Solution Operations Guide
Solution Operations Guide for SAP Sourcing 9.0

Target Audience
- technical consultants
- system administrators
- solution consultants
- business process owner
- support specialist

PUBLIC
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THE BEST-RUN BUSINESSES RUN SAP

SAP

Document History

⚠ **CAUTION**

Before you start the implementation, make sure you have the latest version of this document. You can find the latest version at the following location: `http://service.sap.com/eso`.

The following table provides an overview of the most important document changes.

Version	Date	Description
1.0	2012-03-02	Initial Version

Table of Contents

1   Getting Started

> **NOTE**
>
> This guide does not replace the daily operations handbook that we recommend customers create for their specific production operations.

Designing, implementing, and running your SAP applications at peak performance 24 hours a day has never been more vital for your business success than now.

This guide provides a starting point for managing your SAP applications and maintaining and running them optimally. It contains specific information for various tasks and lists the tools that you can use to implement them. This guide also provides references to the documentation required for these tasks, so you will sometimes also need other Guides such as the Master Guide, Technical Infrastructure Guide, and SAP Library.

Constructing SAP Sourcing Login URLs

At various points, this guide will instruct you to log in as a certain user. You can log in as a buy-side user, a sell-side user, the enterprise user, or the system user. You must connect to the system using a different URL depending on which user the instructions call for. This section explains how to construct the correct login URL for the specified user.

SAP Sourcing login URLs can be constructed as follows:

`[protocol]://[hostname]:[port]/[context]/[login type]/[login path]`

`[protocol]`	`http` or `https`. Typically `https` for customer productive systems.
`[port]`	The `[port]` element is optional.
`[context]`	This is the context you defined during installation.
`[login type]`	Use one of the following, depending what user is called for in the instructions: ■ If the instructions call for a **buy-side user**, use `fsbuyer`. ■ For a **sell-side user**, use `fsvendor`. ■ For the **system user**, use `fssystem`. ■ For the **enterprise user**, use `fsenterprise` .
`[login path]`	For `fsbuyer`, `fsenterprise`, and `fssystem`, this is `portal/login`. For `fsvendor`, this is `vendordesktop/login`.

> **EXAMPLE**
>
> ■ `https://www.mycompany.com/mycontext/fsenterprise/portal/login`
>
> ■ `https://www.mycompany.com/mycontext/fsvendor/vendordesktop/login`
>
> ■ `https://www.mycompany.com:8080/mycontext/fssystem/portal/login`

> **NOTE**
>
> After the initial login, the system prompts you to change your password

1.1 Important SAP Notes

> **NOTE**
>
> Check regularly for updates available for the Application Operations Guide.

For an overview of SAP Sourcing 9.0 features, see the release note for SAP Sourcing 9.0 at: `http://service.sap.com/releasenotes` → *SAP Solutions* → *SAP Sourcing* → *Release Note for SAP Sourcing 9.0 and SAP Sourcing OnDemand Wave 9.*

Note	Title	Comment
1300362	CCMS Monitoring	Monitoring

2   Technical System Landscape

2.1 Scenario/Component Matrix

Figure 1: Overview of the technical system landscape for SAP Sourcing.

2.2 Related Documentation

The following table lists where you can find more information about the technical system landscape.

Topic	Guide/Tool	Quick Link on SAP Service Marketplace
Application-specific and industry-specific components such as SAP Financials and SAP Retail	Master Guide	http://service.sap.com/eso
Technology components such as SAP Web Application Server	Master Guide	http://service.sap.com/eso
Technical Configuration	Master Guide	http://service.sap.com/eso
Scalability	Master Guide	http://service.sap.com/eso
High Availability	Master Guide	http://service.sap.com/eso
Security	Security Map Application Security Guide	http://service.sap.com/security

3 Monitoring of SAP Sourcing

Within the management of SAP Technology, monitoring is an essential task. A section has therefore been devoted solely to this subject. CCMS is an infrastructure which enables the monitoring throughout the SAP landscape using agents and local and centralized monitors. Monitoring information is available via CCMS Alert Monitoring, SAP Solution Manager, SAP NetWeaver 7.3, and 3rd party monitoring tools, If you have other SAP products, monitoring of SAP Sourcing as a part of the overall SAP landscape will be possible using SAP Solution Manager and NetWeaver 7.3. If this is your first SAP application, monitoring is possible from NetWeaver 7.3 and from within the SAP Sourcing application.

3.1 Alert Monitoring with CCMS

Proactive, automated monitoring is the basis for ensuring reliable operations for your SAP system environment. SAP provides you with the infrastructure and recommendations needed to set up your alert monitoring to recognize critical situations for SAP Sourcing as quickly as possible.

CCMS Monitoring Installation and Setup

To download the GRMG customization file, which is needed to configure the GRMG scenario for SAP Sourcing, see SAP Note 1300362.

3.2 Component-Specific Monitoring

SAP Sourcing has enabled capability of monitoring availability of its various internal and external components and reporting the statuses to the following consoles:

- SAP Computing Center Management System (CCMS)
- Sourcing UI
- CA Wily Introscope
- JMX

3.2.1 SAP Generic Request and Message Generator (GRMG)

The CCMS Monitoring Infrastructure can be used for both the system and various components of the business process monitoring (including interface monitoring). Before you start using CCMS for Central Monitoring, you must setup your CCMS system. Documentation on CCMS can be find at the SAP

Service Market place at location: ▶ `http://help.sap.com/nw731` → *System Administration and Maintenance Information* → *Technical Operations Guide (Choose your language)* → *Administering Application Server Java* → *Monitoring* ↩.

SAP Sourcing monitoring data gets reported to CCMS system using its SAP GRMG and JMX interfaces.

SAP GRMG

SAP GRMG is used to monitor the availability of components and entire business processes. GRMG applications are always scheduled in the backend SAP System based on a recommended frequency provided by the GRMG applications. Periodically backend system calls GRMG applications in this case Sourcing to check on the various component statuses for Admin users GRMG monitoring facility will monitor the following components of SAP Sourcing:

- Heartbeat
- Database
- Optimizer
- Contract Generation Service
- Virus Scan Engine
- SMTP
- ERP
- LDAP

SAP Sourcing has implemented a GRMG servlet, which will be called by the backend GRMG to check availability of the required Sourcing components. GRMG servlet is implemented as a standalone module so that the interaction with the backend system for component checks will not significantly affect the Sourcing performance.

The status of each component is denoted in two ways

OKAY	The component is available and ready to be used.
ERROR	The component had some problems when the check was performed for its availability.

JMX

JMX infrastructure is used to instrument, manage, and monitor all server components (services, interfaces, libraries) and applications. To enable JMX monitoring for SAP Sourcing components, see the section 3.2.4.

JMX monitoring data can be viewed from the backend CCMS system as well. You can achieve this by following the standard guideline to register NetWeaver 7.3 server with the CCMS system by referring to ▶ `http://help.sap.com/nw731` → *System Administration and Maintenance Information* → *Technical Operations Guide (Choose your language)* → *Administering Application Server Java* → *Monitoring* ↩

Component-Specific Monitoring Template Elements (MTE)

> 💡 **NOTE**
>
> SAP Sourcing has provided a standard customization template in SAP Note 1300362. This note
> contains the SAP Sourcing-specific monitoring definition file based on the above MTE definition,
> which you can follow to set up your backend CCMS system for SAP Sourcing.

GRMG

Component Name	MTE Name
Sourcing	GRMG_E_SOU_TE
Heartbeat	GRMG_E_SOU_TE_HBEAT
Database	GRMG_E_SOU_TE_DB
Optimizer	GRMG_E_SOU_TE_OPT
Contract Generation Service	GRMG_E_SOU_TE_WSRV
Virus Scan Engine	GRMG_E_SOU_TE_VSCAN
SMTP	GRMG_E_SOU_TE_SMTP
ERP	GRMG_E_SOU_TE_ERP
LDAP	GRMG_E_SOU_TE_LDAP

JMX

Component Name	MTE Name
Sourcing	esourcing.monitors
Database	esourcing.database.summary
Cache Monitors	esourcing.cache.summary
Daemon Monitors	esourcing.daemon.summary

3.2.2 SAP Sourcing UI

SAP Sourcing allows Administrators to perform the post-installation checks on its various external
components via its Audit tab in the System Information page. This monitoring facility monitors and
reports availability for the following SAP Sourcing components:

- Optimizer
- Contract Generation Service
- Virus Scan Engine
- SMTP
- ERP
- LDAP

SAP Sourcing allows for monitoring of these components in various SAP Sourcing contexts. These
checks are context-sensitive - so its execution will return different results in different contexts − System
and Enterprise Contexts.

- System Context: System only checks are displayed.

- Virus scan check is executed here.
- Enterprise Context: All checks are displayed.
    - All component checks including virus scans are executed under the selected enterprise context ID.

For post-installation checks, there are two types of administrator users:

Enterprise users	Enterprise users will see the state of the virus scanner plus the state of all of the other services with respect to their enterprise.
	💡 **NOTE** The ERP component can be configured at the subcontext level. When you are logged in as an Enterprise user, ERP is checked in current context and in all of its subcontexts. Additonally, check status is reported corresponding to each context.
System user	System users are provided with a dropdown list of enterprises, much like the cache page, where they can view the state of the services from each enterprise perspective. For each enterprise selected, they see the same display as an enterprise user of the selected enterprise would see. By default, enterprise users will see the system context in the drop down and only virus scan check would be executed.

Corresponding to every check, the Administrator can see the detail of the results. For instance, if component check has failed, a detailed error message appears. This helps Administrators take quick action on it. The status of each component is denoted in three ways:

OK	Component is available and ready.
Disabled	Component is not configured and not ready.
Failed	Component is configured, but failed when checked for its availability.

3.2.3 CA Wily Introscope

Wily Introscope is used to monitor the performance of the SAP Sourcing application by monitoring the performance of some of its key implemented JAVA classes and methods. Wily Introscope satisfies the technical rather than functional monitoring needs. Below are the KPIs which are reported on Wily Introscope Workstation corresponding to each monitored class and method shown in the list below.

- Average Response Time (ms)
- Invocations Per Interval
- Concurrent Invocations
- Errors Per Interval

The following are the classes and methods monitored using this tool:

Classes and Methods	Short Text	Description
`com.sap.eso.contractgen.transitional.WSRequestThread FCI_Contract_gen.run`	Contract Generate	Send a contract generation request

Classes and Methods	Short Text	Description
`com.sap.odp.common.log.Log.error`	Log Error	When a normal error is detected and logged in log file
`com.sap.odp.common.log.Log.emerg`		When an emergent error is detected and logged in log file
`com.sap.odp.common.log.Log.crit`		When a critical error is detected and logged in log file
`com.sap.odp.usermgmt.imbo.LoginRequestHandler.loginUser`	Login User response time	Handles user log in request
`com.sap.odp.doc.AbsDocHome.save`	Display State	Handle all business document Save logic, persist it in database
`com.sap.odp.doc.AbsDocHome.find`		Load business document Find the database
`com.sap.odp.display.util.IMBOTransactionThread.processRequest`	Generate UI	Process a certain UI page contents to generate XML nodes
`com.sap.odp.common.db.tslogger.TimestampLogger.logEventAsAlert`	Transaction Alert	When a UI page rendering exceeds the time limit and is considered a "slow page"

Classes and Methods	Short Text	Description
`com.sap.odp.comp.scripting.ScriptEnvironment.execute`	Script Environment	When a user defined script is sent and processed.
`com.sap.odp.display.util.OutputTransformer.convertXml`	Generate PDF file	Render the UI page contents from XML to HTML
`com.sap.eso.comp.optimization.display.util.OptimizerRQ.processRequestHook`	Optimization	A new Sourcing Optimizer request is sent
`com.sap.odp.comp.daemon.AbsEventDaemon.process`	Daemon Event	Process a scheduled event, if it fails, process again in later time.

3.2.4 JMX

Procedure

To enable Sourcing JMX monitoring on NWA:

1.   Go to NWA following this URL: `http://<host>:<port>/nwa`.
2.   Navigate to ▷ *Availability and Performance → Resource Monitoring → History Reports* ◁.
3.   On the *Monitor Browser* tab, open the *Show* list and choose *Select Inactive/Not Used*.
4.   Activate all inactive E-Sourcing applications from the list.
5.   Open the *Show* list again, and choose *Active/Used*.
6.   Select E-Sourcing applications and activate them.
7.   On the *History Reports* tab, choose *Configure*.
8.   You can create a new report by adding the E-Sourcing application to the resource monitor.

3.3 Trace and Log Files

Important Log and Trace files for component SAP E- Sourcing:

Component	File	Path
NetWeaver 7.3 SP03	<NETWEAVER_INSTALLATION_DIR> is the directory in which NetWeaver is installed and <SAPSID> is the SAP System ID (use all caps).	`<NETWEAVER_INSTALLATION_DIR>/<SAPSID>/` `JC00/j2ee/cluster/server0/log/` `applications/Sourcing`. Please see details below in section 3.3.1.

Log file permissions can be restricted at the filesystem level to be accessible only by the application server.

Installation logs are stored in FCI.HOMEDIR\logs. Application logs are stored in the Netweaver directory tree as described in the this section.

Log levels are as follows:

INFO	A normal informational event. Enables traceability of the application.
ERROR	An error occurred in the application. This is typically followed by a trace in the log.
ALERT	An error occurred that requires immediate attention.
CRITICAL	A fatal error occurred which may have left the application in an unusable state.
WARNING	Application encountered a problem but was able to recover. Action may be required, but not immediately.
DEBUG	Debug messages.

3.3.1 SAP Sourcing Logging

If you run SAP Sourcing on SAP NetWeaver 7.3, all log and trace files are available in SAP NetWeaver 7.3 server log directory:

`<NETWEAVER_INSTALLATION_DIR>/<SAPSID>/J00/j2ee/cluster/server[ID]/log/applications/e-sourcing`

Integration

Log and Trace files for the SAP Sourcing application and Optimizer are created in the Sourcing directory available at the standard *<Netweaver Log Directory>\applications* path of the SAP NetWeaver 7.3 server. These files are created as *eso.<n>.log/eso.<n>.trc* and *eso-optimizer.<n>.log/eso-optimizer.<n>.trc* respectively, where n = 0, 1, 2, ... 9 for log files and n = 0, 1, 2, ... 19 for trace files.

> 💡 **NOTE**
>
> The log files `fpa_<date>_<n>.log` and `optimizer.<date>.<n>.log` have been renamed to `eso.<n>.log` and `eso-optimizer.<n>.log` respectively in case of NetWeaver 7.3. These files are no longer visible on the ▮▶ *System Information → Audit* ◀ page of SAP Sourcing application. They can be viewed or downloaded from the NetWeaver 7.3 Log Viewer page, which is detailed in the Activities section below. Log files with the prefix install or update (dbimport) continue to be available from the SAP Sourcing user interface.

Features

You can view the following types of log and trace files in the SAP Sourcing log directory on SAP NetWeaver 7.3 server:

Log File	Result
`eso.<n>.log` `eso-optimizer.<n>.log`	These contain log messages for all severities except debug. Administrators can choose any of the standard severities supported by NetWeaver 7.3by using NetWeaver 7.3 Log Configuration page. Log messages will be generated based on the severity selected. Please see the Activities section below for more details on the NetWeaver 7.3 log configuration.

Trace File	Result
`eso.<n>.trc` `eso-optimizer.<n>.trc`	These contain Java and SQL traces for all severities including debug. Administrators can choose to have both Java and SQL traces generated or either one of them by using NetWeaver 7.3 Log Configuration page to set severity for each. By default severity for both Java and SQL traces are set to NONE, which means traces are disabled, Administrators can set the severity to DEBUG to enable tracing for Debug messages.
`startup.<n>.trc`	These contain all Sourcing startup messages. The files are time-stamped to correlate with other trace files.

Procedure

In the following instructions:

- `<host>` is the host where SAP NetWeaver 7.3 application server is installed.
- `<port>` is the HTTP port of the ICM, as follows: 5<java instance number>00

View Logs or Traces Using SAP NetWeaver 7.3

Point a Web browser at `http://<host>:<port>/nwa/logs`.

> 💡 **NOTE**
>
> Administrators must grant permission to the login accounts for the users who want access to log and trace files using the following steps:
>
> 1. Point a Web browser at `http://<host>:<port>/nwa/identity`.
> 2. Choose *Create Role* and enter all required fields. In *Assigned Actions*, add the following role/action: **NWA_READONLY_LOGV** and save.
> 3. Assign the role you just created to the user login account.

Change Log and Trace Settings Using SAP NetWeaver 7.3

1. Point a Web browser at `http://<host>:<port>/nwa/log-config`.
2. Select ▶ *Logging Category → Root Category → Applications → E-Sourcing → eso* ↵.

   > 💡 **NOTE**
   >
   > Set or change the severity if necessary. By default, severity is set to *ERROR*.

3. Select ▶ *Tracing Location → Root Category → E-Sourcing → eso* ↵.
   - Java: Set or change the severity if necessary. Default severity is *ERROR*.

- SQL: Set or change the severity if necessary. Default severity is *ERROR*.
- Startup: Default severity is *ERROR*.

> **NOTE**
>
> Startup tracing location is only available for eso and not for eso-optimizer. This is because Optimizer application does not have any startup messages. Recommended severity for Startup is ALL.

3.3.2 Contract Generation Logs

During installation, you created a hierarchy of directories for contract generation. At that time, we recommended `C:\fci\log`.

Contract generation logs can be found in the directory you created at that time. For more detail on creating this directory hierarchy, see the Installation Guide for SAP Sourcing 9.0 on the SAP Service Marketplace at `http://service.sap.com/eso`. Instructions to create this hierarchy are in the section called "Carry Out IIS Settings and Security Configuration."

All administrator-required trace or log messages are produced by Microsoft IIS, by enabling different options in the `Web.config` file, located at `[www root]\WordService\Web.config`

Changing the Severity for Contract Generation Logs

The default severity for Contract Generation logs in SAP Sourcing is **Info**. Only two levels of severity are available for contract generation logs: `info` and `debug`.

1. To change the severity for Contract Generation logs, open the Web.config file for editing.

   > **NOTE**
   >
   > It is possible, though unlikely, that during installation you configured the contract generation service directory to be located in a directory with a name other than WordService. If so, substitute your configured directory name in the above file path.

2. In the `<appSettings>` section, find the xml tag `<add key = "logLevel" value="info"/>`.

   > **NOTE**
   >
   > If you have previously changed the severity setting, this tag will reflect your current setting rather than "info".

3. Change the `value` setting to the new level. For example, `<add key = "logLevel" value="debug"/>`, then save and close the file.

4. Restart the WordService application.

Tracing

Contract Generation uses the tracing mechanisms built in to Microsoft IIS. Tracing can be enabled and configured by modifying the relevant switches in the `Web.config` file. For more details, consult the Microsoft documentation, "Enabling Application-Level Tracing."

4 Management of SAP Sourcing

SAP provides you with an infrastructure to help your technical support consultants and system administrators effectively manage all SAP components and complete all tasks related to technical administration and operation.

4.1 Starting and Stopping

SAP Sourcing is supported on the NetWeaver 7.3 SP03 application server and operating systems.

> 💡 **NOTE**
>
> For a complete list of supported configurations, see the SAP Product Availability Matrix (PAM), which can be found at ▶ `http://service.sap.com/pam` → *Product Availability Matrix* ↵.

Refer to the documentation provided by your application server supplier for details on the recommended procedures used to start and stop your application server.

Procedure

Start SAP Sourcing

1. Start the J2EE engine.
   - For details about start/stop in NetWeaver 7.3, see the SAP Help Portal at ▶ `http://help.sap.com` → *SAP NetWeaver CE* → *SAP NetWeaver CE 7.0 Including Enhancement Package 3* → *select language* → *Technical Operations Guide* → *Starting and Stopping SAP Systems Based on SAP NetWeaver* ↵.
   - For details about start/stop in another application server, see the documentation for your application server.

2. If you have installed and deployed SAP Sourcing Java application, it will launch automatically when the application service is launched. For details on installation and deployment, see the SAP Sourcing Installation Guide at ▶ `http://service.sap.com/instguides` → *SAP Business Suite Applications* → *SAP SRM* → *SAP Sourcing/SAP CLM* ↵.

3. If you have installed and deployed the Optimizer service, it will launch automatically when the application server is launched.

4. If you have installed and deployed the SAP Sourcing Contract Generation service, start the Microsoft IIS service and it will launch automatically. For more information on IIS, see the Microsoft IIS documentation.

Stop SAP Sourcing

To stop SAP Sourcing, simply shut down the application server. You do not need to manually stop the individual Sourcing components.

4.2 Software Configuration

This chapter explains which components or scenarios used by this application are configurable and which tools are available for adjusting.

4.2.1 Configuring the Software for Deployment

The configuration process is launched after successful installation of the SAP Sourcing binary files. The configuration tool can also be executed after the installation to reconfigure the application. This is often done to rebuild the EAR file after the inclusion of custom jar files or the application of a software patch.

Procedure

To manually execute the configure utility, find the appropriate command in the following table:

Installation Type	Command to Run
Windows	`<FCIHOMEDIR>\bin\configure.exe`
Solaris	`<FCIHOMEDIR>/bin/configureSolaris.bin`
Linux	`<FCIHOMEDIR>/bin/configureLinux.bin`
AIX	`<FCIHOMEDIR>/bin/configureAIX.bin`
HP-UX	`<FCIHOMEDIR>/bin/configureHPUX.bin`

4.2.2 Updating the Java Home Directory

This option is required each time you update data. The configure tool will provide a default Java home directory. You should select the Java directory within the NetWeaver directory tree that contains the sapjvm.

> **NOTE**
>
> When running on NetWeaver 7.3, it is important to correctly choose the Java directory that is in use by the NetWeaver 7.3 application server.

This is because a keystore is installed into the database using JCE. This application will not start up if the JVM that built your database and the JVM that starts the application do not contain the same version of JCE. SAP does provide a mechanism for reinstalling the keystore should this situation occur. For keystore information, see the SAP Sourcing Installation Guide at ▶ http://service.sap.com/instguides → *SAP Business Suite Applications* → *SAP SRM* → *SAP Sourcing/SAP CLM* ↵.

4.2.3 Creating or Updating Database Login Information

This option is required if it is the first time that you configure the system. If you select this choice, you will be asked to select the appropriate database: Oracle or DB2.

> **NOTE**
>
> Download the driver appropriate for your database.

Oracle	If you select Oracle, you see a page asking you to provide the Oracle JAR file (normally oracle.jar) if no oracle.jar is available in the <FCIHOMEDIR>/lib directory. > **NOTE** > oracle.jar is not what you see when you download the driver. The installer automatically renames the file to oracle.jar.
DB2	If you select DB2, you see a page asking you to provide the two DB2 JAR files (db2cc.jar and db2cc_license_cu.jar).

Another panel will appear for database login information input and will store them in the *<FCIHOMEDIR>/config/fcisystem.properties* file.

Information for Oracle

Enter the following database login information.

- Driver Class (required): *oracle.jdbc.driver.OracleDriver*
- URL to connect to the database and the username and password to connect to the database schema (required). Modify the URL to include the host name, port, and SID for your server. The URL must be in the following format:jdbc:oracle:thin:@<hostname>:<port>:<SID>

  > **EXAMPLE**
  >
  > `jdbc:oracle:thin:@localhost:1521:XE`

- Username and Password: the user ID and password of the Oracle account used by the application to access the database (required). This is the connection information you obtained during the pre-installation procedure.
- Schema (typically, the user name -- required).
- The names of custom database tablespace(s) used for storing tables (Table Space), indexes (Index Space), and blobs (Blob Space). If you leave these fields blank, the default Oracle settings are used.

Information for DB2

Enter the following database login information:

- Driver Class (required): com.ibm.db2.jcc.DB2Driver
- URL to connect to the database and the username and password to connect to the database schema (required). Modify the URL to include the host name, port, and database for your server. The URL must be in the following format: jdbc:db2:<hostname>:<port>/<database>

> **EXAMPLE**
>
> `dbc:db2://localhost:5912/ES`

- Username and Password: the connection information you obtained during the pre-installation procedure (required).
- Schema (required).
- The names of database tablespaces used for storing tables (Table Space), indexes (Index Space), and blobs (Blob Space) (required).

4.2.4 Updating the EAR File

This option is required every time you configure the system. The SAP EAR files are built and stored in the <FCIHOMEDIR>/fsapp directory.

A standard SAP SCA file is generated when installing SAP Sourcing 9.0 on NetWeaver 7.3.

4.2.5 Including Custom Jar Files

If you select this option, you must also select *Update WAR and EAR Files* option. The tool allows you to provide up to five custom jars into the <FCIHOMEDIR>/custom directory. These files will automatically be included in the generated EAR file. In very rare case if you have more than five custom jars you can manually copy those jar files into the <FCIHOMEDIR>/custom directory, and run *Update WAR and EAR Files* again.

4.2.6 Defining the Application Context

A non-default application context must be specified when executing on NetWeaver 7.3.

Set Session Timeout

The deployment descriptor for the SAP Sourcing application defaults to a 30-minute session timeout. Select this option to change this setting.

In some cases, this setting may be overridden by a session timeout that is set at the application server level.

4.2.7 System Reconfiguration

Once SAP Sourcing has successfully been deployed, there are a few additional administrative steps that should be followed to assure the smooth operation of the application.

- Specify the Internal Address of the SAP Sourcing Server – When SAP Sourcing is first installed or whenever a new server is added to an application cluster, the internet address that is used for

internal communications within SAP Sourcing is initially set to the external host name of the server. In many cases, this will result in unexpected or delayed behavior in the application.

> **NOTE**
>
> Notifications will only exit and re-enter the firewall if the host name resolves to an external IP address. Whether a name resolves to an internal or external address depends on how you setup your network. An IP address should not be used unless it is either a static IP address or if it was assigned by a permanent DHCP lease reservation. Otherwise, dynamic changes to the assigned IP address will also result in unexpected behavior and delays.

- Master Time Zone: For information on updating Master Time Zone, see the SAP Sourcing Configuration Guide at ▶ http://service.sap.com → *SAP Support Portal* → *Release and Upgrade Info* → *Installation and Upgrade Guides* → *SAP Business Suite Applications* → *SAP Sourcing* ◀.

4.3 Verify Production Readiness Criteria

Procedure

Once the application has been deployed, the production readiness can be verified from the System Information page in Setup. To verify the production readiness, perform the following steps

1. Log on as the system user.
2. Choose *Setup* at the top of the page.
3. Choose ▶ *System Administration* → *System Management* → *System Information* ◀, and then choose *OK*.
4. Choose the *Audit* tab.

The Audit page includes a set of criteria and indicates whether the criteria have been met.

Production Mode Enabling

SAP Sourcing must be placed into Production Mode before going into production use. Before enabling production mode, you should ensure that the implementation is complete and fully tested. Enabling production mode will optimize access to critical data and assure peak performance.

To enable Production Mode:

1. Log on as the system user.
2. Select *System Information*.
3. Choose *Edit*.
4. Select *Production* from the *System Mode* dropdown list.

> **NOTE**
>
> The *Production* option is not visible until a valid product license is installed. To verify if a license is installed, choose *Components* tab.

Caching Turned On

Enabling caching will increase application performance by reducing database activity for data that has a high volume of reads with only moderate writes. To enable caching:

1. Log on to the system as a user with system administrative permission.

2. Choose *Setup* at the top of the page.

3. Under *System Administration*, select *System Information* from the *System Management* drop-down list and choose *OK*.

4. Choose *Edit*.

5. Choose the *Cache* Tab

6. Set the *Cache Status* to *Enabled*.

JNDI Provider URL

The JNDI Provider URL is a standard J2EE Provider URL for a JMS Resource which is used for internal communication within SAP Sourcing. To increase the high availability characteristics of the application, this could also refer to a dedicated JMS cluster that is independent of any SAP Sourcing server. See your application server's documentation for additional details.

To specify the JNDI Provider URL:

1. Log on to the system as the system user.

2. Choose *System Properties*.

3. Find and edit the *jndi.java.naming.provider.url* property.

4. Change the value to the JMS provider URL that the server should use for sending messages to other servers in the SAP Sourcing cluster.

    > **NOTE**
    >
    > This property will be set during installation to a value of `localhost:50004`. You must change this host and port to values specific for your local landscape.

Optimizer JNDI Provider URL

The Optimizer JNDI Provider URL is a standard J2EE Provider URL for a JMS Resource which is used for communicating with the Sourcing Optimizer. To increase the high availability characteristics of the application, this could also refer to a dedicated JMS cluster that is independent of any Sourcing server. See your application server's documentation for additional details.

To specify the JNDI Provider URL:

1. Log on to the system as the system user.

2. Choose *System Properties*.

3. Find and edit the *optimization.jndi.java.naming.provider.url* property.

4. Change the value to the JMS provider URL that the server should use for sending messages to other servers in the SAP Sourcing cluster.

    > **NOTE**
    >
    > This property will be set during installation to a value of `localhost:50004`. You must change this host and port to values specific for the machine which is hosting the Sourcing optimizer.

System Property system.application.path

SAP Sourcing must be configured with the application context that was declared at installation time. This is necessary for correctly generating the URLs that are used in external email communications.

> **NOTE**
>
> If you do not declare a context, there is no action.

To specify the application path:

1. Log on to the system as the system user.
2. Choose *System Properties*.
3. Find and edit the *system.application.path* property.
4. Change the value to the application path that was entered in the installer when SAP Sourcing was deployed.

4.4 Administrative Tools

Software Component	Description
Accounts and Security	Online Help, ⏵ *Setup → System Administration* ⏎
System Management	Online Help, ⏵ *Setup → System Administration* ⏎
Administrative Reports	Online Help, ⏵ *Setup → System Administration* ⏎
Spend Environment Management	Online Help, ⏵ *Setup → System Administration* ⏎

4.5 Backup and Restore

You need to back up your system landscape regularly to ensure that you can restore and recover it in case of failure.

The backup and restore strategy for SAP Sourcing consists of two parts:

- Back up and restore coverage for each component
- Cross-system data dependencies and handling

Backup Recommendations

You need to regularly back up your system landscape to ensure that you can restore and recover it in the case of failure.

The backup and restore strategy for your system landscape should not only consider SAP systems but should also be embedded in overall business requirements and incorporate your company's entire process flow.

In addition, the backup and restore strategy must cover disaster recovery processes, such as the loss of a data center through fire. It is most important in this context that you ensure that backup devices are not lost together with normal data storage (separation of storage locations).

Property files in the configuration directory must be backed up but are only used for the DBimport offline maintenance tool used to perform database installations and upgrades.

The equivalent properties are also stored in the NetWeaver 7.3 configuration manager for use by SAP Sourcing executing on the NetWeaver 7.3 platform.

In the SAP Sourcing application, all data is contained in the database, with the exception of the configuration files located in FCI_HOME/config that detail how to access the database. Therefore, to back up SAP Sourcing, do the following:

- Back up the SAP Sourcing database.
- Back up the FCI_HOME/config/*.properties files. Use your organization's standard backup procedures as defined by your corporate backup policies.
- For information about backup and restore for NetWeaver CE Application Server for Java, see the SAP Help Portal at : ▶ http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 Including Enhancement Package 3* → *System Administration and Maintenance Information* → *select language* → *AS Java (Application Server for Java)* → *Management* → *Tasks* → *Backup and Recovery of the J2EE Engine* ◂.
- For information about backup and restore for other application servers, see the documentation for your application server.

In addition to these backups, ensure that you have access to the installation media in the event that you need to recover.

> **NOTE**
>
> The following is a sample backup strategy for SAP Sourcing:
>
> - Databases are real-time mirrored for high availability.
> - Nightly database backups are performed.
> - Weekly database backups are sent off-site and stored for one month.
> - Monthly database backups are sent off-site and stored for one year.
> - Application configuration files are backed up and stored nightly.
> - Application log files are backed up nightly and are stored for at least 90 days.

Restore Process

A database administrator should perform the following procedures to restore the SAP Sourcing system in the event that this is necessary:

1. Restore the database backup using the standard processes defined by your database supplier.
2. Reinstall the Sourcing application on an application server that is configured to run Sourcing. Refer to the appropriate sections of this guide for installation and configuration details.
3. Restore the fcisystem.properties and fcilocal.properties files from backup and place them in the FCI_HOME/config directory.
4. If the database connection information has changed, use the FCI_HOME/bin/configure utility to establish connectivity to the new database.
5. Start up and access the SAP Sourcing application.

Online and Offline Backup

Backups can be taken either online or offline at a customer's discretion, based upon the organization's internal processes and requirements in terms of system uptime, and using the standard procedures for your database. No special measures must be taken to perform an online backup of Sourcing. Refer to your database documentation and corporate backup policies for details about both types of backup.

4.6 Application Copy

Component copy functionality is not natively present in the SAP Sourcing application. Promoting objects from system to system is typically handled through our Object Migration capabilities. See Object Migration documentation of this guide for details.

4.7 Periodic Tasks

4.7.1 Scheduled Periodic Tasks

This chapter describes all automatable tasks required to run periodically in order to keep the application running smoothly over time. Such tasks may be required on component level and are therefore relevant in each scenario that uses the component. You can find the mapping in *Scenario/Component Matrix* [page 7]. Other tasks may be relevant for certain business scenarios only. It is important that you monitor the successful execution of these tasks on a regular basis.

Scheduled tasks are automatic tasks that the system runs at specified intervals. This section describes how to create and edit scheduled tasks in SAP Sourcing.

Scheduled tasks do not typically affect system availability. Tasks that require a large amount of system resources (Report Execution) can be assigned to a dedicated machine in the cluster to reduce any performance impact on active users.

With the exception of the Data Import scheduled task, all tasks are restartable, but this is managed by the system rather than being a manual process. If a task is stopped (due to a failure or system shutdown), it is started from the beginning when the scheduler executes it again. In the case of a Data Import scheduled task, the task is restarted if there is a system error. The task is not restarted if there is an error in the data.

Stopping Scheduled Tasks

Scheduled Tasks and other background process can be prevented from running on any machine or set of machines within an SAP Sourcing cluster. This is helpful, for example, if there is a need to prevent a resource intensive task from running on the same server that end users are interactively using. To configure:

1.   Uncheck *Auto-Enable All Daemons* on the *Daemons* tab of the system information page of the server being configured.

2. Next, remove the unwanted background processes from the list that appears. Each background process must be enabled on at least one server in the cluster. Otherwise, the process will never run: resulting in unexpected behavior.

Field Help for the Scheduled Task Page

The following provides field help for some fields on the Scheduled Task page.

Run Daily	The task will run either Every Day, Weekends, or on Weekdays. The execution time is relative to the original start time.
Run Weekly	By default, the task will run once per week - relative to the original start time. 💡 **NOTE** If the *On These Days* option is selected, the task will run multiple times each week, once on each of the selected days of the week, relative to the original start time.
Run Monthly	By default, the task will run once per month (based on a yearly schedule), relative to the original effective date. ■ If the *On These Days* option is selected, the task will only run on the selected day or days. For example, if the task is scheduled to run monthly, starting on Wednesday, June 1, 2005, but only Saturday and Sunday are selected, after the initial execution the next run time will be Saturday, July 2, 2005. ■ If the *On These Months* option is selected, the task will only run in the selected months. For example, if only January is selected, the task will only run once a year, in January.

You create a scheduled task based on a scheduled task type. There are four default scheduled task types:

■ Report Execution Task

■ Report Results Cleanup Task

■ Data Import Monitor

■ IAPI Task Execution

4.7.2 Creating a Scheduled Task

You create a scheduled task based on a scheduled task type. There are four default scheduled task types:

■ Report Execution Task

■ Report Results Cleanup Task

■ Data Import Monitor

■ IAPI Task Execution

For information on creating a task based on a specific type, see the individual Help topics for these tasks.

Procedure

To create a scheduled task:

1. Choose *Setup* in the toolbar at the top of the page.

2. In the *Scheduled Tasks* section of *System Setup*, select *Scheduled Tasks* from the drop-down list and choose *OK*.

3.   On the *Scheduled Task List* page, choose *Create*.

4.   In the *Create* dialog box, select a scheduled task type and choose *Create*.

5.   On the *Scheduled Task* page, fill in the fields with scheduled task information.

6.   Choose *Save* in the toolbar.

> **NOTE**
>
> To edit a scheduled task, choose the task name on the *Scheduled Task List* page, and then choose *Edit* in the scheduled task.

4.8 User Management

4.8.1 Accounts and Security

The SAP Sourcing application must ensure that only properly authenticated users access the system, and that those users only see appropriate documents and are only able to perform authorized actions. This section describes those mechanisms: the authentication of users, the mechanisms that associate those users with their rights and roles, and support for system access click-through access terms.

At the simplest level, a user belongs to one or more groups. A series of general rights are associated with those groups, and users can perform actions when one of the groups they belong to provides the necessary rights. In addition to this basic level of access control, sourcing documents define collaborator security. Each collaborator's role is defined in a document, for example, Reviewer, Creator, or Approver. Additional access rights are associated with these roles through Collaborator Role Definitions, and are granted to the users associated with that role in a document. Finally, **Document Security Templates** provide the ability to define default collaborator associations when new documents are created.

4.8.2 Security Overview: Assigning Rights and Roles to Users

After you define Internal User Accounts, you must associate the users with their rights. All actions in the system are controlled by access rights. These range from basic class-level actions (which determine whether a user can view Contracts or edit Projects, for example) to more role based actions (which determine whether a user must be the Document Owner to publish an RFP, for example). The system performs validation to determine that a user performing an action has the required rights. A user's set of rights is a combination of rights specifically assigned to that user, rights assigned to Groups of which the user is a member, and rights associated with the role the user has in a specific document (generally, as a collaborator). This section describes how those rights are defined, how they are associated with users, and how the system grants or denies access based on that collection of rights.

4.8.3 Access Rights and The Trust Barrier

Before examining the details of access rights and their usage, it is important to understand the basic security concepts used in the SAP Sourcing system.

When a user attempts to perform an action through the UI (such as viewing an RFx or canceling a project) the security framework, using a trust barrier model, ensures that you have the rights to perform that action.

> 💡 **NOTE**
>
> You attempt to publish an RFx to suppliers. In order to process this action, the software validates that you have the rights required to publish the RFx. Once this validation is completed, you are considered to be inside the trust barrier. The software will then perform any additional steps necessary to complete the request, without requiring you have additional rights.

Subsequently, the software must open the supplier objects representing each of the invited suppliers to retrieve information required for delivery of the invitation e-mail. Accessing the supplier objects is considered as work the software needs to do fulfill the user's request. The supplier objects are accessed on a trusted basis, without validating that the user has view access to supplier records.

The trust barrier approach is designed to implement security from a user's perspective, making it easier to implement and administer. It is complicated to require users and administrators to understand all the objects accessed by the software behind the scenes to correctly assign security rights. The trust barrier model provides effective security with simplified administration.

Access rights are validated in the SAP Sourcing Framework software, and are not implemented at the database level. This reduces the complexity of managing the security model, and ensures that access checks are applied to objects even when they are retrieved from in-memory cache instead of the database.

SAP Sourcing uses an optimistic security model. If you are assigned multiple security profiles and any of those profiles grants you permission to perform an action, then you are granted that permission (regardless of whether or not another profile denied access to the action).

4.8.4 Class-Level Access Rights

Access rights begin with basic class-level operations: the rights to *View*, *Edit*, and *Create* objects are defined separately for each class of object in the system. You may be able to create projects but not create RFPs, for example. For sourcing documents, the additional rights of *Create Template* and *Cancel* are defined. For categories and menu options on the *Setup* page, a *Setup* right is also defined.

These class-level access rights are grouped into **Security Profiles**. A class-level Security Profile defines settings for *View*, *Edit*, *Create*, and, where applicable, *Create Template* and *Cancel* for each class of object in the system. Since there are a large number of object classes, the settings in a Security Profile are organized

into Access Groups. This is strictly a convenience and does not affect the definition or granting of rights. The Show Only drop down list displays the permissions for each group.

The system has a defined set of classes, so the set of Access Rights is not user configurable. The application of these class-level rights is detailed below, but the pattern is straightforward. You must minimally have the right to *View*, *Edit*, *Create*, or *Create Template* on a class when attempting to perform that action directly from the UI.

4.8.5 Role-Level Access Rights

The second type of Access Right is role based: your ability to perform a function is based on your collaborator role in a specific document. Sourcing documents support the assignment of one or more document collaborators, as follows:

- Each collaborator can be a single user, a user group, or a company.
- Each collaborator is assigned a role for that document, and as noted above, the role determines the role-level access rights for this document.
- A single user may have several roles in the document, based on multiple assignments as an individual, group, or company collaborator for that document.
- In addition to the security component of collaborator assignments, including users as collaborators enables their participation in the system's collaboration functionality, such as showing events related to the document in the users' To Do, Alert and Discussion channels. A flag on the collaborator entry specifies whether alerts and notices should be sent to the collaborators represented by the entry.

> **NOTE**
> E-mail notifications are disabled for company collaborators.

The class-level access rights, described in the previous section, identify a user's rights with respect to an entire class of objects (for example, all RFxs), but role-level access rights describe the user's rights regarding a specific object (for example, the single RFx in which the user is assigned a collaborator role). Since the rights attached to the user's role affect a single object, and not the entire class, they are referred to as object-level rights in the administration of the system.

Object-Level Rights

Object-level rights cover some of the same actions that class-level rights control, and, some additional rights.

- For *Create* and *Create Template* actions, the document does not exist, and therefore has no assigned collaborators. Therefore, the class-level rights alone govern whether the operation can be performed.
- For *View* and *Edit* actions, it is first necessary to have the rights at the class level, and then also at the role level. This means that the user must be either an individual or a group-level collaborator

in a document (which is the only way to get the role-level rights) to view or edit a sourcing document.

■ For higher-level actions controlled by the role-based rights (for example, publishing an RFx), it is necessary to have class-level Edit rights (the action of publishing changes or edits the state of the RFx document) and then the specific right at the role level (in this case, Publish). We will review each of these higher-level rights later in this chapter, identifying how they are used in the application.

Master Data Objects, Queries, and Reports

Master Data objects and Queries and Reports also support role-based object level rights, with a slight variation. For sourcing documents, a user has no object-level rights unless the user is explicitly included as a collaborator on the document.

For Master Data and Query objects, the assumption is that a user's class-level rights provide the appropriate level of security. Additionally, these objects generally support only the basic actions of *Create*, *View*, and *Edit*. Therefore, the assignment of collaborators to those objects is optional. In fact, in most cases, the UI does not provide a mechanism to assign collaborators.

Query objects are the exception to this rule: each has an *Access* tab that allows the assignment of collaborators. If no collaborators are assigned to the object, all users with appropriate class-level rights are granted access. This is different than with business documents; a business document without collaborators cannot be accessed by anyone other than its creator. Once a collaborator is assigned to a query object, it is assumed that this particular object requires object-level access control, and therefore should behave like a business document, in that only a user with both class-level and object-level rights should be granted access. A Report object represents each report in SAP Sourcing. This mechanism allows specific reports to be restricted to a subset of users, even if those users are able to see other reports. The model simplifies administration, since it is only necessary to define collaborators for the limited set of reports that need highly controlled access.

For Master Data objects, all users are typically given View access to all Master Data classes, and the smaller subset of the user population that is responsible for managing the Master Data is assigned to a Group and given *Create*, *Edit*, and *Setup* access to those classes. Similarly, all users get class-level View access to reports and lists (see Query Definitions and Query Groups), and the subset responsible for creating and maintaining reports is assigned to a group and given Create and Edit rights for those classes. For more restricted reports and lists, the Access tab is used and collaborators are assigned to limit the visibility of the reports as required.

The following objects are also used to configure and administer the assignment of access rights:

Object	Usage
Security Profiles	Group and organize individual access right settings.
Internal User Accounts	Provide first-level assignment of class-level access rights for a user.
Groups	Extend the set of rights that are granted to users. Users can belong to one or more groups/collaborator assignments for new documents.

Object	Usage
Collaborator Role Definitions	Define the object-level rights granted to collaborators acting in specific roles.
Document Security Templates	Provide a mechanism to define default
Supervisor	On a user account, a user can be assigned as the supervisor of rights on all business documents within the organizational units that they supervise, even though they do not explicitly appear in the collaborator list of those documents. The set of permissions that they are granted are defined in the Organizational Unit Supervisor security profile.

> **NOTE**
>
> Each of these objects can be imported and maintained from the *Setup* page.
>
> For more information on users, security profiles, and rights assignment, refer to the SAP Sourcing Security Guide at ▶ `http://service.sap.com` → *SAP Support Portal* → *Release and Upgrade Info* → *Installation and Upgrade Guides* → *SAP Business Suite Applications* → *SAP Sourcing* ◀.

5 High Availability

> **NOTE**
>
> The following applies to SAP Sourcing standard installation. The SAP Sourcing CLM deployment has additional components that are not applicable in the standard scenario.

The primary high-availability concept for SAP Sourcing is support for NetWeaver clustering. By clustering multiple NetWeaver instances on multiple physical machines into a single logical NetWeaver system and deploying Sourcing into this landscape one can remove any one physical machine as a single point of failure resulting in a highly available solution.

5.1 Load Balancing

The recommended load-balancing mechanism for an Sourcing implementation deployed on a NetWeaver cluster is by use of the SAP Web Dispatcher component. This component will load balance requests across all of the available NetWeaver instances that are members of the cluster. If an instance should go offline for any reason, users will automatically be re-directed to another available instance in the cluster.

Load Balancing Configuration in SAP Sourcing

Beyond configuring the NetWeaver cluster, SAP Sourcing must be configured to recognize the Sourcing instances running on each of the cluster members.

Once configured, Sourcing will be able to distribute the Sourcing background tasks to an available cluster member and will detect situations when a cluster member goes offline unexpectedly and will then redirect any daemon processes formerly running on the now unavailable cluster member to another currently available cluster member.

Importantly, the native SAP Sourcing load-balancing cannot be used and is not supported when Sourcing is deployed on a NetWeaver cluster. In a multiple-instance NetWeaver cluster lanscape load-balancing should be provided by a properly configured SAP Web Dispatcher.

For details about configuring clusters in SAP Sourcing, including load balancing, see the SAP Sourcing Online Help: ▷ http://help.sap.com → *SAP Business Suite → SAP Sourcing → Setup → System Setup → Configuration → Cluster Configuration* ◁.

Sticky Session Required

When deployed in a NetWeaver cluster landscape, SAP Sourcing requires **sticky sessions**. When NetWeaver sticky sessions are enabled, once a user is logged into a particular cluster member all

subsequent requests from the user will be sent to the same cluster member until the user logs out or otherwise terminates their session.

Because of the sticky session requirement automatic session failover is not supported by SAP Sourcing. If a user is logged into a cluster member that unexpectedly goes offline, the following will occur:

- Any database transactions which are active on behalf of the user will be rolled back leaving the database in a consistent state.
- The user will be re-directed to the log on page of another available cluster member by the SAP Web Dispatcher where they will be able to log into the available cluster member.

5.2 Optional Components

Optional components which may be installed to provide specific functionality to an SAP Sourcing implementation are all single instance servers which provide services to an entire SAP Sourcing cluster but which are not themselves capable of running in a clustered environment.

Sourcing Bid Optimizer

The recommended execution environment for the Sourcing Optimizer is to deploy the Optimizer on a NetWeaver instance that is not running Sourcing. Sourcing is then configured with the address of the Optimizer. This configuration results in the Optimizer becoming a single point of failure for the services it provides. A simple means of minimizing downtime in the event that the Netweaver instance running the Optimizer unexpectedly goes offline, is to deploy a second instance of the Optimizer on a distinct NetWeaver machine. This second instance will then act as a hot backup. In the event that the Optimizer unexpectedly goes offline, Sourcing can be re-configured to access the backup Optimizer.

Contract Generation Server

The SAP Sourcing Contract Generation Server runs on a Windows server accessible over the network from the NetWeaver landscape where SAP Sourcing is running. The Contract Generation Server is not clusterable for high availability but like the Optimizer, a simple method of minimizing downtime in the event of an unexpected system crash is to maintain a second Contract Generation Server in a ready state. Similarly to the Optimizer, SAP Sourcing is configured to point to a particular Contract Generation Server, in the event of an unexpected crash of the Contract Generation Server, a simple configuration step in SAP Sourcing can point SAP Sourcing at the backup Contract Generation Server minimizing downtime.

Component	Business Impact if Unavailable
SAP Sourcing Server	Business Critical: At least one instance of the SAP Sourcing server must be available. If all instances are down, sourcing processes are not available. In the case of a clustered deployment of SAP Sourcing, when one SAP Sourcing server goes offline, its load is automatically handled by another machine in the cluster. If the server is in the middle of a transaction at the time it is brought offline, that transaction is rolled back.

Component	Business Impact if Unavailable
Sourcing Bid Optimizer	Bid Optimization is delayed, but not cancelled. When the optimizer becomes available, bid optimization continues. Optimization requests can be submitted (and queued) while the optimizer is offline.
Contract Generation Server	Single point of failure for contract generation. Contracts cannot be generated until the server becomes available.

> **NOTE**
>
> Refer to **Starting and Stopping** to deactivate a cluster member before bringing it offline. This step ensures that SAP Sourcing remains available to all other users (they are redirected to other machines in the cluster).

6 Software Change Management

Software Change Management standardizes and automates software distribution, maintenance, and testing procedures for complex software landscapes and multiple software development platforms. These functions support your project teams, development teams, and application support teams. The goal of Software Change Management is to establish consistent, solution-wide change management that allows for specific maintenance procedures, global rollouts (including localizations), and open integration with third-party products.

This section provides additional information about the most important software components.

6.1 Mechanics of Object Migration

The object migration capabilities are accessed from the application at ▶ *Setup* → *System Administration* → *Import/Export Tools* ↵ area within SAP Sourcing. Import Data is used to load data into SAP Sourcing and Export Data is used to extract data from SAP Sourcing.

The object migration methodology is based on the concept that one or more business objects within SAP Sourcing will be moved between systems. Such a model necessitates that you have a sound understanding of the business objects and their relationships within SAP Sourcing, but does not require that database table structures be understood.

> **NOTE**
>
> SAP Sourcing represents an instance of a Supplier as a business object. While the data associated with a supplier may span many database tables within the SAP Sourcing schema, you need only know that you want to export a Supplier business object.

Object Migration Packages

Object migrations are typically setup by creating a package. A package consists of one or more instructions that tell the object migration tool what to export. Instructions can specify one of the following:

Single Sourcing Object	A Single Sourcing Object instruction allows you to select a single object for export. SAP Sourcing allows you to select from a list of Object Types and then select a specific object instance.
	NOTE
	To export the SAP Sourcing Project Template named *Contract Renegotiation*, select *Projects* for the *Object Type* and then select the project template named above.

Sourcing Object List	A Sourcing Object List instruction allows the user export a list of objects based on the results of an SAP Sourcing Picker Query. For example, all suppliers could be exported by using the Sourcing query FCI-Vendors-OML (the FCI-Vendors-OML query is a picker query defined to return all suppliers in the system). This option provides you with extensive flexibility as custom queries can be developed and used with this option.
Dataset	A Dataset instruction allows building of a set of sourcing object types for export. All object instances of all object types configured as members of the dataset will be exported. You can choose from a single dataset containing a defined set of object types, or multiple datasets **NOTE** Selecting all datasets is typically used to perform a complete migration of sourcing objects from a staging to a production environment during system implementation. New datasets should not be added by the user, nor should existing datasets be modified. However, to understand the contents of a dataset, users can interrogate the SAP Sourcing Query Group associated with the dataset (see the query groups with omlgroup in their name). A single object migration package may contain multiple instructions, each with its own type. Object migration packages may be executed multiple times by adding to the Exports list. However, the instructions within an object migration package can not be changed after the first export has been performed.

Object Dependencies

Most business objects within SAP Sourcing follow typical relational constructs. That is, a business object may be the parent of many subordinate objects (children) and may also refer to other business objects, defined elsewhere in the system.

NOTE

A simple object in SAP Sourcing is the Supplier. The supplier object consists of header level data such as the supplier name and address. The supplier object also has subordinates; the list of Internal Categories, for example, is a collection contained within the supplier object. An example reference to another business object is the actual Internal Category which is referenced by each element in the internal category collection. Generally, if the data is maintained while editing the object, it is part of that object. If, however, the data is maintained on a separate page, as is the case with internal categories, the object is a reference.

As a rule, when an object is exported, only the object itself and its children will be exported. The referenced objects must be migrated separately. Therefore, users of the object export capability must be careful to consider inter-object dependencies when building export packages.

NOTE

If a new supplier is created and it refers to a new internal category, both the supplier and category must be migrated to the target system. If, however, a new supplier is created that refers to an existing internal category, only the supplier need be migrated.

Failure to include any referenced objects in the export package which do not already exist on the target system will result in the subsequent import failing.

Object Creation or Update

When objects are moved from one system to another, the object migration capabilities must determine whether to update an existing object or create a new object from scratch. Generally, if an object being migrated contains an EXTERNAL_ID data member, the object migration will attempt to match on it. That is, if the source system has an object instance with the same external id as the object being migrated, the object will be updated. If a match is not found, then the system will attempt to create a new instance of the object. External ID matching is utilized for most master data type classes.

For objects that do not include an external id data member, object matching is typically performed using the UNIQUE_DOC_NAME data member. This technique is utilized for higher-level objects such as document templates.

Alterations to the external id data member are not recommended as such changes could have undesirable effects on the object migration. Such changes could result in creation of new objects when that was not the intent. Failures can also occur if other members of the object represent the unique key, which may not be getting changed as part of the creation, and therefore, could cause a unique key constraint error.

Custom Sourcing Object List Queries

The best practices for use of object migration, which are detailed below, suggest that you create custom export packages with only those objects that must be migrated from one system to another.

The Sourcing Object List instruction type used in conjunction with custom Sourcing picker queries is a good way to accomplish the creation of a custom export package.

> **NOTE**
>
> To export a set of named project templates, the following approach could be taken:
>
> 1. Find the standard SAP Sourcing Query Definition object that is used for object export (query definitions with an internal name that begins with FCI- and ends with -OML are the standard export queries). In the example, the internal query name is FCI-ProjectTemplates-OML.
>
> 2. Duplicate the Query Definition and give it a new internal name such as CUSTOM-NamedProjectTemplates-OML
>
> 3. Modify the Query String portion of the new Query Definition to explicitly query for the project templates to be exported. For example, change the query string from
>
>    ```
>    SELECT <%RESULTS%> FROM <%SCHEMA%>.FCI_PRO_PROJECTS WHERE IS_TEMPLATE = 1 AND
>    CONTEXTID=<%CONTEXT(projects.projects)%> <%ORDERBY%>
>    ```
>   to
>    ```
>    SELECT <%RESULTS%> FROM <%SCHEMA%>.FCI_PRO_PROJECTS WHERE IS_TEMPLATE = 1 AND
>    CONTEXTID=<%CONTEXT(projects.projects)%> AND DISPLAY_NAME IN ('Template 1',
>    'Template 2', 'Template 3') <%ORDERBY%>
>    ```
>
> 4. Create a new export package, with a Sourcing Object List instruction that executes the query definition previously defined.

The above is one example of a way to customize the export processing. Using the standard SAP Sourcing export query definitions as a template and creating new ones from them to constrain the list of objects to be exported is an excellent way to create custom export packages that are limited to a set of defined objects.

> **NOTE**
>
> Use of the export package instruction type, Single Sourcing Object, could also have achieved the same thing as the aforementioned approach, and is a good approach when the number of objects to export is limited. However, when many objects of the same object type are going to be exported, a better approach is to construct a new query that only exports those objects, as is demonstrated above.

Object Migration Output

The output generated from an object export is a file with a .oma extension (aka: an OMA file). The file conforms to the ZIP file specification and, therefore, can be unzipped. The OMA file contains a number of XML files. One of them contains metadata about the objects exported; the others represent the actual contents of the individual object instances. The XML format is a proprietary SAP Sourcing format.

Import Data

After data is exported, the OMA file may be downloaded to a computer and imported into another instance of SAP Sourcing. Users need only access the Import Data tool and upload the OMA file. It is generally recommended that the import be run in the background and progress monitored by refreshing the page.

Importing data requires that objects be created in a proper order so that dependencies between objects are properly handled. The SAP Sourcing import data tool handles this for you as long as all of the objects are contained in a single OMA file. That is, use of a single export package and, therefore, a single import package enables SAP Sourcing to properly handle dependencies between objects. Use of multiple export packages and, therefore, multiple imports requires that you ensure that objects are imported in the proper order, which is strongly discouraged.

> **NOTE**
>
> You can only import data that was exported from a server that was running the same version of SAP Sourcing.

6.2 Best Practice Use of Object Migration

The use of a **partial object migration** strategy is recommended, in which only selected objects are migrated from one system to another. Such a strategy requires that developmental changes occur in a Staging system where you can freely modify and test changes without impacting Production users.

At the time of release (when the changes will be promoted to the Production system for use), an object migration should be performed which moves only those objects required for the release.

> **NOTE**
>
> Object Migration should only from one direction. Once data is migrated forward, it should not be migrated back to the source system.

These practices allow SAP Sourcing users to plan, develop, and promote releases of application functionality, using traditional project management techniques.

Environments

Most SAP Sourcing customers deploy two environments: **Staging** and **Production**. Under this configuration, development is performed in the Staging system and objects are exported from it and loaded into Production.

Users that deploy a **Test** environment may utilize it to validate the object migration packages. That is, before moving objects from Staging to Production, they can be exported from Staging and loaded into the Test environment. This approach provides an additional check in that it allows users to confirm that the contents of the export package are complete and that they will import into the Production system without error.

> **NOTE**
>
> This is based on the assumption that the Staging and Test environments were initially set up with a copy of the Production database.

Tracking Changes

In order for the partial object migration to be successful, changes to the Staging system must be tracked. It is recommended that one user (the SAP Sourcing system administrator) be charged with maintaining the list of changes that will be included in a release package. The system administrator should work with all SAP Sourcing developers and keep a list with the following information:

- The object type being migrated (for example: Query, Query Group, and Project Template)
- The name of the object.
- A brief description of the change (or a reference to a requirements document that describes the change)

This information is used by the system administrator to develop the final export package for the release.

Naming Conventions

The use of naming conventions, particularly for lower level objects such as localized resources and query definitions is a valuable way to ensure that the proper objects are migrated.

It is recommended that all localized resources added to the STAGING system for customization purposes utilize a bundle named custom. This technique simplifies the object migration strategy by

allowing the entire custom bundle to be exported, without a need to track each individual localized resource change.

It is also recommended that custom queries and query groups have an internal name that begins with CUSTOM. Although it is recommended that individual queries and query groups be migrated using the sourcing object list technique, naming objects this way simplifies searches and query management.

6.3 Troubleshooting Object Migration

Export Data

In most cases, object migration exports should work without error. If errors are encountered during the export, the SAP Sourcing log files (accessed from the System Information area of the Setup page) should be consulted. Contact SAP Technical Support for assistance in reviewing the logs.

Import Data

Importing data errors most commonly occur because dependent objects do not exist in the system to which the data is being imported.

> **NOTE**
>
> If a new RFx Template is imported into a system that depends on a new RFx Question Library that is not imported, then an error will be reported in the trace file for the import.

Dependency errors such as the above can be corrected by re-creating the export package with all of the required objects and performing the import another time.

6.4 Installing Master Data

SAP Sourcing provides the following means to install master data:

- Manual entry via Setup
- Import via CSV file
- Import via deployment workbook

Enterprise master data can be defined manually by logging in (as the enterprise administrator) and creating objects from within the Setup module. You must log in as a sourcing administrator (a real user) in order to configure company master data.

For initial deployment of the system, it is recommended that the deployment workbook be used to ensure that all required data is imported into the system.

> **NOTE**
>
> All of these workbooks contain sample data. Before using a workbook, you should review and modify its contents as appropriate to ensure that the sample data meets your specific needs.

6.4.1 CSV File Format

Most organizations will choose to import a large number of the master data objects via standard CSV files. The following mechanisms are used to determine the format of the CSV files:

- The online Reference Guide (RG) includes information for each object that can be imported as a CSV. Once the object is found in the Reference Guide, choose *CSV View*.
- An empty CSV in the correct format can be downloaded from the application using the import facility. Select Import Data from Setup and attempt to upload any file with the .csv extension. The system will recognize that you are interested in CSV files and prompt for the type of object to be imported. Choose the item of interest, then choose *Next*. At this point, a sample CSV called template.csv can be downloaded.
- The Enterprise QuickStart.xls file can be downloaded from the online Reference Guide (RG). This file includes every master data element in the correct format, along with example data. To access this file, choose RG at the top of the screen and then choose *Enterprise Deployment Workbook*.

6.4.2 Importing Master Data

Master data files (CSV or XLS) can be imported in the following ways:

- Using the standard web user interface.
- Using a client application distributed with the system, which allows data to be imported outside of the web environment. As a best practice, data should only be imported with this tool (dbimport) when SAP Sourcing is offline. When online, the web interface should be used.
- Following the procedure outlined in the **Configuration Guide: Integration of SAP ERP and SAP Sourcing OnDemand Wave 9**.

Procedure

The standard way to import master data files, using the web-based UI, is as follows:

1. If application users have already been created, log in as a buy side user with administrative rights. If users have not been added, use the enterprise administrator built-in account.
2. On the Setup page, go to the Import Data page as follows:
   1. Choose *Setup*.
   2. Under *System Administration*, select *Import Data* from the *Import and Export Tools* drop-down list.
   3. Choose *OK*.
3. Select *Create* to start the import wizard.
4. Specify whether you want to upload the file to the server or whether the file is already located on the application server and choose *Next*.
5. Use the *Upload Import File* picker to load the CSV or Deployment Workgroup file to import.
6. For CSV files, select the object type and choose *Next*.

7.   Indicate whether you want to wait for the import to finish or perform the import in the background and choose *Next*.

8.   Choose *Finish* to view the results.

Installing Master Data via the Client Database Install Tool

1.   Locate the home directory, typically `c:/fci` or `d:/fci`, and go to the `bin` directory.

2.   Run the program `dbimport.bat` or `dbimportl.sh`, whichever is appropriate for your operating system. The Database Import tool will open.

3.   Choose *Lookup* for the *File* field and select the file to import.

4.   Choose *Lookup* for the *Context* field. Choose the destination context (for example, Acme Enterprise) where the data should be inserted or updated.

5.   Log in as the enterprise user. Use the *username* and *password* text fields to set the login parameters.

6.   Choose *Run*.

7.   Choose the *Status* tab to see the progress of the import.

8.   After a few minutes, the import will complete. The *Script* tab should show nothing but green check marks.

9.   Close the Database Import tool.

6.4.3 Working with Deployment Workbooks

To facilitate the import of data, SAP Sourcing provides an alternative to CSV files for import. SAP Sourcing provides the ability to import Microsoft Excel files containing one or more master data imports. The system can handle these Excel files directly without first forcing you to export the data to a raw CSV file.

Two example deployment workbooks ship with the system:

◾   Enterprise Deployment Workbook

◾   Company Deployment Workbook

The deployment workbooks can be downloaded from the web user interface by anyone with system administrator access rights. The deployment workbooks are included in the online Reference Guide (RG).

When starting a new deployment project, preserve the original workbook templates by saving them with a new name. Import data using your modified templates only. This ensures continuity if additional deployments are required in the future. Keep the following in mind when using deployment workbooks:

◾   The Configuration Sheet controls the import process. Refer to the Help Sheet for input specifications of Configuration Sheet columns.

◾   The system can import the workbooks directly, but there are limitations to what Excel constructs are supported. The Help Sheet describes the rules that must be observed.

■   The same importing process supports both CSV files and Excel workbooks.

6.4.4 Customizing Data Input Workbooks

The easiest way to get started is to modify the default deployment workbooks.

System	Default Workbooks
SAP Sourcing	■ Enterprise Deployment Workbook ■ Company Deployment Workbook
SAP CLM	■ CLM Enterprise Deployment Workbook ■ CLM Company Deployment Workbook

These workbooks are designed to configure a base system using the enterprise context named biogenyx. Users setting up a base system should adjust the various settings in these workbooks prior to running them in the system. For example, the company data should be updated to reflect specifics about the company that is installing the system. Similarly, other tabs should be reviewed to ensure the configurations are consistent with the desired implementation by the customer.

The enterprise workbook should be run as the enterprise user. The company workbook should be run as a system administrator associated with the company object intended to be configured.

> **NOTE**
>
> Customize default workbooks using the following procedures:
>
> 1.   Download the *Enterprise Deployment* workbook.
>
> 2.   Open the file and find the sheet labeled *Locations*. Edit this sheet as necessary. Only one location is required.
>
> 3.   Find the sheet labeled *external_categories*. Edit it as necessary.
>
> 4.   Find the sheet labeled *internal_categories*. Edit it as necessary. Provide at least one internal category.
>
> 5.   Find the sheet labeled *Companies*. Edit it as necessary.
>
> 6.   Apply the same process to org_units, groups, accounts, and so on. Be aware that a hierarchy is being established. Configuring the hierarchy correctly requires that the child reference the parent correctly. For example, the PARENT column in the business_units page should include a valid EXTERNAL_ID from the companies sheet.
>
> > **NOTE**
> >
> > Some sheets have specific requirements. The top of each sheet (and csv) has notes that explain these requirements.

> **NOTE**
>
> To build all custom data in the UI, simply deactivate the import of the above data types in the deployment workbook. See the Help page for instructions on how to skip a specific worksheet.

The enterprise and company workbooks are imported into SAP Sourcing as follows:

1.   Choose ▶ *Setup → System Administration → Import and Export Tools → Import Data* ↵.

2.   Choose *Create* and create a new import, uploading the XLS workbook. Typically, running the enterprise workbook can take several minutes.

6.4.5 Support Packages and Patch Implementation

For component-specific Support Packages along with their update procedures, see SAP Service Marketplace: ▶ http://service.sap.com/support → *Downloads → Support Packages and Patches* ↵.
Support Package stacks are maintained in PPMS and are downloaded from Service Marketplace:
▶ http://service.sap.com/support → *Downloads → Support Packages and Patches → SAP Support Package Stacks → SP Stack Download* ↵ using standard tools.
Build and deployment time dependencies are maintained in PPMS for all SAP Sourcing components:
▶ http://service.sap.com/support → *Downloads → Support Packages and Patches → SAP Support Package Stacks → SP Stack Download* ↵.

6.5 Migration of Customer-Specific Code and Customizations

Scripts

SAP Sourcing provides an integration API (IAPI), which allows customers to implement site-specific functional extensions ("scripts") to certain events on certain business objects. In general, these IAPIs are stable, and the intention is for them to be backwards compatible with every new release. However, in some circumstances, this is not possible. When changes are required to IAPIs and related code, if possible, an automated migration will be provided. In many cases, however, you will be required to upgrade their code manually. When this is necessary, detailed instructions will be provided in the provided Release Notes. Examples of IAPI changes include method signature changes (additional parameters) or changes of datatype.

Queries and Reports

Similarly to scripting, it is also possible for customers to write their own queries and reports against the SAP Sourcing database. Changes to the SAP Sourcing database schema and/or changes to the helper functions provided by the query designer may require customers' queries and/or reports to be changed. If it is possible for an automated migration, one will be provided. If manual changes are required, the provided Release Notes will include detailed instructions.

7   Global Search

In SAP Sourcing / CLM, the **global search** feature enhances the search capabilities with a free text search across all business documents including attachments.

Global search capability is available in the application through a search area near the top of every page. The search functionality is enabled across all business documents and their associated attachments. Users will only be presented with documents to which they have been granted access on the collaborator list or – in the case of agreements – where the document was 'published to search'. Indexing, by default, is configured to happen every 12 hours. As a result, users will not see search results until the next indexing process has run.

7.1 How Global Search Works

When the user creates or modifies a searchable object (for example, an RFx or master agreement) or an attachment, a message is inserted into a database table called the **extract queue**, to notify the scheduled task responsible for transforming a searchable SAP Sourcing business object (BO) into an XML representation used to submit the change to the database text search index for indexing. This scheduled task is configured by a system user.

> 💡 **NOTE**
>
> No transformation into XML is required for attachments, because attachments are indexed in their native format.

By default the scheduled task that transforms the business object to XML runs every 24 hours. This background task reads the extract queue messages and transforms each specified object into the searchable XML format, which is then written to the **text search table**. New objects transformed for the first time on their creation will result in a new row being added to the text search table. Objects transformed as a result of an update will already be represented by a row in this table and their associated row will be updated.

Once the operation succeeds, the database software responsible for performing the indexing of the XML document is notified that a document is ready for indexing.

Indexing takes place at the end of each extract cycle.

In the case of attachments, the database indexing software is notified as soon as the attachment is saved. However, a successful search of the attachment requires processing by the extract background task before the attachment will be available to the SAP Sourcing Search facility.

The database indexing software collects the notifications resulting from the successful completion of these processes until the execution of another background task that triggers synchronization of the search indexes. Once triggered the database indexing software incorporates the objects represented by the queued notifications into the searchable text index. Only when this synchronization completes will the searchable object or associated attachment be available for searching.

Figure 2: The Global Search Process

7.2 How to Operate Global Search

Procedure

Scheduled Task: Search XML Extract

The XML extract process, which transforms SAP Sourcing business objects into XML, is kicked off by the *Search XML Extract* scheduled task, which can be configured as follows:

1. Log in as system user.
2. Navigate to ▌▶ *Scheduled Task → XML Extract → Edit* ◀.
3. Set the desired date and time in the configuration parameters.
4. Save your entries.

To view the threads running in the system, perform the following steps:

1. Log in as system user.
2. Navigate to ▌▶ *System Information → System Thread* ◀.

NOTE

- This process generates a high volume of redo and archive logs. If there are a large number of extracts and attachments to be processed (such as in an upgrade), this should be monitored by the database administrator.

- Be aware that when this task is running, the system does not accept attachment uploads, so we recommend it be run at that the default frequency of once every 24 hours to minimize inconvenience.

Scheduled Task: Search Index Optimization

To determine the frequency and duration of the processing, use the *Search Index Optimization* scheduled task.

1. Log in as system user.
2. Navigate to ▶ *Scheduled Task → Search Index Optimization → Edit* ⏎.
3. Set the desired parameters.
4. Save your entries.

NOTE

- Although this scheduled task is available on all supported databases, it has no visible effect unless you are using Oracle. We recommend running this task once a month.

- This process generates a high volume of redo and archive logs. If there are a large number of extracts and attachments to be processed (such as in an upgrade), this should be monitored by the database adiministrator.

7.3 Global Search Administrative Reports

The Global Search Administrative Reports are intended to allow monitoring of the multi-step process described previously. The next sections describe the 5 individual reports and their application to the search index processing.

The reports are accessed using the following path while logged in to SAP Sourcing: ▶ *Setup → System Administration → Administrative Reports → Global Search Administrative Reports* ⏎.

Global Search Extract Queue Status

The Global Search Extract Queue Status report provides a means of assessing the processing of the extract queue background task. The report displays the number of objects waiting in the queue grouped by the number of minutes that each group has been waiting for processing. Normally, objects should not be waiting in the queue longer than the default background task scheduling interval. However, under heavy load such as a batch import of searchable objects some objects may take longer to process reflected by longer waiting times. There are two types of failures which may be detected by this report. Total failure of the background task will result in constantly increasing counts of objects and constantly increasing wait times since in this case no queued objects will be processed and removed from the queue.

Another object failure can be detected by the presence of one or more objects with excessively long wait times, this condition usually is the result of errors while processing individual objects or classes of objects. In this case the specific objects can be determined using the next repot, the Global Search Queue Detail report.

Global Search Extract Queue Detail

The Global Search Extract Queue Detail report is intended to provide more detail regarding objects which are remaining in the extract queue for excessive amounts of time. This report takes a single required parameter which is the number of minutes an object has waited in the extract queue for processing. The result is a listing of object display names and the number of minutes they have been waiting in the extract queue for processing. Searching the application log file for the object "Display Name" − this is the first report in the column - will likely result in returning additional information regarding the error preventing the object from being processed.

Global Search Index List

The Global Search Index List report provides the ability to search for an object in the searchable objects table. The report requires input of two parameters. The ClassID of the objects (ClassIDs are available in the SAP Sourcing reference guide) and the objects display name or fragment. This report provides details of the searchable objects which have already been extracted and should be available for search by the SAP Sourcing Global Search Facility provided they have been indexed by the database indexing software.

Documents Awaiting Indexing

The Documents Awaiting Indexing Report provides a listing of searchable objects which are waiting for processing by the database indexing software. These documents have been successfully extracted by the extract background task and are now waiting for the database indexing software to index their content and make these documents available for searching. Documents should not normally be waiting in this state for longer than the scheduling interval for the search synchronization task. Documents waiting for the indexing will not be available for search using the SAP Sourcing Global Search feature although your might still find these objects searchable if a previous version of the document is already indexed.

Documents with Index Errors

The Documents with Index Errors report provides a list of documents which were not indexed by the database indexing software because of error during indexing. Generally, a database specific error message is provided. Consult your database vendor documentation for specific information regarding the cause for the error and possible ways of remedying the error. Documents which result in errors during the database indexing process will not be searchable using the SAP Sourcing Search Facility since they will not be indexed.

NOTE

- Errors reported in this report are not SAP Sourcing errors, but rather failures by the database indexing software while indexing documents. Common reasons for these errors are configuration errors with the database text search software, or attempts to index JPEGs or other unsupported document formats.
- Several data formats are uploaded as attachments but not available in the index. The system will generate a relevant error, which will appear in this report.
- For a list of supported document formats, see the database vendor documentation.

7.4 Global Search Re-Index

NOTE

Global Search Re-Index should only be run in the case of text search index corruption, and we recommend it be run under the direction of SAP Support.

In rare cases, a complete re-index of the Global Search index needs to be performed. For this kind of operation, two separate scripts need to be run. One which deletes the existing text indexes and the second one which executes the database commands to trigger the database to rebuild the indexes. Neither of these effects the contents of the two search tables in the database and so these scripts do not impact the set of searchable objects but rather only the actual indexes.

NOTE

Depending upon how much data is indexed these scripts could execute for a considerable amount of time; hours at best and a 1-2 days in the worst case. If the intent of the customer is to run these scripts with the application online, then the two search-related scheduled tasks should be inactivated before the scripts are executed and reactivated when the last script completes. These scripts must be run using the DbImport tool while logged in as the system account

The scripts are accessed via the fcicommon.jar file at:

- `com\sap\odp\common\db\sql\dropSearchIndexes.xml`
- `com\sap\odp\common\db\sql\createSearchIndexes.xml`

The scripts should be run in the order given. The dropSearchIndexes.xml script removes the existing search indexes. The createSearchIndexes.xml recreates the search indexes and rebuilds the search indexes.

Global Search will be inoperative from the beginning of execution of these two scripts until both of the scripts complete. Additionally, it will not be possible to upload attachments for a period of time while the createSearchIndexes.xml script is executing as the database will have the FCI_ATTACHMENT_BLOB table locked while the attachment index is being built.

7.5 Other Reports and Daemons

XML Extract Background Task Report

This report shows logs for a Business Objects that failed to extract, it is only available as system user.

Go to ▌ *Background Task Status → Today's Daemon Alerts or Daemon Alerts Since Date* ↵ .

Post Upgrade Daemon

Background Task status shows start/end times for each BO class that is processed. This is important to check in case of an upgrade from a version previous to SAP Sourcing 7.0. The post-upgrade processing will process all the existing searchable BO data and attachments and make the available to the text search query. This processing can take days. Each searchable attachment is rewritten by the upgrade daemon. Each BO has an extract queue entry inserted to the queue. The rewrite of the attachments can take more than a day.

> **NOTE**
>
> The XML extract daemon actually handles the extract processing and index refreshing. Each searchable BO is extracted. Then the BO index and the attachment index are both refreshed.

Log file

The Log file has heartbeat log entries for the extract daemon for everyone 1000 items processed from the queue, this can be also used to gauge throughput − by looking at the log files and the time stamps between every 1000 items processed. The log file can be accessed only by a NetWeaver Administrator.

7.6 Troubleshooting Global Search

Issue	Information
Attachment upload is failing	While the index operation of attachments in action, attachment uploads may fail.
Documents with more than one language do not index all words	There is a discrepancy between using Oracle DB or IBM DB2. While Oracle indexes all words, DB2 indexes only 1 language and this is determined by the first paragraphs of the document being indexed.
Objects waiting in queue for indexing over excessive time period	Searching the application log file for the object "Display Name" will likely result in returning additional information regarding the error preventing the object from being processed.
Specific documents are not returned in Global Search	See Documents with Index Errors

8 Support Desk Management

Support Desk Management enables you to set up an efficient internal support desk for your support organization that seamlessly integrates your end users, internal support employees, partners, and SAP Active Global Support specialists with an efficient problem resolution procedure.

For support desk management, you need the methodology, management procedures, and tools infrastructure to run your internal support organization efficiently.

Remote Support Setup

The Sourcing application is a native web application which is accessed using one of the set of supported Web Browsers. Enabling of remote support is as simple as providing the Sourcing support organization with a secure url to access the application. This url can be made secure in a manner which conforms to your internal internet security standards.

Once the secure url is in place, Sourcing provides a security profile named 'SAP Support User' which can be applied to an Sourcing user account intended for use by the Sourcing support organization. This security profile grants READ access to all of the Sourcing securable objects which enables SAP support staff to access your data for problem troubleshooting and analysis but prevents Sourcing support personnel from modifying any Sourcing data. Use of this profile by the Sourcing support user account prevents inadvertent modification of any data during access by support personnel. This profile can be tailored to further restrict access to certain data considered too sensitive for access by support personnel.

9 Troubleshooting

Troubleshooting information can be found in the SAP Service Marketplace. Go to ▶ http://
service.sap.com → *SAP Support Portal* → *Help & Support* ◀.

IN SAP Notes search, search with *Application Area* value of **SRM-eso***.

Typographic Conventions

Example	Description
`<Example>`	Angle brackets indicate that you replace these words or characters with appropriate entries to make entries in the system, for example, "Enter your `<User Name>`".
▶ *Example* → *Example* ◀	Arrows separating the parts of a navigation path, for example, menu options
Example	Emphasized words or expressions
`Example`	Words or characters that you enter in the system exactly as they appear in the documentation
`http://www.sap.com`	Textual cross-references to an internet address
`/example`	Quicklinks added to the internet address of a homepage to enable quick access to specific content on the Web
123456	Hyperlink to an SAP Note, for example, SAP Note 123456
Example	■ Words or characters quoted from the screen. These include field labels, screen titles, pushbutton labels, menu names, and menu options. ■ Cross-references to other documentation or published works
`Example`	■ Output on the screen following a user action, for example, messages ■ Source code or syntax quoted directly from a program ■ File and directory names and their paths, names of variables and parameters, and names of installation, upgrade, and database tools
`EXAMPLE`	Technical names of system objects. These include report names, program names, transaction codes, database table names, and key concepts of a programming language when they are surrounded by body text, for example, `SELECT` and `INCLUDE`
`EXAMPLE`	Keys on the keyboard

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