Application Operations Guide

# SAP® Supply Chain Management 7.0

## Using SAP® SCM 7.0

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**Documentation on SAP Service Marketplace**
You can find this documentation at the following Internet address:
service.sap.com/instguides

## Typographic Conventions

| Type Style | Represents |
|---|---|
| ***Example Text*** | Words or characters that appear on the screen. These include field names, screen titles, and pushbuttons, as well as menu names, paths, and options.<br><br>Cross-references to other documentation |
| Example text | Emphasized words or phrases in body text, titles of graphics, and tables |
| **EXAMPLE TEXT** | Names of elements in the system. These include report names, program names, transaction codes, table names, and individual key words of a programming language, when surrounded by body text, for example, SELECT and INCLUDE. |
| `Example text` | Screen output. This includes file and directory names and their paths, messages, names of variables and parameters, source code, as well as names of installation, upgrade, and database tools. |
| `Example text` | Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation. |
| `<Example text>` | Variable user entry. Pointed brackets indicate that you replace these words and characters with appropriate entries. |
| **EXAMPLE TEXT** | Keys on the keyboard, for example, function keys (such as `F2`) or the `Cntrl` key. |

## Icons

| Icon | Meaning |
|---|---|
|  | **Caution** |
|  | **Example** |
|  | **Note** |
|  | **Recommendation** |
|  | **Syntax** |

# Contents

# 1 Getting Started

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

### About this Guide

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

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 carry them out. It also refers to documentation required for these tasks. You must use this guide in connection with other guides such as the Master Guide, Technical Infrastructure Guide, and SAP Library.

### Target Groups

- Technical consultants
- System administrators
- Solution consultants
- Business process owner
- Support specialist

## 1.1 Global Definitions

### SAP Application

An SAP application is an SAP software solution that serves a specific business area like ERP, CRM, PLM, SRM, SCM. It represents a market view on groups of related business scenarios. The delivery of an application contains SAP components that are essential for implementing all application-related business scenarios, processes and functions. The implementation knowledge is allocated together with an application. For example the SAP application SAP SCM 7.0 consists of several components such as SAP SCM Basis 7.0, SAP SCM 7.0 Server, and others.

### Business Scenario

From a microeconomic perspective, a business scenario is a cycle that consists of several different interconnected logical processes in time. Typically, a business scenario includes several company departments and involves other business partners. From a technical point of view, a business scenario needs at least one SAP application (SAP ERP, SAP SCM, or others) for each cycle and possibly other third-party systems. A business scenario is a unit that can be implemented separately and reflects the customer's prospective course of business.

### Component

Components are the smallest units, which are considered separately within the Solution Development Lifecycle, and are separately produced, delivered, installed, and maintained.

## 1.2 Important SAP Notes

Check regularly to see which SAP Notes are available for the Application Operations Guide.

**Important SAP Notes**

| SAP Note Number | Title | Comment |
|---|---|---|
| 572003 | SAP Best Practices for Solution Management mySAP Supply Chain Management (SCM) | This note provides an overview (including links) of all existing Best Practice documents for SAP SCM |
| 617547 | RZ20: Sending alerts as mail and SMS | Describes how to use transaction RZ20 to send alerts from the CCMS monitoring architecture as an e-mail, SMS, or other message types to one or several recipients |

## 1.3 History of Changes

Make sure you use the current version of the Application Operations Guide.

For the current version of the Application Operations Guide, see SAP Service Marketplace at http://service.sap.com/instguides.

The following table provides an overview of the most important changes in prior versions:

| Version | Important Changes |
|---|---|
| 1.00 | First version |

SAP has recently changed some of the naming of SAP products and guides. Note that the old names are still in use and therefore the following product names are synonymous:

| New Name | Old Name |
|---|---|
| SAP Supply Network Collaboration (SAP SNC) | SAP Inventory Collaboration Hub (SAP ICH) |
| SAP SCM Optimizer | SAP APO Optimizer |
| SAP NetWeaver 7.0 (the current version for SAP SCM 7.0 Server is SAP enhancement package 1 for SAP NetWeaver 7.0) | SAP NetWeaver 2004s |
| SAP NetWeaver usage type BI (Business Intelligence) | SAP BW, SAP BI |
| SAP NetWeaver usage type PI (Process Integration) | SAP XI |
| SAP F&R Replenishment Workbench for Stores (RWBS) | SAP F&R Store User Interface (SUI) |
| Application Operations Guide (this guide) | Solution Operation Guide |

# 2 Technical System Landscape

## 2.1 Scenario/Component Matrix

For more information about the components necessary for business scenarios and processes, see the SAP SCM Master Guide on SAP Service Marketplace at http://service.sap.com/instguides → *SAP Business Suite Applications* → *SAP SCM* → *SAP SCM Server* → *Using SAP SCM 7.0 Server*.

## 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 (http://service.sap.com/<quick link>)** |
|---|---|---|
| Application and industry-specific components such as SAP Financials and SAP Retail | Master Guide | instguides |
| Technology components such as SAP Web Application Server | Master Guide | instguides |
| Sizing | Quick Sizer Tool | sizing |
| Technical configuration | Technical Infrastructure Guide | installNW70 |
| Scalability | Technical Infrastructure Guide | installNW70 |
| High availability | Technical Infrastructure Guide | installNW70 |
| Security | Technical Infrastructure Guide<br>Security Guide | installNW70<br>securityguide |

## 2.3 Enterprise Services Information

For information about Enterprise Services operations, see the section *Troubleshooting - SAP Enterprise SOA*.

# 3 Monitoring of SAP Supply Chain Management (SAP SCM)

Within the management of SAP NetWeaver, monitoring is an essential task. This section is therefore devoted strictly to this subject.

For more information about the underlying technology, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver*.

## 3.1 Alert Monitoring with CCMS

Proactive automatic monitoring is the basis for ensuring reliable operations for your SAP system environment. SAP provides you with the infrastructure and recommendations on how to set up your alert monitoring to recognize critical situations for SAP SCM 7.0 as quickly as possible.

### 3.1.1 CCMS Monitoring Installation and Setup

SCM Server is technically based on SAP Web AS 7.01 (part of SAP enhancement package 1 for SAP NetWeaver 7.0) and thus reuses monitoring tools from NetWeaver such as the Computing Center Management System (CCMS). Therefore, we recommend that you set up the Monitoring Infrastructure as described in the *Monitoring Setup Guide for SAP NetWeaver 7.0 (2004s)* located on SAP Service Marketplace at http://service.sap.com/instguides → *SAP NetWeaver* → *SAP NetWeaver 7.0 (2004s)* → *Operations* → *Monitoring*.

The monitoring setup described in the *Monitoring Setup Guide* is the foundation for the following sections and contains all the information relevant to monitoring the SAP NetWeaver components used in SAP SCM 7.0. Proficient knowledge of system monitoring and basic knowledge of SAP NetWeaver is required to compose the user-defined SCM monitors recommended within this guide.

To enable the auto-alert mechanism of CCMS, see SAP Note 617547.

For more information about monitoring, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *AS ABAP (Application Server for ABAP)* → *Monitoring*.

### 3.1.2 Component-Specific Monitoring

You can use CCMS to monitor SAP SCM Server and the following components:

- SAP SCM Basis
- SAP APO
- SAP liveCache
- SAP SCM Optimizer
- SAP Event Management
- SAP SNC
- SAP EWM
- SAP F&R
- Internet Graphics Service (IGS)

For this purpose, SAP SCM provides the following monitor sets, which can be accessed on the *SAP Easy Access* screen, by choosing *Tools* → *CCMS* → *Control/Monitoring* → *CCMS Monitor Sets* (transaction RZ20):

- *SAP SCM Basis Monitor Templates*
  Comprises the *CIF Master Data Queue Monitor*
- *SAP SCM Monitor Templates*
  Comprises the monitors for APO, EWM, Event Management, F&R, SCM Optimizer, SNC, and liveCache

If you use a central monitoring system (CEN) to monitor the above-mentioned components, make sure that this system works with SAP enhancement package 1 for SAP NetWeaver 7.0. Only then can you use all monitorable data (for example monitoring templates) provided with SAP SCM 7.0.

For more information about monitoring, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *AS ABAP (Application Server for ABAP)* → *Monitoring*.

### 3.1.2.1 SAP SCM Basis (Part of SCM Server)

SAP SCM Basis allows monitoring of SAP Core Interface (CIF) and qRFC related values such as the status of CIF Compare Reconcile (delta report), CIF postprocessing entries, or an overview of blocked qRFCs. You can start the monitor on the *SAP Easy Access* screen, by choosing *Tools* → *CCMS* → *Control/Monitoring* → *CCMS Monitor Sets* (transaction RZ20) → *SAP SCM Basis Monitor Templates* → *CIF Master Data Queue Monitor*.

If you want to create your own SCM Basis monitor, you can use the following Monitoring Tree Elements (MTE):

- CIF Monitoring
- SCMB CIF Outbound Queues
- APO CIF Outbound Queues (which can be found under *Transactional RFC and Queued RFC* → *Outbound Queues MTE*).

For more information about setting up your monitoring, see the relevant documentation on SAP Service Marketplace at http://service.sap.com/monitoring.

### 3.1.2.2 SAP APO (Part of SCM Server)

SAP SCM 7.0 allows you to monitor CIF and qRFC related values, such as the status of CIF compare reconcile (delta report), CIF post-processing entries, the consumption of planned independent requirements, or an overview of blocked qRFCs, as well as SNP related values for master data and timeseries.

You can start the monitor on the *SAP Easy Access* screen by choosing *Advanced Planning and Optimization* → *APO Administration* → *Integration* → *Monitor* → *CCMS Monitor Sets* (transaction RZ20) → *SAP SCM Monitor Templates* → *APO Monitor*.

For information about setting up this monitor, see the relevant documentation on SAP Help Portal at http://help.sap.com → *SAP Business Suite* → *SAP Supply Chain Management* → *SAP SCM 7.0 [open]* → *Application Help EN* → *SAP Supply Chain Management (SAP SCM)* → *SAP Advanced Planning and Optimization (SAP APO)* → *Integration via Core Interface (CIF)* → *Technical Integration* → *Core Interface (CIF)* → *Administration* → *Monitoring* → *SAP APO Monitoring with CCMS.*

If you want to monitor CIF using the SAP Solution Manager, see the Best Practice document System Monitoring for mySAP SCM with SAP Solution Manager and CCMS.

### 3.1.2.3 SAP liveCache Technology

You can use the SAP liveCache Alert Monitor to identify memory problems in good time, to check the security of your SAP liveCache, and to monitor performance.

You can choose from the following displays for each SAP liveCache node in the monitoring tree:

- Properties (displays the SAP liveCache properties, the SAP liveCache status, and error messages)
- Space Management (memory in the data area, log area, and main memory)
- Performance (cache hit rates, free database sessions for user tasks, the status of the write-protection for the OMS monitor, and information about the optimizer statistics)
- Backup/Recovery (information about backups and recoveries)
- Health (information about bad indexes and database structure checks)
- liveCache Applications (information about the APO system)
- External Analysis Tools (information from the Database Analyzer)

You can use the following start options for the Alert Monitor:

- On the *SAP Easy Access* screen, call the SAP liveCache Assistant (transaction LC10) and choose l*iveCache* → *Alert Monitor* → *MaxDB Monitoring* → *liveCache*.
- On the *SAP Easy Access* screen, call the CCMS Monitor (transaction RZ20) and choose *SAP CCMS Monitors for Optional Components* → *MaxDB Monitoring* → *liveCache*.

For more information about the nodes in the liveCache Monitor, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Databases* → *SAP liveCache Technology* → *Database Administration in CCMS: SAP liveCache Technology* → *CCMS Monitoring.*

Additionally, see the Best Practice document System Monitoring for mySAP SCM (3.0-4.1) with SAP Solution Manager and CCMS.

To use the CCMS Monitoring of SAP liveCache, you need to activate the Alert Monitoring in the SAP liveCache Assistant (transaction LC10). For more information, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *English* → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Databases* → *SAP liveCache Technology* → *Database Administration in CCMS: SAP liveCache Technology* → *CCMS Monitoring* → *liveCache Alert Monitor.*

Additionally, you need to schedule the /SAPAPO/OM_LCAALERTS report in regular intervals (see section 4.5.1.2 of this document). This report provides the information for the CCMS node *liveCache Applications*.

You can start the monitor on the *SAP Easy Access* screen by choosing *Advanced Planning and Optimization* → *APO Administration* → *Integration* → *Monitor* → *CCMS Monitor Sets* (transaction RZ20) → *SAP SCM Monitor Templates* → *liveCache Monitor*.

You can also use the DBA functions of the CCMS to administer your MySQL MaxDB database system. For more information, see section 4.1.2 *Administration SAP liveCache technology*.

### 3.1.2.4 SAP SCM Optimizer

You can start the monitor on the *SAP Easy Access* screen by choosing *Advanced Planning and Optimization* → *APO Administration* → *Integration* → *Monitor* → *CCMS Monitor Sets* (transaction RZ20) → *SAP SCM Monitor Templates* → *SCM Optimizer Monitor*.

For the availability monitoring of the SCM optimizer components in a central monitoring system (CEN), copy the monitor set for the optimizer from the template, adjust it, and check the availability. Make sure that CCMS is up and running in both systems – in the CEN and in the system to be monitored – and that availability monitoring is available via RCCF destinations.

### 3.1.2.5 SAP Event Management (Part of SCM Server)

The SAP Event Management monitor is an EM-specific collection of functions that, for example, displays all the SAP Event Management messages in an overview screen.

We recommend that you only connect SAP Event Management to the Computing Center Management System if you have adequate knowledge of Computing Center Management.

To use the specific Event Management monitor in the Computing Center Management System the following prerequisites must be met:

- You have executed the /SAPTRX/SLG1_LINK and /SAPTRX/SCHEDULE_EM_JOBS_NODE reports once before calling the Event Management monitor. This is to ensure that the functions for evaluating the application log and for scheduling supply chain event management-relevant (SCEM-relevant) background jobs appear in the choice of functions for the Event Management monitor.

  If you restart the system, you need to execute these two reports again.

- You have scheduled the respective background jobs for each client in which you want to set the SAP Event Management-specific monitoring functions in the CCMS. The system displays the background jobs in the dialog structure of the Event Management monitor.

  Background jobs include the following:

| | |
|---|---|
| /SAPTRX/COLLECT_LOCKED_EH | Number of locked event handlers in the desired client |
| /SAPTRX/COLLECT_LOCKED_EHSETS | Number of locked event handler sets in the desired client |
| /SAPTRX/COLLECT_UNPROC_EVMSG | Number of unprocessed event messages in the desired client |

If you restart the system, schedule these background jobs again.

Check the latest SAP Event Management documentation on this topic under *Connection to the Computing Center Management System* on SAP Help Portal at http://help.sap.com → *SAP Business Suite* → *SAP Supply Chain Management* → *SAP SCM 7.0 [open]* → *Application Help EN* → *SAP Supply Chain Management (SAP SCM)* → *SAP Event Management* → *SAP Event Management Infrastructure* → *Monitoring and Evaluation Processes.*

You can start the monitor on the *SAP Easy Access* screen by choosing *Event Management* → *Administration* → *Computing Center Management System (CCMS)* → *CCMS Monitoring* (transaction RZ20) → *SAP EM Monitor Templates*.

If you want to view the data of Event Management monitoring templates in a central monitoring system (CEN), copy the monitor set for Event Management from the template and amend the relevant selection rules to display data from all or only specific systems.

### SAP Event Management Web Communication Layer (SAP EM-WCL)

You can also monitor the availability (heartbeat) of the Web Communication Layer. For more information, see SAP Note 755397. Note that Support Package 4 for SAP Web AS 7.00 is a prerequisite for monitoring WCL in CCMS.

## 3.1.2.6 SAP Supply Network Collaboration (Part of SCM Server)

SAP delivers the predefined monitor set *SNC Monitor Templates* for SAP Supply Network Collaboration, which you can use to monitor inbound and outbound XML message processing. You can start the monitor on the *SAP Easy Access* screen, by choosing *Tools* → *CCMS* → *Control/Monitoring* → *CCMS Monitor Sets* (transaction RZ20).

In addition, for SAP SNC, we recommend you use the CCMS to monitor the following:

- Number of users that are logged on
- Memory consumption
- Free space on the database

For more information, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *Documentation* → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *AS ABAP (Application Server for ABAP)* → *Monitoring* → *Tasks* → *Monitoring Space Management*.

SAP SNC uses the Exchange Infrastructure (XI). For more information about the monitoring of the Exchange Infrastructure, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *PI (Process Integration).*

## 3.1.2.7 SAP Extended Warehouse Management (Part of SCM Server)

SAP EWM allows monitoring of SAP Core Interface (CIF) Master Data Queues and EWM-specific values. You can start the monitor on the *SAP Easy Access* screen, by choosing *Tools* → *CCMS* → *Control/Monitoring* → *CCMS Monitor Sets* (transaction RZ20) → *SAP EWM Monitor Templates*.

If you want to create your own monitor, you can find the Monitoring Tree Elements (MTE) used in the above-mentioned predefined monitors under *Selectable MTE* → *<system>* → *Transactional RFC and Queued RFC* → *Outbound Queues* and → *Inbound Queues*.

To monitor Post Processing Framework (PPF) actions – for example the printing of delivery notes – with errors, you can use transaction SPFP. The following applications that use the Post Processing Framework for the generation of actions are available:

- /SCDL/DELIVERY
- /SCTM/FOM
- /SCWM/SHP_RCV
- /SCWM/WME

- QIE

SAP EWM also uses the Exchange Infrastructure (XI). For more information about the monitoring of the Exchange Infrastructure, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *PI (Process Integration).*

### 3.1.2.8 SAP Forecasting and Replenishment (Part of SCM Server)

Depending on the business process you are using in the scenario Forecasting and Replenishment, you can exchange data using either XI or RFC.

When using XI, you should monitor the message types `ProductActivityBulkNotification` (TimeSeries = POS, Inventory), `ProductDemandInfluencingEventBulkNotification` (DIF), and `ReplenishmentOrderProposalBulkNotification` (Order Proposals).

For detailed information about monitoring XI in CCMS, see SAP Service Marketplace at http://service.sap.com/instguides → *SAP NetWeaver* → *SAP NetWeaver 7.0 (2004s)* → *Operations* → *Process Integration* → *Troubleshooting Guide - SAP XI 3.0/SAP NW 7.0*.

When using RFC, you can use the RFC Monitor in CCMS. For more information, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal under *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *Select Language* → *SAP NetWeaver Library* → *Administrator's Guide*.

SAP F&R Replenishment Workbench for Stores (RWBS) is running on J2EE and has no separate CCMS monitor entries. Instead you can use the SAP J2EE monitor templates of CCMS.

SAP SCM 7.0 allows monitoring of the dispatcher for the efficient control of the FRP modules via CCMS. Here you can distinguish between planning objects and dispatcher processes. Planning objects are locations which are processed by FRP processor. Dispatcher processes is the framework which allows to process the locations according to the system customizing. How to create reaction methods and how to subscribe to those objects can be found on the online help to CCMS monitor.

For all other exceptional situations, the Exception Monitor can be used, where all critical data is integrated in the SCM Alert Monitor. The SCM Alert Monitor can be opened using transaction /FRE/EXC.

For more information, see the documentation on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *Select Language* → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Application Platform by Key Capability* → *JAVA Technology* → *Administration Manual* → *Supportability and Performance Management* → *Monitoring* → *Displaying J2EE Engine Monitoring Data in the CCMS*.

### 3.1.2.9 Internet Graphics Service

The Internet Graphics Service (IGS) is part of SAP NetWeaver, and is used on SAP SCM screens to support the display of graphics. Since SAP SCM also uses the IGS, you should also monitor this component. CCMS gives you an overview of the current IGS configuration, the port watchers available, and their associated interpreters. It also displays various performance values for the relevant IGS components.

To monitor IGS in CCMS, you must activate CCMS Monitoring. You can do so by starting the GRAPHICS_IGS_ADMIN report in transaction SE38. Then enter **`IGS RFC-Destination`** and choose F8. Then select the menu *Environment* and choose *Switch on CCMS*.

You can find the monitor tree for IGS in the CCMS (transaction RZ20) as the *Internet Graphics Server* in the monitor set *SAP CCMS Monitors for Optional Components*.

For more information about the values displayed in CCMS, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → SAP NetWeaver by Key Capability → Application Platform by Key Capability → ABAP Technology → UI Technology → SAP Graphics → Internet Graphics Service → Administering the Internet Graphics Service (IGS).*

## 3.2 Detailed Monitoring and Tools for Problem and Performance Analysis

SAP SCM is technically based on SAP enhancement package 1 for SAP NetWeaver 7.0. For information about technical problem analysis (such as for database, operating system, or workload analysis), see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → Administrator's Guide*.

This SAP SCM Application Operations Guide only covers the differences and additional information specific to SAP SCM.

### 3.2.1 SAP SCM Basis (Part of SCM Server)

Since SAP SCM Basis is not a standalone component, log objects and subobjects in SCM Basis are often used by one or more application components that are based on SAP SCM Basis. Therefore, these log objects and subobjects are described in the relevant section of this application component. For example, the /SAPAPO/PE log object is part of SCM Basis, but used by SAP SPP and is thus described under SAP Service Parts Management.

### 3.2.2 SAP APO Analysis Tools (Part of SCM Server)

For more information about monitoring, problem, and performance analysis tools, see the following Best Practices document:

- Internal and External Consistency for SAP APO (3.x) / mySAP SCM (4.x)

For Performance Monitoring in SCM 7.x, see the documentation on the APO Performance Monitor on SAP Help Portal at http://help.sap.com → *SAP Business Suite → SAP Supply Chain Management → SAP SCM 7.0 [open] → Application Help EN → SAP Supply Chain Management (SAP SCM) → SAP Advanced Planning and Optimization (SAP APO) → SAP APO Administration → APO Performance Monitor*.

Depending on the business processes you are using in APO, you can find additional information in the following Best Practices documents:

- Best Practice Manage Demand Planning in SCM/APO
- Best Practice Manage Supply Network Planning in SCM / APO
- Best Practice Manage Production Planning in SAP APO (3.x) / mySAP SCM (4.x)
- Best Practice Manage Global ATP in SAP APO (3.x) / mySAP SCM (4.x)
- Best Practice Manage the Transportation Management Solution in SAP APO (3.x) / mySAP SCM (4.x)

#### Trace and Log Files

Trace and log files are essential for analyzing problems.

For general information about traces, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → Administrator's Guide → Technical Operations Manual for SAP NetWeaver → Administration of SAP NetWeaver Systems → AS ABAP (Application Server for ABAP) → Monitoring → Tools → Trace Functions*.

For general information about application logs, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → SAP NetWeaver by Key Capability → Solution Life Cycle Management by Key Capability → Application Log – (BC-SRV-BAL)*.

**Log Objects and Subobjects to Be Used for SAP APO in SLG1**

| Log Object | Log Subobject | Object/Subobject Text |
|---|---|---|
| AHT | | Action Handler and Production Tracking |
| | ACTION_HANDLER_CORE | Core Action Handler |
| APO | | Advanced Planning and Optimization |
| | ATP | APO Global ATP |
| | CHK | Consistency Check for CTM Master Data |
| | CTM | Capable-to-Match |
| | DOWN_UPLOAD | Download and Upload liveCache Data |
| | DP-RTO | Runtime Object |
| | EDQA | Event-Driven Quantity Assignment (EDQA) |
| | LCCHECK | RPM Matrices Test with liveCache Check |
| | MD | Master Data |
| | MVM | Model/Version Management |
| | ND | Network Design |
| | PPDS | Production Planning and Detailed Scheduling |
| | PPM | Production Process Model |
| | PP_DTS | Production Planning and Detailed Scheduling |
| | RECOVERY | Recovery |
| | SCO | Sales Scheduling Agreement |
| | SDPP | Consistency Check for Planning Books |
| | SRC | Source of Supply Determination |
| | SWITCH | liveCache Change/Upgrade |

| Log Object | Log Subobject | Object/Subobject Text |
|---|---|---|
| | TPVS | Transportation Planning and Vehicle Scheduling |
| | UPGRADE | Errors that occurred during the upgrade |
| | VERSIONMERGE | SNP Version Merge |
| APO_BAPI | | Communication APO – External Systems |
| | ATP_APS | ATP Service Object |
| | CLP_APS | APS Collaborative Planning |
| | DEL_REP | Deletion Report for Transaction Data |
| | FC_APS | PlannedIndReqmtsAPS |
| | KFIG_SEND_REP | Transfer Report for Key Figure Values |
| | LOC_APS | APS Location |
| | LPH_APS | Location Product Hierarchy APS |
| | LPSP_APS | APS Location Product Substitution Procedure |
| | LSP_APS | APS Location Determination Procedure |
| | MDAT_SEND_REP | Transfer Report for Master Data |
| | MO_APS | APS Manufacturing Order |
| | OR_APS | APS Order Request |
| | PB_APS | APS Planning Book |
| | PDS_APS | Production Data Structure APS |
| | PH_APS | Product Hierarchy APS |
| | PLOC_APS | APS Partner Location |
| | PL_EVENT | Planning Event |
| | PO_APS | APS Procurement Order |
| | PPDS_APS | PP/DS Planning Services |
| | PPMSP_APS | APS PPM Substitution Procedure |
| | PPM_APS | APS Production Process Model |
| | PPRD_APS | APS Partner Product |
| | PRD_APS | Product APS |
| | PRM_APS | APS Promotion |
| | PSP_APS | APS Production Substitution Schema |
| | QT_APS | APS Quota Arrangement |

| Log Object | Log Subobject | Object/Subobject Text |
|---|---|---|
| | REQ_APS | APS Request for Quotation |
| | RES_APS | APS Resources |
| | RULE_APS | APS Substitution Rule |
| | SEND_REP | Transfer Report for Transaction Data |
| | SO_APS | APS Sales Order |
| | ST_APS | APS Stock |
| | TRL_APS | APS Transportation Lane |
| | VS_APS | Vehicle Scheduling Services APS |
| APO_FCS | | Log for APO DP Applications |
| | ADD_BOM | Add Bill of Materials Information |
| | BCSP | Consumption in the Background |
| | DPC | Demand Planning Characteristic Value Combination |
| | DPF | Demand Plan Selection |
| | DPP | Demand Plan |
| | DPS | Demand Planning Scenario |
| | DPT | Demand Planning Scenario Template |
| | DPV | Demand Plan Version |
| | DVOP | Demand View of Promotion |
| | EXT_RELEASE | Extended Release to Supply Network Planning |
| | FCS | Planning |
| | GFC | Generate Forecasting |
| | MD_CHECK | Subobject for Master Data Checker |
| | PAREA_LOAD | Load Data from InfoCube into Planning Area |
| | PA_CHANGE | Change Planning Area |
| | PSTRU | Planning Object Structure |
| | RELEASE | Release to Supply Network Planning |
| | RELEASE_CUBE_TO_OLTP | Direct Release from InfoProvider to ERP System |
| | RELEASE_CUBE_TO_SNP | Direct Release from InfoProvider to SNP |
| | REO | Forecasting Reorganisation |
| | SDP94 | Interactive Planning |

| Log Object | Log Subobject | Object/Subobject Text |
|---|---|---|
| | SEASON | Seasonal Planning |
| | SO | Selection Organization |
| | TS | Time Series Management |
| | TS_BATCH | DP Mass Processing |
| | TS_PROP | Calculate Proportional Factors |
| | VERSION_COPY | Copy Planning Version |
| | XLS_UPLOAD | Excel Upload in Interactive Planning |
| APO_SNP | | APO: Supply Network Planning |
| | AGG | SNP Aggregation |
| | CAP | Capacity Leveling |
| | DEP | SNP Deployment |
| | DIS | SNP Disaggregation |
| | DISR | SNP Disaggregation After Resource Consumption |
| | DPLOPT | Deployment Optimization |
| | FRWK | SNP Characteristic Framework |
| | HEU | SNP Heuristic |
| | LLC | SNP Low-Level Code Determination |
| | OPT | SNP Optimization |
| | RELEASE | Release to Demand Planning |
| | RLCDEL | Delete Transaction Data |
| | SFT | SNP Safety Stock Planning |
| | SHLF | SNP Propagation of Shelf Life Dates |
| | SLM | Single-Level Supply and Demand Planning |
| | SPL | Prioritization of Deployment Stock Transfers |
| | TLB | TLB: Transport Load Builder |
| APO_MD | | APO: Master Data |
| | LO | Location |
| | STD_HIER_CREATE | Report: Create Standard Hierarchy |
| | VM | Version Management |
| APOPCM | | Production Campaign in APO |
| | APOPCMDPS | Production Campaign in DPS |

| Log Object | Log Subobject | Object/Subobject Text |
|---|---|---|
| CIFSCM | | Application Log Object for Core Interface |
| | DL | Delivery (Inbound) |
| | SH | Transport (Inbound) |
| | SHIPMENT | Transports |
| INC | | Product and Location Substitution |
| MMP | | Model Mix Planning and Sequencing |
| | MMP_RUN | Model Mix Planning Run |
| | SEQ_API | External Interface/Production Connection |
| | SEQ_EXPERT_CHANGES | Expert Functions for Sequencing |
| | SEQ_INTERACTIVE | Interactive Sequencing |
| MSP | | Maintenance and Service Planning |
| | DMND | Maintenance Demand |
| MSP_CIF | | Maintenance and Service Planning – CIF |
| MSP_MTL | | Maintenance and Service Planning – Maintenance Task List |
| RCC | | Remote Control and Communication |
| RESOURCE | | Resources |
| RPM | | Rapid Planning Matrix |
| | FATAL_ERRORS | Fatal Errors |
| | REORG | Reorganize Data Vectors |
| | RPM_RUN | Messages During RPM Run |
| | TIMELINES | Create RPM Time Series in Background |
| RPM_LCC | | Test of RPM liveCache Routines |
| | HEADER | General Data for a Test Run |
| | MESSAGES | Individual Messages of a Test Run |
| RPM_LCC_TESTTOOL | | RPM Test Tool |
| /SAPAPO/CMDS | | Collaborative Management of Delivery Schedules (CMDS) |
| | CHECK | Consistency Check |
| /SAPAPO/CONFR_CFGREL | | Consistency of Configuration Relevance in Product Master |
| | CFGREL | Configuration-Relevant Product |

| Log Object | Log Subobject | Object/Subobject Text |
|---|---|---|
| | CLCH_RM | Remove Characteristic from CDP-Relevant Class |
| | MAT_CONS | Product Master Consistency |
| /SAPAPO/CONFR_PCHECK | | Material Variants Check |
| /SAPAPO/MC01 | | Planning with CDP |
| | BLOCK | Block Planning |
| | CFGSYS | Setting Up Configuration Relevance |
| | MASTER | Master Data |
| | MAT | Product Master |
| | TRANS | Transactional Data |
| /SAPAPO/MC013X40 | | CDP IBASE Conversion |
| /SAPAPO/RTO | | Production Data Engine |
| | DELETE | Delete Production Data Structure |
| | DP_GEN | Generate or Update Production Data Structures |
| | EXPLODE_PPDS | Explosion for PP/DS |
| | EXPLODE_SNP | Explosion for CTM/DP/SNP |
| | PPDS_GEN | Generate PP/DS Production Data Structure |
| | PPE_GEN | Generation of Production Data Structures from iPPE Data |
| /SCMB/MD | | SCM Basis Master Data |
| | SCU | Supply Chain Unit |

For more information about trace and log files, see also the Best Practices documents mentioned in this section.

## 3.2.3 SAP liveCache Technology Analysis Tools

To monitor and administer your SAP liveCache, you have several options or tools, which should be used in the following order of preference:

| Monitor | Detailed Description | Prerequisites |
|---|---|---|
| LC-Assistant (LC10) | You can use the SAP liveCache Assistant to monitor multiple SAP liveCaches on one or more servers. | |

| Monitor | Detailed Description | Prerequisites |
|---|---|---|
| Database Manager GUI (DBMGUI) | A graphical client tool used for remote administration of MaxDB and SAP liveCache systems.<br>The Database Manager consists of a server and a client part. The server part (DBM server) is responsible for functionality. The client part is represented by DBMGUI, DBMCLI and WebDBM. | After installing DBMGUI software on the front end, you can start DBMGUI. You can administer several SAP liveCaches with one DBMGUI session. Make sure that you select the correct SAP liveCache server when you issue a command. Before you can administer an SAP liveCache, you need to register it. |
| Database Manager Client (DBMCLI) | An SAP liveCache command line database client administration tool that can be executed from within SAP SCM using transaction SM49.<br>The Database Manager consists of a server and a client part. The server part (DBM server) is responsible for functionality. The client part is represented by DBMGUI, DBMCLI and WebDBM | |
| Web DBM | A Web-based database management tool.<br>The Database Manager consists of a server and a client part. The server part (DBM server) is responsible for functionality. The client part is represented by DBMGUI, DBMCLI and WebDBM | |

For more information about the DBMGUI and DBMCLI database tools, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Databases* → *MaxDB* → *Tools.*

To download the latest version of these database tools, go to http://www.mysql.com/downloads. Alternatively, to download from SAP Service Market Place, see SAP Note 386714.

Additionally, you can use the following transactions to test and monitor SAP liveCache:

| Monitoring Object | Monitor Transaction/Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| Display current LCA versions | /SAPAPO/OM04 or /SAPAPO/OM13 (see below) | As required or after SPs and upgrades | Check that correct versions are installed | Check which LCA build is installed on your SAP liveCache server | System monitoring team |

| Monitoring Object | Monitor Transaction/Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| Test program for SAP liveCache and LCA routines | /SAPAPO/OM03 | As required or after SPs and upgrades | Correctly configured SAP liveCache and LCA routines should have output such as "liveCache test at LCA finished without errors" | Performs a simple check for LCA routines and SAP liveCache: useful to check the correct installation of SAP liveCache and/or LCA routines | System monitoring team and/or Basis Support |
| Analyze SAP liveCache and LCA build | /SAPAPO/OM13 | Daily / regularly | | Shows LCA build, checks important SAP liveCache and LCA build, checks network speed/status (see below), shows SAP liveCache log files | System monitoring team |
| Display meaning of LCA routine return code | /SAPAPO/OM10 | As required | Use to help analyze LCA routine messages or errors | Shows the meaning of return codes issues by LCA routines | Basis Support |
| SAP LiveCache data viewer | /SAPAPO/OM16 > Display Plan Version then choose C*alculate* in the output list | As required | Can be used to see the approximate size of planning versions in SAP liveCache | Shows the size of data by planning version (in KB) | Basis and Application Support |

| Monitoring Object | Monitor Transaction/Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| Check consistency of data between APO and SAP liveCache | /SAPAPO/OM17 | Daily / weekly / as required | Check for inconsistencies and correct as necessary | For more information, see the Best Practice "Internal and External Consistency for SAP APO 3.x / mySAP SCM 4.x/5.0" | System monitoring team (Basis and Application Support) |
| Display SAP liveCache OMS and LCA routines performance analysis information | *LC10* → *liveCache Monitoring* → *Performance* | As required | | Use transactions to help analyze SAP liveCache and LCA routine activity; show details of current activity; LCA routine runtime analysis statistics; Class container information; OMS data, size, age and versions; active transactions | Basis Support |
| SAP liveCache and liveCache Applications test cockpit | /SAPAPO/OM14 | Daily / weekly/ after upgrade or SP | | The test cockpit contains many reports that are available for testing SAP liveCache and LCA routines. It can be used for performance comparisons/tests. | Basis Support |
| Evaluate performance and verify SAP liveCache and LCA routines | SE38 - /SAPAPO/OM_PERFORMANCE <execute> [Default 5 sec] | Weekly / after upgrade or SP | Check to see if performance of SAP liveCache and LCA routines differs greatly from previous runs | Tests SAP liveCache and LCA routines based on benchmark data. Results can be used to roughly compare performance and ensure SAP liveCache / LCA routines are working well | Performance monitoring team |

| Monitoring Object | Monitor Transaction/Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| Database Analyzer | You can call the Database Analyzer in several different ways:<br>From the operating system level using command `dbanalyzer`<br>In the Database Manager CLI<br>In the CCMS (for SAP systems) | Weekly / after upgrade or SP | Check to see if performance of SAP liveCache and LCA routines differs greatly from previous runs | The Database Analyzer program is a tool for analyzing the performance of database instances<br>For more information, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 2004s* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Databases* → *SAP liveCache Technology* → *Database Administration in CCMS: SAP liveCache Technology* → *CCMS Monitoring* → *External Analysis Tools* | Performance monitoring team |
| Workload | ST03N Workload Analysis Tool, see below | Weekly / after upgrade or SP | Check to see if performance of SAP liveCache and LCA routines differs greatly from previous runs | | Performance monitoring team |

## Monitoring and Testing LCA and SAP liveCache Transactions

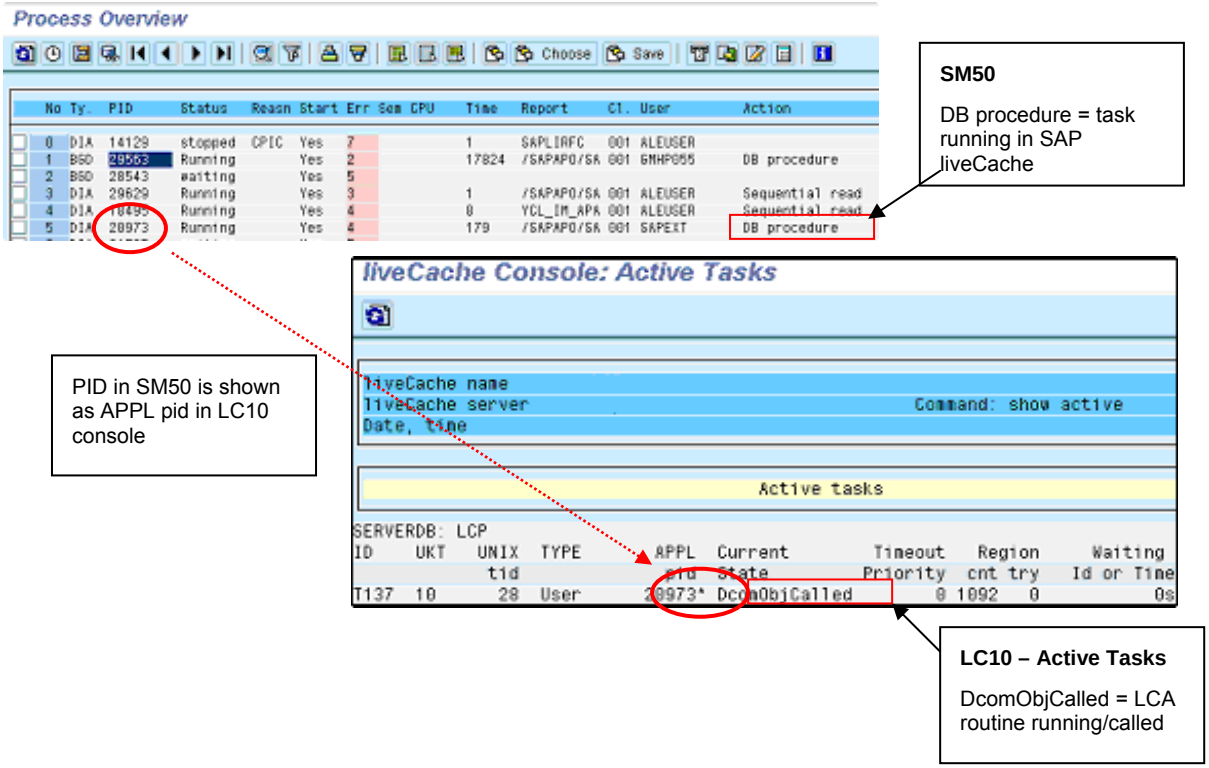
LCA traces grow very large, very quickly. Therefore, never run LCA traces unattended and always ensure that they are switched off immediately afterwards, otherwise disk-full situations might occur in a very short space of time.

Despite this, several transactions can be used (often in combination) to help assess what is occurring in SAP liveCache and the running LCA routines.

To monitor transactions currently running in SCM and SAP liveCache, you may need to use several transactions or tools, as follows:

Transaction SM50 or SM66 (for all application servers): Choose *Process Overview*, look for 'DB `procedure`'; match the PID here to the APPL PID seen in the LC10 *Active or Runnable Tasks* screens to see which SCM work process is connected and working in SAP liveCache.

Transaction LC10: Choose *Console* → *Active Tasks or Runnable Tasks* – shows currently active tasks in SAP liveCache, or runnable tasks that are waiting for either SAP liveCache processing time or a response from SCM/ABAP programs. See SAP Note 454653 for the meaning of each status in these screens.




Other standard basis tools can also be used for monitoring SAP liveCache and LCA routines, as follows:

Transaction SE30: ABAP runtime analysis (Note: this may not distinguish between APO database and SAP liveCache accesses).

Transaction ST05: SQL Trace (may become extremely large – do not leave traces running unattended), see SAP Note 483854.

## Network Monitoring Between SAP liveCache and Application Server

If the SAP SCM system and the SAP liveCache are on physically-separate servers, you should regularly (daily) check the network performance between the two servers using the NIPING tool.

Poor network performance can lead to slow response times. These slow response times may suggest poor SAP liveCache performance, but in fact are due to the network. To check this, read SAP Note 458221 and consider using the NIPING tool in transaction /SAPAPO/OM13, under the *Network* tab.

## Workload Analysis Tool: Transaction ST03N

To help you determine the SAP liveCache elements of total response times with an SAP SCM system, use transaction ST03N.

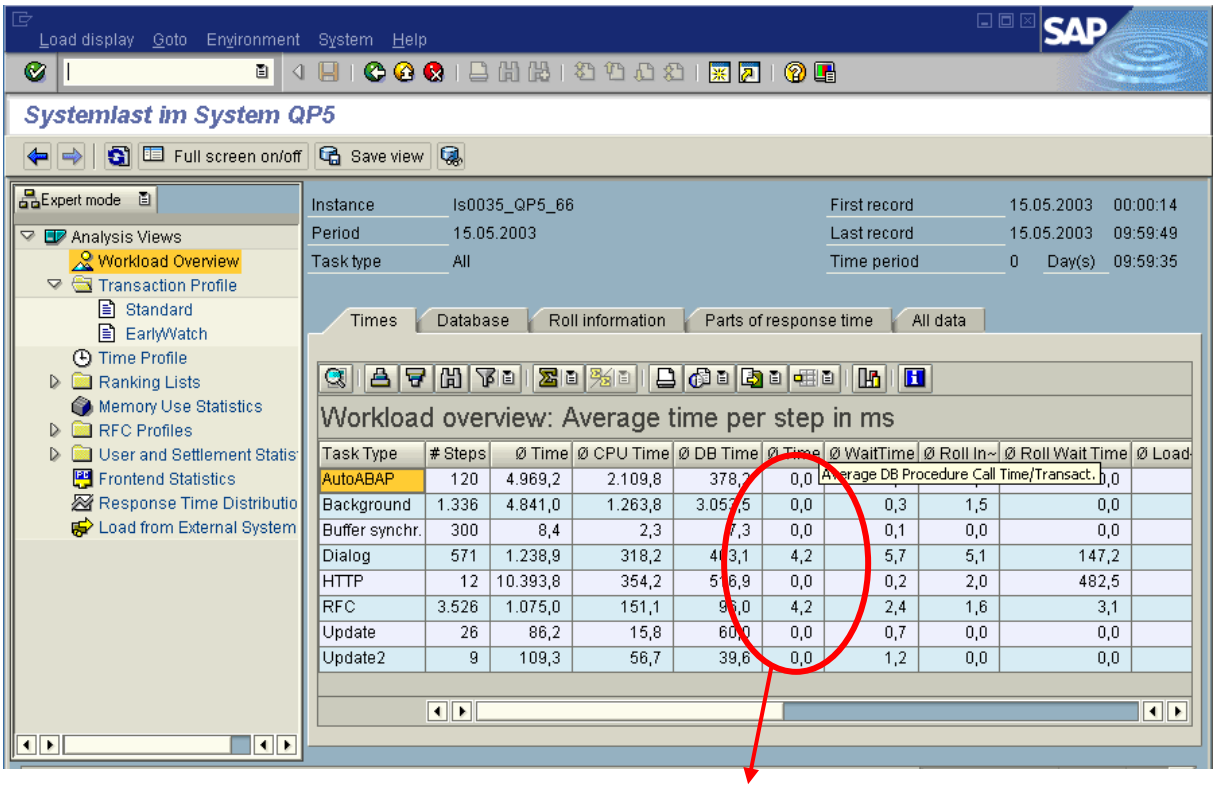
More information about this tool is available with the F1 help function and in the latest versions of the help documentation.

ST03N offers the following three views: *Service Engineer*; *Administrator*; and *Expert*. For history information about response times by days (for comparison purposes), you must be in Expert mode and have all necessary authorizations.

If you view the workload on a server, you can see the response times broken down by type (such as dialog, batch, or RFC), and under the column *DB Proc Time* you can see the SAP liveCache percentage or portion of total response times.

Transaction ST03N is especially useful for analyzing whether you have a bottleneck or SAP liveCache performance issue on your system. It can also be used to see how changes of LCA build and SAP liveCache parameters have affected your system.

Other features are available, such as transaction profiles, but the SAP liveCache processing time is separated out to help you monitor and analyze your system in more detail.




## Trace and Log Files

Trace and log files are essential for analyzing problems.

Every SAP liveCache system message is stored in a log file called *knldiag*. You should check this file within the SCM system using transaction LC10 (call transaction LC10 then choose *liveCache:*

*Monitoring* → *Problem Analysis* → *Messages* → *Kernel*). The *knldiag* file is limited in size (SAP liveCache parameter kerneldiagsize, default 800 KB). Once this size limit has been reached, the messages in that file are overwritten in a round robin. One exception to this are messages relating to starting the database in the operational state ADMIN.

The *knldiag* file is saved to `knldiag.old` during an SAP liveCache restart. For error analysis, it is important to save the *knldiag* files before they are overwritten on subsequent restarts of SAP liveCache. Depending on the installation, you can find the *knldiag* file at operating system level in the directory `/sapdb/data/wrk/<liveCacheName>`.

Another important log file is *knldiag.err*. All SAP liveCache errors are recorded in this file. You can view this file using transaction LC10 (or at operating system level in the same directory as the knldiag file). This file is useful for SAP liveCache error analysis.

After every restart of your SCM System, check the initialization log of SAP liveCache. You can do this in transaction LC10 (call transaction LC10 then choose *liveCache* → *Monitoring* → *Problem Analysis* → *Logs* → *Operating* → *Current*). Again, depending on your installation, you can find the initialization log at operating system level in the directory `/sapdb/<liveCacheName>/db` as file `lcinit.log`.

For serious error analysis, you may need to use a kernel or LCA trace. Only use these traces in coordination with SAP Active Global Support since they can greatly decrease system performance.

To switch on a kernel trace, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 2004s* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Databases* → *MaxDB* → *Basic Information* → *Concepts of the Database System* → *Troubleshooting* → *Traces* → *Database Trace*.

To turn on/off LCA traces, use transaction /SAPAPO/OM02. To view LCA trace files, use transaction /SAPAPO/OM01.

Ensure that your file system has enough disk space available to store all log files. For more information, see the *SAP liveCache Technology Installation Guide* on SAP Service Marketplace at http://service.sap.com/instguides → *SAP NetWeaver* → *SAP NetWeaver 7.0 (2004s)* → *Installation* → *Installation – Standalone Engines* → *Installation SAP liveCache Technology* and SAP Note 429215.

**Important Log and Trace Files**

| Content | File | Path |
|---|---|---|
| • Database start and stop<br>• Specifications about the physical memory areas<br>• User processes<br>• System error messages | `knldiag` | `/sapdb/data/wrk/<liveCacheName>` |
| Same messages as in *knldiag* created before SAP liveCache restart | `knldiag.old` | `/sapdb/data/wrk/<liveCacheName>` |
| All error messages and warnings of the SAP liveCache kernel since the | `knldiag.err` | `/sapdb/data/wrk/<liveCacheName>` |

| Content | File | Path |
|---|---|---|
| installation of the SAP liveCache | | |
| Starting, stopping, and initialization of the SAP liveCache | `lcinit.log` | `/sapdb/data/wrk/<liveCacheName>` |
| All reactions of the database kernel to database statements | `knltrace` | `/sapdb/data/wrk/<liveCacheName>` |

For more information about trace and log files, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → SAP NetWeaver by Key Capability → Databases → MaxDB → Basic Information → Concepts of the Database System → Troubleshooting → Log Files*.

## 3.2.4 SAP SCM Optimizer Analysis Tools

Once SAP SCM optimizers have been correctly installed and configured, they normally require little or no administration and maintenance. This section lists the most important transactions for optimizers with information about what they are used for.

**Important Optimizer Transactions**

| Monitoring Object | Monitor Transaction/Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| User list for optimizers | rcc_session | As required | | Displays a user list for optimizers | Basis Support |
| Versions of optimizers | rcc_version | As required | | Displays optimizer versions | System monitoring team |
| Running optimizer processes | rcc_session | As required | | Display optimizer processes | Basis Support |
| RFC destinations for optimizers | SM59 / rcc_cust | During installation or after config. changes | Test connection status to ensure all is OK | Defining and checking optimizer RFC destinations – can also be used to check if optimizer server is online | System monitoring team and Basis Support |
| Spool file of optimizer run | SM37 | As required | Messages in spool file | Check for application errors after the optimizer run using rcc_log (see section *Trace and Log Files*). | Application Support / Job scheduling team |

| Monitoring Object | Monitor Transaction/Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| Detailed performance information of optimizer runs | /SAPAPO/PERFMON | As required | | Display runtime details | Application Support |

Depending on the business processes you are using, we recommend that you also see the following documents:

- Best Practice Manage Supply Network Planning in SCM / APO
- Best Practice Manage Production Planning in SAP APO (3.x) / mySAP SCM (4.x)
- Best Practice Manage the Transportation Management Solution in SAP APO (3.x) / mySAP SCM (4.x)

## Trace and Log Files

Trace and log files are essential for analyzing problems.

**Important Log and Trace Files**

| Monitoring Object | Monitor Transaction/ Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| Optimizer logs and trace files | Rcc_log<br>To display the trace files, choose *Extras → Display Log File* | Check frequently – daily, weekly | Check for Errors | Display and analyze optimizer logs and trace files.<br>These files are on the server in the directory log of the SAP gateway on which the optimizers are installed (either your own server or application, SAP liveCache or database server):<br>Directory (Windows version): `\usr\sap\<SID>\G<GWNr>\log` or `\usr\sap\<SID>\DVEBMGS<GWNr>\log`<br>`<SID> = SystemID` for example, `APO`<br>`<GWNr> = SystemNr (=GatewayNr)` for example, `00`<br>For more information, see also SAP Note 391808. | Basis Support |
| Changing the detail level of trace files | /SAPAPO/OPT10 | Only in co-ordination with SAP | As directed by SAP Support | As directed by SAP Support | Basis Support |
| Spool file of optimizer run | SM37 | As required | Messages in spool file | Check for application errors after the optimizer run using rcc_log (see above). | Application Support / Job scheduling team |

| Monitoring Object | Monitor Transaction/ Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| Displaying log files (as an alternative to rcc_log | /SAPAPO/PERFMON | Check frequently – daily, weekly | Check for Errors | Display and analyze optimizer logs | Basis Support |

Depending on the business processes you are using, we recommend that you see the following documents:

- Best Practice Manage Supply Network Planning in SCM / APO
- Best Practice Manage Production Planning in SAP APO (3.x) / mySAP SCM (4.x)
- Best Practice Manage the Transportation Management Solution in SAP APO (3.x) / mySAP SCM (4.x)

### Distributed Statistical Records (DSR)

For each optimization run, one DSR, containing technical data (for example runtime and memory consumption), can be written to the file-system. For more information, see note 1088212.

## 3.2.5 SAP Event Management Analysis Tools (Part of SCM Server)

The following monitors are available for analyzing SAP Event Management:

| Monitor | Detailed Description | Menu Path |
|---|---|---|
| /SAPTRX/EH_LIST | The Event Handler List provides details about an Event Handler. The status of events, event and error messages, and status details are all contained within the Event Handler List. | On the SAP Easy Access screen, choose *Event Management* → *Monitoring and Lists* |
| /SAPTRX/EVM_STATUS | The Event Message Processing Status List shows system generated messages and points out whether objects are processed correctly in SAP Event Management. The list reflects only data errors, not business process issues. | On the SAP Easy Access screen, choose *Event Management* → *Monitoring and Lists* |

| Monitor | Detailed Description | Menu Path |
|---|---|---|
| /SAPTRX/EE_MON | The Expected Event Monitor is a report that the system starts as a background process. It checks if expected events that should be reported within a specific period of time have since become overdue. If the monitor discovers an overdue event, SAP Event Management reacts according to the rules that have been defined, for example, by sending an e-mail to react to these overdue events.<br>SAP delivers activities for the expected event monitor, for example, for comparing two fields or activating an event handler set. | On the SAP Easy Access screen, choose *Event Management* → *Administration* → *Processing Control*. |
| /SAPTRX/LOCKED_PROC | This report triggers subsequent processing of event messages that arrive for an event handler at a time when SAP Event Management is locking it. | On the SAP Easy Access screen, choose *Event Management* → *Administration* → *Processing Control*. |
| /SAPTRX/LOCKED_PSET | The report assigns an event handler once again to an event handler set that SAP Event Management is locking | On the *SAP Easy Access* screen, choose *Event Management* → *Administration* → *Processing Control*. |
| /SAPTRX/EMJOBS | This report resends application object data for event handlers<br>When you try to update event handler data by sending application objects to SAP Event Management, it may be the case that the event handler is locked by other processing (for example, momentary processing of an event message).<br>To ensure that the system updates the event handler with the data sent once the lock is released, it temporarily stores the data in a database table (buffer).<br>This background job checks at regular intervals if data is contained in the database table and then tries to process it. It updates the event handler that was previously locked with this data, if necessary | On the SAP Easy Access screen, choose *Event Management* → *Administration* → *Processing Control*. |

## Trace and Log Files

Trace files and log files are essential for analyzing problems.

An application log is available for both the application system and SAP Event Management.

The application log documents messages, exceptions, and errors on both the application side and the SAP Event Management side. This provides information about communication operations and problems that occurred while event handlers were being created, event messages were being processed, or information was being queried. The logging category is *SAPTRX*.

You can analyze the logs or the corresponding messages according to different thematic areas and gain more detailed information about the messages.

The application log in the application system provides you with an overview of all the activities relevant to an application object as well as the appropriate event messages. You can reduce the memory space for the application log by deactivating it for each business object.

The SAP Event Management application log provides you with an overview of all activities for an event handler and for its corresponding event messages that have occurred during event handler processing.

If you have the appropriate authorizations, you can define the following when creating an event handler:

- The objects that are logged, such as:
  - Event handler creation
  - Event message processing
  - Updating data from an external source
- The level of detail the system should use when logging (from only high-level processes to logging the details of each process).

You can call the application log from both the event handler overview and the event handler detail overview.

For the application log in the SAP system, call transaction /SAPTRX/ASAPLOG.

For the SAP Event Management application log, on the SAP Easy Access screen, choose *Event Management → Administration → Logging → Application Log: Display Logs* (SLG1).

**Log Objects and Subobjects to Be Used for SAP Event Management in SLG1**

| Log Object | Log Subobject | (Sub) Object Text |
|---|---|---|
| SAPTRX | | |
| | APPSYS | Application System |
| | CONSCHECK | Customizing Consistency Check |
| | EVTMSG | Event Message Processing |
| | SUBSCRIPT | Logs for EPCIS Subscriptions in an SAP object event repository |
| | TRKOBJ | Event Handler creation/update/deletion |

If you want to deactivate the application log in the application system, in Customizing for the SAP Basis Plug-In, choose *Integration with Other SAP Components → Event Management Interface → Define Application Interface → Define Used Business Process Types, Application Object Types, and Event Types.*

For general information about application logs, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English →*

*SAP NetWeaver Library → SAP NetWeaver by Key Capabilities → Solution Life Cycle Management by Key Capability → Application Log – (BC-SRV-BAL).*

For the SAP Event Management Web communication layer (SAP EM-WCL) you configure the logging and tracing mechanisms using one of the following:

- You configure the logging and tracing mechanisms in the Visual Administrator of the J2EE Engine. For more information about logging, see SAP Library for SAP NetWeaver on SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → SAP NetWeaver by Key Capability → Application Platform by Key Capability → Java Technology → Administration Manual → Supportability and Performance Management → Logging*.
  For more information about Visual Administrator see SAP Library for SAP NetWeaver on SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → SAP NetWeaver by Key Capability → Application Platform by Key Capability → Java Technology → Administration Manual → J2EE Engine → J2EE Engine Administration Tools → Visual Administrator.*
- In case you want to use a file log, you configure the *Logging Manager* in the SAP EM – WCL administration to log at four different levels of granularity – *Debug*, *Info*, *Warning* and *Error*, with *Debug* being the most detail, and *Error* being the least detail. For customers collecting a lot of detail in the Logging Manager, this should be monitored for archiving purposes. For more information, see SAP Service Marketplace at http://service.sap.com/instguides → *SAP Business Suite Applications → SAP SCM → SAP EM → Using SAP EM 7.0 → SAP Event Management WCL 7.0: Installation Guide*.

  We recommend you use the logging and tracing mechanisms of the Visual Administrator of the J2EE Engine. Even if you choose *Error* as level of granularity in the Logging Manager the log file continues to grow and needs to be monitored.

**Logging Categories and Tracing Locations for SAP EM-WCL**

| Logging Category | Default Severity |
|---|---|
| /Application/SCEM | INFO |

| Tracing Locations | Default Severity |
|---|---|
| `com.sap.scem.custom` | ERROR |
| `com.sap.scem.documentFlow` | ERROR |
| `com.sap.scem.entity.eventHandler` | ERROR |
| `com.sap.scem.entity.user` | ERROR |
| `com.sap.scem.entity.userProfile` | ERROR |
| `com.sap.scem.example` | ERROR |
| `com.sap.scem.html` | ERROR |
| `com.sap.scem.Jnet` | ERROR |
| `com.sap.scem.Jnet.xsd` | ERROR |
| `com.sap.scem.Jnet.xsd.types` | ERROR |
| `com.sap.scem.Jnet.xsd.xml` | ERROR |
| `com.sap.scem.manager` | ERROR |
| `com.sap.scem.parameter` | ERROR |
| `com.sap.scem.servlet` | ERROR |

| Tracing Locations | Default Severity |
|---|---|
| com.sap.scem.servlet.upload | ERROR |
| com.sap.scem.session | ERROR |
| com.sap.scem.tld | ERROR |
| com.sap.scem.util | ERROR |
| com.sap.scem.xml | ERROR |

These logging categories and tracing locations are available in the J2EE Engine, and they are valid for the runtime configuration of the tracing and logging framework of SAP for Java in general, also including the *Logging Manager*.
To view Logs and Trace content separately in NetWeaver Administrator (NWA), you have to configure NWA and add a new destination for the logging category as follows:
Open NWA and choose *Monitoring → Logs & Traces → Log Configuration*. Select the provided logging category (/Application/SCEM). Click on the *Add Destination* button and select the location of the log file to be used for recording log contents. If you do not add a new destination, the system writes the log contents in the default trace file (DefaultTrace.trc) as well. For more information about the NWA, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → SAP NetWeaver by Key Capability → Solution Life Cycle Management by Key Capability → System Landscape Administration with SAP NetWeaver Administrator*.
Sections on SAP EM-WCL are only relevant if you want to make use of the Java-based, classic Web user interface for SAP Event Management.

## Interfaces

Interface monitors are essential for analyzing problems with interfaces such as RFC, IDoc, and HTTP.

SAP Event Management uses the standard tools available in the SAP Web Application Server 7.00, and does not require an application-specific tool. For more information, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → SAP NetWeaver Library → Administrator's Guide.*

## Data Archiving Monitors

For the latest documentation about archiving and deleting objects in SAP Event Management, see SAP Help Portal at http://help.sap.com → *SAP Business Suite → SAP Supply Chain Management → SAP SCM 7.0 [open] → Application Help EN → SAP Supply Chain Management (SAP SCM) → SAP Event Management → Administration → Archiving and Deleting.*

When you no longer need event handlers, event messages, or event handler sets, you can either archive and then delete them, or you can delete them without previously archiving them. When you delete event handlers, event messages, or event handler sets, SAP Event Management also deletes any existing change documents.

For a description of archiving in SAP Event Management and the individual archiving objects, see SAP Help Portal at http://help.sap.com → *SAP Business Suite → SAP Supply Chain Management → SAP SCM 7.0 [open] → Application Help EN → SAP Supply Chain Management (SAP SCM) → SAP Event Management → Administration → Archiving and Deleting → Data Archiving → Archiving in SAP Event Management*.

## Fastest Growing Tables for EM

The fastest growing tables depend on the number of parameters, rules, and expected events one has.

For event handlers, pay special attention to all tables beginning with prefix /SAPTRX/EH_*, for example:

- /SAPTRX/EH_INFO
- /SAPTRX/EH_EXPEV
- /SAPTRX/EH_EVMSG

If you use customer-specific extension tables, pay special attention to these tables.

For event messages it also depends on how the customer uses SAP Event Management.

If you are using file attachments, pay special attention to all tables beginning with prefix /SAPTRX/EVM_*, for example:

- /SAPTRX/EVM_AFB
- /SAPTRX/EVM_AFC

On the application system side, pay special attention to the table /SAPTRX/AOTREF.

## 3.2.6 SAP SNC Analysis Tools (Part of SCM Server)

SAP SNC is technically based on SAP enhancement package 1 for SAP NetWeaver 7.0. For information about technical problem analysis (that is, for database, operating system, workload analysis, and so on), see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver.*

This section covers only differences and additional information specific to SAP SNC, as follows:

| Monitor (Transaction, Tool) | Start/Path | Description | Error Condition |
|---|---|---|---|
| IDoc Monitor in SAP ERP | Transaction WE05 | The monitor allows you to trace errors relating to IDocs. You can find a list of relevant IDocs in the configuration documentation for SAP SNC. You can find the configuration documentation in the business process repository of the SAP Solution Manager under *Solutions/Applications* → *SAP SCM* → *Basic Settings for SAP SCM* → *Basic Settings for SAP SNC*. | Use the IDoc monitor if any problems arise during the message exchange between SAP ERP and SAP NetWeaver (Exchange Infrastructure). |
| Message control in SAP ERP | Transaction NACE in SAP ERP | | If you find that IDocs have not been correctly generated or forwarded and therefore outbound communication fails, use transaction NACE to check IDoc output condition records. |

| Monitor (Transaction, Tool) | Start/Path | Description | Error Condition |
|---|---|---|---|
| XML monitor in SAP NetWeaver and SAP SNC | Transaction SXMB_MONI | The monitor allows you to trace errors relating to XML messages. | Use the XML monitor if any problems arise during the message exchange between SAP SNC and SAP NetWeaver (Exchange Infrastructure). |
| Alert Monitor | Web user interface for SAP SNC: *Exceptions* → *Alert Monitor*<br>*Messaging Alerts* tab, or *DIC (Data Inbound Controller) Alerts* tab | If a new or critical situation has arisen or will arise in the future, SAP SNC generates an alert and displays the alert in the Alert Monitor. The alert indicates that you have to intervene manually to remove the cause of the alert. In the Alert Monitor, detailed alert data and context information support you when analyzing and removing the cause of the alert. | Use the Alert Monitor to analyze critical situations regarding inbound message processing and planning in SAP SNC.<br>You can restrict the use of alerts for inbound message processing to a testing phase. You can also map logs from external applications to alerts. For more information, see Customizing for *SAP Supply Network Collaboration* under *Basic Settings* → *Processing Inbound and Outbound Messages* → *Display of External Exceptions and Logs* and *Restrict Alerts*. |
| Audit trail and history comparison - time series data | Accessed through the SAP SNC Web UI when displaying corresponding application screens. (Choose *Audit Trail* for date range, *History Comparison* for a comparison of two specific dates.) | An audit trail is available to view changes to time series data. This consists of three screens – time series, orders, and inventory. There is an additional screen for a history comparison of inventory or key figures. Forecasts are displayed for key figures. | You can see what has changed for a key figure, and who changed it. |

| Monitor (Transaction, Tool) | Start/Path | Description | Error Condition |
|---|---|---|---|
| Audit trail function and history comparison for orders | Accessed through the SAP SNC Web UI, when displaying Order Data Management (choose *Audit Trail* or *History Comparison*) | An audit trail is available to view changes to orders. The audit trail enables the Order Data Management (ODM) system to track the history of order changes on any given date. In the audit trail function, it is possible to keep track of past statuses of order document data in an additional set of tables. | You can see what has changed for an order, and who changed it. |
| Audit trail and history comparison for inventory | Accessed through the SAP SNC Web UI, for example, on the SNI monitor screen. | An audit trail is available to view changes to time series inventory data. | You can see what has changed for an inventory, and who changed it. |
| Quick view | To access the quick view, on the SAP SNC Web UI, choose Exceptions → Quick View. | A quick view is a screen on the SAP Supply Network Collaboration (SAP SNC) Web UI that you can use as your entry screen to the SAP SNC Web applications. The quick view displays application-specific key figures that display tasks you need to complete for various order documents, for example purchase orders (POs) that need to be confirmed. | The main target group is business users, who use this Web screen to monitor their key figures, tasks, and documents. |

For more information about SAP SNC tools such as audit trail and history comparison, see the SAP SNC documentation on SAP Help Portal at http://help.sap.com → *SAP Business Suite* → *SAP Supply Chain Management* → *SAP SCM 7.0 [open]* → *Application Help EN* → *SAP Supply Chain Management (SAP SCM)* → *SAP Supply Network Collaboration* → *Cross-Application Functions.*

### Monitoring the Exchange Infrastructure

In addition, SAP SNC uses the *Exchange Infrastructure (XI)*. For more information about the monitoring of the Exchange Infrastructure, see the *Technical Operations Manual for SAP NetWeaver* at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *PI (Process Integration).*

### Monitoring the Internet Graphics Service

You have two options for monitoring and managing the SAP Internet Graphics Service (IGS), as follows:

- Using the Web interface
  `http://(hostname):(port)`
  `hostname` = The name of the machine where the IGS is installed, for example, P12345.
  `port` = The port of the http listener. You can find this in the IGS configuration file.
- Using CCMS (see section 3.1.2.9)
  For more information, see SAP Note 458731 and SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → English → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Application Platform by Key Capability* → *ABAP Technology* → UI Technology → SAP Graphics (BC-FES-GRA) → Internet Graphics Service → Administering the IGS.

## Trace and Log Files

Trace and log files are essential for analyzing problems.

For more information about Traces, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *AS ABAP (Application Server for ABAP)* → *Monitoring* → *Tools* → *Trace Functions*.

The following SAP SNC services are constantly writing to the application log:

- Forecasting
- Replenishment Planning
- Transport Load Builder
- Planning Service Manager
- Alert Notification Engine

In addition, inbound message processing writes error messages to the application log.

The application log can be accessed using transaction SLG1, or under the following menu path: *Supply Network Collaboration* → *Tools* → *Application Logs* → *Display Application Logs.* You can customize application logging for SAP SNC. For more information, see Customizing for Supply Network Collaboration under *Basic Settings* → *Processing Inbound and Outbound Messages* → *Restrict Log.*

**Log Objects and Subobjects to Be Used for SAP SNC in SLG1**

| Log Object | Log Subobject | Object/Subobject Text |
|---|---|---|
| SNC_BIF | | SNC Services |
| | DELSCHDC_O | DeliveryScheduleConfirmation - Outbound |
| | DELSCHED_I | DeliveryScheduleNotification - Inbound |
| | DESDLVRY_I | DespatchedDeliveryNotification - Inbound |
| | DESDLVRY_O | DespatchedDeliveryNotification - Outbound |
| | DLVRY_I | DeliveryInformation - Inbound |
| | DMDINF_I | ProductDemandInfluencingEventNotification - Inbound |

| Log Object | Log Subobject | Object/Subobject Text |
|---|---|---|
| | DMDINF_O | ProductDemandInfluencingEventNotification - Outbound |
| | EXCPLIST_I | SupplyChainExceptionReportNotification - Inbound |
| | EXCPLIST_O | SupplyChainExceptionReportNotification - Outbound |
| | FCSTREV_I | ProductForecastRevisionNotification - Inbound |
| | FCSTREV_O | ProductForecastRevisionNotification - Outbound |
| | FCST_I | ProductForecastNotification - Inbound |
| | FCST_O | ProductForecastNotification - Outbound |
| | INVOICEC_I | InvoiceConfirmation - Inbound |
| | INVOICER_I | InvoiceRequest - Inbound |
| | INVOICER_O | InvoiceRequest - Outbound |
| | ORDIDASG_I | OrderIDAssignmentNotification - Inbound |
| | PAYMADV_I | PaymentAdviceNotification - Inbound |
| | PROACT_I | ProductActivityNotification - Inbound |
| | PROACT_O | ProductActivityNotification - Outbound |
| | RECDLVRY_I | ReceivedDeliveryNotification - Inbound |
| | REPLORDC_I | ReplenishmentOrderConfirmation - Inbound |
| | REPLORDC_O | ReplenishmentOrderConfirmation - Outbound |
| | REPLORD_I | ReplenishmentOrderNotification - Inbound |
| | REPLORD_O | ReplenishmentOrderNotification - Outbound |
| | RETINS_I | ReturnDeliveryInstructionNotification - Inbound |
| | VENDORDC_I | VendorGeneratedOrderConfirmation - Inbound |
| | VENDORD_O | VendorGeneratedOrderNotification - Outbound |
| | WORKINPR_I | ManufacturingWorkOrderWorkInProcessNotification - Inbound |
| | WORKORDC_I | ManufacturingWorkOrderConfirmation - Inbound |
| | WORKORDI_O | ManufacturingWorkOrderInformation - Outbound |
| | WORKORDP_O | ManufacturingWorkOrderProductionProgressNotif. - Outbound |
| | WORKORD_O | ManufacturingWorkOrderRequest - Outbound |

In addition, you can use the /SAPAPO/PE log object for Planning Service Manager logs. The following subobjects are relevant for SAP SNC:

| Log Object | Log Subobject | Object/Subobject Text |
|---|---|---|
| SNC_BIF | | |
| | CDICHK | CDI Check Service |
| | DRPVMI | VMI Replenishment Service |
| | FCSTVMI | Forecast VMI Service |
| | FCST_ENGINE | Forecast Engine |

| Log Object | Log Subobject | Object/Subobject Text |
|---|---|---|
| | OFVMI | Forecast VMI Service |
| | TLBVMI | TLB VMI Service |

In addition to the application log, you can use the audit trail and history comparison function of SAP SNC. For more information, see the section about SAP SNC analysis tools above.

Tracing and logging functions are also available for WebDynpro for ABAP, the Web UI technology for SAP SNC. For more information, see the *Technical Operations Manual for SAP NetWeaver* under *Administration of SAP NetWeaver Systems → AS ABAP (Application Server for ABAP) → Administration → Web Dynpro ABAP Administration*.

## Workload Monitors

SAP SNC uses the the standard SAP NetWeaver workload monitor. For more information, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 → System Administration → Administration of SAP NetWeaver Systems → AS ABAP (Application Server ABAP) → Monitoring → Tools → Workload Monitor.*

## Interface Monitors

Interface monitors are essential for analyzing problems with interfaces such as RFC, IDoc, and HTTP. SAP SNC uses the IDoc and XML monitors from SAP NetWeaver. For more information, see the section regarding SAP SNC analysis tools above.

## Data Growth and Data Archiving Monitors

To reduce data growth, you can archive supplier confirmations, work orders, and data from the Logistics Inventory Management Engine. You can use the following archiving objects:

- ICH_SCON for supplier confirmations
- ICH_WO for work orders
- LIME_NLOG for new LIME log
- ICH_FTRD for download profiles for file transfer
- ICH_FTRU for upload profiles for file transfer

SAP SNC uses the standard tools for archiving and monitoring data archiving available in SAP NetWeaver, and does not require an application-specific tool. For more information, see the following sources:

- http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → SAP NetWeaver by Key Capability → Solution Life Cycle Management by Key Capability → Data Archiving (CA-ARC)*
- http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → SAP NetWeaver by Key Capability → Solution Life Cycle Management by Key Capability → Solution Monitoring → Monitoring in the CCMS → Data Archiving Monitor*

For more information about archiving in SAP SNC, see SAP Help Portal at http://help.sap.com → *SAP Business Suite → SAP Supply Chain Management → SAP SCM 7.0 [open] → Application Help EN → SAP Supply Chain Management (SAP SCM) → SAP Supply Network Collaboration (SAP SNC) → Archiving in SAP Supply Network Collaboration.*

For periodic tasks required to contain data growth (that is, to reorganize temporary data), see the periodic tasks section in this guide.

## 3.2.7 SAP Extended Warehouse Management Analysis Tools (Part of SCM Server)

SAP EWM is technically based on SAP Web AS 7.01. For information about technical problem analysis (such as for database, operating system, or workload analysis) see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide*. This section covers the differences and additional information specific to SAP EWM.

In addition, SAP EWM uses the Exchange Infrastructure (XI). For more information about the monitoring of the Exchange Infrastructure, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *SAP NetWeaver Technical Operations Manual* → *Administration of SAP NetWeaver Systems* → *PI (Process Integration).*

### Trace and Log Files

Trace files and log files are essential for analyzing problems. The standard NetWeaver tools such as transactions ST22 and SM21 can be used to monitor trace and log files. For more information, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *AS ABAP (Application Server for ABAP)* → *Monitoring*.

Additionally, EWM uses the application log (part of SAP NetWeaver) to store application error, warning, and success messages issued in critical processes (for example the delivery interface between ERP and EWM) or in UI transactions. For UI transactions, the application log has to be saved explicitly by the user.

For general information about application logs, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Solution Life Cycle Management by Key Capability* → *Application Log – (BC-SRV-BAL)*.

You can monitor the application logs with transaction **SLG1**.

**Important EWM Log Objects**

| Log Object | Detailed Description | Prerequisites |
|---|---|---|
| /SCWM/DLV_ERP | Delivery Processing: Stores error messages issued during the qRFC communication of deliveries between ERP and EWM with an expiry time of 7 days. | |

| Log Object | Detailed Description | Prerequisites |
|---|---|---|
| /SCWM/ACC | Log for import of accounting objects from ERP | Log has to be saved explicitly in transaction /SCWM/ACC_IMP_ERP (*SAP Easy Access: Extended Warehouse Management → Interfaces → Administration of Account Assignment Data*) |
| /SCMB/PATTERN_UI | Log for UI messages | Log has to be saved explicitly in the EWM UI transactions. |
| /SCWM/WME | Warehouse Logistics Processing: Log for EWM operations | Log has to be activated with transaction /SCWM/ACTLOG (*SAP Easy Access: Extended Warehouse Management → Settings → Activate Application Log*) |
| /SCWM/SHP_RCV | Site Logistic Processing: Log for shipping and receiving transactions | |
| /SCWM/EPD | Labor Management: Log for the sending of performance documents to HR | Log has to be saved explicitly by the user in transaction /SCWM/EPD_TRANSFER (*SAP Easy Access Extended Warehouse Management → Labor Management → Employee Performance → Send Performance Document to HR*) |
| /SCMB/MD | Master Data: Log for the deletion of supply chain units | |
| /SCWM/PACKSPEC | Master Data: Log for packaging specifications | The log for the determination analysis has to be activated in transaction /SCWM/PSLOG. The log for the upload of packaging specifications has to be saved explicitly by the user in transaction /SCWM/IPU (*SAP Easy Access SCM Basis → Master Data → Packaging Specification → Initial Data Transfer of Packaging Specifications*) |
| /SEHS/ALE | EH&S Master Data: Log for import of master data (dangerous goods, hazardous substances and phrases) | |
| /SCTM/TM | Transportation Management | |
| PPF | Post Processing Framework | |

For descriptions of the recommended tasks to contain data growth, see the periodic task section in this Guide.

## Database Monitors

SAP Extended Warehouse Management uses the standard tools for this function available in the SAP Web Application Server 7.01 and does not require a component-specific tool – see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal under *SAP NetWeaver*.

## Operating System Monitors

SAP Extended Warehouse Management uses the standard tools for this function available in the SAP Web Application Server 7.01 and does not require a component-specific tool – see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal under *SAP NetWeaver*.

For more information about the Operating System Collector (OS Collector), see SAP Help Portal at http://help.sap.com under *BC Computing Center Management System*.

## Workload Monitors

SAP Extended Warehouse Management uses the standard tools for this function available in the SAP Web Application Server 7.01 and does not require a component-specific tool – see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal under *SAP NetWeaver*.

## Interface Monitors

Interface monitors are essential for analyzing problems with interfaces such as RFC, IDoc, and HTTP.

SAP Extended Warehouse Management uses the standard tools for this function available in the SAP Web Application Server 7.00, and does not require an application-specific tool; See the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal under *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → Administrator's Guide.*

For more information about messages and the corresponding monitor transactions, see External Messages in the appendix.

## Data Growth and Data-Archiving Monitors

SAP Extended Warehouse Management uses the standard tools for this function available in the SAP Web Application Server 7.00 and does not require a component-specific tool – see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal under *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → Administrator's Guide*.

You can archive the following data in SAP EWM:

| Application component | Document Category | Archiving Object |
|---|---|---|
| Delivery Processing | Internal Warehouse Requests (Inbound Delivery) | DLV_INB |
| | Internal Warehouse Requests (Outbound Delivery) | DLV_OUT |
| | Warehouse Requests from External Systems | DLV_REQ |
| Warehouse Logistic Processing | Warehouse Tasks and Goods Movement Documents | WME_TO |
| | Warehouse Orders | WME_WO |
| | Waves | WME_WAVE |
| | Telegram Flows | WME_MFS |

| | | |
|---|---|---|
| | Relevant Resource Data | WME_RSRC |
| | Value-Added Service Orders (VAS Orders) | WME_VAS |
| | QIE Inspection Documents | QIE_INSP |
| | Physical Inventory Documents | LIME_PI |
| | LIME Log Entries (goods movements and confirmed warehouse tasks). Periodicity analogous to WME_TO | LIME_NLOG |
| Site Logistic Processing | Door Activities | WME_DOOR |
| | Vehicle Activities | WME_VEH |
| | Transport Unit Activities | WME_TU |
| Labor Management | Indirect Labor Tasks | WME_ILT |
| | Executed Workloads | WME_EWL |
| | Employee Performance Documents | WME_EPD |
| | Business Partners (Processors) – only if created originally in EWM | CA_BUPA |
| Freight Order Processing | Shipments | TM_SHP |
| | Freight Documents | TM_FRD |

Archiving of replicated master data (for example products, locations, supply chain units, business partners, batch data) is not necessary in EWM. The deletion of the master data is triggered by the application (for example, ERP, CRM), in which the master data was created originally.

For periodic tasks required to contain data growth (that is, to reorganize temporary data), see the periodic tasks section in this Guide.

## 3.2.8 SAP Forecasting and Replenishment Analysis Tools (Part of SCM Server)

SAP Forecasting and Replenishment (SAP F&R) provides mainly batch-operated processes and offers exception monitoring for all background processes. Business exceptions as well as technical exceptions from SAP F&R (including the Forecasting & Replenishment Processor (FRP)) that occur during the process are logged. These exceptions can be reviewed within an exception workbench (transaction /FRE/EXC):

| Monitor | Detailed Description | Prerequisites |
|---|---|---|
| /FRE/EXC | Exception Workbench | See SAP Library |

For more information about exception monitoring in SAP F&R, see SAP Help Portal at http://help.sap.com → *SAP Business Suite* → *SAP Supply Chain Management* → *SAP SCM 7.0 [open]* → *Application Help EN* → *SAP Supply Chain Management (SAP SCM)* → *SAP Forecasting and Replenishment (SAP F&R)* → *Exception Management*.

In addition to the above, there is an option to use the CCMS Monitor integration. At the moment, it is possible to display alerts for the dispatcher process and the run of FRP-Dispatcher for the planning of locations.

For the monitoring object *Locations*, the system creates alerts in case the processing of a single location is aborted (yellow alert) or the complete dispatcher processing is aborted (red alert).

For the monitoring of the *Dispatcher Processes*, in each case the current state of every process is reported. Possible alerts for these objects are *Started* (green) *Stopped* (grey), or *Aborted* (red).

Use transaction RZ20 and choose *SAP F&R Node* → *F&R Status Messages*.

SAP F&R Replenishment Workbench for Stores (RWBS) requires no dedicated monitoring transactions as it is a front-end component.

You can monitor the FRP run with following reports:

- /FRE/UI_FRP_SHOW_SEQSTATUS if you run FRP using the /FRE/FRP_MID_BASIC report
- /FRE/UI_FRP_SHOW_LOC_STATUS if you run FRP using the dispatcher

You can monitor the FRP run using the F&R performance monitor (transaction /FRE/PERFMON).

### Trace and Log Files

Trace and log files are essential for analyzing problems.

In SAP F&R, all business exceptions as well as technical exceptions that occur during the process are logged and can be reviewed within an exception workbench (transaction /FRE/EXC, see above). No specific configuration settings are required to switch on logging except the dispatcher processes. The dispatcher trace level allows you to define the level of detail of the exceptions issued by the dispatcher:

#### Tracing of the Dispatcher Process

The dispatcher can be traced in three levels, as follows:

- A grey LED-icon indicates that tracing is de-activated.
- A yellow LED-icon indicates that serious errors are traced.
- A green LED-icon indicates that standard tracing is switched on.
- A system-settings-icon indicates that detailed tracing is switched on.

#### Tracing of the Controller Process

- A grey LED-icon indicates that tracing is de-activated.
- A green LED-icon indicates that standard tracing is switched on.

#### Tracing of the Event Handler Process

- A grey LED-icon indicates that tracing is de-activated.
- A green LED-icon indicates that standard tracing is switched on.

SAP F&R Replenishment Workbench for Stores (RWBS) has no dedicated trace and log files. Information about generic trace and log files of the J2EE engine can be found in the *Technical Operations Manual for the J2EE Engine* that is part of the *Technical Operations Manual for SAP NetWeaver*.

## 3.2.9 SAP Service Parts Management

When you deploy the Service Parts Management scenario, you can check the application logs using the following transactions:

| Monitor | Detailed Description | Prerequisites |
|---|---|---|
| /SAPAPO/PE_LOG_DISP | Log display | |
| SLG1 | Application log display | |

### Trace and Log Files

Trace and log files are essential for analyzing problems.

For more information about Traces, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *AS ABAP (Application Server for ABAP)* → *Monitoring* → *Tools* → *Trace Functions*.

For general information about application logs, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Solution Life Cycle Management by Key Capability* → *Application Log – (BC-SRV-BAL)*.

The application log can be accessed using the above mentioned transactions.

**Log Objects and Subobjects to Be Used for SPP in /SAPAPO/PE_LOG_DISP (or SLG1)**

| Log Object | Log Subobject | Object/Subobject Text |
|---|---|---|
| /SAPAPO/PE | | Planning Service Manager |
| | PE_RUNTIME | Planning Service Manager *) |
| | <SPP-related subobjects> | Subobjects with name or text starting with/containing SPP |
| SCM_SPL_REP | | Supply Chain Management: Service Parts Logistics Reporting |
| | SCR_BASIS | Supply Chain Analytical Tools |
| | SCR_BO_EQ | Error Queue for Business Objects |
| | SRVF | Service Fill |
| | SRVLOSS | UI for Service Loss Analysis |

*) PE_RUNTIME is used for logging the most important errors during the execution of a Planning Service Manager (PSM) run.

## 3.2.10 Scenario-Specific Problem Analysis Tools

### 3.2.10.1 Project Manufacturing

The scenario for project manufacturing is limited to enabling the transfer of SAP ERP networks and planned maintenance orders and does not provide any specific transactions or functions except the display order feature within transaction /SAPAPO/RRP2. The monitoring and analysis for the scenario is therefore covered by the standard monitoring and analytical features for SAP APO and SAP liveCache technology as described above.

### Interfaces

Interface monitors are essential for analyzing problems with interfaces such as RFC, IDoc, and HTTP.

Project manufacturing uses the standard CIF for data transfer between SAP ERP and SAP APO. Refer to the analysis tools for CIF as described in section 3.2.1.

### Data Archiving Monitors

Data archiving is not relevant for project manufacturing, as neither the project order nor the plant maintenance order is archived in SAP APO. These orders always have their original counterpart created and maintained in SAP ERP. As soon as the corresponding network or PM order reaches a certain status in SAP ERP, the order in SAP APO is physically deleted.

For periodic tasks required to contain data growth (for example, reorganization of temporary data), refer to the periodic tasks section in this guide.

## 3.2.10.2 Forecasting & Replenishment (F&R)

### Interfaces

Interface monitors are essential for analyzing problems with interfaces such as RFC, IDoc, and HTTP, as follows:

| Monitor | Detailed Description | Prerequisites |
|---|---|---|
| /FRE/CON | The interface workbench in SCM allows you to check records that were processed with errors. For more information, see SAP Help Portal at http://help.sap.com → *SAP Business Suite* → *SAP Supply Chain Management* → *SAP SCM 7.0 [open]* → *Application Help EN* → *SAP Forecasting and Replenishment* → *Interfaces* → *Interface Processing* → *Interface Workbench* | None |

To monitor the connection between the SCM system and SAP NetWeaver BI, see the configuration guide for Forecasting and Replenishment on SAP Service Marketplace at http://service.sap.com/ibc → *Industry Solutions* → *SAP for Retail* → *Multilevel Replenishment / Forecasting & Replenishment.*

### Data Archiving Monitors

No archiving monitors are applicable because SAP Forecasting and Replenishment only deletes records.

For periodic tasks required to contain data growth (for example, reorganization of temporary data), refer to the periodic tasks section in this guide.

## 3.2.10.3 Make to Order for OEM

There are no specific analysis tools for Make to Order for OEM. You can use the analysis tools of SAP APO, SAP liveCache technology, and SAP SCM optimizer as described above.

### Data Archiving Monitors

Data archiving is not necessary for Make to Order for OEM.

For periodic tasks required to contain data growth (for example, reorganization of temporary data), refer to the periodic tasks section in this guide.

## 3.2.10.4 Multiple Output Planning

There are no specific analysis tools for Multiple Output Planning. You can use the analysis tools of SAP APO (especially PP/DS and CIF) and SAP liveCache technology as described above.

### Data Archiving Monitors

Data archiving is not necessary for Multiple Output Planning.

For periodic tasks required to contain data growth (for example, reorganization of temporary data), refer to the periodic tasks section in this guide.

## 3.2.10.5 Maintenance and Service Planning

There are no specific analysis tools for Maintenance and Service Planning. You can use the analysis tools of SAP APO and SAP liveCache technology as described above.

### Data Archiving Monitors

Data archiving is not necessary for Maintenance and Service Planning.

For periodic tasks required to contain data growth (for example, reorganization of temporary data), refer to the periodic tasks section in this guide.

## 3.2.10.6 Component Maintenance Based on Customer Request

Part of the ERP ECC solution. For more information, see the ERP ECC Solution Operation Guide.

## 3.2.10.7 Component Maintenance Based on MRP

Part of the ERP ECC solution. For more information, see the ERP ECC Solution Operation Guide.

## 3.2.10.8 Component Maintenance Based on Direct Requirement

Part of the ERP ECC solution. For more information, see the ERP ECC Solution Operation Guide.

## 3.2.10.9 Dealer Sales and Service (Vehicle Service)

There are no specific analysis tools for Dealer Sales and Service. You can use the analysis tools of SAP APO and SAP liveCache technology as described above.

### Data Archiving Monitors

Data archiving is not necessary for Dealer Sales and Service.

For periodic tasks required to contain data growth (for example, reorganization of temporary data), refer to the periodic tasks section in this guide.

## 3.2.10.10 Engineer-to-Order - Project Manufacturing

There are no specific analysis tools for Engineer-to-Order - Project Manufacturing. You can use the analysis tools of SAP APO and SAP liveCache technology as described above.

## 3.2.10.11 Make-to-Order Manufacturing

There are no specific analysis tools for Make-to-Order Manufacturing. You can use the analysis tools of SAP APO and SAP liveCache technology as described above.

## 3.2.10.12 Service Parts Planning

There are no specific analysis tools for Service Parts Planning. You can use the analysis tools of SAP APO, SAP SNC and SAP liveCache technology as described above.

### 3.2.10.13 Service Parts Execution

There are no specific analysis tools for Service Parts Execution. You can use the analysis tools of SAP APO, SAP SNC and SAP liveCache technology as described above.

## 3.3 Data Consistency

If related or identical data is stored in multiple places, inconsistencies may exist (for example, after restoring a single component). The following table describes how consistency can be verified and how inconsistencies may be repaired:

| Component / Data Store | Check Tool / Method | Detailed Description | Prerequisites |
|---|---|---|---|
| SAP SCM/ SAP APO / OLTP system | | See Best Practice document Internal and External Consistency for SAP APO (3.x) / mySAP SCM (4.x) | |
| SAP liveCache / SAP DB | | See Best Practice document Internal and External Consistency for SAP APO (3.x) / mySAP SCM (4.x) | |
| SAP SNC | | SAP SNC exchanges data with SAP ERP using asynchronous messages. If such a message exchange fails, you can resend messages. Therefore, cases of data inconsistency do not apply here. | |

# 4 Management of SAP SCM

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.

For more information about the underlying technology, see in the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide*.

## 4.1 Administration Tools of Software Components

SAP SCM mainly uses standard administration tools based in SAP NetWeaver. For more information, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *AS ABAP (Application Server for ABAP)* → *Administration.*

For managing other software components, see below and the operation guides listed in section 9.3.

### 4.1.1 SAP APO (Part of SCM Server)

For more information about monitoring, problem, and performance analysis tools, see the Best Practice document Internal and External Consistency for SAP APO (3.x) / mySAP SCM (4.x)

For Performance Monitoring in SCM 7.0, see the APO Performance Monitor documentation on SAP Help Portal at http://help.sap.com → *SAP Business Suite* → *SAP Supply Chain Management* → *SAP SCM 7.0 [open]* → *Application Help EN* → *SAP Supply Chain Management (SAP SCM)* → *SAP Advanced Planning and Optimization (SAP APO)* → *SAP APO Administration* → *APO Performance Monitor*.

Depending on the business processes you are using in SAP APO, you can find more information in the following Best Practice documents:

- Best Practice Manage Demand Planning in SCM/APO
- Best Practice Manage Supply Network Planning in SCM / APO
- Best Practice Manage Production Planning in SAP APO (3.x) / mySAP SCM (4.x)
- Best Practice Manage Global ATP in SAP APO (3.x) / mySAP SCM (4.x)
- Best Practice Manage the Transportation Management Solution in SAP APO (3.x) / mySAP SCM (4.x)

## 4.1.2 SAP liveCache Technology

### General Information

For up-to-date information about important SAP liveCache parameters, see SAP Note 719652. This note is updated frequently.

Changes in the hardware configuration of your SAP liveCache machine, such as additional RAM or CPUs, or changes in application data volumes or configuration may require different parameter settings. Check the above note regularly for updated parameter settings. If you experience performance issues, check your SAP liveCache settings against the latest recommendations in this note.

Several important parameters for SAP liveCache include the following:

`MAXCPU` – Number of CPUs that can be used by SAP liveCache. For information about load balancing of SAP liveCache, see SAP Note 695721.

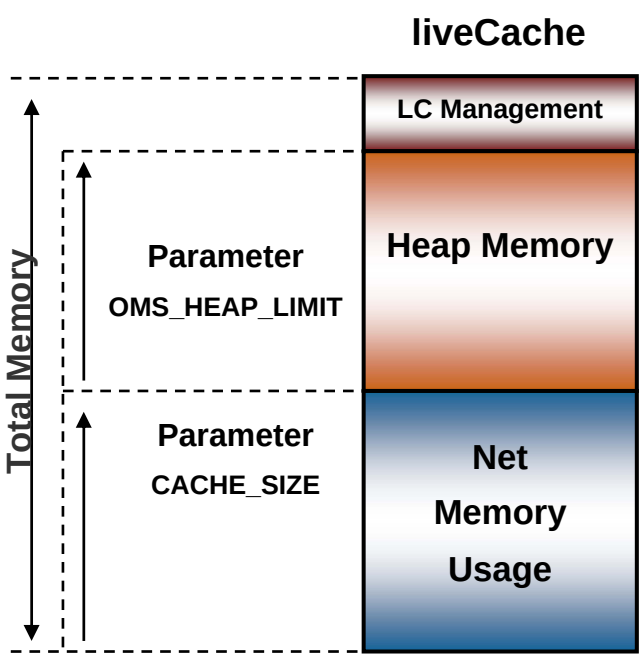
`CACHE_SIZE` – Size of the data cache memory area used by SAP liveCache. The initial value for this parameter is usually defined during the sizing of your system. It may, however, require some tuning for normal operation, or in other situations, such as increasing the amount of RAM or data volume on your SAP liveCache server.

`OMS_HEAP_LIMIT` – Maximum useable heap memory of SAP liveCache and LCA routines (private memory)

Changes to SAP liveCache parameters do not take effect until the SAP liveCache has been stopped and restarted, so schedule downtime for SAP liveCache if you want to adjust any parameters.

### SAP liveCache Memory Areas

This section describes the main SAP liveCache memory areas. These areas are: LC Management, Heap Memory, and Net Memory Usage.




- ***LC Management*** is needed for administrative purposes, such as starting, stopping, and backup of SAP liveCache
- ***Heap Memory*** refers to the memory allocation of the LCA routines in SAP liveCache (private liveCache memory regions)
  - Kernel parameter `OMS_HEAP_LIMIT`
- ***Net Memory Usage*** of objects is where the actual data is stored in SAP liveCache
  - Kernel parameter `CACHE_SIZE`

**Parameter OMS_HEAP_LIMIT**

SAP Note 337445 describes how to perform the calculation and adjust the parameter `OMS_HEAP_LIMIT`.

**Monitoring Heap Memory Usage**

LC heap memory allocation can be monitored using the internal SAP liveCache table `OMS_HEAP_STATISTICS`. To read this data, we recommend you use transaction LC10 or a database tool such as DBMCLI or DBMGUI.

To monitor Heap Memory Usage in the SAP liveCache Assistant, call transaction **`LC10`** and choose *liveCache: Monitoring → Current Status → Memory Areas → Heap Usage*.

In this section, you can find the total heap area currently in use by SAP liveCache and LCA routines in the `Maximum Heap Usage` row. You can also use the `Sum` button to calculate the accumulated heap values. Here the `Size` row is the memory that was allocated from the operating system. It reflects the `Maximum` segment size that was needed by LCA routines since the start of SAP liveCache.

Note that the sum of `Size` and the value of `Maximum Heap Usage` always differ slightly. In `Currently Used` row, the current usage of memory by LCA routines and copied OMS objects is displayed. If the value of `Size` comes close to the value of `OMS_HEAP_LIMIT`, errors in LCA routines may occur due to insufficient memory.

When using DBMCLI, you can display Heap Memory by entering the command **`show storage`**.

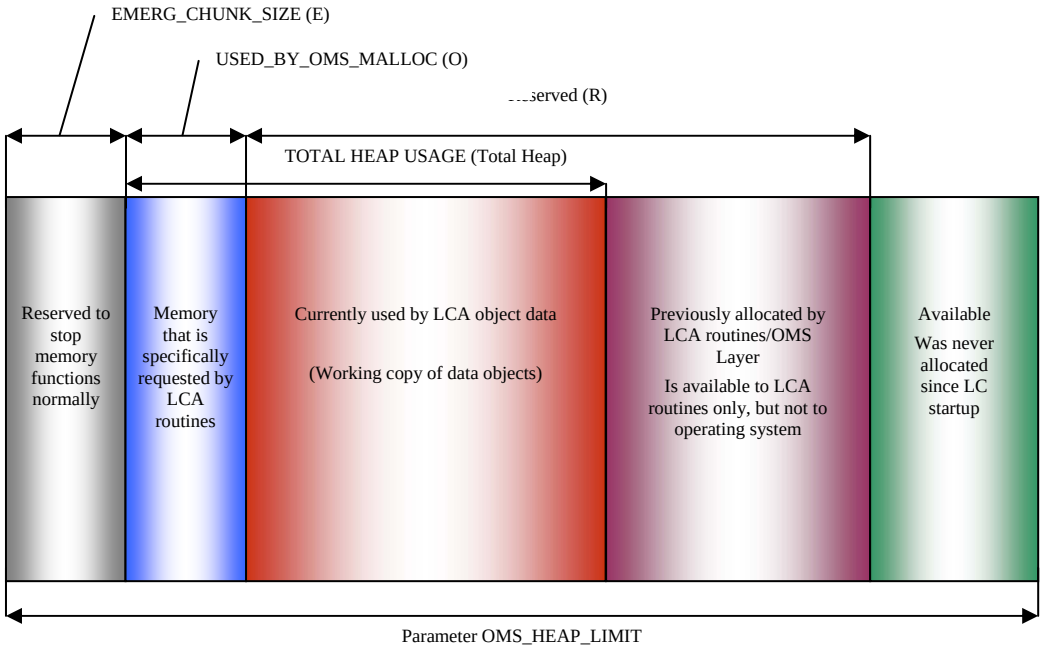
For more information about using DBMCLI for displaying database information, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 2004s → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → SAP NetWeaver by Key Capability → Databases → MaxDB → Tools → Database Manager CLI → Command Reference for Working with the Database Manager CLI → Controlling Database Instances*.

Heap Memory is graphically represented below and consists of the following main building blocks:

**Total heap** (kilobytes) – total heap area currently in use by SAP liveCache and LCA routines

**Reserved heap** (kilobytes) – 'high water' mark, maximum amount of heap used since SAP liveCache start

**Emergency heap** (kilobytes) – reserved memory




### Garbage Collectors and Data Cache Filling Levels

When you monitor the data cache usage or filling level, you will see the value in the data cache usage percentage column increase, then decrease some time later, often quite considerably. This is usually because of the history data (`OMS_HISTORY`) that is used for consistent views within SAP liveCache. This history data is only required for open transactions or transactional simulations within SAP liveCache. When it is no longer required, the data is automatically deleted. The garbage collectors are responsible for deleting this obsolete history data.

For more information about garbage collectors, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 2004s* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Databases* → *MaxDB* → *Tools* → *Database Manager CLI* → *Command Reference for Working with the Database Manager CLI* → *Controlling Database Instances*.

For an example of data cache usage call transaction **`LC10`** → *liveCache: Monitoring* → *Current Status* → *Memory Areas* → *Caches.* You see the following screen:

**Cache Accesses**

| | Accesses | Successful | Unsuccessful | Hit Rate |
|---|---|---|---|---|
| Entire Data Cache | 67.142.399 | 66.347.998 | 794.401 | 98,82% |
| History/Undo | 2.271.992 | 2.271.992 | 0 | 100,00% |
| OMS Data | 43.889.246 | 43.137.918 | 751.328 | 98,29% |
| SQL Data | 20.981.161 | 20.938.088 | 43.073 | 99,79% |
| Catalog Cache | 6.659.262 | 5.022.678 | 1.636.591 | 75,42% |
| Sequence Cache | 5.079 | 5.078 | 1 | 99,98% |

For information about the operating system parameterization of SAP liveCache, see SAP Note 487972.

**Monitoring SAP liveCache Memory Areas and Data Volumes**

| Monitoring Object | Monitor Transaction/ Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| Memory of SAP liveCache server<br>(Windows only) | **LC10** → *liveCache Monitoring* → *Problem Analysis* → *Messages* → *Core* → *Current*<br>Then search for string `Total physical memory` | | Add RAM to server, check `data cache/cache size` and `oms heap limit` parameters | To process LCA routines, SAP liveCache uses heap memory.<br>You need to limit this heap memory using SAP liveCache parameter `OMS_HEAP_LIMIT`.<br>Check that the sum of `OMS_HEAP_LIMIT` and `data_cache` size is no larger than the main memory of machine. | System monitoring team |
| Current data cache size | **LC10** → *liveCache: Monitoring* → *Current Status* → *Memory Areas* → *Data Cache* | At least daily | Check that there is enough memory allocated for data cache. | Size of data cache – actual size in MB/KB<br>See also – DataCache filling levels and active parameters | System monitoring team |
| Data cache filling levels | **LC10** → *liveCache: Monitoring* → *Current Status* → *Memory Areas* → *Data Cache* | At least daily | If filling level consistentl y above 80%, check % of OMS history 'v' OMS data. Consider resizing `Cache_Size`. | Amount of total DataCache used by 'real' data – see line `OMS_DATA` size | System monitoring team |

| Monitoring Object | Monitor Transaction/ Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| Data cache hit rate | **LC10** → *liveCache: Monitoring* → *Current Status* → *Memory Areas* → *Data Cache* | At least daily | Check that there is enough memory allocated for data cache. | This value should be >=98.8%<br>If it is not, your SAP liveCache may be too small or incorrectly configured.<br>After restarting SAP liveCache, you need at least 50 000 SAP liveCache data requests before a meaningful value is shown. | System monitoring team |
| Active SAP liveCache parameters `OMS_HEAP_LIMIT` | **LC10** → *liveCache: Monitoring* → *Current Status* → *Parameters* → *Currently* | As required | Adjust as necessary. | Show currently active parameters.<br>Parameter `OMS_HEAP_LIMIT`<br>For parameter settings and calculation, see SAP Notes 337445 and 719652. | Basis Support |

| Monitoring Object | Monitor Transaction/ Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| Heap memory usage | **LC10** → *liveCache: Monitoring* → *Current Status* → *Memory Areas* → *Heap Usage* | Often (especially when data volumes or system changes occur) | Sufficient memory must be available for heap areas, data cache, and the operating system of the SAP liveCache server – and correctly distributed between them. | The list header shows the value for the reserved memory marked with *Maximum Heap Usage*.<br>This value shows the (private) memory dynamically requested by SAP liveCache, usually for use by LCA routines. It is not returned to the OS until SAP liveCache is stopped.<br>So this value specifies the amount of RAM that is locked into the SAP liveCache/LCA routines process – it is reusable only by SAP liveCache, but it is not necessarily currently in use by SAP liveCache; it is the 'high water' mark of heap usage. | System monitoring team |
| Status, size, and number of the data area<br><br>Check filling level of SAP liveCache data area | **LC10** → *liveCache: Monitoring* → *Current Status* → *Memory Areas* → *Data Area* | Daily | If filling level is higher than 80%, consider adding a new data volume to avoid bottlenecks.<br>The filling level may reduce itself automatically if the garbage collector deletes history data. | Check status and that there is enough data area configured.<br>Check filling level of SAP liveCache data area carefully to prevent SAP liveCache problems (not only performance issues; some history data could also be deleted, leading to errors with transactions). | System monitoring team |

| Monitoring Object | Monitor Transaction/ Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| Adding a data volume | **LC10** → *liveCache: Monitoring* → *Administration* → *Configuration* → *Volumes* → *Data Area* | As necessary | Add data volume if filling level of data area is >=80% | Add data volume as required. | Basis Support |
| Check filling level of SAP liveCache log area | **LC10** → *liveCache: Monitoring* → *Current Status* → *Memory Areas* → *Log Area* | Daily | If filling level is higher than 50%, consider activating automatic log backups. | Check filling level of SAP liveCache log area carefully to prevent SAP liveCache problems. | System monitoring team |

| Monitoring Object | Monitor Transaction/ Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| Activating automatic log backup | See SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 2004s* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Databases* → *MaxDB* → *Basic Information* → *Concepts of the Database System* → *Administration* → *Backing Up and Restoring* → *Backing Up Log Entries* → *Activating and Deactivating Automatic Log Backup* | If necessary | Activate automatic log backup if filling level of log area is >=50% | Activate automatic log backup if required. | Basis Support |

| Monitoring Object | Monitor Transaction/ Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| SAP liveCache action log | /SAPAPO/OM11 | daily | Traffic lights:<br>Red = errors or failures<br>Yellow = warnings<br>Green = success<br>Investigate errors and warnings. | The reported actions are:<br>- Initializations (Calls of program /SAPAPO/DELETE_LC_ANCHORS)<br>- Deletion of old (obsolete) transactional simulations<br>- Consistency checks and corrections with /SAPAPO/OM17<br>- Creation, change, and deletion of planning versions<br>- Errors raised by transaction /SAPAPO/OM13<br>- Errors raised by program /SAPAPO/OM_REORG_DAILY (see section 4.5.1.2)<br>- Activation and deletion of ATP time series<br>- Changes in SAP liveCache Customizing | System monitoring team |

You can automate SAP liveCache database management in the CCMS. The central DBA Planning Calendar is one of the tools that you can use to automate actions. This calendar enables you to manage data and log backups as well as update optimizer statistics and check the database structure in integrated SAP environments from a central location.

For more information, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver7.0 (2004s)* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Databases* → *SAP liveCache Technology* → *Database Administration in CCMS: SAP liveCache Technology* → *DBA Planning Calendar*.

## 4.1.3 SAP SCM Optimizer

### General Information

Transport of configuration settings:
All configuration settings of the SCM Optimizer are stored on the application server. Therefore, normal ABAP transports/customizing can be used for the transport of configuration settings.

Customer modifications:
The different optimizers cannot be changed by the customer. If customer-specific changes have been approved by SAP, these are incorporated into the standard optimizer engines. Therefore, no special version management is required. For changes outside the SCM optimizer (ABAP), the workbench can be used.

Conflicts between customer-specific changes (ABAP) and SAP updates can be solved using the workbench.

**Monitoring SAP SCM Optimizer**

| Monitoring Object | Monitor Transaction/ Tool | Monitor Frequency | Indicator or Error | Monitoring Activity or Error Handling Procedure | Responsibility |
|---|---|---|---|---|---|
| Optimizer server settings | rcc_cust | During installation, or for configuration changes to optimizer servers | | Maintain master data for optimization servers. | Basis Support |
| RFC destinations for optimizers | SM59 / rcc_cust | During installation or after configuration changes | Test connection status to ensure all is OK | Defining and checking optimizer RFC destinations – can also be used to check if optimizer server is online | System monitoring team and Basis Support |

See also section 3.2.3.

## 4.1.4 SAP Event Management (Part of SCM Server)

See section 3.2.4 for SAP Event Management.

**Monitoring SAP Event Management**

| Monitoring Object | Monitoring Transaction /Tool | Monitor Frequency | Monitoring Activity or Error Handling Procedure | Responsible | Escalation Procedure |
|---|---|---|---|---|---|
| Set up of monitoring | /SAPTRX/SLG1_LINK | Once before you start to work the first time with SAP Event Management (not working with CCMS) | Schedule background job for each client that wants to be monitored in the CCMS. | Program scheduling management | Contact application support |

| Monitoring Object | Monitoring Transaction /Tool | Monitor Frequency | Monitoring Activity or Error Handling Procedure | Responsible | Escalation Procedure |
|---|---|---|---|---|---|
| Set up of monitoring | /SAPTRX/SCHEDULE_EM_JOBS_NODE | Once before you start to work the first time with SAP Event Management (not working with CCMS) | Schedule background job for each client that wants to be monitored in the CCMS. | Program scheduling management | Contact application support |
| Display Application Log in SAP Event Management | Transaction /SAPTRX/ASAPLOG | Daily | Display the application log in the SAP Event Management. | Program scheduling management | Contact application support |
| Evaluation of Application Log | Transaction SLG1 | Daily | Evaluate the application log in the SAP Event Management. | Program scheduling management | Contact application support |
| Status of events and error messages shown. | /SAPTRX/EH_LIST | | Display functionality | Application management | Contact application support |
| List to see if objects are processed correctly. The list reflects only data errors, not business process issues. | /SAPTRX/EVM_STATUS | | Display functionality | Program scheduling management | Contact application support |
| Inbound and Outbound queues monitoring | Transaction SMQ1 / SMQ2 | Daily | Status of the inbound and outbound queues | Program scheduling management | Contact software monitoring team |

For information about managing the Web Communication Layer, see SAP Service Marketplace at http://service.sap.com/instguides → *SAP Business Suite Applications* → *SAP SCM* → *SAP EM* → *Using SAP EM 7.0* → *SAP Event Management WCL 7.0: Installation Guide.*

## 4.1.5 SAP Supply Network Collaboration (Part of SCM Server)

See sections 3.2.5, 4.5.1.5, and 4.5.2.4.

### 4.1.6 SAP Extended Warehouse Management (Part of SCM Server)

See sections 3.2.6, 4.5.1.6, and 4.5.2.5.

### 4.1.7 SAP Forecasting and Replenishment (Part of SCM Server)

You have to activate and start the FRP dispatcher with the transaction /FRE/FRP_DISP_ACT.

## 4.2 Starting and Stopping

We recommend that you start the components in the following order; to stop, proceed in reverse order:

**Start and Stop Sequence and Tools**

| Software Component | Start and Stop Sequence and Tools | | |
|---|---|---|---|
| | Sequence | Tool | Detailed Description |
| SCM Server | 1 | STARTSAP/STOPSAP (Unix)<br>SAPMMC (Windows) | |
| SAP liveCache | 2 | LC10 | See below |
| J2EE Engine | 3 | Depending on the system landscape | Necessary when using the SAP F&R Replenishment Workbench for Stores (RWBS). See below |
| SAP ERP | 4 | STARTSAP/STOPSAP (Unix)<br>SAPMMC (Windows) | |
| SAP BI Server (Part of SAP NetWeaver) | 5 | STARTSAP/STOPSAP (Unix)<br>SAPMMC (Windows) | |
| Exchange Infrastructure (XI) (Part of SAP NetWeaver) | 6 | STARTSAP/STOPSAP (Unix)<br>SAPMMC (Windows) | |
| CIF (Plug-In) | 7 | Start: Reports RSTRFCQ3 and RSTRFCI3<br>Stop: Reports RSTRFCQ1 and RSTRFCI1 | See below |
| SAP SCM Optimizer | 8 | Establish network connection to SCM system | No explicit start/stop, but only network connection to SCM system necessary using transaction SM59. For more information, see the Installation Guide of the SAP SCM Optimizer. |

| Software Component | Start and Stop Sequence and Tools | | |
|---|---|---|---|
| | Sequence | Tool | Detailed Description |
| Internet Graphics Server (IGS) | 8 | You can start/stop the Windows IGS by using services. On your Windows desktop, choose *Start* → *Settings* → *Control Panel* → *Services* (or *Administrative Tools* → *Services*). Scroll down and choose *SAP IGS* → *Start/Stop Service* | |
| F&R Dispatcher | 8 | ACTIVATE/DEACTIVATE<br>START/STOP via transaction /FRE/FRP_DISP_ACT | The dispatcher has to be activated first. Then the dispatcher has to be started. If the dispatcher is started it can be stopped again. If the dispatcher is stopped, you can also deactivate it again. |
| SAP EM- WCL | 8 | Start/Stop J2EE Engine using STARTSAP/STOPSAP (Unix) or SAPMMC (Windows) | |

For the list of components required for each scenario, see SAP Service Marketplace at http://service.sap.com/scl.

Even though XI, WCL, and SAP SCM optimizer can be started independently from all other components, we recommend that you start/stop the components in a certain sequence.

For more information about STARTSAP/STOPSAP and SAPMMC, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal under *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1 (select language)* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *General Administration Tasks* → *Starting and Stopping AS ABAP and AS Java*.

### Starting and Stopping SAP liveCache

SAP liveCache should be started and stopped using transaction LC10.

Alternatives: Call the RSLVCSTART and RSLVCSTOP reports from within SAP, or by using SAPEVT at OS level; Call the START_LIVECACHE and STOP_LIVECACHE function modules from within SAP, or by using STARTRFC at OS level.

For more information about starting and stopping SAP liveCache, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Databases* → *SAP liveCache Technology* → *Database Administration in CCMS: SAP liveCache Technology* → *liveCache Assistant* → *liveCache: Monitoring* → *Administration* → *liveCache Operating*

You can also start SAP liveCache with DBMCLI or DBMGUI, but this may cause a short dump, so start it with LC10 if possible. For more information, see SAP Note 326073.

### Starting and Stopping CIF

To **start** the CIF queues of your SAP SCM system, use the following reports in SCM and all connected SAP Systems (ERP or R/3):

- For outbound queues, use report RSTRFCQ3. Enter the following values:
  - Parameter QNAME: **CF***
  - Parameter DEST: **<Name of logical system>**
  - Parameter FORCE: <no entry required>
  - Parameter NO_ACT: <no entry required>
- For inbound queues, use report RSTRFCI3. Enter the following values:
  - Parameter QNAME: **CF***
  - Parameter FORCE: <no entry required>
  - Parameter MAXLUW: <no entry required>
  - Parameter NO_ACT: <no entry required>

To determine whether you are using inbound or outbound queues, execute transaction CFC1 in the connected SAP systems (ERP or R/3) and transaction /SAPAPO/C2 in the SCM system.

If you are using outbound queues, you only need to start the outbound queues. If you are using inbound queues, you have to start inbound **and** outbound queues.

To **stop** the queues, use the following reports in the SAP SCM system and all connected SAP systems (ERP or R/3) according to the queue type you are using:

- For outbound queues, use report RSTRFCQ1. Enter the following values:
  - Parameter QNAME: **CF***
  - Parameter DEST: **<Name of logical system of receiving system>**
  - Parameter FORCE: <no entry required>
- For inbound queues, use report RSTRFCI1. For parameter QNAME, enter **CF*.** No entry is required for parameter FORCE.

To determine whether you are using inbound or outbound queues, execute transaction CFC1 in the connected SAP systems (ERP or R/3) and transaction /SAPAPO/C2 in the SCM system.

If you are using outbound queues, you only need to stop the outbound queues. If you are using inbound queues, you have to stop inbound **and** outbound queues.

For more information, see SAP Note 505304.

### Starting and Stopping J2EE Engine

When using the SAP F&R Replenishment Workbench for Stores (RWBS), you have to start/stop the J2EE Engine.

Depending on your operating system and how you installed the J2EE Engine in your system landscape different procedures apply.

For more information about starting and stopping the J2EE Engine, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1*

→ *SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → SAP NetWeaver Library → SAP NetWeaver by Key Capability → Application Platform by Key Capability → Java Technology → Administration Manual → J2EE Engine → Starting and Stopping the J2EE Engine*.

## 4.3 Software Configuration

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

**Component Configuration Tools**

| Component | Configuration Tool(s) | Detailed Description |
|---|---|---|
| SCM Server not CIF-specific | ABAP TAs:<br>**SM59**<br>**BD54**<br>**SMQR/SMQS**<br>**SMQ1/SMQ2**<br>**SBGRFCMON**<br>**SBGRFCCONF** | <br>Create RFC destination<br>Maintain logical systems<br>qRFC queue registration<br>qRFC queue monitors<br>bgRFC queue monitor<br>bgRFC configuration |
| SCM Server Core Interface (CIF) | ABAP TAs:<br>**/SAPAPO/C1**<br>**/SAPAPO/C2**<br>**/SAPAPO/C3**<br>**/SAPAPO/C4**<br>**/SAPAPO/C91** | <br>Business system group (BSG)<br>Assignment of BSG to logical system and specification of the release, queue type, and error handling method of the connected SAP system<br>CIF application log<br>Special user settings during CIF transfer<br>Activation/deactivation of bgRFC in CIF |
| ERP (CIF-specific) | ABAP TAs:<br>**NDV2**<br>**CFC1**<br>**CFC2**<br>**CFC3**<br>**CFG1** | <br>Specification of connected system type and release<br>Logical system – queue type assignment<br>Special user settings during CIF transfer<br>Filter size/select size adjustment<br>CIF application log |
| SCM Basis | | No technical configuration data (see other applications using SCM Basis, and the SCM Optimizer) |
| EWM | | No technical configuration data (all technical configuration that is required for running EWM is part of NetWeaver) |
| SNC | | No technical configuration data (all technical configuration that is required for running SNC is part of NetWeaver) |
| EM-WCL | | No technical configuration data |

| Component | Configuration Tool(s) | Detailed Description |
|---|---|---|
| SCM Optimizer | ABAP TA **SM59**<br>ABAP TA **RCC_CUST** (or **RCC*** respectively) | No technical configuration data (all technical details are stored in standard ABAP Customizing, for ex. Transactions<br>**SM59**: RFC connectivity information<br>**RCC_CUST**: Defining and checking optimizer RFC destinations – can also be used to check if optimizer server is online)<br>**RCC_SESSION**: Active Session<br>**RCC_LOG**: Log Display<br>**RCC_PARAM**: Settings for Experts<br>**/SAPAPO/OPT10**: Optimizter internal settings |

**CIF-Specific Configuration Tools in ERP**

| Component | Configuration Tool(s) | Detailed Description |
|---|---|---|
| ERP (CIF-specific) | ABAP Tas: | |
| | **NDV2** | Specification of connected system type and release |
| | **CFC1** | Logical system – queue type assignment |
| | **CFC2** | Special user settings during CIF transfer |
| | **CFC3** | Filter size/select size adjustment |
| | **CFG1** | CIF application log |

## 4.4 Backup and Restore

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

The backup and restore strategy for SAP SCM consists of two parts, as follows:

- Backup and restore coverage for each component (see table below)
- Cross-system data dependencies and handling

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).

Based on the type of application data contained in a component, we have introduced a categorization scheme for system components that can be used to analyze the backup requirements of any system component and to easily determine an appropriate backup method for this component. The following table contains a component list for your solution and the appropriate categories:

| Component | Data to Be Backed Up | Backup Method / Tool | Recommended Backup Frequency | Backup Sequence (if required) |
|---|---|---|---|---|
| SAP SCM Server<br>(Category XI) | Original application data (where data is exchanged with other systems; based on Web AS), application log data<br>Software, configuration data, log data | Data:<br>- Database and log backup, application log backup (such as job logs in file system), data consistency with other systems must be considered<br>- Backup of software, configuration, log files | Application data: SAP recommendation : daily; redo log files periodically (for example, hourly)<br>Log/configuration files on file system level: once a week full backup, daily incremental backup<br>Software: SAP recommendation : after installation and before and after each software change such as patches and upgrades | |
| SAP SCM Basis<br>(Category XI) | Original application data (where data is exchanged with other systems; based on Web AS), application log data<br>Software, configuration data, log data | Data:<br>- Database and log backup, application log backup (such as job logs in file system), data consistency with other systems must be considered<br>- Backup of software, configuration, log files | Application data: SAP recommendation : daily; redo log files periodically (for example, hourly)<br>Log/configuration files on file system level: once a week full backup, daily incremental backup<br>Software: SAP recommendation : after installation and before and after each software change such as patches and upgrades | |
| SCMB PLUS<br>(Category II) | • (no persistent application data) | Data: --<br>See SAP SCM Basis | Software, configuration:<br>Together with | |

| Component | Data to Be Backed Up | Backup Method / Tool | Recommended Backup Frequency | Backup Sequence (if required) |
|---|---|---|---|---|
| | Software, configuration data | | SAP SCM Basis | |
| SAP liveCache<br>(Category X) | Original application data (where data is exchanged with other systems; managed by a DBMS, not based on Web AS), application log data<br>Software, configuration data, log data | Data:<br>- MaxDB database and log backup, data consistency with other systems must be considered<br>- Backup of software, configuration, log files | Application data: SAP recommendation : daily)<br>Log/configuration files on file system level: once a week full backup, daily incremental backup<br>Software: SAP recommendation : after installation and before and after each software change such as patches and upgrades | |
| SAP SCM Optimizer<br>(Category II) | • (no persistent application data)<br>Software, configuration data | Data: --<br>Software, configuration:<br>- File system backup either full or incremental; registry backup on Windows platforms<br>or<br>- No backup, new installation and configuration in case of a recovery | Software, configuration:<br>On a regular basis, at least after installation and software upgrades/ configuration changes | |
| SAP Internet Graphics Service (IGS)<br>(Category II) | -- (no persistent application data)<br>Software, configuration data | Data: --<br>Software, configuration:<br>- File system backup either full or incremental | Software, configuration:<br>On a regular basis, at least after installation and software upgrades/ configuration | |

| Component | Data to Be Backed Up | Backup Method / Tool | Recommended Backup Frequency | Backup Sequence (if required) |
|---|---|---|---|---|
| | | | changes | |
| FRP<br>(Category IV / VI) | Mainly replicated application data, backup recommended, data not managed by a DBMS | Data:<br>- Additional full backup of the FRP folders (basic path of each assigned server, see SAP Note 1039826)<br>- Backup of software, configuration, log files | Application data: SAP recommendation : daily<br>Log/configuration files on file system level: once a week full backup, daily incremental backup<br>Software: SAP recommendation : after installation and before and after each software change such as patches and upgrades | |
| SAP EM-WCL<br>(Category II) | -- (no persistent application data)<br>Configuration data | Data: --<br>Configuration:<br>- File backup (see also SAP EM-WCL section below) | Configuration:<br>On a regular basis, at least after configuration changes | |
| SAP F&R RWBS<br>(Category II) | -- (no persistent application data) | Data: --<br>Software, configuration: -- | After a crash, only reinstall the software and restart application | |
| SAP EWM<br>(Category XI) | Original application data, data exchange with other systems, based on SAP Web AS<br>Software, configuration data, log data | Data:<br>- Database and log backup, application log backup (such as job logs in file system), data consistency with other systems must be considered<br>- Backup of | Application data: SAP recommendation : daily; redo log files periodically (for example, hourly)<br>Log/configuration files on file system level: once a week full backup, daily incremental backup<br>Software: SAP | |

| Component | Data to Be Backed Up | Backup Method / Tool | Recommended Backup Frequency | Backup Sequence (if required) |
|---|---|---|---|---|
| | | software, configuration, log files | recommendation : after installation and before and after each software change such as patches and upgrades | |
| SAP SNC<br>(Category XI) | Original application data, data exchange with other systems, based on SAP Web AS<br>Software, configuration data, log data | Data:<br>- Database and log backup, application log backup (such as job logs in file system), data consistency with other systems must be considered<br>- Backup of software, configuration, log files | Application data: SAP recommendation : daily; redo log files periodically (for example, hourly)<br>Log/configuration files on file system level: once a week full backup, daily incremental backup<br>Software: SAP recommendation : after installation and before and after each software change such as patches and upgrades | |
| SAP ERP<br>(Category XI) | Original application data, data exchange with other systems, based on SAP Web AS<br>Software, configuration data, log data | Data:<br>- Database and log backup, application log backup (such as job logs in file system), data consistency with other systems must be considered<br>- Backup of software, configuration, log files | Application data: SAP recommendation : daily; redo log files periodically (for example, hourly)<br>Log/configuration files on file system level: once a week full backup, daily incremental backup<br>Software: SAP recommendation : after installation and before and after each software change | |

| Component | Data to Be Backed Up | Backup Method / Tool | Recommended Backup Frequency | Backup Sequence (if required) |
|---|---|---|---|---|
| | | | such as patches and upgrades | |
| SAP Event Management<br>(Category XI) | Original application data, data exchange with other systems, based on SAP Web AS<br>Software, configuration data, log data | Database and log backup; file system backup (full and/or incremental) | Application data: SAP recommendation : daily; redo log files periodically (for example, hourly)<br>Log/configuration files on file system level: once a week full backup, daily incremental backup<br>Software: SAP recommendation : after installation and before and after each software change such as patches and upgrades | |
| SAP NetWeaver (Usage Types PI) | See *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *PI (Process Integration)* → *Management* → *Backup/Restore and Recovery* | | | |
| SAP NetWeaver (Usage Types BI) | See *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *BI (Business Intelligence)* → *Backup and Recovery (AS ABAP)* | | | |
| SAP cFolders | See *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *AS ABAP (Application Server ABAP)* → *Administration* → *Backup and Recovery* | | | |

The backup of database and Web AS takes care of application data, configuration settings and log data. For more information, see Best Practice document *Backup and Restore for mySAP Business Suite* on SAP Service Marketplace at http://service.sap.com/bp-roadmap → *Operations Implementation*.

## Frequency of the Backup

### SAP SNC

SAP SNC recommends that you back up your database on a daily basis. For more information about the frequency of the backup, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including*

*Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → Administrator's Guide → Technical Operations Manual for SAP NetWeaver → General Administration Tasks → Database Administration*.

**SAP ERP**

SAP ERP recommends that you back up your individual components in the SAP ERP 6.0 landscape regularly to ensure that you can restore and recover them if there is a system failure. For more information about backup and recovery for SAP ERP 6.0, see SAP Service Marketplace at http://service.sap.com/instguides → *SAP Business Suite Applications → SAP ERP → SAP ERP 6.0 → Operations*.

**SAP Event Management**

SAP Event Management recommends that you back up your database on a daily basis. For more information about the frequency of the backup, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → Administrator's Guide → Technical Operations Manual for SAP NetWeaver → General Administration Tasks → Database Administration*.

## Backup Procedures

SAP SCM is based on SAP NetWeaver (Web Application Server ABAP) technology. All backup procedures for ABAP-based components also work for SAP SCM. For more information about backup and recovery, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → Administrator's Guide → Technical Operations Manual for SAP NetWeaver → Administration of SAP NetWeaver Systems → Application Server ABAP (AS ABAP) → Administration/Management → Backup and Recovery.*

## Online Backup

The data contained in the database can be backed up online; however, it is not possible to do the same for the runtime infrastructure. An online backup refers to the system landscape and not the databases that contain the business-critical application, or the infrastructure components.

If you perform a backup while the server is running, open files may not be backed up.

## Backup and Recovery of SAP NetWeaver Components

For more information about backup and restore for the **usage type Application Server for ABAP** and the **usage type Business Intelligence (BI)**, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → Administrator's Guide → Technical Operations Manual for SAP NetWeaver → Administration of SAP NetWeaver Systems → Application Server ABAP (AS ABAP) → Administration/Management → Backup and Recovery*.

For more information about backup and restore for the **usage type Process Integration (XI)**, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → Administrator's Guide → Technical Operations Manual for SAP NetWeaver → Administration of SAP NetWeaver Systems → PI (Process Integration) → Management → Backup/Restore and*

*Recovery*.

## Backup and Recovery for SAP SCM Basis and SCMB PLUS

A backup and recovery for SAP SCM Basis and SCMB PLUS has to be done together the applications using SAP SCM Basis (SAP SCM Server, SAP SNC, and SAP EWM).

## Backup and Recovery for SAP SCM Server, SAP liveCache Technology, and SAP SCM Optimizer

For specific information about backup/restoration and recovery of the components on the SAP SCM Server (SAP Advanced Planning and Optimization, SAP Event Management, SAP Supply Network Collaboration, and Forecasting and Replenishment) as well as the SAP SCM Optimizer, see the Best Practice document *Backup and Restore for mySAP* on SAP Service Marketplace at http://service.sap.com/bp-roadmap → *Operations Implementation* → *Backup and Restore for mySAP Business Suite* and the Best Practice Backup, Recovery and High Availability for SAP APO (3.x) / mySAP SCM (4.x).

For information about backup and recovery of SAP liveCache, see the Checklist for Recovery of SAP APO liveCache.

The SAP SCM Optimizer does not contain any persistent application data. Therefore, no backup is required. Perform a new installation in case of a restore.

## Backup and Recovery for SAP Internet Graphics Server (IGS)

The SAP IGS does not contain any persistent application data. Therefore, you only need to back up the IGS itself and the configuration files.

Depending on where the IGS is installed, you have the following options for backup and recovery:

***1) Installation on Web AS***

If you have installed the IGS on the Web AS, you have two options for backup and recovery, as follows:

a) Make a backup of all files of the IGS installation using operating system tools. You can recover the IGS by using your backup.

b) Make a backup of all files in the `conf` directory of the IGS installation. For a recovery, reinstall the IGS and copy all files from the *conf* directory back to the `conf` directory.

***2) Standalone Installation on Microsoft Windows Server***

If you have installed the IGS on a standalone Microsoft Windows server, you have two options for backup and recovery, as follows:

a) Make a backup of all files of the IGS installation. For a recovery, restore the IGS files and restart the IGS service in Microsoft Windows using command **`igswdserv -i`** in the `bin` directory of the installation directory.

b) Make a backup of all files in the `conf` directory of the IGS installation. For a recovery, reinstall the IGS and copy all files from the *conf* directory back to the `conf` directory.

## Backup and Recovery for SAP Supply Network Collaboration (SAP SNC)

The NetWeaver system (XI system) makes sure that messages are correctly processed between the ERP system and SAP SNC, even if a system must be recovered. Messages are neither lost nor sent twice.

An XML message that could not be sent to SAP SNC remains in the outbound queue to SAP SNC. To view unsuccessful XML messages, use the Runtime Workbench of the XI system (preferable tool) or the transaction **SXMB_MONI**. Messages can have the status *Not OK* or *OK*. If the XI system sets the status to *OK*, it is still possible that the message is hanging in the outbound queue of the XI system.

For more information, see the *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *PI (Process Integration)* → *Monitoring* → *Tools for Monitoring.*

For short time-spans (you can define the duration), the system automatically tries to resend the message. If the system times out, you have to manually trigger the message transfer.

If the outbound queue has stopped, you must restart it. After a system recovery you should check whether there is a message waiting to be resent to SAP SNC.

For messages from SAP SNC to the XI system, the situation is similar. After an XI or SAP SNC recovery, there may be unsent messages in the SAP SNC outbound queue. You can use transaction **SXMB_MONI** to resend these messages, if necessary.

The system makes sure that messages are not lost or sent twice from the ERP system to the XI system. Since messages are not automatically resent if the systems time out or go down, you should use the ALE monitor to check whether messages need to be resent after a system timeout or recovery. If there are messages in the inbound queues of one of the components, they are automatically processed. In addition, after a system restart, the queues automatically restart as well.

## Backup and Recovery for Extended Warehouse Management (EWM)

SAP EWM is the leading component for warehousing application data, for example warehouse tasks and warehouse data. It also holds replicated data such as business partners or product data. SAP EWM exchanges data with various components of an SAP Business Suite system landscape.

SAP EWM is based on SAP WebAS. As a component with application data, the backup/restore must comprise database, and ABAP application server backup/restore. SAP EWM is a pure ABAP-based component and the technical configuration data is stored in ABAP database tables.

There are no data dependencies between SAP EWM and other components of SAP SCM.

Backup: The backup of the database and SAP WebAS will take care of application data, configuration settings and log data. For more information, see the Best Practice document *Backup and Restore for mySAP* on SAP Service Marketplace at http://service.sap.com/bp-roadmap → *Operations Implementation* → Backup and Restore for mySAP.

Online Backup: The data contained in the database can be backed up online. However, it is not possible to do the same for the runtime infrastructure. An online backup refers to the system landscape and not the databases that contain the business-critical application or the infrastructure components.

If you perform a backup while the server is running, open files may not be backed up.

Restore: See the Best Practice document *Backup and Restore for mySAP* on SAP Service Marketplace at http://service.sap.com/bp-roadmap → *Operations Implementation* → *Backup and Restore for mySAP*.

## Backup and Recovery for Forecasting & Replenishment Processor (FRP)

The FRP contains persistent application data. Most of the data (99%) is replicated data from the SCM server. When re-initializing a store environment, the only data that is lost is the day weights,

in other words, the information that depicts the distribution of sales over a week for all location products, and the history of out-of-stock information, which is used for the correction of historical consumption data in case of assumed lost consumptions. The first is usually regained very quickly after some weeks of operational run. The impact on business is that for a short period of time the weekly demand forecasts are not correctly distributed over the days. Losing the history of out-of-stock information can lead to lower forecast values in case the correction of lost consumption is activated and there is a significant amount of out-of-stock situations in the past. With a highly adaptive forecast method, this effect will disappear after some time of operational run.

Depending on the operation options (central, local, or hybrid), a different backup strategy might be useful, also depending on the overall company's situation and strategy. The different options and the impact on backup strategies are described in the F&R configuration guide in the "Maintain F&R Processor Administration Settings" section.

Depending on the chosen strategy, you have the following options for backup and recovery:

You can back up all files in the directory of FRP using operating system tools. For a recovery, restore the files in the same directory.

If you do not have a backup of the FRP files, you can reinstall the FRP in the same directory or in another one. Here you can also import Support Packages. For more information, see SAP Notes 1039826 and 1033226.

For more information about administration of the FRP, see SAP Help Portal at http://help.sap.com → *SAP Business Suite* → *SAP Supply Chain Management* → *SAP SCM 7.0 [open]* → *Application Help EN* → *SAP Supply Chain Management (SAP SCM)* → *SAP Forecasting and Replenishment (SAP F&R)* → *F&R Processor* → *Administration.*

## Backup and Recovery for SAP F&R Replenishment Workbench for Stores (RWBS)

SAP F&R Replenishment Workbench for Stores (RWBS) is a front-end component and does not contain any persistent application data. Therefore, after a crash, it is sufficient to restart the application. No resynchronization is necessary.

## Backup and Recovery for SAP Event Management Web Communication Layer (SAP EM-WCL)

SAP EM-WCL does not contain any persistent application data. Therefore, application data does not have to be backed up and you only need to back up the configuration files. The backup of log data has to be handled by the logging framework of the J2EE server. The software resides in the J2EE server and can simply be reinstalled.

If you have installed SAP EM-WCL on the Web AS, it could be located in the following directory: <server_name>\usr\sap\J2E\JC00\j2ee\cluster\server0\apps\sap.com\scem~wcl\servlet_jsp\scem\root.

Depending on the Customizing that you have maintained in SAP EM-WCL, you have two options for backup and recovery, as follows.

**1) Backup/recovery option 1**

If you have maintained *configuration information only* in SAP EM-WCL, for example, manager properties that are found in the SAP EM-WCL administration such as ConnectionManager (message server, SAP Event Management client, user name, password, and so on), make a backup of the `context.properties` file located in the `WEB-INF` directory (see directory information above) of the SAP EM-WCL installation using operating system tools.

To recover SAP EM-WCL, proceed as follows:

- Reinstall SAP EM-WCL in the same directory

- Restore the `context.properties` file from your backup to the WEB-INF directory
- Restart the J2EE Engine on the Web AS using STARTSAP/STOPSAP (Unix) or SAPMMC (Microsoft Windows).
  For more information about STARTSAP/STOPSAP and SAPMMC, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide*.

**2) Backup/recovery option 2**

If you have maintained configuration information (backup option 1) and additional Customizing, for example, modified Java classes, JSPs, JavaScript, images, or cascading stylesheets, make a backup of all files of the WCL installation directory (see above) using operating system tools.

To recover SAP EM-WCL, proceed as follows:

- Reinstall SAP EM-WCL in the same directory
- Restore all files from your backup to the root directory
- Restart the J2EE Engine on the Web AS using STARTSAP/STOPSAP (Unix) or SAPMMC (Microsoft Windows).
  For more information about STARTSAP/STOPSAP and SAPMMC, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide*.

### Backup and Recovery: Information about Scenarios using SAP SCM

For the backup of scenarios, you have to back up the components involved in the respective scenario. For information about the components involved in scenarios using SAP SCM, see the Scenario Component List on the SAP Service Marketplace at http://service.sap.com/scl → *Start Application* → *SAP Scenarios and Realization Alternatives* → Select a scenario (for example, within an *Industry Solution*), mark and *Add* the required scenario(s) to the *Selected Scenarios/Processes/ Variants* area. Then mark the scenario and choose *Show Realization Alternatives*. For each alternative the required components are listed.

## 4.5 Application Copy

**Homogeneous System Copy**

If you are using SAP APO (including SAP liveCache), you can find information about a *homogeneous* system copy (that is, without changing your operating system or database platform) in the SAP System Landscape Copy for SAP NetWeaver and mySAP Solutions document at http://service.sap.com/scm → *Technology* → *SAP System Landscape Copy for SAP NetWeaver and mySAP Solutions* and the SAP Notes 210564 and 129352.

For a *homogeneous* system copy of all other components (SAP Event Management, SAP Supply Network Collaboration, SAP Extended Warehouse Management, SAP SCM Optimizer, SAP Forecasting and Replenishment), the standard procedures of SAP NetWeaver apply.

For Forecasting and Replenishment it is also necessary to consider the content of SAP Note 1033225 for the component FRP.

Beyond this, we recommend that you have implemented SAP Note 908369 for Time Series Document Management (TSDM) and SAP Note 906762 for Order Document Management (ODM), to have full client copy functionality for those components.

For more information, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement*

*Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → Administrator's Guide → Technical Operations Manual for SAP NetWeaver → General Administration Tasks → System Copy*.

You should be aware that the *Multiple Output Planning* scenario uses characteristics-dependent planning (CDP). The master data for characteristic propagation is maintained in the production process model (PPM). After every client copy, system copy, or an upgrade, the characteristic propagation of the PPMs has to be generated again. For more details, see SAP Note 494839.

**Heterogeneous System Copy**

Heterogeneous system copies for SAP SCM are currently supported on request and on a project basis. For more information, see SAP Note 543715. More details and forms are available under http://service.sap.com/osdbmigration.

A client copy from one system into another system with a different operating system or database is not an alternative to a complete heterogeneous migration. For example, client copies do not ensure that all repository changes are taken over into the new system. Therefore, if you want to change your SAP SCM database or application server platform, a heterogeneous system copy is the only procedure that ensures full data replication into the new system.

After a system copy, the connections between the systems as well as the system identifiers in the business configuration of the XI system must be corrected to reflect the copies instead of the original systems

For more information about a heterogeneous system copy of SAP liveCache, see SAP Note 632357.

For Forecasting and Replenishment it is also necessary to consider the content of SAP Note 1033225 for the component FRP.

After a system copy, the connections between the systems as well as the system identifiers in the business configuration of the XI system must be corrected to reflect the copies instead of the original systems

# 4.6 Periodic Tasks

## 4.6.1 Scheduled Periodic Tasks

This section 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 the Scenario / Component Matrix section above. 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.

In addition to the standard jobs mentioned in the *Technical Operations Manual for SAP NetWeaver* (in *SAP Library* under *SAP NetWeaver*), you must schedule SCM-specific jobs in your SCM system and, where specified, in all the connected SAP systems.

All jobs, unless otherwise specified, should be run at times of minimal system activity, so as not to affect performance or otherwise disrupt your daily operations.

### 4.6.1.1 SAP SCM Basis (Part of SCM Server)

Since SAP SCM Basis is not a standalone component, periodic tasks for objects in the SAP SCM Basis are normally initiated by application components that use the SAP SCM Basis and are also documented with these components. For example, the /SCMB/ALEN_ALERT_DELETE report for the deletion of current alerts is located in SCM Basis but is used by SAP SNC. Therefore, you find the relevant information in the relevant section for periodic tasks in SAP SNC.

### 4.6.1.2 SAP APO (Part of SCM Server)

**Standard/Housekeeping Jobs**

| Program Name / Task | ERP/ SCM | Recommended Frequency | Detailed Description | Responsibility |
|---|---|---|---|---|
| Report BRCONNECT | SCM | Daily | Calculates BW-relevant optimizer statistics (for Oracle); see SAP Notes 129252 and 421795. | Basis Job Scheduling |
| Report /SAPAPO/CRES_CAPACITY_LENGTHEN | SCM | Weekly / Monthly | Extends time streams of resources in SAP liveCache. | Application Support / Job Scheduling Team |
| Jobs for reorganization | SCM | | You can select various jobs for reorganization from the SAP Easy Access menu under *SAP Supply Chain Management → Advanced Planning and Optimization → APO Administration → Reorganization*<br>For more information about the particular jobs, see the Best Practice documents mentioned below. | |

For more information about relevant jobs for SAP APO, see the Best Practice document Internal and External Consistency for SAP APO (3.x) / mySAP SCM (4.x).

Depending on the business processes you are using in SAP APO, you can find more information in the following Best Practice documents:

- Best Practice Manage Demand Planning in SCM/APO
- Best Practice Manage Supply Network Planning in SCM / APO
- Best Practice Manage Production Planning in SAP APO (3.x) / mySAP SCM (4.x)
- Best Practice Manage Global ATP in SAP APO (3.x) / mySAP SCM (4.x)
- Best Practice Manage the Transportation Management Solution in SAP APO (3.x) / mySAP SCM (4.x)

### 4.6.1.3 SAP liveCache Technology

**Standard/Housekeeping Jobs**

| Program Name / Task | R/3 / SCM | Recommended Frequency | Detailed Description | Responsibility |
|---|---|---|---|---|
| Report /SAPAPO/CRES_CAPACITY_LENGTHEN | SCM | Weekly / Monthly | Extends time streams of resources in SAP liveCache | Application Support / Job scheduling team |
| Report RSLVCBACKUP<br>Transaction DB13C (Central DBA Planning calendar) | SCM | Daily | Starts a backup of SAP liveCache<br>See SAP Note 455154 for the RSLVCBACKUP report and http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 2004s* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver by Key Capability* → *Databases* → *SAP liveCache Technology* → *Database Administration in CCMS: SAP liveCache Technology* → *DBA Planning Calendar* for DB13C | Basis Job Scheduling |
| Report /SAPAPO/OM_REORG_DAILY<br>Transaction /SAPAPO/OM25 | SCM | Daily | Deletes old transactional simulation data, and old Optimizer logs. For more information, see SAP Notes 139558 and 679118.<br>To check whether this job is scheduled, use transaction /SAPAPO/OM13 → *Checks* tab. | Basis Job Scheduling |
| Report /SAPAPO/OM_DELETE_OLD_SIMSESS | SCM | Every 30 minutes | Reorganizes LCA data from old sim sessions in SAP liveCache; helps free up memory | Basis Job Scheduling |

| Program Name / Task | R/3 / SCM | Recommended Frequency | Detailed Description | Responsibility |
|---|---|---|---|---|
| | | | To check whether this job is scheduled, use transaction /SAPAPO/OM13 → *Checks* tab. | |
| Report /SAPAPO/OM_LCAALERTS | SCM | Daily | Provides information for CCMS monitoring of SAP liveCache (see also section 3.1.1.2 and SAP Note 683554).<br>To check whether this job is scheduled, use transaction /SAPAPO/OM13 → *Checks* tab. | Basis Job Scheduling |
| Report /SAPAPO/OM_LC_LOGGING_LOG_DEL<br>Transaction /SAPAPO/OM12 | SCM | Monthly or as required | Use to delete the SAP liveCache action log (see /SAPAPO/OM11 in section 4.1.2) up to a specific date. | Basis Job Scheduling |

### 4.6.1.4 SAP SCM Optimizer

**Standard/Housekeeping Jobs**

| Program Name / Task | R/3/SCM | Recommended Frequency | Detailed Description |
|---|---|---|---|
| Report /SAPAPO/OM_REORG_DAILY<br>Transaction /SAPAPO/OM25 | SCM | Daily | Deletes old LCA, transactional simulation data, and old optimizer logs. See SAP Notes 139558 and 679118. |

### 4.6.1.5 SAP Event Management (Part of SCM Server)

**Standard/Housekeeping Jobs**

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| /SAPTRX/EE_MONITOR | Every 2 – 5 minutes | *Expected Events Monitor* is a scheduled background job that continuously identifies expected events that are overdue. If an event has exceeded the expected date, the status is updated to *Overdue* and an expected event monitor |

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| | | procedure (for example, alert notification) is executed, if defined.<br><br>To schedule the background job use transaction /SAPTRX/EMJOBS, or on the *SAP Easy Access* screen for *SAP Event Management*, choose *Administration → Processing Control → Schedule Background Jobs for Event Management*.<br><br>For more information, see SAP Help Portal at http://help.sap.com → *SAP Business Suite → SAP Supply Chain Management → SAP Event Management → Infrastructure of SAP Event Management → Event → Expected Event Monitor.* |
| Report /SAPTRX/PROCESS_LOCKED_EHS | 6 times per day | *Processor of locked event handlers* is a scheduled regular job in transaction /SAPTRX/EMJOBS. For more information, see SAP Note 656990. |
| Report /SAPTRX/PROCESS_LOCKED_SETS | 6 times per day (when working with EH Sets) | *Processor of locked event handler sets* is a scheduled regular job in transaction /SAPTRX/EMJOBS. For more information, see SAP Note 656990. |
| Report /SAPTRX/R_REPOST_AI_LOGS | 6 times per day | *Resend Application Object Data for Event Handlers* is a scheduled regular job in transaction /SAPTRX/EMJOBS. For more information, see SAP Note 656990. |
| /SAPTRX/COLLECT_LOCKED_EH | 6 times per day (when working with EH Sets) | *Number of locked event handlers in the desired client* is a scheduled regular job in transaction /SAPTRX/EMJOBS. For more information, see SAP Note 656990. |
| /SAPTRX/COLLECT_LOCKED_EHSETS | 6 times per day | *Number of locked event handler sets in the desired client* is a scheduled regular job in transaction /SAPTRX/EMJOBS. For more information, see SAP Note 656990. |

For component WCL, you do not need to perform any periodical tasks.

### 4.6.1.6 SAP Supply Network Collaboration (Part of SCM Server)

The following are scheduled periodic tasks for all SAP SNC processes:

These tasks do not affect the availability of the system. Before running the tasks you must be sure that the data you are deleting is obsolete. If the data is obsolete, the sequence of deletion is not relevant. The periodic tasks can be restarted.

**Standard/Housekeeping Jobs**

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| Report /SCMB/ODM_TRACKING_DATA_DELETE | Monthly or as needed | Deletion of ODM tracking data (history)<br>This report deletes the ODM audit trail (tracking data). |
| Report /SCA/ASN_PASTDUE_ALERTWRITE<br>Transaction /SCA/DELVALERTSWRITE | Daily | This report creates the following inventory alerts:<br>#31: ASNs in the past<br>This means that the ASN is overdue. The report regards an ASN as overdue if the ASN fulfills the following conditions:<br>o Its delivery date is before a user-defined date.<br>o The supplier has not delivered all items. ASNs or ASN items with the status *Closed*, however, are regarded as delivered in full. |
| Report /SCMB/ALEN_ALERT_DELETE<br>Transaction /SCMB/ALEN_ALERT_DEL | Monthly or as needed. We recommend that you delete ASNs and alerts on a regular basis to avoid filling up your database. | Delete Current Alerts<br>You can use the report /SCMB/ALEN_ALERT_DEL to delete alerts from the database online or in the background. If you use this report to delete an alert, for which SAP SNC records an alert history, SAP SNC generates a data record in the alert history. |
| Report /SCMB/ALERTHOUSECLEAR<br>Transaction /SCMB/ALERT_HIST_DEL | As needed | Deletes alert history |
| Report /SCA/WO_DELETION<br>Report /SCA/WO_ARC_DELETE | As needed | You can use the report /SCA/WO_DELETION to delete work orders. You can use the |

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| | | report /SCA/WO_ARC_DELETION to delete archived work orders |
| Report /SCA/INVOICE_DELETE | As needed | You can use this report to delete invoices. |
| Report /SCA/DLV_DELETE | As needed | You can use this report to delete ASNs. |
| Report /SCA/PO_DELETE | Monthly or as needed | You can use this report to delete purchase orders, replenishment orders and TLB shipments. |
| Report /SCA/DM_DELETEINV | As needed | You can use this report to delete inventory data.<br>For removal of historical data from Logistics Inventory Management Engine (LIME), inventory data needs to be archived and deleted. For more information, see SAP Notes 934089 and 873400. |
| Report /SAPAPO/ICH_PROMOTION_DELETION | As needed | Promotion deletion report |

### 4.6.1.7 SAP Extended Warehouse Management (Part of SCM Server)

**Standard/Housekeeping Jobs**

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| Transaction SARA | Depending on the archiving object and the DB growth | Archiving of archiving objects mentioned in section 3.2.7 |
| Transaction SLG2 (report SBAL_DELETE) | Weekly/monthly | Deletion of application logs described in section 3.2.1 |
| Report RSPPFCLEAN | Frequency same as archiving of deliveries | Deletion of PPF action data that is not deleted with the deletion or archiving of the dependent object |
| Report /LIME/COLLECTION_ DELETE | Frequency same as archiving periods of the confirmed warehouse tasks. | Warehouse Logistics Processing: Deletes the dispatch message log for goods movements between EWM and ERP |
| Report /LIME/BACKGROUND_ DELETE_EXEC | Weekly/monthly | Inventory: Deletes DB entries for zero stock quantities and – on request – index entries without stock. EWM index tables: /SCWM/STOCK_IW01, _IW02, _IW03, _IW04 |

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| | | The index table entries are only deleted if this is allowed in Customizing under *SCM Basis → Logistics Inventory Management Engine → Basic Settings → Index Tables and Hierarchy → Determine Index Tables*. |
| Report /SCWM/R_REORG_ HU_WO_PRINT | Frequency same as archiving periods of the warehouse tasks | Warehouse Logistic Processing: Deletes EWM-specific PPF action data |
| Report /SAPAPO/DELETE_ PRODUCTS | Monthly | Master data: Deletes products with deletion flag |
| Report /SAPAPO/DELETE_ LOCATIONS | 1/year | Master data: Deletes locations with deletion flag |
| Report /SCMB/ALEN_ALERT_ DELETE | Weekly/monthly | Deletes alerts older than x days |
| Report /SCWM/R_MS_ RESULT_DELETE | Necessity and frequency depend on the usage of Measurement Services | Labor Management (Analytics): Deletes Measurement Service Results (*SAP Easy Access* screen → *Extended Warehouse Management → Settings → Measurement Services → Periodic Processing*) |
| Report /SCWM/DELETE_ROUTE | Monthly | Master data: Deletes routes with deletion flag |
| Report /SCWM/DELETE_ZONE | Monthly | Master data: Deletes transportation zones with deletion flag |
| Report /SCTM/CLEANUP_PPF | Yearly | Freight order processing: Deletes the PPF actions without corresponding business objects (actions to publish the deletion of the objects) |

### 4.6.1.8 Project Manufacturing

**Standard/Housekeeping Jobs**

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| Report /SAPAPO/DM_PEGKEY_REORG<br>Transaction /SAPAPO/DM_PEGCHECK | Monthly | Consistency check and reorganization of pegging areas and account assignment objects |

### 4.6.1.9 Supplier Managed Inventory

The following are standard periodic tasks specific to Supplier Managed Inventory. You need to run these tasks in addition to the standard SAP SNC tasks, as follows:

**Standard/Housekeeping Jobs**

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| Transaction /SCA/DLV_Close<br>Report /SCA/DM_BOL_DLV_CLOSE | Monthly or as needed | Closing ASN Items<br>If you do not expect any more changes to an ASN item, for which you have possibly only received one partial delivery until now, and you regard the delivery as complete, you can close the ASN item in SAP SNC. The consequences of this are as follows:<br>The ASN item acquires the delivery status *Closed*.<br>SAP SNC takes the undelivered item quantity from the stock in transit.<br>If all items in an ASN in SAP SNC have the status *Closed,* SAP SNC also automatically sets the status *Closed* for the ASN header.<br>For more information, see http://help.sap.com → *SAP Business Suite → SAP Supply Chain Management → SAP SCM 7.0 (select language) → SAP Supply Network Collaboration (SAP SNC) → Supplier Collaboration → ASN Processing → Updating ASNs → Close ASNs* |
| Transaction /SCA/DLV_Delete<br>Report /SCA/DM_BOL_DLV_DELETE | Monthly or as needed. We recommend that you delete ASNs and alerts on a regular basis to avoid filling up your database. | Deletes closed or completely delivered ASNs |
| Transaction /SCA/INVALERTSWRITE<br>Report /SCA/INVALERTSWRITE | Daily | Creates the following inventory alerts:<br>#11: No inventory<br>#12: Inventory above maximum<br>#13: Inventory below minimum |

In addition, see section 4.5.1.5.

## 4.6.1.10 Release Processing

The following are standard periodic tasks specific to Release Processing. You need to run these tasks in addition to the standard SAP SNC tasks, as follows:

**Standard/Housekeeping Jobs**

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| Transaction /SCA/BOL_REL_DELETE | Monthly or as needed | Deletes scheduling agreement releases |

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| Report /SCA/DM_BOL_REL_DELETE | | |
| Transaction /SCA/RELUAALERTWRITE<br>Report /SCA/RELUNACKNALERTWRITE | Daily | Generates alerts for releases with past due acknowledgment if the supplier has not acknowledged the release at least five days after the release creation date. |
| Transaction /SCA/RELDEMAND_ALERT<br>Report /SCA/REL_DEMAND_ALERT_WRITE | Daily | You can use this report to generate alerts if the release contains schedule lines that the supplier cannot cover within the agreed lead time. |

In addition, see section 4.5.1.5.

## 4.6.1.11 Forecasting and Replenishment

**Standard/Housekeeping Jobs**

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| Transaction /FRE/DIFAR<br>Report /FRE/DB_DIF_DELETE | Depending on the data volume caused by Demand Influencing Factors (DIF) occurrences, the report should run weekly, monthly, or quarterly.<br>The number of DIF occurrences depends on the use of DIFs in a customer project. | This program is used to delete obsolete DIF occurrence data. A DIF occurrence is obsolete if at least one of the following conditions is satisfied:<br>- The occurrence is not active.<br>- The validity period ends before the relevant historical time horizon.<br>- The DIF definition no longer exists.<br>- The DIF assignment no longer exists.<br>You can delete DIF occurrences that are not obsolete (as defined above) via a DIF user interface (for example, the DIF Workbench).<br>When a DIF Occurrence is deleted, all related objects (texts, assignments, memos) are also deleted.<br>This report should also run after deletion of a DIF to remove all corresponding master data. A DIF can be deleted in Customizing for Forecasting and Replenishment. |
| Report /FRE/DB_DIF_DELTA_DELETE | Weekly - Monthly | Deletes obsolete DIF delta records. A DIF delta record is obsolete in the sense of this report, if there is no |

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| | | active occurrence for the DIF assigned to a particular location.<br><br>Deleting obsolete DIF delta records can reduce the run time of FRP sequence 3 (demand forecast calculation) for the respective location.<br><br>For more details, see SAP Note 1234578. |
| Report /FRE/DB_MSG_REORGANIZATION | Daily | Deletes exceptions where expiry date has passed.<br><br>If BI extraction of exceptions is active, the last extraction date is checked and only those exceptions with expiry date older than the last extraction date are deleted. |
| Transaction /SCMB/ODM_DELETE<br><br>Report /SCMB/ODM_DATA_DELETE | Weekly | Deletes order documents with document type FROP with header status >= 90 (that is completed, rejected or deleted) and for *Time One* with *Date Type for Date One* PLANTP and *Date Two* one month in the past |
| Transaction /FRE/TS_AGG_DAY_WEEK<br>Report /FRE/FU_TS_AGGREG_DAY_WEEK | Weekly | Aggregates daily time series into weekly time series according to the time series profile horizon |
| Transaction /FRE/TS_DELETE<br><br>Report /FRE/FU_TS_DELETE | Monthly | Deletes time series data that fall outside of the defined time horizon according to the time series profile horizon. Report /FRE/FU_TS_AGGREG_DAY_WEEK should be run before. |
| Transaction /SAPAPO/REO_MATLOCTD<br><br>Report /SAPAPO/DM_REORG_PROD_LOC_TD | Weekly - Monthly | Reorganization of time-dependent data for a location product |
| Transaction /FRE/REO_LANETD<br><br>Report /FRE/DB_REORG_LANE_TD | Monthly | The report deletes obsolete time-dependent data for transportation lanes for products |
| Transaction /FRE/REO_MATLOC<br><br>Report /FRE/DB_MATLOC_DELETE | Monthly | The report removes location products that are no longer in use in F&R.<br><br>The report works on location products that are flagged for deletion; the report deletes the location products and dependent |

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| | | data from the database, that is all data where the location product occurs.<br>The report does **not** archive the data before deletion. |
| Report /FRE/CPFR_DETERMINE_LOCPRD | Daily | This report is used to generate a table with a list of locations that are directly supplied by a vendor for a given product. The information in this table is used by the FRP process to determine if a tactical forecast is required for a given product/location and the horizon of this tactical forecast. |
| Transaction /FRE/REO_TRPROD2TD<br>Report /FRE/DB_REORG_TRPROD2_TD | Weekly - Monthly | Reorganization of time-dependent data for external procurement relationships for subranges |
| Transaction /FRE/ANA_CLEANUP<br>Report /FRE/DB_ANA_CLEANUP | Weekly - Monthly | This report is used to physically delete analytical data collected during the replenishment run. The objective is to reduce the size of the tables when data has been successfully transmitted to the Business Warehouse. Information such as Minimum Stock Variance and Weekly Figures may increase extremely quickly and may grow faster than the other analytical information.<br>The different analytical data that is deleted in this report includes:<br>For Stock Exceptions, entries in table /FRE/ANA_STCKEXC<br>For Minimum Stock Variances, entries in table /FRE/ANA_VAR<br>For Order Proposal Statistics, entries in table /FRE/ANA_OP_STAT<br>For Weekly Figures, entries in table /FRE/ANA_WEEKLY<br>SAP suggests that you clean the analytics tables regularly to improve transfer time to the Business Warehouse, unless you need to keep these entries for your own reports.<br>Prerequisite: |

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| | | Before any data is deleted, it must be transmitted to the Business Warehouse. Daily extraction of the analytical data should be scheduled by the Business Warehouse for all types of analytical information, including stock exceptions (stockout, possible stockout, overstock, understock, deadstock exceptions), Minimum Stock Variances, Order proposal statistics, weekly figures and any other analytical data that does not require specific tables, such as manually changed order proposals and replenishment exceptions.<br>The selected data to be clean-up is checked to ensure it has been extracted to BW, and a warning message is issued if the data has not been extracted yet.<br>The user can also decide to clean-up the selected data even if this has not been extracted to BW. |
| Report<br>/FRE/RWBS_MATKL_UPDATE | Daily | This report updates the Replenishment Workbench for Stores (RWBS) table of merchandise categories for each store or distribution center to which an RWBS user (replenishment specialist or manager) is already assigned. You can schedule this report in a background job or run it directly when changes are made to merchandise categories or lanes, or when articles are assigned or removed from a store or vendor. |
| Transaction /FRE/REO_CONTRACTS<br>Report /FRE/DB_CONTRACT_REORG | Daily – Weekly | This report deletes obsolete contracts. You can determine for which source locations contracts will be deleted.<br>The recommended frequency depends on the contract data volume. |

SAP Forecasting & Replenishment uses the normal Web AS functionality of load balancing with server groups, but is extended in configuration for parallel processing. For the F&R scenario, it is possible to distribute the workload of the forecasting and replenishment background jobs across server groups on location level to optimize parallel execution dynamically and data access time. For more details, see the configuration guide for F&R, especially the section on configuration of FRP.

You can find the configuration guide for Forecasting and Replenishment on SAP Service Marketplace at http://service.sap.com/ibc → *Industry Solutions* → *SAP for Retail* → *Multilevel Replenishment / Forecasting & Replenishment*.

SAP F&R Replenishment Workbench for Stores (RWBS) does not require any periodic tasks.

### 4.6.1.12 Responsive Replenishment

See section 4.5.1.5.

### 4.6.1.13 Make to Order for OEM

**Standard/Housekeeping Jobs**

| Program Name / Task | Recommended Frequency | Detailed Description |
|---|---|---|
| Transaction RPM_DATEVECTORS_REORG<br>Report RPM_DATEVECTORS_REORG | Monthly | Deletes obsolete date vectors (pointers between requirements and resources) in SAP liveCache |

### 4.6.1.14 Multiple Output Planning

There are no scenario-specific jobs. You can use the standard jobs for SAP APO and SAP liveCache technology as described above.

### 4.6.1.15 Maintenance and Service Planning

There are no scenario-specific jobs. You can use the standard jobs for SAP APO and SAP liveCache technology as described above.

## 4.6.2 Required Manual Periodical Tasks

This section describes all manual tasks required to run periodically in order to keep the application running smoothly over time. A manual task needs a person to execute it, in contrast to the scheduled tasks listed above, which can be automated using a task scheduler program. Such tasks may be required on component level and are therefore relevant in each scenario that uses the component. 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.

### 4.6.2.1 SAP SCM Basis (Part of SCM Server)

As SAP SCM Basis is not a standalone component, required manual tasks for objects in SAP SCM Basis are normally initiated by application components that use SAP SCM Basis and are also documented with these components. For example, report /SCMB/ALERT_HIST_DEL for the deletion of the alert history is located in SCM Basis but used by SAP SNC. Therefore, you find the relevant information in the relevant section for periodic tasks in SAP SNC.

### 4.6.2.2 SAP APO (Part of SCM Server)

For more information about required manual tasks for SAP APO, see the following Best Practice documents:

- Internal and External Consistency for SAP APO (3.x) / mySAP SCM (4.x)
- Manage Demand Planning in SCM/APO
- Manage Supply Network Planning in SCM / APO

- Manage Production Planning in SAP APO (3.x) / mySAP SCM (4.x)
- Manage Global ATP in SAP APO (3.x) / mySAP SCM (4.x)
- Manage the Transportation Management Solution in SAP APO (3.x) / mySAP SCM (4.x)

### 4.6.2.3 SAP liveCache Technology

For information about required manual periodical tasks in SAP liveCache, see section 3.2.2 and the Best Practice document Internal and External Consistency for SAP APO 3.x / mySAP SCM 4.x/5.0.

### 4.6.2.4 SAP SCM Optimizer

For information about required manual periodical tasks in SAP liveCache, see section 3.2.3.

### 4.6.2.5 SAP Supply Network Collaboration (Part of SCM Server)

**Required Manual Periodical Tasks**

| Task or Transaction | Description | Recommended frequency |
|---|---|---|
| Transaction /SCMB/ALERT_HIST_DEL | Delete Alert History<br>Any change to an alert (owner changes, response, and so on) creates a new version, and the prior version of the report is placed into a tracking file. This file should be emptied periodically. The alert history can be deleted by alert type, minimum alert age in days, application, or application | Monthly or as required |
| Transaction /SCA/TSDM_TS_DELETE | Deletes the current time series data that can be viewed on the SAP SNC application in screens such as the Inventory Monitor | Monthly or as required |
| Transaction /SCA/TSDM_TSHIST_DEL | Delete time series tracking data<br>Users can delete time series history data by either specifying a *Date From* and *Date To*, or by specifying how many days in the past (from the current day) they want the data deleted. | Monthly or as required |
| Transaction /SCA/FTR_DELETE | Delete File Transfer Profiles | As required |

**Scenario-Specific Manual Tasks**

| Required for Scenario(s) | Task | Tool(s) Supporting This Task | Recommended Frequency | Detailed Description |
|---|---|---|---|---|
| Work Order Collaboration | Resend XML messages of type *ManufacturingWorkOrderProductionProgressNotification* | Report /SCA/WO_PROD_PROGRESS_RESEND | Daily or as required | You use the report when the automatic creation of an XML message of type *ManufacturingWorkOrderProductionProgressNotification* has failed or an XML message was accidentally deleted.<br>For more information, see the report documentation. |

### 4.6.2.6 SAP Extended Warehouse Management (Part of SCM Server)

**Required Manual Periodical Tasks**

| Task or Transaction | Description | Recommended Frequency |
|---|---|---|
| Transaction /SCWM/VALUATION_SET | Physical Inventory: Get product prices from ERP (*SAP Easy Access* screen under *Extended Warehouse Management* → *Physical Inventory* → *Periodic Processing*) | Necessity and frequency depend on the usage of price information in the physical inventory process. Weekly or monthly |

### 4.6.2.7 SAP Forecasting and Replenishment (Part of SCM Server)

There are no required manual periodical tasks for Forecasting and Replenishment. See the scheduled periodical tasks described in section 4.6.1.11.

### 4.6.2.8 Project Manufacturing

There are no scenario-specific manual periodical tasks for Project Manufacturing. Perform the tasks for SAP APO and SAP liveCache technology as described above.

### 4.6.2.9 Make-to-Order for OEM

There are no specific required manual periodical tasks for Make-to-Order for OEM. Perform the tasks for SAP APO, SAP liveCache technology, and SAP SCM Optimizer above.

### 4.6.2.10 Multiple Output Planning

There are no specific required manual periodical tasks for Multiple Output Planning. Perform the tasks for SAP APO, and SAP liveCache technology above.

### 4.6.2.11 Maintenance and Service Planning

There are no specific required manual periodical tasks for Maintenance and Service Planning. Perform the tasks for SAP APO and SAP liveCache technology above.

### 4.6.2.12 Service Parts Planning

There are no specific required manual periodical tasks for Service Parts Planning. Perform the tasks for SAP APO and SAP liveCache technology above.

When using the TPOP forecast with Service Parts Planning (SPP), make sure that after an upgrade from SCM 5.1 to SCM 7.0, the report /SAPAPO/PPR_UPD has been executed exactly once. This report determines the planning profiles containing an SCM 5.1 forecast profile in which you have chosen the TPOP forecast as type for the forecast run. In these planning profiles, the report replaces regular forecast services by the appropriate TPOP forecast services. In detail, the report makes the following replacements in the affected planning profiles:

- SPP_FCS_SERVICE is replaced by SPP_FCS_SERVICE_TPOP
- SPP_FCS_SERVICE_MSE is replaced by SPP_FCS_SERVICE_MSE_TPOP
- SPP_FCST_RELEASE is replaced by SPP_FCST_RELEASE_TPOP
- SPP_RECALC_HISTFCST is replaced by SPP_RECALC_HISTFCST_TPOP

Enter all planning profiles in the report and choose *Execute*.

## 4.7 Load Balancing

SAP SCM uses the standard functionality of NetWeaver for logon and load balancing. For more information about network load balancing, see SAP Service Marketplace at http://service.sap.com/ha and in the SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver* Library → SAP NetWeaver Library → Administrator's Guide → Technical Operations Manual for SAP NetWeaver → *General Administration Tasks* → *High Availability* → *Network High Availability* → *Web Server Networks and DMZs*.

## 4.8 User Management

SAP SCM uses the standard functionality of NetWeaver for the user management, such as creating users with transaction SU01 and creating and using roles with transaction PFCG. For more information, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0(2004s)* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *SAP NetWeaver Security Guide* → *User Administration and Authentication*.

For more information about user management in SAP SCM, see the SAP SCM Security Guide on SAP Service Marketplace at http://service.sap.com/securityguide → *SAP Supply Chain Management* → *SCM 7.0*.

For an overview of the information necessary for operating SAP NetWeaver Identity Management, see the *Identity Center - Operations Guide* available on SAP Help Portal at http://help.sap.com/nw71 → SAP NetWeaver Identity Management 7.1.

**SNC-Specific User Management:**

In addition, you can use the SAP-SNC-specific user administration for SAP SNC, which is part of the SAP SNC Web UI. In SAP SNC user administration, user administrators who are assigned to a business partner can maintain the users of that business partner on the *User Administration* Web screens. For more information about user administration, see the SAP SNC documentation on SAP Help Portal at http://help.sap.com → *SAP Business Suite* → *SAP Supply Chain Management* →

*SAP SCM 7.0 [open]* → *Application Help EN* → *SAP Supply Chain Management (SAP SCM)* → *SAP Supply Network Collaboration (SAP SNC)* → *Master Data* → *User Administration.*

If you are using the SAP NetWeaver Identity Management 7.1 product under license, you can also create users and business partners on a central identity hub and replicate users and business partners automatically to SAP SNC.

For more information about security aspects of user management, see the *User Management* section in the SAP SNC Security Guide on SAP Service Marketplace at http://service.sap.com/securityguide → *SAP Supply Network Collaboration* → *SNC 7.0*.

## 4.9 Printing

SAP SCM uses the standard functionality of NetWeaver for printing (Smart Forms and PDF-based forms using Adobe). For more information about printing, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *AS ABAP (Application Server for ABAP)* → *Administration* → *Printing*.

# 5 High Availability

For high availability options of SAP APO, SAP liveCache technology, and SAP SCM Optimizer, you can find information in the Best Practice document APO Backup and Availability.

For high availability of all other components of SCM, see the information on SAP Service Marketplace at http://service.sap.com/ha → *Media Library* → *Documentation* → *HA Documentation* or see the documentation on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *General Administration Tasks* → *High Availability*.

# 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.

The following topics are covered:

- Transport and Change Management - Enables and secures the distribution of software changes from the development environment to the quality assurance and production environment.
- Development Request and Development Release Management – Enables customer-specific maintenance procedures and open integration with third-party products.

- Template Management – Enables and secures the rollout of global templates, including localizations.
- Quality Management and Test Management - Reduce the time, cost, and risk associated with software changes.
- Support Packages and SAP Notes Implementation – Provide standardized software distribution and maintenance procedures.
- Release and Upgrade Management – Reduces the time, cost, and risk associated with upgrades.

# 6.1 Transport and Change Management

All components of SAP SCM are client-enabled. For transport and change management issues, the procedures of SAP NetWeaver apply. For more information, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *AS ABAP (Application Server for ABAP)* → *Software Logistics* → *Transport and Change Management*.

The transport of Java components can be obtained from the following link: Java Transport.

**SAP WCL:**
To transport configuration settings for SAP WCL, you have to copy the parameters.xml file where all the configuration information is stored.

**Multiclient capabilities:**
Regarding the multiclient capabilities of SAP SCM, the following applies:

- SAP SCM 7.0 is multiclient compliant per design.
- For SAP APO the following restrictions apply:

| SAP APO Application | Multiclient Compliant | Comment |
|---|---|---|
| PP/DS | Yes | |
| TP/VS | Yes | SAP BW related restrictions only for Carrier Selection; Uses ATP product allocation, because in this case, ATP product allocation uses automatically Demand Planning |
| ATP | Yes | |
| CTM | Yes | |
| SNP | Yes, with restrictions and workarounds | SAP BW related restrictions for technical data based on planning object structures |
| DP | Yes, with restrictions and workarounds | SAP BW related restrictions |

- liveCache: For productive systems, we recommend that you run exactly one liveCache on a separate server (for reasons of performance, stability, availability).

The supply of several SCM systems from a common liveCache (with shared data) is not supported. Thus, from a logical point of view, each system has to have its own liveCache.

## 6.2 Development Requests and Development Release Management

The standard procedures of SAP NetWeaver apply. See the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal under *SAP NetWeaver*.

**SAP WCL:**
If you want to make modifications to SAP WCL, you have to use the OpenWCL modification interfaces and classes framework. For the version management and the transport of your modifications, you have to set up your own version, source control and management system. In the case of an update of the WCL, the whole WCL application has to be replaced by a newer version. For more information about customer-specific modifications, see SAP Service Marketplace under http://service.sap.com/scm → *SAP Business Suite Applications* → *SAP SCM* → *SAP EM* → *Using SAP EM 7.0* → *SAP Event Management WCL 7.0: Installation Guide*.

## 6.3 Template Management

You can deploy Customizing settings by using Business Configuration Sets (BC sets).

For more information about BC sets, see BC Set Documentation.

## 6.4 Quality and Test Management

You can use the SAP NetWeaver Development Infrastructure to learn about the various possibilities to test your software changes.

## 6.5 Support Packages and Patch Implementation

We recommend that you implement Support Package Stacks (SP-Stacks), which are sets of support packages and patches for the respective product version that must be used in the given combination. The technology for applying support packages and patches will not change.

You can find detailed information about the availability of SP stacks for SAP SCM 7.0 on SAP Service Market Place at http://service.sap.com/sp-stacks.

Read the corresponding Release and Information Notes (RIN) before you apply any support packages or patches of the selected SP Stack.

Use the Maintenance Optimizer (transaction DSWP) of the SAP Solution Manager to select, download, and install the needed usages, or software components and required support packages. For more information, see the following:

- SAP Solution Manager documentation on SAP Help Portal at http://help.sap.com → *SAP Solution Manager* → *Change Management* → *Maintenance Optimizer*
- SAP Service Marketplace at http://service.sap.com/solman-mopz
- The documentation for transaction SAINT (SAP Add-On Installation Tool)

For more information about the implementation of support packages as well as possible side effects, see http://service.sap.com/patches → *SAP Support Packages in Detail*.

For more information about the tools necessary for implementing patches, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *AS ABAP (Application Server for ABAP)* → *Software Logistics* → *Software Maintenance*.

# 6.6 Release and Upgrade Management

For information about an upgrade to SCM 7.0, see the Upgrade Master Guide for SAP SCM 7.0.

For more information about the release and upgrade management of SAP NetWeaver 7.0 including Enhancement Package 1, Usage Type PI/XI, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *Administration of SAP NetWeaver Systems* → *PI (Process Integration)* → *Software Logistics* → *Release and Upgrade Management.*

For all other components, see the operation guides listed in section 9.3.

**Component Release**

| Software Component | Tools for Displaying the Current Version |
|---|---|
| **Project Manufacturing** | |
| SCM Server | Menu *System* → *Status* |
| SAP liveCache | Transaction /SAPAPO/OM13 |
| SAP ERP or SAP R/3 | Menu *System* → *Status* |
| CIF (PlugIn) | Menu *System* → *Status* |
| SAP SCM Optimizer | Transaction rcc_version |
| **Supplier-Managed Inventory** | |
| SCM Server | Menu *System* → *Status* |
| SAP ERP or SAP R/3 | Menu *System* → *Status* |
| XI | See below |
| CIF (PlugIn) | Menu *System* → *Status* |
| Internet Graphics Service (IGS) | See below |
| **Release Processing** | |
| SCM Server | Menu *System* → *Status* |
| SAP ERP or SAP R/3 | Menu *System* → *Status* |
| XI | See below |
| **Forecasting & Replenishment** | |
| SCM Server | Menu *System* → *Status* |
| SAP ERP or SAP R/3 | Menu *System* → *Status* |
| SAP BI 7.03 Server (Part of SAP NetWeaver) | Menu *System* → *Status* |
| SAP F&R Replenishment Workbench for Stores (RWBS) | See below |
| XI | See below |
| **Responsive Replenishment** | |
| SCM Server | Menu *System* → *Status* |

| Software Component | Tools for Displaying the Current Version |
|---|---|
| SAP ERP or SAP R/3 | Menu *System* → *Status* |
| XI | See below |
| CIF (PlugIn) | Menu *System* → *Status* |
| **Make-to-Order for OEM** | |
| SCM Server | Menu *System* → *Status* |
| SAP liveCache | Transaction /SAPAPO/OM13 |
| SAP ERP or SAP R/3 | Menu *System* → *Status* |
| CIF (PlugIn) | Menu *System* → *Status* |
| SAP SCM Optimizer | Transaction rcc_version |
| **Multiple Output Planning** | |
| SCM Server | Menu *System* → *Status* |
| SAP liveCache | Transaction /SAPAPO/OM13 |
| SAP ERP or SAP R/3 | Menu *System* → *Status* |
| CIF (PlugIn) | Menu *System* → *Status* |
| **Maintenance and Service Planning** | |
| SCM Server | Menu *System* → *Status* |
| SAP liveCache | Transaction /SAPAPO/OM13 |
| SAP ERP or SAP R/3 | Menu *System* → *Status* |
| CIF (PlugIn) | Menu *System* → *Status* |
| **Scenarios Using Event Management** | |
| SCM Server | Menu *System* → *Status* |
| SAP ERP or SAP R/3 | Menu *System* → *Status* |
| CIF (PlugIn) | Menu *System* → *Status* |
| WCL | Transaction /SAPTRX/WCL_ADMIN (you can find the SP level at the top of the page) |

### Displaying the Support Package Version of IGS

You can display the Support Package version of the IGS in the following two ways:

- Using the Web Interface
  `http://(hostname):(port)`
  `hostname` = The name of the machine where the IGS is installed, for example P12345
  `port` = The port of the http listener. You can find this in the IGS configuration file.
- Using CCMS (see section 3.1.2.2)
  For more information, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP*

*NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → SAP NetWeaver by Key Capability → Application Platform by Key Capability → ABAP Technology → UI Technology → Frontend Services (BC-FES) → SAP Graphics (BC-FES-GRA) → Internet Graphics Service → Administering the IGS*.

**Displaying the Support Package Version of XI Content**

1. To check the version of the SAP SNC system, on the *SAP Easy Access* screen of your SAP SNC system, choose *System → Status → SAP System Data*.
2. Choose *Component Information*.
3. To check the Support Package of the SNC content in the XI system, on the *SAP Easy Access* screen of your XI system, choose *Integration Builder → Integration Repository*.
4. Choose *SAP SNC → SAP SNC 7.0*.
5. Open the context menu for SAP SNC 7.0 and choose *Display Support Package*.

   If the *Display Support Package* option is not available in the context menu, no Support Packages have been installed. In this case, the system has Support Package level 000.

For more information about version management in the Exchange Infrastructure of SAP NetWeaver, see SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → SAP NetWeaver by Key Capability → Process Integration by Key Capability → SAP NetWeaver Exchange Infrastructure → Design and Configuration Time → Software Logistics for XI Objects → Version Management*.

**Displaying the Support Package Version of SAP F&R Replenishment Workbench for Stores (RWBS)**

You can display the Support Package version of the SAP F&R Replenishment Workbench for Stores (RWBS) (formerly called “F&R Store User Interface”) in the following two ways:

- Using the system information on the Web page of the J2EE server
  Click on `System Information` to display the version information for SAP F&R Replenishment Workbench for Stores (RWBS)
- Using the `Visual Administrator` or the `Config tool` of the J2EE Engine
  For more information, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → Administrator’s Guide → Technical Operations Manual for SAP NetWeaver → Administration of SAP NetWeaver Systems → AS Java (Application Server for Java) → Management → Tools*.

**SAP Release and Upgrade Plans**

For information about SAP’s release and upgrade plans, see SAP Service Marketplace at http://service.sap.com/releasestrategy → *SAP Business Suite → SAP Supply Chain Management*.

For information about the maintenance strategy and further services for SAP SCM, see http://service.sap.com/maintenance.

You can access the upgrade guide at http://service.sap.com/instguides → *SAP Business Suite Applications → SAP SCM*.

# 7 Troubleshooting

For information about troubleshooting SAP NetWeaver, see the *Technical Operations Manual for SAP NetWeaver* on SAP Help Portal at http://help.sap.com → *SAP NetWeaver* → *SAP NetWeaver 7.0 including Enhancement Package 1* → *SAP NetWeaver 7.0 Library* → *English* → *SAP NetWeaver Library* → *Administrator's Guide* → *Technical Operations Manual for SAP NetWeaver* → *General Administration Tasks* → *Troubleshooting for SAP Web Application Server* → *SAP NetWeaver Problem Analysis Guide (PAG)*.

## 7.1 SAP Supply Network Collaboration

### 7.1.1 Tools for Troubleshooting

You can use the following tools for troubleshooting SAP SNC:

- XML Monitor

  The XML Monitor is used to monitor the processing of XML messages, as well as to track message errors and statuses. Message throughput can also be monitored. Monitoring initially helps the system administrator to monitor their system and at the same time is used by the application as a processing monitor. Use transaction SXMB_MONI, or menu path *Supply Network Collaboration* → *Tools* → *Monitoring XML Messages* → *Integration Engine*.

- Audit trails and application log

  See section 3.2.5 for information about audit trails and the application log.

- Where-used list

  You can use the where-used list to check where a product is used in SAP SNC. This allows you, for example, to find out if a product is still used in a document and to identify product data inconsistencies. For more information, see SAP Library for SAP SNC under *Where-Used List*.

### 7.1.2 Typical Issues with the Web User Interface

The following list provides an overview of typical issues with the Web user interface and how to resolve them:

- **No Web screens shown in the Web browser**

  The activation of services is necessary so that the user can call up the Web screens in Internet Explorer. Internet Explorer only shows the Web screens if the services are activated. Otherwise you get an error message. Check the settings in the SAP Easy Access menu under *Tools* → *Administration* → *Administration* → *Network* → *HTTP Service Hierarchy Network*. For more information about the required settings, see the configuration documentation for SAP SNC in SAP Solution Manager.

- **Security warnings in the Microsoft Internet Explorer**

  The following might happen:

  - You get the following message when running SAP SNC: "Security Information - This message contains both secure and nonsecure items. Do you want to display the nonsecure items?"
  - The screen is aborted and you get the message: "Action canceled - Internet Explorer was unable to link to the Web page you requested. The page might be temporarily unavailable."

  In this case, check the Internet Explorer settings as follows:

  - Choose *Tools* → *Internet Options* → Tab *Security*.

- Choose the *Custom Level* pushbutton.
- Under *Miscellaneous*, set *Launching programs and files in an IFRAME* to *Disabled*.

Then the security warning will not appear anymore.

# 7.2 SAP Forecasting and Replenishment

## 7.2.1 Monitoring of F&R Inbound Interface

**Description**

If data from an SAP system (ERP or R/3) has been stored successfully in the interface table in F&R, this data is posted to F&R master data and transaction data using report /FRE/BIF_INB01 (transaction /FRE/BIF). This report reads the interface table and posts the data to the relevant master and transaction data tables in F&R.

In report /FRE/BIF_INB01, you can choose which data is to be posted and whether the data is to be processed in parallel.

Exceptions that occur during the posting of data to F&R are logged in the Interface Workbench (transaction /FRE/CON) and the Exception Workbench (Transaction /FRE/EXC).

**Possible Problem**

Not enough DIA work processes are available or a process has been aborted.

**Possible Approach**

All processes should create exceptions or error messages in the workbenches. If such errors or exceptions occur, there is a recovery strategy for reposting failed data. The erroneous data can be re-released and reprocessed. When the errors are fixed, go to the Interface Workbench (transaction /FRE/CON) and set the status of the items to '*Not Processed*'. Reprocess the erroneous items using report /FRE/BIF_INB01 (transaction /FRE/BIF).

## 7.2.2 Monitoring of F&R Outbound Interface

**Description**

Released order proposals are transferred to SAP ERP, when purchase orders are created for these order proposals.

You can transfer released order proposals to ERP using report /FRE/BIF_INB01 (transaction /FRE/BIF) by selecting the *Outbound Message Types* group box.

Firstly, the order proposals are transferred sequentially to an interface table. Then, the order proposals are posted in SAP ERP via parallel RFC processing.

Order proposals that have not yet been released can be released and transferred using report /FRE/FU_OPM_MASS_REL (transaction /FRE/OPM_MASSREL). The order proposals are transferred to SAP ERP as described for report /FRE/BIF_INB01.

If exceptions occur during processing, they are written to the Exception Workbench or the Interface Workbench.

**Possible Problem**

Not enough DIA work processes are available or a process has been aborted.

**Possible Approach**

All processes should create exceptions or error messages in the workbenches. The incorrect items can be reprocessed. Go to the Interface Workbench and set the status of the items to '*Not*

'. Then re-process the incorrect items using report /FRE/BIF_INB01 (transaction /FRE/BIF).

## 7.2.3 Monitoring of FRP Run

**Description**

The Forecast and Replenishment Processor (FRP) run should be carried out every day for all relevant locations. You do this using the FRP Dispatcher or report /FRE/FRP_MID_BASIC.

If you use the FRP Dispatcher you can monitor the execution of the single tasks via report /FRE/UI_FRP_SHOW_LOC_STATUS.

If you use the report /FRE/FRP_MID_BASIC you can monitor the execution of the single sequences via report /FRE/UI_FRP_SHOW_SEQSTATUS.

The exception workbench shows errors, warnings and information that are issued during the FRP run (transaction /FRE/EXC).

Additionally, the dispatcher can also be monitored via CCMS. You can start the CCMS monitor on the *SAP Easy Access* screen, by choosing *CCMS Monitoring (transaction RZ20)* → *SAP F&R* → *F&R Status Messages*. Here you can distinguish between planning objects and dispatcher processes. Planning objects are locations that are processed by the FRP processor. Dispatcher processes represent the framework that allows you to process the locations according to the Customizing. For information about how to create reaction methods and how to subscribe to these objects, see the online help for the CCMS monitor.

**Possible Problem**

Not enough DIA work processes are available, a process has been aborted, or there is not enough disk space.

**Possible Approach**

All processes should create error messages in the Exception Workbench. If you execute the /FRE/UI_FRP_SHOW_LOC_STATUS or /FRE/UI_FRP_SHOW_SEQSTATUS report, not all tasks or sequences have status OK.

If one or several steps fail, they can be reprocessed. In case of using the FRP dispatcher, use either the report /FRE/UI_FRP_PROC_LOC_BY_DISP (all steps will be reprocessed) or the report /FRE/UI_FRP_PROC_LOC_AFTER_ERR (starts with the erroneous step). When using /FRE/FRP_MID_BASIC, use the appropriate restart option (details are explained in the input help).

First, solve the respective resource problems (disk, available processes). After that, you can reprocess the steps that have not been processed.

# 7.3 SAP SCM Optimizer

For troubleshooting information about the SCM Optimizer, see SAP Note 1175067**.**

# 7.4 SAP Enterprise SOA

In the following section, you can find troubleshooting information for different topics in the area of SAP Enterprise SOA.

## 7.4.1 Authorization

If it seems that there is a possible authorization problem, first proceed as follows:

- Check that the service is available.

  If the service is not available, see *Service Availability*.

- Check whether the user itself does not exist, is locked, or is linked to a role that is not allowed to perform the service.

  If your answer is *yes*, troubleshoot the problem by yourself.

If both questions above are answered with *no*, add the following information to your message to SAP:

- Security/user rights (NW authentication/authorization)
- Service run authorization (Role assignment of service user)

**Frequent Problem: HTTP Exception / Problem Exception / Dump**

Message: Web service is not running for this user!*

- Web service is not running for this user! Technical permissions are missing fort he following:
  - For ESA for execution of Web services
  - For application in back-end system

The problem occurs while sending the request.

**Example: Unauthorized – Authorization problems (role)**

The Web service cannot run → Logon to *remote server* is not possible. Problem is detected from network.

**Problem Code/Message**
ICF-LE-http-c:005-I:-T:1-C:3-U:5-P:5-L:6
HTTP/1.1 401 Unauthorized

**What happened?**
Calling URL http://usciqeh.wdf.sap.corp:50077/sap/bc/srt/xip/sap/ECC_EmpAddrEmpQR broken because of incorrect logon.

**What did you do?**
Logon was performed in system ‘QEH’ for client ‘005’, user ‘test’ and language ‘EN’.

**What could you do?**
Verify client, user and password → typos.
If you do not have access rights, contact your system administrator.

**Further comments**
HTTP/1.1 401 Unauthorized, content-type: text/html; charset=utf-8
content-length: 2242, sap-system: QEH
www-authenticate: Basic realm="SAP Web Application Server [QEH]"
sap-client: 005, server: SAP Web Application Server (1.0;700)

## 7.4.2 Interface

Interface problems are communication problems between components, objects, and functions via calls or parameters. Examples: missing parameter, missing/incorrect method function offered/any kind of mismatch in calls between caller and callee. All problems about public API fall into this category.
They show up as problem messages from the consumer WSDL runtime. In most cases, the source lies in problems in the consumer application (Java, .Net, …) and is located between the provider and consumer site.

**Frequent Problem: Problem message from consumer WSDL runtime**

Message: No generation of client proxy possible

- For example, no support for long path in MS .Net (SAP Note 993024)

Message: Dynamic generation of structures or classes not possible

- For example, workaround (SAP Note 993024)

**Example: Problems in consumer application (Java, .Net, …)**

No support for long path in MS .Net (see SAP Note 993024). Problem is detected from consumer site/client site. The problem message is posted from the consumer WSDL runtime.

**Problem Code/Message**
at com.sap.engine.core.thread.impl3.SingleThread.run
(SingleThread.java:170)
Caused by: com.sap.engine.interfaces.webservices.server.deploy.
WSDeploymentException: Webservices common deployment exception!
The reason is: Problem occurred generating ws client proxy files.
Package problem. Additional info: {1} …
Dynamic generation of structures or classes not possible.

**What happened?**
java.rmi.RemoteException: Cannot deploy application. So the fully qualified name for the proxy class is 260 characters, which has caused the IOException during deployment.

**What did you do?**
Tried to call a Web service with a long definition name.

**What could you do?**
For example, workaround (SAP Note 993024)

## 7.4.3 Checking/Conversion

Checking/conversion problems are located at the provider site. It might be helpful to use trace tools (see *Troubleshooting Notes)*.

**Example: Request valid, but data missing or incorrect**

The request is valid, but data for *business logic or content* is missing or incorrect. The problem is detected from the provider site, for example message 2801000 2006.
The following problem text was processed in the system QEK: **Exception condition “NOT_FOUND” raised**.

**Problem Code/Message**
Problem when processing your request
HTTP/1.1 500 Internal Server Problem / Log file / Dump in Backend

**What happened?**
The URL http://usciqek.wdf.sap.corp:50090/sap/bc/srt/xip/sap/ECCEmpTimSheetChgRC was not called due to a problem.

**What could you do?**
Use the trace tool to detect the source of the problem.

**Example: Dump in Backend/Network exceptions**

The implementation of the services or the implementation in used application components produces a dump in the backend based on the data entered. For some test data, it works, for other data it does not work due to missing Customizing or code bugs. The problem is detected from provider site.
For example, message 0004157629 2006, 3716561 2006.
The following problem text was processed in the system QEK: **Exception condition “NOT_FOUND” raised**.

**Problem Code/Message**
Problem when processing your request

HTTP/1.1 500 Internal Server Problem / Log file / Dump in Backend

**What happened?**
The URL http://usciqek.wdf.sap.corp:50090/sap/bc/srt/xip/sap/ECCEmpTimSheetChgRC was not called due to a problem.

**What could you do?**
Use the trace tool to detect source of the problem.

## 7.4.4 Problems with Web Service Infrastructure Tools

If you face problems with one of the Web service infrastructure tools, select the corresponding component from the following table:

| Problem Source | SAP Application Area | Description |
|---|---|---|
| * | CA-SOA-DS | SAP Discovery System for enterprise SOA |
| * | CA-SOA-WP | ES Workplace |
| * | CA-SOA-WS | General Web Service Problems |
| Backend | CA-DMS | Document Management System |
| Backend | SV-SMG-SDD | Service Data Download |
| Backend | XX-SER-TCC | Technical Core Competence |
| Duet | XA-OSP | Office Suite Program |
| J2EE | BC-JAS | Java Application Server |
| J2EE | BC-JAS-WEB | Web Container, HTTP, JavaMAIL, JSP |
| RFC | BC-MID-RFC | RFC |
| Web Service Design-Time | BC-DWB-PRX | Proxy Generation |
| Web Service Design-Time | BC-DWB-WS-ABA | Web Service Tools - ABAP |
| Web Service Design-Time | BC-DWB-WS-JAV | Web Service Tools - Java |
| Web Service Runtime | BC-ESI-WS-ABA | Web Service and SOAP - ABA |
| Web Service Runtime | BC-ESI-WS-JAV | Web Service and SOAP - JAV |
| Web Service Runtime | BC-MID-ICF | Internet Communication Framework |
| XI Design-Time | BC-XI-IBD | Integration Builder - Design |
| XI Runtime | BC-XI | Exchange Infrastructure |
| XI | BC-CCM-SLD | System Landscape Directory/Component |
| XI | BC-XI-CON-AFW | J2EE Adapter Framework |
| XI | BC-XI-CON-AFW-TAD | Technical Adapter (JMS, JDBC, RFC, SOAP, File) |
| XI | BC-XI-IBC | Integration Builder - Configuration |

For problems with SDN, use the generic email account sdn@sap.com and report the problems via email.

## 7.4.5 Troubleshooting Notes

If you are interested in further information, the most important SAP Notes for troubleshooting enterprise SOA are listed below:

| Note Number | Short Text |
|---|---|
| 900076 | Procedure in the RFC problem case |
| 69455 | Service tools for Applications ST-A/PI (ST14, RTCCTOOL, ST12) |
| 963774 | Duet - Requirements for troubleshooting |
| 764417 | Information for troubleshooting of the SAP J2EE Engine 6.40 |
| 825797 | Tracing for the Web Container in SAP J2EE Engine 6.40 |
| 878860 | RFC Tracing for ABAP-to-external communication |
| 878962 | RFC Tracing for ABAP-to-external communication |
| 847395 | Problem message: SOAP processing fault, problem id = 112 |
| 1006665 | Checklist for creating web service problem message |
| 1012681 | Generating Traces for SOAP Runtime (ABAP) |
| 1009109 | Analyze web service problems with ICF recorder |
| 724804 | Using the ICF recorder for troubleshooting |
| 806546 | XI Troubleshooting Guide |
| 821268 | XI 3.0 / PI 7.0 AF: Overview of available FAQ notes |
| 854536 | XI 3.0 / PI 7.0 AF: Information Required by SAP Support |
| 912414 | Activate client logging of Integration Builder tools |
| 953120 | XI 3.0 / PI 7.0 JDBC Adapter: JDBC Driver Tracing |
| 1009527 | Problem Analysis Exchange Infrastructure Profile |

Other related SAP Notes for troubleshooting:

| Note Number | Short Text |
|---|---|
| 13719 | Preliminary transports to customers (note for customers) |
| 16018 | More information required on reported message |
| 47682 | Activating the CPIC trace |
| 85750 | Syntax problem in SAPLSTUW after Hot Package 18 |
| 91488 | SAP Support Services – Central preparatory note |
| 127642 | RSCOLL00: Tuning COLLECTOR_FOR_PERFORMANCEMONITOR |
| 133017 | Namespace conflicts w. upgrade to Release 4.x |
| 133735 | SAPLSTUW: IMPORT_ALIGNMENT_MISMATCH during import of STAPAR |
| 142005 | Termination of RSSTAT90 after upgrade |
| 164203 | Problems with SAPHTTP |
| 176277 | Generating RFC trace information |

| Note Number | Short Text |
|---|---|
| 187939 | SAP Service tools Update (RTCCTOOL) |
| 207223 | Activating the SAP EarlyWatch Alert |
| 216952 | Service Data Control Center (SDCC) – FAQ |
| 413708 | RFC library that is current at this time |
| 500235 | Network Diagnosis with NIPING |
| 507994 | Creating plug-in trace files for troubleshooting |
| 517484 | Inactive services in the Internet Communication Framework |
| 532918 | RFC trace generation scenarios |
| 661600 | SAP Easy DMS: Creating an “extended trace” |
| 710146 | How to change J2EE Engine JVM Settings |
| 710154 | How to create a thread dump for the J2EE Engine 6.40 |
| 724719 | How to enable HTTP tracing in the SAP J2EE Engine 6.40 |
| 724804 | Applying the ICF-Recorders for troubleshooting |
| 730870 | FAQ XI 3.0 RFC Adapter |
| 742395 | Analyzing High CPU usage by the J2EE Engine |
| 746917 | FAQ Content Player – SAP Learning Solution |
| 751872 | Problem analysis with HTTP or external debugging |
| 761921 | Creating an XI adapter framework trace file |
| 763561 | Service Data Control Center (SDCCN) – FAQ |
| 769478 | Remote connection with XI systems |
| 774854 | FAQ XI 3.0 BC Adapter |
| 777565 | Output of runtime information from tp (Trace) |
| 781680 | SDCC/SDCCN – Problems with function modules |
| 784471 | Determining installed Adapter Framework Version |
| 804713 | Download information from ST-A/PI missing in BW scenarios |
| 813993 | FAQ: Message status in the adapter framework |
| 816022 | FAQ: XI 3.0 J2EE Adapter Engine / Messaging System |
| 819893 | Exchange profile cannot be imported |
| 821267 | FAQ: XI 3.0 / PI 7.0 File Adapter |
| 821268 | XI 3.0 / PI 7.0 AF: Overview of available FAQ notes |
| 824236 | XI File & JDBC Adapter: Retrieving diagnostic channel configuration |
| 830039 | FAQ: Deployment of the XI adapter framework |
| 831162 | FAQ: XI 3.0 / PI 7.0 JDBC Adapter |
| 845540 | Template for reporting Messages in BC-JAS* |
| 854536 | XI 3.0 / PI 7.0 AF: Information Required by SAP Support |

| Note Number | Short Text |
|---|---|
| 856346 | J2EE JMS Adapter: Frequently Asked Questions (FAQ) |
| 856597 | FAQ: XI 3.0 SOAP Adapter |
| 856599 | FAQ:XI 3.0 Mail Adapter |
| 869095 | Maintaining the ICF recorder settings |
| 870270 | FAQ note for initiating Support related to ISpeak Adapters |
| 889529 | First analysis for messages in BC-JAS-SF |
| 937159 | XI Adapter Engine is stuck |
| 938980 | Logon to Integration Builder fails |
| 944792 | Runtime analysis by start of external RFC-servers |
| 990000 | BW-BPS: Performance monitoring and analysis |
| 1000528 | FAQ: XI 3.0 / PI 7.0 Adapter and Channel Monitoring |
| 1004255 | How to create a full HPROF heap dump of J2EE Engine 6.40/7.0 |
| 1006665 | Checklist creation for a web service problem message |
| 1009109 | Analyzing of web service problems with the ICF-Recorder |
| 1012681 | Trace generation for SOAP Runtime (ABAP) |

### 7.4.6 SAP Application Areas Troubleshooting

If you face a problem while troubleshooting Web service problems, select one of the following components for problem reporting:

| Area | Problem Area | SAP Application Area |
|---|---|---|
| Backend | Document Management System | CA-DMS |
| Backend | Service Data Download | SV-SMG-SDD |
| Backend | Technical Core Competence | XX-SER-TCC |
| Duet | Office Suite Program | XA-OSP |
| J2EE | Java Application Server | BC-JAS |
| J2EE | Web Container, HTTP, JavaMAIL, JSP | BC-JAS-WEB |
| RFC | RFC | BC-MID-RFC |
| Web Service | Web Service and SOAP - ABAP | BC-ESI-WS-ABA |
| Web Service | Web Service and SOAP - Java | BC-ESI-WS-JAV |
| Web Service | Internet Communication Framework | BC-MID-ICF |
| XI | System Landscape Directory / Component | BC-CCM-SLD |
| XI | Exchange Infrastructure | BC-XI |
| XI | J2EE Adapter Framework | BC-XI-CON-AFW |
| XI | Technical Adapter (JMS, JDBC, RFC, SOAP, File) | BC-XI-CON-AFW-TAD |
| XI | Integration Builder - Configuration | BC-XI-IBC |
| XI | Integration Builder - Design | BC-XI-IBD |

For Enterprise SOA documentation, see ES Workplace at https://www.sdn.sap.com/irj/sdn/explore-es.

# 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.

The following topics are covered:

- Remote Support
- Component hierarchy relevant for this application

## 8.1 Remote Support Setup

For information about Remote Support Setup, see SAP Service Marketplace at http://service.sap.com/access-support.

For the SAP SCM Optimizer the standard R/3 support connection is normally sufficient. In very rare cases, the support requires direct access to the optimization server via Windows Terminal Server / Telnet (depending on the used operating system).

## 8.2 Problem Message Handover

For information about processing of internal support messages and forwarding them to SAP, see SAP Help Portal at http://help.sap.com → *SAP Solution Manager* → *SAP Solution Manager 7.0* → *English* → *Service Desk*.

For sending problem messages/tickets to SAP, choose the appropriate component (or subcomponent) name from the SAP component hierarchy:

```
SCM                  Supply Chain Management
   +  SCM-CA              SCM Cross Applications
   +  SCM-APO             Advanced Planning and Optimization
   +  SCM-APO-OPT         SCM Optimizer
   +  SCM-BAS             SCM Basis
   +  SCM-EWM             Extended Warehouse Management
   +  SCM-TM              Transportation Management
   +  SCM-ECT             Execution
   +  SCM-EM              Event Management
   +  SCM-FRE             Forecasting and Replenishment
   +  SCM-ICH             Supply Network Collaboration
   +  SCM-FC              Fulfillment Coordination
```

The SCM Focus Group offers technical consulting services such as Administration, Monitoring, and Backup and Recovery concepts for your SCM system.
You can find a detailed list of the services, as well as all contact persons, in the SCM Focus Group fact sheet under http://service.sap.com/scm → *SAP SCM Technology* → *Technical Consulting* (in the *Related Topics* box) → *SCM Technology Focus Group*.

For an overview of all services provided by SAP SCM, see SAP Service Marketplace at http://service.sap.com/safeguarding.

# 9 Appendix

## 9.1 Categories of System Components for Backup and Recovery

| Categories of System Components | Category Properties | Suggested Backup and Recovery Methods | Example |
|---|---|---|---|
| I | Only software, no configuration or application data | - No backup, new installation in case of a restore<br>- Initial software backup after installation and upgrade<br>- Backup of log files | BDOC modeler |
| II | Only software and configuration information, no application data | - Backup after changes have been applied<br>- No backup, new installation and configuration in case of a restore<br>- Backup of log files | SAP Gateway<br>Comm. Station<br>SAP Business Connector<br>SAP IPC (2.0C) |
| III | Only replicated application data, replication time is sufficiently small for a restore | Data:<br>- No data backup needed<br>Backup of software, configuration, log files | SAP IMS / Search Engine *<br>SAP IPC (2.0B) *<br>Web server *<br>SAP ITS |
| IV | Only replicated application data, backup recommended because replication time is too long, data not managed by a DBMS | Data:<br>- Application-specific file system backup<br>- Multiple instances<br>Backup of software, configuration, log files | SAP IMS / Search Engine *<br>Web server * |
| V | Only replicated application data, backup recommended because replication time is too long, data | Data:<br>- Database and log backup<br>- Multiple instances<br>Backup of software, | SAP IPC (2.0B) *<br>Catalog Server |

| Categories of System Components | Category Properties | Suggested Backup and Recovery Methods | Example |
|---|---|---|---|
| | managed by a DBMS | configuration, log files | |
| VI | Original application data, standalone system, data not managed by a DBMS | Data:<br>- Application-specific file system backup<br>Backup of software, configuration, log files | Web server * |
| VII | Original application data, standalone system, data managed by a DBMS, not based on SAP Web AS | Data:<br>- Database and log backup<br>Backup of software, configuration, log files | |
| VIII | Original application data, standalone system, based on SAP Web AS | Data:<br>- Database and log backup, application log backup (for example, job logs in file system)<br>Backup of software, configuration, log files | Standalone SAP system |
| IX | Original application data, data exchange with other systems, data not managed by a DBMS | Data:<br>- Application-specific file system backup, data consistency with other systems must be regarded<br>Backup of software, configuration, log files | |
| X | Original application data, data exchange with other systems,<br>data managed by a DBMS, not based on SAP Web AS | Data:<br>- Database and log backup, data consistency with other systems must be regarded<br>Backup of software, configuration, log files | SAP liveCache<br>SAP Mobile<br>Workbench |
| XI | Original application data, data exchange with other systems, based on SAP Web AS | Data:<br>- Database and log backup, application log backup (for example, job logs in file system), data consistency | SAP system<br>SAP CRM<br>SAP APO |

| Categories of System Components | Category Properties | Suggested Backup and Recovery Methods | Example |
|---|---|---|---|
| | | with other systems must be regarded<br>Backup of software, configuration, log files | SAP BI |

## 9.2 Related Guides

For more information about installation and configuration, see the SAP SCM Master Guide.

## 9.3 Related Information

The following table contains links to information relating to the Application Operations Guide*:*

| Content | Quick Link to the SAP Service Marketplace (http://service.sap.com/<quick link>) |
|---|---|
| Master Guide, Installation Guide, and Upgrade Guide | instguides |
| Related SAP Notes | notes |
| Released platforms | platforms |
| Network security | securityguide<br>network |
| Technical infrastructure | installNW70 |
| SAP Solution Manager | solutionmanager |

The following table contains links to the documentation referenced in this Application Operations Guide*:*

| Guide | Path |
|---|---|
| Technical Operations Manual for SAP NetWeaver | http://help.sap.com → *SAP NetWeaver → SAP NetWeaver 7.0 including Enhancement Package 1 → SAP NetWeaver 7.0 Library → English → SAP NetWeaver Library → Administrator's Guide → Technical Operations Manual for SAP NetWeaver* |
| Technical Operations Manual for SAP Technology | http://help.sap.com → *SAP NetWeaver → Prior to SAP NetWeaver 2004 - SAP Web Application Server → English → SAP NetWeaver Components / mySAP Technology Components → Technical Operations Manual for mySAP Technology* |
| Application Operations Guide for SAP ERP | http://service.sap.com/instguides → *SAP Business Suite Applications → SAP ERP → SAP ERP 6.0 → Operations* |

# 9.4 External Messages

There follows a list of the external messages, including the system, processing, and the application components involved. For more information about the semantics and the queues involved, see the following sections:

- Semantics of External Messages
- Queues of External Messages

| Message | Sender System | Recipient System | Communication Type | Monitoring Transaction |
|---|---|---|---|---|
| /SCWM/INB_DELIVERY_REPLACE | ERP | EWM | Function module | |
| /SCWM/INB_DLV_SAVEREPLICA | ERP | EWM | Function module | |
| /SCWM/INB_PO | ERP | EWM | Function module | |
| /SCWM/OBDLV_CHNG_QUAN_MUL | ERP | EWM | Function module | |
| /SCWM/OUTB_DLV_CHANGE | ERP | EWM | Function module | |
| /SCWM/OUTB_DLV_SAVEREPLICA | ERP | EWM | Function module | |
| /SPE/INB_DELIVERY_CONFIRM_DEC | EWM | ERP | Function module | SMQ1 (EWM) /SMQ2 (ERP) |
| /SPE/INB_DELIVERY_REPLACE | EWM | ERP | Function module | SMQ1 (EWM) /SMQ2 (ERP) |
| /SPE/INB_DELIVERY_SAVEREPLICA | EWM | ERP | Function module | SMQ1 (EWM) /SMQ2 (ERP) |
| /SPE/INB_DELIVERY_RESPONSE | EWM | ERP | Function module | SMQ1 (EWM) /SMQ2 (ERP) |
| /SPE/INB_DELIVERY_SPLIT | EWM | ERP | Function module | SMQ1 (EWM) /SMQ2 (ERP) |
| /SPE/INB_EGR_CREATE_PROD /SPE/INB_EGR_CREATE_POSA | EWM | ERP | Function module | |
| /SPE/OUTB_DELIVERY_SAVEREPLICA | EWM | ERP | Function module | |
| BAPI_OUTB_DELIVERY_CONFIRM_DEC | EWM | ERP | Function module | |
| BAPI_OUTB_DELIVERY_REJECT | EWM | ERP | Function module | |

| Message | Sender System | Recipient System | Communication Type | Monitoring Transaction |
|---|---|---|---|---|
| BAPI_OUTB_DELIVERY_SPLIT_DEC | EWM | ERP | Function module | |
| /SCWM/OUTB_DLV_SAVEREPLICA | EWM | ERP | Function module | |
| CIFMAT, CFP1, CFM2/3 | ERP | EWM | Function module | |
| BAPI_BATCH_SAVE_REPLICA | EWM | ERP | Function module | |
| /SCWM/QFU_BY_EXTERNAL | ERP | EWM | Function module | SMQ1 (ERP) /SMQ2 (EWM) |
| QIE_RFC_CONF_CANCEL_EXT_INSP | ERP | QIE/EWM | Function module | ERP: SWEQADM, SWETYPV, SWELS, SMQ1; EWM: SMQ2 |
| QIE_RFC_CONF_CHANGE_EXT_INSP | ERP | QIE/EWM | Function module | ERP: SWEQADM, SWETYPV, SWELS, SMQ1; EWM: SMQ2 |
| QIE_RFC_CONF_EXT_INSP | ERP | QIE/EWM | Function module | ERP: SWEQADM, SWETYPV, SWELS, SMQ1; EWM: SMQ2 |
| QIE_RFC_NOTIFY_RES_EXT_INSP | ERP | QIE/EWM | Function module | SMQ1 (ERP) /SMQ2 (EWM) |
| QIE_RFC_STATUS_INFO_EXT_INSP | ERP | QIE/EWM | Function module | ERP: SWEQADM, SWETYPV, SWELS, SMQ1; EWM: SMQ2 |
| /SPE/INSP_MAINTAIN_MULTIPLE | EWM | ERP | Function module | SMQ1 (EWM) /SMQ2 (ERP) |
| QPLEXT_RFC_INSP_LOT_CREATE | QIE / EWM | ERP | Function module | SMQ1 (EWM) /SMQ2 (ERP) |
| QPLEXT_RFC_INSP_LOT_CHANGE | QIE / EWM | ERP | Function module | SMQ1 (EWM) /SMQ2 (ERP) |
| QPLEXT_RFC_INSP_LOT_CANCEL | QIE / EWM | ERP | Function module | SMQ1 (EWM) /SMQ2 (ERP) |
| /SPE/GOODSMVT_CREATE | EWM | ERP | Function module | SMQ2 (ERP) |
| /SPE/PO_CREATE | EWM | ERP | Function module | |

| Message | Sender System | Recipient System | Communication Type | Monitoring Transaction |
|---|---|---|---|---|
| /SCWM/IDOC_OUTPUT_GOODSMVT_CR | EWM | ERP | IDOC | |
| /SCWM/OALE_PACKSPEC_REPLICATE | APO/EWM | APO/EWM | Function module | SMQ1 |
| /SCWM/API_PACKSPEC_REPLICATE | APO/EWM | APO/EWM | Function module | |
| /SCWM/OALE_ELEMGROUP_REPLICATE | APO/EWM | APO/EWM | Function module | SMQ1 |
| /SCWM/API_ELEMGROUP_REPLICATE | APO/EWM | APO/EWM | Function module | |
| /SCWM/OALE_WORKSTEP_REPLICATE | APO/EWM | APO/EWM | Function module | SMQ1 |
| /SCWM/API_WORKSTEP_REPLICATE | APO/EWM | APO/EWM | Function module | |
| /SCWM/OALE_CONDITION_REPLICATE | APO/EWM | APO/EWM | Function module | SMQ1 |
| /SCWM/API_CONDITION_REPLICATE | APO/EWM | APO/EWM | Function module | |
| /SCWM/GTS_CBLOCK_RELEASE | GTS | EWM | Function module | SM58 and report /SCWM/GTS_CBREL_MON |
| /SCWM/WMSUID01 | non-SAP | EWM | IDoc | |
| /SCWM/WMTCID01 | non-SAP | EWM | IDoc | |
| /SCWM/WMBIID01 | non-SAP | EWM | IDoc | |
| /SCWM/WMRRID01 | EWM | non-SAP | IDoc | |
| TMSHP1 | EWM | non-SAP | IDoc | |
| TMFRD2 | EWM | non-SAP | IDoc | |
| /SCWM/WMCAID01 | non-SAP | EWM | IDoc | |
| /SCWM/WMPHID01 | non-SAP | EWM | IDoc | |
| /SCWM/WMTOID01 | non-SAP | EWM | IDoc | |
| /SCWM/MFS_SEND | EWM | non-SAP | Function module | Warehouse Management Monitor Node MFS → Telegram Buffer → Outgoing Telegram |

| Message | Sender System | Recipient System | Communication Type | Monitoring Transaction |
|---|---|---|---|---|
| /SCWM/MFS_RECEIVE2 | non-SAP | EWM | Function module | Warehouse Management Monitor Node MFS → Telegram Buffer → Incoming Telegram |

## 9.4.1 Semantics of External Messages

| Message | Semantics | Application Components | |
|---|---|---|---|
| | | Sender | Recipient |
| /SCWM/INB_DELIVERY_REPLACE | Replacement request | LO-SPM-INB | SCM-EWM-IF-ERP |
| /SCWM/INB_DLV_SAVEREPLICA | Replicate inbound delivery | LO-SPM-INB | SCM-EWM-IF-ERP |
| /SCWM/INB_PO | Communicate purchase order changes | LO-SPM-INB | SCM-EWM-IF-ERP |
| /SCWM/OBDLV_CHNG_QUAN_MUL | Quantity change request for multiple delivery items | LO-SPM-OUTB | SCM-EWM-IF-ERP |
| /SCWM/OUTB_DLV_CHANGE | Change outbound deliveries | LO-SPM-OUTB | SCM-EWM-IF-ERP |
| /SCWM/OUTB_DLV_SAVEREPLICA | Replicate outbound delivery | LO-SPM-OUTB | SCM-EWM-IF-ERP |
| /SPE/INB_DELIVERY_CONFIRM_DEC | Confirm goods receipt for inbound deliveries | SCM-EWM-IF-ERP | LO-SPM-INB |
| /SPE/INB_DELIVERY_REPLACE | Report changes of inbound deliveries | SCM-EWM-IF-ERP | LO-SPM-INB |
| /SPE/INB_DELIVERY_SAVEREPLICA | Replicate inbound delivery | SCM-EWM-IF-ERP | LO-SPM-INB |
| /SPE/INB_DELIVERY_RESPONSE | Response to replacement request of ERP | SCM-EWM-IF-ERP | LO-SPM-INB |
| /SPE/INB_DELIVERY_SPLIT | Communicate delivery split | SCM-EWM-IF-ERP | LO-SPM-INB |
| /SPE/INB_EGR_CREATE_PROD | Request goods receipt | SCM-EWM-IF- | LO-SPM- |

| Message | Semantics | Application Components | |
|---|---|---|---|
| | | Sender | Recipient |
| /SPE/INB_EGR_CREATE_POSA | notifications | ERP | INB |
| /SPE/OUTB_DELIVERY_SAVEREPLICA | Replicate outbound delivery | SCM-EWM-IF-ERP | LO-SPM-OUTB |
| BAPI_OUTB_DELIVERY_CONFIRM_DEC | Confirm goods issue for outbound deliveries, stock posting changes, and returns deliveries; send IBGI message (invoice before goods issue) | SCM-EWM-IF-ERP | LO-SPM-OUTB |
| BAPI_OUTB_DELIVERY_REJECT | Response to quantity change request of ERP | SCM-EWM-IF-ERP | LO-SPM-OUTB |
| BAPI_OUTB_DELIVERY_SPLIT_DEC | Communicate delivery split | SCM-EWM-IF-ERP | LO-SPM-OUTB |
| /SCWM/OUTB_DLV_SAVEREPLICA | Replicate outbound delivery (without predecessor document) Only true for SCM 5.1 to SAP ERP 6.0 EhP3. No distribution otherwise. | LO-SPM-OUTB | SCM-EWM-IF-ERP |
| CIFMAT, CFP1, CFM2/3 | Material master distribution (CIFMAT as ALE message type for CIF, CFP1 (periodic transfer of changes from ERP) or CFM2/3 (CIF initial transfer) or ERP core update with BTE for CIF) | SCM-APO-INT-MD | SCM-APO-INT-MD |
| BAPI_BATCH_SAVE_REPLICA | Create new batch with valuation in ERP | SCM-EWM-MD-BA | |
| /SCWM/QFU_BY_EXTERNAL | Trigger putaway for an inspected stock | LO-SPM-RET | SCM-EWM-QM-RP |
| QIE_RFC_CONF_CANCEL_EXT_INSP | Confirm cancellation of inspection | QM-IM | CA-QIE |
| QIE_RFC_CONF_CHANGE_EXT_INSP | Confirm change inspection | QM-IM | CA-QIE |
| QIE_RFC_CONF_EXT_INSP | Confirm creation of inspection lot | QM-IM | CA-QIE |
| QIE_RFC_NOTIFY_RES_EXT_INSP | Results of inspection lot | QM-IM | CA-QIE |

| Message | Semantics | Application Components | |
|---|---|---|---|
| | | Sender | Recipient |
| QIE_RFC_STATUS_INFO_EXT_INSP | Notify status of inspection lot | QM-IM | CA-QIE |
| /SPE/INSP_MAINTAIN_MULTIPLE | Send inspection result of a return item to ERP for distribution to CRM | SCM-EWM-QM-RP | LO-SPM-RET |
| QPLEXT_RFC_INSP_LOT_CREATE | Create inspection lot in ERP | CA-QIE | QM-IM-IL |
| QPLEXT_RFC_INSP_LOT_CHANGE | Change inspection lot in ERP | CA-QIE | QM-IM-IL |
| QPLEXT_RFC_INSP_LOT_CANCEL | Cancel inspection lot in ERP | CA-QIE | QM-IM-IL |
| /SPE/GOODSMVT_CREATE | This message creates goods movement documents in ERP. Only valid for goods movements without ERP delivery. | SCM-EWM-IF-ERP | LO-SPM-STO |
| /SPE/PO_CREATE | Create an STO in ERP | SCM-EWM-QM | LO-SPM-STO |
| /SCWM/IDOC_OUTPUT_GOODSMVT_CR | Create goods movement | SCM-EWM-IF-ERP | |
| /SCWM/OALE_PACKSPEC_REPLICATE | Replicate packaging specification header | SCMB-BAS-PAK-PS | SCMB-BAS-PAK-PS |
| /SCWM/API_PACKSPEC_REPLICATE | Receive replicated pack. spec. header | SCMB-BAS-PAK-PS | SCMB-BAS-PAK-PS |
| /SCWM/OALE_ELEMGROUP_REPLICATE | Replicate pack. spec. element group | SCMB-BAS-PAK-PS | SCMB-BAS-PAK-PS |
| /SCWM/API_ELEMGROUP_REPLICATE | Receive replicated pack. spec. element group | SCMB-BAS-PAK-PS | SCMB-BAS-PAK-PS |
| /SCWM/OALE_WORKSTEP_REPLICATE | Replicate pack. spec. work step | SCMB-BAS-PAK-PS | SCMB-BAS-PAK-PS |
| /SCWM/API_WORKSTEP_REPLICATE | Receive replicated pack. spec. work step | SCMB-BAS-PAK-PS | SCMB-BAS-PAK-PS |
| /SCWM/OALE_CONDITION_REPLICATE | Replicate pack. spec. condition record | SCMB-BAS-PAK-PS | SCMB-BAS-PAK-PS |

| Message | Semantics | Application Components | |
|---|---|---|---|
| | | Sender | Recipient |
| /SCWM/API_CONDITION_REPLICATE | Receive replicated pack. spec. condition record | SCMB-BAS-PAK-PS | SCMB-BAS-PAK-PS |
| /SCWM/GTS_CBLOCK_RELEASE | Release customs-blocked stock. Create a stock transfer document from customs-blocked stock to normal stock | SLL-LEG | SCM-EWM-IF-GTS |
| /SCWM/WMSUID01 | Move handling unit | SCM-EWM-IF-WCU | |
| /SCWM/WMTCID01 | Confirm warehouse task | SCM-EWM-IF-WCU | |
| /SCWM/WMBIID01 | Block storage bins | SCM-EWM-IF-WCU | |
| /SCWM/WMRRID01 | Release wave | SCM-EWM-IF-WCU | |
| TMSHP1 | Send/receive shipment to/from an external planning system | SCM-EWM-TM | SCM-EWM-TM |
| TMFRD2 | Send/receive a freight document to/from an external planning system | SCM-EWM-TM | SCM-EWM-TM |
| /SCWM/WMCAID01 | Cancellation/cancellation request of WO | SCM-EWM-IF-WCU | |
| /SCWM/WMPHID01 | Create and distribute Pick-HUs | SCM-EWM-IF-WCU | |
| /SCWM/WMTOID01 | Create warehouse task | SCM-EWM-IF-WCU | |
| /SCWM/MFS_SEND | Send telegram to PLC | SCM-EWM-MFS | |
| /SCWM/MFS_RECEIVE2 | Receive telegram from PLC | SCM-EWM-MFS | |

## 9.4.2 Queues of External Messages

| Message | Queue Name |
|---|---|
| /SCWM/INB_DELIVERY_REPLACE | DLVS<logicalsystemERP><ClientERP><Number_of_original_ERP_Delivery>. Example DLVSQ4LCLNT4000180010219 |
| /SCWM/INB_DLV_SAVEREPLICA | DLVS<logicalsystemERP><ClientERP><Number_of_original_ERP_Delivery>. Example DLVSQ4LCLNT4000180010219 |
| /SCWM/INB_PO | DLVS<logicalsystemERP><ClientERP><Number_of_original_ERP_Delivery>. Example DLVSQ4LCLNT4000180010219 |
| /SCWM/OBDLV_CHNG_QUAN_MUL | DLVS<logicalsystemERP><ClientERP><Number_of_original_ERP_Delivery>. Example DLVSQ4LCLNT4000180010219 |
| /SCWM/OUTB_DLV_CHANGE | DLVS<logicalsystemERP><ClientERP><Number_of_original_ERP_Delivery>. Example DLVSQ4LCLNT4000180010219 |
| /SCWM/OUTB_DLV_SAVEREPLICA | DLVS<logicalsystemERP><ClientERP><Number_of_original_ERP_Delivery>. Example DLVSQ4LCLNT4000180010219 |
| /SPE/INB_DELIVERY_CONFIRM_DEC | DLVS<logicalsystemEWM><ClientEWM><Number_of_originial_ERP_Delivery>. Example DLVSA3PCLNT0010180010317 |
| /SPE/INB_DELIVERY_REPLACE | DLVS<logicalsystemEWM><ClientEWM><Number_of_originial_ERP_Delivery>. Example DLVSA3PCLNT0010180010317 |
| /SPE/INB_DELIVERY_SAVEREPLICA | DLVS<logicalsystemEWM><ClientEWM><Number_of_originial_ERP_Delivery>. Example DLVSA3PCLNT0010180010317 |
| /SPE/INB_DELIVERY_RESPONSE | DLVS<logicalsystemEWM><ClientEWM><Number_of_originial_ERP_Delivery>. Example DLVSA3PCLNT0010180010317 |
| /SPE/INB_DELIVERY_SPLIT | DLVS<logicalsystemEWM><ClientEWM><Number_of_originial_ERP_Delivery>. Example DLVSA3PCLNT0010180010317 |
| /SPE/INB_EGR_CREATE_PROD<br>/SPE/INB_EGR_CREATE_POSA | n/a |
| /SPE/OUTB_DELIVERY_SAVEREPLICA | DLVS<logicalsystemEWM><ClientEWM><Number_of_originial_ERP_Delivery>. Example DLVSA3PCLNT0010180010317 |
| BAPI_OUTB_DELIVERY_CONFIRM_DEC | DLVS<logicalsystemEWM><ClientEWM><Number_of_originial_ERP_Delivery>. Example DLVSA3PCLNT0010180010317 |
| BAPI_OUTB_DELIVERY_REJECT | DLVS<logicalsystemEWM><ClientEWM><Number_of_originial_ERP_Delivery>. Example DLVSA3PCLNT0010180010317 |

| Message | Queue Name |
|---|---|
| BAPI_OUTB_DELIVERY_SPLIT_DEC | DLVS<logicalsystemEWM><ClientEWM><Number_of_originial_ERP_Delivery>. Example DLVSA3PCLNT0010180010317 |
| /SCWM/OUTB_DLV_SAVEREPLICA | DLVS<logicalsystemERP><ClientERP><Number_of_originial_ERP_Delivery>. Example DLVSQ4LCLNT4000180010219 |
| CIFMAT, CFP1, CFM2/3 | CFMAT<matnr>, CFLD<src.logsys>_<number><counter> |
| BAPI_BATCH_SAVE_REPLICA | |
| /SCWM/QFU_BY_EXTERNAL | DLVS & logical system & delivery number Example: DLVSQ4LCLNT4000084001775 |
| QIE_RFC_CONF_CANCEL_EXT_INSP | QI & logical system & inspection document number Example: QIQ1PCLNT401000000112127 |
| QIE_RFC_CONF_CHANGE_EXT_INSP | QI & logical system & inspection document number Example: QIQ1PCLNT401000000112127 |
| QIE_RFC_CONF_EXT_INSP | QI & logical system & inspection document number Example: QIQ1PCLNT401000000112127 |
| QIE_RFC_NOTIFY_RES_EXT_INSP | QI & logical system & inspection document number Example: QIQ1PCLNT401000000112127 |
| QIE_RFC_STATUS_INFO_EXT_INSP | QI & logical system & inspection document number Example: QIQ1PCLNT401000000112127 |
| /SPE/INSP_MAINTAIN_MULTIPLE | DLVS & logical system & delivery number Example: DLVSQ4LCLNT4000084001775 |
| QPLEXT_RFC_INSP_LOT_CREATE | QI & logical system & inspection document number Example: QIQ1PCLNT401000000112127 |
| QPLEXT_RFC_INSP_LOT_CHANGE | QI & logical system & inspection document number Example: QIQ1PCLNT401000000112127 |
| QPLEXT_RFC_INSP_LOT_CANCEL | QI & logical system & inspection document number Example: QIQ1PCLNT401000000112127 |
| /SPE/GOODSMVT_CREATE | EWMGOODSMVT or delivery queue (for example ROD-AFS) |
| /SPE/PO_CREATE | EWM & D & user name &warehouse number Example: EWMDSIHORSCH____SPU2 |
| /SCWM/IDOC_OUTPUT_GOODSMVT_CR | |
| /SCWM/OALE_PACKSPEC_REPLICATE | "PSID"+PSID |
| /SCWM/API_PACKSPEC_REPLICATE | "PSID"+PSID |
| /SCWM/OALE_ELEMGROUP_REPLICATE | "PSEG"+PSEG |
| /SCWM/API_ELEMGROUP_REPLICATE | "PSEG"+PSEG |
| /SCWM/OALE_WORKSTEP_REPLICATE | "PSWS"+PSWS |
| /SCWM/API_WORKSTEP_REPLICATE | "PSWS"+PSWS |
| /SCWM/OALE_CONDITION_REPLICATE | "PSID"+PSID |

| Message | Queue Name |
|---|---|
| /SCWM/API_CONDITION_REPLICATE | "PSID"+PSID |
| /SCWM/GTS_CBLOCK_RELEASE | |
| /SCWM/WMSUID01 | |
| /SCWM/WMTCID01 | |
| /SCWM/WMBIID01 | |
| /SCWM/WMRRID01 | |
| TMSHP1 | |
| TMFRD2 | |
| /SCWM/WMCAID01 | |
| /SCWM/WMPHID01 | |
| /SCWM/WMTOID01 | |
| /SCWM/MFS_SEND | |
| /SCWM/MFS_RECEIVE2 | |