



## **SAP NetWeaver Configuration Guide**

# **SNMP Print Job Status Feedback User Guide**

**Valid for SAP NW 7.0 EhP 1 and higher**

**Document Version 5  
January 19<sup>th</sup>, 2015**

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# Print Job Status Feedback User Guide

## Purpose

This document provides an overview of the feature “Status Feedback for Print Jobs using the SNMP protocol (*Simple Network Management Protocol*)” which is supported with SAP NetWeaver 7.0 Enhancement Package 1 (EhP1) and higher.

## Target Audience

This document is intended for both system administrators and for application users. Sections [Enable Job Status Feedback in SPAD](#) and [Changes in the SAP Configuration](#) outline information which is only relevant for system administrators. The remaining sections are intended for both target groups.

## Glossary

Print Job Status Feedback	This feature enables SAP end users to check the status of their print jobs ('output requests' in SP01) submitted from the SAP system to the printer.
Output device	For all actions to be done in transaction SPAD this document uses the term 'output device' instead of 'printer'. In general this term is a superordinate term for any machine used to represent information from a computer, including display screens, printers, fax machines, and archiving devices in the SAP system.
Output request	For all actions referring to transaction SP01 this document uses the term 'output request' instead of 'print job'. In general this term is superordinate term for any data record created by the SAP System each time a spool request is printed. An output request contains information about the utilized output device and the status of the request.
Printer	In transaction SPAD the superordinate term output device is used for printer.
Print job	In this documentation output request is used as a synonym of print job.
SNMP	Simple Network Management Protocol. Check <a href="http://ietf.org/">http://ietf.org/</a> for details on SNMP.
SPAD	Spool Administration transaction
SP01	Output Controller transaction

## Requirements

Print Job Status Feedback is only possible for network printers because the status of a print job is monitored via SNMP protocol directly from the printer.

1. The physical printer must be a network printer which supports SNMP
2. Access Method must be C, L, U or S
3. SAP device type which is especially created for this printer model must be used. This device type must support Print Job Status Feedback via SNMP. Check the "Print Job Status Feedback Development Guide" for more information.
4. The network address (IP address or network name) must be made public to the SAP spooler (i.e. the SAP system).

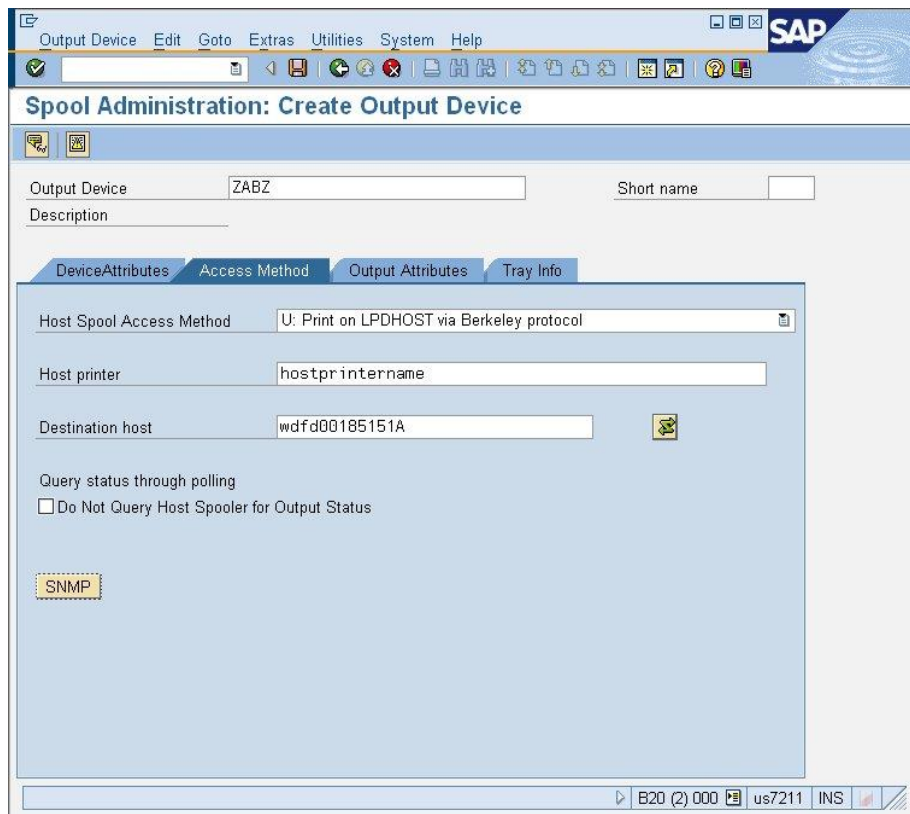
Refer to SAP Note [1134251](#) for required support package and kernel patch levels.

## Enable Print Job Status Feedback in SPAD

Once a physical network printer which supports SNMP is available, you must create a device definition for this printer model (i.e. output device) in transaction SPAD. This device definition requires additional information for enabling Print Job Status Feedback via SNMP. The following section describes how to enter the additional information for SNMP. For general description of creating and managing output devices in SAP systems, see *Help → Application Help* in the SAPGUI menu of transaction SPAD.

Open transaction SPAD and create the new output device. When you select one of the supported access methods an additional button *SNMP* becomes available (see **Fig.1**).

**Fig.1**



Select this button. A subscreen with additional entry fields will be opened. Enter the SNMP relevant parameters as described below. Those values will be required later to gain access to the output device (see [Fig. 2](#)).

**Fig. 2**

The screenshot shows the 'Spool Administration: Create Output Device' dialog box in SAP. The 'Output Device' field contains 'ZABZ'. The 'Host Spool Access Method' is set to 'U: Print on LPDHOST via Berkeley protocol'. The 'Host printer' is 'hostprintername' and the 'Destination host' is 'wdfd00185151A'. The 'SNMP' section is expanded, showing 'IP-Adresse/Hostname' as '10.18.208.53', 'Community Name' as 'public', 'Version' as '1', and 'Device Index' as '1'. The 'Do Not Query Host Spooler for Output Status' checkbox is unchecked.

## Information for SNMP

### **IP address/Hostname**

TCP/IP network address under which the physical printer can be accessed.

In most cases this the only information you have to provide. In this field enter the IP address of your network printer as shown in [Fig. 2](#) or the network alias name of your network printer. This will be the network address to which SNMP queries from the SAP spooler will be sent.



Make sure that this is the actual IP address of the physical printer in the network. The IP address in this field must point to the physical device connected to the network even if you access the printer from SAP via a print server. The name of the print server is entered in the *Destination host* field.

**A print server will not reply to SNMP calls intended for a printer and thus Print Job Status Feedback would fail.** This explains why SAP cannot automatically use the name of the Destination host field as the target address of the printer for sending SNMP queries.

You can enter an IP address not only for output devices with access method **U** but also for access method **S**, **L** and **C**. This is useful if the physical printer that will receive printouts from SAP via the various connection methods is a network printer supporting SNMP and you can access it directly via the network.



SNMP uses the **UDP protocol** and different network ports than printing via access method U (which uses TCP/IP port 515 by default). This is important for system administrators connecting network printers behind a firewall to the SAP system. If you want to enable SNMP, you must enable UDP protocol and the necessary network ports.

**Community Name**

Password which is needed for an SNMP query. The default value is 'public', and it should not be changed in the majority of the cases. However, it might occur that for a certain printer the community name has been changed and the SNMP query fails. In this case, you must enter the correct community name for the printer here.

**Version**

The SNMP version which is used has default value 1. Do not change this value.

**Device Index**

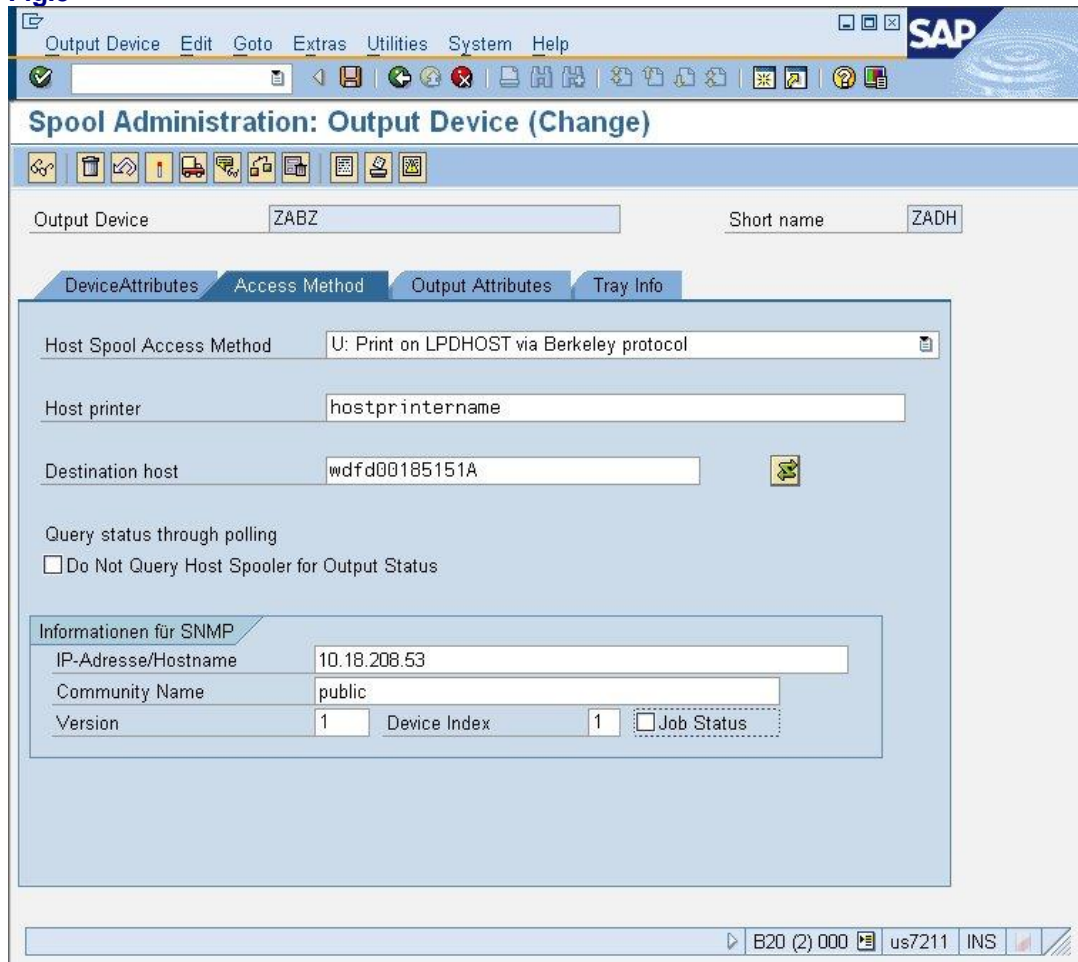
Value used for addressing or distinguishing several "virtual" SNMP devices within one physical device. For a printer it should be set to 1.

**Checkbox Job Status**

This checkbox (see **Fig. 3**) will be displayed when the output device is saved, the device type you have selected for the output device supports Print Job Status Feedback, and the SAP system is on a release that supports Print Job Status Feedback.

For new output devices the box is unchecked by default. If you want to enable Print Job Status Feedback via SNMP for this output device, switch it on and save the changes.

**Fig.3**

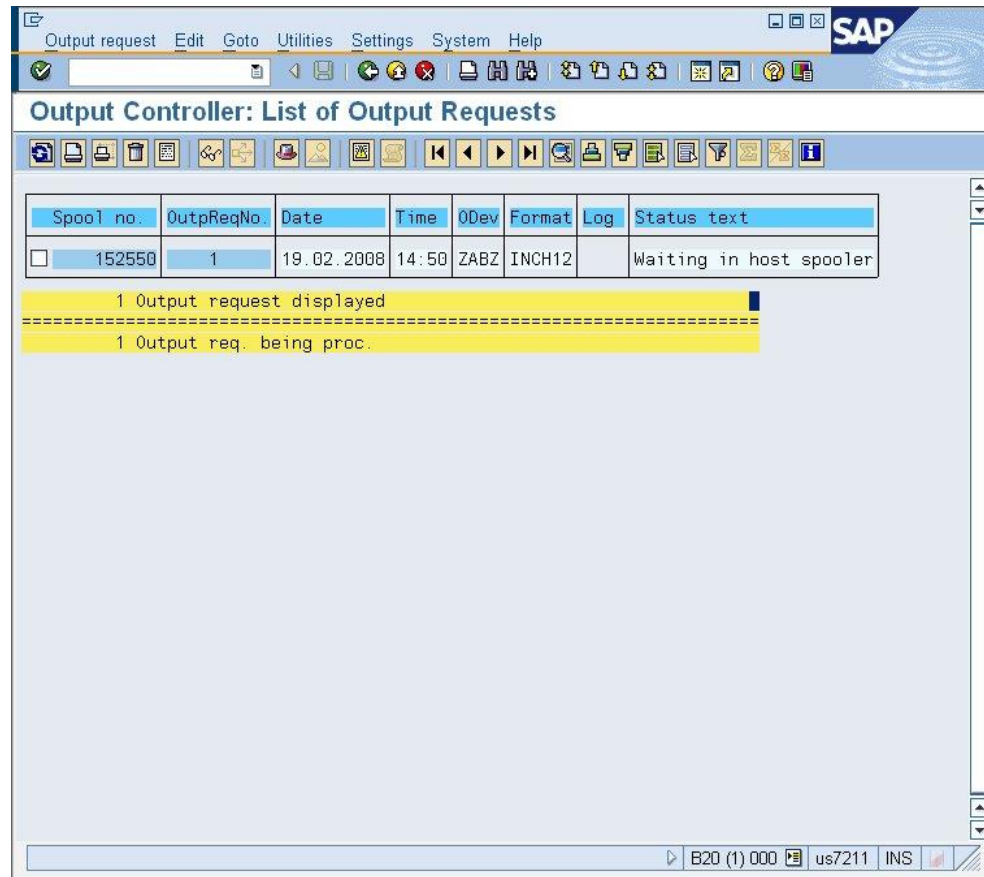


## Print Job Status Feedback in Output Controller

An output request for an ABAP list, a SAPscript or a Smart Form has been sent to the printer. To check the status of the output request, open transaction SP01. Note that 'output request' and '(print) job' are synonyms.

In Fig. 4 you see the message "Waiting in host spooler". This is the initial status of an output request.

Fig. 4

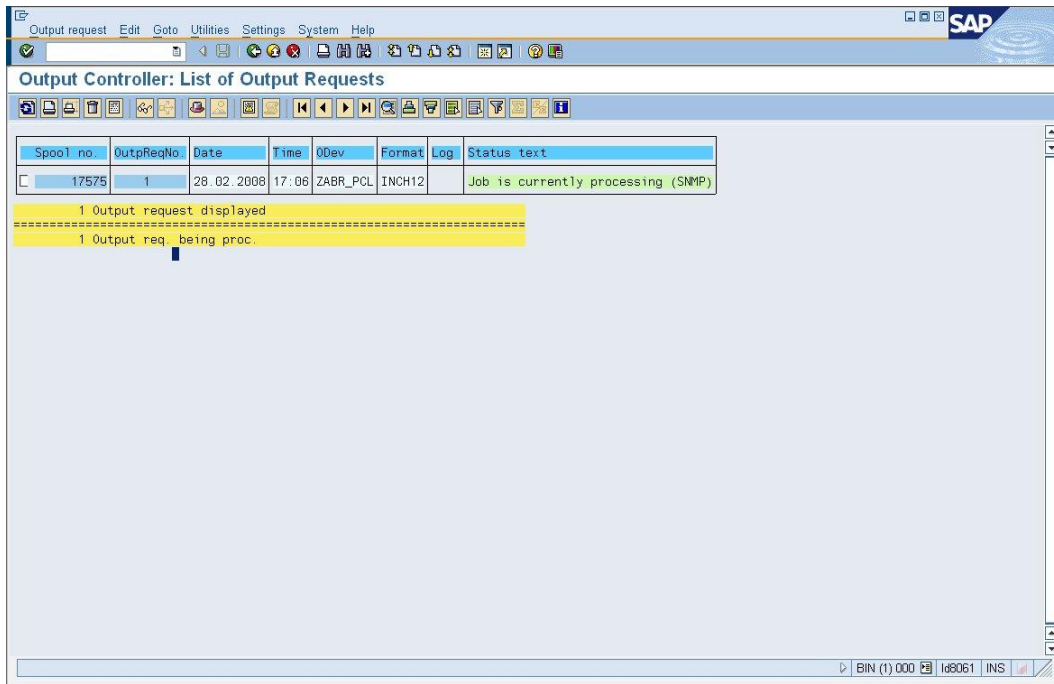


This status is displayed as long as the SAP spool database has not yet been updated with the result of an SNMP query. If you refresh the status display, you should see a different status text after a couple of seconds.

Fig. 5 shows message "Job is currently processing". This means that the SNMP query has found the job you sent to the printer to be processing (i.e. printing) in the printer.

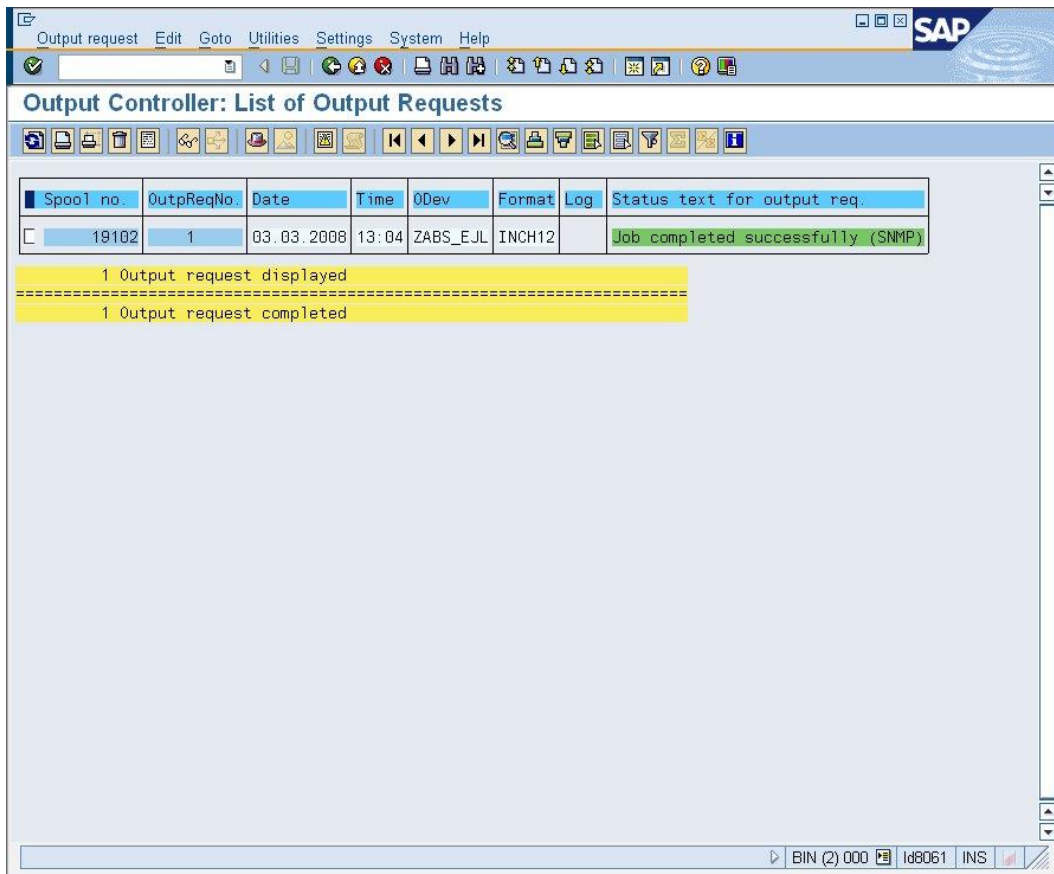


Fig. 5



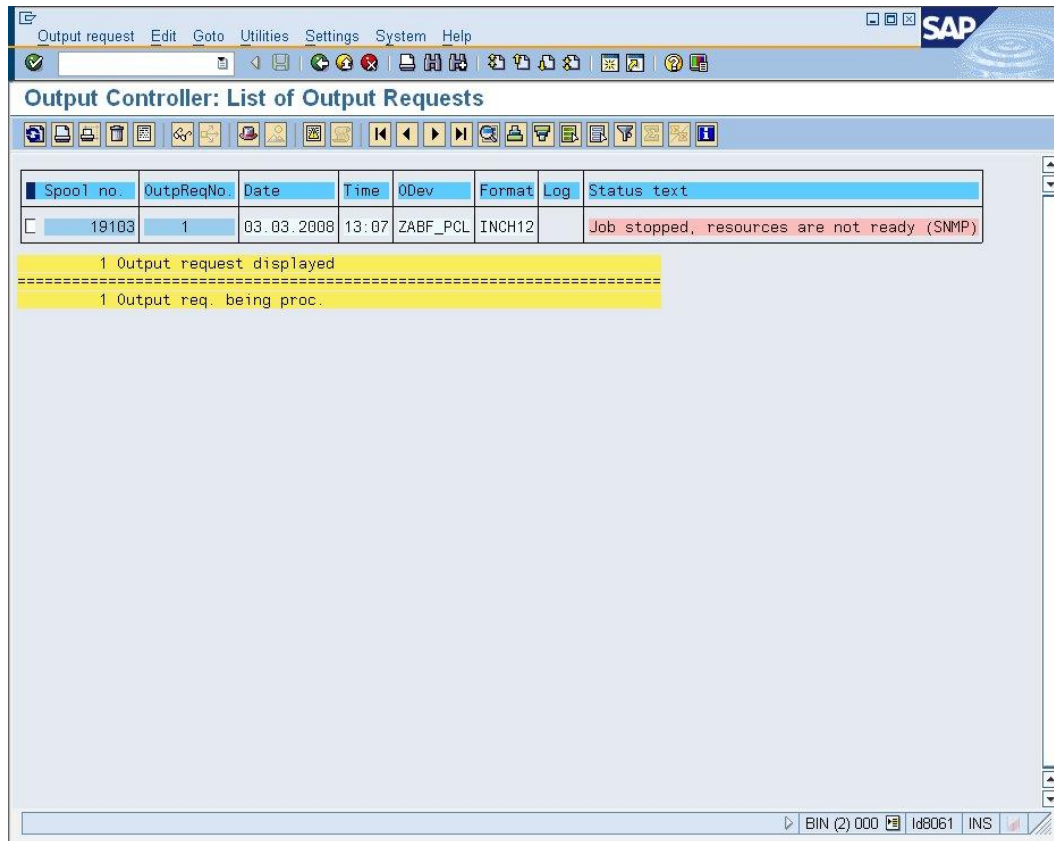
When an output request has been processed completely, the following message will be displayed:

Fig. 6



If an output request has stopped processing due to missing paper for example, the following message will be displayed (see Fig. 7):

Fig. 7



## Overview of Print Job Status Feedback (SNMP) messages

#	Message	Explanation
1	Job completed successfully (SNMP)	Job completely printed without errors or warnings
2	Job completed with warnings (SNMP)	Job completely printed with warnings (it is vendor-specific what is considered a warning)
3	Job completed with errors (SNMP)	Job completely printed, errors occurred (it is vendor-specific what is considered an error)
4	Job was completed (SNMP)	Job completely printed
5	Job was aborted (SNMP)	Job was aborted
6	Job was cancelled (SNMP)	Job was cancelled
7	Job was cancelled at device (SNMP)	Job was cancelled at printer (e.g. with cancel)

		button on front panel)
8	Job was not found in printer (SNMP)	Printer has no information about this job: either the job has not (yet) arrived at the printer or the printer has already deleted the Print Job Status Feedback Read section <a href="#">Changes in SAP System Configuration</a> for details.
9	Job stored in printer for later printout (SNMP)	Some printers can store jobs which are only printed e.g. when a user types in a password
10	Job possibly printed (final state unknown, SNMP)	The job was found to be processing in the printer previously but during the last SNMP query no Print Job Status Feedback was found. Read section <a href="#">Changes in SAP System Configuration</a> for details.
11	Job processing has temporarily stopped (SNMP)	The printer has put the job on hold (no details are known)
12	Job is currently printing (SNMP)	The job is printing
13	Job is currently processing (SNMP)	The job is being processed
14	Job is currently interpreting (SNMP)	The job is being interpreted by the printer
15	Job is pending to be printed (SNMP)	The job has arrived at the printer but processing has not yet started
16	Job stopped, resources are not ready (SNMP)	The job is put on hold because resources (e.g. paper, toner, ink) are not available
17	Job put on hold, device has stopped (SNMP)	The job is put on hold because the printer has stopped processing
18	Printer feedback not available: SNMP failure	Print Job Status Feedback was disabled for this printer because an error occurred during the SNMP query. For performance reasons, future jobs for this printer will be processed normally without status feedback.
19	Job state is unknown (Job not found, SNMP)	The job was not found in

		the printer (and was also not found to be present previously)
20	Job put on hold, device has stopped partly (SNMP)	The job is put on hold because the printer has partly stopped processing
21	Job put on hold while pending (SNMP)	The job has been put on hold by the printer before it started processing
22	Printer feedback not available: SNMP network timeout	The SNMP network call failed with TIMEOUT
23	Printer feedback not available: SNMP program missing	The ABAP program required for job status-feedback processing is not present. This indicates that the chosen device type requires a SAP software update to support Print Job Status Feedback. Please check with the supplier of the device type.
24	Printer feedback not available: internal SNMP error	Error in SNMP library
25	Printer feedback not available: SNMP-incompatible printer	The printer responded in an unexpected manner to an SNMP query from SAP. This typically indicates that the connected printer is not compatible with the selected device type in SPAD.

If messages **8** “Job was not found in Printer” and **10** “Possibly printed (final state unknown)” occur, a change in SAP system configuration may be necessary.

## Changes in SAP System Configuration

SNMP job status query operation takes place when the SAP spooler (i.e. the SPO work process) performs the Host Spool Query operation. This is a periodic action performed every 60 seconds by exactly one SPO process on an application server in order to query the job queue of host spoolers (i.e. local Unix or Windows spooler, remote network spooler or SAPSprint).

This action can be delayed due to other actions the SPO work processes perform, for example processing output requests. As some printer models automatically delete job status information 60 seconds after a job is completed, it is possible that job status information is no longer available when the SNMP job status query arrives from the SAP system.

If you experience this problem (e.g. output requests for SNMP-enabled printers are not reported as “Finished” in SP01 even though the job was correctly printed), configure additional SPO work processes on the server serving the printer.

Profile parameter **rdisp/wp\_no\_spo** controls the number of SPO processes and should be increased in that situation.

Note:

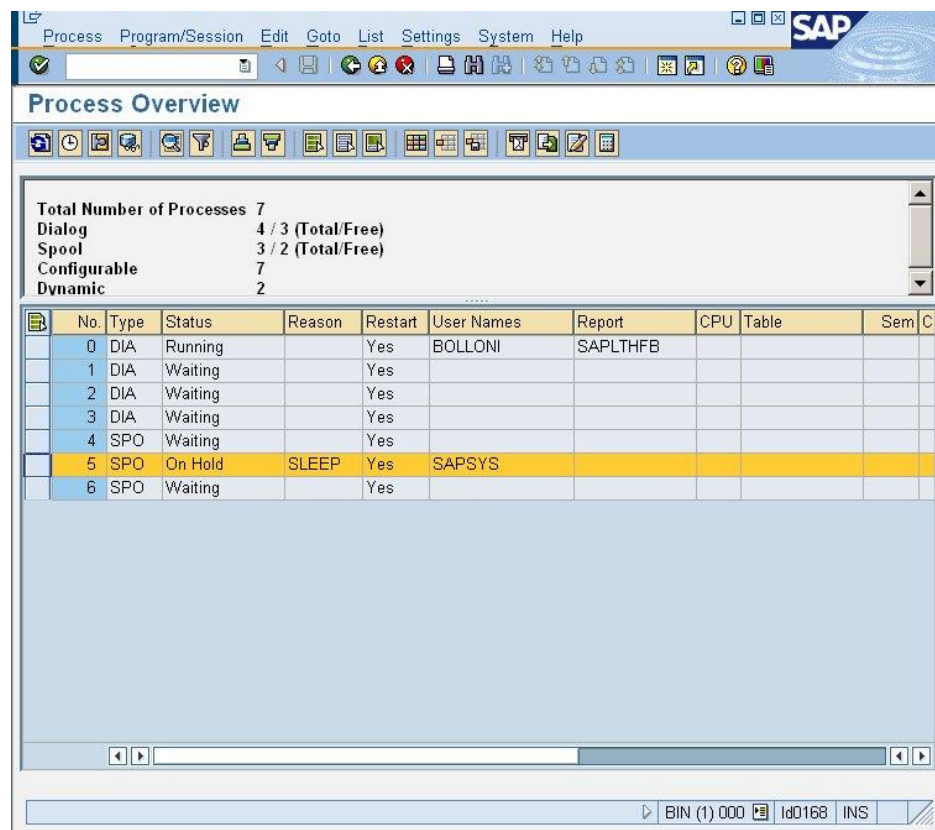
Profile parameter **rdisp/wp\_no\_spo\_Snm\_max** mentioned in a former version of this document had to be disabled/removed from SAP kernel with release 7.21/7.41 and higher. The former functionality of reserving one SPO process exclusively for SNMP queries is not supported any longer because it is not compatible with current work process architecture.

### Restriction for SAP NW 7.0 EhP1:

After the system has been restarted and the first output request with SNMP Job Status has been processed, one of the three configured SPO processes will continuously be displayed as “busy” in transaction SM50 and SM51. This is the newly configured SPO process reserved for Print Job Status Feedback.

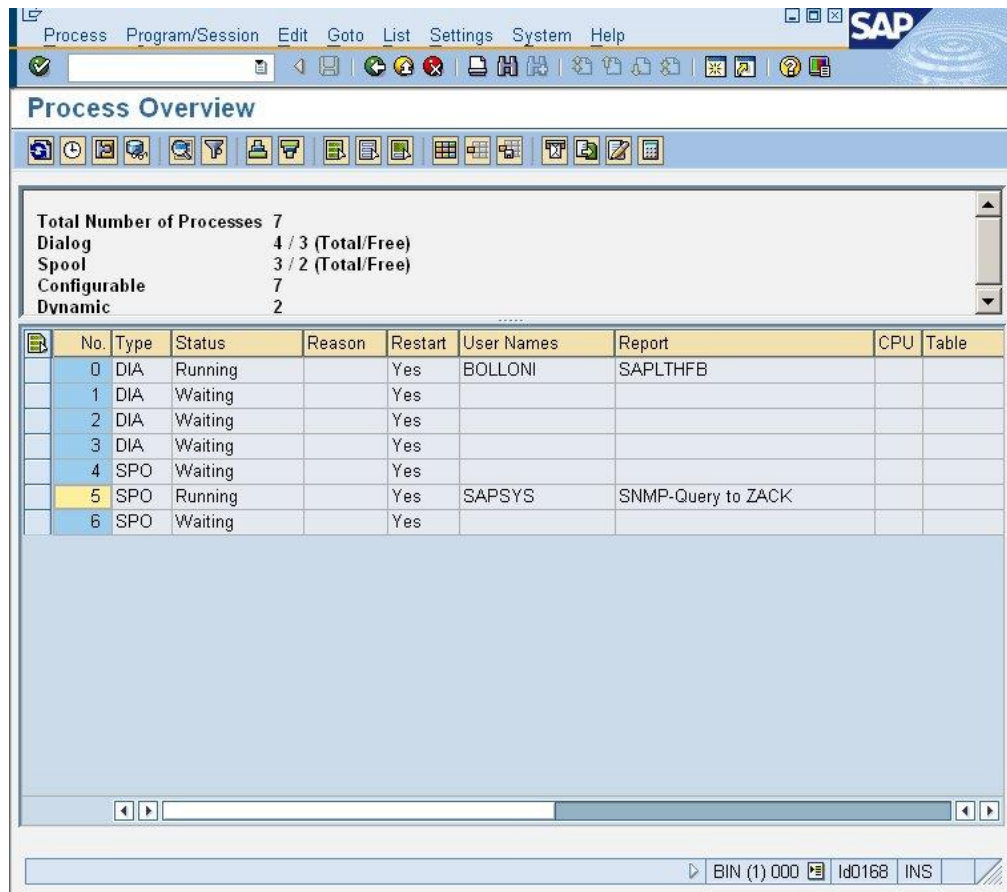
This SNMP-SPO process is **not** busy (i.e. consuming CPU time) all the time but continuously **pausing** (without consuming CPU) when no printers are to be queried via SNMP. With release 7.11, this will be fixed and the SM50/SM51 display of a SPO process performing SNMP queries for Print Job Status Feedback will be as shown in Fig. 8:

Fig. 8



When the SNMP-SPO process is not pausing but actually performing SNMP queries, it will be in SM50/SM51 as shown in Fig. 9 (this applies to all NetWeaver releases):

Fig. 9



Note that the name shown in SM50 is the internal, four-character name of a printer.

## Restrictions on Document Types

Not all types of documents generated and printed by the SAP system support Print Job Status Feedback. The following table lists typical document types and whether or not Print Job Status Feedback is supported:

Document Type	Print Job Status Feedback Support
ABAP List	✓
ALV List	✓
SAPscript Form	✓
Smart Form	✓
SAP Interactive Forms by Adobe	✗
SAPscript RDI Format	✗
Smart Forms XSF Format	✗