Setup Checklist - UNIX or Linux Preinstallation (Cluster)

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

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:

Step	Description	Your Notes
1	Verify that your system meets the hardware and software requirements specified for this release. See *Checking System Requirements* on page 5.	
2	Verify that your system has the patches required by Java™ for the operating system. For HP, you must run the HP JConfig utility to obtain the required patches and kernel modifications.	

3	For the HP-UX operating system, establish these settings:
	
	 ◆ Verify kernel parameters and establish the following minimum settings by running `kctune` command:
	 `kctune max_thread_proc 1024`
	 `kctune maxdsiz 2147483648`
	 `kctune maxdsiz_64bit 8589934592`
	 `kctune maxssiz 369098752`
	 `kctune maxssiz_64bit 536870912`
	
	 ◆ Run `ulimit` utility, verify, and establish the following minimum settings:
	 ulimit -d = 2097152 (in kilobytes) or higher
	 ulimit -s = 360448 (in kilobytes) or higher	

Step	Description	Your Notes
4	For the AIX 5.2 and 5.3 operating systems, establish these settings:	

- The `ncargs` value specifies the maximum allowable size of the ARG/ENV list (in 4K byte blocks) when running exec() subroutines. Set `ncargs` value to 16 or higher.

  Run the following commands to display and change the `ncargs` value.

  To display the current value of `ncargs`:

  `lsattr -El sys0 -a ncargs`

  To change the current value of `ncargs`:

  `chdev -l sys0 -a ncargs=NewValue`

Note: The `lsattr` and `chdev` command options are `-El` (lowercase L) and `-l` (lowercase L) respectively.

- Change the following default entries in the /etc/security/limits file:

  fsize = -1

  core = 2097151

  cpu = -1

  data = 262144

  rss = 65536

  stack = 65536

  nofiles = 4096

Step	Description	Your Notes
5	For the Solaris 8, 9, and 10 operating systems, set the following entries in the /etc/security/limits file:	

nofiles = 4096

set rlim_fd_max=4096 (limit is 65535) - hard limit

set rlim_fd_cur=4096 - soft limit

- To make the setting effective as the hard limit, reboot the server or run the following command:

  kill -1 inetd

- To make the setting effective as the soft limit, use the parent shell configuration (for example, .profile). Then, reboot the server.

Step	Description	Your Notes
6	For the RedHat Enterprise Linux operating system only, make the following system changes:	
	1 If the base locale for the system is English, edit the /etc/sysconfig/i18n file by changing the following variables: • Change LANG from **en_US.utf8** to **en_US**. • Change SUPPORTED from **en_US.utf8** to **en_US**. You can also allow multiple support using the following format: **en_US.utf8:en_US** Save and close the /etc/sysconfig/i18n file.	
	2 Edit the /etc/security/limits.conf file by adding the following lines:	

	<pre>gisuser hard nofile 16384 (maximum value)
	gisuser soft nofile 4096 (minimum value)
	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.
	Save and close the /etc/security/limits.conf file.	

	3 Reboot the system.	
7	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. For all Linux operating systems only, ensure that /etc/hosts has short-names first for all entries. For example, 127.0.0.1 localhost localhost.localdomain **Caution**: If you do not verify the IP addresses, your system may not operate properly after installing Gentran Integration Suite.	
8	Verify that all client computers are using Microsoft Internet Explorer 5.x or later.	
9	If you are using a non-English environment, confirm that you are using the appropriate character set.	

Step	Description	Your Notes
10	Determine and record information about the JDK. See *Installing the Java 2 Software Development Kit* on page 6. ◆ Version of the JDK ◆ Absolute path to the JDK files and patches	
11	Obtain the JCE distribution file and record the absolute path to the zipped file. See *Downloading the JCE Distribution File* on page 6.	
12	Determine and record the initial port number to be used by Gentran Integration Suite. See *Determining Port Numbers* on page 7.	
13	Verity that a UNIX user account exists on the host server for each installation of Gentran Integration Suite. See *Creating a UNIX Account* on page 7.	
14	Set Umask to 002.	
15	If you are using an Oracle, Microsoft SQL Server, or DB2 database, determine and record information about your database server. Be aware that this information is case sensitive. ◆ 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	
16	Decide if you are going to manually or automatically apply database definition language (DDL) statements (schema) to the database. See *Applying Database Definition Language (DDL) Statements* on page 7.	
17	Determine and record information to set up default system alerts from Gentran Integration Suite: ◆ The Administrative e-mail address to which system alert messages are sent. ◆ The SMTP Server IP address used for sending alert messages.	

Step	Description	Your Notes
18	Determine and record the directory in which you plan to install Gentran Integration Suite. ◆ 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.	
19	Determine and record the passphrase you want to use for Gentran Integration Suite system. During installation, you are prompted twice to type the passphrase, which is not displayed when you type it.	
20	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 *Obtaining a License File* on page 8. **Note:** For a cluster, you need to get a valid license for the IP addresses of all the nodes of the cluster. The license file includes spaces for more than one IP address.	
21	Determine whether Gentran Integration Suite is using an application server (JBoss™, WebLogic® or WebSphere®). Gentran Integration Suite does not require an application server for installation or at runtime. Gentran Integration Suite supports integration with JBoss and WebLogic during the installation. You can also integrate with WebSphere, JBoss, or WebLogic after installing version 4.3 by using the Gentran Integration Suite EJB Adapter. This does not represent a WebLogic server for deploying the Application Console.	

Checking System Requirements

Before you begin, verify that your system meets the hardware and software requirements specified for this release of Gentran Integration Suite. 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 Gentran Integration Suite. For current information, see the *System Requirements* posted on the Gentran Integration Suite Documentation Library:

http://www.sterlingcommerce.com/Documentation/GIS43/homepage.htm

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)

✦ Disk space

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.

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.

Installing the Java 2 Software Development Kit

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

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.

Note: If you are installing Gentran Integration Suite 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 1.5 (Solaris) and the HP-UX JDK 1.5 (HP-UX):

1. Open your browser and navigate to http://java.sun.com/javase/downloads/index_jdk5.jsp.

2. At the bottom of the page, locate *Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files 5.0* and click the **Download** button.

3. Download the jce_policy-1_5_0.zip file to your system.

4. 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.

To obtain this file for the IBM JDK 1.5 (AIX, Linux):

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**.

    Note: The Unrestricted JCE Policy files for the 1.4.2 SDK are also used for the 1.5.0 SDK.

5. Review your personal information and the license agreement.

    Select **I agree** and click **I confirm** 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. 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.

After your installation, refer to the *install_dir*/properties/sandbox.cfg file for all of the port assignments.

Two ports (HTTP_SERVER_PORT and LIST_PORT) are required to access Sterling Secure Proxy from browsers. If you plan to configure Sterling Secure Proxy from a higher security network, you need both of these ports open in your firewall.

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.

Applying Database Definition Language (DDL) Statements

When you install Gentran Integration Suite, you can manually apply database definition language (DDL) statements to your database tables instead of requiring the installation process to do it directly. This enables you to apply DDL statements for database creation separately from the installation. If you do not choose to manually apply the DDL statements, the installation will automatically apply the DDL statements.

This feature increases database security by reducing the database permissions of the Gentran Integration Suite database user. The rights to create or change tables, indexes, etc. can be reserved for a secure user like a customer database administrator (DBA). Also, these database rights would not be affected by Gentran Integration Suite.

When you manually apply a DDL statement, you work with the DDL scripts that are stored in the *install_dir*/repository/scripts directory. The DDL scripts that are generated depend on the database that you are using. The following list shows the DDL scripts that are generated for each database:

✦ The DDLs generated for Oracle are:
   ◆ EFrame_IndexAdds.sql
   ◆ EFrame_Sequence.sql
   ◆ EFrame_TableChanges.sql

✦ The DDLs generated for DB2 are:
   ◆ EFrame_TableChanges.sql
   ◆ EFrame_IndexAdds.sql

✦ The DDLs generated for Microsoft SQL Server 2005 are:
   ◆ EFrame_TableChanges.sql
   ◆ EFrame_IndexDrops.sql
   ◆ EFrame_IndexAdds.sql

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 20 years from the date of issue, to the 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.

To run a Gentran Integration Suite cluster, you need to get a valid Gentran Integration Suite license for multiple IP addresses for all the nodes where Gentran Integration Suite will be installed and configured as a cluster. The license file includes space for more than one IP address.

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 License File 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 License File 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**.

    All IP addresses assigned to the server in which you are installing Gentran Integration Suite should be listed in the license file.

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.

11. Click **Save**.

12. Close your Web browser.

Silent Installations

You can set up an installation of Gentran Integration Suite so that it runs with no user interaction. For these silent installations, you need to create the following items for your installation script:

✦ A text file with information that during an interactive installation you are prompted to enter. This information is then automatically accessed by the installation script.

Examples of silent installation text file entries:

```
APSERVER_PASS = (system passphrase)
INSTALL_DIR = (full path to the installation directory)
LICENSE_FILE_PATH = (full path to the license file)
PORT1 = (initial port)
JCE_DIST_FILE = (full path to the JCE distribution file)
SI_ADMIN_MAIL_ADDR = (email address for administrative contact)
SI_ADMIN_SMTP_HOST = (SMTP mail server host name)
DB_VENDOR = (database - [MSSQL|Oracle|DB2])
ACCEPT_LICENSE = (license agreement acceptance - [yes/no])
DB_USER = (database user ID)
DB_PASS = (database password)
DB_DATA = ('net service name' or 'database name')
DB_HOST = (database hostname or IP address)
DB_PORT = (database's listener port.)
DB_DRIVERS = (fully qualified path to the database driver)
DB_DRIVERS_VERSION = (version of database drivers)
```

In a clustered installation, the text file must include the following line for nodes 2 and higher. This prevents these nodes from changing the database.

```
REINIT_DB = false
```

✦ A reference in your installation script to this variable file.

Example (node 1):

install_dir/JDK/bin/java -jar GISxx.jar -f *silent_install_file*

Example (nodes 2 and higher):

install_dir/JDK/bin/java -jar GISxx.jar -f *silent_install_file* -cluster

Installing the JDBC Driver in SQL Server

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

Refer to one of the following sections for your Microsoft SQL Server version:

✦ *Installing the JDBC Driver in SQL Server 2000* on page 10
✦ *Installing the JDBC Driver in SQL Server 2005* on page 11

Installing the JDBC Driver in SQL Server 2000

Go to the Microsoft web site to download this driver which, as of Gentran Integration Suite 4.3, is contained in a tarball named mssqlserver.tar. This tarball includes the jar files msbase.jar, mssqlserver.jar, and msutil.jar. Also download any appropriate patches.

Uncompressing mssqlserver.tar yields several files, including install.ksh, which is a korn shell script that installs the JDBC drivers in a specified directory.

After running the install.ksh script, you need to combine the three jar files that make up the Microsoft SQL Server JDBC drivers (msbase.jar, mssqlserver.jar, and msutil.jar). These files will be placed in the *JDBC_driver_install_dir*/lib directory. To combine these jar files, use the following procedure:

1. Make a new directory in which you will work, and copy the separate jar files to this directory.

2. For each of the separate jar files, issue the following command:

   `jar -xvf jar_file_name`

3. After all of the jars have been expanded, remove the META-INF directory that will be located in the working directory.

4. Create a new jar file by issuing the following command:

   `jar -cvf. combinedJarName.jar *`

When the Gentran Integration Suite installation asks for the location of the JDBC drivers, specify the jar file you created with the above procedure. The JDBC driver version is the same as the version of the drivers downloaded from Microsoft.

If you are using a silent installation, access msbase.jar, mssqlserver.jar, and msutil.jar using one of the following methods:

✦ Point to the bundled jar file.

   Example: `DB_DRIVERS=absolutePath/combinedJarName.jar`

✦ List all three files. Use their full directory path, and separate them with colons.

   Example: `DB_DRIVERS=absolutePath/msbase.jar: absolutePath/mssqlserver.jar: absolutePath/msutil.jar`

Installing the JDBC Driver in SQL Server 2005

Go to the Microsoft web site to download the driver and any appropriate patches.

1. Download sqljdbc_*version_language*.tar.gz to a temporary directory.

2. To unpack the zipped tar file, navigate to the directory where you want the driver unpacked and type the following command:

   `gzip -d sqljdbc_version_language.tar.gz`

3. To unpack the tar file, move to the directory where you want the driver installed and type the following command:

   `tar –xf sqljdbc_version_language.tar`

   After the package unpacks, you can find out more information about using this driver by opening the JDBC Help System in the *absolutePath*/sqljdbc_*version*/*language*/help/default.htm file. This will display the help system in your Web browser.

4. When the Gentran Integration Suite installation asks for the location of the JDBC drivers, specify the extracted jar file created after unpacking the archive (usually named sqljdbc.jar). The JDBC driver version is the same as the version of the drivers downloaded from Microsoft.