that each Gentran Integration Suite instance has a dedicated schema and login for the database.

Caution: If you are reinstalling Gentran Integration Suite, be aware that data in your existing database will be deleted. To prevent this, either back up the existing database or save it under a different name.

After creating and configuring your database, recycle the database. Then stop and restart Gentran Integration Suite to apply the changes.

In a UNIX/Linux environment, Gentran Integration Suite supports the following databases:

- ◆ MySQL™ (See *Using a MySQL Database Server* on page 8)
- ◆ Oracle® 9i or 10g (See *Using an Oracle Database Server* on page 8)
- ◆ DB2 (See *Using a DB2 Database Server* on page 10)
- ◆ MS SQL (See *Using a Microsoft SQL Server 2000 Database Server* on page 11)

See *System Requirements* for supported version information.

Using a MySQL Database Server

You can use a MySQL database server with Gentran Integration Suite. See *System Requirements* for version information. This database is bundled with Gentran Integration Suite. Choosing this database during the installation procedure creates and configures it for you. MySQL is installed locally on the same server as Gentran Integration Suite and cannot be installed on a separate server.

Using an Oracle Database Server

You can use an Oracle 9i or 10g database with Gentran Integration Suite. See *System Requirements* for supported version information. Gentran Integration Suite supports Oracle 10g in a single node database environment.

Note: Oracle 10g RAC is not supported in Gentran Integration Suite 4.2.

To use an Oracle 9i or 10g database, follow this process:

- ◆ Create the database. Refer to your vendor's documentation for information about creating the database, including creating a schema repository, login, and tablespace. Be sure to install the correct version and patches.
- ◆ Configure the database by completing the following tasks:
 - ◆ *Setting Database Parameters in Oracle* on page 8
 - ◆ *Setting Rollback Segments in Oracle* on page 9
 - ◆ *Granting Permissions in Oracle* on page 9
 - ◆ *Installing the JDBC Driver in Oracle* on page 9

Setting Database Parameters in Oracle

Gentran Integration Suite requires the following parameter settings in your Oracle database:

Parameter	Value
Number of open cursors	greater than or equal to 2000
Database block buffers	greater than or equal to 19200
Shared pool size	greater than or equal to 90000000
Large pool size	greater than or equal to 614400
Java pool size	greater than or equal to 20971520

Parameter	Value
Number of processes	greater than or equal to 500
Log buffer	greater than or equal to 163840
Database block size	greater than or equal to 8192
Sort area size	greater than or equal to 65536
Sort area retained size	greater than or equal to 65536
Max extends	Unlimited
Character set	utf8 Select the utf8 character set based on the version of Oracle you are using and whether the version is 32-or 64-bit. If you using an existing Oracle database with Gentran Integration Suite, the database must be configured with the utf8 character set. If the database is not configured with the utf8 character set, you must reinstall the database and select the utf8 character set.

Setting Rollback Segments in Oracle

Gentran Integration Suite recommends that you configure a rollback segment for every four concurrent users. Each rollback segment must be extendable to 25MB. The value of the initial segment and the next segment can vary between 256 KB (with 5MB for optimal) and 10 MB (with 20 optimal). Note that these ranges will vary based on the size of your Gentran Integration Suite database and the number of business rules it contains.

Granting Permissions in Oracle

Grant the following permissions to the Gentran Integration Suite user:

```
GRANT "CONNECT" TO <USER>
GRANT SELECT_CATALOG_ROLE TO <USER>
ALTER USER <USER>DEFAULT ROLE "CONNECT" ,
        SELECT_CATALOG_ROLE
GRANT CREATE PROCEDURE TO <USER>
GRANT CREATE TRIGGER TO <USER>
GRANT CREATE TYPE TO <USER>
GRANT EXECUTE ANY PROCEDURE TO <USER>
GRANT EXECUTE ANY TYPE TO <USER>
GRANT SELECT ANY TABLE TO <USER>
GRANT SELECT ANY DICTIONARY TO <USER>
```

Note: If you are using Oracle AQ for Oracle 9i or Oracle 10g, then grant the AQ_ADMINISTRATOR_ROLE permission.

Installing the JDBC Driver in Oracle

Gentran Integration Suite requires the appropriate JDBC driver for Oracle 9i and Oracle 10g databases. These drivers are thin client, 100% Pure Java JDBC drivers. See *System Requirements* for supported version information.

The supported versions of the JDBC driver build the correct Gentran Integration Suite directory structure.

After you obtain the correct JDBC driver file, record the absolute path to its location on your system. You must supply this absolute path when you install Gentran Integration Suite.

Using a DB2 Database Server

You can use a DB2 database with Gentran Integration Suite. See *System Requirements* for supported version information. To use a DB2 server, follow this process:

- ◆ Create the database. Refer to your vendor's documentation for information about creating the database, including creating a schema repository, login, and tablespace. Be sure to install the correct version and patch. Be sure to install the client components and compilers before you install the fixpack.
- ◆ Configure the database by completing the following tasks:
 - ◆ *Installing Client Components, Compilers, and Fix Pack* on page 10
 - ◆ *Setting Parameters for DB2* on page 10
 - ◆ *Granting Permissions for DB2* on page 10
 - ◆ *Installing JDBC Drivers for DB2* on page 11

Installing Client Components, Compilers, and Fix Pack

Gentran Integration Suite uses stored procedures for DB2. You must install or set up the following components:

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

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

Setting Parameters for DB2

Gentran Integration Suite requires the following parameter settings in your DB2 database:

Parameter	Value
APPLHEAPSZ	greater than or equal to 10000
APP_CTL_HEAP_SZ	greater than or equal to 512
MAXAPPLS	greater than or equal to 150
LOCKLIST	greater than or equal to 30000
MAXLOCKS	100
Database code page	UTF-8

Granting Permissions for DB2

Grant DBADM permissions to the Gentran Integration Suite user.

Installing JDBC Drivers for DB2

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

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

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

1. Identify all the vendor database jar files for the JDBC driver.
2. Create a temporary working directory (mkdir wd; cd wd).
3. Extract the contents of each file used for the JDBC driver using the jar utility into the temporary working directory (jar xvf <jdbc.jar> for each supplied jar file).
4. Bundle the files in the temporary working directory into one file using the jar utility (jar cvf(6|new.jar)*).
5. Record the absolute path to the .jar file you created on the Preinstallation Checklist.

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

Using a Microsoft SQL Server 2000 Database Server

You can use a Microsoft SQL Server 2000 database with Gentran Integration Suite. See *System Requirements* for supported version information. To use an MS SQL Server database, follow this process:

- ◆ Create the database. Refer to your vendor's documentation for information about creating the database, including creating a schema repository, login, and tablespace. Be sure to install the correct version and patch.
- ◆ Configure the database by completing the following tasks:
 - ◆ *Setting Database Parameters in SQL Server 2000* on page 11
 - ◆ *Granting Permissions in SQL Server 2000* on page 12
 - ◆ *Installing the JDBC Driver in SQL Server 2000* on page 12

Setting Database Parameters in SQL Server 2000

Gentran Integration Suite requires the following parameter settings in your SQL Server 2000 database:

Parameter	Value
Collation Setting	SQL_latin1_generalCP850_bin
Sort order	Binary
Security authentication	SQL Server and Windows
Torn Page Detection	Off

Granting Permissions in SQL Server 2000

In SQL Server 2000, you must grant DBO (Database Owner) permission to the Gentran Integration Suite user.

Installing the JDBC Driver in SQL Server 2000

Gentran Integration Suite requires the correct Microsoft SQL Server 2000 driver. See *System Requirements* for supported version information. The supported version of the JDBC driver builds the correct Gentran Integration Suite directory structure.

Go to www.microsoft.com/sql/downloads to download this driver, any appropriate patches, and the following .jar files. Be sure to place all the .jar files in the same directory:

- ◆ msbase.jar
- ◆ mssqlserver.jar
- ◆ msutil.jar files

After you obtain the JDBC driver file and .jar files, record the absolute path to their location on your system. You must supply this absolute path when you install Gentran Integration Suite.

On non-Windows platforms, these jars must be combined into a single jar (jar cvf(6|new.jar)*).

Obtaining a License File

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

The license file contains a license that is associated with your specific operating system and the IP address of your system. The license provides access, for a year, to the Gentran Integration Suite packages your company selected and is independent of your maintenance fee. Because the license is independent of your maintenance fee, the schedule for renewing your license and license file may be different than the maintenance fee schedule.

You must download the license file before you can install Gentran Integration Suite. Follow these steps:

1. Point your Web browser to <http://www.productupdates.stercomm.com>.
2. Review the Welcome to Sterling Commerce Product Update page and click **Next**.
3. Review the Authenticate page and click **Next**.
4. Type the CD key, which is case-sensitive, and click **Next**. If the system displays the Retrieve Registration dialog box and you are upgrading, you may retrieve your registration information by entering your previous CD key. If you are not upgrading, then click **Next**.
5. Verify the registration information and click **Next**.
6. On the Server Details page, update the fields and click **Next**.

If the operating system, application server, or database server version is not listed in the respective lists, type the version in the respective **Description of Other**.

The IP address listed in the license file must be the same IP address you use when installing Gentran Integration Suite. Otherwise, your system may not operate properly after installation.

7. Verify the list of packages and the type of license selected for each package and click **Next**. If the list of packages selected or the type of license selected is *not* correct, then contact Customer Support to correct the information.
8. Scroll to the bottom of the Review and Download Package License File page and click **Finish and Download**.
9. Click **Save** in the **File Download** dialog box.
10. Accept the default location for the license file or navigate to the location where you will store the license file. Note the absolute path of the file location on the Preinstallation Checklist. You will need the absolute path to install Gentran Integration Suite.
11. Click **Save**.
12. Close your Web browser.

