# OMS Interface for SAP (BC-XOM)

## System Description

Version 4.2.2

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SEAL Systems

# Copyright



SEAL Systems AG
Lohmühlweg 4
D-91341 Röttenbach
Germany

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# 1 Introduction

OMS interface

The OMS interface of SAP offers the possibility, to connect external Output Management Systems (OMS Output Management System) like PLOSSYS netdome to the spool administration system of SAP. This interface includes the following functionality:

- Output assignment from SAP
  Any listings, business papers and forms can be transferred from SAP as via a SAP printer to the external Output Management System for output.
- Job status and status reply
  The processing of the transfer to the Output Management System up to the output of the listings/business papers/forms can be tracked in the SAP system.
- Device status and status reply
  The status of the output devices and device queues can be tracked in the SAP system.
- Deletion of output jobs
  Output jobs in Output Management System can be deleted via the SAP system.

purpose

The following documentation describes the connection of PLOSSYS netdome as external Output Management System to the SAP system, as well as the usage of the OMS interface for the display of reply messages about the output progress.

target group

The documentation is intended for use by the Technical Project Managers at SEAL Systems, responsible for the installation and configuration of the connection and activation of the reply messages, and all administrators who want get an overview of this topic.

in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Conventions in this Documentation | 7 |
| Activate the Retrace of your Viewing Path in PDF | 8 |
| Overview | 9 |
| Overview of Contents | 11 |

# Conventions in this Documentation

path specification

The path information given in this manual is relative to the installation directory of PLOSSYS netdome. This is usually the home directory of the `plossys` user. The path information is indicated in Windows notation only in most cases. This corresponds to the UNIX/Linux directory structures unless noted otherwise.

typography

The following table lists the typographical conventions employed in this documentation.

| **Typographical Convention** | **Meaning** |
|---|---|
| `Consolas` | File names, paths, commands, menu items, keywords, special values, short scripts and examples |
| *`Consolas italic`* | Parameters; variables that must be replaced by current values |
| `Consolas small` | More extensive scripts and examples |

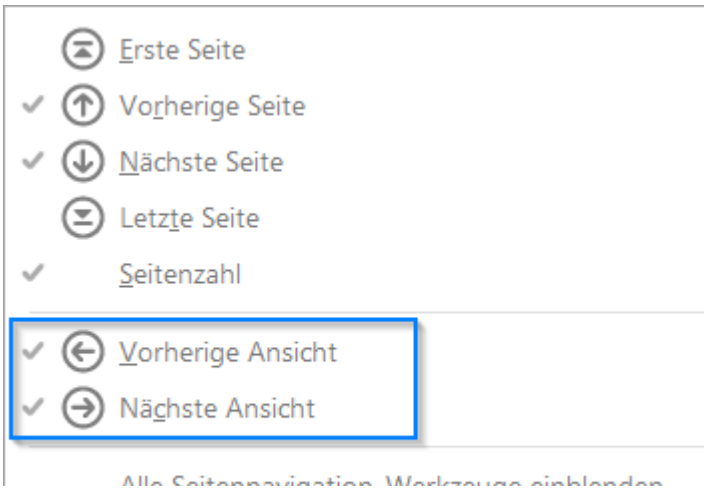
# Activate the Retrace of your Viewing Path in PDF

description

Adobe Reader provides buttons to retrace your viewing path of PDF pages that you viewed earlier. This makes reading easier and helps to keep the central theme.

instructions

This is how you activate the buttons for retracing your viewing path in the PDF documentation as of Adobe Reader 10:

| Step | Action |
|---|---|
| 1 | Activate the following options via the menu:<br>`View - Show/Hide - Toolbar Items - Page Navigation Show Tools`<br>• `Previous View`: activate<br>• `Next View`: activate<br>  |

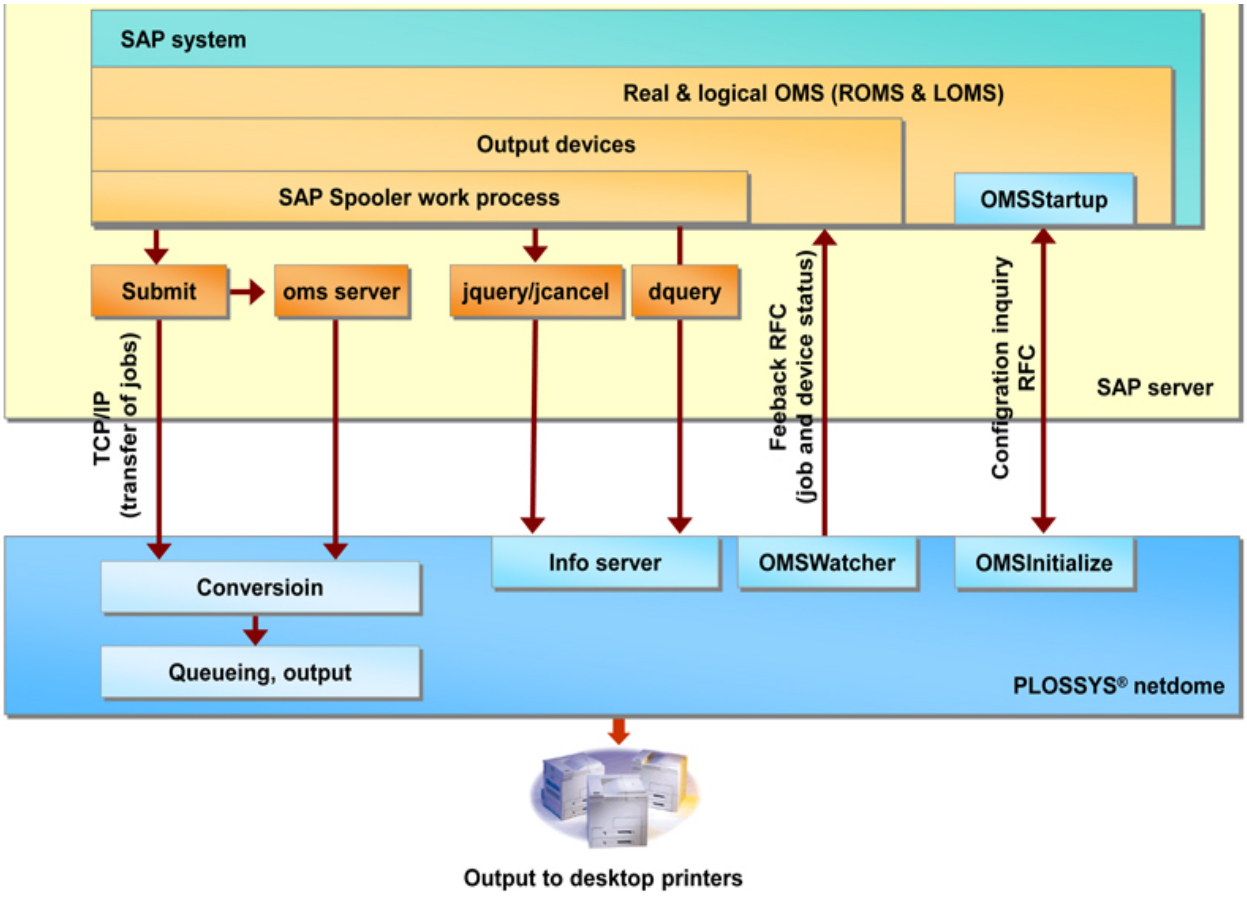
result

Adobe Reader offers the following buttons to allow you jumping forward and backward in the document while showing pages you viewed in the reverse order that you viewed them:

# Overview

The following illustration gives an overview over the components and correlations of OMS Interface for SAP (BC-XOM):

overview - components

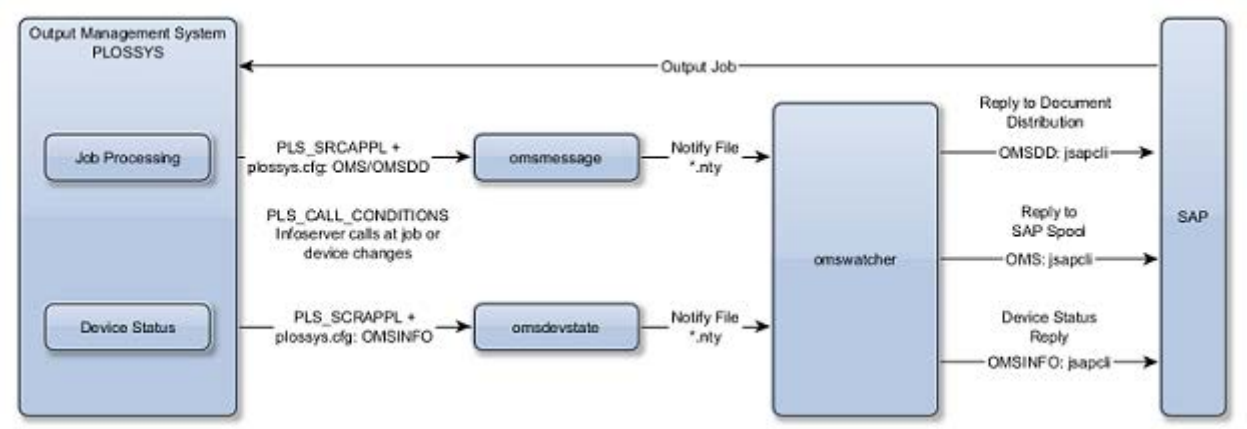



*To be continued*

# Overview, Continuation

overview - reply

The reply of job status and device status from the OMS to the SAP system can be described as follows:



# Overview of Contents

structure

This documentation has two parts: a description and a reference. The first part describes the functionality and the installation process using figures, step-by-step-procedures and explanatory texts. The second part serves as a detailed reference guide, containing configuration settings, keywords etcetera.

description

The description deals with the following topics:

Chapter 2, *Requirement - General*, page 14, describes the requirements which has to be fulfilled for the installation and usage of OMS Interface for SAP (BC-XOM).

Chapter 4, *Installation - SAP*, page 23, and Chapter 4, *Installation - SAP*, page 23, explain the required installation steps on the OMS and on the SAP server.

Chapter 8, *Background Knowledge*, page 110, describes the functionality provided by OMS Interface for SAP (BC-XOM).

Chapter 8, *Background Knowledge*, page 110, explains additional optionally configuration options.

Chapter 7, *Information and Troubleshooting*, page 93, deals with the various possibilities to get an overview over the processing and output status. This includes the description of the log files and the directory monitoring.

Chapter 8, *Background Knowledge*, page 110, provides insider know-how of the internal process which is helpful for a better understanding. Additionally, the SAP data is described that is passed as parameters to `oms_submit`.

reference

The reference contains the following chapters:

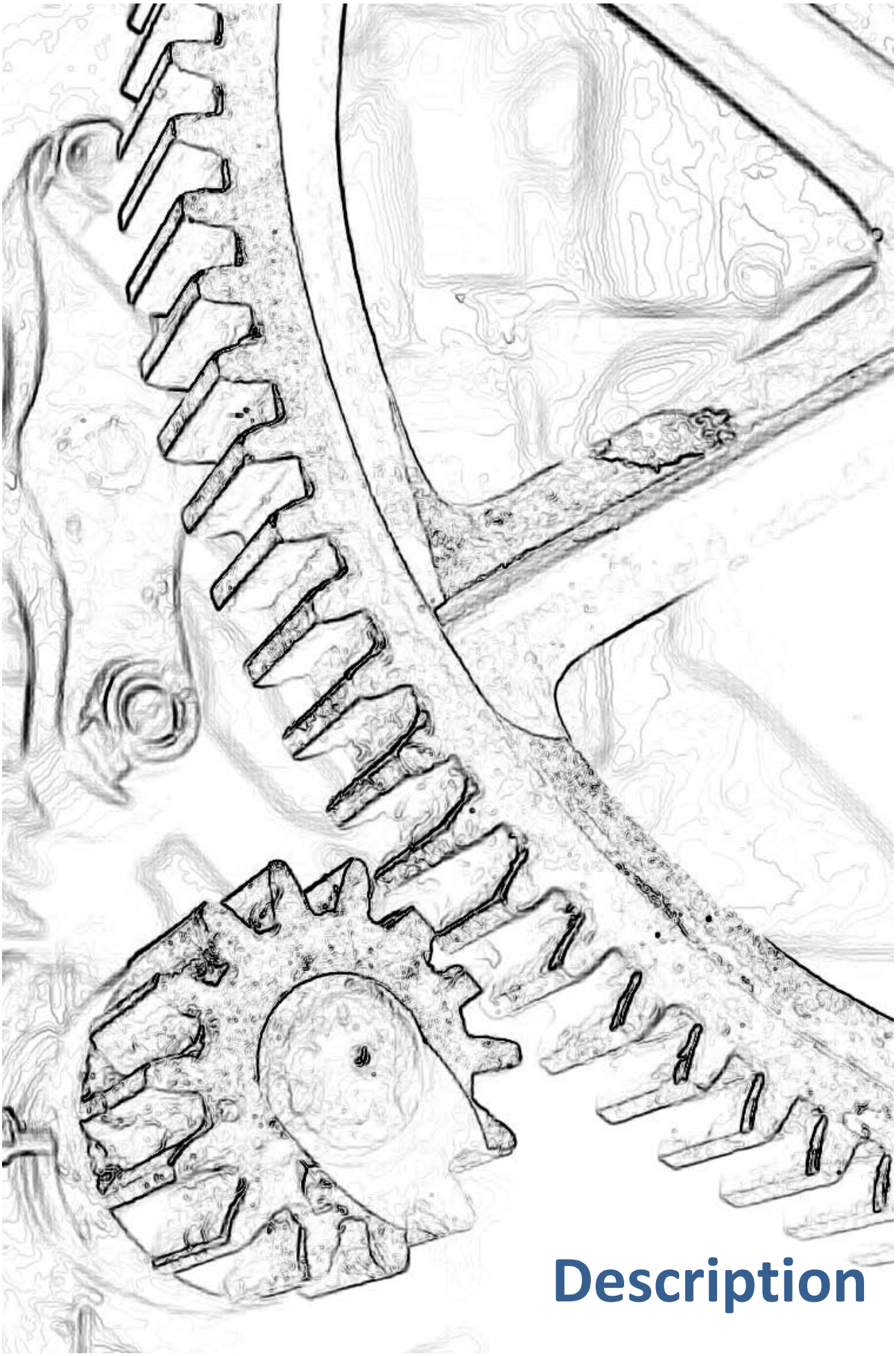
- Chapter 10, *Programs*, page 154, with information about the most important configuration files
- Chapter 10, *Programs*, page 154, with information about the implemented programs, their parameters and processes

changes

Chapter 11, *Changes*, page 189, describes the most important changes for each released module version.

lists

At the end of the documentation, a bibliography, terminology list, abbreviation list, and index are included.



# Description

# 2 Requirement - General

in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Provide Reliability | 78 |
| SEAL Systems Modules | 16 |
| SAP system - Version, Access and Authorizations | 17 |

# Supported Platforms

supported platforms

OMS Interface for SAP (BC-XOM) is supported on the following platforms:

- Windows Server 2022/2019/2016/2012 R2
- Linux (SLES, RHEL) - all versions not yet discontinued
- PowerPC (PPC)
- zLinux (IBM/s390x)
- UNIX (HP-UX, AIX)

# SEAL Systems Modules

SEAL Systems modules

OMS Interface for SAP (BC-XOM) requires the subsequent modules from SEAL Systems:

- PLOSSYS netdome 4.5.x or newer
- PostgreSQL 8.4.0 or newer
- JSAPcli 1.1.1.1 or newer
- sap-extra-main 1.2.7
- SEAL DB 1.0.0.1 or newer

# SAP system - Version, Access and Authorizations

The following requirements must be fulfilled in the context of the SAP system: requirement

- SAP system as of release 4.7

# 3 Installation - Output Management System

requirement

Before the installation, please consider the requirements:

→ *Requirement - General*, page 14

in this chapter

The installation on the Output Management System requires the following steps:


| Topic | Page |
|---|---|
| Maintain SAP System Data on the Output Management System | 19 |
| Activate the Program for Device Status Reply | 20 |
| Activate Transfer via IPP Service (IPP/HTTPS) | 21 |
| Start the Programs on the Output Management System | 22 |

# Maintain SAP System Data on the Output Management System

description

Connection data for the SAP systems must be maintained on the Output Management System.

instructions

This is how you maintain the SAP system data on the Output Management System:

| Step | Action |
|---|---|
| 1 | Logon on the Output Management System. |
| 2 | Enter the SAP data in:<br>• `saprfc.ini` |
| 3 | Enter the SAP data in:<br>• `cadrfc.ini`<br><br>**Caution** - system-dependent sections:<br>In `cadrfc.ini`, the data must entered depending on the SAP system, like `[SAP\W60]`. OMSWatcher evaluates only these system-dependent sections. |

reference

The configuration and the meaning of the items in the configuration files are detailed in [SAP_BASECONF_SERVER_TEC].

# Activate the Program for Device Status Reply

required if

These steps are only required if the device status has to be replied to the SAP system.

instructions

This is how you activate the program for the device status reply:

| Step | Action |
|---|---|
| 1 | Stop the Output Management System with: `sysstop` |
| 2 | Open the `plossys.cfg` file with: `cfg` |
| 3 | Activate the following item in the `[SYSTEM]` section:<br>`OMSINFO "%PLSTOOLS%/omsdevstate.pl -queue \"$QueueName\" -state \"$QueueState\" -cstate \"$CombinedState\" -jobs \"$JobsInQueue\" -message \"$QueueMessage\""` |
| 4 | Start the Output Management System with:<br>`sysstart` |

reference

The the meaning of the items in the configuration are detailed in [NETDOME_TEC].

# Activate Transfer via IPP Service (IPP/HTTPS)

These steps are only required if IPP Service with HTTPS (encrypted) or IPP (unencrypted) is used for the transfer. required if

This is how you activate the transfer via IPP Service: instructions

| Step | Action |
|---|---|
| 1 | Enter the following values when calling `sysinit`:<br>• `Activate IPP Server: Y`<br>• `Use Apache Server for IPP access: N`<br>For the unencrypted access - IPP:<br>• `Activate unsecure IPP access: Y`<br>• `Port for unsecure IPP access: 4631` (example)<br>For the encrypted access - HTTPS:<br>• `Activate secure IPP access: Y`<br>• `Port for secure IPP access: 4443` (example)<br>• `Enter the SLL cerificate file: conf/ssl/seal` (example) |

# Start the Programs on the Output Management System

description

Programs must be started (on the Output Management System) for the data exchange between the Output Management System and SAP. If documents should be output on multiple Output Management Systems, the programs must be installed on each of the Output Management Systems.

instructions

This is how you start the required programs on the Output Management System:

| Step | Action |
|---|---|
| 1 | If the Output Management System is a Windows server, check if the service SEALService is started.<br><br>Further information: [SEALSERV_TEC] |
| 2 | Start the Output Management System with:<br>`sysstart` |
| 3 | Check the correct start of the Output Management System with:<br>`sysstatus` |

# 4 Installation - SAP

Before the installation please consider the requirements, which need to be fulfilled: requirement

→ *Requirement - General*, page 14

→ *Installation - SAP*, page 23

The installation on SAP requires the following steps: in this chapter


| Topic | Page |
|---|---|
| Copy Files | 24 |
| Linux - Install via rpm Installation Package | 25 |
| Assign the Required Authorizations | 26 |
| Establish the OMS on the SAP System | 29 |
| Start oms_server on the SAP System | 48 |
| Start and Test Execution | 56 |

## 4.1 Copy Files

required files

In order to use OMS Interface for SAP (BC-XOM), some files must be copied to the SAP system.

alternative

If the SAP system has direct access to the directories of the output management system, no programs of SEAL Systems must be copied to the SAP system. In this case however, a reliability in the context of network access problems can not be guaranteed. Thus, this alternative is only advised for demonstration and test purposes.

instructions

This is how you copy the required files to the SAP system:

| Step | Action |
|---|---|
| 1 | Choose the appropriate archive (Windows: `.zip`, others: `.tar.gz`), depending on the operating system of your SAP system.<br>This contains all necessary programs, configuration files and directory paths. |
| 2 | Unpack the archive on the SAP system.<br>  Hint - Linux - rpm installation package:<br>For SAP systems under Linux, you can alternatively use the provided rpm installation package:<br>→ *Linux - Install via rpm Installation Package*, page 25<br>  **Caution** - directory structure:<br>The directory structure at the delivery must be maintained on the SAP system! |

## 4.2 Linux - Install via rpm Installation Package

These steps are only relevant for SAP systems under Linux. relevant for

An rpm installation package is available for SAP systems under Linux. description

This is how you install the rpm installation package: instructions

| Step | Action |
|---|---|
| 1 | As the admin user `root` on the SAP system, run the following command:<br>`rpm -i ./PackageName`<br>e. g.`rpm -i ./sap-oms-3.3.2.1-107.x86_64.rpm` |

The result of the installation includes: result

- The required files are copied. files
- The `oms_server` service is set up: `oms_server` as service
  - Installation directory: `/opt/seal/seal-sap-oms`
  - The service is started when the Linux server is started and is configured to restart automatically in case of problems.
  - Control of the service with:
    Start: `systemctl start seal-sap-oms.service`
    Status: `systemctl status seal-sap-oms.service`
    Stop: `systemctl stop seal-sap-oms.service`
- The `seal` user for operation is created: user `seal`
  - The user `seal` owns the files.

## 4.3 Assign the Required Authorizations

required permissions - Linux

On SAP systems under Linux, the user running SAP, generally the `sapadm` user, must have the following permissions:

- Execute the `oms_submit` command
- Creating files in the `/opt/seal/seal-sap-oms/data` directory

required authorizations - SAP user

The following authorizations must be assigned for the SAP user which is used for OMS Interface for SAP (BC-XOM):

- Authorization RFC calls
- Authorization XMI Interface
- Authorization for spool devices

example role

SEAL Systems delivers example roles with the required authorizations without restriction. For OMS Interface for SAP (BC-XOM), the composite role `/seal/role_ext` is relevant, containing the following single roles:

- `/seal/role_ext_rfc`
- `/seal/role_ext_xmi`
- `/seal/role_ext_xom`

 further information

[SAP_AUTH_TEC] describes the general authorizations required for SEAL Systems applications and their installations on SAP. You can use the roles and the authorization profiles listed there and provided by SEAL Systems as templates for customizations.

use example role

This is how you use the example role:

| Step | Action |
|---|---|
| 1 | → *Customize the Example Role*, page 27 |
| 2 | → *Assign a Role*, page 28 |

# Customize the Example Role

These steps are only required if you want to assign a role with restricted authorizations but not the example role without restrictions to the system user who is used for OMS Interface for SAP (BC-XOM).

required if

You have loaded the role via `_seal_role_ext.sap` into the SAP system.

requirement

[SAP_AUTH_TEC] describes how to load roles.

further information

This is how you adapt the example roles for OMS Interface for SAP (BC-XOM):

instructions

| Step | Action |
|---|---|
| 1 | Start the `pfcg` transaction. |
| 2 | Select the `/seal/role_ext` role and copy it. |
| 3 | Customize the copied role in the `Authorizations` tab with:<br>`Change Authorization Data` |
| 4 | Save and generate the role. |

# Assign a Role

description

The example role or the modified role will be assigned to the system user who is used for OMS Interface for SAP (BC-XOM).

instructions

This is how you assign the role to the system user for OMS Interface for SAP (BC-XOM):

| Step | Action |
|---|---|
| 1 | Start the `su01` transaction. |
| 2 | Select a user who is specified at `CadRfcUser` in the following file on the OMS:<br>`server/sapserv/bin_%PLS_OSFULLNAME%/cadrfc.ini` |
| 3 | Switch to the `Role` tab. |
| 4 | Enter the desired role. |


hint

The authorizations specified for a user can be displayed with the `su56` transaction.

## 4.4 Establish the OMS on the SAP System

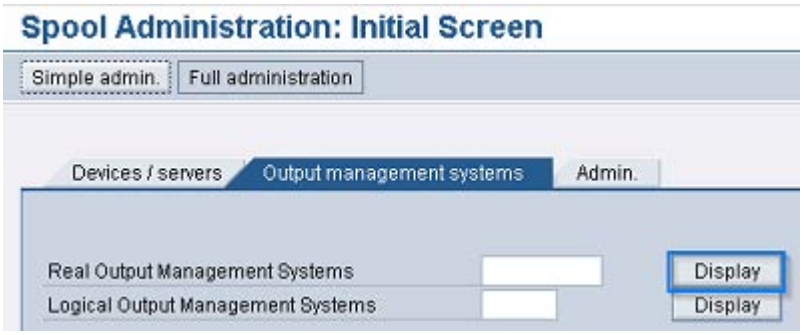
This chapter deals with the following topics: in this chapter


| Topic | Page |
|---|---|
| Open the Configuration of ROMS on the SAP System | 30 |
| Establish Real OMS on the SAP System | 31 |
| Copy Files | 24 |
| Open the Configuration for LOMS on the SAP System | 37 |
| Establish Logical OMS on the SAP System | 38 |
| Specify Commands | 41 |
| Assign Device Profile File (XDC File) | 44 |
| Establish an Output Device on the SAP System | 46 |

# Open the Configuration of ROMS on the SAP System

instructions

This is how you open the configuration of the real output management systems (ROMS) on the SAP system:

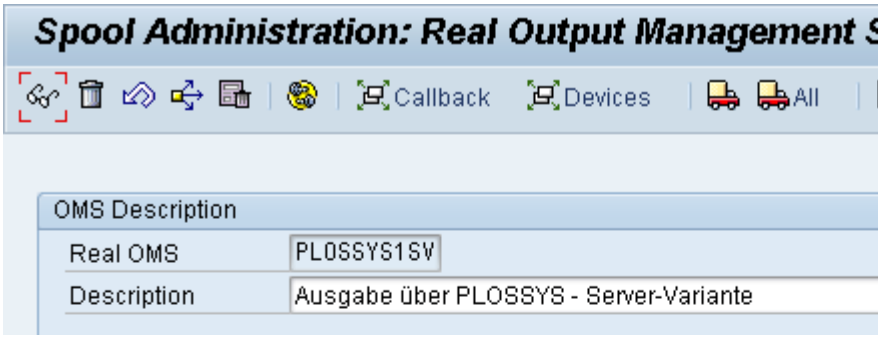
| Step | Action |
|---|---|
| 1 | Start the `spad` transaction. |
| 2 | Click `Extended Admin.` / `Full administration`. |
| 3 | Select the `Output management systems` tab. |
| 4 | Click `Display` at `Real Output Management Systems`:   |

# Establish Real OMS on the SAP System

This is how you create a real output management system: create ROMS

| Step | Action |
|---|---|
| 1 | → *Open the Configuration of ROMS on the SAP System*, page 30 |
| 2 | Switch to the change mode. |
| 3 | Create a new real OMS with (`Create Shift+F1`). |

This is how you specify the properties for the new real output management system: specify ROMS, part 1

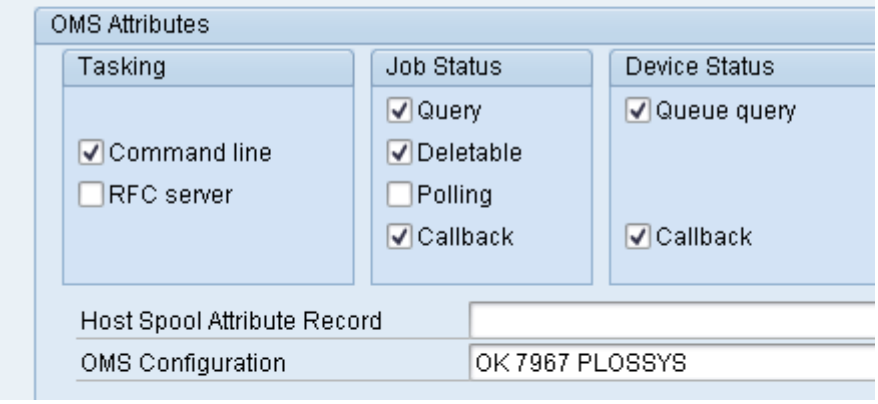
| Step | Action |
|---|---|
| 1 | → *Open the Configuration of ROMS on the SAP System*, page 30 |
| 2 | Select the required output management system. |
| 3 | Enter in the `OMS Description` section:<br>• `Real OMS`: Name of the OMS<br>Example:<br>`PLOSSYS1SV`<br>• `Description`: Descriptive text for OMS<br>Example:<br>`Output via PLOSSYS - Server Variant`<br>  |

*To be continued To be continued*

# Establish Real OMS on the SAP System, Continuation

specify ROMS, part 2

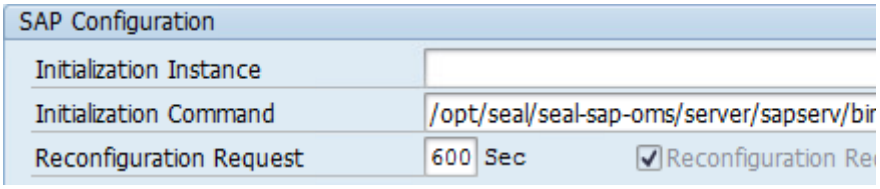
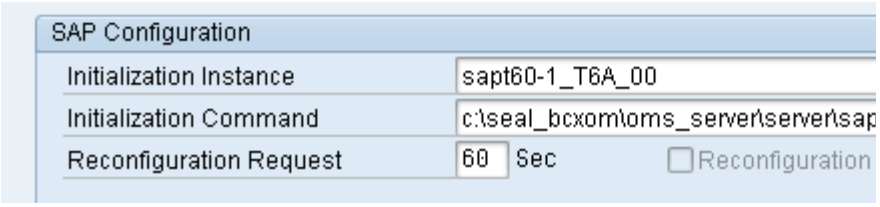
Continuation:

| Step | Action |
|---|---|
| 4 | Enter in the `OMS Attributes` section:<br>• `Tasking`:<br>  • `Command line`: Activated<br>• `Job Status`:<br>  • `Query`: Activated if job status desired<br>  • `Deletable`: Activated if jobs are to be deleted<br>  • `Callback`: Activated for job reply<br>• `Device Status`:<br>  • `Queue query`: Activated, if device status is desired<br>  • `Callback`: Activated for device reply<br>• `OMS Configuration`:<br>Connection data to the external output management system<br>For further information see:<br>→ *Copy Files*, page 24<br>  |

# Establish Real OMS on the SAP System, Continuation

Continuation:

specify ROMS, part 3

| Step | Action |
|---|---|
| 5 | Enter in the `SAP Configuration` section:<br>• `Initialization Instance`:<br>Empty or initial SAP system for callbacks if the initialization command can only be executed by one specific host<br>• `Initialization Command`:<br>Path and parameters of `oms_startup`<br>Example whereby the order of the SAP parameter is fix:<br>Linux:<br>`/opt/seal/seal-sap-oms/server/sapserv/bin_linux223/oms_startup "&E3" "&E4" "&Er" "&Es"`<br>Windows:<br>`c:\seal_b-cxom\server\sapserv\bin_winnt5\oms_startup.exe "&E3" "&E4" "&Er" "&Es"`<br>• `Reconfiguration Request`:<br>Time interval for reconfiguration event, see the following note:<br>Example - Linux:<br>  <br>Example - Windows:<br>  |

# Establish Real OMS on the SAP System, Continuation

hint - modifications

Changes in the SAP configuration are automatically transferred to the output management system.

In addition, a time-controlled re-transfer to the output management can be activated, which evaluates the time interval set for the real OMS with `Reconfiguration Request` (`omswatcher.cfg`, section `[OMSWATCHER]`, `AUTO_RECONFIG`, default: `N`). By default, it is not necessary to activate a time-controlled re-transfer of the SAP configuration.

As another alternative, the transfer can be started manually:

→ *Transfer SAP-Configuration and Start OMSWatcher*, page 57

related topics

→ *Specify Amount and Interval of the Replies*, page 87

→ *oms_startup - Initialization*, page 155

# OMS Configuration - Possible Values

with and without oms_server

You have the following possibilities for transferring the data to the external output management system:

- Transfer only with `oms_submit`:
  This is the certified transfer variant.
- Transfer with `oms_submit` and `oms_server`:
  The variant with `oms_server` provides the following additional functionality:
  → *Provide Reliability*, page 78
  → *Establish Load Balancing*, page 80

requirement for variant with oms_server

Requirement for the variant with `oms_server`:

→ *Start oms_server on the SAP System*, page 48

values at OMS Configuration

You specify the desired variant at the configuration of the ROMS at `OMS Configuration`:

- Transfer only with `oms_submit`: with `direct|https|ipp`
  - *`Host Port Pipe`* `direct` (with kNet), default *`Port`*: `7125`
  - *`Host Port Pipe`* `https` (with IPP Service - encrypted, HTTPS), default *`Port`*: `4443`
  - *`Host Port Pipe`* `ipp` (with IPP Service - unencrypted), default *`Port`*: `4631`
- Transfer with `oms_submit` and `oms_server` without `direct|https|ipp`
  Empty or *`OutputSystem`* or *`host port pipe`*

  Hint - empty:
  If the item is empty, the value of `OMS_CONFIGURATION` (`oms_submit.cfg`, `[OMS_SUBMIT]` section) is used. Default is the name `PLOSSYS`.
  The name of the specified output management system must be listed in the `[OUTPUT_SYSTEMS]` section in `oms_server.cfg` and specified in detail in a separate section.

  Hint - transfer type:
  The pipe name in the section of the output management system in the `oms_server.cfg` file specifies, whether kNet or IPP Service (unencrypted/ IPP or encrypted/HTTPS) is used for the transfer.

hint - no pipe name

If the pipe name is not set, `PLOSSYS` is used as default.

**Caution** - requirement for `https/ipp`

Requirement for the transfer via IPP Service:

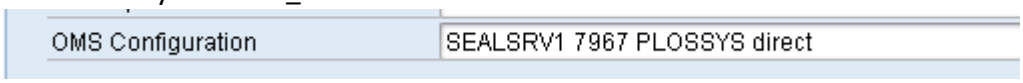
→ *Activate Transfer via IPP Service (IPP/HTTPS)*, page 21

*To be continued*

# OMS Configuration - Possible Values, Continuation

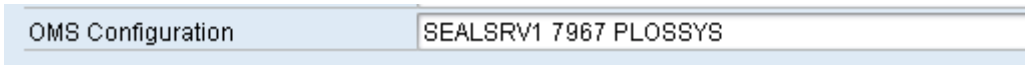
example 1 - only with oms_submit

Transfer only with `oms_submit` via kNet: `SEALSRV1 7967 PLOSSYS direct`:




example 2 - with oms_server

Transfer with `oms_server`: `SEALSRV1 7967 PLOSSYS`:




hint - demonstration and test purposes

If a common directory is used due to demonstration and test purposes and no files of SEAL Systems are copied to the SAP system, `direct|https|ipp` must not be set!

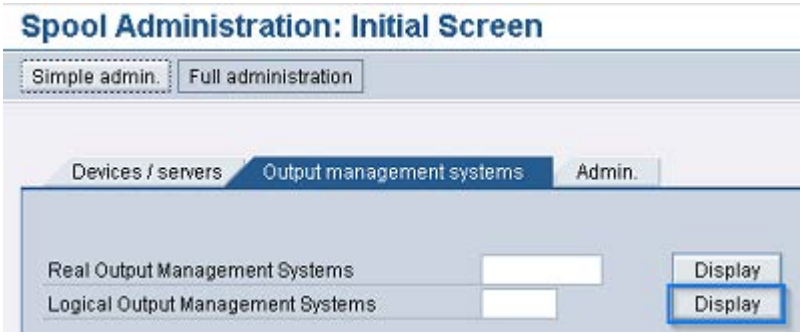
related topics

→ *oms_submit.cfg - Configuration*, page 129

→ *oms_server.cfg - Configuration*, page 137

# Open the Configuration for LOMS on the SAP System

This is how you open the configuration for logical output management systems (LOMS) on the SAP system: instructions

| Step | Action |
|---|---|
| 1 | Start the `spad` transaction. |
| 2 | Click `Extended Admin.` / `Full administration`. |
| 3 | Select the `Output management systems` tab. |
| 4 | Click `Display` at `Logical Output Management Systems`:   |

# Establish Logical OMS on the SAP System

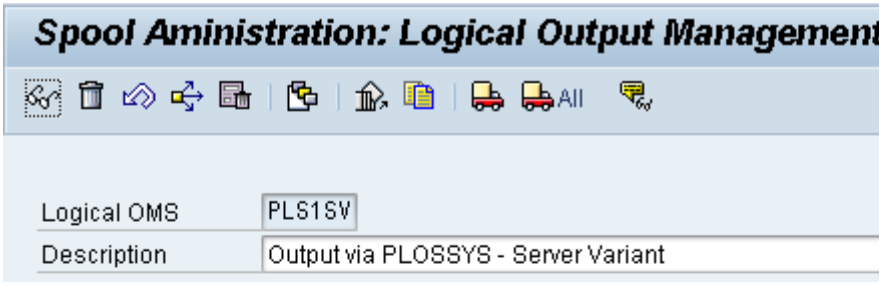
create LOMS

This is how you create a new logical output management system:

| Step | Action |
|---|---|
| 1 | → *Open the Configuration for LOMS on the SAP System*, page 37 |
| 2 | Switch to the change mode. |
| 3 | Create a new logical OMS with (`Create Shift F1`). |

specify LOMS, part 1

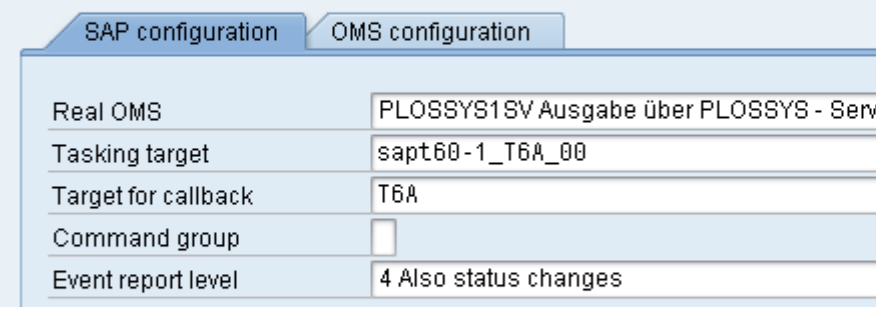
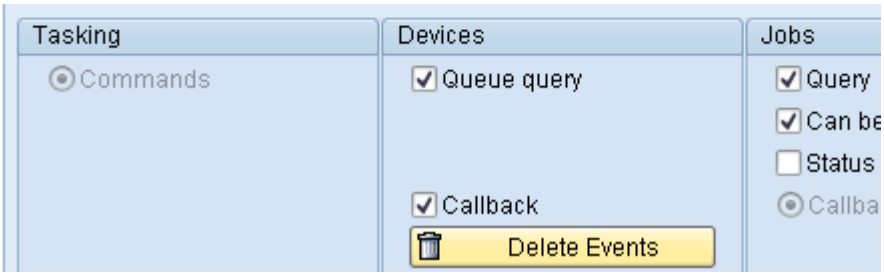
This is how you specify the properties for the new logical output management system:

| Step | Action |
|---|---|
| 1 | → *Open the Configuration for LOMS on the SAP System*, page 37 |
| 2 | Select the required output management system. |
| 3 | Enter:<br>• `Logical OMS`: Name of the OMS<br>Example: `PLS1SV`<br>• `Description`: Descriptive text for OMS<br>Example:<br>`Output via PLOSSYS - Server Variant`<br>  |
| 4 | Save the settings (`Save Strg+S`). |

*To be continued*

# Establish Logical OMS on the SAP System, Continuation

Continuation: specify LOMS, part 2

| Step | Action |
|---|---|
| 5 | Enter in the `SAP Configuration` section:<br>• `Real OMS`:<br>Real OMS from → *Establish Real OMS on the SAP System*, page 31<br>• `Tasking target`: SAP system for assignment<br>• `Target for callback`: SAP system to which the replies are transferred<br>**Caution** - item in `saprfc.ini`:<br>The item must be identical with the item in `saprfc.ini`.<br>• `Command group`: Desired command group<br>• `Event report level`: Amount of job replies<br>  |
| 6 | Enter in the `SAP Configuration` section:<br>• Section `Devices`:<br>`Queue query`: Activated, if device status is desired<br>`Callback`: Activated for device reply<br>• Section `Jobs`:<br>`Query`: Activated if job status desired<br>`Deletable`: Activated if jobs are to be deleted<br>  |
| 7 | Save the settings (`Save Strg+S`). |
| 8 | Define the commands to be executed with (`Commands F6`):<br>→ *Specify Commands*, page 41 |

*To be continued*

# Establish Logical OMS on the SAP System, Continuation

related topics

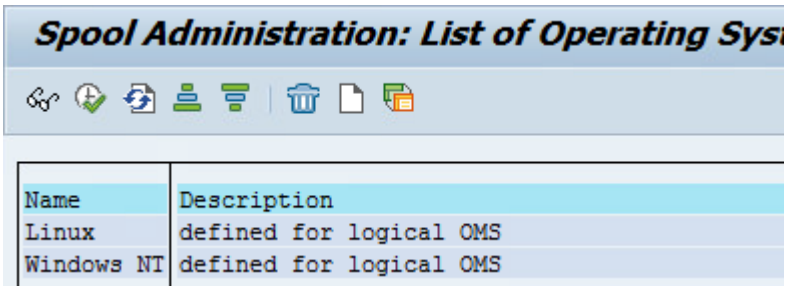
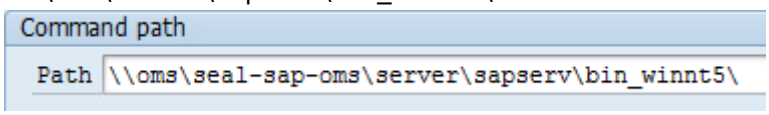
→ *Specify Amount and Interval of the Replies*, page 87

# Specify Commands

You have executed the last step of: requirements

→ *Establish Logical OMS on the SAP System*, page 38

This is how you specify the commands: instructions, part 1

| Step | Action |
|---|---|
| 1 | Activate the desired operating system or create it:<br>  |
| 2 | Enter:<br>• `Initialization Command`:<br>Name of the directory name, on which the executable program is located from the point of the SAP server<br>On a Windows system directory names with drive letter or UNC path specifications are possible.<br>**Caution** - Windows - path specification with \ at the end:<br>The path specification must end with a "\". The path specification must not include blanks, because this is not supported by SAP.<br>From the point of the SAP server, the path specification must be correct. This is especially important in the context of the usage of drive letters, under which the directories must be connected.<br>Example - Linux:<br>`/opt/seal/seal-sap-oms/server/sapserv/bin_linux223/`<br>  <br>Example - Windows:<br>`\\bcxom\oms\server\sapserv\bin_winnt5\` or<br>`s:\oms\server\sapserv\bin_winnt5\`<br>  |

*To be continued*

# Specify Commands, Continuation

instructions, part 2

Continuation:

| Step | Action |
|---|---|
| 3 | Enter in the `OMS commands` section:<br>• `Submit`:<br>Program for assignment with standard parameters:<br>`oms_submit[.exe\|.sh] "&C" "&E1" "&E2" "&E3" "&E4" "&EG" "&EI" "&Es" "&F" "&M" "&m" "&o" "&P" "&Y" "&c" "&T" -cfgfile`<br>**Caution** - UNIX/Linux:<br>Use `oms_submit.sh` instead of `oms_submit` on UNIX/Linux in order to ensure that the required shared libraries are found.<br>• `Queue query`:<br>Program for device status query with standard parameters:<br>`oms_dquery[.exe] -PLOSSYS -romsflag "&E4" -queue "&P" -dest "&Es"`<br>• `Job cancel`:<br>Program for job abortion with standard parameters:<br>`oms_cancel[.exe] -PLOSSYS -romsflag "&E4" "&EL"`<br>• `Job query`:<br>Program for job status query with standard parameters:<br>`oms_query[.exe] -PLOSSYS -romsflag "&E4" "&EL"`<br>Example - Linux:<br>OMS commands<br>Submit: `oms_submit.sh "&C" "&E1" "&E2" "&E3" "&E4" "`<br>Polling:<br>Queue query: `oms_dquery -PLOSSYS -romsflag "&E4" -queue "`<br>Job cancel: `oms_cancel -PLOSSYS -romsflag "&E4" "&EL"`<br>Job query: `oms_query -PLOSSYS -romsflag "&E4" "&EL"`<br>Example - Windows:<br>OMS commands<br>Submit: `oms_submit.exe "&C" "&E1" "&E2" "&E3" "&E4"`<br>Polling:<br>Queue query: `oms_dquery.exe -PLOSSYS -romsflag "&E4" -que`<br>Job cancel: `oms_cancel.exe -PLOSSYS -romsflag "&E4" "&EL`<br>Job query: `oms_query.exe -PLOSSYS -romsflag "&E4" "&EL"` |

*To be continued*

# Specify Commands, Continuation

If due to demonstration and test purposes a common directory is used without copying programs of SEAL Systems to the SAP system, the *Installation-Path*\server\sapserv\bin_*xxx*\ directory on the output management system on which oms_submit is located, must be set at Command Path. The SAP system must have access to the directory.

hint - demonstration and test purposes

related topics

→ *oms_submit - Transfer Additional Parameter*, page 74

→ *oms_submit - Assignment*, page 161

→ *oms_query - Job Status Query*, page 167

→ *oms_dquery - Device Status Query*, page 170

→ *oms_cancel - Job Abortion*, page 173

# Assign Device Profile File (XDC File)

require for ADS forms

These steps are only required if you want to support ADS forms.

description

At the output of SAPscript or Smart Form forms via SAP spool SAP transfers on OTF file with the relevant control parameters, for instance tray information for each page, to the output management system.

At the output of ADS forms SAP transfers a PDF file without control parameters to the output management system by default.

In order to transfer control parameters, a device profile file has to be assigned and a PostScript file has to be passed.

instructions, part 1

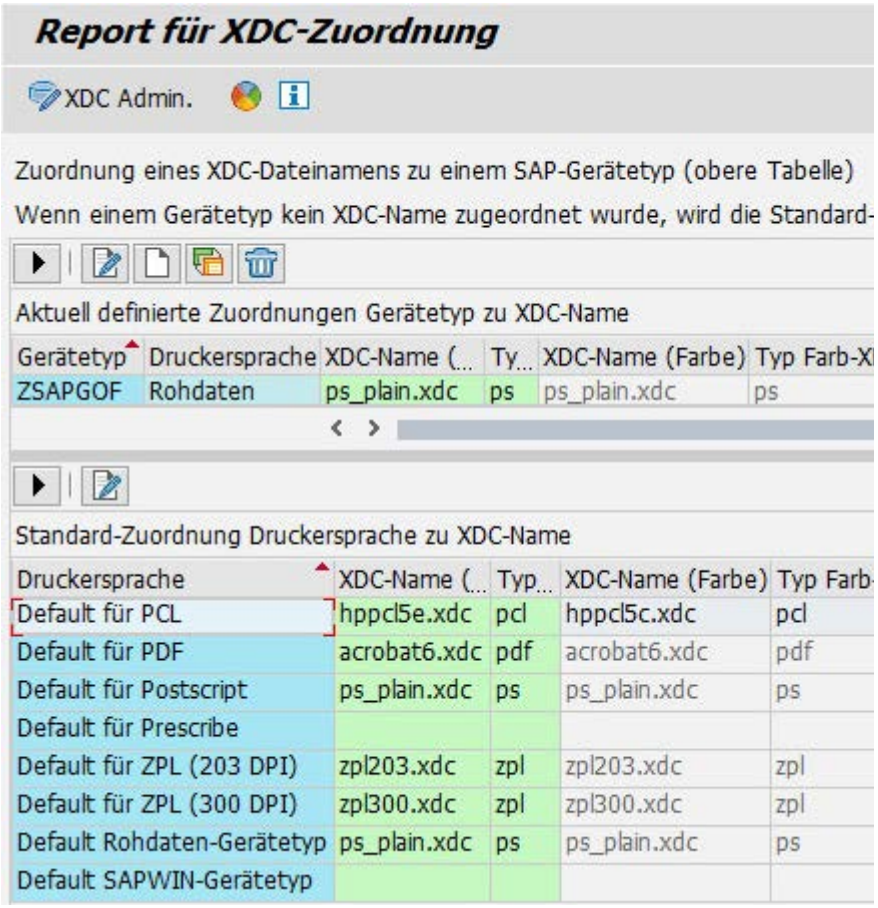
This is how you assign a device profile file:

| Step | Action |
|---|---|
| 1 | Copy the SAP device type for the OTF output, for instance `SAPGOFU`, and extend the copied device type to the desired control information, for instance tray selection. |
| 2 | Start the `sa38` transaction. |
| 3 | Execute the following program:<br>`Program: rspo0022` |

*To be continued*

# Assign Device Profile File (XDC File), Continuation

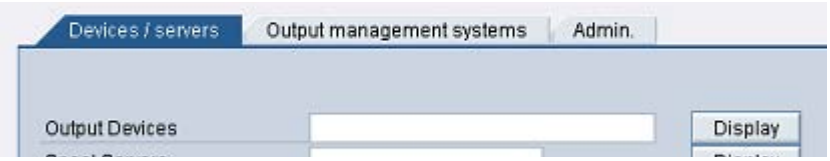
Continuation: instructions, part 2

| Step | Action |
|---|---|
| 4 | Assign the modified device type from step 1:<br>• `XDC Name`: `ps_plain.xdc`<br>• `Type`: `ps`<br>Example:<br>  <br>Hint - standard assignment:<br>Alternatively you may assign the values mentioned above at the standard assignment for the printer language `Default Raw Data Device Type`. |

# Establish an Output Device on the SAP System

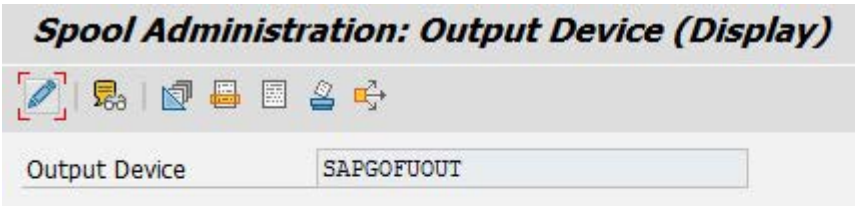
create output device

This is how you create a new output device:

| Step | Action |
|---|---|
| 1 | Start the `spad` transaction. |
| 2 | Click `Extended Admin.` / `Full administration`. |
| 3 | Select the `Devices / servers` tab. |
| 4 | Click `Display` at `Output Devices`:<br>  |
| 5 | Switch to the change mode. |
| 6 | Create a new output device with  (`Create Shift+F1`) a new output device. |

specify output device, part 1

This is how you specify the properties of a new output device:

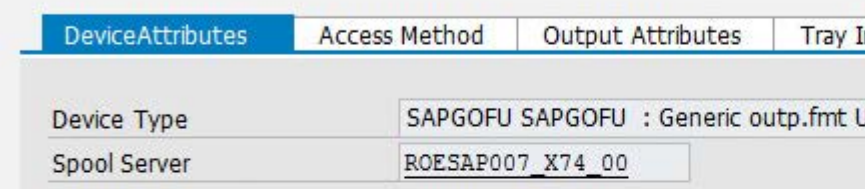
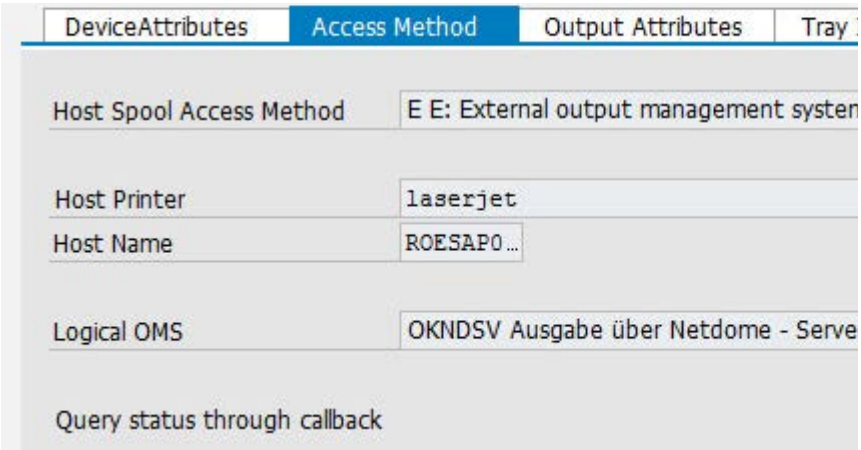
| Step | Action |
|---|---|
| 1 | Enter:<br>• `Output Device`: Name of the output device<br>• `Short Name`: Unique shortcut<br>Example:  <br>SAPGOFUOUT (short name: GOUS)<br>  |

*To be continued*

# Establish an Output Device on the SAP System, Continuation

Continuation:

specify output device, part 2

| Step | Action |
|---|---|
| 2 | Enter in the `Device Attributes` tab:<br>• `Device Type`: Type of the output device<br>Example:<br>`SAPGOFU: Generic output format Unicode 1.1` for the Unicode SAPGOF output<br>  <br>Hint - `SAPGOF`:<br>Alternatively, you may use `SAPGOF: Generic output format ASCII` if you do not have any Unicode requirements with special Asian fonts.<br>**Caution** - only one device type:<br>You must use the same device type for all output devices!<br>• `Spool Server`: SAP server |
| 3 | Enter in the `Access Method` tab:<br>• `Host Spool Access Method`:<br>`E E: External output management system`<br>• `Host printer`: Name of the PLOSSYS output device<br>• `Logical OMS`: Logical OMS<br>  |
| 4 | Save the settings (`Save Strg+S`). |

## 4.5 Start oms_server on the SAP System

required if

These steps are only required if you selected the variant with `oms_server` (without `direct|https|ipp` as the last option) at the configuration of ROMS at `OMS Configuration`.

→ *Copy Files*, page 24

If the SAP system runs on Linux, you can skip this chapter if you used the rpm installation package:

→ *Linux - Install via rpm Installation Package*, page 25

requirement

You copied the required files for `oms_server` to the SAP system.

→ *Copy Files*, page 24

description

For the assignment with `oms_server`, `oms_server` must be started on the SAP system. You have the following alternatives:

- Direct start on the SAP system
- Start from the output management system
  You can use the AT command (Windows) or cronjobs (UNIX, crontab) to establish the start at the system start. On a Windows systems you can use SEALService from SEAL Systems alternatively. The subsequent chapters focus on the configuration with SEALService.

in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Define External Commandos on the SAP System | 49 |
| Establish a Direct Start on the SAP System | 51 |
| Establish the Start from the output management system | 54 |


result

You can check a successful start of `oms_server` on the SAP system on the basis of the following issues:

- The process is listed in the task manager.
- A lock file with the process ID exists inn the `data\sysstat` directory.
- The `oms_server.log` log file exists in the `data\log` directory:
  → *View Log File on the SAP System*, page 97

# Define External Commandos on the SAP System

This is how you define the required external commands on the SAP system: instructions, part 1

| Step | Action |
|---|---|
| 1 | Start the sm49 or sm69 transaction. |
| 2 | Define the external command for starting oms_server:<br>• Command - Command name: ZOMSSERVER_ON<br>• For Windows:<br>  • Definition - Operating System Command: cmd<br>  • Definition - Parameters for operating system command:<br>  /C c:\seal_bcxom\server\sapserv\bin_winnt5\oms_-server[.exe\|.sh]<br>• Otherwise:<br>  • Definition - Operation System Command:<br>  oms_server.sh with absolute path specification<br>**Caution** - UNIX/Linux:<br>Use oms_server.sh instead of oms_server on UNIX/Linux in order to ensure that the required shared libraries are found.<br>  • Definition - Parameter: empty<br>From the point of the SAP server, the path specification must be correct.<br>C ZOMSSERVER_OFF Windows NT cmd /C C:\seal_bcxom\oms_s<br>C ZOMSSERVER_ON Windows NT cmd /c C:\seal_bcxom\oms_se<br>C ZOMSSERVER_STATUS Windows NT cmd /K tasklist.exe |
| 3 | Analogical to step 2, define the external command for stopping oms_server:<br>• Command - Command name: ZOMSSERVER_OFF<br>• For Windows:<br>  • Definition - Operating System Command: cmd<br>  • Definition - Parameters for operating system command:<br>  /C c:\seal_bcxom\server\sapserv\bin_winnt5\oms_-server.exe -kill<br>• Otherwise:<br>  • Definition - Operation System Command:<br>  oms_server with absolute path specification<br>**Caution** - UNIX/Linux:<br>Use oms_server.sh instead of oms_server on UNIX/Linux in order to ensure that the required shared libraries are found.<br>  • Definition - Parameter: -kill |

*To be continued*

# Define External Commandos on the SAP System,

Continuation

instructions, part 2

This is how you define the required external commands on the SAP system:

| Step | Action |
|---|---|
| 4 | Analogical to step 2, define the external command for the status query of `oms_server`:<br>• `Command - Command name: ZOMSSERVER_STATUS`<br>• For Windows:<br>  • `Definition - Operating System Command: cmd`<br>  • `Definition - Parameter: /K tasklist.exe`<br>• Otherwise:<br>  • `Definition - Operation System Command: ps` |

# Establish a Direct Start on the SAP System

Alternatively, you can start `oms_server` from the output management system: alternative

→ *Transfer SAP-Configuration and Start OMSWatcher*, page 57

This is how you configure the direct start on the SAP system: instructions, part 1

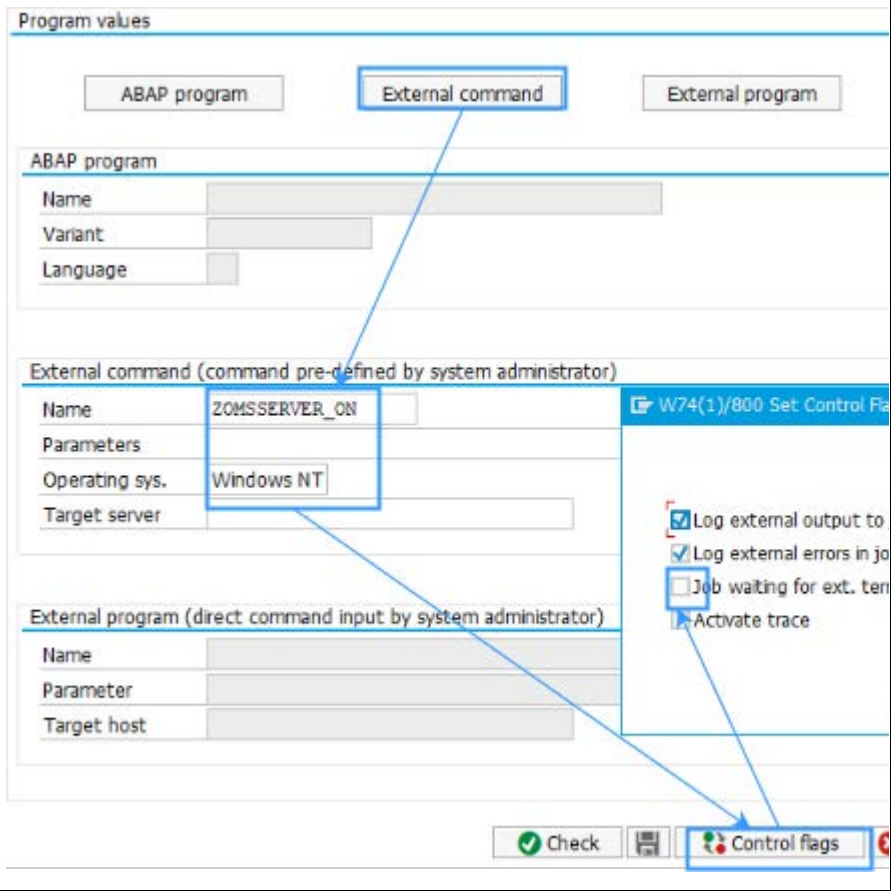
| Step | Action |
|---|---|
| 1 | Use the `sm36` transaction to configure the start command as a periodical batch. Enter in the `Start Condition` tab, fro instance:<br>• `Date/Time` - `Scheduled start`: 6:00 am<br>• `Periodic Job`: Activate<br>• `Period Values`: 15 minutes (example)<br>Time interval, in which the command is to be executed periodically, to ensure that `oms_server` runs permanently |

*To be continued*

# Establish a Direct Start on the SAP System, Continuation

instructions, part 2

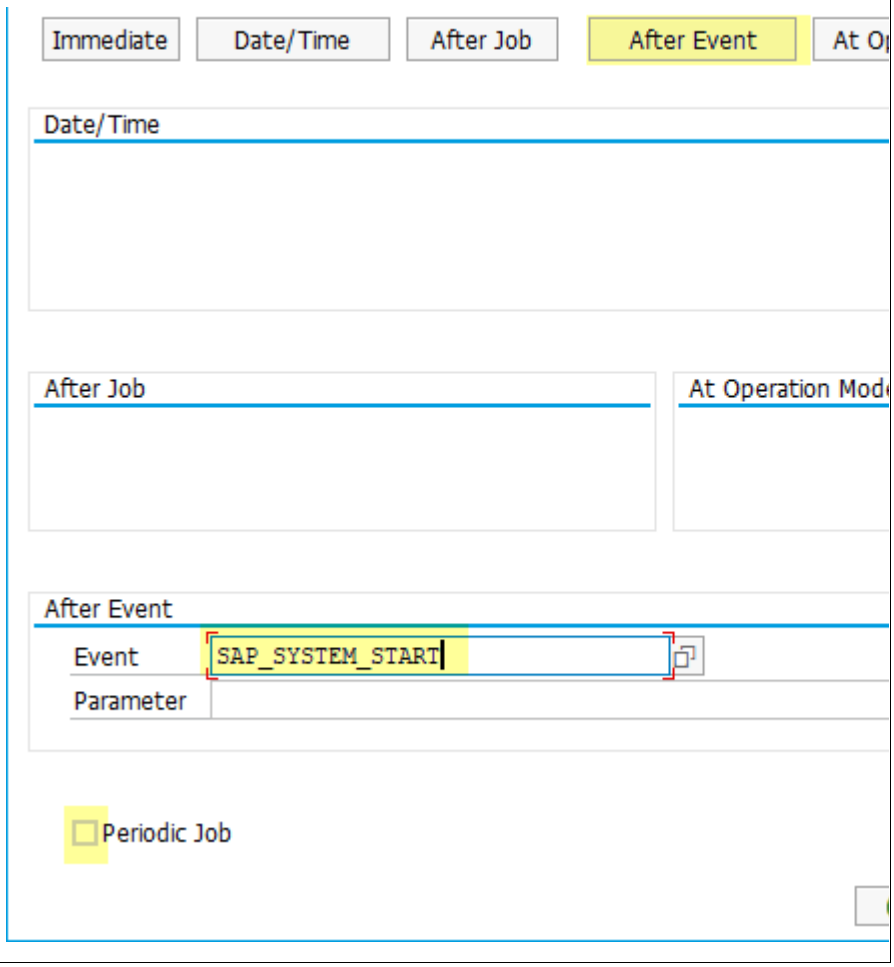
Continuation:

| Step | Action |
|---|---|
| 2 | Switch to the `Step` tab and enter:<br>• `External command - Name`: Command of → *Define External Commandos on the SAP System*, page 49 (step 2)<br>• `External Command - Operating sys.`: Windows NT<br>• `Control flags - Job waiting for ext. termination`: Deactivate<br>  |

*To be continued*

# Establish a Direct Start on the SAP System, Continuation

Continuation: instructions, part 3

| Step | Action |
|---|---|
| 3 | Use the `sm36` transaction to configure the command of step 2 as a singular batch job at system start, for example:<br>`Start condition`:<br>• `After event - Event`: SAP_SYSTEM_START<br>• `Periodic Job`: Deactivate<br>`Step`: as in step 2<br>• `External command - Name`: Command of step 2<br>• `External Command - Operating sys.`: Windows NT<br>• `Control flags - Job waiting for ext. termination`: Deactivate<br>  |

# Establish the Start from the output management system

requirement

You have defined the external command on the SAP system:

→ *Define External Commandos on the SAP System*, page 49

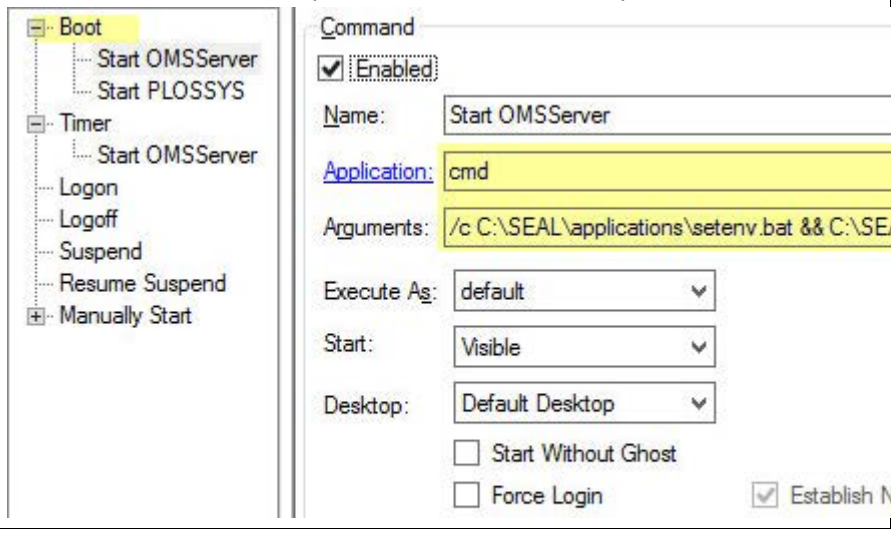
alternative

Alternatively, you can start `oms_server` directly on the SAP System:

→ *Establish a Direct Start on the SAP System*, page 51

instructions, part 1

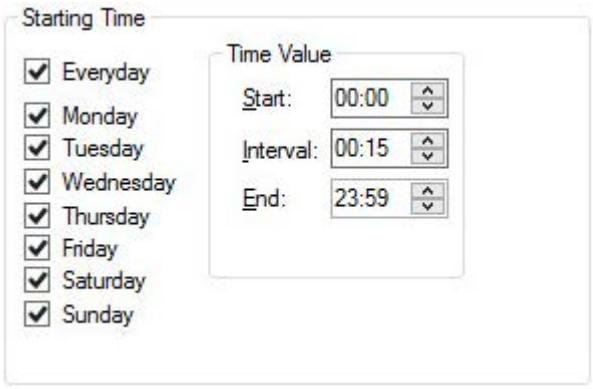
This is how you start `oms_server` alternatively via SEALService under Windows from the output management system:

| Step | Action |
|---|---|
| 1 | Check if the service output management system is started on the SEALService.<br><br>Further information: [SEALSERV_TEC] |
| 2 | Start SEALService configuration on the output management system. |
| 3 | Enter as boot command via `Add`:<br>• `Application`: `cmd`<br>• `Arguments`: `setenv.bat` and `perl` with `omsserverstart.pl`<br><br>Example:<br>• `Application`: `cmd`<br>• `Arguments`: `/c C:\SEAL\applications\setenv.bat && C:\SEAL\applications\tools\perl\bin_winnt5\bin\perl.EXE C:\SEAL\applications\server\sapserv\omsserverstart.pl`<br>  |

*To be continued*

# Establish the Start from the output management system, Continuation

Continuation: instructions, part 2

| Step | Action |
|---|---|
| 4 | Enter as timer command the settings of step 3 with `Add New`:<br>• `Starting Time`:<br>Days and time interval, in which the command is to be executed periodically, to ensure that `oms_server` runs permanently.<br><br>Example:<br><br>Activate all weekdays, `Interval`: 15 (all 15 minutes)<br>  |

## 4.6 Start and Test Execution

requirement

→ *Establish the OMS on the SAP System*, page 29

→ *Start oms_server on the SAP System*, page 48

in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Transfer SAP-Configuration and Start OMSWatcher | 57 |
| Test the Assignment and Status Actualization | 58 |

# Transfer SAP-Configuration and Start OMSWatcher

requirement

The external output management system is started:

→ *Start the Programs on the Output Management System*, page 22

The ROMS and LOMS are established:

→ *Establish the OMS on the SAP System*, page 29

description

The settings of the real and logical output management systems on the SAP system are transferred to the database of the output management system.

instructions

This is how you transfer the SAP configuration to the external output management system:

| Step | Action |
|---|---|
| 1 | → *Open the Configuration of ROMS on the SAP System*, page 30 |
| 2 | Select the required output management system. |
| 3 | Transfer the SAP configuration with the icon  (`Status Ctrl+F3`). |
| 4 | Repeat the steps 2 to 3 for each real output management system. |

background knowledge

The standard kNet port `7125` is used to transfer the initialization data. This also applies when using the IPP service.

related topics

→ *oms_startup - Initialization*, page 155

reference

[SAP_PRINT_MANUAL] includes further information about the functions of the SAP spool system. There, the activation of the OMS reconfiguration is described in detail.

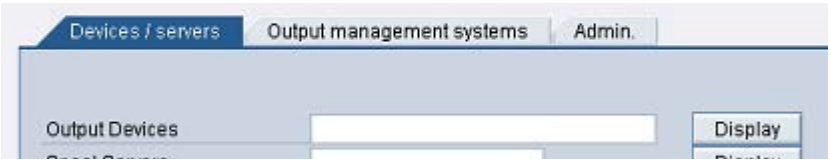
# Test the Assignment and Status Actualization

example

For testing the assignment and display of the current job status you can output the list of the external output devices, for example.

instructions

This is how you test the assignment and the status display by means of printing the list of the external output devices:

| Step | Action |
|---|---|
| 1 | Start the `spad` transaction. |
| 2 | Click `Extended Admin.` / `Full administration.` |
| 3 | Select the `Devices / servers` tab. |
| 4 | Click `Display` at `Output Devices`:   |
| 5 | Output the list of the output devices via the output device established before with: (`Print Strg+P`) or `System→List→Print` |
| 6 | → *Query Job Status*, page 62 |

related topics

→ *Check Process - Advisable Actions*, page 100

# 5 Functionality of OMS Interface for SAP (BC-XOM)

This chapter deals with the following topics: in this chapter


| Topic | Page |
|---|---|
| Specify Period for Reestablishment of Network Connection | 108 |
| Create Output Job | 61 |
| Query Job Status | 62 |
| Display Job Reply | 64 |
| Query Queue/Device Status | 66 |
| Display Queue/Device Replies | 68 |
| Cancel Jobs | 70 |

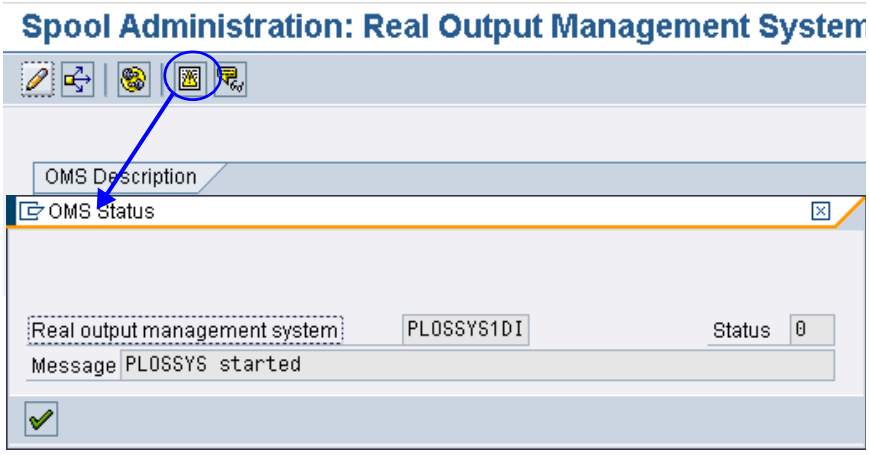
# Query System Status

description

The settings of the real and logical output management systems on the SAP system are transferred to the database of the output management system. Additionally, OMSWatcher is started, its status is returned and displayed.

instructions

This is how you check the system status of the external output management system:

| Step | Action |
|---|---|
| 1 | → *Open the Configuration of ROMS on the SAP System*, page 30 |
| 2 | Select the required output management system. |
| 3 | Check the status with  (`Status Strg+F3`):<br>  <br>  **Caution** - status:<br>The status of OMSWatcher but not the status of PLOSSYS netdome is displayed! |

related topics

→ *Transfer SAP-Configuration and Start OMSWatcher*, page 57

# Create Output Job

description

A spool request and an output job is created and output via the output management system.

requirement

The following requirements have to be fulfilled:

→ *Installation - SAP*, page 23

instructions

This is how you create an output job and output the job via an external output management system:

| Step | Action |
|---|---|
| 1 | Start the output with (`Print Strg+P`). |
| 2 | Select one of the configured output devices:<br>→ *Establish an Output Device on the SAP System*, page 46 |

# Query Job Status

description

The current status of the output job on the output management system is evaluated.

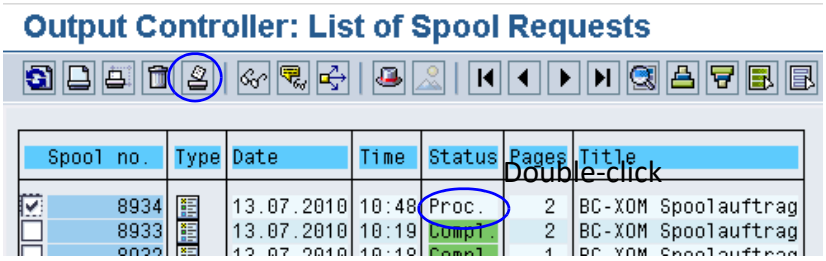
requirement

The following requirements have to be fulfilled:

- `oms_query` must exist on the SAP system:
  → *Copy Files*, page 24
- `Query` at `Job Status` must be activated for the real OMS:
  → *Establish Real OMS on the SAP System*, page 31
- `Query` at `Jobs` must be activated for the logical OMS:
  → *Establish Logical OMS on the SAP System*, page 38

instructions, part 1

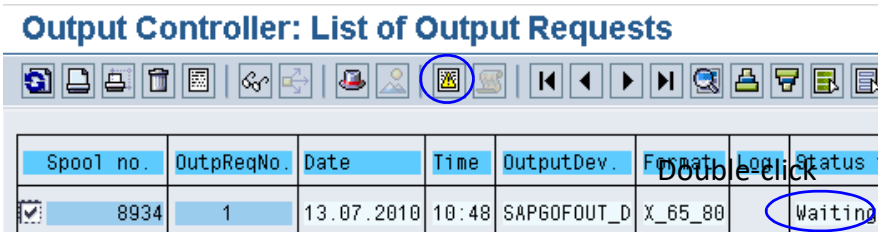
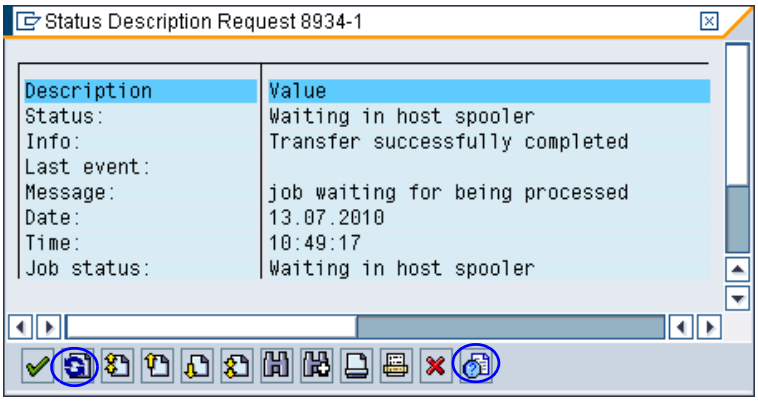
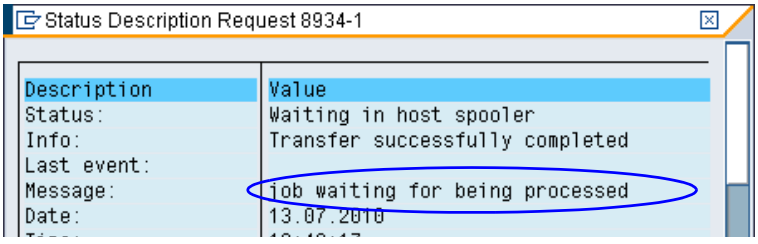
This is how you check the job status on the external output management system:

| Step | Action |
|---|---|
| 1 | Start the `sp01` transaction. |
| 2 | Select the desired spool request and switch to the list of output jobs with  (`Output requests F5`) or double-click in the `Status` column:<br>  <br>  Hint - transfer status without `oms_server`:<br>If the assignment to the external output management system was successful, the status of the spool request is `Processed` or `Print`, otherwise `Error`.<br>  Hint - transfer status with `oms_server`:<br>The transfer to the external output management system is always replied as successful at first, which means that the status of the spool request is `Processed` or `Print`. As soon as no jobs are waiting in the input directory, `oms_server` replies the real status of the assignment. |

*To be continued*

# Query Job Status, Continuation

Continuation: instructions, part 2

| Step | Action |
|---|---|
| 3 | For detailed information select the output job and display the status with (`Output request status Shift+Ctrl+0`) or double-click in the `Status text` column:<br>  |
| 4 | Query the job status of the external output management system with:<br>• (`Query F8`) at the first query<br>• (`Refresh F6`) for further queries<br>  <br>from 2. 1. Query |
| 5 | Check the last job status of the external output management system in the `Last Event` area below `Message`:<br>  |

related topics

→ *Check Process - Advisable Actions*, page 100

→ *oms_query - Job Status Query*, page 167

# Display Job Reply

description

The job history with the information about the separate processing steps of the output job in the SAP system and on the external output management system is displayed.

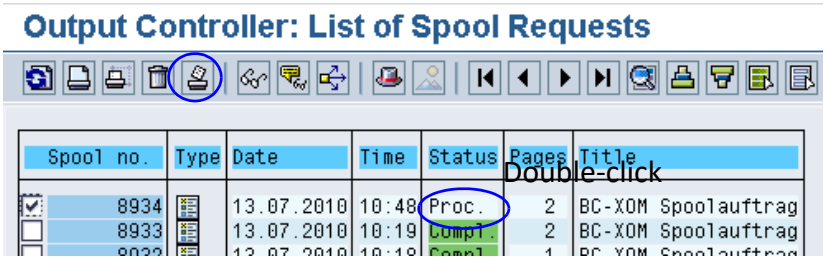
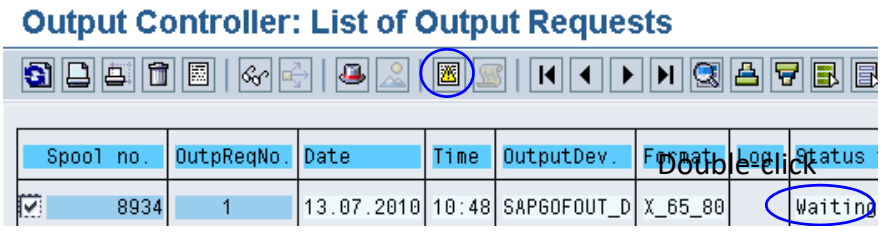
requirement

The following requirements have to be fulfilled:

- `Callback` at `Job Status` must be activated for the real OMS:
  → *Establish Real OMS on the SAP System*, page 31
- `Callback` at `Jobs` must be activated for the logical OMS:
  → *Establish Logical OMS on the SAP System*, page 38
- OMSWatcher must be started:
  → *Transfer SAP-Configuration and Start OMSWatcher*, page 57

instructions, part 1

This is how you display the job history:

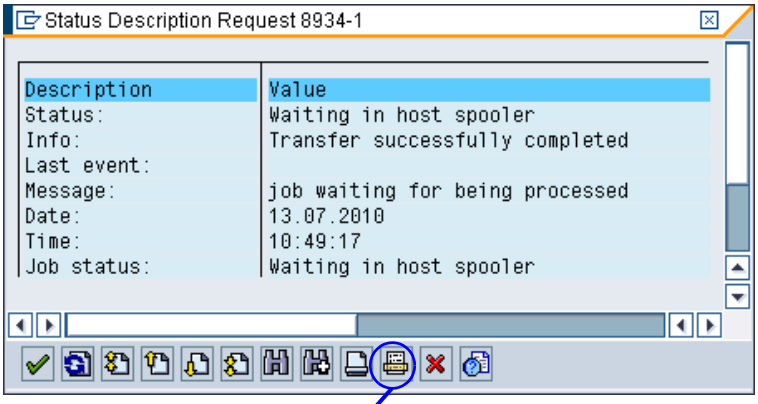
| Step | Action |
|---|---|
| 1 | Start the `sp01` transaction. |
| 2 | Select the desired spool request and switch to the list of output jobs with  (`Output requests F5`) or double-click in the `Status` column:<br>  |
| 3 | Select the output job and display the status with  (`Output request status Shift+Ctrl+0`) or double-click in the `Status text` column:<br>  |

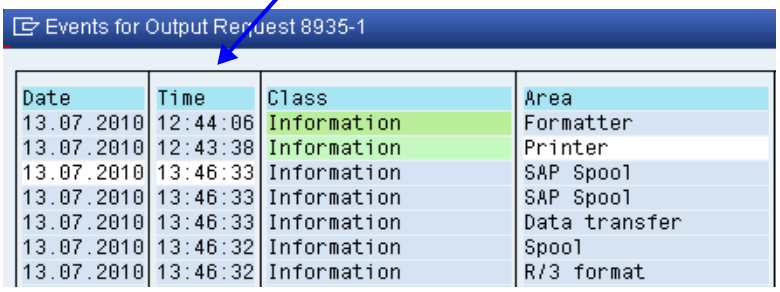
*To be continued*

# Display Job Reply, Continuation

Continuation: instructions, part 2

| Step | Action |
|---|---|
| 4 | Display the information about the separate processing steps with  (Events F5): |




related topics

→ *Status Information - Activate or Deactivate Replies*, page 85

→ *Check Process - Advisable Actions*, page 100

# Query Queue/Device Status

description

The current queue/device status on the external output management system is evaluated.

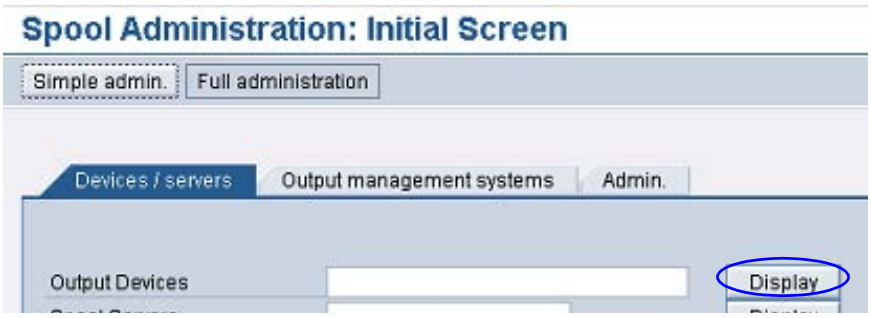
requirement

The following requirements have to be fulfilled:

- `oms_dquery` must exist on the SAP system:
  → *Copy Files*, page 24
- `Queue query` at `Device Status` must be activated for the real OMS:
  → *Establish Real OMS on the SAP System*, page 31
- `Queue query` at `Devices` must be activated for the logical OMS:
  → *Establish Logical OMS on the SAP System*, page 38
- The program for the reply of the device status has to be activated on the external output management system:
  → *Activate the Program for Device Status Reply*, page 20

instructions

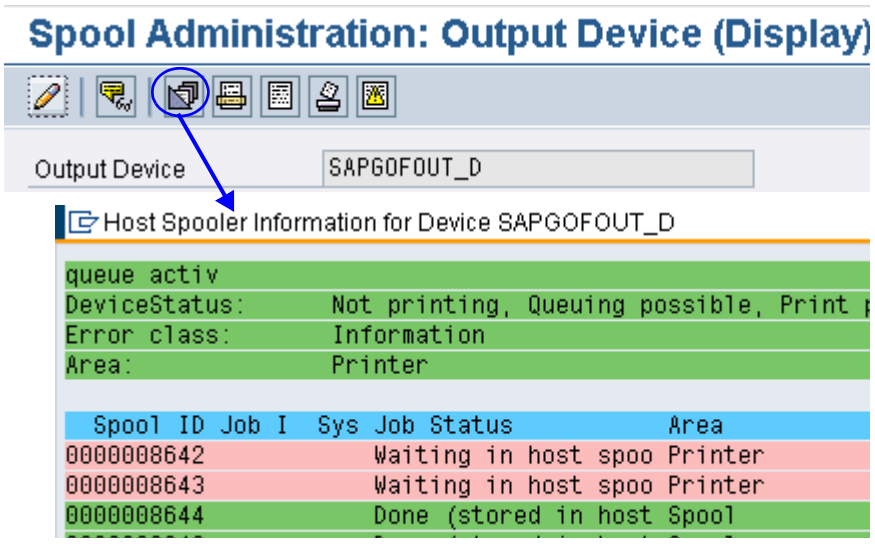
This is how you check the current queue and device status on the external output management system:

| Step | Action |
|---|---|
| 1 | Start the `spad` transaction. |
| 2 | Click `Extended Admin.` / `Full administration`. |
| 3 | Select the `Devices / servers` tab. |
| 4 | Click `Display` at `Output Devices`:<br>  |
| 5 | Select the desired output device. |

*To be continued*

# Query Queue/Device Status, Continuation

Continuation: instructions, part 2

| Step | Action |
|---|---|
| 6 | Check the status with (`External Jobs Strg+F1`):   |

By default, the queue status is displayed. If you use Output Device Monitor of output management system on the SEAL Systems, detailed device information is displayed. hint - ODM

[ODM] contains further information about Output Device Monitor. reference

On systems with reliability (failover systems) or systems for load balancing all connected systems have identical queues. For these systems is valid: reliability and load balancing

- queue/device status
  As soon as the queue is ready on one of the connected systems, `successful` is displayed as queue or device status. Only if the queue is not ready on all of the connected systems, the `error` status is displayed.
- Jobs
  Jobs of all connected systems are displayed.

→ *oms_dquery - Device Status Query*, page 170 related topics

# Display Queue/Device Replies

description

The queue/device history is displayed.

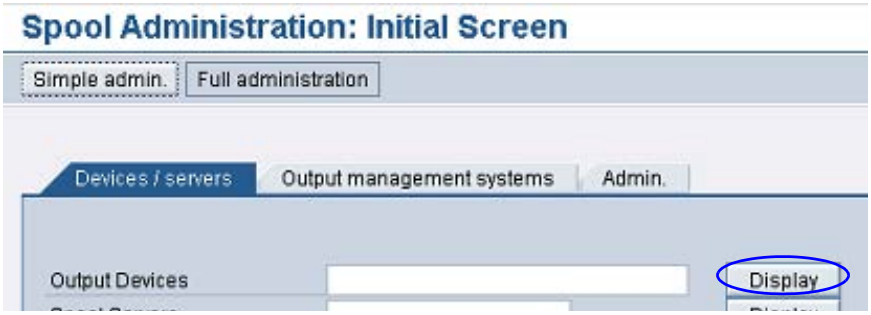
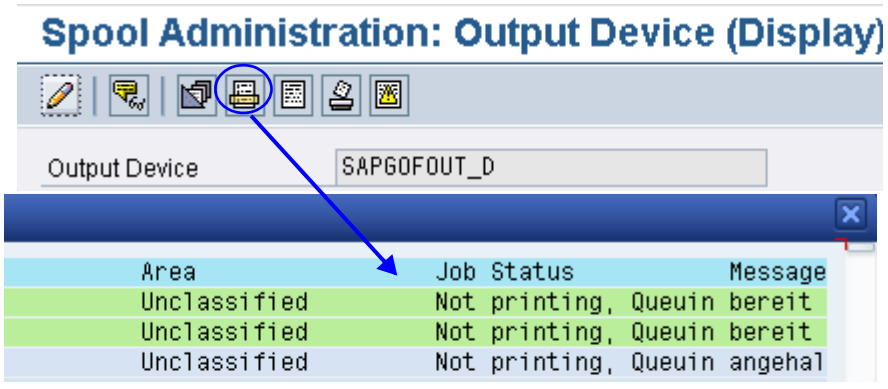
requirement

The following requirements have to be fulfilled:

- `Callback` at `Devices` must be activated for the real OMS:
  → *Establish Real OMS on the SAP System*, page 31
- `Callback` at `Devices` must be activated for the logical OMS:
  → *Establish Logical OMS on the SAP System*, page 38
- OMSWatcher must be started:
  → *Transfer SAP-Configuration and Start OMSWatcher*, page 57

instructions, part 1

This is how you display the queue/device history:

| Step | Action |
|---|---|
| 1 | Start the `spad` transaction. |
| 2 | Click `Extended Admin.` / `Full administration`. |
| 3 | Select the `Devices / servers` tab. |
| 4 | Click `Display` at `Output Devices`:<br>  |
| 5 | Select the desired output device. |
| 6 | Display the information about the separate processing steps with  (`Events` `Shift + F7`):<br>  |

*To be continued*

# Display Queue/Device Replies, Continuation

→ *Specify Amount and Interval of the Replies*, page 87

related topics

# Cancel Jobs

description

Jobs that are waiting can be canceled on the external output management system. Processed jobs cannot be canceled on the contrary.

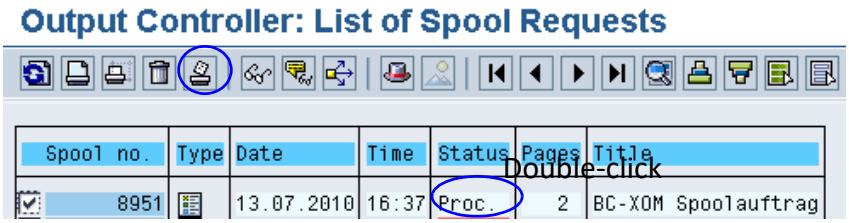
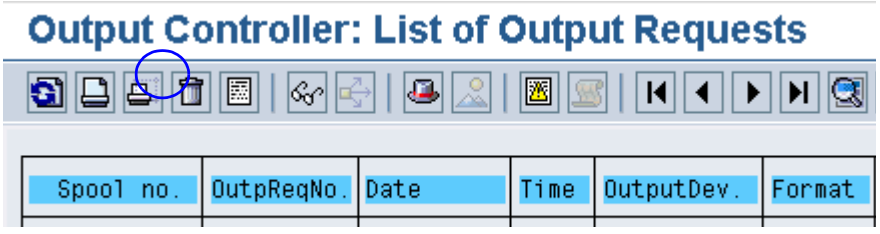
requirement

The following requirements have to be fulfilled:

- `oms_cancel` must exist on the SAP system:
  → *Copy Files*, page 24
- `Can be deleted` at `Job Status` must be activated for the real OMS:
  → *Establish Real OMS on the SAP System*, page 31
- `Can be deleted` at `Jobs` must be activated for the logical OMS:
  → *Establish Logical OMS on the SAP System*, page 38

instructions

This is how you cancel jobs, which are waiting on the external output management system:

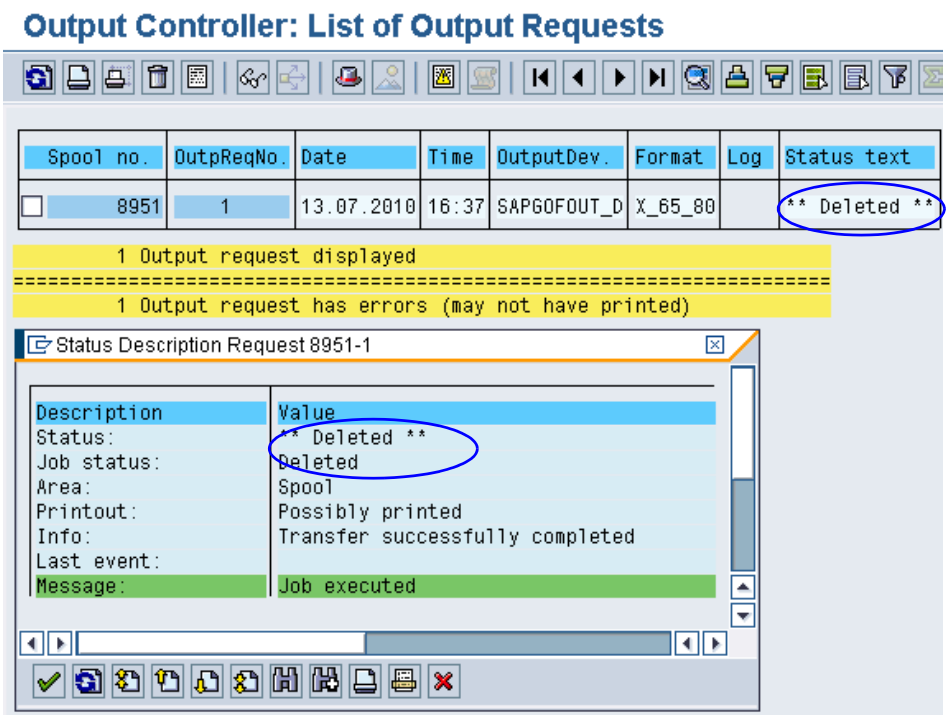
| Step | Action |
|---|---|
| 1 | Start the `sp01` transaction. |
| 2 | Select the desired spool request and switch to the list of output jobs with  (`Output requests F5`) or double-click in the `Status` column:<br>  |
| 3 | Select an output job and cancel it with  (`Delete Shift+F2`):<br>  |

*To be continued*

# Cancel Jobs, Continuation

After canceling the output job is displayed as deleted on the SAP system:

result - SAP system




The spool request gets the `Error` status.

On the external output management system the output job is deleted from the list of waiting jobs and the status is set to `Completed`.

result - external OMS

→ *oms_cancel - Job Abortion*, page 173

related topics

# 6 Extended Configuration Options

in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Assignment - Additional Options | 73 |
| Assignment with oms_server - Activation of Additional Functions | 76 |
| Reply Messages - Modifications | 83 |

## 6.1 Assignment - Additional Options

This chapter deals with the following topics: in this chapter


| Topic | Page |
|---|---|
| oms_submit - Transfer Additional Parameter | 74 |
| oms_submit - Activate the Reading of the Configuration | 75 |

# oms_submit - Transfer Additional Parameter

instructions

This is how you pass additional SAP parameters, which are not supported per default, to `oms_submit`:

| Step | Action |
|---|---|
| 1 | Open the report for specifying the commands of the LOMS:<br>→ *Specify Commands*, page 41 |
| 2 | Add the required SAP data as "&*xxx*" parameters at the `oms_submit` call. |
| 3 | Activate the reading of the configuration file:<br>→ *oms_submit - Activate the Reading of the Configuration*, page 75 |
| 4 | Copy the modified call from the customizing of the real OMS into `oms_submit.cfg`, `[OMS_SUBMIT]` section, `PARAMETER` item:<br>→ *oms_submit.cfg - Configuration*, page 129<br><br>Hint - mapping:<br>According to this setting `oms_submit` decides which SAP parameter is passed on a certain call position. |

related topics

→ *Available SAP Parameters*, page 118

# oms_submit - Activate the Reading of the Configuration

description

If you want to pass other parameters to `oms_submit` or change settings in the configuration file of `oms_submit`, you must activate the reading of the configuration file.

instructions

This is how you activate the reading of the `oms_submit.cfg` configuration file:

| Step | Action |
|---|---|
| 1 | Open the report for specifying the commands of the LOMS:<br>→ *Specify Commands*, page 41 |
| 2 | Enter in the `OMS commands` section at `Submit` as last parameter:<br>`-cfgfile` |

related topics

→ *Usage of oms_submit*, page 162

→ *oms_submit.cfg - Configuration*, page 129

## 6.2 Assignment with oms_server - Activation of Additional Functions

in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Specify Period for Reestablishment of Network Connection | 108 |
| Provide Reliability | 78 |
| Establish Load Balancing | 80 |

# Modify the Repetition of the Assignment

only if

This chapter is only relevant if you have selected the variant with `oms_server` (without `direct|https|ipp` as the last option) at the configuration of ROMS at `OMS Configuration`.

→ *Copy Files*, page 24

description

If `oms_server` is used for the transfer based on IPP Service parallel threads repeat the failed assignment in the case of an erroneous transfer until it is successful. The time interval between the repeat attempts as well as the maximum waiting time and number of repeat attempts is configurable.

instructions

This is how you modify the repeat attempts for erroneous transfers:

| Step | Action |
|---|---|
| 1 | On the SAP system, open the following file via an editor:<br>`server\sapserv\conf\oms_server.cfg` |
| 2 | Enter the time interval after which an erroneous transfer is to be repeated:<br>`[OMS_SERVER_PARAMETERS]`<br>`RETRY_WAIT_TIME 600` (in seconds) |
| 3 | Enter the maximum time and number of repeat attempts for an erroneous transfer:<br>`[OMS_SERVER_PARAMETERS]`<br>`MAX_RETRY_TIME 48` (in hours)<br>`MAX_RETRIES 10`<br>  Hint - abort with error:<br>As soon as the maximum time or number of repeat attempts is reached, the job is terminated with an error. |

background knowledge - kNet

For the assignment via kNet, kNet tries to repeat the connection establishment after the network timeout in case of an erroneous connection. If the kNet connection can not be established after the maximum number of repeat attempts (`MAX_CONNECT_RETRY`), kNet aborts with an error.

 related topics

→ *oms_server.cfg - Configuration*, page 137

# Provide Reliability

only if

This chapter is only relevant if you have selected the variant with `oms_server` (without `direct|https|ipp` as the last option) at the configuration of ROMS at `OMS Configuration`.

→ *Copy Files*, page 24


hint - combination

The configuration of systems to provide reliability can be combined with the configuration to provide load balancing in any way.

description

If `oms_server` is used for transfer, reliability can be provided. Different output management systems are defined which are used if the desired output management system cannot be addressed temporarily. In the order of the specified priority the systems are contacted one by one until a transfer to a system is possible.

instructions, part 1

This is how you provide reliability for systems:

| Step | Action |
|---|---|
| 1 | In the customizing of the real output management system, enter in the OMS Attributes section:<br>• `OMS Configuration`: empty or *`output system`*<br>→ *Establish Real OMS on the SAP System*, page 31 |
| 2 | On the SAP system, open the following file via an editor:<br>`server\sapserv\conf\oms_server.cfg` |
| 3 | Enter the name of the system of step 1, for example:<br>`[OUTPUT_SYSTEMS]`<br>`  PLOSSYS1SV` |

*To be continued*

# Provide Reliability, Continuation

Continuation: instructions, part 2

| Step | Action |
|---|---|
| 4 | Insert a new section with the name of the system of step 1. There, define the desired systems, which shall be contacted alternatively in the case of a failure, with different priorities.<br><br>Example - transfer via IPP Service - encrypted<br>`[PLOSSYSHTTPS]`<br>`1 plsipp1 4443 HTTPS`<br>`20 plsipp2 4443 HTTPS`<br>`99 plsipp3 4443 HTTPS`<br><br>Example - transfer via IPP Service - unencrypted<br>`[PLOSSYSIPP]`<br>`1 plsipp1 4631 IPP`<br>`20 plsipp2 4631 IPP`<br>`99 plsipp3 4631 IPP plsipp4:4631`<br><br>Example - transfer via kNet<br>`[PLOSSYS1SV]`<br>`1 plssv1 7125 PLOSSYS`<br>`20 plssv2 7125 PLOSSYS`<br>`99 plssv3 7125 PLOSSYS` |
| 5 | Check the values of maximum number and time of repetition re-tries in case of errors:<br><br>→ *Specify Period for Reestablishment of Network Connection*, page 108 |

→ *Establish Load Balancing*, page 80

→ *oms_server.cfg - Configuration*, page 137

related topics

# Establish Load Balancing

only if

This chapter is only relevant if you have selected the variant with `oms_server` (without `direct|https|ipp` as the last option) at the configuration of ROMS at `OMS Configuration`.

→ *Copy Files*, page 24


hint - combination

The configuration of systems to provide reliability can be combined with the configuration to provide load balancing in any way.

requirement

The load balancing module must be installed and established on the output management system.

description

If `oms_server` is used for transfer, reliability can be provided. Different output management systems are defined, which can process the job equivalently to the desired output management system. The job is transferred to the system with the least load.

instructions, part 1

This is how you establish systems for load balancing:

| Step | Action |
|---|---|
| 1 | In the customizing of the real output management system, enter in the OMS Attributes section:<br>• `OMS Configuration`: empty or *`output system`*<br>→ *Establish Real OMS on the SAP System*, page 31 |
| 2 | On the SAP system, open the following file via an editor:<br>`server\sapserv\conf\oms_server.cfg` |
| 3 | Enter the name of the system of step 1, for example:<br>`[OUTPUT_SYSTEMS]`<br>`  PLOSSYS2` |

*To be continued*

# Establish Load Balancing, Continuation

Continuation: instructions, part 2

| Step | Action |
|---|---|
| 4 | Insert a new section with the name of the system of step 1. There, define the desired systems, which could be used for processing the job to provide load balancing, with the same priority.<br><br>Example - transfer via IPP Service - encrypted<br>`[PLOSSYSHTTPS]`<br>`1 plsipp1 4443 HTTPS`<br>`1 plsipp2 4443 HTTPS`<br>`1 plsipp3 4443 HTTPS`<br><br>Example - transfer via IPP Service - unencrypted<br>`[PLOSSYSIPP]`<br>`1 plsipp1 4631 IPP`<br>`1 plsipp2 4631 IPP`<br>`1 plsipp3 4631 IPP plsipp4:4631`<br><br>Example - transfer via kNet<br>`[PLOSSYS1SV]`<br>`1 plssv1 7125 PLOSSYS`<br>`1 plssv2 7125 PLOSSYS`<br>`1 plssv3 7125 PLOSSYS` |
| 5 | Ensure that load balancing is activated.<br>`oms_server.cfg`, section `[OMS_SERVER_PARAMETERS]`:<br>`LB_ROUND_ROBIN Y`<br>`SERVER_EXCLUSIVE_TO_USER_TIME 0`<br>`USER_EXCLUSIVE_TO_SERVER_TIME 0` |
| 6 | In order to ensure the output in the correct order of jobs of one user to one output device, you specify a period in which all jobs for this output device are passed to the same server.<br>`oms_server.cfg`, section `[OMS_SERVER_PARAMETERS]`:<br>`QUEUE_EXCLUSIVE_TO_SERVER_TIME 10` |

*To be continued*

# Establish Load Balancing, Continuation

transfer via kNet

If IPP service is used for transfer `LB_ROUND_ROBIN Y` has to be specified for load balancing.

If kNet is used for transfer load balancing is also supported with `LB_ROUND_ROBIN N` by evaluating `jobcount.dat`. In this case, the following parameters are important in `oms_server.cfg`, section `[OMS_SERVER_PARAMETERS]`:

- `SERVER_INFO_REFRESH_TIME`
  Time interval, after which the server with the least load is determined again
  For increasing the performance, it is advisable to specify the time period long enough.
- `SERVER_EXCLUSIVE_TO_USER_TIME`
  Time interval, in which only jobs of a specific user are transferred to the server in order to avoid a mixing with jobs of other users
  `USER_EXCLUSIVE_TO_SERVER_TIME`
  Time interval, in which all jobs of a specific user are transferred to a specific server in order to ensure the output in the correct order of jobs
  To completely utilize all advantages of load balancing, an exclusive reservation must be omitted. If possible, for example, if jobs do not belong together, set `USER_EXCLUSE_TO_SERVER_TIME` and `SERVER_EXCLUSIVE_TO_USER_TIME` to `0`.

related topics

→ *Provide Reliability*, page 78

→ *oms_server.cfg - Configuration*, page 137

## 6.3 Reply Messages - Modifications

This chapter deals with the following topics: in this chapter


| Topic | Page |
|---|---|
| Reply the Output of Missing Sheets not as Errors | 84 |
| Status Information - Activate or Deactivate Replies | 85 |
| Specify Amount and Interval of the Replies | 87 |
| Replace SAP Reply Function | 90 |
| Specify SAP System (LOMS) as Reply Target | 92 |

# Reply the Output of Missing Sheets not as Errors

**Caution** - message control

The configuration described in this chapter is evaluated at replies within the message control using Structure Explosion version 3.4.1 or newer. Previous versions interprets the output of missing sheets always as error and the configuration described in this chapter is not evaluated!

description

If an error occurs during output, for example, because the document does not exist or cannot be converted, a missing sheet is created. The output management system returns an error in this case. You may configure on the output management system if only a warning is to be replied to SAP when printing a missing sheet.

requirement

On the output management system, the following versions are used:

- `tools\libgate.pl` Version 1.15 of 2009-06-26 or newer
- `server\plotserv\gates\xxx\xxxgate.pl` 2009-06-16 or newer

instructions

This is how you activate on the output management system that the output of missing sheets are considered as warnings instead of errors:

| Step | Action |
|---|---|
| 1 | Stop the output management system with: `sysstop` |
| 2 | Open the `plossys.cfg` file with: `cfg` |
| 3 | At the definition of the OMS calls, specify:<br>`-errorwhenmissing N`<br>`# OMS/OMSDD/NAST feedback to SAP`<br>`OMS "%PLSTOOLS%/omsmessage.pl -oms \"$PLS_SRCAPPL`<br>`msg \"$PLS_ERROR_TEXT\" -queue \"$QueueName\" -nastke`<br>`\"$PLS_PLOTID\" -plotter \"$PLS_PLOTTER\" -receiver \"` |
| 4 | Start the output management system with:<br>`sysstart` |

background knowledge

The output scripts set the `PLS_META_TYPE` parameter:

- `C` Cover sheet
- `D` Document
- `M` Missing sheet
- `T` Trailer sheet

The `omsmessage.pl` script interprets the value of `PLS_META_TYPE` and returns a correspondent status to SAP.

# Status Information - Activate or Deactivate Replies

default

The following status information is replied to the SAP system per default:

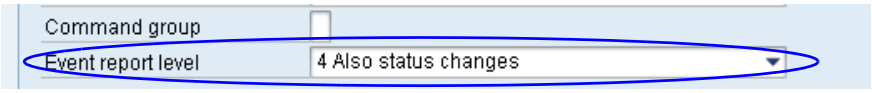
```
PLS_CALL_CONDITIONS
      "JOB_REGISTERED JOB_EXECUTED JOB_DELETE JOB_ERROR JOB_ABORTED
       JOB_HOLD JOB_PRINTING"
```

description

You can define further status information, for which a reply should be initiated.

instructions

This is how you specify the status information, for which a reply should be initiated:

| Step | Action |
|---|---|
| 1 | Ensure that the reading of the `oms_submit.cfg` configuration file is activated:<br>→ *oms_submit - Activate the Reading of the Configuration*, page 75 |
| 2 | On the SAP system, open the following file via an editor:<br>`server\sapserv\conf\oms_submit.cfg` |
| 3 | Enter the desired status information, for which a reply should be initiated, for instance:<br>`[OMS_SUBMIT]`<br>`PLS_CALL_CONDITIONS`<br>`"JOB_EXECUTED JOB_DELETE JOB_ERROR JOB_HOLD JOB_PRINTING JOB_BUSY JOB_REQUESTED JOB_ACTIVE"`<br>Hint - possible status information:<br>All status value for output jobs known in Infoserver are valid, see [INFOCLT_TEC]. |
| 4 | → *Open the Configuration for LOMS on the SAP System*, page 37 |
| 5 | Select the required output management system. |
| 6 | Specify in the `SAP configuration` tab:<br>`Event report level`: Amount of job replies<br>Default: `1`<br>Hint - previous configuration:<br>`omswatcher.cfg`, `[OMS_SERVER_PARAMETERS]`: `SAPNOTIFY: 1`<br>  |

*To be continued*

# Status Information - Activate or Deactivate Replies,

Continuation

hint - system load

The more status information is replied, the bigger gets the communication cost between the OMS and the SAP system for each job!

example

Exemplary configuration of the reply of all status information:

```
[OMS_SUBMIT]
PLS_CALL_CONDITIONS "JOB_BUSY JOB_REQUESTED JOB_ACTIVE JOB_OPTIM
JOB_WAIT_COMBI JOB_SET_COLL JOB_HOLD JOB_HOLD_ACCEPT JOB_EXECUTED
JOB_DELETE JOB_ERROR JOB_PRINTING JOB_REGISTERED JOB_REGISTERED_ERROR
JOB_PREPROCESSING JOB_SPOOLING"
```

related topics

→ *oms_submit.cfg - Configuration*, page 129

→ *Specify Amount and Interval of the Replies*, page 87

# Specify Amount and Interval of the Replies

only if

The settings described in this chapter are only evaluated for replies of OMS Interface for SAP (BC-XOM).

For the replies to DDD the `omswatcher.cfg` configuration file is evaluated instead. In this case, the settings of `omswatcher.cfg` are written into the database as default settings:

→ *omswatcher.cfg - Configuration Defaults*, page 149

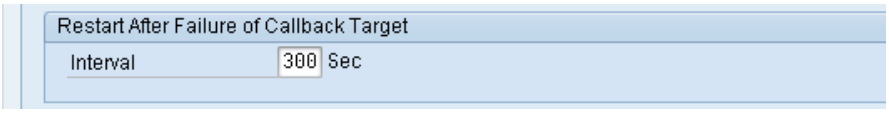
overview

In the context of the replies, you can specify the following settings at the customizing of the LOMS and ROMS in the SAP system:

- General
  - Waiting time until the next repetition of an erroneous reply
- Reply of the job status
  - Waiting time until the next job reply
  - Number of the combined job replies prior to the transfer to the SAP system
  - Amount of job replies
- Reply of the device status
  - Waiting time until the next device reply
  - Number of the combined device replies prior to the transfer to the SAP system

specify waiting time at erroneous replies

This is how you specify the waiting time until the next repetition of an erroneous reply:

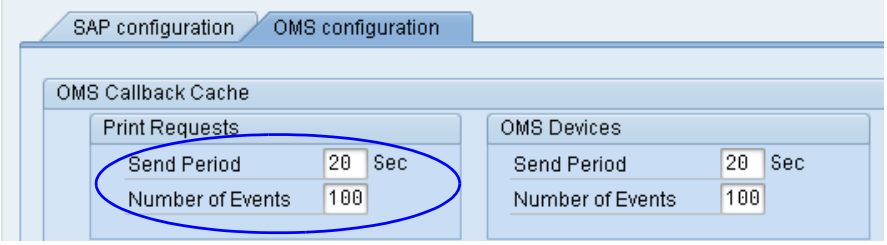
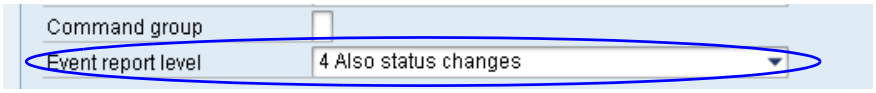
| Step | Action |
|---|---|
| 1 | → *Open the Configuration for LOMS on the SAP System*, page 37 |
| 2 | Select the required output management system. |
| 3 | Specify in the `OMS configuration` tab:<br>`Restart After Failure of Callback Target`<br>• `Interval`: Waiting time in seconds, for example `300`<br>Define the waiting time to the next repetition, if the transfer of the reply was erroneous.<br>  <br><br>Hint - previous configuration:<br>`omswatcher.cfg, [OMSWATCHER]: RETRY_WAIT_TIME: 60` |

*To be continued*

# Specify Amount and Interval of the Replies, Continuation

specify job reply

This is how you specify the settings for the job replies:

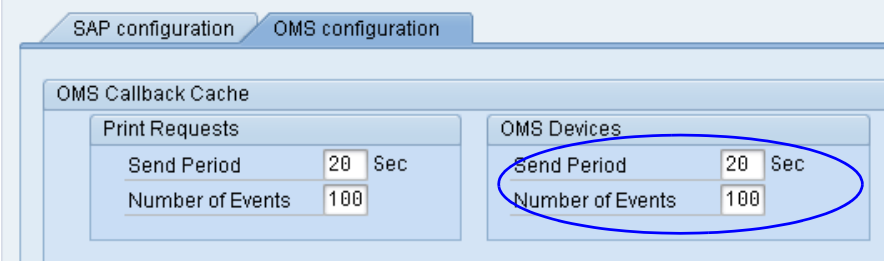
| Step | Action |
|---|---|
| 1 | → *Open the Configuration for LOMS on the SAP System*, page 37 |
| 2 | Select the required output management system. |
| 3 | Specify in the `OMS configuration` tab:<br>`OMS Callback Cache - Print Requests`<br>• `Send Period`: Time in seconds, for example `20`<br>Specifies the time in seconds to be waited after processing the current job replies, before the directory is searched again.<br>Default: `20`<br>Hint - previous configuration:<br>`omswatcher.cfg`, `[OMSWATCHER]`: `SLEEP_TIME_SEC`: `10`<br>• `Number of Events`:<br>Number of the combined job replies, for example `100`<br>The value determines, how many messages are combined, before they are transferred back to the SAP system.<br>Maximum: 499<br>Default: `100`<br>Hint - previous configuration:<br>`omswatcher.cfg`, `[OMSWATCHER]`: `COUNTER`: `100`<br>  |
| 4 | Specify in the `SAP configuration` tab:<br>`Event report level`: Amount of job replies<br>Default: `1`<br>Hint - previous configuration:<br>`omswatcher.cfg`, `[OMS_SERVER_PARAMETERS]`: `SAPNOTIFY`: `1`<br>  |

*To be continued*

# Specify Amount and Interval of the Replies, Continuation

This is how you specify the settings for the device replies:

specify device reply

| Step | Action |
|---|---|
| 1 | → *Open the Configuration for LOMS on the SAP System*, page 37 |
| 2 | Select the required output management system. |
| 3 | Specify in the `OMS configuration` tab:<br>`OMS Callback Cache - OMS Devices`<br>• `Send Period`: Time in seconds, for example `20`<br>Specifies the time in seconds to be waited after processing the current device replies, before the directory is searched again.<br>Default: `20`<br>• `Number of Events`:<br>Number of the combined device replies, for example `100`.<br>The value determines, how many messages are combined, before they are transferred back to the SAP system.<br>Maximum: 499<br>Default: `100`<br>  |

→ *Status Information - Activate or Deactivate Replies*, page 85

related topics

# Replace SAP Reply Function

description

By default, the `SXMI_XOM_JOBS_CALLBACK` function is called in the SAP system in the case of a reply. Instead of this standard SAP function you may call another function.

only if

The settings described in this chapter are only evaluated for replies of OMS Interface for SAP (BC-XOM).

For the replies to DDD the `omswatcher.cfg` configuration file is evaluated instead. In this case, the settings of `omswatcher.cfg` are written into the database as default settings:

→ *omswatcher.cfg - Configuration Defaults*, page 149

instructions

This is how you replace the SAP reply function:

| Step | Action |
|---|---|
| 1 | Assign the desired function in the SAP system to the following environment variable on the output management system:<br>`SXMI_XOM_JOBS_CALLBACK`<br>Example:<br>`SXMI_XOM_JOBS_CALLBACK=/DVSREPRO/ZOMS_JOBS_CALLBACK`<br>Hint - location:<br>In general, the environment variables are set in `server\login\400.sap.bat` on the output management system.<br>Hint - replacement:<br>The SAP function is only replaced if the specified function exists.<br>Hint - previous configuration:<br>`omswatcher.cfg`, `[OMSWATCHER]`: `SXMI_XOM_JOBS_CALLBACK` |

background knowledge - database

The value of the environment variables is passed to the database for a future SEAL Control Center integration. At the moment, only the environment variable but not the database item is evaluated.

*To be continued*

# Replace SAP Reply Function, Continuation

background knowledge - example function

The `/dvsrepro/zoms_jobs_callback` example function update - in addition to the standard functionality at the reply - the following tables for the display of the reply messages within SEAL Systems modules.

`/dvsrepro/zoms02` and `/dvsrepro/zoms03`

This allows the update of the reply message even if the number range of the spool requests has meanwhile been exceeded and a reorganization of the spool requests has been executed.

# Specify SAP System (LOMS) as Reply Target

default

By default, the reply is sent to the SAP system that is in the output job.

alternative

Alternatively, the SAP system that is defined as the `Target for Callback` under `SAP Configuration` at Logical OMS (LOMS) on the SAP system can be used as reply target.

instructions

This is how you specify that the SAP system from the configuration (`Target for Callback` under `SAP Configuration`) at Logical OMS (LOMS) on the SAP system is used as reply target:

| Step | Action |
|---|---|
| 1 | Open `omswatcher.cfg` in an editor:<br>→ *omswatcher.cfg - Configuration Defaults*, page 149 |
| 2 | Enter:<br>`USE_CALLBACKTARGET=Y` |

# 7 Information and Troubleshooting

This chapter deals with the following topics: in this chapter


| Topic | Page |
|---|---|
| Log and Trace Files on the SAP System | 94 |
| Check Process - Advisable Actions | 100 |
| Typical Error Situations | 103 |

# 7.1 Log and Trace Files on the SAP System

log files

When assigning via SAP spool, the programs of SEAL Systems create log files. You can install a directory monitoring for the directories containing the log files. You can easily view the log files via the directory monitoring on the SAP system.

trace file

Additionally, SAP spool creates a trace file, which can be viewed also.

in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Establish Directory Monitoring on the SAP System | 95 |
| View Log File on the SAP System | 97 |
| Activate and View the Trace File of SAP Spool | 98 |



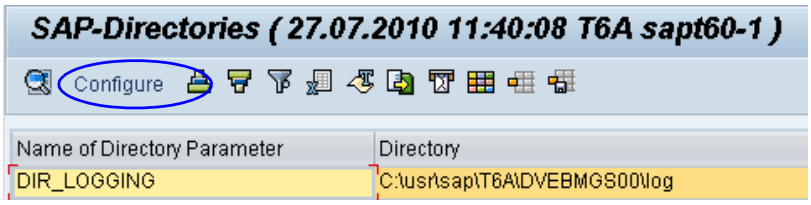
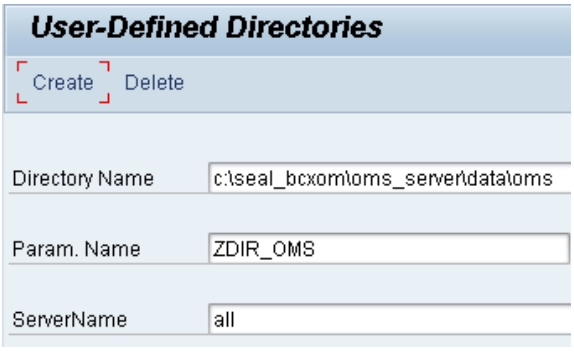
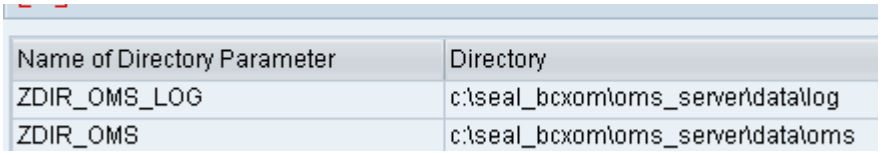
hint - rz15

The `rz15` transaction displays the table containing the XMI communication data.

# Establish Directory Monitoring on the SAP System

With the al11 transaction you can monitor the directories within SAP. description

This is how you establish the directory monitoring: instructions

| Step | Action |
|---|---|
| 1 | Start the al11 transaction. |
| 2 | Select one of the directory, for example DIR_LOGGING and click Configure:<br>  |
| 3 | Specify the desired directories and save the settings:<br>• Directory containing log files:<br>Directory Name: *InstallDirectory*\data\log<br>Param. Name: ZDIR_OMS_LOG<br>• Directory containing the lock files:<br>Directory Name: *InstallDirectory*\data\sysstat<br>Param. Name: ZDIR_OMS_LCK<br>• Directory containing oms_server:<br>(only relevant for the variant with oms_server)<br>Directory Name: *InstallDirectory*\data\oms<br>Param. Name: ZDIR_OMS<br>  <br>  |

*To be continued*

# Establish Directory Monitoring on the SAP System,

Continuation

other directories

You can change the standard directories mentioned in the last instruction via the `-logfile` parameter of each program. If you used this possibility for the commands while establishing the OMS on the SAP system, you must specify the changed directories for directory monitoring.

→ *Specify Commands*, page 41

→ *Programs*, page 154

related topics

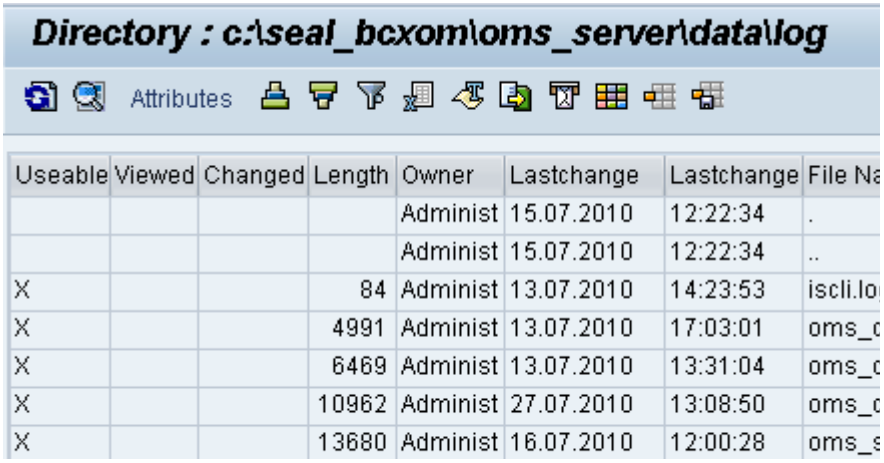
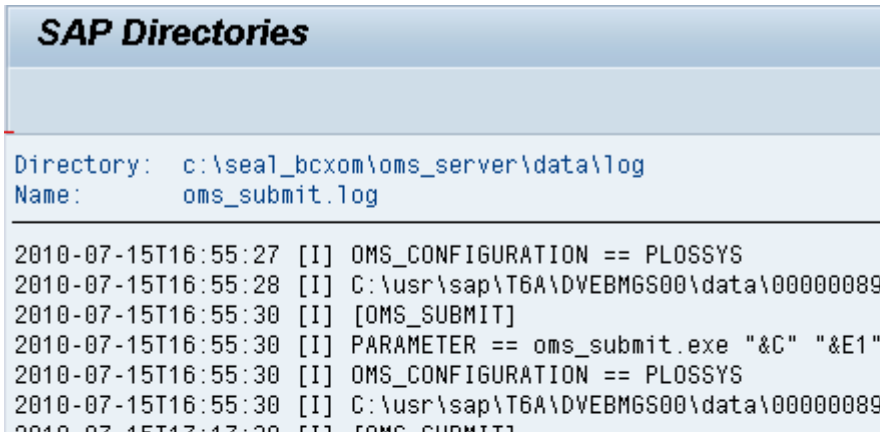
→ *View Log File on the SAP System*, page 97

# View Log File on the SAP System

You have established the device monitoring. requirement

→ *Establish Directory Monitoring on the SAP System*, page 95

This is how you view the log files on the SAP system: instructions

| Step | Action |
|---|---|
| 1 | Start the `al11` transaction. |
| 2 | Double-click the desired directory, for example `ZDIR_OMS_LOG`, in order to open the list of the log files:<br>  <br>Useable Viewed Changed Length Owner Lastchange Lastchange File Na<br>Administ 15.07.2010 12:22:34 .<br>Administ 15.07.2010 12:22:34 ..<br>X 84 Administ 13.07.2010 14:23:53 iscli.lo<br>X 4991 Administ 13.07.2010 17:03:01 oms_c<br>X 6469 Administ 13.07.2010 13:31:04 oms_c<br>X 10962 Administ 27.07.2010 13:08:50 oms_c<br>X 13680 Administ 16.07.2010 12:00:28 oms_s |
| 3 | View the desired log file with a double-click:<br>  |

You can change the log level via the `-loglevel` parameter of each program. You enter the parameter for the commands while establishing the OMS on the SAP system: log level

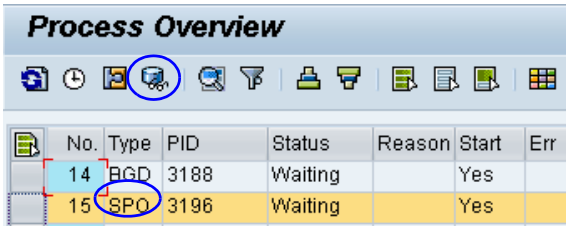
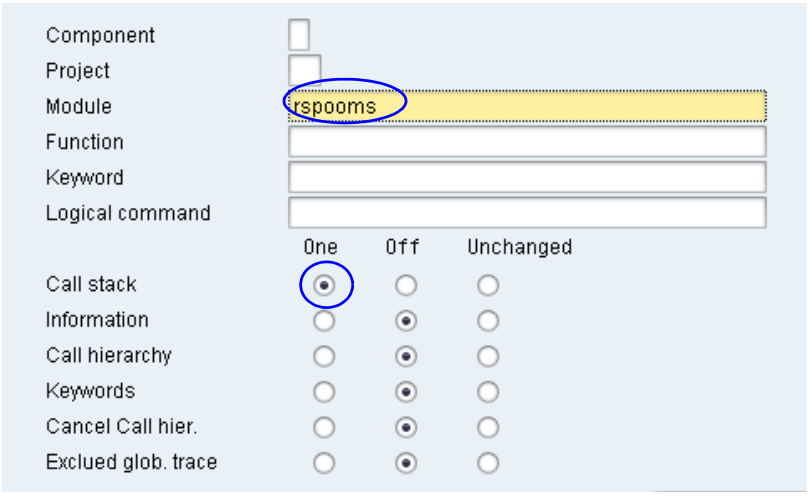
→ *Specify Commands*, page 41

→ *Programs*, page 154

# Activate and View the Trace File of SAP Spool

instructions

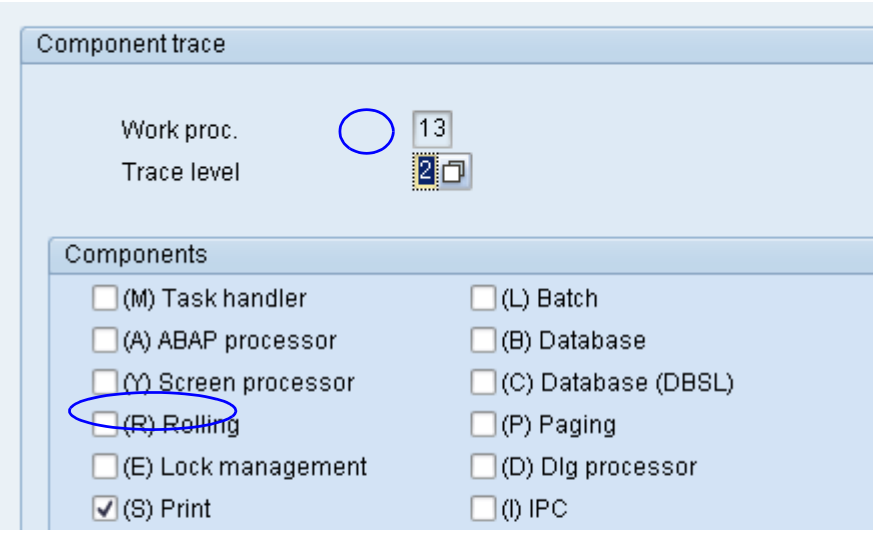
This is how you activate the trace and view the trace file of SAP spool:

| Step | Action |
|---|---|
| 1 | Start the `sm50` transaction. |
| 2 | Select the process with the `SPO` type and view the trace file via `Display File (Ctrl+Shift+F8)`:<br>  |
| 3 | Activate the trace with:<br>`Edit - Function Trace - Current Process`<br>• `Module`: `rspooms`<br>• `Call Stack`: `One` activated<br>  |

*To be continued*

# Activate and View the Trace File of SAP Spool, Continuation

Continuation: instructions, part 2

| Step | Action |
|---|---|
| 4 | Specify the trace level with:<br>`Edit` - `Active Components`<br>• `Trace Level`: > 0, for example `2`<br>• `Components - (S) Print`: activated<br>  <br><br>Hint - trace level:<br>You can set the trace level within the view of the trace file with:<br>`Edit` - `Function Trace` - `Current Process` |

## 7.2 Check Process - Advisable Actions

instructions, part 1

This is how you check the possible reasons in the case of error step by step:

| Step | Action |
|---|---|
| 1 | Actualize and check the status of the output job in `sp01` on the SAP system:<br>• The `Proc.` or `Printing` status indicates that the job has been successfully transferred from SAP spool to the programs of SEAL Systems. Continue the check with step2.<br>• If the status is `Error (unknown in OMS)` check whether `oms_server` is correctly started on the SAP system:<br>→ *Start oms_server on the SAP System*, page 48<br>• For other error status texts check the trace file of `sp01`:<br>→ *Activate and View the Trace File of SAP Spool*, page 98 |
| 2 | If the job has been successfully transferred to the programs of SEAL Systems, check the correct transfer to the external output management system in the log files of `oms_submit`/`oms_server` on the SAP system:<br>→ *View Log File on the SAP System*, page 97 |

*To be continued*

# Check Process - Advisable Actions, Continuation

Continuation: instructions, part 2

| Step | Action |
|---|---|
| 3 | If the log file does not exist or the files are not transferred to the output management system, the following reasons are possible:<br>• `oms_server` does not run (assignment with OMS Server)<br>Check if the `oms_server.lck` lock file exists, the process ID in this file is valid and the file is not older than 10 seconds. If not restart `oms_server` in periodic time intervals (recommendation: 15 minutes):<br>→ *Establish the Start from the output management system*, page 54<br>The restart of `oms_server` while the server is running is possible without any problem.<br>• Wrong directory specification<br>Check if the path is correct, a '\' or '/' exists at the end and if the executable `oms_submit` program exists in the relevant directory:<br>→ *Specify Commands*, page 41<br>Copy the path for example with cut&paste and call `oms_submit -version` on the SAP system. As result the version of `oms_submit` must be displayed, otherwise the directory path is not correct.<br>• Missing permission<br>If the directory path is correct, enter the `oms_submit` command with a log file including the absolute path as `-logfile` parameter and ensure that you have the correct write permissions. In this log file you may find further information about missing authorizations. |
| 4 | If the job has been successfully transferred to the external output management system, check on the output management system with the help of the system window of PLOSSYS OCON whether the gates and output devices are started. |

*To be continued*

# Check Process - Advisable Actions, Continuation

instructions, part 3

Continuation:

| Step | Action |
|---|---|
| 5 | If the job has been output on the output management system, check the reply to the SAP system in the log file of OMSWatcher on the output management system:<br>→ *OMSWatcher - Reply*, page 176<br>  Hint - no log file:<br>If no log file exists, check if OMSWatcher runs correctly:<br>→ *Specify Period for Reestablishment of Network Connection*, page 108 |

 related topics

→ *Typical Error Situations*, page 103

## 7.3 Typical Error Situations

The following table illustrates typical problems (P) and their approaches (A):

typical problems and their solutions, part 1

| | |
|---|---|
| P: | `oms_server` does not start. |
| A: | Check the privileges of the user, who calls `oms_server`. If the logging is activated, read and permissions for the directories containing the log files must be set.<br><br>On a UNIX/Linux system a missing shared library may be the cause. The following call gives more information about required and found shared libraries:<br><br>`ldd oms_server`<br><br>Ensure on UNIX/Linux that you use `oms_server.sh` instead of `oms_server` and `oms_submit.sh` instead of `oms_submit`:<br><br>→ *Specify Commands*, page 41<br><br>→ *Start oms_server on the SAP System*, page 48 |
| P: | No spool request is created. |
| A: | One reason may be that all numbers of the number range that is defined for the spool IDs are already assigned. You have the following possibilities:<br><br>→ *Delete Spool Requests*, page 105<br><br>→ *Enhance the Number Range of Spool Requests*, page 106 |
| P: | An error at the transfer is replied. |
| A: | → *Activate the Logging of Transfer Errors*, page 107 |
| P: | Nothing arrives on the output management system. |
| A: | One of the reason could be that the reading of the `oms_submit.cfg` configuration file is deactivated:<br><br>→ *oms_submit - Activate the Reading of the Configuration*, page 75<br><br>Another reason may be that `oms_server` is not running:<br><br>Check if the `oms_server.lck` lock file exists, the process ID in this file is valid and the file is not older than 10 seconds. If not restart `oms_server` in periodic time intervals (recommendation: 15 minutes):<br><br>→ *Start oms_server on the SAP System*, page 48<br><br>The restart of `oms_server` while the server is running is possible without any problem. |

*To be continued*

## Typical Error Situations, Continuation

typical problems and their solutions, part 2

Continuation:

P: A missing sheet is created, but the spool request has the status `Completed`.

A: Check if the reply of missing sheets as errors is configured correctly:

→ *Reply the Output of Missing Sheets not as Errors*, page 84

P: The spool request has the status `error (not printed)` with the reference to the creation of a missing sheet.

A: Check if the file extension of SAP is set to `otf`:

```
oms_submit.cfg:
[EXTENSION_MAPPING]
#SourceExtension  TargetExtension
*                 otf
```

When assigning with `oms_server` the mapping must also be defined in `oms_server.cfg`.

P: Network connection problems occur, for instance after long transfer pauses.

A: → *Specify Period for Reestablishment of Network Connection*, page 108

P: There are delays at the transfer via IPP Service.

A: → *Specify Timeout for IPP Service*, page 109

P: The reply is sent to the wrong SAP system.

A: The SAP system from the output job is used as the default for the reply. Alternatively, you can use the SAP system defined for the Logical OMS (LOMS):

→ *Specify SAP System (LOMS) as Reply Target*, page 92

# Delete Spool Requests

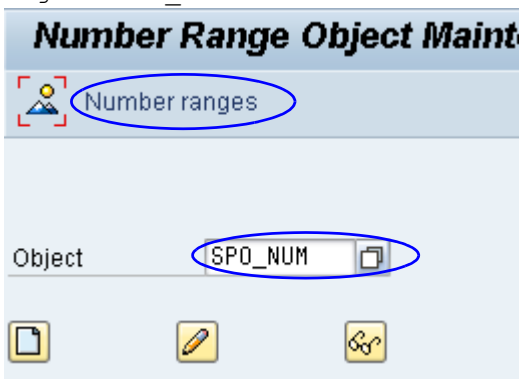
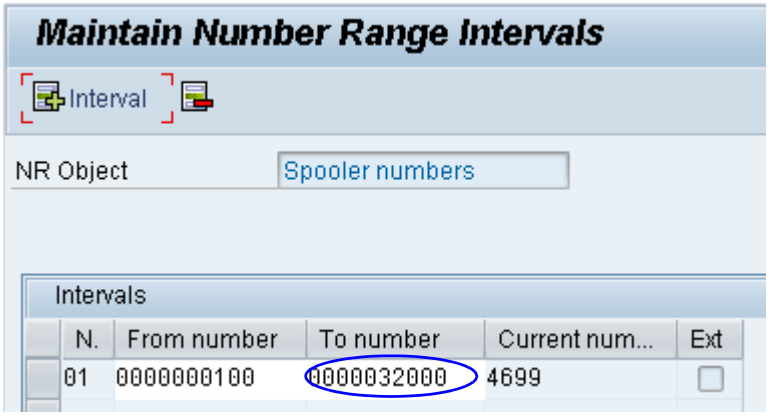
This is how you delete spool requests: instructions

| Step | Action |
|---|---|
| 1 | Start the `spad` transaction. |
| 2 | Select the `Admin.` tab. |
| 3 | Click `Delete Old Spool Requests.` |
| 4 | Specify which spool requests are to be deleted and execute the deletion:   |

# Enhance the Number Range of Spool Requests

instructions

This is how you enhance the number range of spool requests:

| Step | Action |
|---|---|
| 1 | Start the `snro` transaction. |
| 2 | Specify the object and switch to the number ranges:<br>`Object: SPO_NUM`<br>  |
| 3 | Maintain the intervals and increase the interval with:<br>`To number`<br>  |

# Activate the Logging of Transfer Errors

log level

Increase the log level of the program via the `-loglevel` parameter:

→ *Programs*, page 154

kNet server - trace

You can find errors at the kNet communication with `kNetTrace`. With the help of this tool the trace file of the kNet server can be activated or deactivated at runtime. In addition to that, the log level can be changed at runtime.

- `kNetTrace start` *`loglevel filename`*
- `kNetTrace cont` *`loglevel`*
- `kNetTrace mem` *`loglevel`*
- `kNetTrace stop`

With:

- *`loglevel`*: Value from 0...4
- *`filename`*: Name of the trace file that is used by the kNet server.

kNet server creates the trace file, not `kNetTrace`.

kNet client - log file

On client side, for example `oms_server`, a log function can be activated for each kNet client:

- Environment variable: `KNET_LOG_FILE` *`filename`*

The file is automatically created and it provides information about the data transfer.

kNet Monitor

With the help of kNet Monitor the current status of the kNet server can be observed. The kNet monitor provides the possibility to manipulate the kNet server. Thus pay attention while using it.

# Specify Period for Reestablishment of Network Connection

only if

This chapter is only relevant if you have selected the variant with `oms_server` (without `direct|https|ipp` as the last option) at the configuration of ROMS at `OMS Configuration`.

→ *Copy Files*, page 24

description

Due to performance reasons, `oms_server` keeps the recent used kNet-/franss3 connection open. This could cause network problems in the context of long transmission pauses. Therefore, the network connection is closed and reestablished after specified time periods.

instructions

This is how you specify the time period, after which the network connection is closed and reestablished:

| Step | Action |
|---|---|
| 1 | On the SAP system, open the following file via an editor:<br>`server\sapserv\conf\oms_server.cfg` |
| 2 | Enter:<br>`[OMS_SERVER_PARAMETERS]`<br>• `KNET_DISCONNECT_AFTER_IDLE_MINUTES 30`<br>Time period in minutes in which the kNet/franss3 connection was not used and after which is connection is to be closed and reestablished<br>• `KNET_DISCONNECT_AFTER_TOTAL_HOURS 48`<br>Time period in hours which the kNet/franss3 connection is already open and after which the connection is to closed at the latest and reestablished |

related topics

→ *oms_server.cfg - Configuration*, page 137

# Specify Timeout for IPP Service

only if

This chapter is only relevant for the transfer via IPP Service:

→ *Activate Transfer via IPP Service (IPP/HTTPS)*, page 21

default

If the IPP server is not available the connection retry is aborted after 3000 milliseconds. You may specify the period for this timeout.

instructions

This is how you specify the period, after which the connection try to the IPP server is aborted:

| Step | Action |
|---|---|
| 1 | On the SAP system, open the following file via an editor:<br>`server\sapserv\conf\oms_submit.cfg`<br>Enter the desired period in milliseconds:<br>`[IPP]`<br>• `IPP_CONNECT_TIMEOUT_MSECS 3000` |
| 2 | Additionally at the assignment via `oms_server`:<br>On the SAP system, open the following file via an editor:<br>`server\sapserv\conf\oms_server.cfg`<br>Enter the desired period in milliseconds:<br>`[OMS_SERVER_PARAMETERS]`<br>• `IPP_CONNECT_TIMEOUT_MSECS 3000` |

related topics

→ *oms_submit.cfg - Configuration*, page 129

→ *oms_server.cfg - Configuration*, page 137

# 8 Background Knowledge

in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Assignment | 111 |
| Reply | 121 |

# 8.1 Assignment

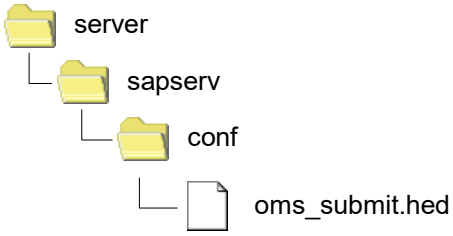
This chapter deals with the following topics: in this chapter


| Topic | Page |
|---|---|
| Process of Assignment | 112 |
| Process of Advanced Assignment via oms_server | 114 |
| Available SAP Parameters | 118 |

# Process of Assignment

assignment with `oms_submit` - part 1

This is how the assignment is executed on the SAP system:

| Level | Processing |
|---|---|
| 1 | When printing SAP spool calls `oms_submit`, which is configured in:<br>`LOMS - Commands - Submit`<br>→ *Specify Commands*, page 41 |
| 2 | The `oms_submit` program reads the default header file without any check, if the file exists:<br>  |
| 3 | The defaults of phase 1 are supplemented by the &* parameters which are transferred by SAP.<br>In addition to that, the following header items are added:<br>• `SAP_OMS_FILE_FORMAT=OTF` if `CHECK_FORMAT Y` (`oms_submit.cfg`: `[OMS_SUBMIT]`) and it is an SAP list or OTF file.<br>Hint - SAP parameters and header items:<br>How the individual &* parameters are mapped to header items, is described in *Available SAP Parameters*, page 118. |
| 4 | The external output management system is specified by the `&E4` SAP parameter and passed as `SAP_OMS_S_ROMSFLAGS` in the header. The `&E4` SAP parameters contains the data of the OMS configuration:<br>→ *Copy Files*, page 24 |

*To be continued*

# Process of Assignment, Continuation

Continuation:

assignment with `oms_submit` - part 2

| Level | Processing |
|---|---|
| 5 | The job is transferred into the target directory:<br>• Directory for direct assignment (with `direct\|https\|ipp`): oms_submit.cfg, [DIRECTORIES] section<br>  Hint - target file extension:<br>The file extension of the graphic target file can be changed with:<br>`oms_submit.cfg`, `[EXTENSIOM_MAPPING]` section<br>• Directory of assignment via `oms_server` (without `direct\|https\|ipp`):<br>„%PLSROOT%\data\oms\input“<br>(oms_submit.cfg, [OMS_SUBMIT] section: DIRECTORY) |
| 6 | At the assignment via `oms_server` (without `direct\|https\|ipp`) `oms_server` executes further steps:<br>→ *Process of Advanced Assignment via oms_server*, page 114 |

# Process of Advanced Assignment via oms_server

same initial process

Before `oms_server` carries out the assignment, the following steps are executed:

→ *Process of Assignment*, page 112

start - lock file

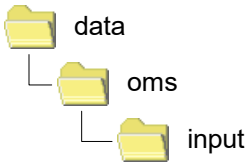
When starting `oms_server` checks, whether a `oms_server.lck` lock file exists or not. The directory of the lock file is specified with `-lckdir`. If a lock file exists and contains a valid process ID, the current instance of `oms_server` terminates itself, because the program shall be started only once. Otherwise a lock file with the current process ID is created and the access time is updated every 10 seconds.

incomplete output jobs

When starting error, wait and reply directories are searched for incomplete jobs. These are processed prior.

process, part 1

This is how `oms_server` executes the advanced assignment on the SAP system as long as the lock file exists:

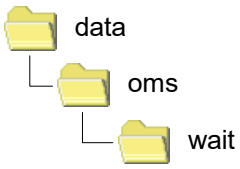
| Level | Processing |
|---|---|
| 1 | The input directory is read:<br>  |
| 2 | The job that is to be processed, is evaluated.<br><br>Hint - sorting:<br><br>If *`_Number.FileExtension`* (`-seqproc` parameter at `oms_submit`) is used as format of the job names they are sorted alphabetically and processed in the order of their assignment. In this case `FUZZY_TIME` has to be set to `0`.<br><br>If the job name uses a different format, the oldest job is processed. The age is evaluated by the date of the ready file.<br><br>If several ready files have the same age or the age lies within a certain time interval, the jobs are alphabetically sorted and thus the processing sequence is defined. The time is configured with:<br><br>`oms_server.cfg`, section `[OMS_SERVER_PARAMETERS]`:<br><br>`FUZZY_TIME` |

*To be continued*

# Process of Advanced Assignment via oms_server,

Continuation

Continuation: process, part 2

| Level | Processing |
|---|---|
| 3 | The job that is to be processed is moved into the directory for waiting jobs:<br>  |
| 4 | If a logical name is set as external output management system via `$SAP_OMS_S_ROMSFLAGS` in the header, the explicitly used output management system is defined via `[OUTPUT_SYSTEMS]` in `oms_server.cfg`.<br>Hint - load balancing/reliability:<br>A load balancing and reliability can be realized via the specification of a logical name. |
| 5 | The job is transferred into the target directory:<br>oms_server.cfg, [DIRECTORIES] section<br>Hint - target file extension:<br>The file extension of the graphic target file can be changed with:<br>`oms_server.cfg`, `[EXTENSIOM_MAPPING]` section<br>Hint - parallel threads when transferring via IPP Service:<br>When transferring via IPP Service, a separate thread is started for each job. To ensure output in the correct order, only one transfer is allowed per server/output device combination. |

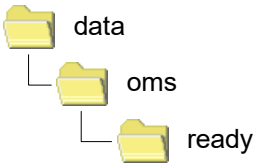
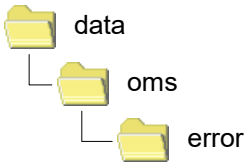
*To be continued*

# Process of Advanced Assignment via oms_server,

Continuation

process, part 3

Continuation:

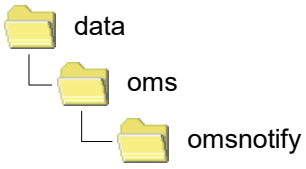
| Level | Processing |
|---|---|
| 6 | In the case of success, the job is moved into the directory for processed jobs:<br>  <br><br>Hint - delete:<br>The jobs in the directory for processed jobs are deleted after a configurable time interval:<br>`oms_server.cfg`, section `[OMS_SERVER_PARAMETERS]`:<br>`DELETE_READY_WAIT_TIME` |
| 7 | In the case of error, the job is moved into the directory of erroneous jobs:<br>  <br><br>Background knowledge:<br>Parallel threads perform the repetition in case of error. This increases the performance for jobs with successful assignment. |

*To be continued*

# Process of Advanced Assignment via oms_server,

Continuation

Continuation: process, part 4

| Level | Processing |
|---|---|
| 8 | The message about the success or error of the assignment is written into the notify file in the directory:<br>  <br><br>Hint - volume of the assignment replies:<br>The volume of the replies is configured with:<br>`oms_server.cfg`, section `[OMS_SERVER_PARAMETERS]`:<br>`SAPNOTIFY`<br>As soon as `SAPNOTIFY > 0` is specified, the alternative `oms_server_rfccm` binary has to be started!<br>The messages are transferred by `oms_server` to the SAP system, as soon as no jobs are waiting in the input directory for transmission. The following configuration settings are evaluated for the replies:<br>`oms_server.cfg`, `[OMSWATCHER]` section<br>`oms_server.cfg`, `[STATUSCODES]` section<br>In the notify file, only status items with the identifier `I` for a successful assignment and `W` for the first not successful assignment attempt are used. |

# Available SAP Parameters

hint - oms_-submit

A list of the available SAP parameters can also be obtained via the following call:

```
oms_submit -p
```

legend

The columns in the overview tables below have the following meaning:

| Column | Meaning |
|---|---|
| SAP Shortcut | SAP data that can be specified as &* parameter in the customizing of the logical OMS at the call of `oms_submit`.<br><br>**Caution** - mandatory parameters:<br><br>Mandatory parameters that must be specified are marked as `mandatory` in the table.<br><br>**Caution** - quotation marks:<br><br>It is advisable to quote all parameters in the customizing. However the available description space is not big enough. The `SAP Shortcut` column contains an explanation for which parameters quotation marks are strongly advisable because these parameters often contain blanks. These parameters are specified in quotation marks in the `SAP Shortcut` column. For all other parameters quotation marks should be used if there is enough space. |
| Pos | Transfer position at call<br><br>This refers to the default that is the valid if no configuration file is read. |
| Header | Identification with that the SAP data is written into the header<br><br>The header is evaluated in the external output management system. |
| Meaning | Contents of the SAP data |

overview, part 1

The following table provides an overview of the available SAP parameters that can be specified at the commands in the customizing of the LOMS:

| SAP Shortcut | Pos. | Header | Meaning |
|---|---|---|---|
| &C | 1 | $ SAP_OMS_S_COPIES<br>$ PLS_PLOTCOPY | Number of copies |
| &c | 15 | $ SAP_OMS_S_PAGES | Number of pages in the document |
| &D | | $ SAP_OMS_S_DIVISION | Department of the receiver |

*To be continued*

# Available SAP Parameters, Continuation

Continuation: overview, part 2

| SAP Shortcut | Pos. | Header | Meaning |
|---|---|---|---|
| &E1 | 2 | $ SAP_OMS_S_R3LOMSFLAGS | R/3 flags of the LOMS |
| &E2 | 3 | $ SAP_OMS_S_LOMSFLAGS | OMS flags of the LOMS |
| &E3 | 4 | $ SAP_OMS_S_R3ROMSFLAGS | R/3 flags of the ROMS |
| &E4 | 5 | $ SAP_OMS_S_ROMSFLAGS | OMS flags of the ROMS |
| &EA | | $ SAP_OMS_S_CALLBAMNT | Maximum number of buffered events |
| &EG (mandatory) | 6 | $ SAP_OMS_S_RMGID | Reply group (RMG) |
| &EI (mandatory) | 7 | $ SAP_OMS_S_SPOOLID<br>$ PLS_PLOTID<br>$ PLS_INTERNAL_ID | SAP spool ID |
| &EP | | $ SAP_OMS_S_FAXPERSON$ | Fax receiver (prospective enhancement) |
| &Es (mandatory) | 8 | $ SAP_OMS_S_SAPSYSTEMID | SAP system ID |
| &ES | | $ SAP_OMS_S_CALLBTRGT | SAP instance name for callback |
| &ET | | $ SAP_OMS_S_CALLBIV | Maximum buffer time for callback events |
| &F (mandatory) | 9 | $ PLS_ORIG_NAME | Name of the file with the print data with path setting |
| &f | | $ SAP_OMS_S_FILE | Name of the file with the print data without path setting |
| &H/<x>/<y> | | $ SAP_OMS_S_CAPTION | <x> if the host spool title is desired<br><y> otherwise |
| &I | | $ SAP_OMS_S_JOBNAME_S | Internal job name |
| &J | | $ SAP_OMS_S_JOBNAME | Internal job name with DB ID |
| &L | | $ SAP_OMS_S_LAYOUT | format type |
| &M (mandatory) | 10 | $ SAP_OMS_S_RQCLIENT | Client of the owner of the spool job |
| &m | 11 | $ SAP_OMS_S_PJCLIENT | Client of the owner of the output job |
| &O | | $ SAP_OMS_S_RQOWNER | SAP name of the owner of the spool job |

*To be continued*

# Available SAP Parameters, Continuation

overview, part 3 Continuation:

| SAP Shortcut | Pos. | Header | Meaning |
|---|---|---|---|
| &o (mandatory) | 12 | $ SAP_OMS_S_PJOWNER<br>$ PLS_USERNAME | SAP name of the owner of the output job |
| &P (mandatory) | 13 | $ SAP_OMS_S_DEVICE<br>$ PLS_PLOTTER | Name of the external output device |
| &p | | $ SAP_OMS_S_PATH | Path name of the output file |
| &R | | $ SAP_OMS_S_RECEIVER | Name of the receiver |
| &S | | $ SAP_OMS_S_SAPPRINTER | Name of the SAP output device |
| &T | 16 | $ SAP_OMS_S_TITLE | Title |
| &t | | $ SAP_OMS_S_TELENUM | Fax number |
| &U | | $ SAP_OMS_S_HOSTTITLE | X = Host spool title page desired<br>N = otherwise |
| &Y | 14 | $ SAP_OMS_S_PRIORITY<br>$ PLS_PRIO (converted 1-9) | SAP priority (1=highest - 99= lowest) |

related topics → *Specify Commands*, page 41

## 8.2 Reply

This chapter deals with the following topics: in this chapter


| Topic | Page |
|---|---|
| Reply Process | 122 |
| SAP Status - Reply Mapping | 124 |

# Reply Process

creation of the replies

This is how the replies are created on the output management system:

| Level | Processing |
|---|---|
| 1 | The program for the creation of the replies is specified in `plossys.cfg` on the output management system with:<br>`[SYSTEM]`<br>`OMS "%PLSTOOLS%/omsmessage.pl -oms \"$PLS_SRCAPPL\" -job-state \"$JobState\" -msg \"$PLS_ERROR_TEXT\" -queue \"$QueueName\" -nastkey \"$PLS_NAST_KEY\" -plotid \"$PLS_PLOTID\" -plotter \"$PLS_PLOTTER\" -receiver \"$PLS_NAST_RECEIVER\" -fax \"$PLS_FAX_RECEIVER\" -header-type \"$PLS_HEADER_TYPE\" -setname \"$PLS_SET_NAME\" -meta-type \"$PLS_META_TYPE\""`<br>`OMSDD "%PLSTOOLS%/omsmessage.pl -oms \"$PLS_SRCAPPL\" -job-state \"$JobState\" -msg \"$PLS_ERROR_TEXT\" -queue \"$QueueName\" -nastkey \"$PLS_NAST_KEY\" -plotid \"$PLS_PLOTID\" -plotter \"$PLS_PLOTTER\" -receiver \"$PLS_NAST_RECEIVER\" -fax \"$PLS_FAX_RECEIVER\" -header-type \"$PLS_HEADER_TYPE\" -setname \"$PLS_SET_NAME\" -meta-type \"$PLS_META_TYPE\""`<br>`SMARTEAM "%PLSSV%/pdmserv/smnotify.pl \"$PLS_ST_SET_NAME\" \"$JobState\""`<br>`OMSINFO "%PLSTOOLS%/omsdevstate.pl -queue \"$QueueName\" -state \"$QueueState\" -cstate \"$CombinedState\" -jobs \"$JobsInQueue\" -message \"$QueueMessage\""`<br><br>Hint - `OMS` or `OMSDD`:<br>Depending on whether the assignment is executed via SAP spool (`sp01`) or the SAP document distribution (`cvi9`), the item `OMS` or `OMSDD` is evaluated for the reply. The SAP system enters the correct shortcut automatically into the header at `PLS_SRCAPPL`.<br><br>Hint - job status and device status:<br>`OMS` or `OMSDD` is used for the reply of the job status, OMSINFO for the reply of the device status. |
| 2 | The program of phase 1 evaluates the status types for which a reply shall be created from the header:<br>`PLS_CALL_CONDITIONS`<br>→ *Status Information - Activate or Deactivate Replies*, page 85 |
| 3 | The program of phase 1 writes for the status types of phase 2 the replies in a file on the output management system. The directory is defined via environment variables:<br>• `PLS_OMSNOTIFY` for job status<br>• `PLS_OMSDEVICENOTIFY` for device status<br>→ *Environment Variables for the Reply*, page 179 |

*To be continued*

# Reply Process, Continuation

transfer of the replies

This is how the replies are transferred from the output management system to the SAP system:

| Level | Processing |
|---|---|
| 1 | In cyclic time intervals, OMSWatcher searches on the directory that is defined via the environment variable for files with the `.nty` file extension:<br>• `PLS_OMSNOTIFY` for job status<br>• `PLS_OMSDEVICENOTIFY` for device status<br>→ *Environment Variables for the Reply*, page 179<br>The time intervals are defined at the configuration of the LOMS/ROMS on the SAP system:<br>→ *Specify Amount and Interval of the Replies*, page 87 |
| 2 | As soon as OMSWatcher finds a notify file, the script maps the identifications of the job status types `E`, `I`, `S`, and `W` into number combinations for the SAP system. The mapping of identification and number combination is internally defined:<br>→ *SAP Status - Reply Mapping*, page 124 |
| 3 | OMSWatcher transfers the status via JSAPcli to the SAP system.<br>  Hint - erroneous transfer:<br>In case of an erroneous reply, the log file contains a meaningful error message and the notify file (`.nty`) is moved to the `error` directory. |
| 4 | SAP maps the number combination into a final status:<br>→ *SAP Status - Reply Mapping*, page 124<br>  Hint - SAP function:<br>The function called by SAP can be replaced via an environment variable:<br>→ *Replace SAP Reply Function*, page 90 |

background knowledge

The transferred replies of the external output management system are saved in the SAP system in the `tspevjob` table (`se16` transaction).

# SAP Status - Reply Mapping

overview

A detailed SAP status code consists of four integer values separated by commas:

- Job State
- Class Code
- Area Code
- Result Code

job status - values

The job status can have the following values:

| Job Status | Meaning |
|---|---|
| 01 | Preprocessing, formatting |
| 02 | In waiting loop |
| 03 | In process, i.e. printing |
| 04 | Ready, cannot be repeated |
| 05 | Ready but not saved in the OMS yet |
| 06 | Canceled |
| 07 | Lost (no job information available) |
| 08 | Unknown (probably wrong job ID) |

class code - values

The class code can have the following values:

| Class Code | Meaning |
|---|---|
| 01 | Error |
| 02 | Problem that needs an interaction |
| 03 | Problem that needs no interaction |
| 04 | Information (no error) |

*To be continued*

# SAP Status - Reply Mapping, Continuation

The area code can have the following values: area code -values

| Area Code | Meaning |
|---|---|
| 01 / 09 | Spooler / 2. value SWP internal |
| 02 | printing |
| 03 / 11 | Format / 2. value SWP internal |
| 04 / 12 | Connection / network / 2. value SWP internal |
| 05 | Others |

The result code can have the following values: result code - values

| Result Code | Meaning |
|---|---|
| 01 | Correctly printed |
| 02 | Not printed |
| 03 | Partly printed |
| 04 | Probably printed |
| 05 | Output changed |

These detailed status information are SAP internally combined to a SAP final status from 1 to 9: SAP final status

| Class Code | Job Status | SAP Final Status |
|---|---|---|
| 01, 02, 03 | 01, 02, 03 | 6 = Problem |
| 01, 02, 03 | 04, 05, 06, 07, 08 | 8 = Error |
| 04 | 01, 02 | 5 = In process |
| 04 | 03 | 7= Printing |
| 04 | 04, 05 | 9 = Executed |
| 04 | 06, 07, 08 | 8 = Error |
| Other | | 8 = Error |

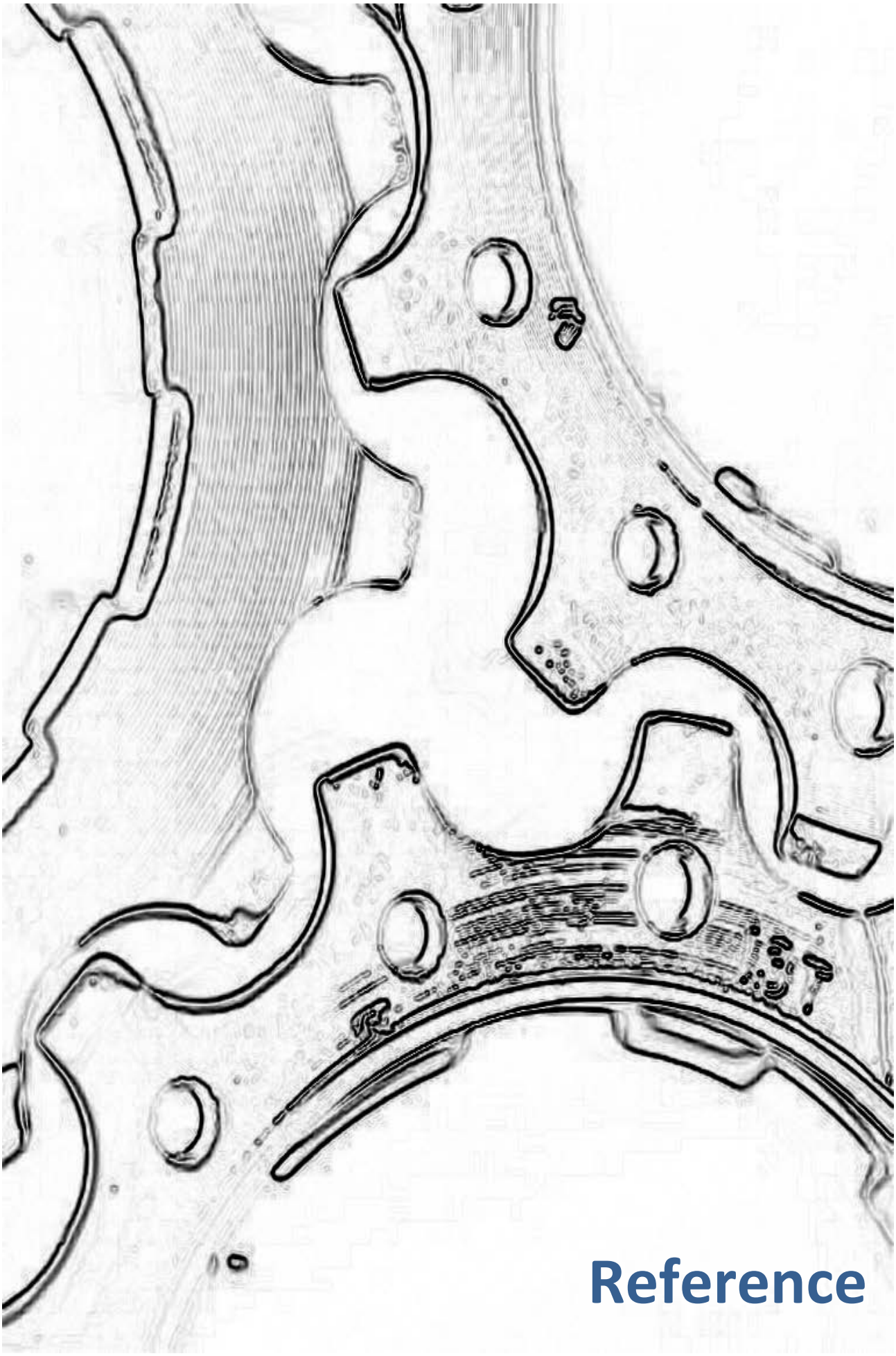
*To be continued*

## SAP Status - Reply Mapping, Continuation

priority

While setting the SAP final status, the following rules are valid and internally used by SAP:

- The SAP final status types 0 to 5 can be only set in ascending order, that means, if a status is set higher, there is no possibility back.
- Within the SAP final status types 5 to 7 all crossings are possible, also for example the return from status 7 to status 5.
- If the SAP final status 8 or 9 is reached, no other status changes are possible any more. This means also that if a job has the error status it cannot be changed to the ready status afterwards.



# Reference

# 9 Configuration Files

in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| oms_submit.cfg - Configuration | 129 |
| oms_server.cfg - Configuration | 137 |
| omswatcher.cfg - Configuration Defaults | 149 |

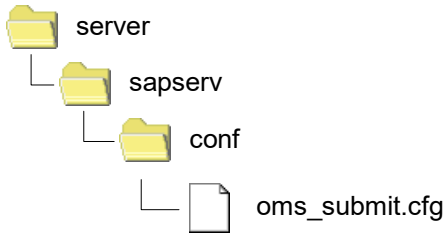
## 9.1 oms_submit.cfg - Configuration

This chapter contains the reference information about the `oms_submit.cfg` configuration file for the configuration of `oms_submit`.

introduction

The `oms_submit.cfg` file is located in the following directory on the SAP system:

location




This configuration file is only read if the `-cfgfile` option is explicitly specified after the SAP data at the start of `oms_submit`! If this option is not specified, the defaults mentioned in the subsequent paragraphs are valid.

**Caution** - usage

It is not possible to use values from `plossys.ini` in `oms_submit.cfg`!

**Caution** - variables

In general, the defaults are sufficient and no further modifications are needed in `oms_submit.cfg`.

hint - default

`%PLSROOT%` is not evaluated from `plossys.ini` but from the directly defined environment variable. If the environment variable is not defined, the value is evaluated by the directory name of the `oms_submit` program. The directory where `server\sapserv\bin_xxx\oms_submit` is found as substructure is used as `%PLSROOT%`.

hint - %PLSROOT%

The configuration file contains the following sections:

structure

| Section | Page |
|---|---|
| [DIRECTORIES] Section | 130 |
| [EXTENSION_MAPPING] Section | 131 |
| [IPP] Section | 132 |
| [OMS_SUBMIT] Section | 133 |

# [DIRECTORIES] Section

contents

The section defines the target directories in the external Output Management System depending on the file extension.

parameters

The `[DIRECTORIES]` section may contain the following parameters:

`*` String, target file extension in the external Output Management System

`„%PLSROOT%\data\io\colorgate“` Target directory in the external Output Management System

Only evaluated if `oms_submit` (with `direct|https|ipp`) without `oms_server` is used for the transfer!
Target directory in the external Output Management System dependent on the target file extension which is specified in `[EXTENSION_MAPPING]`. If * is specified as target file extension, the directory is valid for all file extensions that are not explicitly specified.

hint - with or without `oms_server`

If the job is transferred with or without `oms_server` depends on `OMS_CONFIGURATION`.

Default: `„%PLSROOT%\data\io\sap2pdfgate“`

example

```
[DIRECTORIES]
#target extension target directory
ps                „%PLSROOT%\data\io\ps2tiffgate“
pdf               „%PLSROOT%\data\io\colorgate“
*                 „%PLSROOT%\data\io\sap2pdfgate“
```

# [EXTENSION_MAPPING] Section

contents

The section maps the source file extension in the SAP system to the target file extension in the external Output Management System.

parameters

The `[EXTENSION_MAPPING]` section may contain the following parameters:

`plt` String, source file extension in the SAP system

`hpgl` Target file extension in the external Output Management System

`*` Source file extension is used as target file extension.

Only evaluated if `oms_submit` (with `direct|https|ipp`) without `oms_server` is used for the transfer!
Mapping of the file extensions at the transfer to the external Output Management System. If * is specified as source file extension, the target file extension is valid for all source file extensions that are not explicitly specified.

hint - with or without `oms_server`

If the job is transferred with or without `oms_server` depends on `OMS_CONFIGURATION`.
Default: `OTF`

example

```
[EXTENSION_MAPPING]
#SourceExtension  TargetExtension
*                 otf
```

# [IPP] Section

contents

The section defines the routing server for the transfer via IPP Service.

parameters

The `[IPP]` section can contain the following parameters:

`IPP_CONNECT_TIMEOUT_MSECS` — Integer

`3000` — Period in milliseconds, after which a connection retry is aborted if the IPP server is not available

Only evaluated if `oms_submit` (with `direct|https|ipp`) without `oms_server` is used for the transfer!

Default: `3000`

`IPP_ROUTING_ON` — Boolean

`Y` — Using a routing server

`N` — Do not use a routing server

Only evaluated if `oms_submit` (with `direct|https|ipp`) without `oms_server` is used for the transfer!

hint - with or without `oms_server`

If the job is transferred with or without `oms_server` depends on `OMS_CONFIGURATION`.

Default: `N`

`IPP_ROUTER` — String

`10.49.31.183:2631` — Server name:port number of the routing server

Only evaluated if `oms_submit` (with `direct|https|ipp`) without `oms_server` is used for the transfer!

Default: none

example

```
[IPP]
#Use router for IPP? Y|N
IPP_ROUTING_ON    Y
IPP_ROUTER        10.49.31.183:2631
IPP_CONNECT_TIMEOUT_MSECS 3000
```

# [OMS_SUBMIT] Section

contents

The section defines details of the assignment like the target directory or specific settings for the external Output Management Systems.

parameters, part 1

The [OMS_SUBMIT] section may contain the following parameters:

CHECK_FORMAT Boolean

Y Format will be checked
N Format will not be checked
If the check is active and and it is an SAP list or OTF file the following header item is written:
SAP_OMS_FILE_FORMAT=OTF
Default: N

DIRECTORY String

„%PLSROOT%\data\oms\input“ Target directory of the modified jobs
Only evaluated if oms_server (without direct|https|ipp) is used for the transfer!
The jobs are transferred to this directory for further processing. This is the input directory of oms_server. The target directory of oms_server is specified in the [DIRECTORIES] section in oms_server.cfg.

 **Caution** - default

The default %PLSROOT%\data\oms\input must not be changed when using oms_server for the transfer!
Another directory makes sense, for example, if the SAP system and the Output Management System have access to shared directories and if oms_submit can copy the files into a shared directory.
Another scenario could be the configuration of several logical Output Management Systems with different directories, such as sys1/server/sapserv/.../oms_submit, sys2/server/sapserv/.../oms_submit and sys3/server/sapserv/.../oms_submit, which access the common oms_server installation such as com/server/sapserv/.../oms_server. The three assigning systems write separate log files. This way, separate statistics files can be logged for each initiator.

 hint - with or without oms_server

If the job is transferred with or without oms_server depends on OMS_CONFIGURATION.

Default: „%PLSROOT%\data\oms\input“

To be continued

# [OMS_SUBMIT] Section, Continuation

parameters, part 2

| | |
|---|---|
| `LOGLEVEL` | Enumeration |
| `error` | Error messages |
| `warn` | Additional warnings + `error` |
| `info` | Additional success messages + `warn` |
| `diag` | Additional diagnose information + `info` |
| `debug` | Additional debug information + `diag` |

The log level is specified.
Messages up to the specified type are written into the log file.
Default: `debug`

| | |
|---|---|
| `LOGSIZE` | Integer |
| `-1` | No limit, new items are added to the end of the log file |
| `6400` | Maximum size in KB |

The maximum size of the log file is specified.
If the size of the log file exceeds the value specified here, it is saved to `*.old` and a new log file is created.
Default: `6400`

*To be continued*

# [OMS_SUBMIT] Section, Continuation

| | | |
|---|---|---|
| OMS_CONFIGURATION | String in 5 formats | parameters, part 3 |
| „PLOSSYS“ | Name of the Output Management System. This must be listed in oms_server.cfg at OUTPUT_SYSTEMS and specified in a separate section in oms_server.cfg. The transfer is executed by oms_server. | |
| roett221 7125 PLOSSYS | Server name or IP address, port number and pipe name of the Output Management System. The transfer is done by oms_server. If the pipe name is omitted, PLOSSYS is used as default. | |
| roett221 7125 PLOSSYS direct | Server name or IP address, port number, pipe name of the Output Management System and direct. This specification activates the transfer using oms_submit only via kNet. If the pipe name is omitted, PLOSSYS is used as default. | |
| roett221 4443 PLOSSYS https | Server name or IP address, port number, pipe name of the Output Management System and https. This specification activates the transfer using oms_submit only via IPP Service (encrypted, HTTPS). If the pipe name is omitted, PLOSSYS is used as default. | |
| roett221 4631 PLOSSYS ipp | Server name or IP address, port number, pipe name of the Output Management System and ipp. This specification activates the transfer using oms_submit only via IPP Service (unencrypted). If the pipe name is omitted, PLOSSYS is used as default. | |
| The target directories of the jobs for further processing is specified at DIRECTORY (without direct\|https\|ipp) or in the [DIRECTORIES] section (with direct\|https\|ipp). | | |
| Default: “PLOSSYS“ | | |

*To be continued*

# [OMS_SUBMIT] Section, Continuation

parameters, part 4

`PARAMETER` — String

`oms_submit.exe "&C" "&E1" "&E2" "&E3" "&E4" "&EG" "&EI" "&Es" "&F" "&M" "&m" "&o" "&P" "&Y" "&c" "&T" -cfgfile`
Call of `oms_submit` with the SAP data as parameters

You find more details and a list of the available SAP data in *Available SAP Parameters*, page 118.

**Caution** - upper/lower case

The specifications of the SAP tokens are case-sensitive. The automatic case conversion might need to be disabled in the SAP system if there are problems!

**Caution** - from spad

The specification of `PARAMETER` can be directly copied from the customizing of the real OMS (`spad` transaction, `OMS Commands` section, `Submit` item). The parameters in the customizing and the settings of `PARAMETER` must match!

Default:
`oms_submit.exe "&C" "&E1" "&E2" "&E3" "&E4" "&EG" "&EI" "&Es" "&F" "&M" "&m" "&o" "&P" "&Y" "&c" "&T" -cfgfile`

`PLS_CALL_CONDITIONS` — String, maximum 230 characters

`„JOB_EXECUTED JOB_ERROR“` — Status values of the output job initiating a reply message.

All status value for output jobs known in Infoserver are valid, see [INFOCLT_TEC].
If an output jobs is set to one of the specified status values in the external Output Management System, a reply message is initiated. This is done by an external program. `PLS_SRCAPPL` must start with any text, for example `OMS`. The external program call is assigned to this text in the `[SYSTEM]` section in `plossys.cfg` on the Output Management System.

Default:
`„JOB_REGISTERED JOB_EXECUTED JOB_DELETE JOB_ABORTED JOB_ERROR JOB_HOLD JOB_PRINTING“`

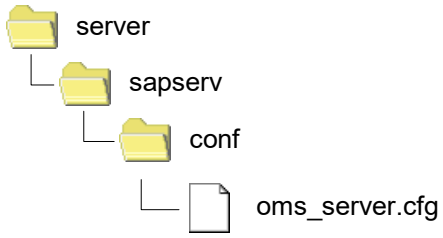
## 9.2 oms_server.cfg - Configuration

introduction

This chapter contains the reference information about the `oms_server.cfg` configuration file for the configuration of `oms_server`.

location

The `oms_server.cfg` file is located in the following directory on the SAP system:




hint - variables:

Values from `plossys.ini` can be used in `oms_server.cfg` if this file exists in the current installation on the SAP system.

hint - modifications

A restart of `oms_server` is not required after modifications in `oms_server.cfg`. The program checks the configuration file and rereads it if needed.

structure

The configuration file contains the following sections:


| Section | Page |
|---|---|
| [DIRECTORIES] Section | 138 |
| [EXTENSION_MAPPING] Section | 139 |
| [OMS_SERVER_PARAMETERS] Section | 140 |
| [OMSWATCHER] Section | 145 |
| [OUTPUT_SYSTEMS] Section | 146 |
| [OUTPUT_SYSTEMS-NAME] Section | 147 |
| [STATUSCODES] Section | 148 |

# [DIRECTORIES] Section

contents

The section defines the target directories in the external Output Management System depending on the file extension.

parameters

The `[DIRECTORIES]` section may contain the following parameters:

* String, target file extension in the external Output Management System

  „%PLSROOT%\data\io\colorgate“ Target directory in the external Output Management System

  Target directory in the external Output Management System dependent on the target file extension which is specified in `[EXTENSION_MAPPING]`. If * is specified as target file extension, the directory is valid for all file extensions that are not explicitly specified.
  Default: „%PLSROOT%\data\io\stargate“

example

```
[DIRECTORIES]
#target extension target directory
ps                „%PLSROOT%\data\io\ps2tiffgate“
pdf               „%PLSROOT%\data\io\colorgate“
*                 „%PLSROOT%\data\io\sap2pdfgate“
```

# [EXTENSION_MAPPING] Section

contents

The section maps the source file extension in the SAP system to the target file extension in the external Output Management System.

parameters

The `[EXTENSION_MAPPING]` section may contain the following parameters:

`plt` — String, source file extension in the SAP system

`hpgl` — Target file extension in the external Output Management System

`*` — Source file extension is used as target file extension.

Mapping of the file extensions at the transfer to the external Output Management System. If * is specified as source file extension, the target file extension is valid for all source file extensions that are not explicitly specified.
Default: `*`

example

```
[EXTENSION_MAPPING]
#SourceExtension  TargetExtension
*                 otf
```

# [OMS_SERVER_PARAMETERS] Section

contents

The section contains the settings for the distribution algorithm.

parameters, part 1

The `[OMS_SERVER_PARAMETERS]` section may contain the following parameters:

`DELETE_READY_WAIT_TIME` — Integer

`24` — Time in hours

`0` — Successfully transferred files are deleted at once and not moved into the read directory.

Period after that the successfully transferred files are removed from the ready directory

Default: `0`

`FUZZY_TIME` — Integer

`30` — Jobs that were created within this time difference are sorted alphabetically.

`0` — Only jobs of the same sage are sorted alphabetically.

Time period in seconds specifying the fuzziness for the sorting

When determining the jobs to be processed, all jobs that were created within the specified time difference are considered of the same age. If jobs are of the same age, the alphabetical order (job number) determines the processing order. Only the jobs are considered that are located in the job directory for the time specified by `FUZZY_TIME` so that the processing is always delayed by this period. With higher values of `FUZZY_TIME`, the delay will be proportionately longer and only the alphabetical order determines the processing order instead of the job age.

With this setting, the desired order can be kept even if the printing jobs that are created by SAP spool differ in size and processing time in SAP so that newer jobs prior to older jobs are put into the input directory of `oms_server`.

Default: `0`

`IPP_CONNECT_TIMEOUT_MSECS` — Integer

`3000` — Period in milliseconds, after which a connection retry is aborted if the IPP server is not available

Default: `3000`

*To be continued*

# [OMS_SERVER_PARAMETERS] Section, Continuation

parameters, part 2

`IPP_DEVICE_QUERY` Boolean

`Y` In case of an internal error (`INTERNAL SERVER ERROR (0x500)`) of the IPP server during the assignment via IPP Service, `oms_server` first checks the status of the IPP server. The job is only repeated if the status of the IPP server is not equal to `IDLE` in order to avoid duplicate jobs.

`N` In case of an internal error `INTERNAL SERVER ERROR (0x500)` `oms_server` does not start a device query but repeats the job immediately.

Default: `Y`

`KNET_DISCONNECT_AFTER_IDLE_MINUTES` Integer

`60` Time period in minutes in which the kNet/franss3 connection was not used

If the connection was not used longer than the specified period of minutes the connection is closed and reestablished at the next job. See also `KNET_DISCONNECT_AFTER_TOTAL_HOURS`.

Default: `30`

`KNET_DISCONNECT_AFTER_TOTAL_HOURS` Integer

`72` Time period in hours which the kNet/franss3 connection is already open

After this time period at the latest the connection is closed even if it is used at regular intervals, and it its reestablished at the next job. See also `KNET_DISCONNECT_AFTER_IDLE_MINUTES`.

Default: `48`

`LB_ROUND_ROBIN` Boolean

`Y` Load balancing via the round robin method

`N` Load balancing via the evaluation of `jobcount.dat` - supported at assignment via kNet only

Using the round robin method, `oms_server` remembers the last server and uses the next server with the same priority for the next job in consideration of the EXCLUSIVE times.

Default: `Y`

*To be continued*

# [OMS_SERVER_PARAMETERS] Section, Continuation

parameters, part 3

`LOGLEVEL` — Enumeration

| | |
|---|---|
| `error` | Error messages |
| `warn` | Additional warnings + `error` |
| `info` | Additional success messages + `warn` |
| `diag` | Additional diagnose information + `info` |
| `debug` | Additional debug information + `diag` |

The log level is specified.
Messages up to the specified type are written into the log file.
Default: `info`

`LOGSIZE` — Integer

| | |
|---|---|
| `-1` | No limit, new items are added to the end of the log file |
| `6400` | Maximum size in KB |

The maximum size of the log file is specified.
If the size of the log file exceeds the value specified here, it is saved to `*.old` and a new log file is created.
Default: `6400`

`MAX_CONNECT_RETRY` — Integer

| | |
|---|---|
| `0` | Number of attempts of kNet to reconnect after the network timeout before aborting with error |

Is only evaluated at the assignment via kNet.
It is recommended to set `MAX_CONNECT_RETRY` to 0.
Default: `2`

`MAX_RETRIES` — Integer

| | |
|---|---|
| `10` | Maximum number of repetition retries of erroneous jobs |

As soon as `MAX_RETRIES` or `MAX_RETRY_TIME` is reached, the job is terminated with an error.
Default: `10`

`MAX_RETRY_TIME` — Integer

| | |
|---|---|
| `48` | Maximum time in seconds for repetition retries of erroneous jobs |

As soon as `MAX_RETRIES` or `MAX_RETRY_TIME` is reached, the job is terminated with an error.
Default: `48`

*To be continued*

# [OMS_SERVER_PARAMETERS] Section, Continuation

parameters, part 4

`QUEUE_EXCLUSIVE_TO_SERVER_TIME` Integer

`10` Time in seconds

This setting is only relevant when customizing the load balancing and `LB_ROUND_ROBIN Y`.

Within this period, all jobs of a user to the same output device are transferred to one server.

The value `0` means that no reservation is done.

Default: `10`

`RETRY_WAIT_TIME` Integer

`30` Time in seconds

`0` The transfer is repeated at once.

Period to the next transfer attempt after an erroneous transfer attempt, which is doubled after each repetition

Default: `30`

`SAPNOTIFY` Integer

`0` No messages are sent to SAP.

`1` Success and error messages are sent to SAP.

`2` Only error messages are sent to SAP. A message is also sent if a transfer is successful after several attempts.

Level of the reply messages concerning the assignment on SAP

**Caution** - `oms_server_rfccm`

As soon as `SAPNOTIFY > 0` is specified, the alternative `oms_server_rfccm` binary has to be started!

Default: `0`

`SERVER_EXCLUSIVE_TO_USER_TIME` Integer

`0` Time in seconds

This setting is only relevant when customizing the load balancing and `LB_ROUND_ROBIN N`.

Time interval, in which only jobs of a specific user are transferred to the server in order to avoid a mixing with jobs of other users

Simultaneously, `USER_EXCLUSIVE_TO_SERVER_TIME` has to be specified.

The period should be as short as possible - as long as the output of a job is supposed to take in order to avoid blocking each other.

To completely utilize all advantages of load balancing, an exclusive reservation must be omitted. If possible, for example, if jobs do not belong together, set `USER_EXCLUSE_TO_SERVER_TIME` and `SERVER_EXCLUSIVE_TO_USER_TIME` to `0`.

Default: `0`

*To be continued*

# [OMS_SERVER_PARAMETERS] Section, Continuation

parameters, part 5

`SERVER_INFO_REFRESH_TIME` Integer

`300` Time in seconds

This setting is only relevant when customizing the load balancing and `LB_ROUND_ROBIN N`.

Time interval, after which the server with the least load is determined again, which is usually very time-consuming

For increasing the performance, it is advisable to specify the time period long enough.

Within the waiting period, the jobs are transferred to the server determined at last as least loaded.

If there is additionally a reservation for a user by `USER_EXCLUSIVE_TO_SERVER_TIME`, a new request for load balancing is first done after the last job of the user is older than `USER_EXCLUSIVE_TO_SERVER_TIME`.

Default: `300`

`USER_EXCLUSIVE_TO_SERVER_TIME` Integer

`10` Time in seconds

This setting is only relevant when customizing the load balancing and `LB_ROUND_ROBIN N`.

Time interval, in which all jobs of a specific user are transferred to a specific server in order to ensure the output in the correct order of jobs Job of other users could potentially mix these jobs up. In order to avoid this `SERVER_EXCLUSIVE_TO_USER_TIME` must be set.

To completely utilize all advantages of load balancing, an exclusive reservation must be omitted. If possible, for example, if jobs do not belong together, set `USER_EXCLUSE_TO_SERVER_TIME` and `SERVER_EXCLUSIVE_TO_USER_TIME` to `0`.

Default: `10`

`USE_SIGNAL_HANDLER` Boolean

| | |
|---|---|
| `Y` | `oms_server` catches operating system signals and ignores them. |
| `N` | Operating system signals, such as `Ctrl-C` to cancel a program, are effective and are not ignored by `oms_server`. |

Default: `Y`

# [OMSWATCHER] Section

contents

The section defines the details for the reply of the assignment via `oms_server`. Reply messages via the job status and device status in the external Output Management System are not affected. These are specified via OMSWatcher.

parameters

The `[OMSWATCHER]` section may contain the following parameters:

`COUNTER` Integer, maximum: 499

`100` Number of summarized reply messages

The value determines, how many messages are combined, before they are transferred back to the SAP system.
Default: `100`

`RETRY_WAIT_TIME` Integer

`300` Time in seconds
`0` The transfer is repeated at once.

Period to the next transfer attempt of the assignment after an error occurred
Default: `60`

`RM_AFTER_HOURS` Integer

`24` Deletion period in hours for the messages that are not passed back

After the number of hours specified at `RM_AFTER_HOURS`, the messages that are not passed back to the SAP system are deleted without retrying the transfer.
Default: `24`

`SLEEP_TIME_SEC` Integer

`60` Waiting period in seconds for the next pass

This specifies how many seconds are paused after the waiting reply messages are passed and before the directory is scanned again.
Default: `60`

# [OUTPUT_SYSTEMS] Section

contents

The section lists the external Output Management Systems that are available. A separate section must exists additionally for each external Output Management System.

parameters

The `[OUTPUT_SYSTEMS]` section may contain the following parameters:

| | |
|---|---|
| `PLOSSYS` | String, name of the Output Management System |

Default: `PLOSSYS`

**Caution**

The system name `PLOSSYS` is the default if nor `oms_submit.cfg` is read neither the server and port are specified in the customizing of the real Output Management System in the SAP system (`spad` transaction, `OMS Configuration` item). In this case, `PLOSSYS` must be listed in `[OUTPUT_SYSTEMS]` and specified in a separated section!

example

```
[OUTPUT_SYSTEMS]
PLOSSYS
PLOSSYSHTTPS
PLOSSYSIPP
```

# [OUTPUT_SYSTEMS-NAME] Section

contents

The section describes the Output Management Systems specified at `[OUTPUT_SYSTEMS]`.

parameters

The `[OUTPUT_SYSTEMS-NAME]` section may contain the following parameters:

*`Priority Host Port Pipe RouterURL`*

Each Output Management System listed in `[OUTPUT_SYSTEMS]` is specified in detail. For this, the host name, port and pipe of the Output Management System are specified. A routing server can be specified optionally for the transfer via IPP.

priority

At first, the Output Management System providing the least priority is searched for. If several systems have the same priority, the system least loaded is selected. If none of these systems can be accessed, the systems with the next higher priority are considered.
The priority does not have to be consecutively numbered. The order of the priorities in the configuration does not matter. The lowest priority may also be specified in the last line.

pipe

The type of the transfer is specified via *`pipe`*:
kNet: `PLOSSYS` or another pipe name
IPP Service (encrypted, HTTPS): `HTTPS`
IPP Service (unencrypted): `IPP`

RouterURL

A routing server can be specified optionally for the transfer via IPP Service using the format *`ServerName`*:*`PortNumber`*.
Default: none

example

```
[PLOSSYS]
#Priority    Host       Port    Pipe
1            sealsv1    7125    PLOSSYS
1            sealsv2    7125    PLOSSYS
20           sealsv3    7125    PLOSSYS


[PLOSSYSHTTPS]
#Priority    Host       Port    Pipe
1            sealipp1   4443    HTTPS


[PLOSSYSIPP]
#Priority    Host       Port    Pipe    Router URL
1            sealipp1   4631    IPP
2            sealipp2   4631    IPP     sealipp3:4631
```

# [STATUSCODES] Section

contents

The section defines the mapping of the status codes of the external Output Management System to the status in the SAP system.

SAP status

The status in the SAP system is represented by four values:

Job state, class code, area code, result code

parameters

The `[STAUTSCODES]` section may contain the following parameters:

`E` — 4 Integer separated by comma

`04,04,05,02` — Complete, information, other, not printed

Error status on the external Output Management System

Default: `04,04,05,02`

`I` — 4 Integer separated by comma

`03,04,02,04` — Processing/printing, information, printing, possible printed

Information status in the external Output Management System

Default: `03,04,02,04`

`S` — 4 Integer separated by comma

`04,04,03,01` — Complete, information, other, printed correctly

Success status in the external Output Management System

Default: `04,04,03,01`

`W` — 4 Integer separated by comma

`03,02,02,02` — Processing/printing problem request intervention, printing, not printed

Warning status in the external Output Management System

Default: `03,02,02,02`

example

```
[STATUSCODES]
I                 03,04,02,04
W                 03,02,02,02
```

possible values

Possible values for job state, class code, area code and result code:

→ *SAP Status - Reply Mapping*, page 124

## 9.3 omswatcher.cfg - Configuration Defaults

This chapter contains the reference information about the `omswatcher.cfg` configuration file. This configuration file contains the default settings for the replies to DDD. These are stored as `sealdefsap`, `sealdefroms` and `sealdefloms` in the database (`pgadmin`). introduction

At the reply via BC-XOM, `omswatcher.cfg` is no longer evaluated. In this case, the settings from the configuration of the LOMS and ROMS in the SAP system are used. reply via BC-XOM

→ *Specify Amount and Interval of the Replies*, page 87

The client for the logon on the SAP system in order to transfer the replies is determined by the connection data specified for the SAP system: client

→ *Maintain SAP System Data on the Output Management System*, page 19

**Caution**

Only the system-dependent section is evaluated, but not optionally existing client-dependent sections.

The evaluation of the following item in `omswatcher.cfg` is supported by OMS Interface for SAP (BC-XOM) version 2.0.x or lower: Version <= 2.0.x

`[OMS_REPLY_MANDT]` OMS_REPLY_MANDT

`099` Client or multiple clients separated by comma

By default, the client for the logon on the SAP system in order to transfer the replies is determined by the file names of the reply message texts.
In `[OMS_REPLY_MANDT]`, the client can be replaced explicitly. This is only usefully at the reply via BC-XOM if a SAP system user for the replies is not permitted in a security-critical client.

**Caution**

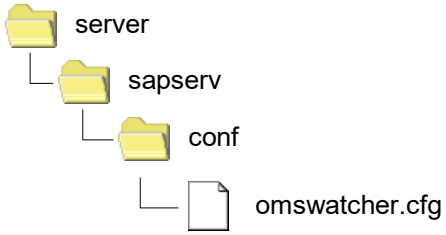
For the reply to DDD, the assigning client, which is automatically identified by default, has to be used. An explicit replacement of the client is not allowed! Mailing at reply works only in this case.
Default: Client from the file name of the reply message texts

*To be continued*

## omswatcher.cfg - Configuration Defaults, Continuation

location

The `omswatcher.cfg` file is located on the Output Management System in the following directory:




structure

The configuration file contains the following sections:

| Section | Page |
|---|---|
| [OMSWATCHER] Section | 151 |

# [OMSWATCHER] Section

This section defines the default settings for the replies to DDD. contents

The [OMSWATCHER] section may contain the following parameters: parameters

AUTO_RECONFIG Boolean

Y The SAP configuration is automatically transferred to the output management system on a time-controlled basis with the time interval specified for the real OMS with Reconfiguration Request.

N The SAP configuration is only automatically transferred to the output management system after changes have been made.

By default, it is not necessary to activate a time-controlled re-transfer of the SAP configuration.

Default: N

COUNTER Integer, maximum: 499

100 Number of summarized reply messages

The value determines, how many messages are combined, before they are transferred back to the SAP system.

Default: 100

JSAPCLI_TIMEOUT Integer

300 Time in seconds

0 No timeout

Timeout for the JSAPcli call for replies to SAP

Default: 300

RETRY_WAIT_TIME Integer

300 Time in seconds

0 The transfer is repeated at once.

Period to the next transfer attempt after an error occurred

Default: 600

SLEEP_TIME_SEC Integer

60 Time in seconds

Waiting time after processing the current replies, before the directory is scanned again

Default: 10

SXMI_XOM_JOBS_CALLBACK String

/DVSREPRO/ZOMS_JOBS_CALLBACK

Template function which - in addition to the standard functionality at the reply - updates the /dvsrepro/zoms02

and `/dvsrepro/zoms03` tables for the display of the reply messages within SEAL Systems modules.

**Caution**

The function must be specified in capital letters!
The `SXMI_XOM_JOBS_CALLBACK` SAP function is only replaced if the specified function exists.
Default: None

`USE_CALLBACKTARGET` Boolean

`Y` Reply to the SAP system that is defined as `Target for Callback` under `SAP Configuration` at Logical OMS (LOMS) on the SAP system

`N` Reply to the SAP system,which is in the output job.
SAP system to which the reply is sent
By default, the reply is sent to the SAP system that is in the output job.
Default: `N`

*To be continued*

# [OMSWATCHER] Section, Continuation

example

```
[OMSWATCHER]
COUNTER                  =  100
JSAPCLI_TIMEOUT          =  300
RETRY_WAIT_TIME          =  600
SLEEP_TIME_SEC           =  10
SXMI_XOM_JOBS_CALLBACK   =  /DVSREPRO/ZOMS_JOS_CALLACK
```

# 10 Programs

in this chapter

This chapter deals with the following topics:

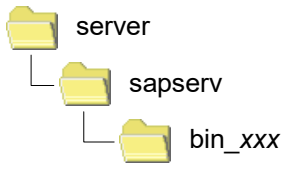

| Topic | Page |
|---|---|
| oms_startup - Initialization | 155 |
| omsinitialize.pl - Initialization (Internal) | 158 |
| oms_submit - Assignment | 161 |
| oms_server - Advanced Assignment | 164 |
| oms_query - Job Status Query | 167 |
| oms_dquery - Device Status Query | 170 |
| oms_cancel - Job Abortion | 173 |
| OMSWatcher - Reply | 176 |
| omsmessage.pl - Job Reply (Internal) | 180 |
| omsdevstate.pl - Device Reply (Internal) | 185 |

# 10.1 oms_startup - Initialization

This chapter contains information about `oms_startup`. — contents

The `oms_startup` program transfers the configuration of the SAP system to the external Output Management System, where `omsinitialize.pl` is responsible for further processing. Furthermore the program starts OMSWatcher on the Output Management System, if OMSWatcher does not run. — purpose

The `oms_startup` program is located in the following directory on the SAP system: — location




The `oms_startup` program is started manually or automatically after modifications within the SAP system: — start

→ *Transfer SAP-Configuration and Start OMSWatcher*, page 57

This chapter deals with the following topics: — in this chapter


| Topic | Page |
|---|---|
| Usage of oms_startup | 156 |


The `oms_startup` program evaluates the following configuration file: — configuration

→ *oms_server.cfg - Configuration*, page 137

→ *omsinitialize.pl - Initialization (Internal)*, page 158 — related topics

# Usage of oms_startup

overview

This is how `oms_startup` is started:

```
oms_startup[.exe]
        [-h]
        "&E3" "&E4" "&Er" "&Es"
        [-logfile filename] [-loglevel level] [-logsize size]
```

**Caution** - order

The order of the parameters specified above must be kept!

parameter

The `oms_startup` program evaluates the following parameters:

| Parameter | Description |
|---|---|
| &E3 | R/3 ROMS flags |
| &E4 | ROMS configuration |
| &Er | Name of the ROMS |
| &Es | SAP system ID |
| -h<br>(optional) | Lists the available parameters. |
| -logfile<br>(optional) | Specifies the log file with directory path.<br>Default: `data\log\oms_startup.log` |
| -loglevel<br>(optional) | Specifies the log level. It is passed to `omsinitialize.pl`.<br>Messages up to the specified type are written into the log file.<br>Value as enumeration:<br>`error` Error messages<br>`warn` Additional warnings + `error`<br>`info` Additional success messages + `warn`<br>`debug` Additional diagnostic messages + `info`<br>Default: `info` |
| -logsize<br>(optional) | If the size of the log file exceeds the value specified here, it is saved to `*.old` and a new log file is created.<br>Values as integer:<br>`-1` No limit, new items are added to the end of the log file<br>`-2` Cutting the log file at the start to the predefined maximum size<br>`1000` Maximum size of the log file in KB<br>Default: `2000` |

*To be continued*

# Usage of oms_startup, Continuation

example

The `oms_startup` program is started with its mandatory parameters:

Linux:

```
/opt/seal/seal-sap-oms/server/sapserv/bin_linux223/oms_startup   "&E3"
"&E4" "&Er" "&Es"
```

Windows:

```
c:\seal_bcxom\server\sapserv\bin_winnt5\oms_startup.exe   "&E3"   "&E4"
"&Er" "&Es"
```

background knowledge

If only one parameter at maximum (empty or *`OutputSystem`*) is specified at `OMS Configuration` at the configuration of ROMS, the program reads the required data of the output systems from the `oms_server.cfg` file.

This is relevant for:

→ *Provide Reliability*, page 78

→ *Establish Load Balancing*, page 80

related topics

→ *Copy Files*, page 24

→ *Available SAP Parameters*, page 118

## 10.2 omsinitialize.pl - Initialization (Internal)

contents

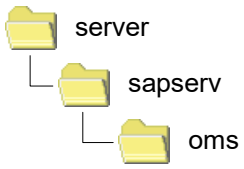
This chapter contains information about `omsinitialize.pl`.

purpose

The `omsinitialize.pl` script is executed during the initialization of `oms_startup`. It transfers the configuration of the SAP system to the database on the Output Management System.

location

The `omsinitialize.pl` script is located in the following directory on the Output Management System:




in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Usage of omsinitialize.pl | 159 |


related topics

→ *oms_startup - Initialization*, page 155

# Usage of omsinitialize.pl

overview

This is how `omsinitialize.pl` is started:

```
omsinitialize.pl
        [-h]
        -r3flags RomsR3Flags -romsflags RomsOMSFlags
        -roms RomsName -dest SAPSystem
        [-rmgsquery] [-devicesquery]
        [-logfile filename] [-loglevel level] [-logsize size]
```

parameters, part 1

The `omsinitialize.pl` script evaluates the following parameters:

| Parameter | Description |
|---|---|
| -r3flags | R/3 ROMS flags |
| `-romsflags` | ROMS configuration |
| `-roms` | Name of the ROMS |
| -dest | SAP system ID |
| `-rmgsquery` (optional) | Only reconfiguration of the groups |
| `-devicesquery` (optional) | Only reconfiguration of the devices |
| -h (optional) | Lists the available parameters. |
| -logfile (optional) | Specifies the log file with directory path.<br>Default: `data\log\omsinitialize.log`<br>  Hint - JSAPcli messages:<br>In addition to that, a log file with `jsapcli` as prefix containing JSAPcli messages is written to this directory:<br>`data\log\jsapcli_omsinitialize.log` |
| -loglevel (optional) | Specifies the log level.<br>Messages up to the specified type are written into the log file.<br>Value as enumeration:<br>`error` Error messages<br>`warn` Additional warnings + `error`<br>`info` Additional success messages + `warn`<br>`debug` Additional diagnostic messages + `info`<br>Default: `info` |

*To be continued*

# Usage of omsinitialize.pl, Continuation

parameters, part 2

Continuation:

| Parameter | Description |
|---|---|
| -logsize<br>(optional) | If the size of the log file exceeds the value specified here, it is saved to `*.old` and a new log file is created.<br>Values as integer:<br>`-1` No limit, new items are added to the end of the log file<br>`-2` Cutting the log file at the start to the predefined maximum size<br>`1000` Maximum size of the log file in KB<br>Default: `1024` |

## 10.3 oms_submit - Assignment

contents

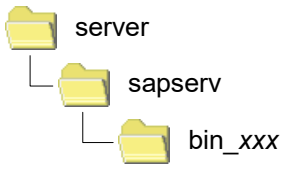
This chapter contains information about `oms_submit`.

purpose

The `oms_submit` program creates the output jobs during the printing in the SAP system and transfers them to the external Output Management System or to `oms_server`.

location

The `oms_submit` program is located in the following directory on the SAP system:




start

The `oms_submit` program is executed within the SAP system at clicking the print button.

in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Usage of oms_submit | 162 |


configuration

The configuration of `oms_submit` is described in a separate chapter:

→ *oms_submit.cfg - Configuration*, page 129

# Usage of oms_submit

overview

This is how `oms_submit` is started:

```
oms_submit[.exe|.sh]
        [-h]
        OMS-Par
        [-logfile filename] [-loglevel level] [-logsize size]
        [-version]
        [-cfgfile [filename]]
        [-seqproc]
```

parameters, part 1

The program `oms_submit` evaluates the following parameters:

| Parameter | Description |
|---|---|
| -h<br>(optional) | Lists the available parameters. |
| OMS-Par | See `PARAMETER` in the `OMS_SUBMIT` section:<br>→ *oms_submit.cfg - Configuration*, page 129 |
| -logfile<br>(optional) | Specifies the log file with directory path.<br>Default: `data\log\oms_submit.log` |
| -loglevel<br>(optional) | Specifies the log level.<br>Messages up to the specified type are written into the log file.<br>Value as enumeration:<br>`error` Error messages<br>`warn` Additional warnings + `error`<br>`info` Additional success messages + `warn`<br>`debug` Additional diagnostic messages + `info`<br>Default: `info` |
| -logsize<br>(optional) | If the size of the log file exceeds the value specified here, it is saved to `*.old` and a new log file is created.<br>Values as integer:<br>`-1` No limit, new items are added to the end of the log file<br>`-2` Cutting the log file at the start to the predefined maximum size<br>`1000` Maximum size of the log file in KB<br>Default: `64000` |
| -version<br>(optional) | Shows the version of `oms_submit`. |

*To be continued*

# Usage of oms_submit, Continuation

Continuation: parameters, part 2

| Parameter | Description |
|---|---|
| -cfgfile<br>(optional) | If no file name is specified, the default is used. Otherwise the configuration file with the absolute directory name from the point of view of the SAP system must be specified.<br>Default: `server\sapserv\conf\oms_submit.cfg` |
| -seqproc<br>(optional) | The output jobs are created using the following name:<br>*`_Number.FileExtension`*<br>with:<br>*`Number`* = 37 digits including leading zeros<br>The number is written to `data\sysstat\oms_submit.uni`. If the file exits the number is increased by one.<br>Output jobs with these names are sorted alphabetically and processed by the time of their assignment. |

example

The `oms_submit` program is started with its mandatory parameters:

```
oms_submit[.exe|.sh] "&C" "&E1" "&E2" "&E3" "&E4" "&EG" "&EI" "&Es"
"&F" "&M" "&m" "&o" "&P" "&Y" "&c" "&T" -cfgfile
```

related topics

→ *Available SAP Parameters*, page 118

## 10.4 oms_server - Advanced Assignment

contents

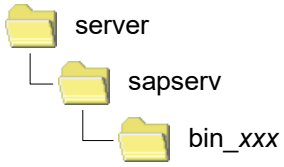
This chapter contains information about `oms_server`.

purpose

The `oms_server` program is responsible for the forwarding of the output jobs of `oms_submit` and transfers them to the external Output Management System. By means of `oms_server` a load balancing and reliability can be realized.

location

The `oms_server` program is located in the following directory on the SAP system:




start

The `oms_server` program must be started on the SAP system:

→ *Transfer SAP-Configuration and Start OMSWatcher*, page 57

stop

You stop the `oms_server` program on the SAP system by starting it with the `-stop` option. This command creates the `oms_server.stop` stop file in the `data\sysstop` directory. As soon as the stop file exists, `oms_server` deletes the stop file and terminates.

Alternatively, you can delete the `oms_server.lck` lock file in the `data\sysstat` directory.

in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Usage of oms_server | 165 |


configuration

The configuration of `oms_server` is described in a separate chapter:

→ *oms_server.cfg - Configuration*, page 137

# Usage of oms_server

overview

This is how `oms_server` is started:

```
oms_server[.exe|.sh]
        [-h]
        [-logfile filename] [-loglevel level] [-logsize size]
        [-version]
        [-v]
        [-cfgdir directory]
        [-lckdir directory]
        [-stop|-kill]
```

parameters, part 1

The `oms_server` program evaluates the following parameters:

| Parameter | Description |
|---|---|
| -h<br>(optional) | Lists the available parameters. |
| -logfile<br>(optional) | Specifies the log file with directory path.<br>Default: `data\log\oms_server.log` |
| -loglevel<br>(optional) | Specifies the log level.<br>Messages up to the specified type are written into the log file.<br>Value as enumeration:<br>`error` Error messages<br>`warn` Additional warnings + `error`<br>`info` Additional success messages + `warn`<br>`debug` Additional diagnostic messages + `info`<br>Default: `info` |
| -logsize<br>(optional) | If the size of the log file exceeds the value specified here, it is saved to `*.old` and a new log file is created.<br>Values as integer:<br>`-1` No limit, new items are added to the end of the log file<br>`-2` Cutting the log file at the start to the predefined maximum size<br>`1000` Maximum size of the log file in KB<br>Default: `64000` |
| -version<br>(optional) | Shows the version of `oms_submit`. |
| -v<br>(optional) | Sets the log level to `debug`. This setting corresponds to `-loglevel debug`. |

*To be continued*

# Usage of oms_server, Continuation

parameters, part 2

Continuation:

| Parameter | Description |
|---|---|
| -cfgdir<br>(optional) | Specifies the directory, in which the `oms_server.cfg` configuration file is located.<br>Default: `server\sapserv\conf` |
| -lckdir<br>(optional) | Specifies the directory, in which the lock file `oms_server.lck` is located.<br>**Caution** - start/stop:<br>If a special lock directory is specified during the start, this must also be specified at the stop of the program.<br>Default: `data\sysstat` |
| -stop\|-kill<br>(optional) | Creates the `oms_server.stop` stop file in the `data\sysstop` directory. Thus, `oms_server` is triggered to terminate itself.<br>Default: None |

## 10.5 oms_query - Job Status Query

contents

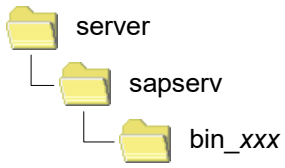
This chapter contains information about `oms_query`.

purpose

The `oms_query` program evaluates the status of the output jobs on the external Output Management System.

location

The `oms_query` program is located in the following directory on the SAP system:




start

The `oms_query` program is started manually within the SAP system:

→ *Query Job Status*, page 62

in this chapter

This chapter deals with the following topics:



| Topic | Page |
|---|---|
| Usage of oms_query | 168 |



configuration

The `oms_query` program evaluates the following configuration file:

→ *oms_server.cfg - Configuration*, page 137

# Usage of oms_query

overview

This is how `oms_query` is started:

```
oms_query[.exe]
        [-h]
        [-logfile filename] [-loglevel level]
        -PLOSSYS|-NETPLOT
        [-romsflag "&E4"]
        "&EL"
```

**Caution** - order

The order of the parameters specified above must be kept!

parameter

The `oms_query` program evaluates the following parameters:

| Parameter | Description |
|---|---|
| -h<br>(optional) | Lists the available parameters. |
| -logfile<br>(optional) | Specifies the log file with directory path.<br>Default: `data\log\oms_query.log` |
| -loglevel<br>(optional) | Specifies the log level.<br>Messages up to the specified type are written into the log file.<br>Value as enumeration:<br>`error` Error messages<br>`warn` Additional warnings + `error`<br>`info` Additional success messages + `warn`<br>`debug` Additional diagnostic messages + `info`<br>Default: `info` |
| -PLOSSYS\|<br>-NETPLOT | Specifies the type of the external Output Management System. |
| -romsflag &E4 | ROMS configuration |
| &EL | Transfers the list of the SAP spool IDs. |

example

The `oms_query` program is started for PLOSSYS netdome:

```
oms_query[.exe] -PLOSSYS -romsflag "&E4" "&EL"
```

*To be continued*

# Usage of oms_query, Continuation

background knowledge

If only one parameter at maximum (empty or *OutputSystem*) is specified at `OMS Configuration` at the configuration of ROMS, the program reads the required data of the output systems from the `oms_server.cfg` file.

This is relevant for:

→ *Provide Reliability*, page 78

→ *Establish Load Balancing*, page 80

related topics

→ *Available SAP Parameters*, page 118

## 10.6 oms_dquery - Device Status Query

contents

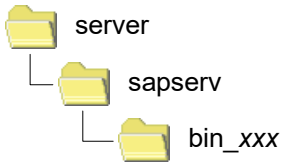
This chapter contains information about `oms_dquery`.

purpose

The `oms_dquery` program evaluates the status of the output devices and queues on the external Output Management System.

location

The `oms_dquery` program is located in the following directory on the SAP system:




start

The `oms_dquery` program is started manually within the SAP system:

→ *Query Queue/Device Status*, page 66

in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Usage of oms_dquery | 171 |


configuration

The `oms_dquery` program evaluates the following configuration file:

→ *oms_server.cfg - Configuration*, page 137

# Usage of oms_dquery

overview

This is how `oms_dquery` is started:

```
oms_dquery[.exe]
        [-h]
        [-logfile filename] [-loglevel level]
        -PLOSSYS|-NETPLOT
        [-romsflag "&E4"]
        -queue "&P"
        -dest "&Es"
```

**Caution** - order

The order of the parameters specified above must be kept!

parameter

The `oms_dquery` program evaluates the following parameters:

| Parameter | Description |
|---|---|
| -h<br>(optional) | Lists the available parameters. |
| -logfile<br>(optional) | Specifies the log file with directory path.<br>Default: `data\log\oms_dquery.log` |
| -loglevel<br>(optional) | Specifies the log level.<br>Messages up to the specified type are written into the log file.<br>Value as enumeration:<br>`error` Error messages<br>`warn` Additional warnings + `error`<br>`info` Additional success messages + `warn`<br>`debug` Additional diagnostic messages + `info`<br>Default: `info` |
| -PLOSSYS\|<br>-NETPLOT | Specifies the type of the external Output Management System. |
| -romsflag &E4 | ROMS configuration |
| -queue &P | Transfers the name of the queue. |
| -dest &Es | Transfers the SAP system ID. |

example

The `oms_dquery` program is started for PLOSSYS netdome:

```
oms_dquery[.exe] -PLOSSYS -romsflag "&E4" -queue "&P" -dest "&Es"
```

*To be continued*

## Usage of oms_dquery, Continuation

background knowledge

If only one parameter at maximum (empty or *OutputSystem*) is specified at `OMS Configuration` at the configuration of ROMS, the program reads the required data of the output systems from the `oms_server.cfg` file.

This is relevant for:

→ *Provide Reliability*, page 78

→ *Establish Load Balancing*, page 80

related topics

→ *Available SAP Parameters*, page 118

## 10.7 oms_cancel - Job Abortion

contents

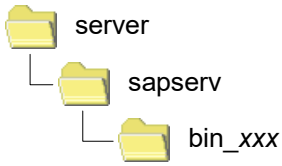
This chapter contains information about `oms_cancel`.

purpose

The `oms_cancel` program terminates waiting output jobs in the external Output Management System via `oms_iscli`.

location

The `oms_cancel` program is located in the following directory on the SAP system:




start

The `oms_cancel` program is started manually within the SAP system:

→ *Cancel Jobs*, page 70

in this chapter

This chapter deals with the following topics:



| Topic | Page |
|---|---|
| Usage of oms_cancel | 174 |



configuration

The `oms_cancel` program evaluates the following configuration file:

→ *oms_server.cfg - Configuration*, page 137

# Usage of oms_cancel

overview

This is how `oms_cancel` is started:

```
oms_cancel[.exe]
        [-h]
        [-logfile filename] [-loglevel level]
        -PLOSSYS|-NETPLOT
        [-romsflag "&E4"]
        "&EL"
```

**Caution** - order

The order of the parameters specified above must be kept!

parameter

The `oms_cancel` program evaluates the following parameters:

| Parameter | Description |
|---|---|
| -h<br>(optional) | Lists the available parameters. |
| -logfile<br>(optional) | Specifies the log file with directory path.<br>Default: `data\log\oms_cancel.log` |
| -loglevel<br>(optional) | Specifies the log level.<br>Messages up to the specified type are written into the log file.<br>Value as enumeration:<br>`error` Error messages<br>`warn` Additional warnings + `error`<br>`info` Additional success messages + `warn`<br>`debug` Additional diagnostic messages + `info`<br>Default: `info` |
| -PLOSSYS\|<br>-NETPLOT | Specifies the type of the external Output Management System. |
| -romsflag &E4 | ROMS configuration |
| &EL | Transfers the list of the SAP spool IDs which are to be aborted. |

example

The `oms_cancel` program is started for PLOSSYS netdome:

```
oms_cancel[.exe] -PLOSSYS -romsflag "&E4" "&EL"
```

*To be continued*

# Usage of oms_cancel, Continuation

If only one parameter at maximum (empty or *OutputSystem*) is specified at `OMS Configuration` at the configuration of ROMS, the program reads the required data of the output systems from the `oms_server.cfg` file.

background knowledge

This is relevant for:

→ *Provide Reliability*, page 78

→ *Establish Load Balancing*, page 80

→ *Available SAP Parameters*, page 118

related topics

## 10.8 OMSWatcher - Reply

contents

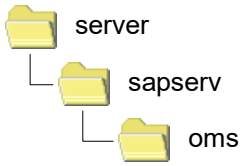
This chapter contains information about OMSWatcher.

purpose

OMSWatcher is responsible for the reply of the information from the external Output Management System to the SAP-System via JSAPcli.

location

The `omswatcher.pl` script contains the functionality of OMSWatcher. It is located in the following directory on the Output Management System:




start/stop/status

OMSWatcher is controlled via the `server\sapserv\start-stop\700.omswatcher.xxx` start, stop, and status scripts.

in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Parameters of OMSWatcher | 177 |
| Environment Variables for the Reply | 179 |


configuration

The configuration of OMSWatcher is described in a separate chapter:

→ *Specify Amount and Interval of the Replies*, page 87

related topics

→ *Reply Process*, page 122

→ *omsmessage.pl - Job Reply (Internal)*, page 180

→ *omsdevstate.pl - Device Reply (Internal)*, page 185

# Parameters of OMSWatcher

This is how omswatcher.pl is started: overview

```
omswatcher.pl
        [-h]
        [-logfile filename] [-loglevel level]
        [-lckfile filename]
        [-stop]
```

The omswatcher.pl program evaluates the following parameters: parameter

| Parameter | Description |
|---|---|
| -h<br>(optional) | Lists the available parameters. |
| -logfile<br>(optional) | Specifies the log file with directory path.<br>Default: `data\log\omswatcher.log`<br>  Hint - JSAPcli messages:<br>In addition to that, a log file with `jsapcli_` as prefix and an unique suffix containing JSAPcli messages is written to this directory:<br>`data\log\jsapcli_omswatcher_xxx.log` |
| -loglevel<br>(optional) | Specifies the log level.<br>Messages up to the specified type are written into the log file.<br>Value as enumeration:<br>`error` Error messages<br>`warn` Additional warnings + `error`<br>`info` Additional success messages + `warn`<br>`debug` Additional diagnostic messages + `info`<br>Default: `info` |
| -lckfile<br>(optional) | Specifies the log file with directory path.<br>Default: `data\sysstat\omswatcher.lck`<br>  Hint - `pg_omswatcher.lck`:<br>When starting the `data\sysstat\pg_omswatcher.lck` lock file is created additionally. This avoids that the database is stopped via `plskill` as long as `omswatcher.pl` is still running. |
| -stop<br>(optional) | Stops OMSWatcher. |

*To be continued*

## Parameters of OMSWatcher, Continuation

example

Set the log level to maximum at the interactive execution:

omswatcher.pl -loglevel debug

# Environment Variables for the Reply

overview

OMSWatcher evaluates the following environment variables:

| Environment Variable | Description |
|---|---|
| DEBUG | Activates the debug modus in the server process as at the interactive start with `-loglevel debug`. Otherwise only error messages and warnings are logged.<br>Value as enumeration:<br>`1` Debug modus<br>`0` No debug modus<br>Default: 0 |
| PLS_OMSNOTIFY | Specifies the directory for the job replies.<br>Default: `data\io\omsnotify` |
| PLS_OMSDEVICENO-TIFY | Specifies the directory for the devices replies.<br>Default: `data\io\omsnotify\devices` |

location

In general, the environment variables are set in `server\login\400.sap.bat` on the Output Management System.

## 10.9 omsmessage.pl - Job Reply (Internal)

contents

This chapter contains information about `omsmessage.pl`.

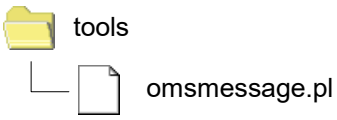
purpose

The `omsmessage.pl` script is started by `infoserver` if a job has a certain status. The `omsmessage.pl` script writes the transferred parameters into a notify file:

→ *Notify File for the Job Reply*, page 184

location

The `omsmessage.pl` script is located in the following directory on the Output Management System:




in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Usage of omsmessage.pl | 181 |
| Environment Variables for the Job Reply | 183 |
| Notify File for the Job Reply | 184 |


related topics

→ *Reply Process*, page 122

# Usage of omsmessage.pl

This is how `omsmessage.pl` is started: overview

```
omsmessage.pl
        [-h]
        [-logfile filename] [-loglevel level]
        [-jobstate jobstate]
        [-msg message] [-nastkey nast_key]
        [-oms omsentry] [-plotid plotid]
        [-plotter plotter] [-queue queue]
        [-receiver receiver]
        [-userabort Y|N]
        -PLS_HEADER_TYPE PAGE|SET_COLLATION
```

The `omsmessage.pl` script evaluates the following parameters: parameters, part 1

| Parameter | Description |
|---|---|
| -h<br>(optional) | Lists the available parameters. |
| -logfile<br>(optional) | Specifies the log file with directory path.<br>Default: `data\log\omsmessage.log` |
| -loglevel<br>(optional) | Specifies the log level.<br>Messages up to the specified type are written into the log file.<br>Value as enumeration:<br>`error` Error messages<br>`warn` Additional warnings + `error`<br>`info` Additional success messages + `warn`<br>`debug` Additional diagnostic messages + `info`<br>Default: `info` |
| `-jobstate`<br>(optional) | Contains the current job status, for example `JOB_EXECUTE`, `JOB_ERROR`.<br>You find a list of all valid job status types in `[INFOCLT_TEC]`.<br>Default: none |
| `-msg`<br>(optional) | Contains the contents of the `PLS_ERROR_TEXT` header item.<br>Default: Job status from `jobstate` |
| `-nastkey`<br>(optional) | Contains the unique NAST identification<br>It is no longer relevant.<br>Default: none |
| `-oms`<br>(optional) | Contains the contents of the `PLS_SRCAPPL` header item.<br>Default: none |

*To be continued*

# Usage of omsmessage.pl, Continuation

parameters, part 2

Continuation:

| Parameter | Description |
|---|---|
| `-plotid`<br>(optional) | Contains the internal job identification of the output job within the Output Management System.<br>Default: none |
| `-plotter`<br>(optional) | Contains the name of the output device within the Output Management System.<br>Default: none |
| `-queue`<br>(optional) | Contains the name of the output queue within the Output Management System.<br>Default: none |
| `-receiver`<br>(optional) | Contains the receiver of the output job.<br>Default: none |
| `-userabort`<br>(optional) | Indicates whether the job was aborted by the user, for example in PLOSSYS OCON.<br>Value as enumeration:<br>`Y` Terminated by the user<br>`N` No abort<br>Default: N |
| `-PLS_HEADER_TYPE` | Indicates whether the information belongs to a set collation or single job.<br>Value as enumeration:<br>`PAGE` Single job<br>`SET_COLLATION` Set collation<br>Default: none |

# Environment Variables for the Job Reply

overview

`omsmessage.pl` evaluates the following environment variables:

| Environment Variable | Description |
|---|---|
| CAD_USERFCT | Specifies the SAP function for the identification of the function to be executed.<br>Default: `/SEAL/BAS_CR_USR_RFC_FCT` |
| PLS_OMSNOTIFY | Specifies the directory for the job replies.<br>Default: `data\io\omsnotify` |

location

In general, the environment variables are set in `server\login\400.sap.bat` on the Output Management System.

# Notify File for the Job Reply

contents

The notify file for the job replies contains information about the job status for the transfer to the SAP system:

*Time*|*ReportLevel*|*OutputDevice*|*MessageType*|*SAPSystem*|*Client*|*User-name*|*Lanuage*|*RemoteMessageGroupID*|*SAPspoolID*|*Message*|PLOSSYS-JobID

example

```
20100715141734|S|Laserjet|OMS|T6A|001|KARINO||CT6APLS1DI|000000896700001|Job executed|T6A000000896700001
```

location

The location of the notify file for the job replies is specified via the following environment variable:

→ *Environment Variables for the Job Reply*, page 183

name

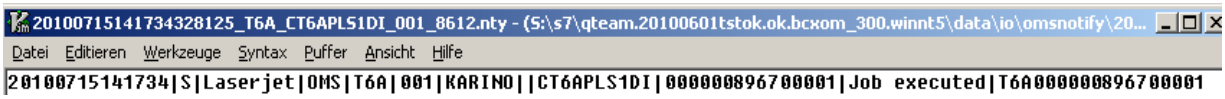
The name of the notify file for the job replies is composed by:

```
<date and time>_<SAP system>_<RMGID>_<client>_<PID>.nty
```

example

```
20100715141734328125_T6A_CT6APLS1DI_001_8612.nty
```

example




reply test for DMS Repro GUI

If the assignment in SEAL DDD or DMS Repro GUI is started, the reply can be simulated and tested with a stopped Output Management System. Therefore, the `rli2nty.pl` script in the `tools` directory on the Output Management System is available. It searches for the newest file in the `$PLSIO/rlisapgate` directory and creates items in a notify file in the `$PLSIO/omsnotify` directory corresponding to the passed parameters. Via the notify file, the `omswatcher.pl` script can perform the desired replies.

As default, the test script returns `success` for each job. This and further settings can be changed via the parameters, see also the explanation at the call:

```
rli2nty.pl -h
```

## 10.10 omsdevstate.pl - Device Reply (Internal)

contents

This chapter contains information about `omsdevstate.pl`.

purpose

The `omsdevstate.pl` script is executed by `infoserver` if the device status changes. The `omsdevstate.pl` script writes the specified parameters in a notify file:

→ *Notify File for the Device Reply*, page 188

location

The `omsdevstate.pl` script is located in the following directory on the Output Management System:


in this chapter

This chapter deals with the following topics:


| Topic | Page |
|---|---|
| Usage of omsdevstate.pl | 186 |
| Environment Variables for the Device Reply | 187 |
| Notify File for the Device Reply | 188 |


related topics

→ *Reply Process*, page 122

# Usage of omsdevstate.pl

overview

This is how `omsdevstate.pl` is started:

```
omsdevstate.pl
        [-h]
        -queue QueueName -state QueueState -cstate CombinedState
        -jobs JobsInQueue -message QueueMessage
```

parameter

The `omsdevstate.pl` script evaluates the following parameters:

| Parameter | Description |
|---|---|
| -h<br>(optional) | Lists the available parameters. |
| -cstate | Contains the physical device status, for example `idle`, `busy`.<br>Default: none |
| -jobs | Contains the number of jobs in the queue.<br>Default: none |
| -message | Contains the device messages.<br>Default: none |
| -queue | Contains the name of the PLOSSYS device queue.<br>Default: none |
| -state | Contains the device status.<br>Values as enumeration, example:<br>`active` Active<br>`stopped` Stopped<br>Default: none |

# Environment Variables for the Device Reply

overview

`omsdevstate.pl` evaluates the following environment variables:

| Environment Variable | Description |
|---|---|
| PLS_OMSDEVICENO-TIFY | Specifies the directory for the devices replies.<br>Default: `data\io\omsnotify\devices` |

location

In general, the environment variables are set in `server\login\400.sap.bat` on the Output Management System.

# Notify File for the Device Reply

contents

The notify file for the device replies contains information about the device status for the transfer to the SAP system.

*Time*|*SAP system*|*RMGID*|*DeviceName*|*Areacode*|*Classcode*|*Devstate*|*Message*

example

```
20100716105852|T6A|CT6APLS1SV|Laserjet|05|04|XX  000000 |active
```

location

The location of the notify file for the device replies is specified via the following environment variable:

→ *Environment Variables for the Device Reply*, page 187

name

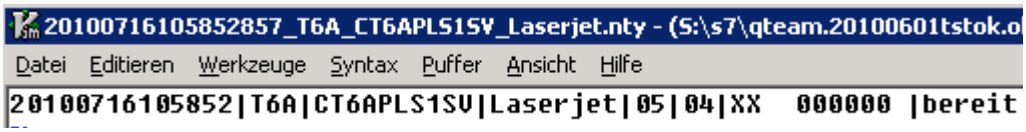
The name of the notify file for the device replies is composed by:

```
<date and time>_<SAP system>_<RMGID>_<devicename>_<PID>.nty
```

example

```
20100716105852834_T6A_CT6APLS1SV_Laserjet.nty
```

example



# 11 Changes

This chapter describes the most important changes for each released module version:

in this chapter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| Changes with Release 4.2.0 | 191 |
| Changes with Release 4.1.0 | 192 |
| Changes with Release 4.0.0 | 193 |
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| Changes with Release 3.0.0 | 200 |
| Changes with Release 2.0.0 | 201 |

# Changes with Release 4.2.2

IPP Service

In case of an internal error (`INTERNAL SERVER ERROR (0x500)`) of the IPP server during the assignment via IPP Service, `oms_server` first checks the status of the IPP server. The job is only repeated if the status of the IPP server is not equal to `IDLE` in order to avoid duplicate jobs. If the job is to be repeated immediately instead of the device query in case of an internal error `INTERNAL SERVER ERROR (0x500)`, `IPP_DEVICE_QUERY` must be set to `N` (`oms_server.cfg`, `[OMS_SERVER_PARAMETERS]` section, `IPP_DEVICE_QUERY`, default: `Y`).

stop file

The `oms_server -stop` call creates the `oms_server.stop` stop file in the `data\sysstop` directory. As soon as the stop file exists, the running oms_server process deletes it and terminates. Previously, when `oms_server -stop` was performed, the lock file was deleted and `oms_server` was stopped. To avoid accidental stopping due to file access problems, the absence of the lock file was checked repeatedly until `oms_server` was terminated after 10 seconds. `oms_server` writes `[R]` messages for all lock file and stop file actions to the log file.

# Changes with Release 4.2.0

| | |
|---|---|
| OMS server is available for PowerPC (PPC). | PowerPC (PPC) |
| TSL 1.3 is support at the transfer via IPP Service. | IPP Service - TLS 1.3 |

# Changes with Release 4.1.0

zLinux — OMS-Server is available for zLinux (IBM/s390x).

# Changes with Release 4.0.0

reconfiguration in SAP

Changes in the SAP configuration are automatically transferred to the output management system. In addition, a time-controlled re-transfer to the output management can be activated, which evaluates the time interval set for the real OMS with `Reconfiguration Request` (`omswatcher.cfg`, section `[OMSWATCHER]`, `AUTO_RECONFIG`, default: `N`). By default, it is not necessary to activate a time-controlled re-transfer of the SAP configuration.

reply

As of Core/DM/RM Basis 1.3.6, replies for message control are generated directly from the job replies. The explicit reply for message control via JSAPcli has been removed from `omsmessage.pl`/`omswatcher.pl`.

# Changes with Release 3.3.2

installation via rpm under Linux

An rpm installation package (systemd configuration) is available for SAP systems under Linux. This contains the necessary files and creates the `oms_server` service, which is started when the Linux server is started and automatically restarted in case of problems.

number: of pages

The assignment with `oms_submit` supports the number of pages of the document (`SAP_OMS_S_PAGES`) with the additional parameter `'&c'`.

# Changes with Release 3.3.0

reply - SAP system

By default, the reply is sent to the SAP system that is in the output job. Alternatively, it can be specified that the SAP system is used that is defined as the target for callback under `SAP Configuration` at Logical OMS (LOMS) on the SAP system (`omswatcher.cfg`, section `[OMSWATCHER]`, `USE_CALLBACKTARGET`, default: `N`).

## Changes with Release 3.1.1

| | |
|---|---|
| performance | The assignment of the output management system via IPP service uses parallel threads - one separate thread per job - instead of starting a second process to increase performance. It also prevents a blocking system from causing a delay in output to other output management systems. To ensure output in the correct order, only one transfer is allowed per server/output device combination. |
| repetition in the error case | By using parallel threads it is no longer necessary to start a second process for retry in case of error (log file: `oms_server_retry.log`). |

# Changes with Release 3.1.0

| | |
|---|---|
| In the `oms_submit.cfg` configuration file, `[OMS_SUBMIT]` section, the maximum size of the log file can be defined with `LOGSIZE` as an alternative to the `-logsize` call parameter and the log level with `LOGLEVEL` as an alternative to the `-loglevel` call parameter in order to reduce the number of characters when calling. | oms_submit.cfg |
| OMS Interface for SAP (BC-XOM) is available for SAP S/4HANA. | SAP S/4HANA |

# Changes with Release 3.0.2

ADS forms

The output of ADS forms (Adobe Document Services, Adobe Interactive Forms) is supported.

file format

With `CHECK_FORMAT Y` (`oms_submit.cfg`: `[OMS_SUBMIT]`) the `SAP_OMS_FILE_FORMAT=OTF` item is written into the header for SAP lists and OTF files in order to optimize the further processing.

IPP Service

The assignment of PLOSSYS netdome from SAP can be executed via IPP Service in addition to kNet: IPP (unencrypted) and HTTPS (IPP encrypted, IPP-SSL).

load balancing

Load balancing is supported also in the context of IPP Service (`oms_server.cfg`, `[OMS_SERVER_PARAMETERS]` section, `LB_ROUND_ROBIN`, default: `Y`). For the output in the correct order of jobs of one user to one output device, a server can be reserved for this output device (`oms_server.cfg`, `[OMS_SERVER_PARAMETERS]` section, `QUEUE_EXCLUSIVE_TO_SERVER_TIME`, default: `10` seconds).

configuration - network connection

In order to avoid problems with network connections after long transfer pauses, the connection is closed and reestablished time-controlled (`oms_server.cfg`: `KNET_DISCONNECT_AFTER_IDLE_MINUTES` and `KNET_DISCONNECT_AFTER_TOTAL_HOURS`).

RFC functionality

The `oms_server` delivered as default does not requires a SAP RFC Shared Library any longer. This variant does not support the reply of the assignment to the SAP system. If replies of the assignment are required (`omsserver.cfg`: `SAPNOTIFY > 0`) the alternative binary `oms_server_rfccm` has to be started, which still needs the following library: `librfc32.dll` (Windows)/`librfccm.so` (UNIX/Linux).

repetition in the error case

The following changes affect the repetition in case of error:

- A second process performs the repetition in error case at the transfer via `oms_server` (log file: `oms_server_retry.log`). This unloads the first process and increases the performance for jobs with successful assignment.
- The maximum number (`MAX_RETRIES`, default: `10`) and maximum time (`MAX_RETRY_TIME`, default: `48` h) can be specified in `oms_server.cfg`, `[OMS_SERVER_PARAMETERS]` section, after which the repetition of erroneous jobs is canceled. As soon as `MAX_RETRIES` or `MAX_RETRY_TIME` is reached, the job is terminated with an error.

# Changes with Release 3.0.1

reply

The output of missing sheets is replied to SAP as error by default (until now: default: success). The behavior can be changed via `-errorwhenmissing=N` at the definition of the OMS calls in `plossys.cfg` in order to reply missing sheets as warning instead of error.

# Changes with Release 3.0.0

functionality

The following functionality is supported additionally:

- Device reply to SAP
- Reconfiguration Possibility in SAP
- OMS status query and start of OMSWatcher in SAP
- Deletion of jobs from SAP

configuration

Configuration settings are saved in the database.

reply

- JSAPcli replaces omscli.
- The `SXMI_XOM_JOBS_CALLBACK` SAP standard function for the reply can be replaced via an environment variable with the same name by a different function.

repetition in the error case

The number of retries of kNet to repeat the connection establishment after the network timeout in case of an erroneous connection before kNet terminates with an error can be specified for the transfer via `oms_server` and the assignment via kNet (`oms_server.cfg`, `[OMS_SERVER_PARAMETERS]` section, `MAX_CONNECT_RETRY`, default: `2`)

# Changes with Release 2.0.0

reliability

Reliability can be specified in the case of the transfer via `oms_server`. If the main output management system is not accessible the job is transferred to an alternative output management system.

load balancing

Load balancing can be specified in the case of the transfer via `oms_server`. The job is transferred to the external output management system with the lowest load, determined via `jobcount.dat`.

reply via Infoserver

The reply of the output status that previously was implemented by `libplotter.pl`, is executed via `infoserver` and `omsmessage.pl`.

SAP data as header items

All available SAP data is written into the header starting with SAP_OMS to provided the data for the external output management system.

transfer option

The transfer via the `oms_submit.cmd|.bat` script has been replaced by the transfer via the `oms_submit` program.

The transfer via `oms_server` is provided as additional option.

repetition in the error case

If the assignment fails the transfer is repeated until it succeeds when transferring via `oms_server`.

# Bibliography


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[NETDOME_TEC] *PLOSSYS netdome*, System Description, SEAL Systems

[[NETDOME_USR] *PLOSSYS netdome*, User Manual, SEAL Systems

[ODM] *Output Device Monitor*, System Description, SEAL Systems

[SAP_AUTH_TEC] *SAP Authorizations for SEAL Systems Applications*, System Description, SEAL Systems

[SAP_BASECONF_HTTPS_TEC] *SAP Basis Configuration - KPRO with HTTPS/SSL*, System Description, SEAL Systems

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[SEALSERV_TEC] *SEALService*, System Description, SEAL Systems

# Terminology

The following section explains the most important terms that are used in this documentation. Terms identified by → refer to other terms in this section.

| | |
|---|---|
| Output job | Comprises all data required for output as a logical unit. This include the →documents, the originals assigned to the documents, the →receivers, and the →output parameters. |
| Output manager | System for output documents |
| Output parameter | Parameters that control the way in which a →output job will be output; output parameters are specified for the →document, the →receiver, or to the →output job. |
| Customizing | Configuring the SAP system |
| Document | A master record in the SAP system containing management data for a document and original files |
| Document information record | Each document in →DMS is assigned a key for identification purposes, consisting of four partial keys: type, number, part and version. |
| Document management system | Here, the →document information records and their assigned files are managed. |
| Receiver | The individual or location to which the original files of a →document will be output. |
| Client | A unit within an SAP system that is independent with regard to action, organization, and data functions. It also has separate master records in a table within the SAP system |
| Transaction | Means of executing programs |
| Transaction code | Identifier naming a →transaction in the SAP system |
| Transport | Exporting/importing data between SAP systems |

# Abbreviations

| | |
|---|---|
| ABAP | Advanced Business Application Programming (SAP system programming language) |
| ASCII | American Standard Code for Information Interchange |
| BAPI | Business Application Programming Interface |
| DMS | Document Management System |
| GUI | Graphical User Interface |
| IP | Internet Protocol |
| kNet | Communications software by SEAL Systems on the base of TCP/IP |
| KPRO | Knowledge Provider |
| OSS | Online Support Service |
| PDF | Adobe Portable Document Format |
| PLOSSYS® | Product family from SEAL Systems |
| RFC | Remote Function Call |
| TCP | Transmission Control Protocol |

# Keywords


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