

FUJITSU Software

BS2000 OSD/BC V10.0

Commands

Volume 5: OPEN-VARIABLE-CONTAINER – SHOW-DSSM-INFORMATION

Valid for

SDF V4.7D

SDF-P-BASYS V2.5E

ASE V1.0B

BLSSERV V2.8A

CONV2PDF V1.0B

DSSM V4.3B

IMON-GPN V3.3A

JV V15.1A

POSIX-BC V10.0A

RFA V19.0A

RSO V3.6A

SECOS V5.4A

SPACEPRO V1.0A

SPOOL V4.9A

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OPEN-VARIABLE-CONTAINER

Open variable container

Description status:	SDF-P-BASYS V2.5E
Functional area:	Procedures
Domain:	PROCEDURE
Privileges:	STD-PROCESSING OPERATING HARDWARE-MAINTENANCE SECURITY-ADMINISTRATION SAT-FILE-MANAGEMENT SAT-FILE-EVALUATION

Function

The OPEN-VARIABLE-CONTAINER command is used to open variable containers, which are stored as PLAM library elements. If such a variable container or element does not yet exist when the command is called, it is automatically created.

This makes it possible to create S variables which are permanently available, i.e. S variables whose existence is not dependent on the current task.

Restrictions

If the chargeable SDF-P subsystem is not available, the following restrictions apply:

- The scope can be defined with SCOPE=*CURRENT only.
- If AUTOMATIC-DECLARE=*ALL is specified, only simple S variables can be declared (TYPE=*ANY and MULTIPLE-ELEMENTS=*NO). All other declarations are rejected.

Format

```

OPEN-VARIABLE-CONTAINER

CONTAINER-NAME = <composed-name 1..64>
,FROM-FILE = *LIBRARY-ELEMENT (...)
  *LIBRARY-ELEMENT(...)
    |
    |   LIBRARY = <filename 1..54 without-vers>
    |   ,ELEMENT = *CONTAINER-NAME / <composed-name 1..64>(…)
    |               <composed-name 1..64>(…)
    |               |
    |               |   VERSION = *HIGHEST-EXISTING / <composed-name 1..24>
    |
,LOCK-ELEMENT = *NO / *YES
,SCOPE = *CURRENT / *PROCEDURE / *TASK(…)
  *TASK(…)
    |
    |   SAVE-AT-TERMINATION = *NO / *YES
,AUTOMATIC-DECLARE = *ALL / *NONE / <structured-name 1..20 with-wild(40)> /
                    list-poss(2000): <structured-name 1..20>

```

Operands

CONTAINER-NAME = <composed-name 1..64>

Name of the variable container.

FROM-FILE = *LIBRARY-ELEMENT(…)

The library element which contains the variable container.

The element type is SYSVCONT.

LIBRARY = <filename 1..54 without-vers>

Name of the PLAM library.

ELEMENT =

Name of the element.

ELEMENT = *CONTAINER-NAME

The name of the element is identical with that of the variable container.

ELEMENT = <composed-name 1..64>(…)

The name of the element may differ from that of the variable container.

VERSION =

Designates the version of the element.

VERSION = *HIGHEST-EXISTING

Selects the highest existing version.

VERSION = <composed-name1..24>

Selects the specified version.

LOCK-ELEMENT =

Specifies whether the element is locked or not.

LOCK-ELEMENT = *NO

The element is opened in input mode. The container variables are copied into the variable container from this element. The element is then locked.

LOCK-ELEMENT = *YES

The element is opened in input and output mode. The container variables are copied from this element into the variable container. The element then remains open until the CLOSE-VARIABLE-CONTAINER command is issued. Any subsequent OPEN-VARIABLE-CONTAINER command which is issued in the same task or another task is rejected.

SCOPE = *CURRENT / *PROCEDURE / *TASK(...)

Defines the scope of the variable container. This controls access to the variables held in the variable container.

The scope of the container variable must not be greater than that of the variable container.

SCOPE = *CURRENT

The scope of the variable container is procedure-local (for further details see “Scope of variables” in the “SDF-P” manual [34]).

The variable container can only be used in the local procedure and in any lower-level include procedures, but not in the calling procedure. The container is implicitly closed at the end of the current procedure.



The operand values *PROCEDURE and *TASK(...) can only be specified if the chargeable SDF-P subsystem is loaded. The operand values are described in full in the “SDF-P” manual [34].

AUTOMATIC-DECLARE =

Specifies whether the container variables are to be automatically declared.

AUTOMATIC-DECLARE = *ALL

The container variables are automatically declared, with the scope of the variable container.

AUTOMATIC-DECLARE = *NONE

Container variables are not automatically declared.

AUTOMATIC-DECLARE = list-poss(2000): <structured-name 1..20>

The specified container variables are automatically declared with the scope of the variable container.

AUTOMATIC-DECLARE = <structured-name 1..20 with-wild(40)>

The container variables whose names match the specified pattern string are automatically declared with the scope of the variable container.

Notes

- Variables in a variable container can be created by means of the CONTAINER operand in the DECLARE-VARIABLE command.
- A reference to a variable container is not allowed until it has been created using OPEN-VARIABLE-CONTAINER.
- If variables are automatically created (using OPEN-VARIABLE-CONTAINER) and the variables already exist with different attributes, the declaration is rejected and error message SDP1018 is returned as a warning. Notwithstanding this, the opening process continues.
The user can interrogate the rejected variables by means of the S variable stream SYMSG.
- If the variable container includes any variables that cannot be processed using SDF-P-BASYS, any declaration of such variables by means of AUTOMATIC-DECLARE will be rejected.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	SDP00xx	Warning: Variable does not exist or is already declared with other attributes. Guaranteed messages: SDP1008, SDP1018
	1	CMD0202	Syntax error
	3	CMD2203	Incorrect syntax file
	32	CMD0221	System error (internal error)
	64	CMD0216	Do not have required privilege
	64	SDP0091	Semantic error
	130	SDP0099	No more address space available

Example

See the DECLARE-VARIABLE command.

OPEN-VIRTUAL-DEVICE-DIALOG

Open dialog with virtual printer

Description status:	SPOOL V4.9A
Functional area:	Controlling spoolout job
Domain:	SPOOL-PRINT-SERVICES
Privileges:	STD-PROCESSING PRINT-SERVICE-ADMINISTRATION

Function

The OPEN-VIRTUAL-DEVICE-DIALOG command initializes the dialog between a virtual device and the user application procedure in which the call takes place. It is executed in batch mode only.

The command is part of a set of four commands which enable an application to be created in the form of an S procedure (see [“Sample application procedure” on page 5-8](#)). These commands manage the dialog between a virtual device and the application which was started in batch mode as an S procedure:

- OPEN-VIRTUAL-DEVICE-DIALOG
- GET-JOB-FROM-VIRTUAL-DEVICE
- RETURN-JOB-TO-VIRTUAL-DEVICE
- CLOSE-VIRTUAL-DEVICE-DIALOG

Format

OPEN-VIRTUAL-DEVICE-DIALOG

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error; command successfully processed
	32	SCP0974	Unexpected command
5	32	SCP0974	Memory request error

Notes

1. This dialog with the virtual device need be initialized only once, at the beginning of the procedure.
2. If the dialog cannot be initialized, the command is rejected and a return code is set.
3. If initialization has already taken place, the command is rejected and a return code is set.
4. This command can only be used in batch mode.
5. Spin-off processing is activated each time an error is detected.

Sample application procedure

```

/SET-PROC-OPTIONS DATA-ESCAPE-CHAR=*STD, LOGGING-ALLOWED=*YES
/ " ***** "
/ " * PARAMETERS DECLARATION * "
/ " ***** "
/BEGIN-PARAMETER-DECLARATION
/END-PARAMETER-DECLARATION
/ " ***** "
/ " * END PARAMETERS DECLARATION * "
/ " ***** "
/MODIFY-PROC-TEST-OPTIONS LOGGING=*PARAMETERS(CMD=*YES,DATA=*YES)
/MODIFY-JOB-OPTIONS LOGGING=*PARAMETERS(LISTING=*YES,-
/                                     HARDCOPY=*YES)
/MOD-TERMINAL-OPTION OVERFLOW-CONTROL=NO-CONTROL
/STEP
/DECL-VAR VAR-NA=JOB-ID, TYP=*STRING, SCOPE=*TASK
/DECL-VAR TSN, TYP=*STRING
/DECL-VAR ACTION(TYP=*STRING, INIT-VAL='*INIT')
/DECL-VAR CONDITION, TYP=*BOOLEAN
/DECL-VAR ERROR-LIST(INIT='(0,0,CMD0001)', TYP=*STRING)
/STEP
/OPEN-VIRTUAL-DEVICE-DIALOG
/ IF-CMD-ERROR
/ END-IF
/STEP
/WHILE CONDITION=(ACTION<>'*LAST')
/STEP
/GET-JOB-FROM-VIRTUAL-DEVICE FILE-PREFIX=*NONE, -
/                                     METADAT-PREFIX=*NONE, -
/                                     OUTPUT-DOC-ID=JOB-ID
/ IF-CMD-ERROR
/     ERROR-LIST='(&SUBCODE1,&SUBCODE2,&MAINCODE)'
/     SH-VAR ERROR-LIST
/ END-IF
    
```

```
/STEP
/IF ('&(SUBSTRING(JOB-ID,1,5))' == '*NONE')
/CLOSE-VIRTUAL-DEVICE-DIALOG
/ IF-CMD-ERROR
/   ERROR-LIST='(&SUBCODE1,&SUBCODE2,&MAINCODE)'
/   SH-VAR ERROR-LIST
/ END-IF
/EXIT-PROC
/END-IF
/STEP
/TSN=SUBSTRING(JOB-ID,1,4)
/STEP
.
.
.
  User-specific procedure part
.
.
.
/RETURN-JOB-TO-VIRTUAL-DEVICE POST-ACTION=*WAIT
/END-WHILE
```

PRINT-DOCUMENT

Output files/library members to printer

Description status:	SPOOL V4.9A
Functional area:	Controlling spoolout jobs
Domain:	SPOOL-PRINT-SERVICES
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
Routing code:	\$

Function

The PRINT-DOCUMENT command enables you to output files on a printer. By specifying the relevant operands you can control the print job. If a print job contains nothing other than the name of the file to be printed, SPOOL uses default values.

The specifications in the PRINT-DOCUMENT command are entered in a spool control block (SCB) along with the default values for device selection. The SCB is placed in a spoolout queue (local spoolout, RSO) and managed as a separate job with a separate TSN.

You can monitor the processing of your spoolout jobs with the SHOW-PRINT-JOB-STATUS command, modify specific print control parameters with the MODIFY-PRINT-JOB-ATTRIBUTES command, change the priority of your jobs with the CHANGE-TASK-PRIORITY command or cancel them with the CANCEL-PRINT-JOB command.



The PRINT-DOCUMENT command is an enhanced version of the PRINT-FILE command. The functional scope of PRINT-FILE meets the needs of SPOOL Version 2.7B, but only PRINT-DOCUMENT allows you to use the additional and enhanced features available in SPOOL V3.0A and above.

Overview of control options

Control option	Operand to be specified	See page
Specify the name of the print file or library element	FROM-FILE	5-31
Only output part of each record	DOCUMENT-PART	5-34
Set a common TSN for several jobs	FAMILY-PROCESSING	5-51
Only output part of a file	INPUT-PART	5-35
Define the start time for a print job	SCHEDULING-TIME	5-55
Set a restart process for interrupted job	CHECKPOINT	5-52
Lock a file until end of job	LOCK-FILE	5-78
Delete a file after printing	DELETE-AFTER-PRINT	5-79
Assign a job name for the SPOOL job	PRINT-JOB-NAME	5-53
Assign a priority for the SPOOL job	PRINT-JOB-PRIORITY	5-53
Print multiple copies of a file	ADDITIONAL COPIES	5-78
Specify a form (paper)	FORM-NAME	5-67
Set print attributes	LAYOUT-CONTROL	5-56
Determine the printer for output	TO-PRINTER	5-74
Influence output of header and trailer pages	COVER-PAGES	5-58
Execute job under another user ID (only with PRINT-SERVICE-ADMINISTRATION privilege)	PROCESSING-ADMISSION	5-54
Control the failure processing	FAILURE-PROCESSING	5-55
Support handling of notifications	NOTIFICATION	5-80

Table 78: PRINT-DOCUMENT command, control options

Controlling spoolout

Printer selection

If a print job does not specify which printer to use, SPOOL assigns it to any available highspeed printer. The number of characters this printer prints per line depends on the form.

If the job is to be printed on a particular printer, you specify this printer in the TO-PRINTER operand structure (see the operand description on [page 5-74](#)).

The operands listed have minimum requirements with regard to the printer(s) used. Thus, if you specify one of these operands, you influence printer selection.

Operand	Printer required (minimum requirement)
PRINTER-TYPE=*LP65-PRINTER	LP65 printer
PRINTER-TYPE=*APA-PRINTER	APA printer
PRINTER-TYPE=*HP-PRINTER	HP printer or HP90 printer
USER-RESOURCES-FILE [≠*STD]	HP, HP90 or APA printer
PAGE-COPIES [≠*STD and ≠0]	HP, HP90 or LP65 printer
FORM-DEFINITION= <name>	APA printer
TABLE-REFERENCE-CHAR = <name>	APA printer
PAGE-DEFINITION = <name>	APA printer
CHARACTER-SETS = *POOL	HP printer or HP90 printer
FORMS-OVERLAY-BUFFER	HP printer or HP90 printer
ROTATION	HP printer or HP90 printer
OVERLAY (<face>,<reverse>)	LP65 printer
PAGE-DEFINITION = n	LP65 printer

Table 79: PRINT-DOCUMENT command operands with implicit printer selection

If none of the operands in this table is specified, the default value in the SPOOL parameter file is used for printer selection.

Specifying the form

If a print job does not specify which form to use, SPOOL uses the default form (STD) defined in the SPOOL parameter file.

The default STD form normally refers to:

- the default loop C1 with a line density of 6 lpi and the vertical tab “channel 1” (normally the beginning of the page) on line 3

- the default rotation loop R06 for HP printers and HP90 printers with a line density of 6 lpi and a form length of 13.5 inches

To use another form, enter the desired form using RESOURCE-DESCRIPTION= *PARAMETERS(FORM-NAME=...). For details see [page 5-67](#).

Controlling paper feed

Appropriate paper feed (loop) information is associated with each form. Unless you specify otherwise, the loop assigned to the form is used automatically. However, RESOURCE-DESCRIPTION=*PARAMETERS(LOOP-NAME=...) also lets you specify a different loop name. For all printers, this loop must be contained in the system PRFILE \$SYSSPOOL.PRFILE or an appropriate user PRFILE.



When explicitly specifying a loop, ensure that the length of the loop corresponds to the length of the form.

For printers with a loadable vertical format buffer, specifying a paper form (FORM-NAME operand) loads the loop associated with this form into the buffer. If the LOOP-NAME operand is specified in the same spoolout job, the feed is governed by the loop specified in LOOP-NAME. In all cases, the loop called must be available in a PRFILE.

If the paper form and font are not specified, SPOOL assumes that the vertical tab “channel 1” is set to the start of a new page in the loop (line 3).

The default loop “C1”, the default font “101” and other fonts intended for laser printers are normally contained in the system PRFILE.

Defining loops yourself

You can use the PRM utility routine to define and administer your own loops. For more details, see the “PRM” manual [\[30\]](#).

Feed control characters

EBCDIC feed control characters:

Feed control characters	Effect
X'40' through X'4F'	n line feeds before printing, 1 line feed after printing
X'00' through X'0F'	n line feeds after printing
X'C1' through X'CB'	Channel feed before printing
X'81' through X'8B'	Channel feed after printing

Table 80: EBCDIC feed control characters

EBCDIC and IBM printer control byte formats:

Value	Bit position and meaning (EBCDIC)							
	2 ⁷	2 ⁶	2 ⁵	2 ⁴	2 ³	2 ²	2 ¹	2 ⁰
0	Line feed	after printing	always 0	always 0	Number of lines or V tab no. Value: 8	Number of lines or V tab no. Value: 4	Number of lines or V tab no. Value: 2	Number of lines or V tab no. Value: 1
1	Channel feed	Before printing						

Value	Bit position and meaning (IBM)							
	2 ⁷	2 ⁶	2 ⁵	2 ⁴	2 ³	2 ²	2 ¹	2 ⁰
0	Line feed	V tab number	V tab number	Number of lines or V tab no. Value 2	Number of lines or V tab no. Value 1	always 0	after printing	always 1
1	Channel feed	Value 8	Value 4				Before printing	

*) V tab is the vertical tab "channel n"

ASA feed control characters and corresponding EBCDIC feed control characters:

ASA feed	EBCDIC feed	Effect
C'+'	X'00'	No line feed after printing
C'-'	X'42'	2-line feed before printing
C'0'	X'40'	1-line feed before printing
C'1'	X'C1'	Jump to channel 1 before printing
.	.	.
.	.	.
.	.	.
C'A'	X'CA'	Jump to channel 10 before printing
C'B'	X'CB'	Jump to channel 11 before printing
others	X'40'	No line feed before printing

Any invalid control characters are corrected on laser printers.



The vertical tab "channel 12" (X'CC') or (X'8C') is reserved for SPOOL.

The differences in printer hardware mean that ASA and EBCDIC feed control characters are not completely identical: OPS printers advance not before but **after** printing a line - except in the case of X'00' (see above).

Specifying fonts

Every form entered in the SPOOL parameter file is assigned a font. This assignment is entered in the SPOOL parameter file.

If no font is specified in the PRINT-DOCUMENT command, font “101” is used as the default. This font is assigned to the “STD” form in the SPOOL parameter file for all printers except types 3337, 3338 and 3339. Font “101” has the OCR-B character style and is defined for a line density of 6 lines per inch (lpi) and a character density of 10 characters per inch (cpi).

The operand RESOURCE-DESCRIPTION=*PARAMETERS(CCHARACTER-SETS=) enables you to specify a font from the system PRFILE for HP/HP90 printers. If the desired font is in a user PRFILE, you must specify this in the USER-RESOURCES-FILE operand.

For the operand RESOURCE-DESCRIPTION=*PARAMETERS(CCHARACTER-SETS=), specify

- either the names of up to four fonts (for HP/HP90 printers)
- or the name of a font pool containing up to 64 fonts (HP/HP90 printers)

to be used to print a file. The fonts are contained in the \$SYSSPOOL.PRFILE resource library. However, you can also create a private user PRFILE containing one or more of your own fonts that you have created using the PRM utility routine. You can also define a font pool yourself in a user PRFILE. To print a file with a user-defined font, you must specify the file name in the USER-RESOURCES-FILE operand.

You can also specify a font directly from the standard SPSLIB when printing in APA mode. If the desired font is contained in a user SPSLIB, this must be specified simultaneously with the USER-RESOURCES-FILE operand, in the same way as for HP/HP90 printers. In the case of the operand RESOURCE-DESCRIPTION=*PARAMETERS(...), you can specify fonts in the PAGE-DEFINITION suboperand. The fonts are contained in the printer control file \$SYSSPOOL.SYSPRT.SPS.021. You can use the software product SPM to create your own fonts in a user SPSLIB. For details, see the “SPOOL” manual [43]. To print a file with a user-defined font, you must specify the file name in the USER-RESOURCES-FILE operand.

Before starting to print the file, the SPOOL system loads the specified fonts from the specified PRFILE into the character memory of the laser printer. If a file is printed with DOCUMENT-FORMAT=*TEXT in the PRINT-DOCUMENT command / PRNTDOC macro - i.e. control characters in the text are not interpreted (except in printer type 3365, see the “SPOOL” manual [43]) - the first font specified in the CHARACTER-SETS operand of the PRINT-DOCUMENT command is used to print the whole file. It is thus preferable to specify just one font. Conversely, if the print file text contains control characters to be interpreted by SPOOL - i.e. CONTROL-MODE=*PAGE-MODE must be specified in the PRINT-DOCUMENT command - the font to be used in each instance is selected from the fonts loaded as follows:

- The control information in the first record on each print page determines, among other things, which font should be used to start printing the page. Control characters within the print data enable the font to be changed anywhere on the page (for every character, if need be).
- The fonts specified for CHARACTER-SETS are loaded into the printer's character memory when the command is processed.
- The procedure for switching from one font to another by means of control characters is as follows:

All fonts you specify (either explicitly or by specifying a pool name) are loaded on the requested device during scheduling. Only the first font specified can be used if DOCUMENT-FORMAT=*TEXT applies. The number of fonts (specified either explicitly in the PRINT-DOCUMENT command or implicitly by means of a pool) is compared with the upper limit defined as a global parameter at installation time. The scheduler checks whether the specified device has enough memory for all explicitly or implicitly specified fonts to be loaded.

Whenever possible, you should refer to the pools set up by systems support:

- either by specifying the pool name alone
- or by specifying a pool name and an index

The scheduler forms groups of jobs using the same font or the same pool, thus avoiding unnecessary font changing and reloading operations.

If the PRINT-DOCUMENT command contains references to fonts not yet loaded into the device's character buffer, and if there is no more space in the character buffer, the controller checks the loaded fonts for those which are called least frequently; these are then replaced with new ones.

If more than four fonts are requested in the PRINT-DOCUMENT command, it may happen that none of the available HP laser printers is able to load the requested number of fonts. In this case, the relevant job cannot be processed.

In the information you request with the SHOW-USER-STATUS command, all jobs requiring more than four fonts (or overlays or the page rotation module) are marked by an asterisk in the OPT field. The SHOW-PRINT-JOB-STATUS command allows you to display the number of requested fonts.

If you issue the PRINT-DOCUMENT command with the operands LOOP-NAME, CHARACTER-SETS and so on for laser printers, the \$SYSSPOOL.PRFILE resource library is checked to see whether the relevant entries are available. If not, the PRINT-DOCUMENT command is rejected.

If you issue the PRINT-DOCUMENT command with the FORM-NAME and/or LOOP-NAME operands for printers with a loadable VFB, the resource library is checked to see whether the relevant entry is available. If not, the PRINT-DOCUMENT command is rejected.

Example

A file containing four different fonts is to be printed on a laser printer.

```
/PRINT-DOCUMENT FROM-FILE=dateiname,...,RESOURCE-DESCRIPTION=
*PAR(Character-SETS=(100,360,370,#XY)),...
```

To switch to font 370 (the third font), for example, one of the following control characters should be selected, depending on the desired character density:

X'06'	Character density 10 characters/inch and font in MXM section 3.
X'0A'	Character density 12 characters/inch and font in MXM section 3.
X'0E'	Character density 15 characters/inch and font in MXM section 3.

The character density for which font 3 (370) was originally defined should of course be taken into account.

Interpreting layout control characters

If you want to print a file containing layout control characters, when you create the job you can specify whether or not these control characters are to be interpreted by assigning the appropriate value to the operand DOCUMENT-FORMAT=*PARAMETERS. For further information on control characters, see the "SPOOL" manual [43].

SPOOL loads the font buffer and feed buffer as appropriate when processing the spoolout.



The operator can use the START-PRINTER-OUTPUT command to ensure that the laser printer jobs specified with DOCUMENT-FORMAT=*TEXT may also be printed on an impact printer (line printer). In this case, the operands LOOP-NAME, PAGE-COPIES, ADDITIONAL-COPIES, USER-RESOURCES-FILE, CHARACTER-SETS and OVERLAY-RESOURCES are not interpreted.

Examples of control characters in a file

Print characters

The record comprises only printable characters (without feed control characters).

F	IK	Print characters
---	----	------------------

The record starts with a feed control character (F), followed by text (including ISAM-KEY (IK) for ISAM files).

IK	F	Print characters
----	---	------------------

The record starts with the ISAM key (KEY-POS=5), followed by the feed control character (F) and the text.

Print and control characters

The record contains text mixed with control characters (e.g. for changing font).

Defining your own forms, loops and fonts

For HP/HP90 printers:

Paper forms, loops and fonts are generally defined by systems support. You can, however, also create loops and fonts yourself, store them in a user-specific resource library (PRFILE) and use them for SPOOL jobs. The loops and fonts must relate to a paper form already available in the SPOOL parameter file. You can use the USER-RESOURCES-FILE operand to cause SPOOL to use your resource library for this job. For further details, see the “PRM” manual [30].

For APA printers:

You can also create a private printer control file (SPSLIB) containing your own fonts etc. for printers that run in APA mode. You also specify this with the USER-RESOURCES-FILE operand. See also the “SPOOL” manual [43]).

Monitoring spoolout with job variables

SPOOL jobs can be monitored with job variables. Entering the name of a monitor variable (MONJV) in the PRINT-DOCUMENT command causes SPOOL to store a continuous stream of information on the processing of the job in the monitoring job variable.

For this purpose SPOOL uses the MONJV functions of the JV product. As a result, a job variable which is assigned to a spoolout job is protected against access by other jobs exactly like, for instance, the MONJV of an Enter job. This is regardless of whether the spoolout job is queued, has been canceled or is currently being processed.

Detailed information on managing job variables is provided in the “JV” manual [20].

SPOOL job variables can also be password-protected. Before a password-protected SPOOL job variable is interrogated, the password must first be entered in the password table by means of the ADD-PASSWORD command or in the PRINT-DOCUMENT command by means of the JV-PASSWORD operand.

Error handling involving SPOOL job variables

If there are access problems involving SPOOL job variables, SPOOL can respond as follows:

- If the error occurs during syntax checking of the PRINT-DOCUMENT command, the command is rejected on account of the operand in which the error has occurred. In the case of shared processing of several jobs (FAMILY-PROCESSING operand), only the relevant file is rejected. Processing of the command then continues. If only one job is being processed, this is canceled.

If the operand START-PROCESSING=<integer..> or *AT-FILE-CLOSING is specified in the PRINT-DOCUMENT command, SPOOL continues processing despite the problem with the variable, since otherwise part of the data would get lost. Instead, SPOOL gives a warning to the user and continues processing the job without monitoring job variables.

- If the error occurs during spoolout, SPOOL outputs the message SPS0450 on the trailer page but otherwise continues spoolout processing as normal.

Contents of the SPOOL job variable

The job variable is structured as follows:

Sta	TSN	Proc.	Reserve	S	OTSN	E#	EC#	Device	ERCOD	ERMSG
0	3	8	16	37	39	44	48	52	61	70

The first three fields of the job variable are reserved for ENTER jobs. The subsequent fields are assigned to SPOOL and reflect the various processes involved in SPOOL job processing.

The fields "Status" and "Processor" are left-justified and are initially filled with blanks. The other fields are right-justified and are also initially filled with blanks.

If the job variable does not exist, it is created if necessary when the command is checked for validity.

You can use the SHOW-JV command to display the contents of a job variable.

Overview

Field	Contents	Meaning
Sta	\$S \$R \$P \$T \$A \$K	(spooled-in) Job accepted and in wait status (running) Job active (pre-processing) Job for which a section is currently being preprocessed (terminated) Job successfully terminated (aborted) Job canceled or terminated abnormally (kept) Job was kept back
TSN	tsn	Contains the TSN of the job with the preceding filler character "0"; in the case of a replay job, tsn is always the current TSN. The original TSN is located in field OTSN;
Proc.	proc	Like ENTER-JOB jobs, contains the catalog ID of the system (home pubset) on which the job was issued or the tape is being played in;
Res.		Reserved
S	0 1 2 3	Specifies whether the job is connected with tape processing Job contains sections which have not been preprocessed General job processing Job is on tape or was saved there Job comes from a tape
OTSN	otsn	In the case of a replay job contains the original TSN;
E#	nnn	Number of copies to be printed
EC#	nnn	Number of copies already processed
Dev.	xxxxxx	For active jobs (\$R, \$T or \$A) specifies the device name, the abbreviated device name or "TP" for user tapes;
ERCOD	xxxxxxxx	Error code for RSO jobs
ERMSG	xxxxxxx	Identification number of the error message in the case of RSO jobs

Table 81: Structure of the SPOOL job variable

Notes

- The normal progression of job status is \$\$, \$R and \$T (or \$A/\$K). A replay job receives the status \$T after the file has been transferred to tape. This tape can be played back on the same system. In this case, the job variable is checked as soon as the file is in the system. If the original job variable still exists, it is reinitialized and receives the status \$\$.
- The job variable subsystem is optional. If it is not available during the PRINT-DOCUMENT command validity check and if a job variable is requested, SPOOL rejects the command.

Brief description of the PRINT-DOCUMENT operands:

Level 1 operands	Substructure	Function
FROM-FILE	*EAM(...) <filename> <posix-pathname> *LIBRARY-ELEMENT(...) *OMF *SYSOUT/*SYSLST(...)	Name of the print file: Temporary EAM object module file BS2000 file name POSIX path name Member from a PLAM library Object module file System file *SYSOUT/SYSLST
DOCUMENT-PART	INPUT-SECTION(...) INPUT-PART(...) RECORD-PART(...) OUTPUT-PART(...)	File area which is to be output Splitting the file into sections First and last records to be output First and last characters of each record to be output Logical lines or pages of the file edited for printing
DOCUMENT-FORMAT	*TEXT(...) *PAGE-FORMAT(...) *SPECIAL-FORMAT(...)	Type of document content or evaluation of control characters No printer-specific control characters Evaluation of specific control characters for laser printers Use of a printer-specific language
PRINT-JOB-CONTROL	START-PROCESSING FAMILY-PROCESSING CHECKPOINT PRINT-JOB-NAME PRINT-JOB-PRIORITY PRINT-JOB-CLASS MONJV JV-PASSWORD PROCESSING-ADMISSION FAILURE-PROCESSING	Control of print job processing Time of printing Assignment of a joint TSN for multiple spoolout jobs Type of restart mechanism (CHECKPOINTING) Defining a job name Urgency of the spoolout job Job class of the spoolout job Defining a job variable for saving information Password with which the SPOOL job variable is protected Only with the PRINT-SERVICE-ADMINISTRATION privilege: Execution of the job under a different user ID Error handling in the case of files currently being processed
PRINT-JOB-CONTROL (cont.)	SCHEDULING-TIME	Start time of the print job

Table 82: Brief description of the operands of the PRINT-DOCUMENT command (Part 1 of 3)

Level 1 operands	Substructure	Function
LAYOUT-CONTROL	ENCRYPTION PAGE-COPIES LEFT-MARGIN TWO-SIDED ROTATION COVER-PAGES TABLE-REFERENCE-CHAR LANGUAGE-EXTENSION INPUT-TRAY-NUMBER OUTPUT-TRAY-NUMBER TOP-OFFSET LEFT-OFFSET	Determines encryption of the print file (only for RSO V3.5B and higher) Defines the parameters that control page layout. Page copies Indentation of the output text Single- or double-sided printing on LP65 Use of the page rotation module Tasks for printing header and trailer pages Selection of fonts by means of control characters in the text ³⁾ Specification of language extension identifiers Input paper tray number Output paper tray number Defines the vertical position of the text on the paper Defines the horizontal position of the text on the paper
RESOURCE-DESCRIPTION	FORM-NAME LOOP-NAME ROTATION-LOOP-NAME CHARACTER-SETS CHAR-SET-ATTRIBUTES OVERLAY-RESOURCES PAGE-DEFINITION FORM-DEFINITION USER-RESOURCES-FILE TRANSLATION-TABLE RESOURCES-LOCATION	Specifies the print resources to be used for the printout. form name Loop Loop for pages to be rotated for printout (landscape format) Fonts for output Support of specific font attributes ¹⁾ Use of an overlay Page definitions for LP65 and APA printers ³⁾ Format definitions for APA printers ¹⁾ Assignment of a user PROFILE, user SPSLIB or user RSOFILE Use of a code translation table Use of Dprint resources ²⁾

Table 82: Brief description of the operands of the PRINT-DOCUMENT command (Part 2 of 3)

Level 1 operands	Substructure	Function
TO-PRINTER	PRINTER-NAME PRINTER-TYPE REDIRECTION-ALLOWED CLUSTER-NAME VIRTUAL-PRINTER	Printer type for the output Name of the requested printer or printer pool Type of requested printer Any local printer Any printer from a device pool LP65 printer HP or HP90 printer APA printer ³⁾ Redirection of spoolout jobs by the device manager ¹⁾ Specifies the cluster to which the print job is to be transferred ²⁾ Print output to an application
ADDITIONAL COPIES		Number of additional printouts of the file
LOCK-FILE		Protection of the file during processing
DELETE-AFTER-PRINT		Specifies whether the file is to be deleted after processing
NOTIFICATION		Processing of notifications for the assigned print job

Table 82: Brief description of the operands of the PRINT-DOCUMENT command (Part 3 of 3)

- 1) allowed only for RSO operation (see the “RSO” manual [32])
- 2) only effective in a distributed system (see the “Dprint” manual [10]).
- 3) only for local SPOOL.

Format

PRINT-DOCUMENT	Alias: PRDO
<pre> FROM-FILE = *OMF / *LIBRARY-ELEMENT(...) / <posix-pathname 1..1023 without-wild> / list-poss(16): *SYSLST(...) / *SYSOUT / *EAM(...) / <filename 1..54 with-wild(80)> *LIBRARY-ELEMENT(...) LIBRARY = <filename 1..54 without-vers> ,ELEMENT = <composed-name 1..64 with-under with-wild(80)>(…) <composed-name 1..64 with-under with-wild(80)>(…) VERSION = *HIGHEST-EXISTING / *UPPER-LIMIT / <composed-name 1..24 with-under with-wild(40)> ,TYPE = <alphanum-name 1..8 with-wild(12)> *SYSLST(…) SYSLST-NUMBER = *STD / <integer 1..99> *EAM(…) EAM-NUMBER = <integer 1..65535> ,DOCUMENT-PART = *PARAMETERS (…) *PARAMETERS(…) INPUT-SECTION = *WHOLE-FILE / *PARAMETERS(…) *PARAMETERS(…) SECTION-IDENTIFIER = <c-string 1..60 with-low> / <x-string 1..120> ,POSITION = *STD / <integer 1..2047> ,INPUT-PART = *ALL / *PARAMETERS(…) *PARAMETERS(…) FIRST-RECORD = *BEGIN-OF-FILE / <integer 1..2147483647> / *BY-STRING-ID(…) *BY-STRING-ID(…) STRING = <c-string 1..60 with-low> / <x-string 1..120> ,POSITION = *STD / <integer 1..2047> ,OCCURRENCE = <u>1</u> / <integer 2..32767> ,LAST-RECORD = *END-OF-FILE / <integer 1..2147483647> / *BY-STRING-ID(…) *BY-STRING-ID(…) STRING = <c-string 1..60 with-low> / <x-string 1..120> ,POSITION = *STD / <integer 1..2047> ,OCCURRENCE = <u>1</u> / <integer 2..32767> </pre>	

(Part 1 of 6)

```

,RECORD-PART = *ALL / *PARAMETERS(...)
    *PARAMETERS(...)
        |
        | FIRST-CHARACTER = 1 / <integer 2..32767>
        | ,LAST-CHARACTER = *STD / <integer 1..32767>
,OUTPUT-PART = *ALL / *RANGE(...) / *LAST(...)
    *RANGE(...)
        |
        | FROM = *BEGIN-OF-FILE / <integer 1..2147483647>
        | ,TO = *END-OF-FILE / <integer 1..2147483647>
        | ,DIMENSION = *PAGES / *LINES
    *LAST(...)
        |
        | LAST = <integer 1..2147483647>
        | ,DIMENSION = *PAGES / *LINES
,DOCUMENT-FORMAT = *TEXT (...) / *PAGE-FORMAT(...) / *SPECIAL-FORMAT(...)
    *TEXT(...)
        |
        | LINE-PER-PAGE = *STD / <integer 1..32767>
        | ,LINE-SPACING = 1 / 2 / 3 / *BY-EBCDIC-CONTROL(...) / *BY-IBM-CONTROL(...) /
        |                   *BY-ASA-CONTROL(...)
        |
        | *BY-EBCDIC-CONTROL(...)
        | | CONTROL-CHAR-POS = *STD / <integer 1..2040>
        |
        | *BY-IBM-CONTROL(...)
        | | CONTROL-CHAR-POS = *STD / <integer 1..2040>
        |
        | *BY-ASA-CONTROL(...)
        | | CONTROL-CHAR-POS = *STD / <integer 1..2040>
        | ,HEADER-LINE = *NO / *STD / list-poss(3): *DATE / *FIRST-RECORD / *PAGE-NUMBER
        | ,OUTPUT-FORMAT = *CHARACTER / *HEXADECIMAL

```

(Part 2 of 6)

***PAGE-FORMAT(...)**

FORMAT-NAME = *STD / <c-string 1..63 with-low>

,CONTROL-MODE = *PAGE-MODE(...) / *LINE-MODE / *LOGICAL(...) / *PHYSICAL(...) / *APA(...)

***PAGE-MODE(...)**

PAGE-CONTROL-CHAR = *YES / *NO

,CONTROL-TYPE = *COMPATIBLE / *HP

,LINE-SPACING = *BY-EBCDIC-CONTROL / *BY-IBM-CONTROL / *BY-ASA-CONTROL

***LOGICAL(...)**

LINE-PER-PAGE = *STD / <integer 1..32767>

,HEADER-LINE = *NO / *STD / list-poss(3): *DATE / *FIRST-RECORD / *PAGE-NUMBER

,LINE-SPACING = 1 / 2 / 3 / *BY-EBCDIC-CONTROL(...) / *BY-IBM-CONTROL(...) / *BY-ASA-CONTROL(...)

***BY-EBCDIC-CONTROL(...)**

CONTROL-CHAR-POS = *STD / <integer 1..2040>

***BY-IBM-CONTROL(...)**

CONTROL-CHAR-POS = *STD / <integer 1..2040>

***BY-ASA-CONTROL(...)**

CONTROL-CHAR-POS = *STD / <integer 1..2040>

***PHYSICAL(...)**

LINE-SPACING = *NO / 1 / 2 / 3 / *BY-EBCDIC-CONTROL / *BY-IBM-CONTROL / *BY-ASA-CONTROL

***APA(...)**

LINE-SPACING = *BY-EBCDIC-CONTROL / *BY-IBM-CONTROL / *BY-ASA-CONTROL

***SPECIAL-FORMAT(...)**

FORMAT-NAME = *NONE / *PCL / <c-string 1..63 with-low>

,LINE-SPACING = *NO / 1 / 2 / 3 / *BY-EBCDIC-CONTROL / *BY-IBM-CONTROL / *BY-ASA-CONTROL

(Part 3 of 6)

```

,PRINT-JOB-CONTROL = *PARAMETERS(...)
    *PARAMETERS(...)
        |
        | START-PROCESSING = *IMMEDIATE / *AT-FILE-CLOSING / <integer 1..2147483639>
        |
        | ,FAMILY-PROCESSING = *STD / *YES / *NO
        |
        | ,CHECKPOINT = *ON-PAGES / *ON-SECTION-RECORDS
        |
        | ,PRINT-JOB-NAME = *JOB-NAME / <alphanum-name 1..8> / <c-string 1.8 with-low>
        |
        | ,PRINT-JOB-PRIORITY = *JOB-PRIORITY / <integer 30..255>
        |
        | ,PRINT-JOB-CLASS = *BY-USER-ATTRIBUTES / <integer 1..255>
        |
        | ,MONJV = *NONE / *STD / <filename 1..54 without-gen-vers>
        |
        | ,JV-PASSWORD = *NONE / *SECRET / <c-string 1..4> / <x-string 1..8>
        |
        | ,PROCESSING-ADMISSION = *SAME / *PARAMETERS(...)
        |     *PARAMETERS(...)
        |         |
        |         | USER-IDENTIFICATION = <name 1..8>
        |         |
        |         | ,ACCOUNT = *NONE / <alphanum-name 1..8>
        |         |
        |         | ,PASSWORD = *NONE / <c-string 1..8> / <c-string 9..32> / <x-string 1..16> / *SECRET
        |         |
        |         | ,FAILURE-PROCESSING = *PARAMETERS(...)
        |         |     *PARAMETERS(...)
        |         |         |
        |         |         | MSG-PAGE = *YES / *NO
        |         |         |
        |         |         | ,SCHEDULING-TIME = *STD / *EARLIEST(...)
        |         |         |     *EARLIEST(...)
        |         |         |         |
        |         |         |         | DATE = *TODAY / <date with-compl>
        |         |         |         |
        |         |         |         | ,TIME = <time>
        |         |         |
        |         |         | ,ENCRYPTION = *NO / *YES
        |         |
        |         | ,LAYOUT-CONTROL = *PARAMETERS(...)
        |         |     *PARAMETERS(...)
        |         |         |
        |         |         | PAGE-COPIES = *STD / <integer 0..255>
        |         |         |
        |         |         | ,LEFT-MARGIN = *STD / <integer 0..31>
        |         |         |
        |         |         | ,TWO-SIDED = *STD / *NO / *YES / *TUMBLE
        |         |         |
        |         |         | ,ROTATION = *NO / *BY-CONTROL-CODES / 90 / 180 / 270 / 0-180 / 180-0 / 90-270 / 270-90
        |         |         |
        |         |         | ,COVER-PAGES = *PARAMETERS (...)
        |         |         |     *PARAMETERS(...)
        |         |         |         |
        |         |         |         | HEADER-PAGE-TEXT = *NONE / <c-string 1..32>
        |         |         |         |
        |         |         |         | ,HEADER-EXIT-NUMBER = *NO / <integer 0..2147483639>
        |         |         |         |
        |         |         |         | ,TRAILER-EXIT-NUMBER = *NO / <integer 0..2147483639>
    
```

```

, TABLE-REFERENCE-CHAR = *NO / *YES
, LANGUAGE-EXTENSION = *NONE / *PARAMETERS(...)
    *PARAMETERS(...)
        | LANGUAGE-NAME = *ARABIC / *FARSI
        | , LANGUAGE-MODE = *RIGHT-TO-LEFT / *LEFT-TO-RIGHT
, INPUT-TRAY-NUMBER = *STD / *IGNORE / <integer 1..99> / *BY-FORMAT(...)
    *BY-FORMAT(...)
        | INPUT-TRAY-FORMAT = *A3 / *A4 / *A5 / *B4 / *B5 / *FOLIO / *INVOICE /
        | *EXEC / *LEGAL / *LETTER / *DOUBLE-LETTER / *MONARCH /
        | *COMMERCIAL-10 / *DL / *C5 / *MANUAL / *A3-UNCUT / *A4-UNCUT / *LEDGER
, OUTPUT-TRAY-NUMBER = *STD / *IGNORE / *SORTER(...) / <integer 1..99>
    *SORTER(...)
        | SORT-MODE = *NO / *GROUP / *COLLATE / *STACKER / *AUTOMATIC
, TOP-OFFSET = *IGNORE / <integer -255..255>
, LEFT-OFFSET = *IGNORE / <integer -255..255>
, RESOURCE-DESCRIPTION = *PARAMETERS(...)
    *PARAMETERS(...)
        | FORM-NAME = *STD / <c-string 1..6 with-low> / <alphanum-name 1..6>
        | , LOOP-NAME = *STD / <alphanum-name 1..3>
        | , ROTATION-LOOP-NAME = *STD / <alphanum-name 1..3>
        | , CHARACTER-SETS = *STD / *POOL(...) / *BY-EXTENDED-NAME(...) /
        | list-poss(16); <alphanum-name 1..3>
        | *POOL(...)
        | | POOL-NAME = <alphanum-name 1..4>
        | | , POOL-INDEX = 0 / <integer 0..64>
        | *BY-EXTENDED-NAME(...)
        | | NAME = list-poss(4); <alphanum-name 1..8>
        | , CHAR-SET-ATTRIBUTES = *ALL / *RESTRICTED
        | , OVERLAY-RESOURCES = *PARAMETERS(...)
        | *PARAMETERS(...)
        | | ELECTRONIC-OVERLAY = *NONE / <alphanum-name 2..2>
        | | , OVERLAY = *STD / *NONE / *PARAMETERS(...)
        | | *PARAMETERS(...)
        | | | FACE-SIDE = *NONE / <integer 1..127>
        | | | , REVERSE-SIDE = *NONE / <integer 1..127>
        | | , FORMS-OVERLAY-BUFFER = *NONE / <alphanum-name 1..4>

```

```

, PAGE-DEFINITION = *STD / <integer 1..50000> / <alphanum-name 1..8>
, FORM-DEFINITION = *STD / <alphanum-name 1..8>
, USER-RESOURCES-FILE = *STD / <filename 1..44 without-gen-vers>
, TRANSLATION-TABLE = *NONE / *PARAMETERS(...)
    *PARAMETERS(...)
        | NAME = <alphanum-name 1..8>
        | , FILE = *STD / *SYSTEM / <filename 1..44 without-gen-vers>
, RESOURCES-LOCATION = *STD / *HOME / *SERVER
, TO-PRINTER = *PARAMETERS(...)
    *PARAMETERS(...)
        | PRINTER-NAME = *STD / <alphanum-name 1..8> / *IPP(...)
            *IPP(...)
                | URL = <c-string 1..1023 with-low>
                | , FQDN = *NONE / <c-string 1..1023 with-low>
, PRINTER-TYPE = *ANY / *HP-PRINTER / *LP65-PRINTER / *APA-PRINTER
, REDIRECTION-ALLOWED = *STD / *NO / *YES
, CLUSTER-NAME = *LOCAL-CLUSTER / <alphanum-name 1..8>
, OUTPUT-FORMAT = *NONE / <c-string 1..63 with-low>
, VIRTUAL-PRINTER = *STD / *ALLOWED / *NOT-ALLOWED / *MUST(...)
    *MUST(...)
        | NAME = <alphanum-name 1..8>
        | , STRING = *NONE / <c-string 1..32>
, ADDITIONAL-COPIES = 0 / <integer 1..255>
, LOCK-FILE = *STD / *YES / *NO
, DELETE-AFTER-PRINT = *NO / *YES(...) / *DESTROY(...)
    *YES(...)
        | LINE-TRUNCATION = *STD / *DELETE-FILE / *KEEP-FILE
    *DESTROY(...)
        | LINE-TRUNCATION = *STD / *DELETE-FILE / *KEEP-FILE
, NOTIFICATION = *STD / *NO / *PARAMETERS(...)
    *PARAMETERS(...)
        | OBJECT-ATTRIBUTES = *NONE / *ALL / list-poss(20); <text 1..64>
        | , EVENT-NAMES = *ALL / list-poss(20); <alphanum 1..24>
        | , USER-DATA = *NONE / <text 1..63 with-low> / <c-string 1..63 with-low>
        | , RECIPIENT = *PARAMETERS(...)
            *PARAMETERS(...)
                | ADDRESS = <text 1..224 with-low> / <c-string 1..63 with-low>
                | , METHOD-NAME = <alphanum-name 1..8> / *MAIL

```

Operands

FROM-FILE =

Names of the files to be output. Up to 16 file names can be specified per command call.

FROM-FILE = *OMF

Outputs the temporary object module file of the current job.

FROM-FILE = *LIBRARY-ELEMENT(...)

The specified element is to be output from a PLAM library. An element is fully defined by its name, its type and its version. The records of an element are assigned to particular record types. There are 255 record types. A distinction is drawn between user record types (1 through 159) and special record types (160 through 255). Only the user record types of an element can be output with SPOOL.

LIBRARY = <filename 1..54 without-vers>

The name of the PLAM library from which an element is to be output.

ELEMENT = <composed-name 1..64 with-under with-wild(80)>(…)

Name of the element to be output from the specified PLAM.

VERSION = *HIGHEST-EXISTING / *UPPER-LIMIT / <composed-name 1..24 with-under with-wild(40)>

The version of the element which is to be output. If this operand is omitted, SPOOL selects *HIGHEST-EXISTING, i.e. the last element in alphabetical order. *UPPER-LIMIT stands for the highest possible version X'FF'. This version is represented by the character @ in screen displays, in messages and on the trailer page.

If the version is specified in wildcard format, and if there are library elements with the same names to which the wildcard specification applies, then all of these library elements are output.

TYPE = <alphanum-name 1..8 with-wild (12)>

The type of the library element to be output.

If specified in wildcard format, the name consists of a maximum of 12 alphanumeric characters.

Note

The records of LMS elements of type C, L or R belong to the special record types (160 through 255). No records from such elements may therefore be printed.

FROM-FILE = <posix-pathname 1..1023 without-wild>

Path name or name of a POSIX file that is to be printed. If the argument contains no POSIX-specific characters it must be placed within single quotes (to distinguish it from a BS2000 file name). The file name *.profile*, for example, does not need to be quoted because it is not possible for a BS2000 file name to start with a period (dot).

FROM-FILE = *SYSLST(...)

Outputs the SYSLST system file.

SYSLST-NUMBER = *STD

Outputs the SYSLST system file (which is automatically output on termination of an interactive task). If assigned to a cataloged file, the contents of this file are output.

Unless otherwise specified, the following points apply to output:

- a maximum of 2048 bytes per output line (operand LAST-CHARACTER=2048)
- SYSLST is not locked (operand LOCK-FILE=*NO)
- SYSLST is deleted at the end of output (operand DELETE-AFTER-PRINT=*YES)
- feed control character handling: (operand DOCUMENT-FORMAT= *TEXT(LINE-SPACING=*BY-EBCDIC-CONTROL))

The *SYSLST system file may be combined with the temporary EAM object module file *OMF and the system file *SYSOUT in any sequence in a PRINT-DOCUMENT command, e.g. PRINT-DOCUMENT (*OMF,*SYSLST,*SYSOUT). However it must not be combined with an EAM file number or a cataloged file.

SYSLST-NUMBER = <integer 1..99>

Two-digit number nn to be used to form the SYSLSTnn file name. A maximum of 16 different SYSLSTnn system files can be specified in a list (in parentheses and separated by commas). All the specified operand values then apply to each of these system files.

FROM-FILE = *EAM

Outputs an EAM object module file.

EAM-NUMBER = <integer 1..65535>

Number of the EAM file to be output. There is a detailed description of EAM files in the “Introductory Guide to DMS” [13].

FROM-FILE = *SYSOUT

The system file SYSOUT is output. If assigned to a cataloged file, the contents of this file are output. Unless otherwise specified, the following points apply to output:

- a maximum of 2048 bytes per output line (operand LAST-CHARACTER=2048)
- SYSOUT is deleted at the end of output (operand DELETE-AFTER-PRINT=*YES)
- feed control character handling (operand DOCUMENT-FORMAT= *TEXT(LINE-SPACING=*BY-EBCDIC-CONTROL))

The SYSOUT system file may be combined with the temporary EAM object module file *OMF and the system file SYSLST in any order in a PRINT-DOCUMENT command, e.g. PRINT-DOCUMENT (*OMF,*SYSLST,*SYSOUT). However it must not be combined with an EAM file number or a cataloged file.

FROM-FILE = <filename 1..54 with-wild(80)>

Name of file to be printed. PAM files must not be specified in batch mode.

The PRINT-DOCUMENT command is rejected if the specified file:

- is a newly cataloged file to which nothing has yet been written
- has already been opened in output mode
- is a “large” file (> 32 GB).

If the file does not belong to the user's own user ID, read access must be allowed (see the SHOW-FILE-ATTRIBUTES command).

The following points should be noted in connection with the output of cataloged files:

- A spoolout job is created even if the file to be output is reserved by a SECURE-RESOURCE-ALLOCATION command. This reservation must, however, be canceled before the spoolout job is processed; otherwise, the job is not executed. The file to be output is locked until the end of the session if the operand LOCK-FILE=*YES was specified in the PRINT-DOCUMENT command and the job could not be executed because of the reservation.
- The files *OMF, *SYSLST and *SYSOUT cannot be specified together with a cataloged file in a spoolout job.

The following points apply to the output of temporary files:

- A PRINT-DOCUMENT command for a temporary file is always executed automatically with LOCK-FILE=*YES and DELETE-AFTER-PRINT=*YES. This ensures that a temporary file is not erased prematurely by EXIT-JOB but only after printing has been completed.
- The temporary file is also erased if the spoolout job is terminated abnormally (e.g. by means of the CANCEL-PRINT-JOB command).
- A detailed description of temporary files is given in the “Introductory Guide to DMS” [13].

DOCUMENT-PART =

Allows processing of the print file to be limited to only a part of it.

The file to be printed (the input file) consists of a sequence of records, each of which can be identified by SPOOL by means of its record number or a string it contains. SPOOL also allows you to structure the print file by using strings as file marks. These file marks divide the file up into sections. SPOOL takes into account all the options set by the user and converts the input file into a file edited for printing (an output file). This file consists of logical lines and pages. The delimitation of part or parts of a file can apply to either the input file or the output file. The following alternatives for defining parts of a file are available in the substructures of this operand:

- INPUT-SECTION: the input file can be subdivided into sections on the basis of a specified string, or the whole file can be processed.
- INPUT-PART: only a certain number of the input file's records are processed. You can specify the first and last record by means of a record number, a section number or a string.
- RECORD-PART: of the records selected by means of the above operands, only a specified part of each record is processed.
- OUTPUT-PART: the whole input file is edited for printing, but output is limited to a subset of all logical print pages.

DOCUMENT-PART = *PARAMETERS(...)

The part of the file to be processed can be specified in the following substructure.

INPUT-SECTION =

Specifies whether the file is structured by means of file marks.

INPUT-SECTION = *WHOLE-FILE

The file is not structured. The whole input file is a single logical section.

INPUT-SECTION = *PARAMETERS(...)

The file is structured by means of file marks that can be specified in the following substructure. You use the INPUT-PART operand to specify which sections of the structured print file are to be output.

SECTION-IDENTIFIER = <c-string 1..60 with-low> / <x-string 1..120>

Specifies the file marks by means of which the input file is to be structured. Any strings in the records can be used as file marks. These strings can be either in SECTION records, which are not printed, or in the print file's normal records, which are printed. A string can be specified in the form of printable characters or hexadecimal characters. You use the INPUT-PART operand to specify which sections of the structured print file are to be output. The search for the start of the section to be printed is executed in a separate "pseudo controller" task. Neither the user task nor the printer is locked while this is being done. A pseudo controller writes the address of the first record in the section to the SPOOL control block; the

spoolout job can then be processed (PREPROCESSING). If the desired section is not found in the file, an error message appears on the trailer page (for the layout of this page see the “SPOOL” manual [43]).

POSITION =

Specifies the position at which the specified string begins in the SECTION record.

POSITION = *STD

The relevant string begins by default at the start of the record, i.e.:

- in a SAM file: at the first byte after the record length field
- in an ISAM file with KEY-POS=5: at the first byte after the key
- in an ISAM file with KEY-POS > 5: at the first byte after the record length field.

POSITION = <integer 1..2047>

The relevant string begins at the specified byte (after the record length field).

INPUT-PART =

Specifies whether only a certain number of the input file's records are to be processed. You can specify the first and last record by means of a record number, a section number or a string.

INPUT-PART = *ALL

All the file's records are to be processed.

INPUT-PART = *PARAMETERS(...)

Only a certain number of the input file's records are to be processed. You can specify the first and last records.

FIRST-RECORD =

Specifies the record as of which the file is to be processed. You can specify the first record in the file, the number of a record or file mark, or a string in a record.

FIRST-RECORD = *BEGIN-OF-FILE

Output begins with the file's first record, even if SECTION records are specified.

FIRST-RECORD = <integer 1..2147483647>

Number of the SECTION record or normal record as of which a section of the file is to be output.

FIRST-RECORD = *BY-STRING-ID(...)

The record in which a specified string occurs is the first record to be output.

STRING = <c-string 1..60 with-low> / <x-string 1..120>

Output begins with the record in which the specified string of printable or hexadecimal characters is found at a specific position.

POSITION = *STD / <integer 1..2047>

Position within the record at which the specified string of hexadecimal characters begins. By default, the FIRST-RECORD string begins at the start of the record, i.e.:

- in a SAM file: at the first byte after the record length field
- in an ISAM file with KEY-POS=5: at the first byte after the key
- in an ISAM file with KEY-POS > 5: at the first byte after the record length field.

OCCURRENCE = 1 / <integer 1..32767>

Specifies the record (containing the FIRST-RECORD string) as of which output is to start.

LAST-RECORD =

Specifies the last record in the part of the file to be output. You can specify the last record in the file, the number of a record or file mark, or any string in a record.

LAST-RECORD = *END-OF-FILE

Output continues until the end of the file, even if SECTION records are specified.

LAST-RECORD = <integer 1..2147483647>

Number of the last record (SECTION record or normal record) in the part of the file to be output.

LAST-RECORD = *BY-STRING-ID(...)

Specifies that the last record is to contain a specified string.

STRING = <c-string 1..60 with-low> / <x-string 1..120>

Output ends with the record in which the specified string of printable or hexadecimal characters is found at a specific position in the file.

POSITION = *STD / <integer 1..2047>

Position within the record at which the specified string of hexadecimal characters begins. By default, the LAST-RECORD string begins at the start of the record, i.e.:

- in a SAM file: at the first byte after the record length field
- in an ISAM file with KEY-POS=5: at the first byte after the key
- in an ISAM file with KEY-POS > 5: at the first byte after the record length field.

OCCURRENCE = 1 / <integer 1..32767>

Specifies the occurrence of the record containing the LAST-RECORD string at which output is to stop.

Note

If the LAST-RECORD record is found before the FIRST-RECORD record, the PRINT-DOCUMENT command aborts.

RECORD-PART =

Specifies whether only a specific part of each of the records selected by means of the above operands is to be processed.

RECORD-PART = *ALL

All of each selected record is to be processed.

RECORD-PART = *PARAMETERS(...)

Only a specific part of each record is to be processed.

FIRST-CHARACTER = 1 / <integer 2..32767>

Allows a byte number (record column) to be specified indicating the point as of which the records of a file are to be output. (The bytes of a record are numbered consecutively from left to right starting with 1; ISAM keys and control characters are components of a record.) What happens depends on whether or not one of the values *BY-EBCDIC-CONTROL, *BY-IBM-CONTROL or *BY-ASA-CONTROL is specified in the LINE-SPACING operand.

If one of these values is specified:

Output starts with the data byte following the specified byte number. The feed control character is interpreted irrespective of the entry for FIRST-CHARACTER, provided the value for FIRST-CHARACTER is less than the length of the record. If the specified value is greater than the length of the record, it is ignored (i.e. printing does not take place, nor does line feed).

If none of these values is specified:

Output starts with the data byte corresponding to the specified byte number. If the records are longer than the form definition allows, printing continues on the next line. If CONTROL-MODE=*PAGE-MODE is specified, an entry for FIRST-CHARACTER is problematical because SPOOL takes no account of the number of control characters in a record.

LAST-CHARACTER = *STD / <integer 1..32767>

Specifies the byte indicating the point at which printing of each record is to stop. What happens depends on whether or not one of the values *BY-EBCDIC-CONTROL, *BY-IBM-CONTROL or *BY-ASA-CONTROL is specified in the LINE-SPACING operand.

If one of these values is specified:

Output ends with the data byte following the specified byte number (unless FIRST-CHARACTER is specified for an ISAM file with KEY-POSITION=5, in which case output ends with the data byte corresponding to the specified byte number).

If none of these values is specified:

Output ends with the data byte corresponding to the specified byte number. If the records are longer than the form definition allows, printing continues on the next line. If CONTROL-MODE=*PAGE-MODE is specified, an entry for LAST-CHARACTER is problematical because SPOOL takes no account of the number of control characters in a record.

Default (*STD):

- end of print line (136)
- 2048 for an EAM file, SYSLST or SYSOUT.

OUTPUT-PART =

Specifies that the whole input file is to be edited for printing, but that output is to be limited to a subset of all logical print pages.

OUTPUT-PART = *ALL

All logical print pages of the edited file are to be output.

OUTPUT-PART = *RANGE(...)

Part of the file is to be output.

FROM = *BEGIN-OF-FILE / <integer 1..2147483647>

Allows a page or line number in the print file to be specified as of which output is to start, as specified by the DIMENSION operand. By default, output commences at the beginning of the file. The pages in a print file are defined as described for the LINE-PER-PAGE operand (unless a control character produces a premature page feed).

TO = *END-OF-FILE / <integer 1..2147483647>

Allows a page or line number in the print file to be specified at which output is to end, as specified by the DIMENSION operand. By default, output terminates at the end of the file. Pages in a print file are defined by the LINE-PER-PAGE operand (unless a control character produces a premature page feed). The value specified here must be greater than that specified in the FROM operand.

DIMENSION = *PAGES / *LINES

Specifies whether the values in the FROM and TO operands are to be interpreted as page or line numbers.

OUTPUT-PART = *LAST(...)

Only the last so many pages or lines of the print file are to be output.

LAST = <integer 1..2147483647>

Number of pages or lines to be output, calculated from the end of the file. The DIMENSION operand indicates whether the value is to be interpreted as a page or line number. Pages in a print file are defined by the LINE-PER-PAGE operand (unless a control character produces a premature page feed).

DIMENSION = *PAGES / *LINES

Specifies whether the value in the LAST operand is to be interpreted as a page or line number.

Example of SECTION processing:

The following sections of an ISAM file are to be output.

```
01000000      Line 0
02000000    *SECTION0001
03000000      Line 1
04000000    *SECTION0002
05000000      Line 2
06000000    *SECTION0003
07000000      Line 4
```

Case: SECTION records in default positions.

```
PRINT-DOCUMENT datei, DOCUMENT-PART=*PAR(INPUT-SECTION = -
*PAR(SECT-ID=C'*SECTION',POS=*STD), INPUT-PART= *PAR( -
FIRST-RECORD=1, LAST-RECORD=3))
```

The following part of the file is printed:

```
03000000      Line 1
05000000      Line 2
```

DOCUMENT-FORMAT =

Specifies the type of the document contents, i.e. the format of the file to be printed as regards the interpretation of feed control characters, printer control characters, font identifiers, RENO commands and/or VTSU codes. You can specify the following operands and the corresponding substructures here:

- *TEXT: the file has no printer-specific control characters except for feed control characters.
- *PAGE-FORMAT: the file has laser printer-specific control characters.
- *SPECIAL-FORMAT: the file has special printer-specific control characters.

DOCUMENT-FORMAT = *TEXT(...)

Except for feed control characters, the file has no printer-specific control characters. The position of the feed control character in the record can be specified in the substructure of the LINE-SPACING operand.

The data is sent to the printer unchanged. Since only the data to be printed is sent to the printer, records can be truncated.

The following applies to HP and HP90 printers:

When the operand TO-PRINTER=*PAR(PRINTER-TYPE=*ANY) is specified, the character X'FF' is replaced by the character X'1F' in order to be compatible with the PRM statement CONVERT-PRINT-RESOURCES.

The following applies to LP65 printers:

Spoolout jobs for which DOCUMENT-FORMAT=*TEXT is specified can contain any LP65 control characters and printer control characters. Only records longer than 8192 characters are truncated.

The following applies to RSO:

Records of type A-1 or A-2 are to be printed (no control characters in the data stream); in other words, except for feed control characters in the first column of the records, no control characters are interpreted. This is also the reason why a font change is not possible. The form's default font or the first font specified for CHARACTER-SETS, if specified, is used. Nonprinting characters, i.e. characters with a hexadecimal value less than X'40', are output as blanks. If the record length exceeds the maximum line length, the record is truncated in the printout. The maximum line length depends on the character spacing, which is defined by means of the font used (see the CHARACTER-SETS operand).

Note

RSO printers: If a list of fonts is specified in conjunction with DOCUMENT-FORMAT=*TEXT (CHARACTER-SETS=... operand), the command interprets only the first element in the list.

LINE-PER-PAGE = *STD / <integer 1..32767>

Specifies how many lines (including header and blank lines) are to be printed on a page.

LINE-PER-PAGE = *STD

If the operand is omitted, the number of lines per print page is calculated using the following formula, regardless of what has been specified for the HEADER-LINE operand: Number of lines = $P * L - N - 6$

The name sections have the following meanings:

P = paper size in inches

L = line density

N = number of line before the first channel 1

Printers with a loadable vertical format buffer

- The vertical tab “channel 1” controls the line on which printing is to start. Unless otherwise specified, 2 blank lines are set before printing starts; i.e. channel 1 (CHANNEL 01) is in the third line of the loop.
- If the value specified for the LINE-PER-PAGE operand is greater than the specified number of lines in the loop, the value in the loop is used.
- A value specified here must be at least three times as large as the line feed specified for LINE-SPACING=1/2/3 if the LINE-PER-PAGE operand is specified together with the HEADER-LINE and LINE-SPACING operands.

LINE-SPACING =

Specifies the number of line feeds and the way in which control characters are interpreted.

LINE-SPACING= 1 / 2 / 3

The records are to be printed out with 1-, 2- or 3-line spacing.

LINE-SPACING = *BY-EBCDIC-CONTROL(...)

The contents of the first byte of each record are to be interpreted as an EBCDIC feed control character.

CONTROL-CHAR-POS = *STD / <integer 1..2040>

Number of the data byte in which SPOOL finds the feed control character. In the case of records of variable length, the fields containing the length information are not counted as data.

LINE-SPACING = *BY-IBM-CONTROL(...)

The contents of the first byte of each record are to be interpreted as an IBM feed control character.

CONTROL-CHAR-POS = *STD / <integer 1..2040>

Number of the data byte in which SPOOL finds the feed control character. In the case of records of variable length, the fields containing the length information are not counted as data.

LINE-SPACING = *BY-ASA-CONTROL(...)

The contents of the first byte of each record are to be interpreted as an ASA feed control character.

CONTROL-CHAR-POS = *STD / <integer 1..2040>

Number of the data byte in which SPOOL finds the feed control character. In the case of records of variable length, the fields containing the length information are not counted as data.

HEADER-LINE =

Specifies whether a header line is to be printed on every page (except the header and trailer pages).

HEADER-LINE = *NO

No header line is printed.

HEADER-LINE = *STD

The header has the following format:

Header	DATE yyyy-mm-dd	First record	nnnn	PAGE nnnn
Column	1	41(11,11)	60(21,67)	124 (77)

The first value in parentheses applies in the case of a form definition with a line length < 132 and ≥ 80 characters (with differing values). The second value in parentheses applies in the case of a form definition with a line length < 80 and ≥ 70 characters (with differing values).

yyyy-mm-dd Year-Month-Day
 First record user ID
 file file name
 nnnn Page number

Unless otherwise specified, the header line is followed by a blank line. The header is shifted in accordance with the LEFT-MARGIN operand, but the header line will be truncated at column 132. DATE and PAGE are only present in the header line if the line size ≥ 032.

HEADER-LINE = list-poss(3): *DATE / *FIRST-RECORD / *PAGE-NUMBER

The header has the following format:

HEADER-LINE=	DATE	FIRST-RECORD	PAGE-NUMBER
Header	DATE yyyy-mm-dd (yyyy-mm-dd)	First record	PAGE nnnn (nnnn, nnnn)
Column	1	21	124 (77.67)

***DATE:**

The value in parentheses applies in the case of a form definition with a line length < 132 and ≥ 70 characters (with differing values). ***PAGE-NUMBER:** The first value in parentheses applies in the case of a form definition with a line length < 132 and ≥ 80 characters (with differing values). The second value in parentheses applies in the case of a form definition with a line length < 80 and ≥ 70 characters (with differing values).

yyyy-mm-dd Year-Month-Day
 First record First logical record of the file
 nnnn Page number

If *DATE, *FIRST-RECORD or *PAGE-NUMBER is omitted, the appropriate section is filled with blanks.

Unless otherwise specified, the header line is followed by a blank line. The header is shifted in accordance with the LEFT-MARGIN operand, but the header line will be truncated at column 132.

*DATE and *PAGE are only present in the header line if the line size ≥ 032.

If *FIRST-RECORD is specified, the first record is regarded as not belonging to the date.

OUTPUT-FORMAT =

Indicates whether the output format is character format only or character format and hexadecimal format.

OUTPUT-FORMAT = *CHARACTER

Outputs in character format only. Records which exceed the length of a print line are truncated.

OUTPUT-FORMAT = *HEXADECIMAL

Outputs the data records in character format and in hexadecimal format.

Output format

Each output line starts with an 8-byte prefix followed by data 50 bytes in length. Each output line is first printed using the appropriate font and then repeated in hexadecimal format.

Format of the output line

Column	Contents
1-4	Column number from which the data of the output record begins
5-8	blank
From 9	Characters of the input record according to font; the individual characters are separated by a blank. The characters are repeated in hexadecimal format in the next line.

DOCUMENT-FORMAT = *PAGE-FORMAT(...)

The file has specific laser printer control characters.

FORMAT-NAME =

Format in which the output data is transferred to the printer.

FORMAT-NAME = *STD

The default value is automatically determined from the value of the CONTROL-MODE operand. This leads to the following results:

CONTROL-MODE = *PAGE-MODE(...)

FORMAT-NAME = HP

CONTROL-MODE = *APA(...)

FORMAT-NAME = SPDS

CONTROL-MODE = *LOGICAL / *PHYSICAL / *LINEMODE

Content of the file to be printed not relevant

FORMAT-NAME = <c-string 1..63 with-low>

Optional string naming a specific file format.

CONTROL-MODE =

Specifies how the control characters are to be interpreted.

CONTROL-MODE = *PAGE-MODE(...)

The control characters are interpreted as page printer-specific control characters.

PAGE-CONTROL-CHAR = *YES / *NO

Specifies whether the control character list must be at the beginning of each page (i.e. always after branching to the vertical tab “channel 1” in the loop).

PAGE-CONTROL-CHAR = *YES

The control character list must be there.

PAGE-CONTROL-CHAR = *NO

No control character list at the beginning of the page. However, this means that the following functions cannot be controlled in the case of output to HP printers:

- Film overlays on individual pages in the file; specified in the PRINT-DOCUMENT command, a film overlay is used on each page of the print file of the spoolout job.
- Page copies for individual pages in the file; all the pages of the print file are output with as many copies as specified in the PRINT-DOCUMENT command.
- Column-oriented indentation on individual pages; the value specified in the PRINT-DOCUMENT command is valid for all the pages in the print file.
- FOB data overlay on individual pages in the file; specified in the PRINT-DOCUMENT command, an FOB data overlay is used on each page in the print file of the spoolout job.
- A copy reference number cannot be specified.
- Page rotation control for individual pages in the print file; all the pages are output in either portrait or landscape format, as specified in the PRINT-DOCUMENT command.

CONTROL-TYPE =

Specifies whether the control characters are suitable for processing on HP or HP90 printers or whether they have to be converted.

CONTROL-TYPE = *COMPATIBLE

The file does not contain HP or HP90 printer-specific control characters. SPOOL must convert the control characters.

CONTROL-TYPE = *HP

The file contains HP or HP90 printer-specific control characters that can only be processed by these printers.

LINE-SPACING =

Specifies the number of line feeds and the way in which control characters are interpreted.

LINE-SPACING = *BY-EBCDIC-CONTROL

The contents of the first byte of each record are to be interpreted as an EBCDIC feed control character.

LINE-SPACING = *BY-IBM-CONTROL

The contents of the first byte of each record are to be interpreted as an IBM feed control character.

LINE-SPACING = *BY-ASA-CONTROL

The contents of the first byte of each record are to be interpreted as an ASA feed control character.

CONTROL-MODE = *LINE-MODE

Only for RSO.

Records of type C (see the "SPOOL" manual [43]) are printed out. The records may contain data mixed with LINE-MODE control characters. LINE-MODE control characters are (in any combination):

- printer control characters (i.e. physical control character beginning with X'27' or X'3C')
- RENO commands
- VTSU codes

Control over record and file formats (including page and line feed with LINE-MODE control characters) rests solely with the user. With the 9025/9026 RENO page printer, users must also ensure that the printer is set to the correct start position on the paper. A loop is not interpreted. Nonprinting characters, i.e. characters with a hexadecimal value < X'40' are output as blanks.

The spoolout job is executed with the default font of the form used until you change the font in the file with the aid of LINE-MODE control characters.

CONTROL-MODE = *LOGICAL(...)

Only for RSO printers.

Specifies that records of type B-1 or B-2 are to be printed out, i.e. records which, in addition to a feed control character in the first byte, may contain data mixed with font identifiers, printer control characters, RENO commands and VTSU codes (see the "RSO" manual [32], section "Record type B-1/B-2"). With the exception of the VTSU codes VPA, NP, VT, NL and CR, which are output as blanks, the above-mentioned control characters are interpreted. A font identifier, a VTSU code or a RENO command remains valid

until a new control character is specified. If the font identifier is omitted, the default font for the form is used.

Since page feed is implemented via a loop or constant line feed when CONTROL-MODE=*LOGICAL is specified, the file should not contain the RENO commands \LF, \FF and \CR. Setting the form height is likewise not permitted.

LINE-PER-PAGE = *STD / <integer 1..32767>

Specifies how many lines (including header and blank lines) are to be printed on a page.

LINE-PER-PAGE = *STD

If no value is specified, the number of lines per print page is calculated according to the following formula, regardless of the value in the HEADER-LINE operand:

$$\text{Number of lines} = P * L - N - 6$$

The name sections have the following meanings:

P = paper size in inches

L = line density

N = number of line before the first channel 1

If the value specified for the LINE-PER-PAGE operand is greater than the specified number of lines in the loop, the value in the loop is used. A value specified here must be at least three times as large as the line feed specified for LINE-SPACING=1/2/3 if the LINE-PER-PAGE operand is specified together with the HEADER-LINE and LINE-SPACING operands.

HEADER-LINE = *NO / *STD / list-poss(3): *DATE / *FIRST-RECORD / *PAGE-NUMBER

Specifies whether a header line is to be printed on every page (except the header and trailer pages). See also the description of the HEADER-LINE operand of DOCUMENT-FORMAT=*TEXT(...), starting on [page 5-41](#).

LINE-SPACING =

Specifies the number of line feeds and the way in which control characters are interpreted.

LINE-SPACING= 1 / 2 / 3

The records are to be printed out with 1-, 2- or 3-line spacing.

LINE-SPACING = *BY-EBCDIC-CONTROL(...)

The contents of the first byte of each record are to be interpreted as an EBCDIC feed control character.

CONTROL-CHAR-POS = *STD / <integer 1..2040>

Number of the data byte in which SPOOL finds the feed control character. In the case of records of variable length, the fields containing the length information are not counted as data.

LINE-SPACING = *BY-IBM-CONTROL(...)

The contents of the first byte of each record are to be interpreted as an IBM feed control character.

CONTROL-CHAR-POS = *STD / <integer 1..2040>

Number of the data byte in which SPOOL finds the feed control character. In the case of records of variable length, the fields containing the length information are not counted as data.

LINE-SPACING = *BY-ASA-CONTROL(...)

The contents of the first byte of each record are to be interpreted as an ASA feed control character.

CONTROL-CHAR-POS = *STD / <integer 1..2040>

Number of the data byte in which SPOOL finds the feed control character. In the case of records of variable length, the fields containing the length information are not counted as data.

CONTROL-MODE = *PHYSICAL(...)

Only for RSO.

LINE-SPACING=*NO is set automatically, which means that you must implement page and line feeds with LINE-MODE control characters (i.e. VTSU codes, printer control characters and RENO commands) in the file itself. If you specify LINE-SPACING=*BY-EBCDIC-CONTROL for records of type D-2, the feed control character in the first byte is interpreted as a line or page feed control character. Nonprinting characters are also transferred to the printer (in contrast to CONTROL-MODE=*LINE-MODE). The user is responsible for inserting the correct control characters in the file (including line spacing characters).

LINE-SPACING =

Specifies the number of line feeds and the way in which control characters are interpreted.

LINE-SPACING = *NO

The contents of the first byte of each record are not interpreted as a control character.

LINE-SPACING = 1 / 2 / 3

Permitted only for RSO.

The records are to be printed out with 1-, 2- or 3-line spacing.

LINE-SPACING = *BY-EBCDIC-CONTROL

The contents of the first byte of each record are to be interpreted as an EBCDIC feed control character.

LINE-SPACING = *BY-IBM-CONTROL

The contents of the first byte of each record are to be interpreted as an IBM feed control character.

LINE-SPACING = *BY-ASA-CONTROL

The contents of the first byte of each record are to be interpreted as an ASA feed control character.

CONTROL-MODE = *APA(..)

Specifies that the file to be printed out contains APA feed control characters which are to be interpreted.

LINE-SPACING = *BY-EBCDIC-CONTROL / *BY-IBM-CONTROL / *BY-ASA-CONTROL

Specifies the type of the printer control characters (E, I or A).

DOCUMENT-FORMAT = *SPECIAL-FORMAT(...)

A printer-specific language is used in the document. In this case, the SPOOL and Distributed Print Services (Dprint) subsystems provide transparent control for the document. In other words, the file is transferred to an RSO printer, an Xprint printer or to filter processing without interpretation.

FORMAT-NAME =

Specification of the format to be processed. The document is either processed by RSO in transparent mode or sent to Xprint without a special format.

FORMAT-NAME = *NONE

Only for RSO. No format is specified; the document is processed by RSO in transparent mode. Records of type E-1 or E-2 are printed out (see the „SPOOL“ [43] manual). With the exception of VTSU codes for RSO, the data records can contain optional characters. All characters of a data record are transferred by RSO to the printer without interpretation, with the exception of the line spacing control character in the first byte of the type E-2 data record.

The user is responsible for inserting the correct control characters in the file (including line spacing characters). If the LINE-SPACING operand is not specified, the default setting LINE-SPACING=*NO applies and you have to include page feeds and line feeds in the file yourself using LINE-MODE control characters. If LINE-SPACING=*BY-EBCDIC-CONTROL is specified for type E-2 data records, the feed control character in the first byte is interpreted as a line feed or a page feed control character. If the LEFT-MARGIN operand is specified at the same time, blanks are included at the beginning of each data record and these indent the text by the desired number of columns when it is printed.

FORMAT-NAME = *PCL

This value is only still available for reasons of compatibility.

FORMAT-NAME = <c-string 1..63 with-low>

This operand specifies that the contents of the document to be processed are of a specific type (e.g. HP LASERJET). The document to be processed is in PCL format. The operand value is determined by the document format attribute transferred to the cluster. It is interpreted by Xprint or the foreign print system as the "content type" attribute of the print job (xpadd -job -ct...). For this reason the specification of <alphanum-name 1..63> for FORMAT-NAME is permitted only if no BS2000 cluster is specified with the operand value for CLUSTER-NAME. This document content type fulfills the relevant requirements of ISO DPA class 1, which is required for interoperability between the BS2000 SPOOL & PRINT subsystems and remote SPOOL and PRINT subsystems.

Jobs to RSO are printed by an RSO printer if it supports the format name specified or if a filter is available which will convert the format name into a format name supported by the printer.

If the value of CLUSTER-NAME refers to a BS2000 cluster or if none was specified, the length of the format name may not exceed 8 characters. If the FORMAT-NAME value is longer, the command is rejected. The file is printed by a printer that supports the specified format name.

Examples

1. A document containing only text records is transferred to the local SPOOL:

```
/PRINT-DOCUMENT FROM-FILE=myfile,DOC-FORMAT=*TEXT
```

2. A document containing only text records is transferred to a Xprint server:

```
/PRINT-DOCUMENT FROM-FILE=myfile,DOC-FORMAT=*TEXT,
RES-DESCRIPTION(FORM-NAME=x-form),
TO-PRINTER(PRINTER-NAME=xxxxxxxx,
CLUSTER-NAME=x-cluster)
```

3. A document containing text records whose tenth data byte is interpreted as EBCDIC-PCC is transferred to a Xprint server:

```
/PRINT-DOCUMENT FROM-FILE=myfile,DOC-FORMAT=*TEXT(
LINE-SPACING=*BY-EBCDIC-CONTROL,CONTROL-CHAR-POS=10),
RES-DESCRIPTION(FORM-NAME=x-form),
TO-PRINTER(PRINTER-NAME=xxxxxxxx,
CLUSTER-NAME=x-cluster)
```

4. An HP PCL4 document is transferred to a Xprint server:

```
/PRINT-DOCUMENT FROM-FILE=myfile,DOC-FORMAT=*SPECIAL-FORMAT(
FORMAT-NAME=HP-LASERJET oder *NONE),
RES-DESCRIPTION(FORM-NAME=x-form),
TO-PRINTER(PRINTER-NAME=xxxxxxxx,
CLUSTER-NAME=x-cluster)
```

You will find further detailed examples in the “Distributed Print Services” manual [10].

5. A PCL5 document is transferred to the local SPOOL in transparent mode:

```
/PRINT-DOCUMENT FROM-FILE=myfile,DOC-FORMAT=*SPECIAL-FORMAT(
FORMAT-NAME=PCL5),
RES-DESCRIPTION(FORM-NAME=FRM001)
```

Please note that FORM FRM001 has to be defined in the SPOOL parameters for a 2050 PCL or 2090 PCL.

6. A PCL5 document is transferred to RSO in transparent mode:

```
/PRINT-DOCUMENT FROM-FILE=myfile,DOC-FORMAT=*SPECIAL-FORMAT(
    FORMAT-NAME=*NONE oder PCL5),
    RES-DESCRIPTION(FORM-NAME=FRM001),
    TO-PRINTER=*PARAMETERS(PRINTER-NAME=PRNPCL)
```

You will find further detailed examples in the “Spool & Print commands” manual [42].

7. An HP job is transferred to a UNIX-based server:

```
/PRINT-DOCUMENT FROM-FILE=myfile,DOC-FORMAT=*PAGE-FORMAT(
    CONTROL-MODE=*PAGE-MODE),
    TO-PRINTER=*PARAM(PRINTER-NAME=xxxxxxx,
    CLUSTER-NAME=x-cluster,OUTPUT-FORMAT='HP-LASERJET')
```

The SPCONV product is required in this case. You will find further information in the “SPCONV” manual [41].

LINE-SPACING =

Specifies the number of line feeds and the way in which control characters are interpreted.

LINE-SPACING = *NO

The contents of the first byte of each record are not interpreted as a control character.

LINE-SPACING = 1 / 2 / 3

Permitted only for RSO.

The records are to be printed out with 1-, 2- or 3-line spacing.

LINE-SPACING = *BY-EBCDIC-CONTROL

Permitted only for RSO.

The contents of the first byte of each record are to be interpreted as an EBCDIC feed control character.

LINE-SPACING = *BY-IBM-CONTROL

Permitted only for RSO.

The contents of the first byte of each record are to be interpreted as an IBM feed control character.

LINE-SPACING = *BY-ASA-CONTROL

Permitted only for RSO.

The contents of the first byte of each record are to be interpreted as an ASA feed control character.

PRINT-JOB-CONTROL = *PARAMETERS(...)

Specifies all the parameters for controlling print job processing.

START-PROCESSING =

Time of printout for the system file prior to termination of the job.

START-PROCESSING = *IMMEDIATE

The spoolout job is to be generated and processed immediately after the command is entered.

START-PROCESSING = *AT-FILE-CLOSING

The spoolout job is to be processed immediately after the system file is closed. A system file is closed:

- a) for primary assignment: by means of the EXIT-JOB (or LOGOFF) or CANCEL-JOB command (from a different identifier), i.e. after the end of the job
- b) for a file assigned to a cataloged file:
 - by an EXIT-JOB (or LOGOFF) command or by CANCEL-JOB (from another ID), i.e. at the end of the job
 - by another ASSIGN-SYSFILE command (change of assignment) issued for the same system file
- c) during a procedure run whenever procedure level 0 has been reached

START-PROCESSING = <integer 1..2147483639>

Number of logical pages after which printing is started. The remainder of the relevant file (\leq <integer> pages) is printed out after the system file has been closed (see the operand value *AT-FILE-CLOSING). The minimum value for <integer> can be displayed using the SHOW-SPOOL-PARAMETERS command or SPSEVE statement; the information is available in the output field SPOOL-OUT-OPTIONS:...ST-SP-LOW-VAL=...

Note

- All the operand values from a PRINT-DOCUMENT command with START-PROCESSING= <integer> or START-PROCESSING=*AT-FILE-CLOSING are recorded for each addressed system file.
- Each spoolout job is given its own TSN.

FAMILY-PROCESSING =

Specifies whether a common TSN is allocated if two or more file or library elements are specified in a PRINT-DOCUMENT command (in order to ensure that these files are output sequentially on the same printer).

FAMILY-PROCESSING = *STD

For spoolout jobs to local printers and RSO devices, the default value from the SPOOL parameter file is to apply. This can be defined separately (and hence differently) for local and RSO printers in the SPSEVE statement MODIFY-SPOOL-PARAMETERS. You can query the value with the command or SPSEVE statement SHOW-SPOOL-PARAMETERS (FAMILY-PROCESS field).

FAMILY-PROCESSING = *YES

A common TSN (FAMILY-PRINT) is to be allocated if two or more files or library elements are specified in a spoolout job. The individual files or library elements cannot be processed in parallel.

FAMILY-PROCESSING = *NO

The files or library elements specified at the same time in a PRINT-DOCUMENT command are to be processed under separate TSNs. This means that parallel processing is possible.

CHECKPOINT =

Specifies whether checkpoint processing is to be performed by the controller on the basis of pages or SECTIONS.

CHECKPOINT = *ON-PAGES

Default restart mechanism.

When an interrupted job is restarted, processing is resumed from a point a given number of pages back.

CHECKPOINT = *ON-SECTION-RECORDS

The operand value can be specified for all printer types but offers advantages particularly in the case of output to HP90 printers using the TWO-UP procedure and LP65 printers. With these types of printer, a physical page can comprise a number of logical pages without SPOOL detecting it (the information is in the PCL file); in other words, the default restart mechanism, which is geared to logical pages, is highly prone to errors with this type of printer. SECTION records are used here as restart markers. You divide your files into sections with the aid of SECTION records. These SECTION records must contain the printer commands needed to ensure correct data processing. If a physical page contains a number of logical pages, the start of a physical page must also be clearly indicated in the SECTION record. If an error occurs, processing is resumed with HOLD-PRINT-JOB and RESUME-PRINT-JOB a given number of sections further on in the file; i.e. RESTART-POSITION = PAGE(...) or BACK(...) refers to sections rather than pages. Similarly, the values shown in error messages are not pages but sections. To arrive at a correct result, a section must correspond to at least one physical page (ideally to precisely one page). If the operand value CONTROL-MODE=*PAGE-MODE is specified together with CHECKPOINT=*ON-SECTION-RECORDS, in the case of output to a laser printer, you must ensure that the SECTION records are located immediately ahead of records which contain the control character line at the start of the print page. As soon as repositioning takes place (PRINT-DOCUMENT or restart of an interrupted job), the first record that SPOOL prints must contain the control character line.

PRINT-JOB-NAME =

Job name for the spoolout job.

The job name can be formed from a maximum of 8 characters from the set (A,...Z,0,...9,@,#,\$,..-) but must not start with a hyphen or end with a period. It may only start with a period if this is followed by an alpha character; in this case, the period itself as part of the job name is not printed on the header page. The special character string period and hyphen (.-) may only be specified in quotes.

The job name is printed on the header page in the third uppercase line and also appears in the output of the SHOW-PRINT-JOB-STATUS command. If this operand is omitted the job name from the SET-LOGON-PARAMETERS command is used instead.

PRINT-JOB-NAME = *JOB-NAME

No separate job name for the spoolout job.

If a job name has been assigned (in the SET-LOGON-PARAMETERS command) to the job issuing the command, this name is printed in the third uppercase line on the header page.

PRINT-JOB-NAME = <alphanum-name 1..8> / <c-string 1..8 with-low>

Job name which is to be assigned to the spoolout job (and which will overwrite any job name already assigned to the job issuing the command).

PRINT-JOB-PRIORITY =

Defines the urgency with which this spoolout job is started relative to other spoolout jobs.

PRINT-JOB-PRIORITY = *JOB-PRIORITY

The spoolout job is to have the same priority as the job issuing the command (this is the default).

PRINT-JOB-PRIORITY = <integer 30..255>

Priority to be assigned to the spoolout job. The highest priority you can assign is defined in the user catalog and can be displayed by means of the SHOW-USER-ATTRIBUTES command. If an invalid priority is entered (or no priority at all), the spoolout job is given the same priority as the job issuing the command.

PRINT-JOB-CLASS =

Defines the job class for the spoolout job.

PRINT-JOB-CLASS = *BY-USER-ATTRIBUTES

The preset value for the print job class is copied from the user catalog.

PRINT-JOB-CLASS = <integer 1..255>

Only the SPOOL administrator is allowed to select this value.

The specified job class is assigned to the spoolout job.

MONJV =

Specifies the job variable in which information on job processing is to be stored. See also [page 5-19](#).



The command is rejected if the specified variable name is the name of a temporary job variable.

MONJV = *NONE

No job variable is to be linked to the job.

MONJV = *STD

The job variable will be given the name of the file to be printed (without catalog ID and without user ID). It is created under the user ID and catalog ID of the caller.



The PRINT-DOCUMENT command MONJV=*STD is rejected if:

- a file generation is specified
- a temporary file is specified
- an OMF or EAM file is specified
- a PLAM element is specified

The command PRINT-DOCUMENT (XX,XX),MONJV=*STD is rejected. The reason for this is that if the job variable XX has been created for the first job, it is no longer available for a second job.

MONJV = <filename 1..54 without-gen>

The job variable should contain the specified name. If the job contains several files, the following suffix is added to the name of the job variable:

- a consecutive number <1..9999> if FAMILY-PROCESSING=*YES is also specified
- the TSN of the spoolout job if FAMILY-PROCESSING=*NO or START-PROCESSING=<integer 1..2147483639> is also specified

JV-PASSWORD = *NONE / *SECRET / <c-string 1..4> / <x-string 1..8>

Specifies the password with which the job variable is protected. *SECRET or ^ enables a blanked input field to be requested for protected input in unguided dialog and foreground procedures.

See also [page 5-19](#).

PROCESSING-ADMISSION =

Only for spoolout jobs under the user ID with the privilege PRINT-SERVICE-ADMINISTRATION.

This allows the user to specify whether the spoolout job is to be executed under the user's own ID or another specified user ID and account number.

PROCESSING-ADMISSION = *SAME

The spoolout job is to be executed under the user's own ID.

PROCESSING-ADMISSION = *PARAMETERS(...)

The spoolout job is to be executed under another user ID.

USER-IDENTIFICATION = <name 1..8>

User ID under which the spoolout job is to be executed.

ACCOUNT = *NONE / <alphanum-name 1..8>

Account number under which the spoolout job is to be executed.

PASSWORD = *NONE / *SECRET / <c-string 1..8> / <c-string 9..32> / <x-string 1..16>

Password for the user ID. The long password mechanism is supported (<c-string 9..32>). See the MODIFY-USER-PROTECTION command for details of the long password mechanism. The PASSWORD operand has the following special characteristics:

- The password entered is not logged.
- The input field is automatically blanked out in the guided dialog.
- In unguided dialog and foreground procedures, the entry *SECRET or ^, SDF provides a blanked out input field for inputting the password .

FAILURE-PROCESSING =

Specifies whether a specific message page is to be created when an error occurs during current processing on an APA printer.

FAILURE-PROCESSING = *PARAMETERS(...)

Specifies what happens in the event of an error.

MSG-PAGE = *YES / *NO

Specifies whether or not the APA message page is to be printed. The APA message page contains error messages and warnings. If an APA printer is not being used, this parameter is ignored.

SCHEDULING-TIME = *STD / *EARLIEST(...)

Determines the scheduling time, i.e. the start time of the print job. The default setting is *STD, i.e. the print job is started on the basis of printer availability and the processing rules for print jobs.

SCHEDULING-TIME = *EARLIEST(...)

The job is started at the earliest at the specified time on the specified date.

DATE = *TODAY / <date with-compl>

Day on which the print job is started.

TIME = <time>

Time at which the print job is started.

ENCRYPTION = *NO / *YES

Only for RSO V3.5B or higher: Specifies whether the print file is to be encrypted.

LAYOUT-CONTROL = *PARAMETERS(...)

Specifies all the parameters that control page layout.

PAGE-COPIES = *STD / <integer 0..255>

In local SPOOL mode, only for the printer types HP, HP90 and LP65.

Number of page copies.

In RSO operation, this only applies to the following printer types: 2030-PCL, 4818-PCL, 4821-PCL, 4822-PCL, 4824-PCL, 4825-PCL, 9021, 9022, 9022-200, 9025, 9026-RENO, 9026-PCL, DJET, 9000-PCL.

This specifies how many times each individual page is to be repeated. The ADDITIONAL-COPIES operand allows additional printouts of the whole file to be requested.

A PRINT-DOCUMENT command with the PAGE-COPIES operand is rejected if the line number specified in the LINE-PER-PAGE operand is greater than the number of lines in the loop record minus the number of lines before the line on which the vertical tab "channel 1" is defined.

On an HP or HP90 printer a maximum of 255 copies of a page can be printed in succession. PAGE-COPIES=255 has the same effect as PAGE-COPIES=254: one original and 254 copies are printed.

PAGE-COPIES = *STD

For LP65 printers:

the number of page copies is as specified in the PCL file.

For all other printer types:

PAGE-COPIES=0.

LEFT-MARGIN = *STD / <integer 0..31>

For all printers with the exception of RSO printers: The output text is to be indented by the specified number of columns. *For all RSO printers:* The output text is to be indented by the specified number * 1/10 inch. The default value can be displayed by means of the command or SPSEVE statement SHOW-SPOOL-PARAMETERS; the information is given in the PRINT-CMD-DEFAULTS:...LEFT-MARGIN = ... output field. The LEFT-MARGIN operand is ignored if the operand CONTROL-MODE=*PHYSICAL is specified at the same time.

TWO-SIDED =

Specifies whether the LP65 or RSO printer is to print the paper on one side or two. In conjunction with the ROTATION operand, the TWO-SIDED operand defines the exact type of printing on both sides.

TWO-SIDED=	ROTATION=	Type of double-sided printing
*NO	freely selectable	Single-sided printing (SIMPLEX)
*YES	*NO, 0, 180	Portrait format, aligned to the long edge
*YES	90, 270	Landscape format, aligned to the short edge

TWO-SIDED=	ROTATION=	Type of double-sided printing
*TUMBLE	*NO, 0, 180	Portrait format, aligned to the short edge
*TUMBLE	90, 270	Landscape format, aligned to the long edge

Notes

- For LP65 printers (and for these only) the TWO-SIDED, ELECTRONIC-OVERLAY and PAGE-COPIES functions are linked with one another and form part of one single print command. If only one of the operands is defined, default values will be generated for the others.
- Only the operand TWO-SIDED=*STD can be used in conjunction with DOCUMENT-FORMAT=*SPECIAL-FORMAT.

TWO-SIDED = *STD

The paper is printed on one side (simplex mode) or two (duplex mode), as defined in the PCL file.

TWO-SIDED = *NO

The paper is printed on one side (simplex mode).

TWO-SIDED = *YES

The paper is printed on two sides (duplex mode).

TWO-SIDED = *TUMBLE

The paper is printed on two sides (duplex mode), and the pages are turned over from top to bottom rather than left to right. The sheets are bound along a horizontal edge. Beside LP65 printers with single sheet processing, this job can also be printed on 2030-PCL, 9026-PCL, 9026-RENO, 4822-PCL, 4825-PCL, 4824-PCL and 9000-PCL printers.

ROTATION =

Specifies whether the pages to be printed from the spoolout job are to be rotated, and if so by how many degrees. The print page set up in the printer is rotated (clockwise) by a certain number of degrees and printed on the form; for example, paper inserted in the printer in portrait format can be printed in landscape format. A separate loop is needed for pages rotated through 90⁰/270⁰ (see the LOOP-NAME operand). Unless ROTATION=*NO is specified, output is directed (automatically) to HP and HP90 printers. SHOW-SPOOL-PARAMETERS indicates whether or not an HP or HP90 printer with a page rotation module is available in the current SPOOL configuration: output field DEVICE-TYPE:..., ROT=YES/NO.

Spoolout jobs with page rotation are displayed in the outputs for the commands SHOW-USER-STATUS and SHOW-PRINT-JOB-STATUS JOB-IDENTIFICATION=TSN(TSN=...).

The feed for rotated pages is generally controlled via a separate loop (ROTATION-LOOP-NAME). If you have specified neither a ROTATION-LOOP-NAME for PRINT-DOCUMENT nor a form with a defined ROTATION-LOOP (see ADD-SPOOL-FORM), the default rotation loop R06 in the default form takes on feed control for the rotated pages. Header and trailer pages are not printed out in rotated format.

ROTATION = *NO

Page rotation is not performed. Any control characters for page rotation in the file are not interpreted.

ROTATION = *BY-CONTROL-CODES

Control characters for page rotation in the file are interpreted.

ROTATION = 0 / 90 / 180 / 270 / 0-180 / 180-0 / 90-270 / 270-90

Each print page is rotated by 90⁰ / 180⁰ / 270⁰ (clockwise) and printed out. Control characters for page rotation contained in the file are not interpreted. A separate loop is needed for pages rotated through 90⁰ / 270⁰. You must check that output with the specified loop does not lead to errors. If an error occurs, the job is rejected.

ROTATION = 0-180 / 180-0 / 90-270 / 270-90

The odd pages (number before the hyphen) and even pages (number after the hyphen) are to be printed at different angles. This function is not supported by RSO.

COVER-PAGES = PARAMETERS(...)

Parameters for system exit routines relating to the printing of header and trailer pages.

HEADER-PAGE-TEXT = *NONE / <c-string 1..32>

The specified information (maximum of 32 characters) is stored in the SCB for processing the system exits. The first 8 characters are printed on the header page as an uppercase line under the mailing box. Only alpha characters, digits and a number of special characters are printed on the header page (in outsize type). All other character codes are automatically replaced by the printable character '?'.

Format of the header page:

1. User ID in outsize letters (10 lines + 2 blank lines)
2. Account number in outsize letters (10 lines + 2 blank lines)
3. Job name in outsize letters (10 lines + 2 blank lines)
4. Mailing box (address and identification field: 12 lines + 2 blank lines)
5. 'text' in outsize letters (10 lines + 2 blank lines)

Priority sequence:

1. Mailing box (address and identification field: 12 lines + 2 blank lines)
2. 'text' in outsize letters (10 lines + 2 blank lines)
3. Job name in outsize letters (10 lines + 2 blank lines)
4. User ID in outsize letters (10 lines + 2 blank lines)
5. Account number in outsize letters (10 lines + 2 blank lines)

HEADER-EXIT-NUMBER = *NO / <integer 1..2147483639>

Number of header pages required.

The precise significance of this operand depends on the definitions made for the computer center. The default value is *NO (equivalent to 0).

TRAILER-EXIT-NUMBER = *NO / <integer 1..2147483639>

Number of trailer pages required.

The precise significance of this operand depends on the definitions made for the computer center. The default value is *NO (equivalent to 0). The layout of the trailer page for local SPOOL is illustrated in the "SPOOL" manual [43].

TABLE-REFERENCE-CHAR =

Specifies whether users select fonts for print page layout by means of control characters in the text. The selection can be made with the aid of TRCs (table reference characters), which reference a list of fonts from within the records. The list can either be part of the page definition (PAGE-DEFINITION) or can be declared by means of the CHARACTER-SETS operand. For a detailed explanation of how to use the TRC, see the "SPOOL" manual [43].

TABLE-REFERENCE-CHAR = *NO

No font selection control characters (TRCs) are stored in the print file, or these characters are not to be evaluated.

TABLE-REFERENCE-CHAR = *YES

The print file contains font selection control characters (TRCs) that are to be evaluated by SPS. Each TRC value represents a specific font that is to be used to print out the relevant record. The individual values (from X'00' to X'0F') must either be linked to the entries in the font list in PAGE-DEFINITION, in the order in which they occur, or must be explicitly linked to the fonts specified in the CHARACTER-SETS operand in the order in which they occur. Regardless of the number of different TRC values in the file, up to four fonts, specified in the form of a list, can be used to print the records. TRC values greater than X'03' (corresponding to the fourth value in the list) automatically reference the first font in the list.

LANGUAGE-EXTENSION =

Specifies whether a text with a language extension (i.e. containing two languages) is to be printed out.

LANGUAGE-EXTENSION = *NONE

The document does not contain a language extension.

LANGUAGE-EXTENSION = *PARAMETERS(...)

The document contains language extensions. These are specified in the substructure.

LANGUAGE-NAME = *ARABIC / *FARSI

Language (Arabic or Farsi) contained in the document.

LANGUAGE-MODE = *RIGHT-TO-LEFT / *LEFT-TO-RIGHT

Specifies whether the characters in the selected language are to be printed from right to left or left to right.

INPUT-TRAY-NUMBER =

Defines the paper input tray for the printer type LP65 or for the RSO printers 2030-PCL, 4011, 4812, 4813, 4818-PCL, 4821-PCL, 4822-PCL, 4824-PCL, 4825-PCL, 9000-EPLQ, 9000-EPSQ, 9000-PCL, 9004, 9011, 9012, 9013, 9014, 9015, 9021, 9022, 9022-200, 9025, 9026-PCL, 9026-RENO, 9097 and DJET. In the case of LP65 printers, the tray numbers 1 to 3 can be specified, whereas for RSO printers the tray numbers 1 to 99 can be specified.

Only for LP65 printers:

The paper input tray is to be selected by means of a PCL file or an entry at the printer control console. The PCL file can in turn select an input tray.

The order of priority for selecting an input tray is as follows:

1. the number of the input tray specified in PRINT-DOCUMENT
2. any selection via the PCL file specified in the PRINT-DOCUMENT command
3. any selection via the PCL file specified in the form definition in the SPOOL parameter file
4. the default values defined in the device record.

The following applies to all printers listed above:

- If a paper input tray is specified here, but is not applicable for the particular printer, the result is a printer error on most printer types.
- The PRINT-DOCUMENT command is rejected if the selected paper size is not available on the particular printer or if the paper size in the standard forms entries is larger than that for the selected paper.
- Printer resources such as prolog, epilog, DIA, member and font character files are sent before the paper input tray is selected.

INPUT-TRAY-NUMBER = *STD

Paper is taken from the input tray defined in the device record of the printer in the SPOOL parameter file (DEFAULT-TRAY-NUMBER operand of the ADD-SPOOL-DEVICE statement. It is not possible to specify the paper size in this statement operand). The input tray selection is valid for the entire spoolout process, i.e. including processing of the header and trailer pages. If a standard paper size is specified, the printer selects the first input tray that contains this paper size. If this paper is not available, the printer switches to offline and the operator is prompted in the printer channel to insert the selected paper.

INPUT-TRAY-NUMBER = *IGNORE

Only for RSO printers: Once this operand value is specified, RSO sends no further commands for input tray selection to the printer. The default setting of the printer is used.

INPUT-TRAY-NUMBER = <integer 1..99>

Number of the input tray from which the paper is taken for printing the file itself as well as the header page (HEADER-PAGE) and trailer page (TRAILER-PAGE). RSO does not check the specified value. Possible values: 1...99.

The following table shows the printer types and the corresponding maximum number of input trays (column headed "max.").

printer	Max.	printer	Max.	printer	Max.	printer	Max.
2030-PCL	2	9000	0	9002	0	9022	2
4011	2	9000-PCL	2	9003	0	9022-200	2
4812	2	9000-PRO	0	9004	3	9025	2
4813	2	9000-PS	0	9011	2	9026-PCL	4
4818-PCL	2	9000-EPFX	0	9012	2	9026-RENO	4
4821-PCL	2	9000-EPLQ	2	9013	3	9045-ANSI	0
4822-PCL	3	9000-EPSQ	2	9014	3	9046	0
4824-PCL	2	9001	0	9015	2	9645	0
4825-PCL	3	9001-31	0	9021	2	DJET	1
8121	0						

Table 83: Printer types and the corresponding maximum number of input trays

The following table indicates how RSO's response to certain operand values is governed by the device definition:

- INPUT-TRAY-NUMBER operand specified in the PRINT-DOCUMENT command
- device definition in the ADD-SPOOL-DEVICE statement with the operand FORM-FEED = *SINGLE-SHEET(DEFAULT-TRAY-NUMBER = ...)

Default in the device definition	Value of the INPUT-TRAY-NUMBER operand		
	*STD	1..99	*IGNORE
1..99	Sets default value (1) or Sets *LISTING value (2)	Sets specified value (1) or Sets *LISTING value (2)	Last tray specified is used
*IGNORE	Last tray specified is used	Sets specified value (1) or Sets *LISTING value (2)	Last tray specified is used

- (1) on single-sheet printers and printer type 9015 (list printer)
- (2) on list printers other than printer type 9015

INPUT-TRAY-NUMBER = *BY-FORMAT(...)

Defines the input tray by specifying the paper format.

INPUT-TRAY-FORMAT = *A3 / *A4 / *A5 / *B4 / *B5 / *FOLIO / *INVOICE / *EXEC / *LEGAL / *LETTER / *DOUBLE-LETTER / *MONARCH / *COMMERCIAL-10 / *DL / *C5 / *MANUAL / *A3-UNCUT / *A4-UNCUT / *LEDGER

Apart from *MANUAL, each operand value corresponds to a paper format. To ensure that the values for PAGE-SIZE and LINE-SIZE specified in the FORM operand do not exceed the permissible maximum values for the selected paper format, the values of the FORM operand are compared with the permissible maximum values for the paper format.

The table below contains the maximum permissible values for PAGE-SIZE and LINE-SIZE for each paper format and indicates which printers support the paper format. With all paper formats the sheets are taken from the first input tray which contains sheets in the given format.

Paper format	Maximum PAGE-SIZE	Maximum LINE-SIZE	Applicable to printers of type:
A3	165	116	9026-PCL and 9026-RENO
A4	116	82	9021, 9000-PCL, 9026-PCL, 9026-RENO, 2030-PCL, 4818-PCL, 4821-PCL, 4822-PCL, 4824-PCL and 4825-PCL
A5	82	58	4818-PCL, 4822-PCL, 4825-PCL, 9026-PCL and 9026-RENO
B4	143	101	2030-PCL, 4818-PCL, 4821-PCL, 4822-PCL, 4825-PCL, 9000-PCL, 9026-RENO
B5	101	71	9026-PCL and 9026-RENO
FOLIO	129	85	9026-RENO
INVOICE	85	55	9026-PCL and 9026-RENO
EXEC	105	72	9021, 9000-PCL, 9026-PCL, 2030-PCL, 4821-PCL, 4822-PCL, 4824-PCL and 4825-PCL
LEGAL	140	85	9021, 9000-PCL, 9026-PCL, 9026-RENO, 2030-PCL, 4821-PCL, 4822-PCL, 4824-PCL and 4825-PCL

Table 84: Paper formats (Part 1 of 2)

Paper format	Maximum PAGE-SIZE	Maximum LINE-SIZE	Applicable to printers of type:
LETTER	110	85	9021, 9000-PCL, 9026-PCL, 9026-RENO, 2030-PCL, 4821-PCL, 4822-PCL, 4824-PCL and 4825-PCL
DOUBLE-LETTER	150	117	9026-RENO
MONARCH	75	38	9021, 9000-PCL, 2030-PCL, 4821-PCL, 4822-PCL, 4824-PCL and 4825-PCL
COMMERCIAL-10	95	41	9021, 9000-PCL, 2030-PCL, 4821-PCL, 4822-PCL, 4824-PCL and 4825-PCL
DL	86	43	9021, 9000-PCL, 2030-PCL, 4821-PCL, 4822-PCL, 4824-PCL and 4825-PCL
C5	90	63	9021, 9000-PCL, 2030-PCL, 4821-PCL, 4822-PCL, 4824-PCL and 4825-PCL

Table 84: Paper formats (Part 2 of 2)

INPUT-TRAY-FORMAT = *MANUAL

Form feed is manual. You should therefore insert a new sheet each time a new page is to be printed or the printer prompts you to do so.

The following printers support manual feed: 9004, 9014, 9015, 9021, 9022, 9022-200, 9026-Reno, 9026-PCL, 2030-PCL, 4812, DJET, 4814-PCL, 4818-PCL, 4821-PCL, 4822-PCL, 4824-PCL, 4825-PCL and 9000-PCL.

OUTPUT-TRAY-NUMBER =

Specifies the paper output tray for LP65 printers and for the RSO printers 2030-PCL, 4818-PCL, 4821-PCL, 4822-PCL, 4824-PCL, 4825-PCL, 9000-PCL, 9014, 9015, 9026-PCL and 9026-RENO.

OUTPUT-TRAY-NUMBER = *STD

Paper is output to the default tray defined in the device record (SPOOL parameter file). The output tray selection is valid for the entire spoolout process, i.e. including processing of header and trailer pages.

Only for LP65 printers:

Selection of the output tray by BS2000 can be prevented by a PCL file or by making an appropriate entry at the printer control console. In these cases, the entries for OUTPUT-TRAY-NUMBER have no effect. An output tray can also be defined in the PCL file.

The order of priority for selecting an output tray is as follows:

1. the output tray number specified in PRINT-DOCUMENT, provided this is not prevented by a PCL file or an entry at the printer console.
2. any selection via the PCL file specified in the PRINT-DOCUMENT command.

- 3. any selection via the PCL file specified in the form definition in the SPOOL parameter file.
- 4. the default values defined in the device record.

OUTPUT-TRAY-NUMBER = *IGNORE

Only for RSO printers.

If this value is specified, the printer controller does not send an output tray selection code to the printer. This allows you to define the output tray in the prolog file.

OUTPUT-TRAY-NUMBER = <integer 1..99>

Specifies the output tray to be used for the current job. Only the values 1..3 are valid for LP65 printers.

RSO printer types	Output tray number	Output tray selection
2030-PCL, 4818-PCL, 4821-PCL, 4822-PCL, 4824-PCL, 4825-PCL, 9000-PCL	1 2	Top output tray Bottom output tray
9014	1 2	Stacker Front output tray
9015	1 2 3 4	Uncut in rear output tray Cut in rear output tray Uncut in front output tray Cut in front output tray
9026-RENO	1..20	Appropriate output tray of the sort mechanism

OUTPUT-TRAY-NUMBER = *SORTER(...)

Only for RSO printers:

Specifies that the sort mechanism is to be used for the current job. OUTPUT-TRAY-NUMBER = *SORTER(...) is permissible for 9026-RENO, 4822-PCL and 4825-PCL printers. This sort mechanism can be used for up to 20 output trays. It cannot be controlled by the default values defined in the device record.

SORT-MODE = *NO

All pages in the document are output to the sort trays from bottom to top. Exception 9026-RENO: here the pages are output to an output tray to provide optimum access.

SORT-MODE = *GROUP

Each copy of a particular page - if multiple copies are specified in PAGE-COPIES - is output to a separate sort tray. The printer does not return to the first sort tray until it is ready to start outputting the next page in sequence. When the print job is completed, each sort tray used contains a complete copy of the printed document.

Example

There are three pages in the file, and PAGE-COPIES=1 is specified:

Page 3	Page 3	
Page 2	Page 2	
Page 1	Page 1	
Tray 1	Tray 2	Tray 3

SORT-MODE = *COLLATE

All copies of a page - if multiple copies are specified in PAGE-COPIES - are collected in one sort tray. The copies of the next page are placed in the next sort tray. The sort trays are used from bottom to top.

Example

There are three pages in the file, and PAGE-COPIES=2 is specified:

Page 1	Page 2	Page 3
Page 1	Page 2	Page 3
Page 1	Page 2	Page 3
Tray 1	Tray 2	Tray 3

SORT-MODE = *STACKER

Cannot be used for the 9026 Printer.

All printed pages are output to the stacker of the sort mechanism, to a maximum of 500 pages. This mode is suitable if a single copy of a very long document is to be printed.

SORT-MODE = *AUTOMATIC

Applicable to the 9026 only. The sort mode is selected automatically depending on the number of copies per page requested in PAGE-COPIES and the number of sort trays available. The printed pages are output unsorted, as with *NO, if the number of copies specified in PAGE-COPIES is the same as the number of sort trays; they are grouped by document, as with *GROUP, if the number of copies specified in

PAGE-COPIES is less than the number of sort trays; and they are collected a page at a time, as with *COLLATE, if the number of copies specified in PAGE-COPIES is greater than the number of sort trays.

Note

Header and trailer pages are printer resources such as prolog, epilog, DIA, member and font character file are sent before output tray selection and are therefore not included in sorting.

TOP-OFFSET =

Defines in millimeters the margin between the top of the physical sheet and the top of the print page. First the print page is positioned on the paper and only then is the lettering within the page rotated and positioned. This means that when the print page is moved with respect to the paper page the orientation of the text within the print page is ignored.

This operand is permissible only for 4818-PCL, 4821-PCL, 4822-PCL, 4824-PCL, 4825-PCL, 9000-PCL, 9021, 9022-200 and 2030-PCL printers.

Note

Only TOP-OFFSET=*IGNORE can be specified in conjunction with DOCUMENT-FORMAT=*SPECIAL-FORMAT.

TOP-OFFSET = *IGNORE

The printer controller does not set a margin between the first line and the top edge of the sheet. The preset printer value or the setting in the prolog file defines the margin that is effective when the document is printed.

TOP-OFFSET = <integer -255..255>

The permissible range of values is -255 to +255. Positive values move the first line down. Negative values move it up.

LEFT-OFFSET =

Defines in millimeters the margin between the left edge of the physical sheet and the left edge of the print page. First the print page is positioned on the paper and only then is the lettering within the page rotated and positioned. This means that when the print page is moved with respect to the paper page the orientation of the text within the print page is ignored.

This operand is permissible only for 4818-PCL, 4821-PCL, 4822-PCL, 4824-PCL, 4825-PCL, 9000-PCL, 9021, 9022-200, 9026-PCL and 2030-PCL printers.

Note

Only LEFT-OFFSET=*IGNORE can be specified in conjunction with DOCUMENT-FORMAT=*SPECIAL-FORMAT.

LEFT-OFFSET = *IGNORE

The printer controller does not set a margin between the print page and the left edge of the sheet. The preset printer value or the setting in the prolog file defines the margin that is effective when the document is printed.

LEFT-OFFSET = <integer -255..255>

The permissible range of values is -255 to +255. Positive values move the print page to the right. Negative values move it to the left.

RESOURCE-DESCRIPTION = *PARAMETERS(...)

Specifies the print resources to be used for the printout.

FORM-NAME =

Specifies the paper (form) to be used for output (e.g. STD, STDSF1, STDWA4). Default forms must be defined in the SPOOL parameter file for all printer types. With SHOW-SPOOL-FORMS you can output the entries to SYSOUT. The SPOOL parameter file also specifies whether header and trailer pages are to be printed.

FORM-NAME = *STD

Default form.

FORM-NAME = <alphanum-name 1..6>

Name of the form with which the spoolout job is to be processed. A loop (or a page and format definition for APA printers) is implicitly named when the form is specified. The associated loop (or the PAGEDEF and FORMDEF) must be in a printer control file. The following table shows which printer control file must contain this loop (or the PAGEDEF and FORMDEF) for the relevant printer type:

Output device	Printer control file with the loop for specified form
Printers 3337, 3338, 3339, 3348, 3349, 3365, LP-EMULATED	\$SYSSPOOL.PRFILE
Printers: 3351, 3353, 2090, 2140, 2240	\$SYSSPOOL.PRFILE or the PRFILE user specified in the USER-RESOURCES-FILE operand
APA printer	\$SYSSPOOL.SYSPRT.SPS.021 or the SPSLIB user specified in the USER-RESOURCES-FILE operand

The loop named implicitly via the FORM-NAME operand is ignored if the LOOP-NAME operand is specified at the same time. If the FORM-NAME and LOOP-NAME operands are omitted, the file is printed out using the default form entered for the printer type.

A loop explicitly specified in the LOOP-NAME operand must have the same length as the loop record assigned to the form used.

No loops can be specified for APA printers. If page and format specifications are made in the FORM-NAME operand, these are used for printing header, trailer and message pages, even if the PAGE-DEFINITION and FORM-DEFINITION operands are explicitly assigned.

See also “[Printer selection](#)” on page 5-12 and the section on APA printers in the “SPOOL” manual [43].

LOOP-NAME =

Name of the loop to be loaded into the feed information buffer (VFB/FCB). The loop name must not include the characters '\$', '&' or '@'.

LOOP-NAME = *STD

Feed control for the spoolout job is to be implemented with the default loop of the form used.

LOOP-NAME = <alphanum-name 1..3>

Name of the loop which is to control line feed. The length of the specified loop must match the length of the default loop of the form used.

A loop for feed control is needed for the HP and HP90 printers (3351, 3353, 2090, 2140) and printers of types 3337, 3338, 3339, 3348, 3349 and 3365. Loops are stored in the PRFILE printer control file. If no loop is specified, the implicit entries in the FORM-NAME operand are used. If the FORM-NAME or LOOP-NAME operand is omitted, default values apply.

ROTATION-LOOP-NAME =

Only for HP and HP90 printers with a page rotation module.

Specifies the loop to control output in landscape format.

The loop name must not include the characters '\$', '&' or '@'.

ROTATION-LOOP-NAME = *STD

Output of rotated pages is to be controlled by the default rotation loop of the specified form or the default rotation loop R06 of the default form (if no form was specified in the PRINT-DOCUMENT command).

ROTATION-LOOP-NAME = <alphanum-name 1..3>

Name of the loop with which line feed for the rotated pages is to be controlled.

CHARACTER-SETS =

Names of the fonts or font pools (only for HP and HP90 printers) to be used for output. Up to 4 fonts may be specified in the list for local SPOOL, up to 16 for RSO. For local SPOOL, the fonts must be contained in the \$SYSSPOOL.PRFILE resource library or in a user PRFILE (specified by means of the USER-RESOURCES-FILE operand). If more than four fonts are to be used, a font pool must be specified.

If more than one font is to be used in a spoolout job, CONTROL-MODE=*PAGE-MODE must be specified. For DOCUMENT-FORMAT=*TEXT, only the first specified font is used for printing the (entire) file. The name of the first font and the number of specified fonts are shown in the output for the command SHOW-PRINT-JOB-STATUS JOB-ID=*TSN(TSN=...).

If the HEADER-LINE operand is specified, the first font specified or the font pool specified with an index for CHARACTER-SETS=*POOL is used for the header line. The default value for CHARACTER-SETS for the form used can be displayed using SHOW-SPOOL-FORMS; the information is given in the C-S output field. With HP printers the following must be borne in mind: Systems support can specify whether the header page is printed with the default font or with the font specified in CHARACTER-SETS. This default value can be displayed by means of the command or SPSERVE statement SHOW-SPOOL-PARAMETERS; the information is given in the HEADER-PAGE: CHARACTER-SET=... output field.

CHARACTER-SETS = *STD

The default font is selected for this printer type from the desired form. It can be displayed by means of SHOW-SPOOL-FORMS.

CHARACTER-SETS = *POOL(...)

Only PRFILEs may contain descriptions of font pools. If a font pool is specified, the spoolout job will be processed on an HP or HP90 printer.

POOL-NAME = <alphanum-name 1..4>

Specifies a font pool (with a maximum of 64 fonts for an HP printer or 46 fonts for an HP90 printer) from which one or more fonts are to be used for output. All the fonts of this font pool are loaded into the font buffer when the spoolout job is executed.

POOL-INDEX = q / <integer 0..64>

Number of the font from the font pool with which the spoolout job is to be processed. The number of the font is determined by its position in the definition of the font pool. The specified font is used if POOL is specified together with CONTROL-MODE=*PAGE-MODE.

CHARACTER-SETS = *BY-EXTENDED-NAME(...)

Specifies the fonts to be interpreted by SPS when the TABLE-REFERENCE-CHAR operand is used.

NAME = <alphanum-name 1..8>

Names of the fonts to be linked with the TRC values in the print file (each TRC value represents a specific font). Regardless of the number of different TRC values in the file, up to four fonts, specified in the form of a list, can be used to print the records. TRC values greater than X'03' (corresponding to the fourth value in the list) automatically reference the first font in the list.

CHARACTER-SETS = list-poss(16): <alphanum-name 1..3>

Names of the fonts with which the spoolout job is to be processed. For DOCUMENT-FORMAT=*TEXT (default), only the first specified font is used for printing.

For laser printers in local SPOOL mode, a maximum of four fonts may be specified. The printer control characters for changing fonts are only interpreted if CONTROL-MODE=*PAGE-MODE is also specified. In the case of RSO printers, a maximum of 16 fonts may be specified. Font identifiers (CSIs) in the text are only interpreted if CONTROL-MODE=*LOGICAL is specified at the same time. The command is rejected if a list of fonts is specified in conjunction with DOCUMENT-FORMAT=*TEXT. See also ["Specifying fonts" on page 5-15](#).

CHAR-SET-ATTRIBUTES =

Only for RSO.

Specifies whether all or only selected font attributes are supported for the spoolout job. Such attributes are, for instance, character type, near letter quality (NLQ), color, etc. (see command or SPSEVE statement SHOW-SPOOL-CHARACTER-SETS). This operand does not apply to header and trailer pages.

CHAR-SET-ATTRIBUTES = *ALL

All the attributes of the fonts used for printout are supported for the current spoolout job.

CHAR-SET-ATTRIBUTES = *RESTRICTED

Only the following three attributes are supported:

- character type
- language
- NLQ (NEAR-LETTER-QUALITY)

OVERLAY-RESOURCES = *PARAMETERS(...)

Specifies whether a film overlay - in the case of HP90 and 3365 printers an EFO data overlay - or an FOB data overlay is to be used for processing a spoolout job.

ELECTRONIC-OVERLAY =

Specifies whether a film overlay - in the case of HP90 and 3365 printers an EFO data overlay - is to be used for processing the spoolout job.

ELECTRONIC-OVERLAY = *NONE

No film overlay (HP90 and 3365: no EFO data overlay) is used for output.

ELECTRONIC-OVERLAY = <alphanum-name 2..2>

Name of the film overlay (HP90 and 3365: EFO data overlay) to be used for processing the spoolout job (the name must be agreed with systems support).

OVERLAY =

For local SPOOL only.

Specifies for LP65 printers whether EFO data overlays are to be used on the recto and/or verso.

They must be stored in the printer memory. The OVERLAY, TWO-SIDED and PAGE-COPIES operands are part of one and the same LP65 printer command and are consequently linked to one another. If only the OVERLAY operand is specified, SPOOL will generate default values for the other two operands. These default values are overwritten by each value specified in a PCL file or at the printer control console.

For a summary of the possible combinations of these three linked functions, see the description of the LP65 printer type in the “SPOOL” manual [43].

OVERLAY = *STD

The EFO data overlays defined in the PCL file are used.

OVERLAY = *NONE

No EFO data overlays are used for output.

OVERLAY = *PARAMETERS(...)

The specified EFO data overlays are used for output.

FACE-SIDE = *NONE / <integer 1..127>

Identification number of the overlay to be used on the recto.

REVERSE-SIDE = *NONE / <integer 1..127>

Identification number of the overlay to be used on the verso.

FORMS-OVERLAY-BUFFER =

Specifies whether an FOB data overlay is to be used for processing the spoolout job (see the “SPOOL” manual [43] for a description of an overlay).

FORMS-OVERLAY-BUFFER = *NONE

No FOB data overlay is used for output.

FORMS-OVERLAY-BUFFER = <alphanum-name 1..4>

Name of the overlay to be used for processing the spoolout job.

If an overlay is specified, the file is printed out on an HP or HP90 printer.

Use of an overlay for the spoolout job is indicated in the output of the command SHOW-PRINT-JOB-STATUS JOB-IDENTIFICATION=TSN(TSN=...).

PAGE-DEFINITION =

Specifies which page definition is to be used for output on LP65 or APA printers.

PAGE-DEFINITION = *STD

For APA printers: The standard definition specified in the SPSLIB is to be used (see the table of SPSLIB standard definitions in the „SPOOL“ [43] manual).

For LP65 printers:

Number of the PCL file with which the print file is to be output. Only the print file itself is output with this PCL file. The header and trailer pages are controlled by the PCL file defined in the SPOOL parameter file form.

Note

- A PCL file that makes it impossible to select another PCL file by means of a channel command must not be used.
- After the specified PCL file has started, the operating mode of the printer is checked. If EXCCW mode is active, and an error occurs during the print process, the restart point is the last SECTION record; if no value was entered under the SECTION operand in the PRINT-DOCUMENT command, the file is printed out again from the start.

PAGE-DEFINITION = <integer 1..50000>*Only for LP65 printers.*

Number of the PCL file with which the print file is to be output.

PAGE-DEFINITION = <alphanum-name 1..8>*Only for APA printers.* The page definition with the specified name is to be used. This must be in the SPSLIB.

The first two characters of the specified name must be "P1". If they are not, the command is rejected.

FORM-DEFINITION =

Specifies which format definition is to be used for output on APA printers.

FORM-DEFINITION = *STD

The default definition specified in the SPSLIB is to be used.

FORM-DEFINITION = <alphanum-name 1..8>

The format definition with the specified name is to be used. This must be in the SPSLIB.



The first two characters of the specified name must be "F1". If they are not, the command is rejected.

USER-RESOURCES-FILE =

Specifies a user file containing all the resources required for output on different printer types: user-defined loops, fonts, overlays, font pools, code translation tables and SPS data stream definitions. The following can be specified:

- a user PROFILE containing loops, fonts, overlay entries (FORMS-OVERLAY-BUFFER operand) and font pool entries (CHARACTER-SETS operand)
- a user SPSLIB containing the PAGEDEFs (PAGE-DEFINITION operand), FORMDEFs (FORM-DEFINITION operand), fonts, page segments, overlays and raster image data
- a user RSOFIL (only for RSO) containing loops

If no user PROFILE, SPSLIB or RSOFIL is specified, the information is taken from the following files: \$SYSSPOOL.PROFILE, \$SYSSPOOL.SYSPRT.SPS.021 or \$SYSSPOOL.RSOFIL, respectively.

USER-RESOURCES-FILE = *STD

The required resources are taken from \$SYSSPOOL.PRFILE, \$SYSSPOOL.SYSPRT.SPS.021 or \$SYSSPOOL.RSOFILE.

USER-RESOURCES-FILE = <filename 1..44 without-gen-vers>

Name of a user PRFILE, SPSLIB or RSOFILE, which may contain a catalog ID and a user ID. SPOOL uses this file name with the suffix .PRFILE, .SPSLIB or .RSOFILE. The string can contain up to 28 characters without the catalog ID and user ID, to ensure that this user file can be called from any ID.

If the file name is specified without a user ID, the file is searched for under the user ID of the caller first, then under SYSSPOOL. If it is not found, the command is rejected. If a user ID is specified, the file is searched for under this ID only.

Example 1

```
PRINT-DOCUMENT DATEI ,USER-RESOURCES-FILE=$XX.XX
```

A search is carried out for the \$XX.XX.PRFILE file. If the file is not found, the command is rejected.

Example 2

If the catalog ID is specified, the search is limited to the specified pubset:

```
PRINT-DOCUMENT DATEI , USER-RESOURCES-FILE=:A:XXXXX
```

The file :A:\$userid.XXXXX.PRFILE is searched for. If the relevant file is not found, the search for the file :A:\$SYSSPOOL.XXXXX.PRFILE is continued. If this file is not found, the command is rejected.

Example 3

```
PRINT-DOCUMENT DATEI , USER-RESOURCES-FILE=:A:$XX.XXXXX
```

The file :A:\$XX.XXXXX.PRFILE is searched for. If it is not found, the command is rejected.

If the file is on an exported PVS (EXPORT-PUBSET command), all spoolout jobs that require this PVS are placed in the KEEP queue. When the PVS becomes available again (IMPORT-PUBSET command), the spoolout jobs are restarted.

TRANSLATION-TABLE =

Specifies whether a code translation table is to be used for processing the spoolout job. The code translation table is necessary if the default escape character 'FF' is to be replaced by a random character.

TRANSLATION-TABLE = *NONE

No code translation table is used.

TRANSLATION-TABLE = *PARAMETERS(...)

A code translation table is used.

NAME = <alphanum-name 1..8>

Name of the code translation table to be used for processing the spoolout job.

FILE = *STD / *SYSTEM / <filename 1..44 without-gen-vers>

The code translation table from the specified file (if FILE=<filename..>) or from the standard \$TSOS.RSOFILE resource file (if FILE=*STD/*SYSTEM) is used for RSO jobs.

Only FILE=*STD applies for SPOOL jobs. Other values are ignored and reset to *STD. Consequently, the code translation table is always taken from the user-specific resource file specified in USER-RESOURCE-FILE or from the standard \$SYSSPOOL.PRFILE resource file (if no user-specific resource file was specified).

RESOURCES-LOCATION =

Specifies, when the optional Distributed Print Services subsystem (Dprint) is used, whether the resources of the client or those of the server are to be used for printing the document.

RESOURCES-LOCATION = *STD

The value from the GEN record of the SPOOL parameter file is to be used.

RESOURCES-LOCATION = *HOME

The print job is to be executed using the print resources defined on the client system. In this case, an extract containing all the required print resources is taken from the resource file (i.e. a print resources container is created) and transferred to the selected server.

RESOURCES-LOCATION = *SERVER

The print job is to be executed using the print resources defined on the server system. In this case, no print resources container is created and transferred.

TO-PRINTER = *PARAMETERS(...)

Describes the requested target devices for the print job.

PRINTER-NAME =

Specifies the requested target printer of the print job. You can specify a distributed local printer pool, a nondistributed local printer pool, an RSO printer pool or an RSO printer.

If you specify a printer pool:

The job is output on any printer in the specified device pool. The pool must be defined in the SPOOL parameter file and can contain up to 16 RSO devices or 16 local SPOOL devices, but not both at the same time.

Device pools are managed by means of the SPSEIVE statements ADD-, MODIFY-, REMOVE-, and SHOW-PRINTER-POOL (see the "SPSERVE" manual [44]).

The spoolout job is rejected if:

- no printer type from the device pool is assigned in the PRINT-DOCUMENT command (see the SHOW-SPOOL-FORMS command or SPSEIVE statement)
- the ELECTRONIC-OVERLAY operand is specified.

Please bear in mind that the pool can contain various types of devices: if the file to be printed contains control characters that are only interpreted by a certain printer type, a printer of this type should be specified (implicitly) in the PRINT-DOCUMENT command. One possibility is to specify in the PRINT-DOCUMENT command a form that is defined only for the desired printer type (ADD-SPOOL-FORM).

PRINTER-NAME = *STD

The spoolout job is to be processed on the default device type specified in the SPOOL parameters (PRINT-CMD-DEFAULTS).

PRINTER-NAME = <alphanum-name 1..8>

Only for RSO.

Symbolic name of the RSO device on which the spoolout job is to be processed.

PRINTER-NAME = *IPP(...)

Only for RSO.

The spoolout job is to be processed on an IPP printer.

URL = <c-string 1..1023 with-low>

Specifies the Web address of the IPP printer.

FQDN = *NONE / <c-string 1..1023 with-low>

Fully-qualified name of the domain to which the IPP printer is assigned.

PRINTER-TYPE =

Specifies which printer type is to process the print job. Only local printer types may be specified.

PRINTER-TYPE = *ANY

A specific printer type is not requested. In this case, the SPOOL subsystem automatically determines the permitted printer types that can process the user request. *ANY must be specified for output on RSO printers and printers on UNIX-based systems.

PRINTER-TYPE = *HP-PRINTER

The spoolout job is to be processed on an HP or HP90 printer. *HP-PRINTER includes the following printer types: 2090/2140/2240(HP90). The control characters for HP and HP90 laser printers are identical; a spoolout job for an HP printer can be processed on an HP90 printer and vice versa.

Selection of the printer type is affected by whether or not the CONTROL-MODE operand is specified at the same time:

Printer selection	CONTROL-MODE = *PAGE-MODE (default value)	CONTROL-MODE =*PAGE-MODE (CONTROL-TYPE=*HP)
PRINTER- TYPE = *<u>ANY</u>	Output can take place to all printer types	Output can be directed to HP or HP90 printers. Other control characters are converted to HP/HP90 control characters.
	The following also applies for HP-/HP90 printers: Conversion of the OVERPRINT functions to the LINE-MERGE function.	
PRINTER-TYPE = *HP-PRINTER	Output can only be processed on HP and HP90 printers. The OVERPRINT function is converted to the LINE-MERGE function.	
	Restrictions for PRFILE: The file may not contain the character X'FF'.	Support of the HP-specific control characters. Restriction: The file may only contain the character X'FF' as an escape character when control character evaluation is enabled (CHAR-SET-ATTRIBUTES = *ALL)

Note for HP/HP90 printers

If the entries in PRINT-DOCUMENT specify output to an HP or HP90 laser printer, a PRFILE must be available. If they are not, the command is rejected. If there is no HP/HP90 available in an installation, or only devices with insufficient configurations (not enough fonts, no graphics buffer for FOBs or no page rotation module, for example), the jobs can only be output to replay tape. Systems support can run the SHOW-PRINT-JOB-STATUS command to obtain information on these jobs.

PRINTER-TYPE = *LP65-PRINTER

The spoolout job is to be processed on an LP65 printer.

PRINTER-TYPE = *APA-PRINTER

The spoolout job is to be processed on a 2050-APA-PRINTER, 2090-APA-PRINTER or 2090-TWIN-PRINTER.

REDIRECTION-ALLOWED =

Specifies whether a device administrator can redirect the spoolout job to a different printer. This does not affect the redirection of jobs by the user or by systems support.

REDIRECTION-ALLOWED = *STD

Means YES for RSO print jobs, for SPOOL print jobs the operand is ignored.

REDIRECTION-ALLOWED = *YES / *NO

Can only be specified for RSO print jobs, not for SPOOL print jobs.

CLUSTER-NAME = *LOCAL-CLUSTER / <alphanum-name 1..8>

Specifies the cluster to which the print job is to be transferred. *LOCAL-CLUSTER means that the print job is to be processed in the local cluster.

Only for Dprint. To transfer the print job to a UNIX-based system, a cluster name defined in the Distributed Print Services (Dprint) configuration file must be specified. The remote clusters defined in the Distributed Print Services (Dprint) configuration file can be displayed by means of the SHOW-DPRINT-REMOTE-CLUSTER command (for a command description and detailed explanation, see the “Dprint” manual [10]).

OUTPUT-FORMAT =

Only relevant for interoperability between BS2000- and UNIX-based systems.

Specifies which printer language is to be used for the print job.

OUTPUT-FORMAT = *NONE

No output format was specified. The document is transferred to the UNIX-based system without any modifications. It is assumed that the printer knows the format name specified in the DOCUMENT-FORMAT=*SPECIAL-FORMAT(...) operand structure.

OUTPUT-FORMAT = <c-string 1..63 with-low>

The format name supported by the printer of the UNIX-based system specified in the PRINTER-NAME operand and known to this printer.

Notes

- In order to print out a document, its format name (defined implicitly with FORMAT-NAME=*STD or explicitly through a freely selectable string) has to be compatible with one of the format names supported by the printer. The supported format names can be defined for each printer in the SPOOL parameter file (see “SPSERVE” manual [44]).
- As a standard, each printer supports the 'TEXT' format. HP and HP90 printers also support the 'HP' format and 2050-APA, 2090-APA and 2090-TWIN printers support the 'SPDS' format.
- If a printer does not support a document's format, it can only print the document if a filter is available which converts the format name into one supported by the printer.

Example

The print job issued with PRINT-DOCUMENT <datei>,...,FORMAT-NAME=xxx is printed out by a printer

- for which 'SUPP-FORMAT-NAME=xxx' was defined
- or for which 'SUPP-FORMAT-NAME=yyy' and a filter was defined which converts the input format 'xxx' into the output format 'yyy'

The filter is defined with the SPSEVERE utility. You will find further information on filters in the “SPCONV” manual [41].

VIRTUAL-PRINTER =

This operand defines whether or not a print job is passed via a virtual printer to an application for processing.

VIRTUAL-PRINTER = *STD

The virtual printer which is to receive the print job is determined through the SPOOL parameter file.

Assignment of the print job to a virtual printer is given precedence. If no virtual printer is active when the print job is added to the list of print jobs, the print job is assigned to a real printer.

VIRTUAL-PRINTER = *ALLOWED

Assignment of the print job to a virtual printer is given precedence. If no virtual device is active when the print job is added to the list of print jobs, the print job is assigned to a real device.

VIRTUAL-PRINTER = *NOT-ALLOWED

This print job should not be transferred to an application program via a virtual device.

VIRTUAL-PRINTER = *MUST(...)

This print job is transferred to the virtual printer specified by the parameters in the brackets. If the printer’s supervisor task is inactive, the print job waits.

NAME = <alphanum-name 1..8>

Device name contained in the SPOOL parameter file.

STRING = *NONE / <c-string 1..32>

Passes a character string on to the application program.

ADDITIONAL-COPIES = 0 / <integer 1..255>

Specifies how many additional times the file is to be printed.

The entry can also be made in parentheses. Each additional printout has its own header page. Default: 0 (no additional printouts).

LOCK-FILE =

Specifies whether the file is to be protected as long as the spoolout job is in the wait state (TYPE 4, see output of the SHOW-PRINT-JOB-STATUS command). During this time the file can only be read. As a rule, tape files are never locked. During processing of the spoolout job (TYPE 5, see output of the SHOW-PRINT-JOB-STATUS command), the file is protected irrespective of the setting of this operand.

A spoolout job is created even if the file to be output is reserved by a SECURE-RESOURCE-ALLOCATION command. This reservation must, however, be canceled by the time the spoolout job is processed; otherwise

the job is not executed. The file to be output is locked until the end of the session if the LOCK-FILE=*YES operand is specified in the PRINT-DOCUMENT command and the job cannot be executed owing to reservation.

LOCK-FILE = *STD

The value defined in the SPOOL parameter file is valid (NO or YES).

LOCK-FILE = *YES

The file is protected while the spoolout job is in the wait state. LOCK-FILE=*YES is ignored if one of the values *OMF, *SYSLST or *SYSOUT is specified for the FROM-FILE operand at the same time. A PRINT-DOCUMENT command for a library element with LOCK=*YES is rejected. File protection offered by LOCK-FILE=*YES remains in force even if the spoolout job is not processed until the next system run.

LOCK-FILE = *NO

The file is not protected while the spoolout job is in the wait state. The file can be deleted or modified before processing of the spoolout job commences. LOCK-FILE=*NO is ignored for temporary files.

DELETE-AFTER-PRINT =

Specifies whether the file is to be deleted at the end of output and, if so, whether its data are to be overwritten with X'00..0'. Default: the file is not deleted after printing and not overwritten with binary zeros. The user must have write access to the file. If the file to be output belongs to a file generation group (see the FROM-FILE operand), the DELETE-AFTER-PRINT operand is ignored. If a spoolout job is used to print several elements of a PLAM library with INPUT-SECTION(...), the DELETE-AFTER-PRINT operand is set to *NO (i.e. suppressed). The operand must not be specified together with *SYSLST, *EAM or *SYSOUT.

DELETE-AFTER-PRINT = *NO

The file is not to be deleted after printing (unless it is an EAM or system file).

DELETE-AFTER-PRINT = *YES(...)

The file is to be deleted as soon as output has been completed.

LINE-TRUNCATION =

Specifies what happens if lines are truncated.

LINE-TRUNCATION = *STD

The default value from the SPOOL parameter is valid. You can display this value by means of the SHOW-SPOOL-PARAMETERS command or SPSERVE statement (field: ERROR-PR=(TRUNC=)).

LINE-TRUNCATION = *DELETE-FILE

Processing of the spoolout job continues (i.e. DELETE-AFTER-PRINT=*YES is executed). An appropriate warning is printed on the trailer page.

LINE-TRUNCATION = *KEEP-FILE

Processing of the spoolout job is continued, but the file is not subsequently deleted.

DELETE-AFTER-PRINT = *DESTROY(...)

Not for EAM and cataloged system files.

Specifies that once the file has been printed its data are to be overwritten with binary zeros.

LINE-TRUNCATION =

Specifies what happens if lines are truncated.

LINE-TRUNCATION = *STD

The default value from the SPOOL parameter is valid. You can display this value by means of the SHOW-SPOOL-PARAMETERS command or SPSEVE statement (field: ERROR-PR=(TRUNC=)).

LINE-TRUNCATION = *DELETE-FILE

Processing of the spoolout job continues (i.e. DELETE-AFTER-PRINT=*DESTROY is executed). An appropriate warning is printed on the trailer page.

LINE-TRUNCATION = *KEEP-FILE

Processing of the spoolout job is continued, but the data of the file itself are overwritten with binary zeros.

NOTIFICATION =

Selects the notification processing for the associated print jobs. The permanent subscriptions are realised asynchronously. At the print job submission the previous subscriptions can be discarded temporarily for the current print job by selecting NOTIFICATION=*NO. It is also possible to temporarily associate another subscription to the current print job by giving the subscription attributes at the print job submission.

NOTIFICATION = *STD

Notification delivery will be processed for the current print job if the owner of this print job has previously recorded permanent subscriptions in the notification resource file.

NOTIFICATION = *NO

Notification processing is turned off for this print job. Notifications will not be generated even if there are valid subscriptions recorded in the notification resource file belonging to the owner of this print job. However, the notifications generated for subscriptions belonging to other privileged users is not turned off.

NOTIFICATION = *PARAMETERS(...)

This operand creates one temporary subscription resource. This subscription exists as long as the current print job exists. It allows the user to associate subscription resource with a particular job.

OBJECT-ATTRIBUTES =

Specifies the object attributes associated to the notifications. Objects, e.g. a print job, for which notifications are sent may have attributes associated to them. The user may want to have one or more of these associated attributes returned with a particular notification. Generally these may include any attribute associated to the object emitting the notification.

OBJECT-ATTRIBUTES = *NONE

No attribute is selected.

OBJECT-ATTRIBUTES = *ALL

All the attributes associated to the print job are selected.

OBJECT-ATTRIBUTES = list-poss(20): <text 1..64>

Some of the attributes are selected.

EVENT-NAMES =

List of subscribed events.

EVENT-NAMES = *ALL

All the events associated to the print job are selected.

EVENT-NAMES = list-poss(20): <alphanum 1..24>

Some of the events are selected.

USER-DATA =

Specifies opaque data that some delivery methods include in each notification data; for example, for a notification by mail, the user data is included in the mail text.

USER-DATA = *NONE

No user data is specified.

USER-DATA = <text 1..63 with-low>

Specifies the user data value.

USER-DATA = <c-string 1..63 with-low>

Specifies the user data value.

RECIPIENT = *PARAMETERS(...)

According to the selected method the user has to specify the delivery address for the notifications.

ADDRESS = <text 1..224 with-low> / <c-string 1..63 with-low>

Specifies the delivery address.

METHOD-NAME = <alphanum-name 1..8> / *MAIL

Specifies the notification delivery method. In case of print jobs addressed to a remote XPRINT cluster, the predefined *MAIL keyword must be used. The notification then will be performed by the foreign cluster.

Notes

- When NOTIFICATION=*PARAMETERS(...) is used, a new subscription is registered in the *notification.parameters* file. This subscription is associated to the current print job. This current print job is identified in the frame of the notification system by a 16-digit alphanumeric ID of the following form: *tttssshhhhhhh* where *ttt* is the TSN of the print job, *sss* is the sequence number of the print job (range in family processing) and *hhhhhhhh* is the host name. The subscription is temporary and will be deleted after the processing of the SPOOLJOBABORTED or SPOOLJOBCOMPLETED events. Those events are defined as terminal for that purpose.
- The object name of the created subscription is indicated with *ANY in the notification manager display.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	No error Guaranteed messages: SCP0810, SCP1025, SCP1026, SCP1027
2	0	SCP0829	Command registered Guaranteed message: SCP0829
2	0	SCP0855	Tape file. LOCK-FILE ignored
2	0	SCP0862	Not file owner. DELETE ignored
2	0	SCP0863	FGG file. DELETE ignored Guaranteed message: SCP0863
2	0	SCP0864	File protected by ACCESS=READ. DELETE ignored Guaranteed message: SCP0864
2	0	SCP0865	File protected by write password. DELETE ignored Guaranteed message: SCP0865
2	0	SCP0866	File protected by EXDATE. DELETE ignored Guaranteed message: SCP0866
2	0	SCP0930	PRFILE not available
2	0	SCP0971	RECORD-CLASS 164 not accessible (PLAM) Guaranteed message: SCP0971
2	0	SCP0988	Print element with section. DELETE ignored
2	0	SCP1000	JV processing error. MONJV ignored Guaranteed message: SCP1000
2	0	SCP1004	PLAM error. DELETE/DESTROY ignored
2	0	SCP1076	No information available for the job
2	0	SCP1077	Job accepted but FAMILY not ready
2	0	SCP1078	LOCK error after job acceptance
	1	CMD0202	Syntax error
	1	SCP0973	Semantic error
	32	SCP0974	System error. Command rejected
	64	SCP0975	No authorization for command Guaranteed messages: SCP0860, SCP0925, SCP0972
	64	SCP0976	Invalid operand value Guaranteed messages: SCP0813, SCP0850, SCP0851, SCP0857, SCP0858, SCP0938, SCP0995, SCP0997
	128	SPS0266	SPOOL subsystem not available
	128	SCP0896	DSEM/RSO/SPS/DPRINTCL/DPRINTSV/DPRINTCM subsystem not loaded/ready Guaranteed message: SCP0896
	128	SCP0996	JV subsystem not loaded/ready Guaranteed message: SCP0996
	128	SCP1087	POSIX subsystem not loaded/ready

Incompatibilities between PRINT-DOCUMENT command operands

The PRINT-DOCUMENT command is rejected if one of the operands in the column on the left is specified at the same time as one of the corresponding operands in the column on the right.

Operand	Incompatible operands
CHARACTERS-SETS =chars-name	PRINTER-TYPE=*LP65-PRINTER / *APA-PRINTER, CONTROL-MODE=*APA
CHARACTER-SETS=*POOL	CONTROL-MODE=*LOGICAL / *APA / *LINE-MODE / *PHYSICAL, PRINTER-TYPE=*LP65-PRINTER / *APA-PRINTER
CONTROL-MODE=*APA	RECORD-PART, DOCUMENT-PART (if no sections specified), LEFT-MARGIN, CHECKPOINT=*ON-SECTION-RECORDS
Only for RSO: CONTROL-MODE =*LINE-MODE / *PHYSICAL	OUTPUT-FORMAT=*HEXADECIMAL, ROTATION=n / *BY-CONTROL-CODES, ELECTRONIC-OVERLAY, ROTATION-LOOP-NAME, CHARACTER-SETS=*POOL, FORMS-OVERLAY-BUFFER, PRINTER-TYPE=*LP65-PRINTER / *APA-PRINTER / *HP-PRINTER, PAGE-CONTROL-CHAR=*NO,
Only for RSO: CONTROL-MODE=*LOGICAL	OUTPUT-FORMAT=*HEXADECIMAL, ROTATION=n / *BY-CONTROL-CODES, ROTATION-LOOP-NAME, CHARACTER-SETS=*POOL, FORMS-OVERLAY-BUFFER, PRINTER-TYPE=*LP65 -PRINTER/ *APA-PRINTER / *HP-PRINTER,
CONTROL-MODE =*PAGE-MODE(CONTROL- TYPE=*HP)	PRINTER-TYPE=*LP65-PRINTER / *APA-PRINTER, INPUT-TRAY-NUMBER, OUTPUT-TRAY-NUMBER
DELETE-AFTER-PRINT	FROM-FILE = *EAM / *OMF
DOCUMENT-FORMAT =*SPECIAL-FORMAT	TWO-SIDED=*NO/*YES/*TUMBLE ROTATION=*NO/0/90/180/270/0-180/180-0/90-270/270-90 TOP-OFFSET=<integer -255..255> LEFT-OFFSET=<integer -255..255>

Table 85: Incompatibilities between PRINT-DOCUMENT command operands (Part 1 of 3)

Operand	Incompatible operands
ELECTRONIC-OVERLAY	PRINTER-TYPE=*APA-PRINTER, CONTROL-MODE=*LINE-MODE / *APA / *PHYSICAL, DOCUMENT-FORMAT=*SPECIAL-FORMAT FORMS-OVERLAY-BUFFER
FAMILY-PROCESSING=*YES	INPUT-SECTION
FORMS-OVERLAY-BUFFER	CONTROL-MODE=*LOGICAL / *APA / *LINE-MODE / *PHYSICAL, DOCUMENT-FORMAT=*SPECIAL-FORMAT, PRINTER-TYPE=*LP65-PRINTER / *APA-PRINTER
FROM-FILE=*EAM	DELETE-AFTER-PRINT=*DESTROY, START-PROCESSING
FROM-FILE =*LIBRARY-ELEMENT	LOCK-FILE=*YES, START-PROCESSING
FROM-FILE=*OMF	DELETE-AFTER-PRINT=*DESTROY
INPUT-PART	FAMILY-PROCESSING=*YES
LEFT-MARGIN	CONTROL-MODE=*APA
LOCK-FILE=*YES	FROM-FILE=*LIBRARY-ELEMENT
LOOP-NAME	PRINTER-TYPE=*APA-PRINTER, CONTROL-MODE=*APA
OUTPUT-FORMAT =*HEXADECIMAL	CONTROL-MODE=*PHYSICAL
PAGE-COPIES	CONTROL-MODE=*APA, PRINTER-TYPE=*APA-PRINTER
PRINTER-TYPE=*APA	CONTROL-MODE=*LOGICAL / *PHYSICAL / *LINE-MODE / *PAGE-MODE, DOCUMENT-FORMAT=*SPECIAL-FORMAT, PAGE-COPIES, ROTATION-LOOP-NAME, LOOP-NAME, ROTATION, CHARACTER-SETS, ELECTRONIC-OVERLAY, FORMS-OVERLAY-BUFFER
RECORD-PART	CONTROL-MODE=*APA
ROTATION =n / *BY-CONTROL-CODES	CONTROL-MODE=*LOGICAL / *APA / *LINE-MODE / *PHYSICAL DOCUMENT-FORMAT=*SPECIAL-FORMAT / *TEXT, PRINTER-TYPE=*LP65-PRINTER / *APA-PRINTER

Table 85: Incompatibilities between PRINT-DOCUMENT command operands (Part 2 of 3)

Operand	Incompatible operands
START-PROCESSING=n	DELETE-AFTER-PRINT=*DESTROY, LOCK-FILE=*YES, INPUT-PART
START-PROCESSING =*AT-FILE-CLOSING	DELETE-AFTER-PRINT=*DESTROY
USER-RESOURCES-FILE	PRINTER-TYPE=*LP65-PRINTER

Table 85: Incompatibilities between PRINT-DOCUMENT command operands (Part 3 of 3)

Notes

1. For reasons of compatibility, the “old” PRINT-FILE command continues to be supported. The new functionality can only be used explicitly with the new PRINT-DOCUMENT command.
2. Spoolout jobs for which the operand PAGE-COPIES, CONTROL-MODE, USER-RESOURCES-FILE or ELECTRONIC-OVERLAY has been specified in the PRINT-DOCUMENT command cannot be printed on impact printers. The operands automatically ensure that another type of printer is used (laser printers, RSO printers).
3. For printers with a loadable VFB, specifying the FORM operand causes the VFB to be loaded if nothing else is specified for the LOOP operand. This means that at least one loop must be available in the \$SYSSPOOL.PRFILE file.

4. POSIX path name

The following operands are not supported for UFS files: LOCK-FILE=*YES, DELETE-AFTER-PRINT=*YES and MONJV=*STD.

If a POSIX path name (up to 1024 characters) is specified, depending on the code type (ASCII or EBCDIC) of the UFS file, an automatic ASCII/EBCDIC conversion is carried out. The conversion is carried out for the whole UFS file (including metacharacters). The automatic ASCII/EBCDIC conversion is carried out by a preparatory server task that simultaneously creates a copy of the UFS file. This copy is given a name and stored in a DMS work file under the user ID \$SYSSPOOL. If the UFS file is in ASCII code and the print job is sent to RSO in transparent mode (DOC-FORMAT=*SPECIAL-FORMAT), no ASCII/EBCDIC conversion is carried out. CCSNAME 88591 is set in the catalog entry of the DMS work file.

If a path name containing wildcards is specified, several UFS files can be processed. If FAMILY-PROCESSING=*YES is specified, all the print jobs are created with the same TSN and cannot be distributed. If FAMILY-PROCESSING=*NO is specified, the print jobs are created with different TSNs and can be distributed.

Print jobs for UFS files cannot be output to magnetic tape.

A POSIX extension allows the record structures of BS2000 files that are to be printed by the BS2000 SPOOL and PRINT subsystems to be preserved. The files can be copied from BS2000 to UFS by means of the RCOPY function with special operands. These files can then be processed only by BS2000 applications. If a print job is issued for them, an RCOPY function is executed in the opposite direction and the original BS2000 files (with the original record structures) restored.

The RCOPY function from UFS to BS2000 with the special operands for storing the BS2000 record structures can be carried out for all print jobs created by means of the PRINT-DOCUMENT command, except if the following operands were specified:

- DOC-FORMAT=*TEXT(...)
- DOC-FORMAT=*SPECIAL(LINE-SPACING=*NO/1/2/3).

5. You will find information on outputting print data in a Dprint environment in the “Distributed Print Services” manual [10].

Examples

Example 1

A batch job contains the following commands:

```
/PRINT-DOCUMENT FROM-FILE=DAT,DELETE-AFTER-PRINT=*YES,ADDITIONAL-COPIES=3,-
/      DOCUMENT-FORMAT=*TEXT(LINE-SPACING=*BY-EBCDIC-CONTROL) _____ (1)
```

```
/PRINT-DOCUMENT FROM-FILE=TEST.DAT.,DOCUMENT-FORMAT= -
/      *TEXT(HEADER-LINE=*STD) _____ (2)
```

```
/PRINT-DOCUMENT FROM-FILE=(FILE1,FILE2,FILE3),RESOURCES-DESCRIPTION= -
/      *PARAMETERS(FORM-NAME=STDWA4) _____ (3)
```

```
/PRINT-DOCUMENT FROM-FILE=(A,A),DELETE-AFTER-PRINT=*YES _____ (4)
```

- (1) The file DAT is to be printed four times in all, and then deleted. The file contains (EBCDIC) feed control characters.
- (2) All files whose names start with “TEST.DAT.” are to be printed with a default header line.
- (3) The files FILE1, FILE2 and FILE3 are to be printed out on white paper (DIN A4).
- (4) The file A is to be printed once and then deleted. For printing in duplicate, the operand ADDITIONAL-COPIES=1 must be specified.

Example 2

```

/print-doc $rz4.sysrme.aid.023.,line-spacing=*by-ebcdic,
          print-job-control=*par(family-proc=*yes,print-job-name=aid023) (1)
% SCP0810 SPOOLOUT FOR FILE ':20RZ:$RZ4.SYSRME.AID.023.D' ACCEPTED. TSN:
'9W6B', SPOOLOUT-NAME: 'AID023', MONJV: '*NONE'
% SCP0810 SPOOLOUT FOR FILE ':20RZ:$RZ4.SYSRME.AID.023.E' ACCEPTED. TSN:
'9W6B', SPOOLOUT-NAME: 'AID023', MONJV: '*NONE'
/show-print-job-sta _____ (2)
TSN  SERVER  SP-NAME  RTSN  HOST      USER-ID  ACCOUNT  F-C  P-C  F-T  FCB-T  F-SIZE
9W6B *HOME    AID023    9W5V  D016ZE07  QM211    89001    0   0  EAM  SAM    20
9W6B *HOME    AID023    9W5V  D016ZE07  QM211    89001    0   0  EAM  SAM    20
% SCP0947 2 JOBS FOUND WITH 40 PAM PAGES. COMMAND TERMINATED

```

- (1) All files pertaining to the user ID RZ4 that begin with SYSRMEAID.023. are to be printed out. The EBCDIC control characters contained in the first column are to be evaluated. The print jobs are to be given the job name AID023 and are to be given the same job number.
- (2) The SHOW-PRINT-JOB-STATUS command displays two print jobs (for each of the files found) under the TSN 64CS.

Example 3

The file FILE has been divided up by SPOOL into 3 print pages with a maximum of 64 lines per page:

Page 1		Page 2		Page 3	
Start	1	Line	65	Line	129
	2		.		.
	.		.		.
	.		.	End	150
	20		.		.
	.		.		.
	.	Line	128		.
Line	64		.		.

1. Print FILE, starting at line 20.

```
/PRINT-DOCUMENT FROM=FILE=DATEI,DOCUMENT-PART=*PARAMETERS( -
    OUTPUT-PART=*RANGE(FROM=20,DIMENSION=*LINES))
```

Page 1		Page 2		Page 3	
Line	20	Line	84	Line	148
	.		.		149
	.		.	End	150
	.		.		.
	.		.		.
	.	Line	147		.
Line	83		.		.

The page feed is implemented after line 83 (=64+19) or 147 (=128+19).

2. Print pages 1 to 3 of FILE.

```
/PRINT-DOCUMENT FROM=FILE=DATEI,DOCUMENT-PART=*PARAMETERS( -
    OUTPUT-PART=*RANGE(FROM=1,TO=3))
```

The whole file is printed

3. Print the last page of FILE

```
/PRINT-DOCUMENT FROM=FILE=DATEI,DOCUMENT-PART=*PARAMETERS( -
    OUTPUT-PART=*LAST(LAST=1))
```

Page 3

Line	129	.
		.
End	150	.

Only the last page (number 3) is printed, i.e. not the final 64 lines of FILE

Notes on RSO

Valid character spacings (CPI)

All PRINT-DOCUMENT commands requesting CPI values which are not actually supported by the destination printer are rejected. If the destination is a pool of printers, the selection will be restricted to printer types from the pool which actually support the requested CPI values.

Exceptions to the rule

1. 8121, 9002 and 9645 printers are not provided with escape sequences that set character spacing (the hardware value is 10 cpi). Therefore, RSO only accepts a 10 cpi value on these printer types.
2. On 9000, 9025 and 9026 RENO printers, RSO cannot send any escape sequence setting the character spacing. However, the character spacing can be set by means of a 256-character string linked to the font (using the product RSOSERVE). RSO nevertheless permits certain CPI values for these printer types. The values 1 through 100 can be specified in the CHARACTERS-PER-INCH operand of the SPSPERVE statement ADD-SPOOL-CHARACTER-SET.

This value is not set by RSO, however, but is used for computing the line size, i.e. the maximum number of characters per line used for the header and trailer pages and for detecting possibly truncated lines.

The following table indicates for each printer type the CPI operand values that are supported by RSO for the PRINT-DOCUMENT command and at the start of spoolout, and the CPI values that are translated by RSO into printer commands.

Printer types	CPI values checked for PRINT-DOCUMENT and at start of spoolout (1)	CPI values translated by RSO and sent to the printer (2)
2030-PCL	1..100	1..100
4011	10/12/15/17/20	10/12/15/17/20
4812	1/2/3/4/5/6/8/10/12/ 15/20/24/30/40/60	1/2/3/4/5/6/8/10/12/15/20/ 24/30/40/60
4813	10/12/15/17/20	10/12/15/17/20
4818-PCL	1..100	1..100
4821-PCL	1..100	1..100
4822-PCL	1..100	1..100
4824-PCL	1..100	1..100
4825-PCL	1..100	1..100

Table 86: CPI values supported by RSO in the PRINT-DOCUMENT command (Part 1 of 2)

Printer types	CPI values checked for PRINT-DOCUMENT and at start of spoolout (1)	CPI values translated by RSO and sent to the printer (2)
8121	10	-
9000-EPFX	10/12/17/20	10/12/17/20
9000-EPLQ	10/12/15/17/20	10/12/15/17/20
9000-EPSQ	10/12/15/17/20	10/12/15/17/20
9000-PCL	1..100	1..100
9000-PRO	10/12/17	10/12/17
9000-PS	1..100	1..100
9000	1..100	-
9001	10/12/17	10/12/17
9001-31	10/12/15/17	10/12/15/17
9002	10	-
9003	10/12/15	10/12/15
9004	1/2/3/4/5/6/8/10/12/ 15/20/24/30/40/60	1/2/3/4/5/6/8/10/12/15/20/ 24/30/40/60
9011	10/12/15/17	10/12/15/17
9012	10/12/15/17	10/12/15/17
9013	10/12/15/18	10/12/15/18
9014	10/12/15/17/18/20	10/12/15/17/18/20
9015	10/12/15/17/18/20	10/12/15/17/18/20
9021	1..100	1..100
9022	1/2/3/4/5/6/8/10/12/ 15/20/24/30/40/60	1/2/3/4/5/6/8/10/12/15/20/ 24/30/40/60
9022-200	1..100	1..100
9025	1..100	-
9026-RENO	1..100	-
9026-PCL	1..100	1..100
9045-ANSI	10/12/15/17	10/12/15/17
9046	10/12/13/15/17	10/12/13/15/17
9097	10/12/15/17/20	10/12/15/17/20
9645	10	-
DJET	1..100	1..100

Table 86: CPI values supported by RSO in the PRINT-DOCUMENT command (Part 2 of 2)

1. The table indicates for each printer type the CPI operand values for the font as supported by RSO V2.2A. This check is performed at PRINT-DOCUMENT command validation and print job scheduling time. The specification of other values leads to the following behavior.
 - For the PRINT-DOCUMENT command:
The command is rejected.
 - At the start of spoolout:
The print job is placed in the KEEP queue and the device is put into status “S”.
2. Some printer types do not support any printer commands that set the horizontal density ('-' in the table). This means that the requested horizontal density is never set by RSO, no matter what the CPI operand value of the font may be.

Nevertheless, on 9000, 9025 and 9026 RENO printers, character spacing can be set by means of a 256-character string linked to a font, using the RSOSERVE utility.

Printing RSO files swapped out with HSMS

In previous versions, when a controller task accessed a file swapped out with HSMS, other printers controlled by the task were blocked until the file was retrieved. RSO tries to prevent this situation arising for four types of RSO resource files (DIA, PROLOG, EPILOG and MEMBER files) by retrieving swapped out files when the PRINT-DOCUMENT command is checked and not only when the command is processed.

- *DIA file*

In the case of a swapped-out DIA file, retrieval of the file is initiated during checking of the PRINT-DOCUMENT command.
When command processing starts, a swapped-out DIA file is treated as a user error. The job is terminated with corresponding information on the trailer page, and a message is sent to the console.
- *PROLOG-/EPILOG file*

Nothing is done during checking of the PRINT-DOCUMENT command in the case of swapped-out PROLOG/EPILOG files.
When command processing starts, a swapped-out PROLOG/EPILOG file is regarded as a user error. The job is terminated with corresponding information on the trailer page, and a message is sent to the console.

– *MEMBER file*

Nothing is done during checking of the PRINT-DOCUMENT command in the case of swapped-out MEMBER files.

When command processing starts, a swapped-out MEMBER file is not taken into account.

Validity check for /PRINT-DOCUMENT with USER-RESOURCES-FILE=xxxx

A PRINT-DOCUMENT command with a loop entry in the FORM-NAME operand) is also accepted if the file doesn't exist neither under the user ID of the caller nor under SYSSPOOL. If in this case a loop entry is specified in the operand LOOP-NAME the command will be rejected.

1. Example

```
/show-spool-form form1
```

FORM-NAM	DEV-TYPE	LI-S	PA-S	H-P	T-P	VERT-CONTROL	ROT-CONTROL	OWNER
						L-N/LPI/C-P/C-S	L-N/LPI/C-P/C-S	
FORM1	9001RP	80	120	YES	INF	6 3 101		TSOS

```
/print-doc from-file=orion,to-printer=*par(printer-name=prn27272)  
      ,resources-description=*par(form-name=form1,user-resources-file=xxxx)
```

```
% SCP0810 SPOOLOUT FOR FILE ':C:$TSOS.ORION' ACCEPTED: TSN: '4FUN',-  
      SPOOLOUT-NAME: 'LUC', MONJV: '*NONE'
```

2. Example

```
/show-spool-form form2
```

FORM-NAM	DEV-TYPE	LI-S	PA-S	H-P	T-P	VERT-CONTROL	ROT-CONTROL	OWNER
						L-N/LPI/C-P/C-S	L-N/LPI/C-P/C-S	
FORM1	9001RP	80	120	YES	INF	C6 101		TSOS

```
/print-doc from-file=orion,to-printer=*par(printer-name=prn27272)  
      ,resources-description=*par(form-name=form2,user-resources-file=xxxx)
```

```
% SCP0810 SPOOLOUT FOR FILE ':C:$TSOS.ORION' ACCEPTED: TSN: '5FUN',-  
      SPOOLOUT-NAME: 'LUC', MONJV: '*NONE'
```

PROTECT-FITC-APPLICATION

Protect FITC application against unauthorized access

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Data communication control
Domain:	SECURITY-ADMINISTRATION
Privileges:	all privileges bar HARDWARE-MAINTENANCE

Function

The PROTECT-FITC-APPLICATION command protects an FITC application against unauthorized access by means of guards. A support authorization to prevent unauthorized configuration and a request authorization to prevent unauthorized use can be defined for the FITC port.

In addition, this command enables a standard connection ID to be reserved for a directly addressable FITC port. Senders of messages or jobs can address the port without the port name by using this short ID.

This command offers the same functions as the DEFPACC macro.

A support authorization (SUPPORT-GUARD operand) can only be assigned if the FITC port is not already protected. Assigning a support authorization also simultaneously defines the port owner (USER-ID operand). Only the port owner can assign or modify a request authorization (REQUEST-GUARD operand).

Format

PROTECT-FITC-APPLICATION

```

PORT-NAME = <alphanum-name 1..54>
,STD-CONNECTION-ID = *UNCHANGED / <x-string 1..4> / <integer 1..65535>
,USER-ID = *UNCHANGED / <name 1..8>
,SUPPORT-GUARD = *UNCHANGED / <filename 1..24 without-gen-vers>
,REQUEST-GUARD = *UNCHANGED / <filename 1..24 without-gen-vers>

```

Operands

PORT-NAME = <alphanum-name 1..54>

Port name of the FITC application which is to be protected or linked with a standard connection ID.

STD-CONNECTION-ID = *UNCHANGED / <x-string 1..4> / <integer 1..65535>

Defines a standard connection ID for a directly addressable FITC port. This short ID is reserved for the specified port name and cannot be assigned again in the active session.

USER-ID = *UNCHANGED / <name 1..8>

Defines the port owner's user ID. This operand is evaluated only if a support authorization is also specified (i.e. a guard is specified in the SUPPORT-GUARD operand).

SUPPORT-GUARD = *UNCHANGED / <filename 1..24 without-gen-vers>

Defines a guard for configuring the FITC port. If a support authorization is already assigned, this specification is not accepted.

REQUEST-GUARD = *UNCHANGED / <filename 1..24 without-gen-vers>

Defines a guard for using the FITC port. Only the port owner can assign the request authorization.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	NTF0404	Parameter combination not permissible.
	1	NTF0804	Specified application name (port name) not permissible.
	1	NTF0C04	Specified standard connection ID outside the permissible value range.
	32	NTF0018	FITC not accessible. Function cannot be executed.
	32	NTF0C10	Caller not authorized to modify the REQUEST profile.
	32	NTF1010	The SUPPORT profile already assigned to the port name cannot be accessed. Execution is therefore rejected because there is no way to perform a check.
	32	NTF1418	Function aborted on account of an internal FITC error.
	64	NTF040C	Specified port name already used.
	64	NTF080C	Specified standard connection ID already used elsewhere.
	64	NTF0C0C	Not possible to assign a valid user ID as the owner of the port.
	64	NTF100C	Specified guard name(s) cannot be completed.
	64	NTF140C	A REQUEST profile can only be assigned in conjunction with the SUPPORT profile or if the latter exists.
	64	NTF400C	Redefinition of the specified properties not permitted.
	130	NTF0418	Function cannot currently be executed due to memory shortage.

PURGE-ALIAS-CATALOG

Delete current alias catalog

Description status:	ACS V19.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The PURGE-ALIAS-CATALOG command deletes the alias catalog of the executing task. Entries in the alias catalog that have the PROTECTED attribute are also deleted in the process. If a HOLD-ALIAS-SUBSTITUTION command was issued to halt the alias substitution function, the effect of that command will be canceled on deleting the alias catalog. The currently applicable ACS options are retained.

Format

PURGE-ALIAS-CATALOG	Alias: PGAC

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Normal execution of the commands
	32	CMD0221	Internal error
	128	ACS0018	ACS is not available

Example

For an example, see the LOAD-ALIAS-CATALOG command.

READ-IOCF

Read IOCF

Description status:	IOFCOPY V19.0A
Functional area:	System control and optimization
Domain:	SYSTEM-MANAGEMENT
Privileges:	TSOS

Function

The systems support staff can read an IOCF from the hard disk of the service computer and write it into a PAM file on a BS2000 disk. A list of the IOCFs on the hard disk of the service computer can be obtained using the SHOW-IOCF command. An IOCF can be written from a PAM file onto the hard disk of the service computer using the WRITE-IOCF command.

Format

READ-IOCF
FILE-NAME = <filename 1..54> ,LEVEL = <u>*ACTIVE</u> / <integer 0..9>

Operands

FILE-NAME = <filename 1..54>

Name of the BS2000 file into which the IOCF is to be written. An existing file of the same name will be overwritten.

LEVEL = *ACTIVE

The current IOCF is being read.

LEVEL = <integer 0..9>

Level number of the IOCF which is to be read. The value range covers all existing levels. If the level number given is invalid, then the command is rejected.

The maximum number of levels is hardware-dependent.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD2201	Parameter error: At least one value from the command call is incorrect (e.g. file does not exist, incorrect format or incorrect file contents, level number does not exist, etc.). The exact cause of the error is contained in a preceding message.
	32	CMD0221	Internal error: A system interface which was called reports an error. The exact cause of the error is contained in a preceding message.
	64	CMD0216	No authorization

REDIRECT-PRINT-JOB

Redirect jobs to another printer

Description status:	SPOOL V4.9A
Functional area:	Controlling spoolout job
Domain:	SPOOL-PRINT-ADMINISTRATION
Privileges:	STD-PROCESSING OPERATING PRINT-SERVICE-ADMINISTRATION SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
Routing code:	N

Note

The REDIRECT-PRINT-JOB command corresponds to the old REDIRECT-REMOTE-OUTPUT command; the command name REDIRECT-REMOTE-OUTPUT is still accepted as an alias.

Function

The REDIRECT-PRINT-JOB command redirects spoolout jobs:

- from an RSO printer or pool to another RSO printer or pool
- from an RSO printer or pool to a local printer pool
- from a local printer pool to an RSO printer or pool
- from a local printer pool to a local printer pool
- from a local printer pool to a central printer pool
- from a Dprint printer pool to a Dprint printer pool

Nonprivileged users can only redirect their own jobs. RSO device administrators can redirect their own jobs and jobs started with the operand REDIRECTION-ALLOWED=*YES in the PRINT-DOCUMENT command on a device for which they are entered as the RSO device administrator. Systems support can redirect any job.

Only jobs in the WAIT or KEEP status are redirected. All jobs can be redirected, or only some of them. In the latter case the jobs are selected by specifying the TSN, the job status (job type), the user ID and the name of the form or job. It is possible to specify a negative list.

As a check on the new destination, the jobs to be redirected are also submitted to PRINT-DOCUMENT command validation.

Requirements for command execution

- The specifications for both printers must be different (different printer names or different printer pool names).
- The control character (ESCAPE character) must be defined the same for the specified printers.
- In family processing, **all** (sub)jobs must have the specified status (JOB-TYPE=...).
- The files to be printed must not be on an exported pubset.
- If the spoolout job is directed to a printer pool, the assigned printer must not be specified in the REDIRECT-PRINT-JOB command. The job always belongs to the pool, even if it is in the KEEP status for example.

Example

A FAMILY-PRINT has been started for the pool POOL1. A job from this is in KEEP status on the device DVC1 which belongs to the pool POOL1.

```
/SHOW-PRINT-JOB-STATUS INF=*DESTINATION

TSN  SERVER  M STA R DEVICE  DESTIN  ERMSG  ERMSG  DEVICE TYPE
64CS *HOME   R KP   DVC1   POOL1
64CS *HOME   R WT   POOL1  POOL1
% SCP0947 2 JOBS FOUND WITH 40 PAM PAGES. COMMAND TERMINATED
```

The following commands have no effect on FAMILY with TSN 64CS:

```
/REDIRECT-PRINT-JOB JOB-ID=*DEVICE(DEV-NAME=DVC1),SELECT=*PAR( -
JOB-TYPE=*KEEP)

/REDIRECT-PRINT-JOB JOB-ID=*DEVICE(DEV-NAME=DVC1),SELECT=*PAR( -
JOB-TYPE=*ALL)
```

The following commands redirect FAMILY with TSN 64CS:

```
/REDIRECT-PRINT-JOB JOB-ID= *DEVICE(DEV-NAME=POOL1),SELECT=*PAR( -
JOB-TYPE=*ALL)

/REDIRECT-PRINT-JOB JOB-ID=*TSN(TSN=64CS),SELECT=*PAR(JOB-TYPE=*ALL)
```

Restrictions

The following restrictions are applicable, depending on the direction of redirection.

*JOB-IDENTIFICATION = *DEVICE-NAME*

FROM=	TO=	RSO printer	RSO pool	Local pool	*CENTRAL	Dprint pool
RSO printer		(1)	(2)	(3)	(3)	n.s.
RSO pool		(2)	(2)	(3)	(3)	n.s.
Local pool		(4)	(4)	(5)	n.s.	n.s.
*CENTRAL		n.s.	n.s.	n.s.	n.s.	n.s.
Dprint pool		n.s.	n.s.	n.s.	n.s.	(6)

n.s.= not supported (a pool must be set up for redirecting local printouts)

1. Rejected in the following cases:
 - the CONTROL-MODE operand in the PRINT-DOCUMENT command is not set to *PAGE, and device types concerned are different.
 - escape characters are incompatible.
2. Rejected if CONTROL-MODE in the PRINT-DOCUMENT command was not set to *PAGE.
3. Rejected if the following operands were specified in the PRINT-DOCUMENT command:
 - INPUT-TRAY=...
 - CHAR-SET-ATTRIBUTES=...
 - FORMS-OVERLAY-BUFFER=...
 - LINE-SPACING=*NO
 - CONTROL-MODE≠*PAGE
4. Rejected if following operands were specified in PRINT-DOCUMENT command:
 - ROTATION-LOOP-NAME=...
 - CHARACTER-SETS=*POOL
 - FORMS-OVERLAY-BUFFER=...
 - CONTROL-MODE≠*PAGE
 - ROTATION=...
 - INPUT-TRAY=...
5. Local print jobs valid for a subset of device types in a printer pool can be redirected to another printer if the target printer belongs to that subset.

6. Dprint jobs can only be redirected if the command is entered on the server accepting the print job. If this is not the case, the print job must be redirected using the MODIFY-PRINT-JOB-ATTRIBUTES command.

Distributed print jobs valid for a subset of device types in a Dprint pool can be redirected to another printer if the target printer belongs to that subset.

*JOB-IDENTIFICATION= *TSN*

If the TSN is used as the selection criterion, all operands of the PRINT-DOCUMENT command are permitted, albeit on the user's own responsibility.

Information following command processing

On normal termination the number of redirected jobs is output.

On abnormal termination the reason is output:

- no output for the device
- device(s) not defined
- system error
- redirection mode not supported

For each "redirectable" job (see above) that was not redirected, a warning message indicating the reason is output.

Format

<p>REDIRECT-PRINT-JOB</p> <p>JOB-IDENTIFICATION = *DEVICE-NAME (...) / *TSN(...)</p> <p> *DEVICE-NAME(...)</p> <p> DEVICE-NAME = <alphanum-name 1..8></p> <p> *TSN(...)</p> <p> TSN = list-poss(16): <alphanum-name 1..4></p> <p>,TO-DEVICE = *CENTRAL / <alphanum-name 1..8></p> <p>,SELECT = *PARAMETERS(...) / *ALL</p> <p> *PARAMETERS(...)</p> <p> JOB-TYPE = *WAIT / *KEEP / *ALL</p> <p> ,USER-IDENTIFICATION = *ALL / list-poss(16): <name 1..8> / <c-string 1..8 with-low></p> <p> ,FORM-NAME = *ALL / list-poss(16): <alphanum-name 1..6></p> <p> ,SPOOLOUT-NAME = *ALL / list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low></p> <p>,EXCEPT = *NONE / *PARAMETERS(...)</p> <p> *PARAMETERS(...)</p> <p> USER-IDENTIFICATION = *NONE / list-poss(16): <name 1..8></p> <p> ,FORM-NAME = *NONE / list-poss(16): <alphanum-name 1..6></p> <p> ,SPOOLOUT-NAME = *NONE / list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low></p>
--

Operands

JOB-IDENTIFICATION = ***DEVICE-NAME**(...) / ***TSN**(...)

Identification of the spoolout jobs to be redirected.

JOB-IDENTIFICATION = ***DEVICE-NAME**(...)

The spoolout jobs to be redirected are identified using the name of the printer on which the jobs are to be processed.

DEVICE-NAME = <alphanum-name 1..8>

Name of the printer or printer pool.

JOB-IDENTIFICATION = ***TSN**(...)

Spoolout jobs designated by their TSN are redirected.

TSN = list-poss(16): <alphanum-name 1..4>

List of TSNs for the spoolout jobs.

TO-DEVICE = *CENTRAL / <alphanum-name 1..8>

The spoolout jobs are redirected to the central computer center printer (*CENTRAL) or the specified printer.

SELECT = *PARAMETERS(...) / *ALL

The spoolout jobs can be selected by specifying the user ID for the job, the status, the job name or the form name.

SELECT = *PARAMETERS(...)

Selection of a subset of spoolout jobs. The spoolout jobs are redirected if they fulfill the specified criteria (AND operation).

JOB-TYPE = *WAIT / *KEEP / *ALL

The selection criterion is whether the spoolout job is in the WAIT or KEEP status. If *ALL is specified, no distinction is made.

USER-IDENTIFICATION = *ALL / list-poss(16): <name 1..8> / <c-string 1..8 with-low>

The selection criterion is the user ID under which the spoolout job was created; it is possible to specify a list. If *ALL is specified, the user ID is not used as a selection criterion.

FORM-NAME = *ALL / list-poss(16): <alphanum-name 1..6>

The selection criterion is the name of the form to be used for printing; it is possible to specify a list. If *ALL is specified, the form name is not used as a selection criterion.

SPOOLOUT-NAME = *ALL / list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>

The selection criterion is the job name for the spoolout job; it is possible to specify a list. If *ALL is specified, the job name is not used as a selection criterion.

SELECT = *ALL

All spoolout jobs are redirected.

EXCEPT = *NONE / *PARAMETERS(...)

List of exceptions for spoolout jobs which are not to be redirected.

EXCEPT = *NONE

No list of exceptions.

EXCEPT = *PARAMETERS(...)

Specifies the jobs selected with SELECT=... which are to be excepted. Specifying *NONE means that no exceptions are specified.

USER-IDENTIFICATION = *NONE / list-poss(16): <name 1..8>

Spoolout jobs created by the specified user IDs are not redirected.

FORM-NAME = *NONE / list-poss(16): <alphanum-name 1..6>

Spoolout jobs using the specified forms are not redirected.

SPOOLOUT-NAME = *NONE / list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>

Spoolout jobs with the specified job names are not redirected.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	No error
2	0	SCP1036	Lock error
2	0	SCP1039	Device incompatibility Guaranteed message: SCP1039
2	0	SCP1040	No device definition Guaranteed message: SCP1040
2	0	SCP1041	No authorization for specified TSN Guaranteed message: SCP1041
2	0	SCP1042	EQUISAM file error for specified TSN Guaranteed message: SCP1042
2	0	SCP1043	Slot manager error for specified TSN Guaranteed message: SCP1043
2	0	SCP1044	Specified TSN not found Guaranteed message: SCP1044
2	0	SCP1045	Pubset exported Guaranteed message: SCP1045
2	0	SCP1047	Output not possible on specified device Guaranteed message: SCP1047
2	0	SCP1048	Invalid PRINT-DOCUMENT command
2	0	SCP1049	RSO subsystem not loaded
	1	CMD0202	Syntax error
	1	SCP0973	Semantic error
	32	SCP0974	System error. Command rejected
	64	SCP0975	No authorization for command
	64	SCP0976	Identification of device not possible Guaranteed message: SPS0306

REDUCE-PAGING-AREA

Reduce size of paging are

Description status:	BS2000 OSD/BC V10.0A
Functional area:	System control and optimization
Domain:	SYSTEM-TUNING SYSTEM-MANAGEMENT
Privileges:	TSOS OPERATING
Routing code:	R

Function

This command removes one or more paging files which reside on the specified disks from the paging area.

Format

REDUCE-PAGING-AREA

VOLUME = ***NONE** / list-poss(256): <vsn 1..6>

Operands

VOLUME = ***NONE** / list-poss(256): <vsn 1..6>

Identifies by volume serial number the disk on which the paging file being reduced is located. Up to 256 disks can be specified.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
		EMM2800	The function cannot be continued owing to an internal error executing a particular object Guaranteed messages: EMM2818, EMM2828
		EMM2807	The function cannot be continued because there are not enough resources available to execute a particular object Guaranteed messages: EMM2819, EMM2829



When lists are specified, command processing is aborted in the event of an error with a return code of EMM2800 or EMM2807.

Notes

- Paging area reduction is rejected if it would cause virtual address space saturation.
- Processing of the command may take a number of minutes. For that reason it is not executed in the calling task, but is delegated to a server task created specially for the purpose. The job completion message is delivered to the calling task asynchronously. If the calling task terminates before the completion message is delivered, the message is sent to the console instead.
- If two or more disk devices are specified when the command is issued, a separate job is assigned to each disk device.

Examples

Reducing the paging area by the paging file on the disk with the volume serial number 2OSW.0:

```
/REDUCE-PAGING-AREA VOLUME=2OSW.0
```

RELEASE-OPERATOR-ROLE

Release operator roles

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Operator function control
Domain:	CONSOLE-MANAGEMENT
Privileges:	OPERATING
Routing code:	@

Function

The RELEASE-OPERATOR-ROLE command allows you to relinquish operator roles previously requested with the REQUEST-OPERATOR-ROLE command. By releasing an operator role you give up the right to enter commands protected by any of the relinquished routing codes or to receive messages distributed via one of the relinquished routing codes. You retain any other roles that were previously associated with your user ID, which means that you keep the right to enter commands that have routing codes which are included both in a role that you have relinquished and in a role that you have retained.

An operator role is a functional area and consists of a set of routing codes defined by the security administrator. This set may be any combination of the 40 routing codes available.

Once the command has been executed successfully, you are shown which operator roles are still assigned to you.

To continue receiving messages that are distributed via a routing code which you have relinquished by releasing an operator role, you must first have requested this right with the MODIFY-MSG-SUBSCRIPTION command.

The command can be issued by \$CONSOLE applications with dynamic authorization names and from user tasks with the OPERATING privilege.

If the "Operator LOGON" function is used (incompatible mode; system parameter NBCONOPI=Y), the command can also be issued at a physical operator terminal (console).

Format

RELEASE-OPERATOR-ROLE

OPERATOR-ROLE = *ALL / list-poss(10): <name 1..8>

Operands**OPERATOR-ROLE =**

Specifies the operator roles to be relinquished by the operator's own user ID.

OPERATOR-ROLE = *ALL

All operator roles that were associated with the operator's user ID up to now are relinquished.

OPERATOR-ROLE = list-poss(10): <name 1..8>

All operator roles specified via their names (up to 10) are relinquished by the operator's own user ID.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	NBR0986	Execution unnecessary
1	0	NBR0987	Operator ID currently has no role
2	0	NBR0990	Not all specified roles found
	1	CMD0202	Syntax error
	32	NBR0983	Internal error on command server
	64	CMD0216	No authorization
	64	NBR0981	Command cannot be issued from operator terminal in compatible mode (NBCONOPI=N)
	64	NBR0982	Command issuer does not have an operator ID

RELEASE-SUBSYSTEM-SPACE

Release address space reserved for subsystems

Description status:	DSSM V4.3B
Functional area:	Subsystem management
Domain:	SYSTEM-MANAGEMENT
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SUBSYSTEM-MANAGEMENT

Function

With the RELEASE-SUBSYSTEM-SPACE command, users can dispense, for the duration of a task, with a subsystem group for which some class 5 memory was reserved using SCOPE=*GLOBAL. As a result, the reservation of the corresponding address space is canceled and the address space can be used for other purposes.

Format

RELEASE-SUBSYSTEM-SPACE
MEMORY-TYPE = <u>*NON-PRIVILEGED</u> / *BY-SLICE / *ALL

Operands

MEMORY-TYPE = *NON-PRIVILEGED / *BY-SLICE / *ALL

Specifies the address space area in which the reservation of address space for subsystems is to be canceled.

MEMORY-TYPE = *NON-PRIVILEGED

Cancels the reservation in the address space area below 16 MB.

MEMORY-TYPE = *BY-SLICE

Cancels the reservation in the address space area above 16 MB.

MEMORY-TYPE = *ALL

Cancels the reservation in the entire address space area.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	32	ESM0423	Storage space management problem
	32	ESM0424	Internal DSSM error

REMARK

Insert remarks in command file

Description status:	SDF V4.7D
Functional area:	Editing command files
Domain:	JOB PROCEDURE
Privileges:	STD-PROCESSING OPERATING HARDWARE-MAINTENANCE SAT-FILE-MANAGEMENT SAT-FILE-EVALUATION SECURITY-ADMINISTRATION
Routing code:	@

Function

The REMARK command allows remarks to be inserted in command files (ENTER or procedure files) in order to document the job or procedure run. The command is logged as entered; in interactive operation it is only meaningful if job execution is logged on SYSLST.

The command can be issued from all operator terminals (consoles) and authorized user programs. It is also permitted for operator command files.

In programs with an SDF interface, REMARK is available as a standard statement with the same syntax and functionality.

Format

REMARK
TEXT = <cmd-rest 0..1800>

Operands

TEXT = <command-rest 0..1800>

Text of the remarks. The text can be up to 1800 characters in length.

An equals sign must not be the first significant character, as otherwise the command will be interpreted as a value assignment (SET-VARIABLE without command name). A semicolon outside parentheses is interpreted as a command separator, i.e. any subsequent characters are interpreted as the next command.

When the text is entered at the console, its length is limited to one screen line.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error

Example

A procedure file begins with the following commands:

```
/BEG-PROC LOG=*CMD  
/REMARK PROCEDURE FOR LINKING  
...  
...
```

In the BEGIN-PROCEDURE command, the specification LOGGING=*CMD enables output of the remark to SYSOUT. Then, when the procedure is executed, the remark is logged as follows:

```
% /REMARK PROCEDURE FOR LINKING
```

REMOVE-ACS-SYSTEM-FILE

Delete declaration of AC system file

Description status:	ACS V19.0A
Functional area:	File processing
Domain:	FILE
Privileges:	ACS-ADMINISTRATION

Function

The REMOVE-ACS-SYSTEM-FILE command enables the ACS administrator (owner of the privilege of the same name) to delete an AC system file definition, previously made using ADD-ACS-SYSTEM-FILE. The associated real file, in which the entries are recorded, is unaffected by this action.

If the entry has the attribute SYSTEM-DEFAULT, it cannot be deleted.

Format

REMOVE-ACS-SYSTEM-FILE

ALIAS-CATALOG-ID = <composed-name 1..20>

Operands

ALIAS-CATALOG-ID = <composed-name 1..20>

The symbolic name to be deleted, under which the AC system file is held, and which can be addressed using the LOAD-ALIAS-CATALOG command. The ACS administration can use SHOW-ACS-SYSTEM-FILES to request that a list of all the available AC system files is displayed.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed correctly
2	0	ACS0012	Warning: AC system file not found
	32	CMD0221	Internal error
	64	ACS0013	Error: AC system file with SYSTEM-DEFAULT attribute cannot be deleted

REMOVE-ALIAS-CATALOG-ENTRY

Delete entry from alias catalog

Description status:	ACS V19.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The REMOVE-ALIAS-CATALOG-ENTRY command allows the user to delete entries from the task-specific alias catalog. Protected entries cannot be deleted. If a HOLD-ALIAS-SUBSTITUTION command was issued to halt the alias substitution function, that command will remain in effect even if the last entry in the alias catalog is deleted with REMOVE-ALIAS-CATALOG-ENTRY.

Format

REMOVE-ALIAS-CATALOG-ENTRY
ALIAS-FILE-NAME = *ALL / <filename 1..54 with-wild(80)> , SELECT = *ALL / *USER-ENTRIES / *SYSTEM-ENTRIES

Operands

ALIAS-FILE-NAME = *ALL / <filename 1..54 with-wild(80)>

The aliases contained in the AC entries to be deleted.

ALIAS-FILE-NAME = *ALL

Selects and deletes all AC entries matching the type specified in the SELECT operand.

ALIAS-FILE-NAME = <filename 1..54 with-wild(80)>

Selects and deletes all AC entries that have aliases which match the specified pattern string and the type specified in the SELECT operand.

SELECT = *ALL / *USER-ENTRIES / *SYSTEM-ENTRIES

Selects AC entries for deletion on the basis of their type (user or system entries)

SELECT = *ALL

Selects and deletes both user entries and system entries of the alias catalog.

SELECT = *USER-ENTRIES

Selects and deletes only the user entries of the alias catalog.

SELECT = *SYSTEM-ENTRIES

Selects only the system entries of the alias catalog for deletion.

Return codes

(SC2)	SC1	Maincode	Meaning
1	0	CMD0001	Command executed normally
	0	CMD0001	No action (e.g. AC entry does not exist)
	32	CMD0221	Internal error
	64	ACS0017	Error: alias catalog not available
	64	ACS0029	Command not permitted
	128	ACS0018	ACS is not available
	130	ACS0036	Resource bottleneck

Examples

For examples, see the ADD-ALIAS-CATALOG-ENTRY and LOAD-ALIAS-CATALOG commands.

REMOVE-ASE-ELEMENT

Delete ASE element

Description status:	ASE V1.0B
Functional area:	Error logging
Domain:	ERROR-LOGGING
Privileges:	TSOS

Function

This command can be used to delete either a particular ASE element or all defined ASE elements.

Format

REMOVE-ASE-ELEMENT

ELEMENT-ID = <x-text 2..2> / *ALL
--

Operands

ELEMENT-ID = <x-text 2..2> / *ALL

Specifies the ASE element to be deleted. The ASE element is specified by means of its element ID, which is output when the element is declared. The element ID can, if required, also be ascertained in the output of the SHOW-ASE-ELEMENT command. *ALL causes all ASE elements to be deleted.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without errors
	1	ASE0010	Syntax error
	32	CMD0221	System error
	64	ASE0011	Semantic error

REMOVE-CE-LOCK

Remove catalog entry lock

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE FILE-GENERATION
Privileges:	TSOS

Function

The systems support staff can remove the catalog entry lock of a file or job variable using the REMOVE-CE-LOCK command.

The system determines whether a lock exists for the catalog entry (CE lock) of a file or a job variable, and if so, the lock holder's task is determined. If the task no longer exists or if it is pending indefinitely, the CE lock is hung up and cannot be released. This can be caused, for instance, by an error in system communication, in which case the CE lock is removed.

If the lock holder's task is in another state, the CE lock cannot be removed and the command is rejected. Systems staff will then have to check whether the task can be terminated (e.g. using CANCEL-JOB). The task's TID and the sysid of the system on which the task is processing can be obtained using the SHOW-CE-LOCK command.

For shared pubsets, the command can be issued from any system within the network.

Format

REMOVE-CE-LOCK

FILE-NAME = <filename 1..54>

,OBJECT = *FILE / *JV

Operands**FILE-NAME = <filename 1..54>**

Name of the file or job variable for which a CE lock is to be removed. The path name has to be specified completely, i.e. including the catalog and the user ID. Specification of a file generation must not be relative.

OBJECT = *FILE / *JV

Specifies whether the command is to be executed for the catalog entry of a file or of a job variable.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	DMS1342	No catalog entry lock
	1	CMD0202	Syntax error
	32	CMD0221	Internal error
	64	CMD0216	No authorization
	64	CMD0501	Catalog not available
	64	DMS0505	Communication error
	64	DMS0512	Catalog unknown in system
	64	DMS1343	Master change underway for pubset
	64	DMS1344	Lock holder's task still active

REMOVE-CHANGE-DATE

Remove changeover time

Description status:	BS2000 OSD/BC V10.0A
Functional area:	System control and optimization
Domain:	SYSTEM-MANAGEMENT
Privileges:	TSOS

Function

The REMOVE-CHANGE-DATE command removes the latest future changeover time from standard daylight time to daylight saving time (or vice versa).

The changeover time to be removed may not be within the next hour or the next hour but one. If it is in the next hour but one, it can be changed using the MODIFY-CHANGE-DATE command.



The REMOVE-CHANGE-DATE command removes the changeover time for the current session. If required, also remove the changeover time in the GTIME parameter set of the startup parameter file (for future sessions).

Format

REMOVE-CHANGE-DATE

DATE = *LATEST

Operands

DATE = *LATEST

The latest future changeover time is to be removed.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	1	CHD0010	Syntax error in the command
	32	CMD0221	System error in the command
	64	CHD0011	Semantic error in the command

REMOVE-CJC-ACTION

Cancel effect of CJC command sequence

Description status:	JV V15.1A
Functional area:	Job variables
Domain:	JOB-VARIABLES
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

This function is available to the user only if the chargeable software product JV has been loaded as a subsystem.

Function

The user can use the REMOVE-CJC-ACTION command to cancel any ADD-CJC-ACTION commands initiated during the currently executing job and still in effect.

An ADD-CJC-ACTION command can be identified either via the CJC name assigned by the user or via the internal identification assigned by the system.

The user can check with the SHOW-CJC-STATUS command whether there are any remaining ADD-CJC-ACTION commands still in effect under his or her user ID.

Format

REMOVE-CJC-ACTION

IDENTIFICATION = ***NAME**(...) / ***NUMBER**(...) / ***ALL**

***NAME**(...)

| **NAME** = <name 1..8>

***NUMBER**(...)

| **NUMBER** = <integer 1..9999>

Operands

IDENTIFICATION =

Type of identification.

IDENTIFICATION = *NAME(...)

NAME = <name 1..8>

Name defined in the ADD-CJC-ACTION command. Any ADD-CJC-ACTION commands with the same name are made ineffective.

IDENTIFICATION = *NUMBER(...)

NUMBER = <integer 1..9999>

Identification allocated by the system for the CJC command sequence. An identification is output as soon as an ADD-CJC-ACTION command takes effect (i.e. following input of the END-CJC-ACTION command). The ADD-CJC-ACTION command to which the identification was assigned becomes ineffective.

IDENTIFICATION = *ALL

All ADD-CJC-ACTION commands which are still in effect and were defined during the current job become ineffective.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed; specified ADD-CJC-ACTION name deleted or not found.
	1	CMD0202	Syntax error

REMOVE-CONSOLE-FILTER

Cancel filter settings

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Operator terminal control
Domain:	not allocated
Privileges:	OPERATING
Routing code:	@

Function

The REMOVE-CONSOLE-FILTER command allows operators to cancel filter settings for some or all routing codes. If filter levels have been predefined in the OPR parameter service for the issuing console (operator terminal) or for the issuing authorized user program with generated authorization name, these filter levels are restored to the condition they were in following system initialization.

Note that issuing this command will result in an appreciable increase in the volume of message output.

The command applies only to the console or authorized user program from which it was issued.

Utilization in a user task with the OPERATING privilege

Like any operator terminal, the user task can reset the filter levels purely for itself. The filter levels then apply only to event stream read operations.

When the user task terminates, all the filter levels that it has set are reset.

This function is available irrespective of system parameter settings.

Format

REMOVE-CONSOLE-FILTER
FILTER = <u>*ALL</u> / list-poss(5): <integer 1..5> ,ROUTING-CODE = <u>*ALL</u> / list-poss(40): <alphanum-name 1..1> / *

Operands

FILTER = *ALL / list-poss(5): <integer 1..5>

Defines which filter levels are to be cancelled or restored to the condition they were in following system initialization.

FILTER = *ALL

Cancels all filter levels or restores them to the condition they were in following system initialization.

FILTER = list-poss(5): <integer 1..5>

Cancels the specified filter levels or restores them to the condition they were in following system initialization.

ROUTING-CODE = *ALL / list-poss(40): <alphanum-name 1..1> / *

There are 40 routing codes. The filter levels specified in the FILTER operand are cancelled (or restored to the condition they were in following system initialization) for the routing codes specified here.

ROUTING-CODE = *ALL

All 40 routing codes are affected by the change.

ROUTING-CODE = list-poss(40): <alphanum-name 1..1> / *

The routing codes explicitly specified here are affected by the change.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	1	CMD0202	Syntax error in command
	2	CMD0198	Shutdown in progress
	64	CMD0216	User does not have the necessary privilege
	130	NBR1042	Not enough class 5 memory; filter levels cannot be modified

Note

To reallocate a filter level to a routine code you use the ADD-CONSOLE-FILTER command.

For further information on routing codes and filter levels see the manual "Introduction to System Administration" [14].

REMOVE-CRYPTO-PASSWORD

Remove crypto password from the job's crypto password table

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION HARDWARE-MAINTENANCE

Function

The REMOVE-CRYPTO-PASSWORD command removes one, several or all crypto passwords from the crypto password table of a job. All passwords which are not explicitly removed with the command are automatically deleted at the end of the job.

Each time a crypto password is removed without error the counter for the number of crypto passwords in the crypto password table is decremented.

Crypto passwords can be up to 8 characters long. Crypto passwords with less than 8 characters are stored left-justified within the system and filled with binary zeros. This means that the two crypto passwords C'ABCD' and C'ABCD_0000' which are specified in the form of a C string are not identical, and owing to the different internal representation two different crypto passwords are calculated by the cryptographic algorithm:

```
/rem-crypto-password c'ABCD'          internal: X'C1C2C3C400000000'  
/rem-crypto-password c'ABCD_0000'    internal: X'C1C2C3C440404040'
```

The message DMS06DC notifies the caller that a specified crypto password could not be found in the crypto password table.

For information on encrypting files, see also the "Introductory Guide to DMS" [13].

REMOTE-FILE-ACCESS

The REMOVE-CRYPTO-PASSWORD command is automatically forwarded to all RFA partner processes by the requesting job.

Format

REMOVE-CRYPTO-PASSWORD	Alias: RMCPW
PASSWORD = <u>*ALL</u> / *SECRET / list-poss(20): <c-string 1..8> / <x-string 1..16>	

Operands

PASSWORD = *ALL / *SECRET / list-poss(20): <c-string 1..8> / <x-string 1..16>

Passwords which are to be removed from the crypto password table.

Up to 20 crypto passwords can be specified in a command. The specification is not case-sensitive.

The PASSWORD operand has the following special features:

- The value entered is not logged.
- In guided dialog, the entry field is automatically blanked out.
- If *SECRET or ^ is specified, in unguided dialog and in foreground procedures SDF provides a non-displaying entry field for concealed entry of the password.

PASSWORD = *ALL

All entries are removed from the job's crypto password table.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	1	CMD0202	Syntactical or semantic error in the command
	32	DMS05C7	Unexpected error in DMS
	64	DMS066A	Specified crypto password cannot be used
	64	DMS0691	Crypto password table at maximum size
	64	DMS0692	Maximum number of crypto passwords per task reached
	64	DMS06FF	BCAM connection severed
	130	DMS0594	Not enough virtual memory available

REMOVE-DCAM-APPLICATION-LINK

Remove specifications for DCAM application from CLT

Description status:	DCAM V13.3A
Functional area:	Data communication control
Domain:	NETWORK-MANAGEMENT
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE

Function

The REMOVE-DCAM-APPLICATION-LINK command deletes specifications for a DCAM application from the CLT (communication link table) of the current job. Users can store specifications for a DCAM application in the CLT using the SET-DCAM-APPLICATION-LINK command.

Format

REMOVE-DCAM-APPLICATION-LINK

LINK-NAME = <name 1..8>

Operands

LINK-NAME = <name 1..8>

Link name assigned to the CLT entry to be removed.

Return codes

The command provides no command-specific command return codes (see [section "Return codes" on page 1-66](#)).

REMOVE-DCAM-CONNECTION-LINK

Remove virtual DCAM connection from CLT

Description status:	DCAM V13.3A
Functional area:	Data communication control
Domain:	NETWORK-MANAGEMENT
Privileges:	STD-PROCESSING

Function

The REMOVE-DCAM-CONNECTION-LINK command deletes specifications for a virtual DCAM connection from the CLT (communication link table) of the current job. Users can store specifications for a virtual DCAM connection in the CLT using the SET-DCAM-CONNECTION-LINK command.

Format

REMOVE-DCAM-CONNECTION-LINK
LINK-NAME = <name 1..8>

Operands

LINK-NAME = <name 1..8>

Link name assigned to the CLT entry to be removed.

Return codes

The command provides no command-specific command return codes (see [section "Return codes" on page 1-66](#)).

REMOVE-DEVICE-CONNECTION

Clear virtual connections

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Device management
Domain:	DEVICE
Privileges:	OPERATING
Routing code:	G

Function

This command enables the operator to clear virtual connections between the hardware units (CHN, CTL, DVC) from the system, i.e. to prevent the system from using these connections.

Information on existing connections is displayed by the SHOW-DEVICE-CONFIGURATION command.

Effect of the REMOVE-DEVICE-CONNECTION command

1. If permitted, each of the specified connections changes to the status REMOVED EXPLICITLY. They cannot be used.
2. Every outer unit affected which does not have a inner connection in the status INCLUDED changes to the status DETACHED IMPLICITLY. None of these units can be used.
3. The connections of the outer hardware units which, as described in the preceding point, have the status DETACHED IMPLICITLY change to the status REMOVED IMPLICITLY. These connections cannot be used.
4. In the case of disk or tape devices which are able to form path groups, the path group is cleared.

Format

REMOVE-DEVICE-CONNECTION
<pre> FROM = *CHANNEL(...) / *CONTROLLER(...) / list-poss(8): <alphanum-name 2..2> / <x-text 4..4> *CHANNEL(...) CHANNEL-PATH-ID = list-poss(8): <x-text 2..2> *CONTROLLER(...) CONTROLLER-UNIT = list-poss(8): <alphanum-name 2..2> / <x-text 4..4> ,TO = *CHANNEL(...) / *CONTROLLER(...) / list-poss(8): <alphanum-name 2..2> / <x-text 4..4> *CHANNEL(...) CHANNEL-PATH-ID = list-poss(8): <x-text 2..2> *CONTROLLER(...) CONTROLLER-UNIT = list-poss(8): <alphanum-name 2..2> / <x-text 4..4> ,SCOPE = *OWN-SYSTEM-ONLY / *VM2000-GLOBAL ,FORCE = *STD / *YES / *NO(...) *NO(...) WAIT = *NO / *STD / <integer 1..32767>(…) <integer 1..32767>(…) DIM = *STD / *MIN / *SEC </pre>

Operands

FROM =

Identifies the virtual connection to be cleared via one of the delimiting hardware units. The direction in which the virtual connection is removed is not predefined. FROM therefore does not have to be the inner and TO the outer unit.

FROM = *CHANNEL(...)

Defines the virtual connection to be cleared in terms of a specific channel.

CHANNEL-PATH-ID = list-poss(8): <x-text 2..2>

Specifies the channel path ID of the channel that delimits the virtual connection. A maximum of 8 channels can be specified.

FROM = *CONTROLLER(...)

Defines the virtual connection to be cleared in terms of a specific controller.

CONTROLLER-UNIT = list-poss(8): <alphanum-name 2..2> / <x-text 4..4>

Specifies the mnemonic device code (MN) of the controller that delimits the virtual connection. A maximum of 8 controllers can be specified.

FROM = list-poss(8): <alphanum-name 2..2> / <x-text 4..4>

Defines the virtual connection to be cleared in terms of a specific device. A maximum of 8 devices (mnemonic device codes) can be specified.

TO = *CHANNEL(...) / *CONTROLLER(...) / list-poss(8): <alphanum-name 2..2> / <x-text 4..4>

Defines the virtual connection to be cleared in terms of the other delimiting hardware unit. This unit, the second element of the pair (virtual connection), is specified according to the FROM operand.

SCOPE =

Specifies how the command is to be executed under VM2000.

SCOPE = *OWN-SYSTEM-ONLY

The command is only executed in the local system.

SCOPE = *VM2000-GLOBAL

If entered at the Monitor System (VM1), the command is executed at all guest systems running BS2000/OSD \geq V5.0.

If entered at another guest system, the command is rejected with message NKR0178.

FORCE =

Specifies the execution mode for REMOVE-DEVICE-CONNECTION.

FORCE = *STD

Immediate execution of the reconfiguration job is only required if the outer units involved are not being used. A wait time of up to 15 minutes may elapse for release of the units. During the wait time the connection is in the REMOVE-PENDING state. If the unit is released in under 15 minutes, the connection switches to the REMOVED state, otherwise it switches to the INCLUDED state.

FORCE = *YES

The reconfiguration job is to be executed immediately.

FORCE = *NO(...)

Immediate execution of the reconfiguration job is only required if the outer units involved are not being used. Otherwise the time specified in the WAIT operand must elapse before the units are released, and the virtual connection then switches to the REMOVE-PENDING state. If the units are released within the specified period, the connection switches to the REMOVED state; if not, it switches to the INCLUDED state.

WAIT =

Specifies the maximum wait time for execution of the reconfiguration job in execution mode FORCE=*NO.

WAIT = *NO

No maximum wait time is specified for execution of the reconfiguration job.

WAIT = *STD

The maximum wait time for execution of the reconfiguration job is set to 15 minutes.

WAIT = <integer 1..32767>(…)

Specifies the maximum wait time.

DIM =

Specifies whether the value defined for the wait time is to be interpreted in minutes or seconds.

DIM = *STD

Wait time as for DIM=*MIN.

DIM = *MIN

Specifies the maximum wait time in minutes.

Possible values: $1 \leq \langle \text{integer} \rangle \leq 546$

DIM = *SEC

Specifies the maximum wait time in seconds.

Possible values: $1 \leq \langle \text{integer} \rangle \leq 32767$

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
4	64	NKR0...	Path already detached
12	64	NKR0...	Internal check negative
16	64	NKR0...	Caller error
20	64	NKR0...	Software error

Note

If there is an error in command termination, the maincode contains the message code of the message output during command processing.

Notes

- If a reconfiguration job cannot be executed with FORCE=*NO within the specified wait time, it is rejected with the following message:

```
NKR0037 mn MAY CURRENTLY NOT BE DETACHED
NKR0059 mn1/mn3 REMOVE REJECTED
```

In this case the operator should either:

- ask for more detailed information using the SHOW command, terminate tasks which have reserved the device, or assign other devices,
 - or repeat the reconfiguration job in execution mode FORCE=*YES.
- A reconfiguration job is not executed, regardless of the execution mode, if the last path to a unit absolutely essential for the system is affected (see DETACH-DEVICE, note 2).
 - The status REMOVE PENDING can be terminated by means of the appropriate command

```
INCLUDE-DEVICE-CONNECTION or REMOVE-DEVICE-CONNECTION ...,FORCE=*YES
```
 - For magnetic tape controllers with two channel ports or for dual magnetic tape controllers, paths that are physically not available should also be logically removed. Otherwise path handling by the system could cause an error.

Examples

Detach the connections between devices Y1, Y2, Y3 and the controller Z4, if permissible (default wait time)

```
/REMOVE-DEVICE-CONNECTION FROM=(Y1,Y2,Y3),TO=*CONTROLLER(Z4),  
FORCE=*NO or  
/REM FROM=(Y1,Y2,Y3),TO=*CON(Z4)
```

Clear the connection between device D1 and controller Z5 immediately

```
/REMOVE-DEVICE-CONNECTION FROM=D1,TO=*CONTROLLER(Z5),FORCE=*YES or  
/REM FROM=D1,TO=*CON(Z5),FORCE=*Y
```

Clear the connections between devices L1 and L2 and channels 10 and 40.

```
/REMOVE-DEVICE-CONNECTION FROM=(L1,L2),TO=*CHANNEL((10,40)),  
FORCE=*YES or  
/REM FROM=(L1,L2),TO=*CH((10,40)),FORCE=*Y
```

REMOVE-DEVICE-DEPOT

Cancel assignments of tape devices to depots

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Device management
Domain:	DEVICE
Privileges:	OPERATING
Routing code:	T

Function

The REMOVE-DEVICE-DEPOT command is used to cancel the assignment of tape devices to depots created by means of the ADD-DEVICE-DEPOT command. This command can only be processed successfully if the device is DETACHED or not used. Otherwise message NKG0010 is issued. If UNIT-*ALL is specified, no device with that depot may be allocated. Otherwise message NKG0009 is issued.

Format

REMOVE-DEVICE-DEPOT
UNIT = *ALL / list-poss(10): <alphanum-name 2..2> / <alphanum-name 4..4> , LOCATION = *ALL / <alphanum-name 1..8>

Operands

UNIT =

Specifies one or more (up to 10) tape devices whose assignment to a depot is to be canceled.

As soon as the last device has been removed from a depot, all information on the depot involved is deleted implicitly.

UNIT = *ALL

All device assignments to the specified depot are to be canceled.

UNIT = list-poss(10): <alphanum-name 2..2> / <alphanum-name 4..4>

The assignment of the devices identified by their mnemonic names to the specified depot is to be canceled. A maximum of 10 devices may be specified.

LOCATION =

Specifies the depot for which the assignment of the specified devices (UNIT operand) is to be canceled.

LOCATION = *ALL

The assignment of the specified devices (UNIT operand) is to be canceled for all known depots.

LOCATION = <alphanum-name 1..8>

Name of the depot for which the assignment of the specified devices (UNIT operand) is to be canceled.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	NKV0001	Syntax error
	64	NKV0004	Command partially processed
	64	NKV0005	Command not processed for an object
	64	NKV0006	Command not processed
	130	NKVT002	Tape monitor not available

REMOVE-FILE-ALLOCATION-LOCKS

Cancel file lock

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION TSOS

Function

The command REMOVE-FILE-ALLOCATION-LOCKS enables files (and also file generations or file generation groups), which have been incorrectly closed due to a system crash or aborted job, to be made accessible again. The command enables the user to cancel any file lock imposed as a result of a system crash or the abortion of a job.

A file lock can be canceled with the REMOVE-FILE-ALLOCATION-LOCKS command only if the job which produced the lock was terminated by the system with the message "TASK PENDED INDEFINITELY" on the operator's console.

For tape files which were exclusively reserved by a SECURE-RESOURCE-ALLOCATION command, the user may request the removal of the lock; for disk files, only the system administrator is authorized to do so.

The REMOVE-FILE-ALLOCATION-LOCKS command does not reconstruct the files in question. This may be initiated with the REPAIR-DISK-FILES command if required. The CHECK-FILE-CONSISTENCY command removes a file lock and check the file for inconsistencies at the same time.

Concurrent copy locks

Concurrent copy locks must not be removed unless the concurrent copy session has been completed. There are two different cases to consider:

- If both file locks and concurrent copy locks exist, the return code depends on whether it was possible to reset the file locks.
- If there is only a concurrent copy lock, the return code depends on whether it was possible to reset the lock.

Privileged functions

Systems support (TSOS privilege) can, in addition to specifying any required file, also reset the NO-OPEN-ALLOWED bit in the TSOSCAT, which prevents the file from being opened.

Format

```
REMOVE-FILE-ALLOCATION-LOCKS
```

```
FILE-NAME = <filename 1..54> / <partial-filename 2..53>
```

```
,SELECT = *ANY-VOLUME / *PRIVATE-DISK / *PUBLIC-DISK / *NET-STORAGE
```

```
,OPEN-ALLOWED = *UNCHANGED / *YES
```

Operands

FILE-NAME = <filename 1..54> / <partial-filename 2..53>

The name of the file which is locked. This may be a permanent file or a temporary one, or a file generation group or a file generation. Write access is required for files which are not under the user's own user ID.

If a partially qualified file name is specified, only the files which are identified as open will be selected. If exactly one file is specified, the file is selected without taking this identifier into account.

For tape input files: If the locked file was opened in INPUT or REVERSE mode, the fully qualified file name must be specified; the file lock is removed.

The following actions are performed based on the access method with which the file was created:

PAM files: Only the file lock is removed. If the file is identified as open, it remains open, i.e. continues to be displayed by SHOW-FILE-ATTRIBUTES with STATUS=*PAR(CLOSED-OUTPUT=*YES); for REPAIR-DISK-FILES, the file is still regarded as a file that needs repair. This means that it will also be listed as a file that needs reconstruction in the output of the SHOW-FILE-ATTRIBUTES command (with the STATUS=*PAR(REPAIR-NEEDED=*YES) option).

SAM files: The file lock is removed. If the file is identified as open, no privileged close operation is performed, i.e. in the case of SHOW-FILE-ATTRIBUTES with STATUS=*PAR(CLOSED-OUTPUT=*YES) it is still displayed; for REPAIR-DISK-FILES it is regarded as a file to be repaired. This means that it will also be listed as a file that needs reconstruction in the output of the SHOW-FILE-ATTRIBUTES command (with the STATUS=*PAR(REPAIR-NEEDED=*YES) option).

ISAM files: The file lock is removed. If the file is identified as open, the last page pointer is set to the highest PAM page written. If the file is on a mirrored disk (see the "DRV" manual [11]), the consistency (contents) of file blocks is restored if required. Inconsistencies between the index and data sections and for secondary keys are **not** detected and are **not** removed. The file is no longer regarded as a file requiring repair, i.e. will not be shown by SHOW-FILE-ATTRIBUTES with STATUS=*PAR(REPAIR-NEEDED=*YES).

SELECT = *ANY-VOLUME / *PRIVATE-DISK / *PUBLIC-DISK

Restricts the files selected for closing to the specified volume type. This operand is only meaningful if FILE-NAME was a partially qualified name, or the name of a file generation group.

SELECT = *ANY-VOLUME

The specified files will be selected, irrespective of the volume on which they are held.

SELECT = *PRIVATE-DISK

Of the specified files, those which are held on private disk will be selected.

SELECT = *PUBLIC-DISK

Of the specified files, those which are held on public disk will be selected.

SELECT = *NET-STORAGE

Of the specified files, those which are held on Net-Storage volume will be selected.

OPEN-ALLOWED = *UNCHANGED / *YES

This parameter enables systems support to specify that the NO-OPEN-ALLOWED bit in the catalog entry, which prevents a file from being opened, is reset for the specified file. The file can subsequently be opened again.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
1	0	CMD0001	No action required
2	0	DMS06E6	File specified in command is empty
2	0	DMS06E9	No valid record found during reconstruction of ISAM file
2	0	DMS06ED	Error on writing unrecoverable blocks to scratch file
	1	CMD0202	Syntactical or semantic error in command
	32	DMS0584	A state that does not allow the function to continue was reported during processing
	64	CMD0216	Privileges error
	64	DMS0501	Requested catalog not available
	64	DMS051B	Requested user ID not in pubset
	64	DMS051C	User not authorized to access pubset
	64	DMS0533	Requested file not cataloged in pubset
	64	DMS0535	Specified file not shareable
	64	DMS055C	Catalog entry not found on assigned private disk
	64	DMS0583	An error occurred when reconstructing the file
	64	DMS0585	Error detected during catalog processing or multihost processing
	64	DMS0586	Currently not possible to access or reserve volume
	64	DMS0587	Use of specified command restricted by system administrator
	64	DMS0588	It was not possible to allocate disk space
	64	DMS05F8	It was not possible to allocate disk space
			Guaranteed message: DMS05F8

(Part 1 of 2)

(SC2)	SC1	Maincode	Meaning
	64	DMS05FC	Specified user ID not in HOME pubset
	64	DMS0609	No access to system file
	64	DMS0609	No access to system file
	64	DMS06CC	No file corresponding to specified operands
	64	DMS06E4	Reconstruction with specified command not possible for this file type
	64	DMS06FF	Reconstruction for this file type not possible with specified command
	64	DMS06FF	File created with WROUT=NO. Consistency check is not practical
	130	DMS0524	System address space full
	130	DMS053C	No space in pubset catalog file
	130	DMS0582	File is currently locked or in use and cannot be processed
	130	DMS0585	Error detected during catalog processing or multihost processing
	130	DMS0586	Currently not possible to access or reserve volume
	130	DMS0588	It was not possible to allocate disk space
	130	DMS0594	Not enough virtual memory available
	130	DMS05C8	Maximum permitted number of files reached

(Part 2 of 2)

REMOVE-FILE-LINK

Delete TFT entry

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT

Function

The REMOVE-FILE-LINK command deletes the entry with the specified file link name from the Task File Table (TFT) and releases all the private volumes and devices linked to the name. The reservation is also canceled for any files which were exclusively reserved using the SECURE-RESOURCE-ALLOCATION command. The command will be ignored if the TFT entry referred to is still locked by a LOCK-FILE-LINK, and will only be executed when this lock is canceled by an UNLOCK-FILE-LINK command (or at LOGOFF time).

The user can specify whether:

- the task for tape devices is to retain an NDM-internal device type reservation (RELEASE-DEVICE),
- tapes which were reserved for the file are to be released (UNLOAD-RELEASED-TAPE).

Default: devices are released, but tapes remain reserved.

If the TFT entry which is to be canceled is linked to a TST entry, the file counter in the TST entry is decremented by 1. As soon as this reaches the value 0, the TST entry is deleted, and DMS releases all the devices linked to this TST entry. As long as the TST entry is still linked to at least one TFT entry (file counter > 0), DMS will only release those devices which were requested for the TFT entry named in the REMOVE-FILE-LINK command.

If the TFT entry which is to be canceled does not point to a TST entry, all the devices linked to the TFT entry will be released.

Format

REMOVE-FILE-LINK	Alias: RMFL
LINK-NAME = <u>*FIRST-BLANK</u> / <filename 1..8 without-gen with-wild(80)> ,RELEASE-DEVICE = <u>*YES</u> / <u>*NO</u> ,UNLOAD-RELEASED-TAPE = <u>*NO</u> / <u>*YES</u> ,SUPPRESS-ERRORS = <u>*NONE</u> / <u>*LINK-NAME-NOT-FOUND</u>	

Operands

LINK-NAME = *FIRST-BLANK / <filename 1..8 without-gen with-wild(80)>

The file link name of the TFT entry which is to be deleted.

LINK-NAME = *FIRST-BLANK

If *FIRST-BLANK is specified, the first TFT entry whose file link name consists of spaces will be processed.

LINK-NAME = <filename 1..8 without-gen with-wild(80)>

The file link name of the TFT entry which is to be deleted.

Use of wildcards allows more than one TFT entry to be specified. If the first character in a wildcard sequence is "*", it must be followed by at least one other wildcard character.

RELEASE-DEVICE = *YES / ***NO**

Specifies whether an NDM-internal device type reservation is to be retained when tapes of the task are released.

The reservation can then be used to request a device again. The reservation can be displayed using the SHOW-RESOURCE-ALLOCATION command and deleted with the SECURE-RESOURCE-ALLOCATION command.

RELEASE-DEVICE = *YES

When a tape is released an NDM-internal device type reservation is not retained.

RELEASE-DEVICE = *NO

When a tape is released an NDM-internal device type reservation is retained.

UNLOAD-RELEASED-TAPE = *NO / ***YES**

Specifies whether the tapes which were linked to this TFT entry are to be released.

UNLOAD-RELEASED-TAPE = *NO

The tapes to be released will not be unloaded.

UNLOAD-RELEASED-TAPE = *YES

The tapes to be released will be unloaded.

If the job requires to access these volumes again, they will have to be requested again.

Note

If there are several active files on a tape which is being released, then this volume will not actually be released until a REMOVE-FILE-LINK command has been issued for each of the active files.

SUPPRESS-ERRORS = *NONE / *LINK-NAME-NOT-FOUND

Specifies which errors are to be suppressed.

SUPPRESS-ERRORS = *NONE

All errors lead to the DMS error messages provided and, in non-S and ENTER procedures, trigger the spin-off mechanism, and, in S procedures, SDF-P error handling.

SUPPRESS-ERRORS = *LINK-NAME-NOT-FOUND

If no TFT entry is found in the LINK-NAME operand, the command is executed as though no error had occurred: no error message is issued, and the spin-off mechanism and SDF-P error handling are not triggered.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
1	0	CMD0001	No action required
2	0	DMS059C	In conjunction with wildcards: not all the selected TFT entries can be deleted
	1	CMD0202	Syntactical or semantic error in command
	130	DMS0582	File is currently locked or being used and cannot be processed

Example

See the LOCK-FILE-LINK command.

REMOVE-IO-UNIT

Remove input/output unit from configuration

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Device management
Domain:	DEVICE
Privileges:	OPERATING
Routing code:	G

Function

Using the REMOVE-IO-UNIT command, systems support staff can dynamically remove input/output devices from a configuration. Input/output units (devices, controllers, channels) that are DETACHED can be removed from the configuration in this process. If an “internal” unit is removed (channel or controller), the system implicitly also removes the relevant “external” devices (controllers or devices), provided they are not allocated to some other “internal” unit. Input/output devices have to be removed in the order device → controller → channel.

The command is only accepted if the dynamic I/O configuration change was started successfully (see START-CONFIGURATION-UPDATE command).

Format

REMOVE-IO-UNIT

```
UNIT = *CHANNEL(...) / *CONTROLLER(...) / *DEVICE(...)
```

```
*CHANNEL(...)
```

```
  | NAME = <alphanum-name 2..3>
```

```
*CONTROLLER(...)
```

```
  | NAME = <alphanum-name 2..2> / <x-text 4..4>
```

```
*DEVICE(...)
```

```
  | NAME = <alphanum-name 2..2> / <x-text 4..4>
```

Operands

UNIT = *CHANNEL(...) / ***CONTROLLER(...)** / ***DEVICE(...)**

Specifies the input/output units to be removed from the configuration.

UNIT = *CHANNEL(...)

Specifies a channel to be removed from the configuration. Controllers and devices that can only be accessed through this channel are implicitly removed along with the channel.

NAME = <alphanum-name 2..3>

Mnemonic device code of a channel.

UNIT = *CONTROLLER(...)

Specifies a controller to be removed from the configuration. Devices that can only be accessed via this controller are implicitly removed along with it.

NAME = <alphanum-name 2..2> / <x-text 4..4>

Mnemonic device code of a controller.

UNIT = *DEVICE(...)

Name of the device to be removed from the configuration.

NAME = <alphanum-name 2..2> / <x-text 4..4>

Mnemonic device code.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	NKR0006	Syntax error
	64	CMD0216	No authorization
1	64	NKR0169	System error
2	64	NKR0169	Wrong parameter
3	64	NKR0169	Dynamic I/O configuration change was rejected
4	64	NKR0169	Dynamic I/O configuration change not supported
5	64	NKR0169	Input/output unit not removed
9	64	NKR0169	Input/output unit not defined
11	64	NKR0169	Path to input/output unit not removed
12	64	NKR0169	Dynamic I/O configuration change was not started
14	64	NKR0169	Configuration changes not completed in the guest system
16	64	NKR0169	Another guest system is being started
17	64	NKR0169	Another guest system is being terminated
18	64	NKR0169	Dynamic I/O configuration change not supported by one or several guest systems

REMOVE-ISAM-POOL-LINK

Delete pool link name

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING

Function

The REMOVE-ISAM-POOL-LINK command enables the user to delete one particular pool link name, or all of them, from the pool table for the job. The command will only be executed fully if the files which were originally linked with these pool link names have been correctly closed; for any pool link names which are linked to open files, DMS will issue an error message.

The ADD-ISAM-POOL-LINK command enters a pool link name for an ISAM pool into the pool table of the task. Entries in the pool table can be displayed by using the SHOW-ISAM-POOL-LINK command.

For a full description of the ISAM pool see the “Introductory Guide to DMS” [13].

Format

REMOVE-ISAM-POOL-LINK
LINK-NAME = <name 1..8> / *ALL

Operands

LINK-NAME =<name 1..8> / *ALL

Specifies which pool link name is to be deleted from the pool table.

LINK-NAME = <name 1..8>

The pool link name LINK-NAME, which was allocated to an ISAM pool using an ADD-ISAM-POOL-LINK command, will be deleted.

LINK-NAME = *ALL

All the pool link names for the task are to be deleted. If any pool link name is still linked to a file which is open, a corresponding error message will be output, and the other pool link names will be deleted.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without errors
	64	DMS0A17	Internal system error
	64	DMS0A0E	Syntax error in ISAM pool command
	64	DMS0A11	Specified catalog ID does not exist
	64	DMS0A13	Specified pool name is syntactically invalid
	64	DMS0A1A	Pool links to ISAM pool still exist
	64	DMS0A1B	Specified pool link name does not exist
	130	DMS0A12	Specified catalog ID not available

Example

See the ADD-ISAM-POOL-LINK command.

REMOVE-JV-LINK

Delete JV-LINK entries

Description status:	JV V15.1A
Functional area:	Job variables
Domain:	JOB-VARIABLES
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
Routing code:	\$ (with NBCONOPI=N) or J (with NBCONOPI=Y)

This command is available only to users who have the chargeable software product JV loaded as a subsystem.

Function

The REMOVE-JV-LINK command deletes one or all entries in the JV-LINK table. The user selects the entry to be deleted by specifying the link name. If all entries are to be deleted, the user is prompted in dialog mode by message JVS0457 to confirm this request. The user can obtain information on existing JV-LINK entries by entering the SHOW-JV-LINK command

Format

REMOVE-JV-LINK

Alias: **RMJVL**

LINK-NAME = ***ALL** / <alphanum-name 1..7>

Operands

LINK-NAME = ***ALL** / <alphanum-name 1..7>

Link name of the JV whose JV-LINK entries are to be deleted. Specifying *ALL causes all entries to be deleted. To delete all entries, the user must confirm his or her choice a second time in the dialog (by answering "Y" or "N" to message JVS0457).

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
1	0	CMD0001	No action necessary
2	0	CMD0001	Command executed with a warning
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	JVS04E0	Command not executable in the call environment; if possible, remove cause of error (see SYSOUT message JVS04xx)
	130	JVS04E1	Command cannot be executed at this time; for cause see SYSOUT message JVS04xx
	130	CMD2282	Subsystem JV not available for indefinite time

REMOVE-MASTER-CATALOG-ENTRY

Delete entry from MRSCAT of home pubset

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	TSOS
Routing code:	\$

Function

The relevant pubset must be set to “inaccessible”, otherwise the command is rejected.

Once the entry has been deleted, the pubset can no longer be identified. A new catalog ID can be entered by systems support using the ADD-MASTER-CATALOG-ENTRY command.

Format

REMOVE-MASTER-CATALOG-ENTRY

ENTRY-NAME = <cat-id 1..4>

, **VOLUME-SET-ENTRIES** = *REMOVE / *KEEP

Operands

ENTRY-NAME = <cat-id 1..4>

Identifies the MRSCAT entry which is to be deleted.

VOLUME-SET-ENTRIES = *REMOVE / *KEEP

Governs whether deletion of the MRSCAT entry for a system-managed pubset (SM pubset) also means deletion of the associated volume set entries.

VOLUME-SET-ENTRIES = *REMOVE

When the MRSCAT entry for an SM pubset is deleted, the associated volume set entries are to be deleted as well.

VOLUME-SET-ENTRIES = *KEEP

Only the MRSCAT entry for an SM pubset is to be deleted, not the associated volume set entries.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	CMS0312	MRSCAT entry not found
2	0	CMS0002	Disk error
	1	CMS0011	Syntax error
	1	CMS0314	Syntax error in entry name or error in wildcard specification
	32	CMS0001	Error in SLOT Manager
	32	CMD0221	Internal system error
	32	CMS031F	MRSCAT parameter error
	32	CMS0310	Error during privilege checking
	32	CMS0317	Locked MRSCAT entry cannot be released
	32	CMS0318	Synchronization error due to task lock manager problem
	64	CMS0010	Command reserved for systems support
	130	CMS0003	MRSCAT entry cannot be deleted because pubset is occupied

REMOVE-NET-STORAGE-VOLUME

Remove a Net-Storage volume from a local pubset

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Net-Storage administration
Domain:	STORAGE-MANAGEMENT
Privileges:	TSOS

Function

The REMOVE-NET-STORAGE-VOLUME removes a Net-Storage volume from a local pubset.

By default the command is executed only if the directory concerned on the Net-Storage contains no (more) BS2000 files.

The following actions are performed here:

1. The management files (catalog and FSL files) in the directory are deleted.
2. Then the directory is deleted.

Optionally the command can also be executed if the directory still contains cataloged BS2000 files. The specification in the FILES-ON-VOLUME operand determines the procedure for the BS2000 files:

- *EXPORT:
The BS2000 files are exported (as with the EXPORT-FILE command). The directory and the files on the Net-Storage remain unchanged and can, if required, once again be added to a pubset as a Net-Storage volume.
- *DELETE:
If there are no inconsistencies, the existing BS2000 files, the management data and the directory are deleted. If there are inconsistencies, command execution can be forced with the FORCE=*YES operand.

Information on the Net-Storage available in BS2000 can be requested using the SHOW-NET-STORAGE command. Information on the Net-Storage assigned to a pubset can be requested using the SHOW-PUBSET-NET-STORAGE command.

Fundamental information on the use of Net-Storage in BS2000 is provided in the "Introduction to System Administration" [14]. How to work with files on Net-Storage is described in the "Introductory Guide to DMS" [13].

Format

REMOVE-NET-STORAGE-VOLUME

VOLUME = *STD / <vsn 6..6>

,**PUBSET** = <cat-id 1..4>

,**FILES-ON-VOLUME** = *REJECT / *EXPORT / *DELETE(...)

*DELETE(...)

| **FORCE** = *NO / *YES

Operands

VOLUME =

Specifies the VSN of the Net-Storage volume.

On the Net-Storage the Net-Storage volume is implemented by a directory below the released directory with a name which corresponds to the VSN.

VOLUME = *STD

The VSN of the new Net-Storage volume was derived from the name of the pubset, see the "Introduction to System Administration" [14]. The VSN must be specified explicitly for a Net-Storage volume with a nonstandard name.

VOLUME = <vsn 6..6>

Specifies the VSN of the Net-Storage volume explicitly. A default name cannot be specified explicitly. The VSN must consist of 6 characters and comply with the conventions for private volumes. Consequently it may not begin with the string PUB and may not contain a period, see the "Introduction to System Administration" [14].

PUBSET = <cat-id 1..4>

Specifies the name of the pubset from which the Net-Storage volume is to be removed.

FILES-ON-VOLUME =

Determines the procedure when the Net-Storage volume still contains cataloged BS2000 files.

FILES-ON-VOLUME = *REJECT

The command is executed only when the Net-Storage volume contains no cataloged BS2000 files.

FILES-ON-VOLUME = *EXPORT

The files' catalog entries are deleted only in the local pubset (as with the EXPORT-FILE command). The directory and the file on the Net-Storage are retained.

FILES-ON-VOLUME = *DELETE(...)

The BS2000 files on the Net-Storage volume are deleted. Subsequently the directory concerned on the Net-Server is also deleted.

By default (FORCE=*NO) deletion takes place only when no inconsistencies are determined between the catalog entry on the local pubset and the catalog entry on the Net-Storage volume. Otherwise the command will be rejected.

FORCE = *NO / *YES

Specifies whether the files should also be deleted if inconsistencies exist. The default *NO causes the command to be rejected in this case. When FORCE = *YES, the files are always deleted and inconsistencies are ignored. Files which are not cataloged in BS2000 (UNIX files) are also deleted.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without error
	32	CMD0221	System error
	32	DMS1CFF	System error (see SERSLOG entry)
	64	DMS1C04	Error when calling the ONETSTOR subsystem
	64	DMS1C05	Catalog ID does not exist
	64	DMS1C06	Pubset not imported
	64	DMS1C07	Error when calling the allocation function
	64	DMS1C08	Error when calling a CMS function for the TSOSCAT
	64	DMS1C09	Error when calling a CMS function on the Net-Storage volume
	64	DMS1C0C	Net-Storage volume is not empty
	64	DMS1C0D	File system label on the net server does not match the pubset
	64	DMS1C0E	File catalog on the Net-Storage volume is not empty
	64	DMS1C10	The Net-Storage volume contains locked files
	64	DMS1C12	No Net-Storage volume can be created on the home pubset
	64	DMS1C13	Error when calling the multiprocessor system function
	64	DMS1C14	Error when calling the watchdog
	64	DMS1C15	Error when allocating on the slave system
	64	DMS1C18	Net-Storage volume cannot be accessed
	64	DMS1C20	Name of the Net-Storage volume is invalid

REMOVE-PASSWORD

Delete file or JV passwords from password table

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE FILE-GENERATION-GROUP JOB-VARIABLES
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
Routing code:	\$ (with NBCONOPI=N) or E (with NBCONOPI=Y)

Function

This command deletes file or JV passwords from the password table for the job (see the ADD-PASSWORD command).

Format

REMOVE-PASSWORD	Alias: RMPW
PASSWORD = * <u>ALL</u> / * <u>SECRET</u> / list-poss(63): <c-string 1..4> / <x-string 1..8> / <integer -2147483648..2147483647>	

Operands

PASSWORD = *ALL / *SECRET / list-poss(63): <c-string 1..4> / <x-string 1..8> / <integer -2147483648..2147483647>

Specifies that the passwords specified in the ADD-PASSWORD command are to be removed from the password table for the job, thus reinstating full password protection.

The PASSWORD operand has the following special characteristics:

- The input field is automatically blanked out in the guided dialog.
- In unguided dialog and foreground procedures, the entry *SECRET or ^, SDF provides a blanked out input field for inputting the password .
- The password entered is not logged.

PASSWORD = *ALL

All entries in password table for the job are to be deleted.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	1	CMD0202	Syntactical or semantic error in command
	32	DMS0584	A state that does not allow the function to continue was reported during processing
	64	DMS06FF	BCAM connection severed
	130	DMS0585	Error detected when processing catalog or multiprocessor system

Example

See the ADD-PASSWORD command.

REMOVE-PUBSET-LOCK

Reset pubset lock

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	TSOS

Function

The REMOVE-PUBSET-LOCK command enables the system administrator to reset locks set by pubset management. The pubset concerned and an unambiguous description of the lock which is to be reset must be specified here. A lock is described unambiguously by the lock type, the system with the lock entry, the task ID and the sysid of the lock holder.

The command can be entered on any system in a shared pubset network (with BS2000/OSD \geq V8.0). If the lock which is to be released is not on the system on which the command was issued, the command is sent to the system containing the lock entry. Only locks whose lock entry is contained on a system with BS2000/OSD \geq V8.0 can be reset.

The command is rejected if the task which contains the lock still exists and is not in the "pending indefinitely" status.

Successful release of a lock is logged with the console message DMS13CD.

Information on existing locks can be obtained using the SHOW-PUBSET-LOCKS command.

Format

REMOVE-PUBSET-LOCK
<p>PUBSET = <cat-id 1..4></p> <p>,LOCK-IDENTIFICATION = *PUBSET-RECONFIGURATION(...) / *SHARED-EXCAT(...) / *SHARED-IMCAT(...) / *SHARED-MASTER-EXCAT(...)</p> <p>*PUBSET-RECONFIGURATION(...)</p> <ul style="list-style-type: none"> TID-OF-LOCKHOLDER = X'FFFFFFFF' / <x-string 1..8> ,LOCATION-OF-LOCK = *OWN-SYSTEM / <alphanum-name 1..3> <p>*SHARED-EXCAT(...)</p> <ul style="list-style-type: none"> TID-OF-LOCKHOLDER = X'FFFFFFFF' / <x-string 1..8> ,SYSTEM-OF-LOCKHOLDER = *HOST-SYSTEM / <alphanum-name 1..3> ,LOCATION-OF-LOCK = *OWN-SYSTEM / <alphanum-name 1..3> <p>*SHARED-IMCAT(...)</p> <ul style="list-style-type: none"> TID-OF-LOCKHOLDER = X'FFFFFFFF' / <x-string 1..8> ,SYSTEM-OF-LOCKHOLDER = *HOST-SYSTEM / <alphanum-name 1..3> ,LOCATION-OF-LOCK = *OWN-SYSTEM / <alphanum-name 1..3> <p>*SHARED-MASTER-EXCAT(...)</p> <ul style="list-style-type: none"> TID-OF-LOCKHOLDER = X'FFFFFFFF' / <x-string 1..8> ,LOCATION-OF-LOCK = *OWN-SYSTEM / <alphanum-name 1..3>

Operands

PUBSET = <cat-id 1..4>

Catalog ID of the pubset for which the specified lock is to be reset.

LOCK-IDENTIFICATION = *PUBSET-RECONFIGURATION(...) / ***SHARED-EXCAT(...)** / ***SHARED-IMCAT(...)** / ***SHARED-MASTER-EXCAT(...)**

Unambiguous description of the lock which is to be reset.

LOCK-IDENTIFICATION = *PUBSET-RECONFIGURATION(...)

The lock is of the type PUBSET-RECONFIGURATION. For this lock type the lock holder is contained on the system with the lock entry.

TID-OF-LOCKHOLDER = X'FFFFFFFF' / <x-string 1..8>

Task ID (TID) of the instance which holds the lock.

LOCATION-OF-LOCK = *OWN-SYSTEM / <alphanum-name 1..3>

Sysid of the system with the lock entry. The default is *OWN-SYSTEM, i.e. the local system.

LOCK-IDENTIFICATION = *SHARED-EXCAT(...)

The lock is of the type SHARED-EXCAT. The lock holder's system can be specified for this lock type.

TID-OF-LOCKHOLDER = X'FFFFFFFF' / <x-string 1..8>

Task ID (TID) of the instance which holds the lock.

SYSTEM-OF-LOCKHOLDER = *OWN-SYSTEM / <alphanum-name 1..3>

Sysid of the system on which the lock holder resides. The default is *OWN-SYSTEM, i.e. the local system.

LOCATION-OF-LOCK = *OWN-SYSTEM / <alphanum-name 1..3>

Sysid of the system with the lock entry. The default is *OWN-SYSTEM, i.e. the local system.

LOCK-IDENTIFICATION = *SHARED-IMCAT(...)

The lock is of the type SHARED-IMCAT. The lock holder's system can be specified for this lock type.

TID-OF-LOCKHOLDER = X'FFFFFFFF' / <x-string 1..8>

Task ID (TID) of the instance which holds the lock.

SYSTEM-OF-LOCKHOLDER = *OWN-SYSTEM / <alphanum-name 1..3>

Sysid of the system on which the lock holder resides. The default is *OWN-SYSTEM, i.e. the local system.

LOCATION-OF-LOCK = *OWN-SYSTEM / <alphanum-name 1..3>

Sysid of the system with the lock entry. The default is *OWN-SYSTEM, i.e. the local system.

LOCK-IDENTIFICATION = *SHARED-MASTER-EXCAT(...)

The lock is of the type SHARED-MASTER-EXCAT. For this lock type the lock holder is contained on the system with the lock entry..

TID-OF-LOCKHOLDER = X'FFFFFFFF' / <x-string 1..8>

Task ID (TID) of the instance which holds the lock.

LOCATION-OF-LOCK = *OWN-SYSTEM / <alphanum-name 1..3>

Sysid of the system with the lock entry. The default is *OWN-SYSTEM, i.e. the local system.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without errors
	0	DMS13CE	No reconfiguration lock exists
	32	CMD0221	Internal error
	32	CMD2009	Error creating the presentation variables
	32	DMS138A	Internal error with Serslog entry
	64	CMD0216	Privileges error
	64	DMS138B	Pubset not found
	64	DMS138C	Pubset not accessible
	64	DMS1397	Partner host with illegal version
	128	CMD0217	Command not fully executed
	128	DMS1386	Error in the memory request
	128	DMS1389	Error in MSCF communication

REMOVE-RFA-CONNECTION

Clear down RFA connection and terminate partner task

Description status:	RFA V19.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	STD-PROCESSING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT

This command is available only to users who have the RFA software product (see also the “RFA” manual [31]).

Function

The command REMOVE-RFA-CONNECTION clears down one or all RFA connections previously set up with the SET-RFA-CONNECTION command. When the last RFA connection to a remote processor is cleared down, the partner task on the remote processor is simultaneously terminated.

When the local user task is terminated (EXIT-JOB or LOGOFF), the system automatically clears down all RFA connections set up during the current task.

The REMOVE-RFA-CONNECTION command is rejected if a program is loaded.

The user can issue the SHOW-RFA-CONNECTIONS command to get information on still-existing RFA connections.

Note

More than one SET-RFA-CONNECTION command can be issued for a single catalog ID. The same number of REMOVE-RFA-CONNECTION commands must be issued to clear down a connection as SET-RFA-CONNECTION commands were issued.

Format

REMOVE-RFA-CONNECTION
CATALOG-ID = <cat-id 1..4> / *ALL

Operands**CATALOG-ID = <cat-id 1..4> / *ALL**

Catalog ID to which the RFA connection is to be cleared down. Specifying *ALL lets all RFA connections be cleared.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	RFA0002	Command executed
1	0	RFA0002	No RFA connection exists which can be cleared down
	64	RFA0025	Program loaded
	64	RFA0027	Configuration error

REMOVE-SUBSYSTEM

Remove inactive subsystem from dynamic catalog

Description status:	DSSM V4.3B
Functional area:	Subsystem management
Domain:	SYSTEM-MANAGEMENT
Privileges:	SUBSYSTEM-MANAGEMENT

Function

This command allows system administrators to remove an inactive subsystem from the current dynamic subsystem catalog while the system is running. As the subsystem is only virtually removed, issuing this command does not change the number of subsystems and CALL entries that can subsequently be added to the current subsystem catalog using the ADD-SUBSYSTEM command.

The command is rejected if

- the designated subsystem is active
- another subsystem has cross-references to or dependency relations with the designated subsystem.

Format

REMOVE-SUBSYSTEM
SUBSYSTEM-NAME = <structured-name 1..8> , VERSION = <product-version mandatory-man-corr> / <product-version without-man-corr>

Operands

SUBSYSTEM-NAME = <structured-name 1..8>

Name of the subsystem that is to be removed.

VERSION = <product-version mandatory-man-corr> /
<product-version without-man-corr>

Identifies the version number.

If a version number is specified, the format specified here must be identical to the format used when the subsystem was defined (release and correction status mandatory or not allowed; cf. SDF metasyntax).

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without errors
	32	ESM0646	Command processing terminated abnormally; error occurred during initialization routine updating or calculation of the default version.
	64	ESM0642	Command not executed

Notes

- Once a subsystem has been removed, its cross-references to and dependency relations with any other subsystem cease to exist.
- If the latest version of a nonprivileged subsystem is removed, any dependency relations operating on the subsystem are obsolete.
- Once at least one subsystem has been removed with REMOVE-SUBSYSTEM, it is no longer possible to dynamically extend the current subsystem catalog using the ADD-SUBSYSTEM command with TYPE=*EXTENDED-ACTIVE-CONFIGURATION. However, dynamic extension is possible with ADD-SUBSYSTEM and TYPE=*NEW-SUBSYSTEMS.

Example

Removing Version 17.0 of the EDT subsystem:

```
/remove-subsystem subsystem-name=edt,version='17.0'
```

REMOVE-TASKLIB

Cancel TASKLIB assignment

Description status: SYSFILE V19.0A
Functional area: Program control
Domain: PROGRAM
Privileges: STD-PROCESSING
HARDWARE-MAINTENANCE

Function

The REMOVE-TASKLIB command cancels the assignment of an object module library as a TASKLIB which was made with the SET-TASKLIB command.

Format

REMOVE-TASKLIB	Alias: RMTL

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	1	SSM2036	Operand invalid

REMOVE-USER

Delete user entry from user catalog

Description status:	SRPMNUC V19.0A
Functional area:	User management
Domain:	USER-ADMINISTRATION
Privileges:	STD-PROCESSING USER-ADMINISTRATION
Routing code:	\$

Function

The REMOVE-USER command enables the systems support staff to delete a user's entry from the user catalog of a pubset.

Execution of this command proceeds as follows:

If jobs are still active for the user when a data pubset is specified, execution of the command is discontinued and the message SRM2215 is issued. By entering 'Y' you confirm the deletion of the user ID and execution of the command is continued. Make sure that the pubset data cannot be accessed by active jobs, as this would lead to errors. By entering 'N', you lock the user ID and the command is terminated.

First, the user's files and job variables (and, when SECOS is being used, the guards) are deleted from the pubset and after a confirmation they are deleted logically, also:

- If errors occur during deletion, the user ID is locked (not deleted). All necessary steps must be taken to enable the files to be deleted. The REMOVE-USER command must then be repeated.
- If the files have been deleted without problems, the user entry in the user catalog is also deleted.

The REMOVE-USER command is rejected

- for the standard user IDs allocated by the system except for the user SERVICE ID
- for a user ID to which at least one system-global privilege other than STD-PROCESSING is allocated (if SECOS is used)
- for a user ID which is the administrator of a user group (if SECOS is used).
- for the home pubset if the user ID still has active tasks
- for the data pubset if the user ID still has active tasks and the message SRM2215 was answered with 'N'

As a general rule, no user ID can be deleted if it has any system privilege other than STD-PROCESSING.

However, if SECOS is being used, such a user ID can be deleted by first assigning to it the STD-PROCESSING privilege, and then withdrawing the other individual privilege from it.

Restriction

The only nonprivileged users (STD-PROCESSING privilege) authorized to issue this command are those designated as group administrators. The actions a group administrator can take are defined by systems support. For information on setting up and managing user groups see the “SECOS” manual [35].

Format

REMOVE-USER

USER-IDENTIFICATION = <name 1..8>

,**PUBSET** = ***HOME** / <cat-id 1..4>

Operands

USER-IDENTIFICATION = <name 1..8>

Identifies the user whose entry is to be deleted.

PUBSET =

Deletes the entry in the user catalog of the specified pubset.

PUBSET = *HOME

Deletes the entry in the user catalog of the home pubset.

As a result, the user ID no longer has access to the system.

PUBSET = <cat-id 1..4>

The user ID is deleted from the user catalog of the specified pubset.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	SRM6001	Command executed with a warning
	1	SRM6010	Syntax error
	32	SRM6020	System error during command processing
	64	SRM6040	Semantic error
	130	SRM6030	Command cannot temporarily be executed

REPAIR-DISK-FILES

Reconstruct disk file

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The REPAIR-DISK-FILES command reconstructs a disk file which was incorrectly closed due to a system crash or a job being aborted. This involves: updating of the catalog entry, the implicit removal of any lock which may apply, and closing of the file (see the command REMOVE-FILE-ALLOCATION-LOCKS); ISAM files will be reconstructed using the available records. The files which need to be reconstructed can be displayed by using the SHOW-FILE-ATTRIBUTES command with the option STATUS=*PAR(REPAIR-NEEDED=*YES).



If the file access was interrupted while there was still buffered data in main memory, the last changes which were made may be missing from the reconstructed file; this is because the contents of the buffer are not output to external storage until it becomes full.

The reconstruction of files is discussed in the general section of the “Introductory Guide to DMS” [13].

Privileged functions

If reconstruction is not possible because of a file lock, systems support receives the message DMS06F0 in interactive mode (in batch mode command processing is aborted without any message) and can then, if required, cancel the file lock and thus force reconstruction. In the event of forced reconstruction it is essential to ensure that the file is not open for writing at this time.

Format

REPAIR-DISK-FILES
<pre> FILE-STATUS = *OPEN (...) / *ANY(...) *OPEN(...) FILE-NAME = <filename 1..54> / <partial-filename 2..53> ,SELECT = *ANY-VOLUME / *PRIVATE-DISK / *PUBLIC-DISK / *NET-STORAGE *ANY(...) FILE-NAME = <filename 1..54> ,SELECT = *ANY-VOLUME / *PRIVATE-DISK / *PUBLIC-DISK / *NET-STORAGE ,ISAM-COPY-NAME = *SAME / <partial-filename 2..53> / <filename 1..54> ,ISAM-REPAIR-INFO = *NO / [*YES](...) [*YES](...) OUTPUT = *SYSOUT / *SYSLST </pre>

Operands

FILE-STATUS = *OPEN(...) / ***ANY(...)**

Specifies whether the file is to be reconstructed only if it was not closed correctly, or in any case.

FILE-STATUS = *OPEN(...)

The file is only to be reconstructed if it was not closed correctly.

FILE-NAME = <filename 1..54> / <partial-filename 2..53>

Identifies the permanent or temporary file, file generation group or file generation which is to be reconstructed. If FILE-NAME is specified in partially qualified form, then:

- ISAM-COPY-NAME (if required) must also be specified in partially qualified form.
- ISAM-COPY-NAME will be ignored when generations are being reconstructed.

Only the user's own user ID may be specified.

The reconstruction of the file depends on the access method with which the file was created (see the output field *FILE-STRUC* in the output of the SHOW-FILE-ATTRIBUTES command):

PAM: The file lock is removed. If the file is identified as open, the system carries out a privileged close operation, and the last page pointer (LPP) is updated if required:

For a K-PAM file (*BLOCK-CONTR=PAMKEY*), the LLP will then point to the last reserved PAM page (corresponds to the file size). For an NK-PAM file (*BLOCK-CONTR=DATA/NO*), the LLP will contain a value which is determined by the file size, rounded down to a multiple of the number of PAM pages in the data block (see the blocking factor in the output field *BUF-LEN* of the SHOW-FILE-ATTRIBUTES command). If the file is on a disk that is operated in dual mode (see the “DRV” manual [11]), the contents of the data blocks will not be updated. However, this can also be achieved with FILE-STATUS=*ANY(...).

SAM: The file lock is removed. If the file is identified as open, the last page pointer is set to the highest used PAM page if required. After that the file is closed. If the file is on disk that is operated in dual mode, the contents of data blocks are restored. “Dual mode” disks are explained in the “DRV” manual [11].

ISAM: The file lock is removed. The file is reconstructed from the repairable data blocks. Secondary keys which are identified as complete are also reconstructed.

Irrespective of the access method, concurrent copy locks are retained if the concurrent copy session is still in progress.

SELECT = *ANY-VOLUME / *PRIVATE-DISK / *PUBLIC-DISK

The type of volume to which the reconstruction is to be restricted.

This operand is only meaningful if FILE-NAME was a partially qualified file name or the name of a file generation group.

SELECT = *ANY-VOLUME

The specified files will be selected, irrespective of the volume on which they are held.

SELECT = *PRIVATE-DISK

Of the specified files, those which are held on private disk will be selected.

SELECT = *PUBLIC-DISK

Of the specified files, those which are held on public volumes (disk) will be selected.

SELECT = *NET-STORAGE

Of the specified files, those which are held on Net-Storage volume will be selected.

FILE-STATUS = *ANY(...)

The file is to be reconstructed irrespective of its status.

FILE-NAME = <filename 1..54>

Identifies the permanent or temporary file, file generation group or file generation which is to be reconstructed. Only the user's own user ID may be specified.

The reconstruction of the file depends on the access method with which the file was created (see the output field *FILE-STRUC* in the output of the SHOW-FILE-ATTRIBUTES command):

PAM: The file lock is removed. If the file is identified as open, the system carries out a privileged close operation, and the last page pointer (LPP) is updated if required: For a file that was created with BLOCK-CONTROL-INFO=*WITHIN-DATA-BLOCK or *PAMKEY, the last page pointer will point to the last PAM page which was written. For a file that was created with BLOCK-CONTROL-INFO=*NO, the LLP will point to a value which is determined by the file size, rounded down to a multiple of the number of PAM pages in the data block (see the blocking factor in the output field *BUF-LEN* of the SHOW-FILE-ATTRIBUTES command). If the file is on a disk that is operated in dual mode (see reference below), the contents of its data blocks will be updated if required. "Dual mode" disks are explained in the "DRV" manual [11].

SAM: The file lock is removed. If the file is identified as open, the system carries out a privileged close operation, and the last page pointer (LPP) is set to the last PAM page that was written. If the file is on a disk that is operated in dual mode (see reference below), the contents of its data blocks will be updated if required. "Dual mode" disks are explained in the "DRV" manual [11].

ISAM: The file lock is removed. The file is reconstructed from the repairable data blocks. Secondary keys which are identified as complete are also reconstructed.

Irrespective of the access method, concurrent copy locks are retained if the concurrent copy session is still in progress.

SELECT = *ANY-VOLUME / *PRIVATE-DISK / *PUBLIC-DISK

The type of volume to which the reconstruction is to be restricted.

This operand is only meaningful if FILE-NAME was a partially qualified file name or the name of a file generation group.

SELECT = *ANY-VOLUME

The specified files will be selected, irrespective of the volume on which they are held.

SELECT = *PRIVATE-DISK

Of the specified files, those which are held on private disk will be selected.

SELECT = *PUBLIC-DISK

Of the specified files, those which are held on public volumes (disk) will be selected.

SELECT = *NET-STORAGE

Of the specified files, those which are held on Net-Storage volume will be selected.

ISAM-COPY-NAME = *SAME / <partial-filename 2..53> / <filename 1..54>

ISAM-COPY-NAME is only meaningful when ISAM files are being reconstructed, and identifies the file into which the reconstructed copy of the ISAM file ISAM-COPY-NAME is to be put. The file is assigned the encryption attributes of the file to be reconstructed.

ISAM-COPY-NAME can be the name of a permanent or temporary file or a file generation, but may not be the name of a file generation group.

Write access is required for files which are not under the user's own user ID.

ISAM-COPY-NAME may not be the same as FILE-NAME.

If FILE-NAME is partially qualified, so must ISAM-COPY-NAME be.

If no ISAM-COPY-NAME is specified, the system will create a work file for use in reconstructing the ISAM file (default value *SAME). If the reconstruction is to be carried out on a private disk, then the file must be cataloged. If the data and index sections of the file which is to be reconstructed are held on separate disks, corresponding storage space must also be requested for the reconstructed copy (using CREATE-FILE or MODIFY-FILE-ATTRIBUTES as appropriate). Only the user's own user ID may be specified.

ISAM-COPY-NAME = *SAME

The reconstruction will be put into the file specified by FILE-NAME. This procedure will be mediated by a work file, created by the system. For ISAM files on private disks or under user IDs other than the user's, the work file will be copied into the file specified by FILE-NAME, and will then be deleted. Since copying can be very time-consuming, it is recommended that a fully qualified file name is specified. For ISAM files on PUBLIC disks under the user's own user ID, the work file will simply be recataloged and the original file will be deleted. If an ISAM file on PUBLIC disk is subject to a concurrent copy lock which cannot be reset, message DMS06EE is issued. The repaired ISAM file will then be in a file named **REPAIR.<tsn>.hhmmss**, as it will not have been possible to delete the original file owing to the concurrent copy lock and then rename the work file under the name of the original file

ISAM-REPAIR-INFO = *NO / *YES(...)

This operand is evaluated for ISAM files only: specifies whether file blocks which cannot be reconstructed are to be logged.

ISAM-REPAIR-INFO = *NO

File blocks which cannot be reconstructed are not logged.

ISAM-REPAIR-INFO = *YES(...)

The block numbers of file blocks which cannot be reconstructed are output. The output can be directed to SYSOUT (default) or SYSLST.

OUTPUT = *SYSOUT / *SYSLST

Specifies where the block numbers of the file blocks which cannot be reconstructed are to be output. SYSOUT is the default.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed
1	0	CMD0001	No action required
2	0	DMS06E6	File specified in command is empty
2	0	DMS06E9	No valid record found during reconstruction of ISAM file
2	0	DMS06ED	Error on writing unrecoverable blocks to scratch file
	1	CMD0202	Syntactical or semantic error in command
	32	DMS0584	A state that does not allow the function to continue was reported during processing
	64	CMD0102	Interrupted by K2 key
	64	CMD0216	Privileges error
	64	DMS0501	Requested catalog not available
	64	DMS0512	Requested catalog not available
	64	DMS051B	Requested user ID not in pubset Guaranteed message: DMS051B
	64	DMS051C	User not authorized to access pubset Guaranteed message: DMS051C
	64	DMS0533	Requested file not cataloged in pubset Guaranteed message: DMS0533
	64	DMS0535	Specified file not shareable
	64	DMS055C	Catalog entry not found on assigned private disk
	64	DMS0583	An error occurred when reconstructing the file
	64	DMS0585	Error detected during catalog processing or multihost processing Guaranteed message: DMS053C
	64	DMS0586	Currently not possible to access or reserve volume
	64	DMS0587	Use of specified command restricted by system administrator
	64	DMS0588	It was not possible to allocate disk space
	64	DMS05F8	It was not possible to allocate disk space Guaranteed message: DMS05F8

(Part 1 of 2)

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	64	DMS05FC	Specified user ID not in HOME pubset
	64	DMS0609	No access to system file
	64	DMS06CC	No file corresponding to specified operands
	64	DMS06E4	Reconstruction with specified command not possible for this file type
	64	DMS06FF	Reconstruction for this file type not possible with specified command
	64	DMS06FF	File created with WROUT=NO. Consistency check is not practical
	130	DMS0524	System address space full
	130	DMS053C	No space in pubset catalog file
	130	DMS0582	File is currently locked or in use and cannot be processed
	130	DMS0585	Error detected during catalog processing or multihost processing
	130	DMS0586	Currently not possible to access or reserve volume
	130	DMS0588	It was not possible to allocate disk space
	130	DMS0594	Not enough virtual memory available
	130	DMS05C8	Maximum permitted number of files reached

(Part 2 of 2)

Notes on reconstructing ISAM files

- For ISAM files, the data buffers are written back out to the disk as soon as a new data block has to be fetched into main memory. This means that the last changes which were made to the file may be missing from the reconstructed ISAM file (if WRITE-IMMEDIATE=*YES was specified, then no more than one record can be missing).
- If no ISAM-COPY-NAME is specified for an ISAM file on public volumes, it will be reconstructed in a work file created by the system. The file FILE-NAME will then be deleted, even without an explicit DESTROY instruction (see the DESTROY-BY-DELETE operand in the CREATE-FILE and MODIFY-FILE-ATTRIBUTES commands), and the work file will be renamed as FILE-NAME.
- If no ISAM-COPY-NAME is specified for an ISAM file on private volumes, it will be reconstructed in a temporary work file on public data volumes. The work file will then be copied into the file FILE-NAME, and then deleted with an explicit DESTROY instruction (see the DESTROY-BY-DELETE operand in the CREATE-FILE and MODIFY-FILE-ATTRIBUTES commands). This procedure can be very time consuming, so that it is advantageous to specify an ISAM-COPY-NAME.

- If an ISAM-COPY-NAME is specified in the command REPAIR-DISK-FILES, that is where FILE-NAME will be reconstructed. FILE-NAME itself will remain unaltered. If ISAM-COPY-NAME is to be held on private volumes, or if FILE-NAME is a file on private volumes, then ISAM-COPY-NAME must be cataloged before the command REPAIR-DISK-FILES is input. If the data and index blocks are stored on separate volumes, then it is also necessary to reserve storage space for ISAM-COPY-NAME (see the CREATE-FILE and MODIFY-FILE-ATTRIBUTES commands).
- In the data blocks in the reconstructed file, no space will be kept free for later expansion of the file, equivalent to specifying PADDING-FACTOR=0 in the ADD-FILE-LINK command.
- ISAM files for which the data and index blocks are on separate private volumes can only be reconstructed if BUFFER-LENGTH=*STD.
- If an ISAM data block contains data items which cannot be associated with any specific record, the whole block will be saved in the PAM file *S.filename1.REPAIR*. On completion of the REPAIR-DISK-FILES processing, this file is available for the user to make his own reconstruction attempts. If the new file name is too long, *filename1* will be correspondingly shortened.
- Since the recreation of an ISAM file involves the setting up of a copy of the file, which is within pubspace, the user must ensure that sufficient storage space is available.

REPAIR-FILE-LOCKS

Remove unauthorized file locks

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processingg
Domain:	FILE
Privileges:	STD-PROCESSING TSOS

Function

The owner of a file or the systems support staff (user ID TSOS) can remove an “unauthorized” file lock using the REPAIR-FILE-LOCKS command. This refers to file locks that are no longer required but that are not released automatically by the system for one of the following reasons:

- short connection failure in a network
- system error stopped the file lock from being removed

You can obtain information on the file locks currently in effect with the help of the SHOW-FILE-LOCKS command.

File access via RFA connections is not supported.

Format

REPAIR-FILE-LOCKS
FILE-NAME = <filename 1..54>

Operands

FILE-NAME = <filename 1..54>

Name of the file for which an unauthorized file lock is to be released. If the ACS software product is being used, the file name will be replaced according to the alias catalog.

Return code

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	DMS13EE	File not locked
	1	CMD0221	Syntax error in command
	32	DMS13EA	Internal system error
	64	CMD2203	Error in syntax file
	64	DMS0301	Catalog not available
	64	DMS13EB	RFA connections not supported
	64	DMS13E1	File access not allowed
	64	DMS13E2	No access authorization for pubset
	64	DMS13E3	User ID does not exist
	128	DMS13E0	Resource bottleneck

REQUEST-MAIN-CONSOLE-FUNCTIONS

Request change of main operator terminal

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Operator terminal control
Domain:	not allocated
Privileges:	OPERATING
Routing code:	E

Function

This command allows operators to request that the operator terminal (console) on which the command is issued should be defined as the main operator terminal (console). If the request is granted on the current main operator terminal ('Y' or 'YES' entered when message NBR1085 is issued there), the operator terminal is changed.

The command is allowed on physical operator terminals only.
Moreover, it must **not** be issued

- from the current main operator terminal
- from authorized user programs

Format

REQUEST-MAIN-CONSOLE-FUNCTIONS

Return codes

(SC2)	SC1	Maincode	Meaning
1	0	CMD0001	Command successfully executed
	0	NBR1081	Operator terminal is already main operator terminal. Command ignored
	2	CMD0198	Shutdown in progress
	64	CMD0216	User does not have required privilege
	64	NBR0200	Function not yet unavailable
	64	NBR1080	Command is reserved for physical operator terminals
	64	NBR1082	Command rejected by main operator terminal
	129	NBR1083	Command already being processed. Try again later

(Part 1 of 2)

(SC2)	SC1	Maincode	Meaning
	130	NBR1084	Command rejected owing to memory or task saturation

(Part 2 of 2)

Results

If the command is issued at a console, the following message appears on the main console:

```
NBR1085 ALLOW '(&00)' TO BECOME THE MAIN CONSOLE? REPLY (Y=YES; N=NO)
```

(&00) stands for the console on which the command was issued. This is the console which is to become the new main console.

If the message is answered in the affirmative, console (&00) is made the new main console, as indicated by the message

```
EXC0655 '(&00)' BECOMES MAIN CONSOLE
```

If the message is answered in the negative (any response other than 'Y' or 'YES'), the existing main console retains its function. The requested change is rejected. The following message is displayed on the console which requested the change:

```
NBR1082 '/REQUEST-MAIN-CONSOLE-FUNCTIONS' REJECTED BY MAIN CONSOLE
```

REQUEST-OPERATOR-ROLE

Request assignment of operator roles

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Operator function control
Domain:	CONSOLE-MANAGEMENT
Privileges:	OPERATING
Routing code:	@

Function

By issuing the REQUEST-OPERATOR-ROLE command you ask to have one or more “operator roles” assigned to your own operator terminal (console) or user ID. An operator role is a group of system operation duties and consists of a set of routing codes defined by a security officer (SYSPRIV user ID or SECURITY-ADMINISTRATION privilege). This set may be any combination of the 40 BS2000 routing codes.

An operator role can be requested by \$CONSOLE applications with dynamic authorization names and by user tasks with the OPERATING privilege.

If the “Operator LOGON” function is used (incompatible mode; system parameter NBCONOPI=Y), an operator role can also be requested at a physical operator terminal. The request is granted only if the security officer has previously given the associated user ID permission to use the chosen operator role (MODIFY-OPERATOR-ATTRIBUTES command).

Once an operator role has been successfully assigned, the assignee is authorized to receive messages distributed via the operator role’s routing codes.

In a user task with the OPERATING privilege, successful assignment merely controls the receipt of these messages when a system event stream is displayed by the presentation function of the SHOW-SYSEVENT-LOG command, which can be issued irrespective of operator roles.

After successful assignment of an operator role, operator terminals and \$CONSOLE applications with dynamic authorization names can issue all commands which are protected by the operator role’s routing codes. Only commands which are protected by the @ routing code may always be entered.

If the command is repeated, the new operator roles specified are added to the existing ones. This has the same effect as issuing the command once with a list of operator roles. Once the command has been executed successfully, all operator role assignments are displayed.

Refer also to the section dealing with simplifying system operation in the “Introduction to System Administration” [14].

Format

REQUEST-OPERATOR-ROLE

OPERATOR-ROLE = list-poss(10): <name 1..8>

Operands

OPERATOR-ROLE = list-poss(10): <name 1..8>

All operator roles whose names are specified in the list are requested by the operator's own user ID. A maximum of 10 operator roles can be specified.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	NBR0985	Command execution unnecessary
2	0	NBR0989	Not all specified roles could be assigned
	1	CMD0202	Syntax error
	32	NBR0983	Internal error on command server
	64	CMD0216	No authorization
	64	NBR0981	Command cannot be issued from operator terminal in compatible mode (NBCONOPI=N)
	64	NBR0982	Command issuer has no operator ID
	64	NBR0984	Operator role not permitted

RESET-DBL-DEFAULTS

Reset DBL call parameters to defaults

Description status:	BLSSERV V2.8A
Functional area:	Program control
Domain:	PROGRAM
Privileges:	STD-PROCESSING

Function

The RESET-DBL-DEFAULTS command resets parameters altered with the MODIFY-DBL-DEFAULTS command to their original DBL default settings.

Format

RESET-DBL-DEFAULTS

SCOPE = <u>*ALL</u> / *CMD-CALLS / *PROGRAM-CALLS
--

Operands

SCOPE =

Determines whether all or only some of the parameters are to be returned to their default settings.

SCOPE = *ALL

The settings that can be made with the command MODIFY-DBL-DEFAULTS SCOPE=*ALL(...) are reset to their default values.

Note

A RESET-DBL-DEFAULTS command with SCOPE=*ALL does not have the same effect as two RESET-DBL-DEFAULTS commands which are issued one after the other with SCOPE=*CMD-CALLS and SCOPE=*PROGRAM-CALLS.

SCOPE = *CMD-CALLS

Resets only those defaults which can be configured using MODIFY-DBL-DEFAULTS SCOPE=*CMD-CALLS(...).

SCOPE = *PROGRAM-CALLS

Resets only those defaults which can be configured using MODIFY-DBL-DEFAULTS SCOPE=*PROGRAM-CALLS(...).

Return codes

(SC2)	SC1	Maincode	Meaning
1	0	CMD0001	Command executed
	32	BLS0152	System error
	64	CMD0216	User is not authorized to issue the command

RESET-INPUT-DEFAULTS

Delete task-specific default values

Description status:	SDF V4.7D
Functional area:	SDF control
Domain:	SDF
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The RESET-INPUT-DEFAULTS command allows the user to delete task-specific default values. Within the task, default values can be defined for commands and statements. The user can either delete all default values or restrict deletion to default values of commands or of statements. If only defaults of commands/statements are to be deleted, deletion can be restricted to specific commands/statements.

The RESET-INPUT-DEFAULTS command can be applied to a task-specific default value with a particular input serial number. To facilitate this, the output of the SHOW-INPUT-DEFAULTS command can be requested with input serial numbers (operand INPUT-SERIAL-NUMBER=*YES).

In programs with an SDF interface, RESET-INPUT-DEFAULTS is available as a standard statement with the same functionality.

Format

RESET-INPUT-DEFAULTS	Alias: RSID
<p>OBJECT = <u>*CMD</u> (...) / *STMT(...) / *ALL / <integer 1..9999></p> <p> <u>*CMD</u>(...)</p> <p> CMD = *ALL / <structured-name 1..30 with-wild(50)></p> <p> *STMT(...)</p> <p> STMT = *ALL / <structured-name 1..30 with-wild(50)></p> <p> ,PROGRAM = <u>*CURRENT</u> / *ALL / <structured-name 1..30></p>	

Operands

OBJECT = *CMD(...) / *ALL / *STMT(...) / <integer 1..9999>

Specifies the type of input for which the task-specific default values are to be deleted.

OBJECT = *CMD(...)

Only the task-specific default values of commands are deleted. The defaults of all or only of selected commands can be deleted.

CMD = *ALL / <structured-name 1..30 with-wild(50)>

Specifies whether the task-specific default values of all commands or only of selected commands are to be deleted.

CMD = *ALL

All task-specific default values of commands are deleted.

CMD = <structured-name 1..30 with-wild(50)>

Name of the command whose task-specific default values are to be deleted. If wildcards are used, the defaults of all commands which match the search pattern entered will be deleted.

OBJECT = *STMT(...)

Only the task-specific default values of statements are deleted. The defaults of all or only of selected statements of a program can be deleted.

STMT = *ALL / <structured-name 1..30 with-wild(50)>

Specifies whether the task-specific default values of all statements or only of certain statements are to be deleted. In the PROGRAM operand, the user can specify whether the deletion is to apply to defaults of statements of a specific program or of all programs.

STMT = *ALL

All task-specific default values of statements are deleted.

STMT = <structured-name 1..30 with-wild(50)>

Name of the statement whose task-specific default values are to be deleted. If wildcards are used, the defaults of all statements which match the search pattern entered will be deleted.

PROGRAM = *CURRENT / *ALL / <structured-name 1..30>

Specifies the program for whose statements specified in the STMT operand the task-specific default values are to be deleted.

PROGRAM = *CURRENT

Only default values of statements of the program currently defined in the SDF options are deleted. The program name can be set using the MODIFY-SDF-OPTIONS command (DEFAULT-PROGRAM-NAME operand).

PROGRAM = *ALL

The default values of all statements are deleted, regardless of the program name.

PROGRAM = <structured-name 1..30>

Program name, defined in a currently assigned syntax file.

Only default values of statements of the specified program are deleted.

OBJECT = *ALL

All task-specific default values, i.e. from both commands and statements, are deleted.

OBJECT = <integer 1..9999>

Input serial number of the default value to be deleted.

The input serial number of a default value can be taken from the output of the SHOW-INPUT-DEFAULTS command (operand INPUT-SERIAL-NUMBER=*YES).

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without errors
1	0	CMD0001	No task-specific default value that matches the specifications exists. Guaranteed message: CMD0561
1	32	CMD0500	Syntax description in current syntax file invalid. Guaranteed message: CMD0500
1	64	CMD0561	Command execution not successful Guaranteed message: CMD0561

Example

```

/!print-doc line-spacing=*by-ebcdic _____ (1)
/!cre-file sup=*priv(vol=work01,dev-type=d3435) _____ (2)
/!cre-file sup=*public _____ (3)
/!cre-file basic-acl=*par(owner=(y,y,y),group=(y,n,y),others=(y,n,y))- (4)

/show-input-defaults input-serial-number=*yes _____ (5)
/“ 1 :“ !PRINT-DOC LINE-SPACING=*BY-EBCDIC-CONTROL
/“ 2 :“ !CRE-FILE SUPPORT=*PRIVATE-DISK(VOLUME=WORK01,DEVICE-TYPE=D3490-30)
/“ 3 :“ !CRE-FILE SUPPORT=*PUBLIC-DISK
/“ 4 :“ !CRE-FILE BASIC-ACL=*PARAMETERS(OWNER=*PARAMETERS(READ=*YES,
WRITE=*YES,EXEC=*YES),GROUP=*PARAMETERS(READ=*YES,WRITE=*NO,EXEC=*YES),
OTHERS=*PARAMETERS(READ=*YES,WRITE=*NO,EXEC=*YES))
    
```

```

/cre-file test.x.1,sup=*priv ----- (6)
/cre-file test.x.2
/show-file-attr test.x.,alloc=*yes
%00000003*:20SG:$USERXY01.TEST.X.1
% ----- ALLOCATION -----
% SUPPORT      = PVT          S-ALLOC      = 9          HIGH-US-PA = 0
% EXTENTS      VOLUME        DEVICE-TYPE  EXTENTS     VOLUME     DEVICE-TYPE
%      1        WORK01        D34211-4
% NUM-OF-EXT = 1
%00000009 :20SG:$USERXY01.TEST.X.2
% ----- ALLOCATION -----
% SUPPORT      = PUB          S-ALLOC      = 9          HIGH-US-PA = 0
% EXTENTS      VOLUME        DEVICE-TYPE  EXTENTS     VOLUME     DEVICE-TYPE
%      1        20SG.1        D3435
% NUM-OF-EXT = 1
%:20SG: PUBLIC:      1 FILE RES=      9 FREE=      9 REL=      9 PAGES
%:20SG: PRDISC:     1 FILE RES=      3 FREE=      3 REL=      0 PAGES

/reset-input-defaults 2 ----- (7)
/reset-input-defaults *cmd(cmd=create-file) ----- (8)

/show-input-defaults ----- (9)
/!PRINT-DOC LINE-SPACING=*BY-EBCDIC-CONTROL

```

- (1) Evaluation of EBCDIC print control characters is set as the default value for the PRINT-DOCUMENT command. The LINE-SPACING operand is specified without a structure-initiator because in the syntax file *TEXT-FORMAT the default value of the operand is DOCUMENT-FORMAT.
- (2) The private disk *WORK01* of device type *D3435* is set as the default value for the CREATE-FILE command. In this case, the structure-initiator must be specified, because the VSN and the device type refer to a private disk. To create a file on a public disk, SUPPORT=*PUBLIC must now be specified (see item 6).
- (3) Public disks are again set as the default for the CREATE-FILE command; but to create a file on the private disk *WORK01*, it is sufficient to specify SUPPORT=*PRIVAT.
- (4) For the CREATE-FILE command, the value set by default is a BASIC-ACL, which grants all access rights only to the owner, but allows the other users to read and execute the file. The protection attribute is set accordingly if the higher-ranking structure is activated with PROTECTION=*PARAMETERS.
- (5) All task-specific default values are output with their input serial numbers.

- (6) The file *TEST.X.1* that was created with CREATE-FILE and SUPPORT=*PRIVATE-DISK on the private disk *WORK01*, the file *TEST.X.2* was created without SUPPORT on a public disk.
- (7) The definition with the input serial number 2 is deleted. In this case this is the definition with CREATE-FILE for the private disk.
- (8) All definitions for the CREATE-FILE command are deleted.
- (9) The output of the task-specific default values now shows only the definition for the PRINT-DOCUMENT command.

RESET-MSG-BUFFER

Suppress messages directed to console

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Operator terminal control Message processing
Domain:	not allocated
Privileges:	OPERATING
Routing code:	@

Function

The command allows operators to suppress messages which are directed to a physical console (operator terminal) and are already queued for output. It is possible to suppress all messages or only those originating from a particular task.

Response messages and command termination messages cannot be suppressed.

The command operates only on messages which are currently queued for output. Messages generated subsequently are not suppressed.

Format

RESET-MSG-BUFFER
SENDER = <u>*ANY</u> / <alphanum-name 1..4>

Operands

SENDER =

Designates the source of the messages that are to be suppressed.

SENDER = *ANY

All messages directed to the console are to be suppressed.

SENDER = <alphanum-name 1..4>

Only messages originating from a specific task are to be suppressed. The task is identified by its TSN.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	1	CMD0202	Syntax error in command
	2	CMD0198	Shutdown in progress
	64	CMD0216	User does not have required privilege
	64	NBR0200	Command temporarily unavailable
2	64	NBR0898	Input from user task not permitted
	64	NBR1080	Command is reserved for physical consoles

RESET-MSG-SUPPRESSION

Cancel message suppression

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Operator terminal control Message processing
Domain:	CONSOLE-MANAGEMENT
Privileges:	OPERATING
Routing code:	@

Function

This command cancels an arrangement made with the SET-MSG-SUPPRESSION command to suppress output of certain messages to operator terminals (consoles) or authorized user programs.

If the “Operator LOGON” function is used (system parameter NBCONOPI=Y), only the values *NO and *OWN are allowed for the CONSOLE-UNIT and APPLICATION-NAME operands, which means that the command cannot be issued for other operator terminals or authorized user programs.

If the “Operator LOGON” function is not used (compatible mode), the operator can issue the command at the main operator terminal with reference to other operator terminals or authorized user programs as well.

In a user task with OPERATING privilege, the command applies only when reading from the event stream of the user’s own task. In this case only the value *NO is permissible for the CONSOLE-UNIT and APPLICATION-NAME operands.

The operator can use the SHOW-MSG-SUPPRESSION command to display a list of current message suppression arrangements.

Format

RESET-MSG-SUPPRESSION
<p>MSG-ID = *ALL / list-poss(12): <alphanum-name 7..7></p> <p>CONSOLE-UNIT = *NO / *OWN / *ALL / list-poss(20): <name 2..2></p> <p>APPLICATION-NAME = *NO / *OWN / *ALL / list-poss(20): <name 4..4></p>

Operands

MSG-ID =

Specifies the message numbers which are to be output again on the operator terminal.

MSG-ID = *ALL

All suppressed messages can now be displayed again on the specified operator terminals.

MSG-ID = list-poss(12): <alphanum-name 7..7>

Specifies a seven-digit message number or a list of message numbers identifying messages which can now be output again on the operator terminal.

CONSOLE-UNIT =

Specifies the mnemonic device name of the operator terminal on which the specified messages can now be displayed again.

CONSOLE-UNIT = *NO

The existing definition for the operator terminals is retained. However, when input is from an operator terminal, the change becomes effective for the operator terminal where the input is made.

CONSOLE-UNIT = *OWN

This operand value is only possible when input is made at an operator terminal.

Message suppression is to be canceled for the operator terminal where the command input is made.

CONSOLE-UNIT = *ALL

Message suppression is to be canceled for all operator terminals.

This operand may only be used in the mode without operator LOGON at the main operator terminal.

CONSOLE-UNIT = list-poss(20): <name 2..2>

Mnemonic device name of the main or standby operator terminal at which the specified messages are allowed to be displayed again.

In this operand remote consoles may only be specified in the mode without operator LOGON from the main operator terminal.

APPLICATION-NAME =

Specifies the authorized user program for which message suppression is to be canceled.

APPLICATION-NAME = *NO

The existing definition for the authorized user programs is retained. However, when input is from an authorized user program, the change becomes effective for this user program.

APPLICATION-NAME = *OWN

This operand value is only permissible when input is from an authorized user program.

Message suppression is canceled for the authorized user program in which the command was issued.

APPLICATION-NAME = *ALL

Message suppression is canceled for all known authorized user programs.

This operand may only be used in the mode without operator LOGON at the main console.

APPLICATION-NAME = list-poss(20): <name 4..4>

Name of the authorized user program (4 alphanumeric characters) for which suppression of the specified messages is to be canceled.

Remote authorized user programs may only be specified in the mode without operator LOGON from the main operator terminal.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
1	0	NBR0874	Message not suppressed on the operator terminal or in the case of an authorized user program
2	0	NBR0884	Command partially executed
	1	CMD0202	Syntax error
	32	NBR0007	OPR task anchor not accessible
	64	NBR0200	Command not available
	64	NBR0865	Authorized application not found
	64	NBR0866	Operator terminal not found
	64	NBR0869	No message suppressed in the system
	64	NBR0883	Can only be issued from main operator terminal in this form
	64	NBR0870	No message
	130	NBR0877	Message suppression table locked

RESTART-PROGRAM

Start program from checkpoint (restart)

Description status:	CPR V19.0A
Functional area:	Program control
Domain:	PROGRAM
Privileges:	STD-PROCESSING SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The RESTART-PROGRAM command causes a program to be restarted at a recorded checkpoint. The program is loaded with the status it had when the checkpoint was written; files, volumes and devices must be available. The RESTART-PROGRAM command can be used in interactive or batch mode. The checkpoint can be written, for example, using the Assembler macro WRCPT.

The tape devices linked to the program at the time the checkpoint was written are assigned, and the tapes are positioned to the appropriate blocks.

If the program writing the checkpoint is called in a procedure, the behavior of RESTART-PROGRAM is governed by whether the checkpoint was written in interactive mode or in batch mode. In interactive mode both the program and the procedure itself are restarted. A procedure called with ENTER-PROCEDURE cannot be restarted, because the copy of the procedure is no longer available (see ENTER-PROCEDURE command, "Method of operation". In this case the RESTART-PROGRAM command is not executed.

Format

RESTART-PROGRAM
<pre> FILE-NAME = <filename 1..54 without-gen> , FILE-CHANGE = *NOT-ALLOWED / *ALLOWED , DUMMY-FILES = *NONE / list-poss(2000): <partial-filename 2..53> / <filename 1..54 without-gen> , LOOSE-DEBUGGING = *NO / *YES , RESTART-OPTIONS = *START-PROGRAM(...) / *LOAD-ONLY(...) *START-PROGRAM(...) CHECKPOINT = *LAST / *NAME(...) / *NUMBER(...) / *VOLUME-SEQUENCE(...) *NAME(...) NAME = <name 1..6> *NUMBER(...) NUMBER = <integer 1..16777215> *VOLUME-SEQUENCE(...) VOL-SEQUENCE-NUMBER = *LAST / <integer 1..255> , MONJV = *NONE / <filename 1..54 without-gen-vers> *LOAD-ONLY(...) CHECKPOINT = *LAST / *NAME(...) / *NUMBER(...) *NAME(...) NAME = <name 1..6> *NUMBER(...) NUMBER = <integer 1..16777215> , RECONSTRUCTION-LIMIT = *NO / <integer 1..255> </pre>

Operands

FILE-NAME = <filename 1..54 without-gen>

The file name specified by FILE-NAME is the name of the checkpoint file created when the checkpoint was written, and which contains the program to be loaded. The file must be available locally.

FILE-CHANGE = *NOT-ALLOWED / *ALLOWED

DMS will check the file names, encoded internally by the system (CFID), of the required files. The user can specify whether or not the restart is to be aborted if any of these names has been changed since the checkpoint file was created.

FILE-CHANGE = *NOT-ALLOWED

DMS will check the file names, encoded internally by the system (CFID), of the files required for the restart. If any of these names has changed since the checkpoint file was created the restart will be aborted.

FILE-CHANGE = *ALLOWED

Changes to the CFID will be ignored.

DUMMY-FILES = *NONE / list-poss(2000): <partial-filename 2..53> / <filename 1..54 without-gen>

The user files listed here will be treated as DUMMY files, i.e. they do not need to be available for the restart (see also the FILE-NAME=*DUMMY operand in the ADD-FILE-LINK command). A maximum of 255 files are permitted.

The logical system files (SYSLST etc.) cannot be declared as dummy files. A user files may only be declared as a DUMMY file if RECONSTRUCTION-LIMIT=*NO was *not* specified.

LOOSE-DEBUGGING = *NO / *YES

Specifies whether it is permissible to deconstruct the debugging context of the calling task when the program is restarted.

LOOSE-DEBUGGING = *NO

If the calling task has a debugging context, it should be retained. The RESTART-PROGRAM command is rejected with message EXC030B if the AID debugger was being used in the calling task before the command was issued.

LOOSE-DEBUGGING = *YES

If the calling task has a debugging context, it may be deconstructed. The RESTART-PROGRAM command is executed even if the AID debugger was being used in the calling task before the restart; but any breakpoints set with AID will no longer be available after the restart.

RESTART-OPTIONS= *START-PROGRAM(...) / *LOAD-ONLY(...)

Specifies whether the program is to be started or only loaded.

RESTART-OPTIONS = *START-PROGRAM(...)

The program is to be started (see START-EXECUTABLE-PROGRAM command).

CHECKPOINT= *LAST / *NAME(...) / *NUMBER(...) / *VOLUME-SEQUENCE(...)

The type of the checkpoint identifier.

CHECKPOINT = *LAST

The program is to be started from the last checkpoint.

CHECKPOINT = *NAME(...)

Checkpoint identification is based on the checkpoint name.

NAME = <name 1..6>

Only for disk files: <name> is a six-byte code which identifies the checkpoint on which the command will base the program restart. This code is output on SYSOUT together with a PAM page number (see CHECKPOINT=*NUMBER) when the checkpoint is written.

If a user file has more than one checkpoint with identical codes, then <name> designates the last one which was written. Any previous checkpoint can then only be selected by specifying CHECK-POINT=*NUMBER.

CHECKPOINT = *NUMBER(...)

Checkpoint identification is based on the checkpoint number.

NUMBER = <integer 1..16777215>

The number of the PAM page on which the checkpoint begins; this number is output to SYSOUT when the checkpoint is written.

<number> must be specified if the program is to be started from a checkpoint other than the last one (see CHECKPOINT=*NAME).

CHECKPOINT = *VOLUME-SEQUENCE(...)

Checkpoint identification is based on the file section number.

VOL-SEQUENCE-NUMBER = *LAST / <integer 1..255>

Only for tape files with standard labels which have been cataloged with FILE-SEQUENCE=1: designates the file section at which the restart is to begin.

VOL-SEQUENCE-NUMBER = *LAST

The restart is to begin at the last file section.

VOL-SEQUENCE-NUMBER = <integer 1..255>

The restart is to begin at the specified file section number.

For an explanation of “file section number” and “file sequence number” see the “Introductory Guide to DMS” [13] or the START-POSITION and FILE-SEQUENCE operands in the ADD-FILE-LINK command.

MONJV = *NONE / <filename 1..54 without-gen-vers>

Only for users with the chargeable JV software package loaded as a subsystem.

Specifies the name of a job variable which will monitor the restarted program.

During program execution, the operating system sets the job variable to the values \$R, \$T or \$A, corresponding to the program status

\$R The program is running

\$T The program has finished

\$A The program has terminated abnormally

so that the user can query the program status at any time by inspecting this job variable.

Further details can be found in the “Job Variables” manual [20].

RESTART-OPTIONS = *LOAD-ONLY(...)

The program will only be loaded, not started (see LOAD-EXECUTABLE-PROGRAM command).

CHECKPOINT =

The type of the checkpoint identifier.

CHECKPOINT = *LAST

The program is to be started from the last checkpoint.

CHECKPOINT = *NAME(...)

Only for disk files:

The program is restarted at the checkpoint with the ID specified in the associated NAME operand.

NAME = <name 1..6>

Designates a six-byte code which identifies the checkpoint on which the RESTART-PROGRAM command will base the program restart. This code is output together with a PAM page number (see CHECKPOINT=*NUMBER(...)) when the checkpoint is written.

If a user file has more than one checkpoint with identical codes, then <name> designates the last one which was written. Any previous checkpoint can then only be selected by specifying CHECKPOINT=*NUMBER(...).

CHECKPOINT = *NUMBER(...)

The program is restarted at the checkpoint which begins on the PAM page specified in this NUMBER operand.

NUMBER = <integer 1..16777215>

The number of the PAM page on which the checkpoint begins; this number is output to SYSOUT when the checkpoint is written. <number> must be specified if the program is to be started from a checkpoint other than the last one (see CHECKPOINT=*NAME).

RECONSTRUCTION-LIMIT = *NO / <integer 1..255>

Only for tape files: Specifies the number of file sections to be reconstructed.

This operand permits the program to be restarted from a given checkpoint and to continue until the specified number of checkpoints has been passed. The checkpoint identifying codes are inserted again.

RECONSTRUCTION-LIMIT = *NO

No limit is being set for the number of file sections to reconstruct.

RECONSTRUCTION-LIMIT = <integer 1..255>

Allows the user to specify the number of file sections to be repaired.

Return codes

The RESTART-PROGRAM command is rejected by SDF within a procedure. But this is the only case in which the return code can also be evaluated. The general SDF return codes are described in [section “Return codes” on page 1-66](#).

Notes

- The job causing a restart requests the same storage that was allocated to the interrupted job when the checkpoint was written. Also, this job determines whether the restarted job runs in interactive or noninteractive mode. Files open at the time of the checkpoint are opened when the program is restarted. The user is responsible for consistency. EAM files are not reconstructed.
- If file generations are affected by a checkpoint, the user should not change the base value, since the RESTART-PROGRAM command ignores any updates made to the file generation group between the checkpoint time and the restart time and uses the status which existed when the checkpoint was written. It is therefore advisable not to modify file generations used in a checkpoint before the RESTART-PROGRAM is executed.
- The RESTART-PROGRAM command may be used only if the system files SYSDTA, SYSCMD, SYSIPT, SYSLST and SYSOUT have their primary assignments.
- The WRCPT macro must have been issued under the same version of the BS2000 operating system and on a system with the same architecture (ESA or not) as the RESTART-PROGRAM command. Otherwise, the user receives an error message. Similarly, the SDF version must be the same as when the WRCPT macro was issued.
- After RESTART-PROGRAM the syntax file environment is reconstructed in the same way as when writing checkpoints, with the exception of the system syntax files (base system and subsystem syntax files), where the current assignment for the job continues to apply (this cannot be influenced by the user).
- If tape files are affected by a checkpoint, the checkpoint data contains the necessary information to permit the system to position the tapes to the appropriate block
- The RESTART-PROGRAM command must not be issued in the following two cases:
 - If all assignments of system files (i.e. all opened procedures) that were saved in interactive mode through the WRCPT macro contain one or more procedures in interrupted status, the RESTART-PROGRAM command must not be used in batch mode.
 - If all ASSIGN-... assignments that were saved in batch mode by the WRCPT macro contain one or more assignments of SYSOUT to a cataloged file, the RESTART-PROGRAM command must not be used in interactive mode.

In either case an error message is output and the job is aborted.

- While a CJC command sequence is active, no checkpoints can be written and no restart implemented.
- In the event of a class 5 memory shortage, restart processing is terminated with an error message.
- The maximum lifetime for a temporary file is until the end of the task. The user must therefore either reconstruct temporary files before issuing the RESTART-PROGRAM command, or must declare them as dummy files (in the FCB or in the ADD-FILE-LINK command, or with the DUMMY-FILES operand of the RESTART-PROGRAM command).

If during checkpoint writing it is determined that temporary files are being used, subcode 2 in the standard header is set to X'44' to warn the user, because branches to the checkpoint written are possible only to a limited extent due to the limited lifetime of the temporary files. In addition, a warning is sent to SYSOUT (EXC0302).

During execution of the RESTART-PROGRAM command, the system checks each temporary file in the checkpoint task to see whether it has been declared as a DUMMY file or whether the user has created a temporary file of the same name (and with the same file attributes) in the RESTART-PROGRAM task. If not, the error message "Temporary file not found" is issued.

CHECKPOINT/RESTART-PROGRAM cannot be used to extend the lifetime of a temporary file.

- After a restart, the task can access only its own temporary files. Access to temporary files of the checkpoint task is thus possible only if the checkpoint task and the restart task are identical.
- All EAM files of the job are deleted.
- If the event "SVC interrupt" was active at the time of the checkpoint, is inactive after RESTART-PROGRAM and must be activated again by calling the STXIT macro.
- If, due to lack of space, the system file SYSLST has been moved from disk to tape in the period between the checkpoint and the restart, an initialized disk file must be made available for SYSLST before the RESTART-PROGRAM command is entered.

Return codes/messages

If processing of the RESTART-PROGRAM command is aborted with the following message:

```
EXC0305 I/O ERROR '(&00)' IN /RESTART-PROGRAM COMMAND. JOB STEP TERMINATED.  
REENTER COMMAND
```

the insert contains the following additional information in the form of the return code (hexadecimal):

Insert	Meaning
0C	Device cannot be reserved
04	\$REQM error
08	Catalog error (e.g. file not cataloged)
1C	VSN cannot be assigned, or error when reopening an ISAM file
10	A file has been opened as shareable
14	No extension for slot segment available or the slots could not be re-linked
18	An error occurred when writing the checkpoint file or 'T' has been entered in response to the previous message DMS0DEE
2C	Error when reopening a SAM file
20	Error in FCB
24	Number of tape devices for a file is smaller than that at the time of the checkpoint
28	Error in task-specific tables
30	Pubset on which a user file resides cannot be requested
34	A file no longer exists or a temporary file does not have the format name of a temporary file

Table 87: Return codes when restarting a program (RESTART-PROGRAM command)

Program monitoring (see also the “Job Variables” manual [20])

The status indicator in the job variable monitoring the program is set to “R” at the time the program is restarted.

If the JV cannot be accessed at the time the command is processed, an error message is issued to SYSOUT and processing is continued.

Multiprocessor systems (see the “HIPLEX MSCF” manual [25])

The RESTART-PROGRAM command must be entered on a system with the same architecture (ESA or not) as the system on which the checkpoint was written.

Example

The checkpoint with the identifier FIX003 in the checkpoint file FPT.FILE is to be restarted. The file OUT.FILE is to be treated as a DUMMY file after the restart.

```
/rest-prog f-name=fpt.file,  
           dummy-files=out.file,  
           rest-opt=*start-prog(checkpoint=*name(fix003))
```

The third tape of a volume set has been destroyed. It is to be reconstructed using the RESTART-PROGRAM command, starting at the previous checkpoint:

```
/restart-prog f-name=tape.save,  
             check-point=*vol-seq(vol-seq=2),reconstruct=1
```

The program is terminated after the first checkpoint has been written. The catalog is not updated.

RESTORE-FILE-FROM-SNAPSET

Restore files on the basis of a Snapset

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE SNAPSET
Privileges:	STD-PROCESSING TSOS

Function

The RESTORE-FILE-FROM-SNAPSET command restores files of a pubset from a pubset copy which was created on an associated Snapset. During the restore operation, single files are copied from the Snapsets onto the active pubset. The process is comparable to an HSMS restore from a backup archive.

The Snapset operand enables a specific backup status (the default is the latest Snapset backup) to be specified, or the user can specify that each file should be restored from the Snapset with the latest file status. Before restoration takes place, the user can issue the LIST-FILE-FROM-SNAPSET command to obtain information on files which were saved to a Snapset.

All file attributes of a restored file are taken over from the original file unchanged (including the creation date, date of modification and the protection attributes). Only the allocation may differ from the original file, even in the case of files with physical allocation. Files on SM pubsets are restored to the "most suitable" volume set. This need not be the original volume set.

Individual file generations can only be restored with the entire file generation group. Files on private disk or on Net-Storage are ignored. In the case of migrated files and tape files, only the catalog entries are restored (without checking the availability of the associated tapes). When renaming takes place, these files are also ignored.

Nonprivileged users can only restore a file of a foreign user if they are the co-owner. In this case they can also restore a file of their own under the foreign user ID.

Overwriting by the restore must be explicitly permitted for existing files (REPLACE operand). For files which are protected against unauthorized overwriting by means of a password, the required password must be entered in the caller's password table (see ADD-PASSWORD).

Files can also be restored under a new name (NEW-FILE-NAME operand). They are renamed by specifying either another user ID or a file name prefix.

Optionally, files which were open in write mode at the time the Snapset was created can be restored (RESTORE-OPEN-FILES operand). A file restored in this way has the same status as after a system crash. It may be necessary to call the REPAIR-DISK-FILE command for ISAM files. Files with the ONLINE-SAVE attribute which are opened in write mode are restored regardless of this option.

If required, the caller can have a log of restore processing output to SYSOUT or SYSLST (OUTPUT operand). This log can cover either all files or only the files which, for particular reasons, could not be restored (REPORTING operand).

The Snapsets are temporarily not available if the SHC-OSD subsystem was not active when the pubset was imported. In this case the command is aborted with DMS0622. As soon as SHC-OSD is active, the Snapsets are subsequently activated when the SHOW-SNAPSET-CONFIGURATION command is called.

File restoration is not an explicit SAT event. The SECOS component SAT can only log the DELETE-FILE (for overwriting) and CREATE-FILE calls which are used internally.

Privileged functions

Systems support (TSOS privilege), as co-owner, can restore a file under its original user ID or under a foreign user ID.

When a file which still exists is overwritten, systems support can explicitly bypass the file protection by means of the IGNORE-PROTECTION operand.

Format

RESTORE-FILE-FROM-SNAPSET

```

FILE-NAME = <filename 1..54 without-gen with-wild(80)>
, SNAPSET = *LATEST / *ALL / <name 1..1 with-low> / <integer -52..-1> / *INTERVAL(...)
  *INTERVAL(...)
    | OLDEST = -52 / <integer -52..-1>
    | NEWEST = -1 / <integer -52..-1>
, REPLACE = *NO / *YES(...)
  *YES(...)
    | IGNORE-PROTECTION = *NO / *YES
, NEW-FILE-NAME = *SAME / *BY-USER-ID(...) / *BY-PREFIX(...)
  *BY-USER-ID(...)
    | NEW-USER-ID = *SAME / <name 1..8>
  *BY-PREFIX(...)
    | NEW-PREFIX = *NONE / <filename 1..8 without-cat-gen-user-vers>
, RESTORE-OPEN-FILES = *NO / *YES
, REPORTING = *ERROR / *FULL
, OUTPUT = *NONE / list-poss(2): *SYSOUT / *SYSLST

```

Operands

FILE-NAME = <filename 1..54 without-gen with-wild(80)>

Selects the files which are to be restored. The files must satisfy the following requirements:

- They must have been cataloged when the Snapset is created.
- The pubset on which they are cataloged must be imported locally.
- They may not reside on private disk or on a Net-Storage volume.

The catalog and user IDs specified must be unique (i.e. contain no wildcards). Aliases (also partially-qualified aliases) may be specified. The name of a file generation group may be specified (individual file generations can only be restored within the group).

SNAPSET = *LATEST / *ALL / <name 1..1 with-low> / <integer -52..-1> / *INTERVAL(...)

Specifies the Snapset from which the files are to be restored. Information about all existing Snapsets for a pubset can be obtained using the SHOW-SNAPSET-CONFIGURATION command.

SNAPSET = *LATEST

The files are to be restored from the latest Snapset (i.e. from the most up-to-date pubset backup).

SNAPSET = *ALL

All Snapsets of the pubset concerned are used as a basis for restoration. Each file is restored from the Snapset with the latest file status, in other words with the latest backup of the file.

SNAPSET = <name 1..1 with-low>

Specifies a particular Snapset explicitly by means of the Snapset ID. The maximum of 52 pubsets are distinguished by means of Snapset IDs specified which comprise letters from the 26 lowercase letters a to z and the 26 uppercase letters A to Z.

SNAPSET = <integer -52..-1>

Specifies a particular Snapset explicitly by means of the relative age. The value -1 specifies the latest Snapset.

SNAPSET = *INTERVAL(...)

Restoration takes place as with SNAPSET=*ALL. However, only Snapsets which lie in the specified age range are used as a basis:

OLDEST = -52 / <integer -52..-1>

Specifies the oldest Snapset; the range begins with this Snapset.

NEWEST = -1 / <integer -52..-1>

Specifies the newest Snapset; the range ends with this Snapset.

REPLACE = *NO / *YES(...)

Specifies whether the files to be restored may overwrite existing files.

REPLACE = *NO

Existing files are not overwritten. This means that files with the names of existing files are not restored.

REPLACE = *YES(...)

Existing files may be overwritten by files which are to be restored provided the protection attributes permit this. For files which are protected against unauthorized overwriting by means of a password, the required password must be entered in the caller's password table (see the ADD-PASSWORD command).

IGNORE-PROTECTION = *NO / *YES

This operand is only available to privileged users (TSOS privilege).

Specifies whether files are to be overwritten without taking into account any write protection which exists.

NEW-FILE-NAME = *SAME / *BY-USER-ID(...) / *BY-PREFIX(...)

Specifies whether the files are to be renamed when they are restored. When they are renamed, either a different ID or a file name prefix can be specified.

NEW-FILE-NAME = *SAME

Each file is restored under the name of the original file.

NEW-FILE-NAME = *BY-USER-ID(...)

Each file is to be restored under the user ID specified.

Only the co-owner (or TSOS) is able to restore the file under a user ID other than the original one.

NEW-USER-ID = *SAME / <name 1..8>

New user ID. The default is *SAME, i.e. the user ID of the original file is retained.

NEW-FILE-NAME = *BY-PREFIX(...)

Each file is to be restored under a new name. The name consists of the specified prefix and the original name, separated by a period.

NEW-PREFIX = *NONE / <filename 1..8 without-cat-gen-user-vers>

File name prefix (up to 8 characters). The default is *NONE, i.e. the original file name is retained.

RESTORE-OPEN-FILES = *NO / *YES

Specifies whether files which were open in write mode when they were saved to the Snapset and for which the ONLINE-SAVE file attribute was not set are also to be saved.

RESTORE-OPEN-FILES = *NO

These files are not restored.

RESTORE-OPEN-FILES = *YES

These files are restored. The consistency is the same as after a system crash (write accesses in the correct order). ISAM files may need to be verified (REPAIR-DISK-FILE command).

REPORTING = *ERROR / *FULL

Determines the scope of the log if a processing log was requested in the OUTPUT operand.

REPORTING = *ERROR

Only files which could not be restored are listed. The reason is displayed by means of a message code.

REPORTING = *FULL

All files are listed. For files which could not be restored, the reason is displayed by means of a message code.

OUTPUT = *NONE / list-poss(2): *SYSOUT / *SYSLST

Specifies whether a processing log is to be output to SYSOUT and/or SYSLST. The default is *NONE, i.e. no log is output.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	CMD0202	Syntactical or semantic error in the command
	32	DMS0584	A status occurred which prevents processing from continuing
	32	DMS05C7	Unexpected internal error in DMS
	64	CMD0102	Command aborted after interruption with K2
	64	CMD0216	Required authorization not available
	64	DMS0501	Requested catalog not available
	64	DMS0512	Requested catalog not found
	64	DMS051B	Requested user ID not in pubset
	64	DMS051C	User not authorized to access pubset
	64	DMS0535	Specified file not shareable
	64	DMS057F	Migrated file cannot be renamed
	64	DMS0585	Error detected when processing catalog or multiprocessor system
	64	DMS05FC	Specified user ID not in home pubset
	64	DMS0610	Action with wildcards: Error executing a function for one of the selected file names
	64	DMS0616	Volume set in SM pubset cannot be accessed
	64	DMS0620	No restorable file found
	64	DMS0621	File already cataloged, restoration not performed
	64	DMS0622	Snapset not available
	64	DMS0681	DMS error when executing job
	64	DMS0684	File does not exist
	64	DMS06CC	No file name matches the specified wildcards
	130	DMS053C	No space in the pubset's catalog
	130	DMS0582	The file is currently locked or in use and cannot be processed
	130	DMS0585	Error detected when processing catalog or multiprocessor system
	130	DMS0588	The disk storage assignment could not be executed
	130	DMS0594	Not enough virtual memory available
	64	DMS0616	Volume set not accessible in SM pubset
	64	DMS0620	No restorable file found
	64	DMS0621	File already cataloged, restoration not performed
	64	DMS0622	Snapset not available

Examples

The two examples below show Snapset use from the viewpoint of a nonprivileged user.

Example 1: Restoring deleted files

On 21 December 2011 the nonprivileged user is working in interactive mode under the user ID ARCHIVE8 and with the default pubset 2OS6.

```

/show-file-attr d* _____ (1)
%          3 :2OS6:$ARCHIVE8.DO.ERASE.ARCHIVE.8.0A.ST5385
%          3 :2OS6:$ARCHIVE8.DO.ERASE.ARCHIVE.8.0A.ST5406
/show-snapset-conf _____ (2)
% PUBSET = 2OS6 , SAVE-POOL-NAME = *DEFAULT-POOL, REMOTE-COPY = *NO
% SNAP-ID CREATION-DATE/TIME  SESSION-ID  SNAP-ID CREATION-DATE/TIME  SESSION-ID

% -1  g  2011-12-20 18:00:45  87C968B6   -2  f  2011-12-20 12:00:43  86C968B6
% -3  e  2011-12-19 18:00:50  85C968B6   -4  d  2011-12-19 12:00:46  84C968B6
% -5  c  2011-12-18 18:00:47  83C968B6   -6  b  2011-12-18 12:00:47  82C968B6
% -7  a  2011-12-15 18:00:49  81C968B6   -8  z  2011-12-15 12:01:18  A9C968B6
% -9  y  2011-12-14 18:01:01  A8C968B6  -10  x  2011-12-14 12:01:03  A7C968B6
% -11 w  2011-12-13 18:00:44  A6C968B6  -12  v  2011-12-13 12:00:46  A5C968B6
% -13 u  2011-12-12 18:00:46  A4C968B6  -14  t  2011-12-12 12:00:48  A3C968B6
% -15 s  2011-12-11 18:00:46  A2C968B6

/rest-file-from-snapset f-name=du.,snapset=*all,
                        report=*full,output=*sysout _____ (3)
%:2OS6:$ARCHIVE8.DU.BIND.FAR RESTORED FROM f
%:2OS6:$ARCHIVE8.DU.CG.DIRCONV RESTORED FROM f
%:2OS6:$ARCHIVE8.DU.COMP.ALL RESTORED FROM f
%:2OS6:$ARCHIVE8.DU.COMP.REST RESTORED FROM f
%:2OS6:$ARCHIVE8.DU.COMP.ST RESTORED FROM f
%:2OS6:$ARCHIVE8.DU.COMP.ST.ASS RESTORED FROM f
%:2OS6:$ARCHIVE8.DU.SYSRME.E RESTORED FROM f
%:2OS6:$ARCHIVE8.DU.TF.LIB RESTORED FROM f
_____ (4)
/show-file-attr du.tf.lib,inf=*par(history=*yes) _____ (5)
%0000000030 :2OS6:$ARCHIVE8.DU.TF.LIB
% ----- HISTORY -----
% CRE-DATE = 2012-12-20 ACC-DATE = 2012-12-20 CHANG-DATE = 2012-12-20
% CRE-TIME = 09:55:04 ACC-TIME = 09:55:04 CHANG-TIME = 09:55:04
% ACC-COUNT = 211 S-ALLO-NUM = 0
%:2OS6: PUBLIC: 1 FILE RES= 30 FRE= 5 REL= 3 PAGES

```

(1) The user has all files listed whose names begin with “D”, and in doing so notices that no file with the prefix “DU” exists. As the files were still there a week ago, somebody must have accidentally deleted them!

- (2) The SHOW-SNAPSET-CONFIGURATION command provides information on all the available Snapset backups of the pubset 20S6:
There are 15 Snapsets with backups from 12:00 and 18:00 hours on the days concerned. The oldest backup was made at 18:00 on 11 December.
- (3) As the user does not know exactly when the missing files were deleted, he/she specifies SNAPSET=*ALL in order to restore each of the files from the latest Snapset.
- (4) As all the files were restored from Snapset f, they must have been deleted between 18:00 on 19 December and 12:00 on 20 December. The restored files contain the original time stamps, just as if they had not been deleted.
- (5) The user checks the time stamps in the catalog entry of the last file.

Example 2: Resetting the processing state of a file

Under the user ID ARCHIV8B (with the same standard pubset), the user now wants to reset the processing state of the M.SS.ARCHIVE.V08.0B03.SRCLIB file because (faulty) changes were made in the past few days. The user checks the backed-up file statuses as follows:

```

/list-file-from-snapset f-name=sm.ss.archive.v08.0b03.srclib,
  inf=*all,snapset=*all _____ (1)
%-----SNAPSET g-----
%      6906 :20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB
% CRE-DATE=2012-12-14 13:35:49  CHANG-DATE=2012-12-20 10:42:12  STATE=CLOSED
%-----SNAPSET f-----
%      6906 :20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB
% CRE-DATE=2012-12-14 13:35:49  CHANG-DATE=2012-12-20 10:42:12  STATE=CLOSED
%-----SNAPSET e-----
%      6906 :20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB
% CRE-DATE=2012-12-14 13:35:49  CHANG-DATE=2012-12-19 14:16:25  STATE=CLOSED
%-----SNAPSET d-----
%      6906 :20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB
% CRE-DATE=2012-12-14 13:35:49  CHANG-DATE=2012-12-14 13:36:19  STATE=CLOSED
%-----SNAPSET c-----
%      6906 :20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB
% CRE-DATE=2012-12-14 13:35:49  CHANG-DATE=2012-12-14 13:36:19  STATE=CLOSED
%-----SNAPSET b-----
%      6906 :20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB
% CRE-DATE=2012-12-14 13:35:49  CHANG-DATE=2012-12-14 13:36:19  STATE=CLOSED
%-----SNAPSET a-----
%      6906 :20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB
% CRE-DATE=2012-12-14 13:35:49  CHANG-DATE=2012-12-14 13:36:19  STATE=CLOSED
%-----SNAPSET z-----
%      6906 :20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB
% CRE-DATE=2012-12-14 13:35:49  CHANG-DATE=2012-12-14 13:36:19  STATE=CLOSED

```

```

%-----SNAPSET y-----
%      6906 :20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB
% CRE-DATE=2012-12-14 13:35:49  CHANG-DATE=2012-12-14 13:36:19  STATE=CLOSED
%-----SNAPSET x-----
% DMS0684 FILE ':20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB' DOES NOT EXIST
%-----SNAPSET w-----
% DMS0684 FILE ':20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB' DOES NOT EXIST
%-----SNAPSET v-----
% DMS0684 FILE ':20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB' DOES NOT EXIST
%-----SNAPSET u-----
% DMS0684 FILE ':20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB' DOES NOT EXIST
%-----SNAPSET t-----
% DMS0684 FILE ':20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB' DOES NOT EXIST
%-----SNAPSET s-----
% DMS0684 FILE ':20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB' DOES NOT EXIST
/rest-file-from-snapset f-name=sm.ss.archive.v08.0b03.srclib,
  snapset=d,replace=*yes ----- (2)
/show-file-attr sm.ss.archive.v08.0b03.srclib,inf=*par(history=*yes) --- (3)
%0000006906 :20S6:$ARCHIV8B.SM.SS.ARCHIVE.V08.0B03.SRCLIB
% ----- HISTORY -----
% CRE-DATE   = 2006-12-14  ACC-DATE   = 2006-12-14  CHANG-DATE = 2006-12-14
% CRE-TIME   =   13:35:49  ACC-TIME   =   15:37:29  CHANG-TIME =   13:36:19
% ACC-COUNT  = 2          S-ALLO-NUM = 0
%:20S6: PUBLIC:      1 FILE RES=      6906 FRE=      651 REL=      651 PAGES

```

- (1) The user displays information about the backed-up file statuses using LIST-FILE-FROM-SNAPSET.
- (2) From the output the user sees that the file was created on 14 December and was modified on 19 and 20 December. In order to undo changes on 19 December or later, the file must consequently be restored from Snapset d.
- (3) For safety's sake the user checks the time stamps in the restored file's catalog entry: it now has the status of 14 December 12 once more, i.e. the processing state from before the changes which were made on or after 19 December.

RESTORE-JV-FROM-SNAPSET

Restore job variables on the basis of a Snapset

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Job variables
Domain:	JOB-VARIABLES SNAPSET
Privileges:	STD-PROCESSING TSOS

Function

The RESTORE-JV-FROM-SNAPSET command restores job variables of a pubset from a pubset copy which was created on an associated Snapset. During the restore operation, single job variables are copied from the Snapsets onto the active pubset. The process is comparable to an HSMS restore from a backup archive.

The Snapset operand enables a specific backup status (the default is the latest Snapset backup) to be specified, or the user can specify that each job variable should be restored from the Snapset with the latest job variable status. Before restoration takes place, the user can issue the LIST-JV-FROM-SNAPSET command to obtain information on job variables which were saved to a Snapset.

All attributes of a restored job variable are taken over from the original job variable unchanged (including the creation date, date of modification and the protection attributes).

Nonprivileged users can only restore a job variable of a foreign user if they are the co-owner.

Overwriting by the restore must be explicitly permitted for existing job variables (REPLACE operand). For job variables which are protected against unauthorized overwriting by means of a password, the required password must be entered in the caller's password table (see ADD-PASSWORD).

Job variables can also be restored under a new name (NEW-JV-NAME operand). They are renamed by specifying either another user ID or a name prefix.

If required, the caller can have a log of the restore processing output to SYSOUT or SYSLST (OUTPUT operand). This log can cover either all job variables or only the job variables which, for particular reasons, could not be restored (REPORTING operand).

The Snapsets are temporarily not available if the SHC-OSD subsystem was not active when the pubset was imported. In this case the command is aborted with DMS0622. As soon as SHC-OSD is active, the Snapsets are subsequently activated when the SHOW-SNAPSET-CONFIGURATION command is called.

The restoration of job variables is not an explicit SAT event. The SECOS component SAT can only log the DELETE-JV (for overwriting) and CREATE-JV calls which are used internally.

Privileged functions

Systems support (TSOS privilege), as co-owner, can restore a job variable under its original user ID or under a foreign user ID.

When a job variable which still exists is overwritten, systems support can explicitly bypass the protection by means of the IGNORE-PROTECTION operand.

Format

RESTORE-JV-FROM-SNAPSET
<p>JV-NAME = <filename 1..54 without-gen-vers with-wild(80)></p> <p>,SNAPSET = <u>*LATEST</u> / *ALL / <name 1..1 with-low> / <integer -52..-1> / *INTERVAL(...)</p> <p> *INTERVAL(...)</p> <p> OLDEST = <u>-52</u> / <integer -52..-1></p> <p> ,NEWEST = <u>-1</u> / <integer -52..-1></p> <p>,REPLACE = *NO / *YES(...)</p> <p> *YES(...)</p> <p> IGNORE-PROTECTION = *NO / *YES</p> <p>,NEW-JV-NAME = *SAME / *BY-USER-ID(...) / *BY-PREFIX(...)</p> <p> *BY-USER-ID(...)</p> <p> NEW-USER-ID = *SAME / <name 1..8></p> <p> *BY-PREFIX(...)</p> <p> NEW-PREFIX = *NONE / <filename 1..8 without-cat-gen-user-vers></p> <p>,REPORTING = *ERROR / *FULL</p> <p>,OUTPUT = *NONE / list-poss(2): *SYSOUT / *SYSLST</p>

Operands

JV-NAME = <filename 1..54 without-gen-vers with-wild(80)>

Selects the job variables which are to be restored. The job variables must satisfy the following requirements:

- They must have been cataloged when the Snapset is created.
- The pubset on which they are cataloged must be imported locally.

The catalog and user IDs specified must be unique (i.e. contain no wildcards). Aliases (also partially-qualified aliases) may be specified.

SNAPSET = *LATEST / *ALL / <name 1..1 with-low> / <integer -52..-1> / *INTERVAL(...)

Specifies the Snapset from which the job variables are to be restored. Information about all existing Snapsets for a pubset can be obtained using the SHOW-SNAPSET-CONFIGURATION command.

SNAPSET = *LATEST

The job variables are to be restored from the latest Snapset (i.e. from the most up-to-date pubset backup).

SNAPSET = *ALL

All Snapsets of the pubset concerned are used as a basis for restoration. Each job variable is restored from the Snapset with the latest job variable status, in other words with the latest backup of the job variable.

SNAPSET = <name 1..1 with-low>

Specifies a particular Snapset explicitly by means of the Snapset ID. The maximum of 52 pubsets are distinguished by means of Snapset IDs specified which comprise letters from the 26 lowercase letters a to z and the 26 uppercase letters A to Z.

SNAPSET = <integer -52..-1>

Specifies a particular Snapset explicitly by means of the relative age. The value -1 specifies the latest Snapset.

SNAPSET = *INTERVAL(...)

Restoration takes place as with SNAPSET=*ALL. However, only Snapsets which lie in the specified age range are used as a basis:

OLDEST = -52 / <integer -52..-1>

Specifies the oldest Snapset; the range begins with this Snapset.

NEWEST = -1 / <integer -52..-1>

Specifies the newest Snapset; the range ends with this Snapset.

REPLACE = *NO / *YES(...)

Specifies whether the job variables to be restored may overwrite existing job variables.

REPLACE = *NO

Existing job variables are not overwritten. This means that job variables with the names of existing job variables are not restored.

REPLACE = *YES(...)

Existing job variables may be overwritten by job variables which are to be restored provided the protection attributes permit this. For job variables which are protected against unauthorized overwriting by means of a password, the required password must be entered in the caller's password table (see the ADD-PASSWORD command).

IGNORE-PROTECTION = *NO / *YES

This operand is only available to privileged users (TSOS privilege).

Specifies whether job variables are to be overwritten without taking into account any write protection which exists.

NEW-JV-NAME = *SAME / *BY-USER-ID(...) / *BY-PREFIX(...)

Specifies whether the job variables are to be renamed when they are restored. When they are renamed, either a different ID or a name prefix can be specified.

NEW-JV-NAME = *SAME

Each job variable is restored under the name of the original job variable.

NEW-JV-NAME = *BY-USER-ID(...)

Each job variable is to be restored under the user ID specified.

Only the co-owner (or TSOS) is able to restore the job variable under a user ID other than the original one.

NEW-USER-ID = *SAME / <name 1..8>

New user ID. The default is *SAME, i.e. the user ID of the original job variable is retained.

NEW-JV-NAME = *BY-PREFIX(...)

Each job variable is to be restored under a new name. The name consists of the specified prefix and the original name, separated by a period.

NEW-PREFIX = *NONE / <filename 1..8 without-cat-gen-user-vers>

Name prefix (up to 8 characters). The default is *NONE, i.e. the original job variable name is retained.

REPORTING = *ERROR / *FULL

Determines the scope of the log if a processing log was requested in the OUTPUT operand.

REPORTING = *ERROR

Only job variables which could not be restored are listed. The reason is displayed by means of a message code.

REPORTING = *FULL

All job variables are listed. For job variables which could not be restored, the reason is displayed by means of a message code.

OUTPUT = *NONE / list-poss(2): *SYSOUT / *SYSLST

Specifies whether a processing log is to be output to SYSOUT and/or SYSLST. The default is *NONE, i.e. no log is output.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	CMD0202	Syntactical or semantic error in the command
	32	DMS0584	A status occurred which prevents processing from continuing
	32	DMS05C7	Unexpected internal error in DMS
	64	CMD0102	Command aborted after interruption with K2
	64	CMD0216	Required authorization not available
	64	DMS0501	Requested catalog not available
	64	DMS0512	Requested catalog not found
	64	DMS051B	Requested user ID not in pubset
	64	DMS051C	User not authorized to access pubset
	64	DMS0585	Error detected when processing catalog or multiprocessor system
	64	DMS05FC	Specified file not in home pubset

(Part 1 of 2)

RESTORE-JV-FROM-SNAPSET

(SC2)	SC1	Maincode	Meaning
	64	DMS0610	Action with wildcards: Error executing a function for one of the selected job variable names
	64	DMS0616	Volume set in SM pubset cannot be accessed
	64	DMS0620	No restorable job variable found
	64	DMS0621	Job variable already cataloged, restoration not performed
	64	DMS0622	Snapset not available
	64	DMS0682	JVS error when executing job
	130	DMS053C	No space in the pubset's catalog
	130	DMS0585	Error detected when processing catalog or multiprocessor system
	130	DMS0594	Not enough virtual memory available

(Part 2 of 2)

RESTORE-PUBSET-FROM-SNAPSET

Restore a pubset on the basis of a Snapset

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT SNAPSET
Privileges:	TSOS HSMS-ADMINISTRATION

Function

The RESTORE-PUBSET-FROM-SNAPSET command resets a pubset which is in the INACCESSIBLE state to the status of the Snapset concerned.

This command is executed only if the pubset has not been reduced by one or more volumes since the Snapset to be used for restoration was created.

If the system run aborts while this command is being executed, the pubset can remain in an intermediate state which corresponds to partial execution of the command. In this case restoration can be completed by calling the command again. The pubset is locked until the command has been executed fully.

When remote mirroring is being used and snap copies are also generated in the remote storage system, the pubset is restored using the snap units of the original units which are directly attached. These are identified automatically by the Snapset management.

Note on the disk storage systems

- For Symmetrix (TimeFinder/Snap)
Reconstruction of a pubset can only be executed from the **most recent** of the Snapsets which exist for this pubset.
The Snapset used for reconstruction can then not be used any more, and is automatically deleted after the reconstruction process has been completed. Older Snapsets, however, are retained, and can then still be used.
When a pubset is to be reset to the status of an older Snapset, this can only be done by means of repeated reconstruction, each time based on the most recent Snapset, through to the required Snapset.
- For ETERNUS DX and VMAX3 (TimeFinder/SnapVX)
Reconstruction of a pubset can be executed on any Snapset version in one step. All Snapset versions, also the version used for reconstruction, are retained and can still be used, e.g. also for another reconstruction.

Format

RESTORE-PUBSET-FROM-SNAPSET

PUBSET = <cat-id 1..4>

,SNAPSET = ***LATEST** / <name 1..1 with-low> / <integer -52..-1>

Operands

PUBSET = <cat-id 1..4>

Catalog ID of the pubset which is to be restored.

SNAPSET =

Specifies the Snapset from which the pubset is to be restored.

SNAPSET = *LATEST

The pubset is restored on the basis of the latest Snapset.



The pubset concerned does not have to be importable for the reconstruction. The F5 label reconstruction takes place when the reconstructed pubset is imported.

SNAPSET = <name 1..1 with-low> / <integer -52..-1>

Not permitted for Symmetrix systems.

The pubset is restored on the basis of of the explicitly specified Snapset (specification of the Snapset ID or of the relative age).



While the function is being executed, the pubset is implicitly imported, and it is exported when the function ends. Implicit F5 label reconstruction also takes place.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without error
	32	CMD0216	Required authorization not available
	64	DMS13D5	The Snapset specified does not exist on the pubset
	64	DMS3001	Internal error
	64	DMS3002	Error in message output
	64	DMS3003	Error when requesting more space
	64	DMS3006	DMS error
	64	DMS340D	Error while reserving the disk
	64	DMS3405	Existing pubset type does not match MRSCAT entry
	64	DMS3406	No MRSCAT entry for specified catalog ID
	64	DMS3410	Pubset not in INACCESSIBLE state
	64	DMS3411	VSN not unique

(Part 1 of 2)

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	64	DMS3412	Device management reports volume inconsistency
	64	DMS3414	Pubset does not contain a Snapset catalog
	64	DMS3415	While ascertaining the volumes of the SM pubset, an error occurred when an SVL was accessed
	64	DMS3416	Pubset contains fewer volumes than the Snapset
	64	DMS3417	Error while restoring the snap unit
	64	DMS3418	Error while terminating the snap unit
	64	DMS3419	Snap device is not assigned to the device
	64	DMS341A	Device could not be attached
	64	DMS341B	No Snapset was found for a volume of the pubset
	64	DMS341C	Pubset will be processed by PVSREN
	64	DMS341F	Pubset no longer contains specific volume
	64	DMS3423	Only SNAPSET=*LATEST is permitted for the storage system available
	64	DMS3500	SHC-OSD subsystem is not available
	64	DMS3503	Error while calling the reported interface

(Part 2 of 2)

Notes

- The pubset which is to be restored must be exported. Until the restore operation has been completed, it is protected against being placed in service by /IMPORT-PUBSET (the PVSREN indicator is set in the SVL). During this period, import attempts are rejected with the message DMS0351 and insert 03. If the data from the snap units is already being copied back, the rejection is indicated by the messages DMS0381 and DMS038F.
- During the restore operation, a temporary copy of the Snapset catalog of the pubset which is to be restored is created on the home pubset and given the file name \$TSOS.SYSWRK.SNAPSET.<catid>. This file is only required for restoration and is deleted again once the operation has been completed. During the restore operation it is protected against being deleted because it is used to restart any interrupted restore operation (the command must be called again if the operation is interrupted). If the pubset is restored in a different way, the pubset is deleted when the next pubset import takes place.
- An interrupted restore operation can only be restarted in the same runtime environment, i.e. with the same home pubset, because the copy of the Snapset catalog which is stored there is required for this purpose.

RESTORE-SDF-INPUT

Restore previous input

Description status:	SDF V4.7D
Functional area:	SDF control
Domain:	SDF
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The RESTORE-SDF-INPUT command redisplay an input which has already been made and stored in the input buffer. The user can then use the displayed command or statement again as it is or in modified form without having to retype it. For an input to be reused, however, at least one character in the input string must be changed (e.g. you can overwrite a character with the same character).

The INPUT operand is used to select the input to be displayed. The default *LAST-CMD recalls the last saved command. Earlier inputs can be selected using the relative or absolute input serial number. The SHOW-INPUT-HISTORY command (or standard statement) provides information on all saved (and therefore available) inputs.

The output produced by RESTORE-SDF-INPUT depends on the current guidance mode (see SHOW-SDF-OPTIONS command, output field *GUIDANCE*):

- In guided dialog a temporarily guided dialog is initiated for the command or statement that is to be output. The operand form contains all user inputs. A guided dialog is not possible for commands or statements without operands. Therefore only the help text and the error message CMD0070 are displayed. If you select an AID command, the warning CMD0559 is output because AID commands are not supported in guided dialog.
- In unguided dialog the saved input string is displayed. To use dialog guidance for making modifications, the user can initiate a temporarily guided dialog by entering a question mark directly after the command/statement name.

The input buffer is controlled (activated/deactivated and deleted) via the MODIFY-SDF-OPTIONS command (or standard statement). Inputs in guided dialog are saved in ACCEPTED form, while inputs in unguided dialog are saved in INPUT form.

The RESTORE-SDF-INPUT command or statement is not saved.

Values specified for “secret” operands which match neither the default value nor a value defined via SECRET=*NO are saved in the input buffer with “^”.

If these values are displayed again via RESTORE-SDF-INPUT in unguided dialog, the user can do one of the following:

- send off the command/statement unchanged. In this case, SDF displays a blanked input field for each secret operand for the user to enter the desired value.
- delete the “^” and insert the desired value directly before sending off the command/statement.

In programs with an SDF interface, RESTORE-SDF-INPUT is available as a standard statement with approximately the same syntax and functionality.

Format

RESTORE-SDF-INPUT	Alias: RRSDFI
INPUT = <u>*LAST-CMD</u> / <integer -100..-1> / <integer 1..9999>	

Operands

INPUT = *LAST-CMD / <integer -100..-1> / <integer 1..9999>

Determines which input from the input buffer is to be redisplayed.

INPUT = *LAST-CMD

The last saved command is displayed.

INPUT = <integer -100..-1>

Identifies the desired input relative to the current input.

INPUT = <integer 1..9999>

Identifies the desired input absolutely via its input serial number, which is automatically assigned by SDF when it is saved. The contents of the input buffer can be displayed with input serial numbers (see SHOW-INPUT-HISTORY command, operand INPUT-SERIAL-NUMBER=*YES).

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
0	0	CMD0001	Command executed without errors
1	0	CMD0001	Output is not possible since the input buffer is empty. Guaranteed message: CMD0558
2	0	CMD0559	AID command not supported in guided dialog. Guaranteed message: CMD0559
1	32	CMD0500	Syntax description in current syntax file invalid. Guaranteed message: CMD0500
	64	CMD0558	Command execution not successful

Example

```

/mod-f-attr sf.dummy,prot=(basic-acl=(owner=(y,y,y),group=(y,n,n),
                                others=(y,n,n))) _____ (1)
/show-job-sta job-id=tsn(00as),inf=*envir _____ (2)
% EXC0755 INFORMATION ON TASK WITH (&00) '00AS' CANNOT BE GIVEN
/restore-sdf _____ (3)
/show-job-sta job-id=tsn(00ad),inf=*envir _____ (4)
%NAME      TSN      STATION  PROCESSOR  HOLD MRSCAT
%RALF      00AD    $$$01121 BGDW0121
/cre-file test _____ (5)
/show-file-attr test,inf=*min
%N NNN NW          3 :10SN:$SDFUSER.TEST
/show-input i-s-n=y _____ (6)
/" 43 : " sh-sdf *u
/" 44 : " show-job-sta
/" 45 : " mod-f-attr sf.dummy,prot=(basic-acl=(owner=(y,y,y),group=(y,n,n),
others=(y,n,n)))
/" 46 : " show-job-sta job-id=tsn(00as),inf=*envir
/" 47 : " show-job-sta job-id=tsn(00ad),inf=*envir
/" 48 : " cre-file test
/" 49 : " show-file-attr test,inf=*min
/restore-sdf 45 _____ (7)
/mod-f-attr test ,prot=(basic-acl=(owner=(y,y,y),group=(y,n,n),
                                others=(y,n,n))) _____ (8)
/restore-sdf
/mod-f-attr?test ,prot=(basic-acl=(owner=(y,y,y),group=(y,n,n),
                                others=(y,n,n))) _____ (9)

```

```

COMMAND : MODIFY-FILE-ATTRIBUTES
OPERANDS : ...AME=TEST,PROTECTION=*PARAMETERS(BASIC-ACL=*PARAMETERS(OWNER=*PARAM
          ETERS(READ=*YES,WRITE=*YES,EXEC=*YES),GROUP=*PARAMETERS(READ=*YES,
          WRITE=*YES,EXEC=*NO),OTHERS=*PARAMETERS(READ=*YES,WRITE=*YES,EXEC=...

-----
FILE-NAME           = TEST
NEW-NAME            = *SAME
SUPPORT             = *UNCHANGED
PROTECTION          = (PROTECTION-ATTR=*UNCHANGED,ACCESS=*BY-PROTECTION-ATTR,US
                    ER-ACCESS=*BY-PROTECTION-ATTR,BASIC-ACL=(OWNER=(READ=Y,WR
                    ITE=Y,EXEC=Y),GROUP=(READ=Y,WRITE=Y,EXEC=N),OTHERS=(READ=
                    Y,WRITE=Y,EXEC=N)),GUARDS=*BY-PROTECTION-ATTR,WRITE-PASSW
                    ORD=*BY-PROT-ATTR-OR-UNCH,READ-PASSWORD=*BY-PROT-ATTR-OR-
                    UNCH,EXEC-PASSWORD=*BY-PROT-ATTR-OR-UNCH,DESTROY-BY-DELET
                    E=*BY-PROTECTION-ATTR,AUDIT=*UNCHANGED,SPACE-RELEASE-LOCK
                    =*BY-PROTECTION-ATTR,EXPIRATION-DATE=*BY-PROTECTION-ATTR,
                    FREE-FOR-DELETION=*BY-PROT-ATTR-OR-UNCH)

-----
NEXT = *down(basic-acl) ←----- (10)
      *EXECUTE"F3" / + / Next-cmd / *CONTINUE / *EXIT"K1" / *EXIT-ALL"F1" /
      *TEST"F2"

```

```

COMMAND : MODIFY-FILE-ATTRIBUTES
STRUCTURE: BASIC-ACL=
OPERANDS : ...AME=TEST,PROTECTION=*PARAMETERS(BASIC-ACL=*PARAMETERS(OWNER=*PARAM
          ETERS(READ=*YES,WRITE=*YES,EXEC=*YES),GROUP=*PARAMETERS(READ=*YES,
          WRITE=*YES,EXEC=*NO),OTHERS=*PARAMETERS(READ=*YES,WRITE=*YES,EXEC=...

-----
OWNER              = (READ=Y,WRITE=Y,EXEC=Y)
GROUP              = (READ=Y,WRITE=N,EXEC=y) ←----- (11)
OTHERS            = (READ=Y,WRITE=N,EXEC=y)

-----
NEXT = *CONTINUE
      *EXECUTE"F3" / + / - / Next-cmd / *CONTINUE / *EXIT"K1" / *EXIT-ALL"F1"
      / *TEST"F2"

```

- (1) BASIC-ACL protection is recorded in the catalog entry for the *SF.DUMMY* file (owners have unrestricted rights, groups and others have only read access).
- (2) The SHOW-JOB-STATUS command is supposed to display information on the task with the TSN *00AS*, but no such task exists.
- (3) The RESTORE-SDF-INPUT command is to redisplay the last input.

- (4) The SHOW-JOB-STATUS command (see step 2) is output. In the character string which is output, the TSN is corrected to *00AD* and sent off with `[DUE]`. Information on this TSN is displayed.
- (5) The *TEST* file is cataloged. The protection rights are then output in abbreviated form via SHOW-FILE-ATTRIBUTES.
- (6) SHOW-INPUT-HISTORY outputs the contents of the input buffer with input serial numbers (INPUT-SERIAL-NUMBER=*YES).
- (7) RESTORE-SDF-INPUT redisplayes the command with the serial number 45.
- (8) In the displayed MODIFY-FILE-ATTRIBUTES, the file name is changed to *TEST* and sent off with `[DUE]`. The *TEST* file thus receives the same BASIC-ACL protection as the *SF.DUMMY* file did previously.
- (9) The user wants to change the protection attributes of the *TEST* file again. RESTORE-SDF-INPUT displays the last command entered (see step 8). A question mark is inserted after the command name and the line is sent off with `[DUE]`.
- (10) SDF switches to temporarily guided dialog and displays the operand form of the MODIFY-FILE-ATTRIBUTES command with the explicitly set specifications for BASIC-ACL. For an overview of the input, the user requests the subform for BASIC-ACL (*PARAMETERS structure) by entering “*down(basic-acl)” in the NEXT line.
- (11) The user enters the desired values (groups and others receive execution rights with EXEC=*YES) in the subform and sends it off with `[DUE]`.

Note

The BASIC-ACL access rights can be changed to the shortest possible form by editing the command line output by RESTORE-SDF-INPUT (or by editing the corresponding command line in the output of the SHOW-INPUT-HISTORY command).

RESTORE-SOFTWARE-INVENTORY

Copy current SCI

Description status:	IMON-GPN V3.3A
Functional area:	System control and optimization
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	SUBSYSTEM-MANAGEMENT

Function

The RESTORE-SOFTWARE-INVENTORY command can be used to restore the current SCI from a backup copy. When this is done, both physical SCI files (IMON-SCI and IMON-GPN-SCI) are restored.

The command is not executed if the IMON subsystem is currently loaded.

A backup copy of the current SCI can be explicitly created using the SAVE-SOFTWARE-INVENTORY command. Backup copies are also created automatically on system start and during software installation (see the “IMON” User Guide [19]).

Format

RESTORE-SOFTWARE-INVENTORY
FROM-SCI = *STD / <filename 1..50>

Operands

FROM-SCI =

Name of the source file (backup copy) from which the current SCI is to be restored.

FROM-SCI = *STD

Uses the SCI backup that was automatically created under the name \$TSOS.SYS.IMON.SCI.[GPN.]SAV on the last system start.

FROM-SCI = <filename 1..50>

Explicit specification of the name of the source file.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	32	IMO9101	Command terminated abnormally (system error in external call; internal error in IMON-GPN)
	64	CMD0216	Privileges error
	64	IMO9100	IMON subsystem started, error during the restore operation, DMS error

RESUME-ALIAS-SUBSTITUTION

Cancel effect of HOLD-ALIAS-SUBSTITUTION

Description status:	ACS V19.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The RESUME-ALIAS-SUBSTITUTION command cancels the effect of the HOLD-ALIAS-SUBSTITUTION command and resumes the interrupted alias substitution function. One RESUME-ALIAS-SUBSTITUTION command must be entered for each HOLD-ALIAS-SUBSTITUTION command.

Format

RESUME-ALIAS-SUBSTITUTION

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed normally
2	0	ACS0041	Alias substitution still inactive
1	0	CMD0001	No action, since the ACS substitution function was not interrupted by HOLD-ALIAS-SUBSTITUTION
	128	ACS0018	ACS not available

Examples

For examples, see the HOLD-ALIAS-SUBSTITUTION and SET-FILE-NAME-PREFIX commands.

RESUME-HARDWARE-AUDIT

Resume suspended AUDIT mode

Description status:	BS2000 OSD/BC V10.0A
Functional area:	AUDIT mode control
Domain:	PROGRAM
Privileges:	STD-PROCESSING TSOS

Function

The RESUME-HARDWARE-AUDIT command resumes AUDIT mode after it has been suspended with HOLD-HARDWARE-AUDIT. The command acts like START-HARDWARE-AUDIT with SCOPE=*OWN-JOB, but differs from it in that any existing AUDIT backup table continues to be used to back up the AUDIT table.

The command is rejected if AUDIT mode has been activated but has not been suspended. If AUDIT mode has not been activated, the command activates it (like START-HARDWARE-AUDIT with SCOPE=*OWN-JOB).

The RESUME-HARDWARE-AUDIT command can only relate to the user's own task.

Privileged functions

Systems support (TSOS privilege) can resume hardware AUDIT mode for the privileged processor state TPR (STATE=*SYSTEM).

Format

RESUME-HARDWARE-AUDIT
STATE = <u>*USER</u> / *SYSTEM

Operands

STATE =

Processor state for which the AUDIT mode is to be reactivated. If the hardware AUDIT mode is to be activated at the same time for both processor states, the command must be issued twice.

STATE = *USER

The hardware AUDIT mode is to be resumed for the nonprivileged processor state TU.

STATE = *SYSTEM

This operand value is reserved for privileged users.

The hardware AUDIT mode is to be reactivated for the privileged processor state TPR.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	64	CMD0216	User does not have authorization
	64	IDA0001	Hardware AUDIT not activated
	64	IDA0011	Privilege error
	64	IDA0023	Hardware AUDIT not available due to missing authorization in user entry
	64	IDA0024	Hardware AUDIT not available because of current test option settings for the active task

RESUME-JOB

Take user job off hold

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Job processing
Domain:	JOB
Privileges:	TSOS OPERATING
Routing code:	J

Function

The RESUME-JOB command enables systems support staff to take a user job suspended with the HOLD-JOB command off hold (wait state HELD-BY-COMMAND). The job can then be considered once again by job management and can be processed in accordance with its attributes.

If the user job is in the wait state due to a lack of system resources then the availability of the resources is checked and, if they are unavailable, a warning is issued. This wait state can only be cleared by providing the missing resources (by importing the corresponding pubset or releasing the TSN).

The RESUME-TASK command is used to resume tasks that have already been started.

As soon as the user job has been released, a message is displayed on the operator terminal (console).

Format

RESUME-JOB

JOB-IDENTIFICATION = *TSN(...) / *MONJV(...) / <alphanum-name 1..4>

*TSN(...)

 | **TSN** = <alphanum-name 1..4>

*MONJV(...)

 | **MONJV** = <filename 1..54 without-gen-vers>

Operands**JOB-IDENTIFICATION =**

Type of job identification.

The command may refer to the TSN or to a monitoring job variable.

JOB-IDENTIFICATION = *TSN(...)

The job to be taken off hold is identified by its TSN.

TSN = <alphanum-name 1..4>

TSN of the job in the wait state.

JOB-IDENTIFICATION = *MONJV(...)

The job to be released is identified via a monitoring job variable.

MONJV = <filename 1..54 without gen>

Job variable specified for the job that was suspended.

JOB-IDENTIFICATION = <alphanum-name 1..4>

Job number of the suspended job.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	CMD0002	Warning: wait state due to lack of resources
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	JMS0630	Semantic error
	64	JMS0640	Command cannot be executed

RESUME-JOB-CLASS

Take job class off hold

Description status: BS2000 OSD/BC V10.0A
Functional area: Job processing
Domain: JOB
Privileges: TSOS
OPERATING
Routing code: J

Function

The RESUME-JOB-CLASS command enables systems support staff to take a job class suspended with the HOLD-JOB-CLASS command off hold. The batch jobs which were temporarily forced to wait in the job class queue can then be released for starting. Execution of the command is acknowledged by a message displayed on the console.

Systems support staff can obtain an overview of the states of the various job classes using the SHOW-SYSTEM-STATUS command.

Format

RESUME-JOB-CLASS
CLASS-NAME = <name 1..8>

Operands

CLASS-NAME = <name 1..8>

Name of the job class to be released.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	JMS0630	Semantic error
	64	JMS0640	Command cannot be executed

RESUME-JOB-STREAM

Take job stream off hold

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Job processing
Domain:	JOB
Privileges:	TSOS OPERATING
Routing code:	J

Function

The RESUME-JOB-STREAM command enables systems support staff to take a job stream suspended with the HOLD-JOB-STREAM command off hold. The job scheduler is reactivated and begins selecting the jobs to be started from its assigned number of job classes and passing them to the class scheduler.

The RESUME-JOB-STREAM command is also permitted for the system job stream \$SYSJS.

A message is displayed on the console to indicate that scheduling has been resumed.

Format

RESUME-JOB-STREAM

STREAM-NAME = <name 1..8>

Operands

STREAM-NAME = <name 1..8>

Name of the job stream to be released.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	JMS0630	Semantic error
	64	JMS0640	Command cannot be executed

Example

```
/show-system-status inf=*job-stream
%JSTREAM STATE DORM ANCD WAIT STRT HOLD START STOP LIFETIME
%$SYSJS ACT 0 0 0 4 0 ATLOAD ATSHUTD
%JSSTD ACT 0 0 0 0 0 ATLOAD ATSHUTD
%JSSTD1 ACT 0 0 0 6 0 ATLOAD ATSHUTD
%JSSTD2 HOLD 0 0 0 0 0 ATLOAD ATSHUTD
%JSTSOS ACT 0 0 0 10 0 ATLOAD ATSHUTD
/resume-job-stream jsstd2
% JMS0022 '/RESUME-JOB-STREAM' COMMAND PROCESSED
/show-system-status inf=*job-stream
%JSTREAM STATE DORM ANCD WAIT STRT HOLD START STOP LIFETIME
%$SYSJS ACT 0 0 0 4 0 ATLOAD ATSHUTD
%JSSTD ACT 0 0 0 0 0 ATLOAD ATSHUTD
%JSSTD1 ACT 0 0 0 6 0 ATLOAD ATSHUTD
%JSSTD2 ACT 0 0 0 0 0 ATLOAD ATSHUTD
%JSTSOS ACT 0 0 0 10 0 ATLOAD ATSHUTD
```

Job stream JSTD2, which is currently on hold (as indicated by the *STATE* output field of the first SHOW-SYSTEM-STATUS command), is reactivated by the RESUME-JOB-STREAM command.

RESUME-LINKAGE-AUDIT

Resume suspended linkage AUDIT mode

Description status:	BS2000 OSD/BC V10.0A
Functional area:	AUDIT mode control
Domain:	PROGRAM
Privileges:	STD-PROCESSING TSOS

Function

The RESUME-LINKAGE-AUDIT command resumes linkage AUDIT mode after it has been suspended with HOLD-LINKAGE-AUDIT. Any existing AUDIT backup table continues to be used to back up the linkage AUDIT table.

The command is rejected if linkage AUDIT mode has been activated but has not been suspended. If linkage AUDIT mode has not been activated, the command activates it.

Privileged functions

Systems support (TSOS privilege) can continue linkage AUDIT mode for the privileged processor state TPR (STATE=*SYSTEM).

Format

RESUME-LINKAGE-AUDIT
STATE = *<u>USER</u> / *SYSTEM

Operands

STATE =

Processor state for which the linkage AUDIT mode is to be resumed. If the linkage AUDIT mode is to be activated at the same time for both processor states, the command must be issued twice.

STATE = *USER

Linkage AUDIT mode is to be resumed for the nonprivileged processor state TU.

STATE = *SYSTEM

This operand value is reserved for privileged users.

Linkage AUDIT mode is to be resumed for the privileged processor state TPR.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	64	CMD0216	User does not have authorization
	64	IDA0052	Linkage AUDIT not available due to missing authorization in user entry
	64	IDA0053	Linkage AUDIT not available because of current test option settings for the active task
	64	IDA0060	No AUDIT functions throughout the system in this session

RESUME-PRINT-JOB

Resume print job

Description status:	SPOOL V4.9A
Functional area:	Controlling spoolout job
Domain:	SPOOL-PRINT-ADMINISTRATION
Privileges:	STD-PROCESSING OPERATING PRINT-SERVICE-ADMINISTRATION SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
Routing code:	0

Note

The RESUME-PRINT-JOB command corresponds to the RESUME-SPOOLOUT command; the command name RESUME-SPOOLOUT is still accepted as an alias.

Function

The RESUME-PRINT-JOB command resumes processing of a suspended print job in the local cluster. The print job is identified by its TSN or MONJV. The cluster administrator can address a print job by means of the server name and the TSN on the server on which it is processed.

Privileged functions

RSO device administrators and spool and cluster administrators can resume any print job scheduled for printing on any device that they manage.

For more information on these user groups see the manuals “RSO” [32], “SPOOL” [43] and “Dprint” [10].

Format

RESUME-PRINT-JOB
<p>JOB-IDENTIFICATION = *TSN(...) / *SERVER-TSN(...) / *MONJV(...)</p> <p>*TSN(...) TSN = <alphanum-name 1..4></p> <p>*SERVER-TSN(...) TSN = <alphanum-name 1..4> SERVER-NAME = <alphanum-name 1..8></p> <p>*MONJV(...) MONJV = <filename 1..54 without-gen></p> <p>,PRIORITY = *<u>UNCHANGED</u> / <integer 30..255></p> <p>,RESTART-POSITION = *<u>UNCHANGED</u> / *<u>BEGIN-OF-SPOOL</u> / *PAGE(...) / *BACK(...)</p> <p>*PAGE(...) PAGE-NUMBER = <integer 1..10000000></p> <p>*BACK(...) PAGES = <integer 1..10000000></p>

Operands

JOB-IDENTIFICATION = *TSN(...) / *SERVER-TSN(...) / *MONJV(...)

Specifies how the job is identified.

JOB-IDENTIFICATION = *TSN(...)

The job is identified by its local TSN.

TSN = <alphanum-name 1..4>

TSN of the job.

JOB-IDENTIFICATION = *SERVER-TSN(...)

The print job is identified by its TSN on the server. Print jobs in the local cluster can be addressed in this way by the cluster administrator.

TSN = <alphanum-name 1..4>

TSN of the job on the server

SERVER-NAME = <name 1..8>

Name of the server on which the print job can be addressed by its TSN.

JOB-IDENTIFICATION = *MONJV(...)

The print job is identified by its monitoring job variable.

MONJV = <filename 1..54 without-gen-vers>

This operand allows print jobs to be addressed by their monitoring job variables, provided the specified MONJV is accessible on the host at which the command is issued.

PRIORITY = *UNCHANGED / <integer 30..255>

Priority for the released spoolout job.

PRIORITY = *UNCHANGED

The priority that the spoolout job previously had remains in force.

RESTART-POSITION =

Defines the point from which the spoolout file is to be output again.



If there are control characters in the data, they are only interpreted if the value X'A3' is contained in byte 6 of the control character list for the first page to be printed (see the "SPOOL" manual [43]).

RESTART-POSITION = *UNCHANGED

The spoolout job should be repeated from the place specified in the HOLD-PRINT-JOB command.

RESTART-POSITION = *BEGIN-OF-SPOOLOUT

Repeat from the start of the file.

RESTART-POSITION = *PAGE(...)

The spoolout job is to be repeated as of a specific page.

The value is not permitted for SPS jobs.

PAGE-NUMBER = <integer 1..10000000>

Repeat output from the specified page; all preceding pages are skipped.

RESTART-POSITION = *BACK(...)

The SPOOLOUT job is to be restarted on the page that is before current page by the number of pages specified. All pages before that are ignored.

PAGES = <integer 1..10000000>

Number of pages to leaf back to reach the starting point for repeating output.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	1	SCP0973	Semantic error
	32	SCP0974	System error. Command rejected
	64	SCP0975	No authorization for command
	64	SCP0976	Invalid operand value
			Guaranteed message: SPS0968
	128	SCP1051	Subsystem required for operand

RESUME-PROCEDURE

Resume suspended procedure run

Description status:	SYSFILE V19.0A
Functional area:	Procedures
Domain:	PROCEDURE
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The RESUME-PROCEDURE command ends ESCAPE mode (see the HOLD-PROCEDURE command) and resumes execution of an interrupted procedure.

Format

RESUME-PROCEDURE	Alias: RUP
MODE = <u>*ACTUAL</u> / *CMD / *PROGRAM	

Operands

MODE =

Mode in which procedure execution is to be continued.

MODE = *ACTUAL

Procedure execution is continued in the mode in effect at the time it was interrupted.

Command mode: Control returns to the next command in the procedure file.

Program mode: The interrupted program is resumed at the address at which it was interrupted.

MODE = *CMD

The procedure is to be continued in command mode. If the procedure was interrupted in program mode, the interrupted program remains loaded until a RESUME-PROCEDURE command with MODE=*PROGRAM is given.

MODE = *PROGRAM

The procedure is to be continued in program mode. If no program is loaded, an error message is issued and control is returned to the terminal. The user can then enter the RESUME-PROCEDURE command with MODE=*CMD to continue the procedure run in command mode.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	64	SSM2018	Command not permitted in batch mode in a noninterruptible procedure
	64	SSM2019	No interrupted procedure exists
	64	SSM2020	MODE=*PROGRAM and no program loaded
	64	SSM2013	No program loaded

Notes

- An interrupted procedure can be continued only by means of the RESUME-PROCEDURE command.
- The RESUME-PROCEDURE command must always be entered in dialog. If it is part of a procedure or part of a batch job, an appropriate error message is issued and the spin-off mechanism is activated.
- If a procedure interrupted in command mode is to be continued in program mode, this can only be done by explicitly specifying the operand MODE=*PROGRAM. The program itself can have been loaded at any desired level and may be continued at any desired level. The program is, however, tied to the system file assignments (ASSIGN command) applicable to whichever is the current level.
- The EXIT-PROCEDURE command causes a direct switch from the ESCAPE mode of the current procedure to the ESCAPE mode of the next lower procedure level. This procedure can then be continued in the current mode by means of the RESUME-PROCEDURE command (without operands). It is also possible to continue the procedure in a different mode by specifying the operand MODE=*PROGRAM/*CMD.

Example

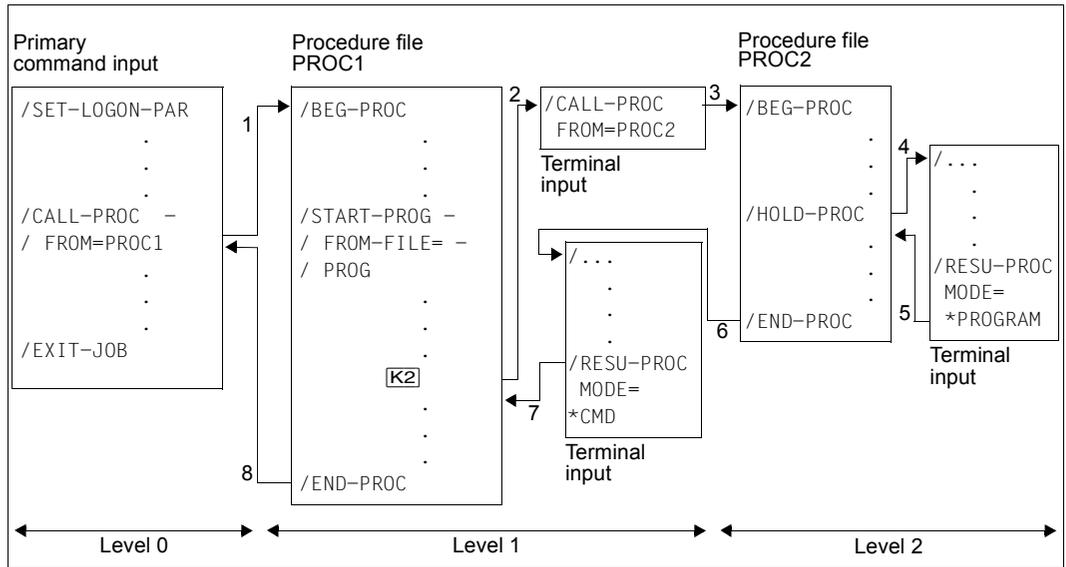


Figure 9: Program execution in different areas

The arrows indicate the sequence in which commands are processed (SYSCMD).

1. With the command `/CALL-PROC FROM=PROC1`, the procedure PROC1 is started and SYSCMD is assigned to the procedure file PROC1.
2. In the procedure the program PROG is loaded and started. The logical system files of procedure level 1 are assigned to the program. The procedure PROC1 is interrupted by pressing **[K2]** in program mode, i.e. the interruption occurs during execution of the program PROG. SYSCMD is assigned to the terminal (ESCAPE mode).
3. With the command `/CALL-PROC FROM=PROC2`, the procedure PROC2 is started and SYSCMD is assigned to the procedure file PROC2.
4. The procedure PROC2 is interrupted in command mode by a HOLD-PROCEDURE command. SYSCMD is assigned to the terminal (ESCAPE mode).
5. The program PROG interrupted by **[K2]** is continued at procedure level 2. The logical system files of procedure level 2 are now assigned to the program. If the program run terminates at this procedure level (last instruction executed), control is passed to the procedure PROC2. Processing is continued with the command following the HOLD-PROCEDURE command.

6. Procedure PROC2 is terminated by /END-PROC, and SYSCMD is again assigned to the terminal (level-1 ESCAPE mode; level 1 is still in program mode).
7. The RESUME-PROCEDURE command cancels the level-1 ESCAPE mode. Since at this time the program PROG is no longer loaded, the user must specify the operand "MODE=*CMD" in order to switch from program mode to command mode.
8. SYSCMD is again assigned to the primary command input.

RESUME-PROGRAM

Start loaded program or resume suspended program

Description status:	AIDSYSA V19.0A
Functional area:	Program control
Domain:	PROGRAM
Privileges:	all privileges

Function

The RESUME-PROGRAM command starts a loaded program (see LOAD-EXECUTABLE-PROGRAM command) or resumes it after it has been suspended (e.g. interrupted with the **K2** key).

This command has no operands and is executed immediately. If no program is loaded, the message "IDA0C11 USER PROGRAM NOT LOADED" is displayed.

Format

RESUME-PROGRAM	Alias: RU / RUPG

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without error
	1	CMD2201	Error in function call: function invalid
	3	CMD2203	Error in function call: version invalid
	64	IDA0C11	Error: no program loaded

RESUME-PUBSET-RECONFIGURATION

Terminate pubset reconfiguration job normally

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	TSOS

Function

The RESUME-PUBSET-RECONFIGURATION command enables systems support to gracefully terminate reconfiguration jobs which have been abnormally terminated as a result of job cancelation or a change of master.

Reconfiguration jobs may have been initiated by a START-/STOP-PUBSET-CACHING, MODIFY-PUBSET-DEFINITION-FILE, MODIFY-PUBSET-PROCESSING, MODIFY-PUBSET-RESTRICTIONS or CREATE-SNAPSET command.

If applied to the pubset of a slave system, the RESUME-PUBSET-RECONFIGURATION command updates the associated MRS catalog entries on the basis of the information in the pubset configuration file.

Format

RESUME-PUBSET-RECONFIGURATION

PUBSET = <cat-id 1..4>

Operands

PUBSET = <cat-id 1..4>

Identifies the pubset for which reconfiguration jobs are to be gracefully terminated.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	No errors
	32	CMD0221	Internal system error
	32	DMS138A	Internal parameter error
	64	CMD0216	No authorization to issue command
	64	DMS138B	Pubset does not exist
	64	DMS138C	Pubset not accessible
	64	DMS1391	SM pubset has no reconfiguration file
	128	DMS1386	Not enough class 4/5 memory

Return codes of the command which initiated the reconfiguration job may also be issued: START-/STOP-PUBSET-CACHING, MODIFY-PUBSET-DEFINITION-FILE, MODIFY-PUBSET-PROCESSING, MODIFY-PUBSET-RESTRICTIONS or CREATE-SNAPSET.

RESUME-SUBSYSTEM

Take suspended subsystem off hold

Description status:	DSSM V4.3B
Functional area:	Subsystem management
Domain:	SYSTEM-MANAGEMENT
Privileges:	OPERATING SUBSYSTEM-MANAGEMENT
Routing code:	R

Function

The RESUME-SUBSYSTEM command enables systems support staff to take a suspended subsystem off hold.

Once this command has been executed successfully, connections can be set up once again to the specified subsystem, provided that the subsystem was previously placed in a defined hold state by means of a HOLD-SUBSYSTEM command. This ensures that all the necessary resources (holder task, address space) are still available and the initialization routine can be executed.

Format

RESUME-SUBSYSTEM

SUBSYSTEM-NAME = <structured-name 1..8>

,**VERSION** = ***STD** / <product-version mandatory-man-corr> / <product-version without-man-corr> / ***HIGHEST**

,**SUBSYSTEM-PARAMETER** = ***NONE** / <c-string 1..254>

,**RESET** = ***NO** / ***YES**

,**SYNCHRONOUS** = ***NO** / ***YES**

Operands

SUBSYSTEM-NAME = <structured-name 1..8>

Name of the subsystem which is to be taken off hold.

VERSION = *STD / <product-version mandatory-man-corr> / <product-version without-man-corr> / *HIGHEST

Identifies the version number.

If a version number is specified, the format specified here must be identical to the format used when the subsystem was defined (release and correction status mandatory or not allowed; see description of the data type [“product-version” on page 1-45](#)).

VERSION = *STD

If there is only **one** version of the subsystem that is on hold, the default value applies for this version.

If there are **several** suitable versions, the version must be specified.

VERSION = *HIGHEST

The highest version of the subsystem entered in the static subsystem catalog is selected.

SUBSYSTEM-PARAMETER = *NONE / <c-string 1..254>

Specifies whether special parameters that can only be evaluated by the specified subsystem are to be processed.

RESET =

Determines the mode and urgency of command processing.

RESET = *NO

If the relevant system is not yet in a defined hold state, the command is rejected until this is achieved.

RESET = *YES

The command is accepted irrespective of any clear-down process still outstanding and the subsystem or some components are immediately initialized (see notes).

SYNCHRONOUS =

Enables synchronous or asynchronous processing to be selected.

SYNCHRONOUS = *NO

The command is to be processed asynchronously, i.e. there is no need to wait for it to execute before making another input. No error messages relating to the execution of the command will be output.

SYNCHRONOUS = *YES

The command must be executed before another entry can be made. Any messages relevant to its execution are output.

Return codes

(SC2)	SC1	Maincode	Meaning
1	0	CMD0001	No error
	0	CMD0001	No action necessary; subsystem already on hold
	1	ESM0414	Syntax error: an invalid version was specified
	32	ESM0224	Command not processed
	32	ESM0228	Command terminated abnormally

Notes

- To ensure a high degree of parallelism and data integrity, time-consuming management functions are not performed under the control of the calling task; instead they are transferred to a DSSM task.
As a rule, the requested function is checked **synchronously** (i.e. involving a wait state for the calling task). The actual processing, however, is performed by DSSM **asynchronously** and independently of the calling task.
- After the HOLD-SUBSYSTEM command, RESUME-SUBSYSTEM is rejected if DSSM has not yet fully suspended the subsystem. The RESET=*YES operand, however, enables systems support to cancel the hold state for the subsystem unconditionally, without waiting for completion of a HOLD-SUBSYSTEM command.
In this case, the initialization routine is initiated. The subsystem involved, which is informed of the RESET, can determine the scope of the initialization routine itself (full initialization, partial initialization, no initialization).

RESUME-TASK

Release suspended batch task

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Job processing
Domain:	SYSTEM-TUNING
Privileges:	TSOS OPERATING
Routing code:	J

Function

A batch task previously placed on hold with the HOLD-TASK command is released with RESUME-TASK.

Only after this release can the job be canceled, if required, with the CANCEL-JOB command. In the case of a task which is waiting for an operator response, if a RESUME-TASK command is issued after a HOLD-TASK command, the following message will appear:

```
EXC0712  TASK NOT PENDED BY HOLD-TASK COMMAND. /RESUME-TASK REJECTED
```

Not until the operator response is entered will the task be put on hold. A second RESUME-TASK command will be required to cancel the hold state for the task.

Format

RESUME-TASK

JOB-IDENTIFICATION = ***TSN** (...) / ***MONJV**(...)

***TSN**(...)

| **TSN** = <alphanum-name 1..4>

***MONJV**(...)

| **MONJV** = <filename 1..54 without-gen>

Operands**JOB-IDENTIFICATION =**

The batch job for which the wait state is to be canceled can be identified either by its task sequence number (TSN) or by a declared monitoring job variable (MONJV).

JOB-IDENTIFICATION = *TSN(...)

Preset value: the job is identified by its TSN.

TSN = <alphanum-name 1..4>

TSN of the batch job to be resumed.

JOB-IDENTIFICATION = *MONJV(...)

Preset value: the job is identified by its monitoring job variable.

MONJV = <filename 1..54 without-gen>

Specifies the monitoring job variable of the batch task for which the wait state is to be canceled.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
12	64	EXC0711	Specified task sequence number (TSN) not found
12	64	EXC0712	Task is not on hold
12	64	EXC0715	Command is not allowed for this task type

RETURN-JOB-TO-VIRTUAL-DEVICE

Return print job to virtual printer

Description status:	SPOOL V4.9A
Functional area:	Controlling spoolout job
Domain:	SPOOL-PRINT-SERVICES
Privileges:	STD-PROCESSING PRINT-SERVICE-ADMINISTRATION

Function

The RETURN-JOB-TO-VIRTUAL-DEVICE command returns the current print job to the virtual device. It is executed in batch mode only.

The POST-ACTION operand determines whether the print job is canceled as a result of being returned or the status which it is assigned when it remains in the Spool&Print queues. This specification ultimately decides whether the application retains control over this print job.

When the print job remains in the keep or wait status, the ERROR-MSG operand can be used to specify that an error message is also output.

The command is part of a set of four commands which enable an application to be created in the form of an S procedure (for an example, see the OPEN-VIRTUAL-DEVICE-DIALOG command). These commands manage the dialog between a virtual device and the application which was started in batch mode as an S procedure:

- OPEN-VIRTUAL-DEVICE-DIALOG
- GET-JOB-FROM-VIRTUAL-DEVICE
- RETURN-JOB-TO-VIRTUAL-DEVICE
- CLOSE-VIRTUAL-DEVICE-DIALOG

Format

RETURN-JOB-TO-VIRTUAL-DEVICE
POST-ACTION = *WAIT / *KEEP / *CANCEL-JOB / *TERMINATE-JOB / *ERROR ,ERROR-MSG = * <u>NONE</u> / <alphanum-name 7..7>

Operands

POST-ACTION = *WAIT / *KEEP / *CANCEL-JOB / *TERMINATE-JOB / *ERROR

Specifies which action must be performed on the returned print job.

POST-ACTION = *WAIT

The current print job is set to wait status in the Spool&Print queues.

POST-ACTION = *KEEP

The current print job is set to keep status in the Spool&Print queues. If an message number is specified in the ERROR-MSG operand, this message is displayed on the console and in the output of the SHOW-PRINT-JOB-STATUS command.

POST-ACTION = *CANCEL-JOB

The current print job is no longer displayed in the Spool&Print queues. The status display of any MONJV which is assigned is set to "\$A". The associated file is not deleted (irrespective of the DELETE-AFTER-PRINT option for the print job). In the case of a family job, all the family's jobs are canceled.

POST-ACTION = *TERMINATE-JOB

The current print job is no longer displayed in the Spool&Print queues. The status display of any MONJV which is assigned is set to "\$T". Whether the associated file is deleted is determined by the DELETE-AFTER-PRINT option for the print job.

POST-ACTION = *ERROR

*ERROR means that the current print job is set to wait status in the Spool&Print queues and the application task is deleted. An error message (ERROR-MSG operand) may possibly be sent to the console.

ERROR-MSG = *NONE / <alphanum-name 7..7>

Specifies whether or which error message is to be displayed on the console. An error message is output only if *KEEP or *ERROR was specified in the POST-ACTION operand.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error; command successfully processed
	32	SCP0974	Unexpected command
5	32	SCP0974	Memory request error

Notes

1. If the dialog cannot be initialized, the command is rejected and a return code is set.
2. If no initialization took place (OPEN-VIRTUAL-DEVICE-DIALOG command), the command is rejected and a return code is set.
3. If no print job was requested (GET-JOB-FROM-VIRTUAL-DEVICE command), the command is rejected and a return code is set.
4. This command can only be used in batch mode.
5. Spin-off processing is activated each time an error is detected.

RUN

Start command file

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Editing command files
Domain:	not allocated
Privileges:	OPERATING
Routing code:	E

Function

This command starts the execution of a command file. The command is acknowledged with console message `NBR1000`, which specifies a RUN ID. This message specifies a RUN ID, which is also displayed in subsequent event messages during RUN processing. The processing of a command file can be canceled by specifying the `CANCEL-RUN-PROCESS` command together with the RUN ID.

Command file usage is described in “Command files for the operator” in the “Introduction to System Administration” [14].

Restrictions when using the “Operator LOGON” function

When using the “Operator LOGON” function (system parameter `NBCONOPI=Y`), note the following:

- Explicit issuing of a RUN command prior to “SYSTEM READY” is rejected.
- After “SYSTEM READY”, unrestricted use of the RUN command is possible only for authorized user programs with generated authorization names.
- After “SYSTEM READY”, the operator cannot issue a RUN command until the operator LOGON has been completed (`SET-LOGON-PARAMETERS` command). The commands in the RUN file are then processed with the file access rights (permissions) and command privileges of the operator ID. Please note the following:
 - If the user ID is not specified explicitly in the name of the RUN file, it defaults to the operator ID. If the specified file does not exist under the operator ID, the system attempts to run the file under the user ID defined in the `NBRUNUID` system parameter. If the file does not exist under that user ID, or if no user ID is defined in the system parameter, the system makes a third and last attempt to run the file under the `TSOS` ID. Searching among the various user IDs ends once the specified file is found in one of them. If the file still cannot be executed (no execute permission or invalid content), the RUN command terminates and the call may have to be

corrected and repeated. If the catalog ID is not specified, it defaults to the catalog ID defined in the user catalog as the default for the user ID which is established as described above.

- The RUN file name completion algorithm also applies to RUN command sequences generated when the RUN file is executed.
- If RUN files under IDs other than the user's own are accessed, the file protection attributes are evaluated (access control and passwords). This is of particular significance if the operator ID does not have TSOS privilege.
- RUN command sequences cannot be processed correctly unless the operator ID is authorized to issue the RUN command and all of the commands which are invoked within the RUN command sequence (including commands in follow-up sequences).
- The loss of routing codes as the result of an EXIT-JOB command or the failure of the operator terminal takes immediate effect, which means that any commands still awaiting processing which require a routing code other than @ will be rejected. The same applies if operator LOGON has been repeated in the meantime. RUN commands from a physical operator terminal which has become inactive are always rejected, even if @ is the assigned routing code (message NBR1014).
- The SET-LOGON-PARAMETERS and REQUEST- and RELEASE-OPERATOR-ROLE commands are rejected within a RUN command sequence.

Format

<p>RUN</p> <pre> FROM-FILE = <filename 1..54 without-gen> / *LIBRARY-ELEMENT(...) *LIBRARY-ELEMENT(...) LIBRARY = <filename 1..54 without-gen> ELEMENT = <composed-name 1..64> FILE-PASSWORD = *NONE / <c-string 1..4> / <x-string 2..8> / <integer -2147483648..2147483647> </pre>



With the support of libraries the command syntax has been brought into line with SDF. For reasons of compatibility, the earlier syntax is also accepted for command files which are not contained in a library (FPASS=*STD corresponds to FILE-PASSWORD=*NONE in this case).

Operands**FROM-FILE = <filename 1..54 without-gen> / *LIBRARY-ELEMENT(...)**

Name of command file (SAM oder ISAM) to be executed.

FROM-FILE = *LIBRARY-ELEMENT(...)

The command file is stored in a PLAM library member.

LIBRARY = <filename 1..54 without-gen>

Name of the PLAM library which contains the command file as a member (type J).

ELEMENT = <composed-name 1..64>

Name of the member.

Only records with format "A" and record type 1 are processed.

FILE-PASSWORD = *NONE / <c-string 1..4> / <x-string 1..8> /**<integer -2147483648..2147483647>**

Execute password of the command file or read password of the PLAM library.

Notes

- The system processes the SHOW-PENDING-MSG command with a higher priority than other commands. If this command is specified in a command file, it can overtake other commands which are ahead of it in the command file.
- Reading of the RUN file can be interrupted by means of an ASTOP command within the file. Commands that have already been read can be processed before reading of the RUN file has been completed. ASTOP wait states can be canceled by means of AGOGO commands. If not enough AGOGO commands are entered during the ASTOP wait states, reading of the RUN file is resumed after 3 minutes. The system parameter NBRUNWT can be used to set a different wait time.
- An ASTOP command should be included in the RUN file after every 30 commands or so.
- Only one RUN command can be processed at a time. RUN commands in RUN files are not processed until all other commands in the RUN file have been read.
- Processing of a RUN file is aborted if a record is more than 201 bytes long.
- If the content of a record cannot be interpreted or if a record contains an incorrect command, the record is rejected, but processing of the RUN command continues.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No errors
1	0	NBR1018	RUN file empty; command ignored
1	0	NBR1303	RUN library member is empty or contains only unsuitable records (type or format). Command ignored.
2	0	NBR0746	Command revoked
2	0	NBR1005	At least one timeout in ASTOP wait state
	1	CMD0202	Syntax error
	64	NBR0796	Password in command is missing or wrong
	64	NBR0826	Record in RUN file too long
	64	NBR1002	Specified file is missing or contains errors
	64	NBR1003	Read error during command file processing
	64	NBR1015	RUN file on foreign ID and not shareable or protected against execution by GUARDS
	64	NBR1305	RUN library does not exist
	64	NBR1306	RUN library is not a library
	64	NBR1307	RUN library member not found or has incorrect type
	64	NBR1308	Password for RUN library missing or incorrect
	64	NBR1310	RUN file on foreign ID and not shareable or protected against reading by GUARDS
	129	NBR1014	Command rejected because issued from inactive operator terminal
	130	NBR0921	Memory shortage
	130	NBR1017	Catalog not available
	130	NBR1301	General PLAM error, take note of message inserts
	130	NBR1304	Library or library member locked in RUN command
	130	NBR1309	PLAM not available

SAVE-RETURNCODE

Save current command return code

Description status:	SDF-P-BASYS V2.5E
Functional area:	Procedures
Domain:	PROCEDURE
Privileges:	STD-PROCESSING OPERATING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The SAVE-RETURNCODE command can only be used within S procedures and in dialog blocks.

The SAVE-RETURNCODE command allows the user saves the current command return code in a non-error situation. The SAVE-RETURNCODE command must directly follow the command concerned. This code can subsequently be queried using the builtin functions SUBCODE1, SUBCODE2 and MAINCODE (see [section "SDF-P-BASYS" on page 1-131](#) and "SDF-P" [34]).

Note

When the chargeable SDF-P subsystem is used, the current command return code for a command is implicitly saved by an immediately following IF-CMD-ERROR command. The command return code can then be evaluated in the ELSE branch in a non-error situation (see the "SDF-P" manual [34]).

Format

SAVE-RETURNCODE

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	3	CMD2203	Incorrect syntax file
	32	CMD0221	System error (internal error)
	130	SDP0099	No further address space available

SAVE-SOFTWARE-INVENTORY

Copy current SCI

Description status:	IMON-GPN V3.3A
Functional area:	System control and optimization
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	SUBSYSTEM-MANAGEMENT

Function

The SAVE-SOFTWARE-INVENTORY command is used to back up the current SCI. When this is done, consistent backup copies are created for the two physical files (IMON-SCI and IMON-GPN-SCI).

The name of the backup copy can be specified explicitly. The corresponding IMON-GPN-SCI is backed up under the same file name but with the suffix .GPN. If the length of the SCI name including the catalog ID and the user ID exceeds 50 characters then the command is aborted with an error message.

The command is not executed if the IMON subsystem is not loaded.

Backup copies of the SCI are also automatically created on system start and on software installation (see the “IMON” User Guide [19]).

The RESTORE-SOFTWARE-INVENTORY command can be used to restore the current SCI from a backup copy.

Format

SAVE-SOFTWARE-INVENTORY
TO-SCI = <u>*STD</u> / <filename 1..50>

Operands

TO-SCI =

Name of the target file (backup copy).

TO-SCI = *STD

The file name of the currently open SCI is used together with the timestamp (date and time) in the form <yyyymmddhhmmss> as the suffix.

TO-SCI = <filename 1..50>

Explicit specification of the target file name.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	32	IMO9101	Command terminated abnormally (system error in external call; internal error in IMON-GPN)
	64	CMD0216	Privileges error
	64	IMO9100	IMON subsystem started, DMS error

SAVE-SUBSYSTEM-CATALOG

Save changes to dynamic subsystem catalog

Description status:	DSSM V4.3B
Functional area:	Subsystem management
Domain:	SYSTEM-MANAGEMENT
Privileges:	SUBSYSTEM-MANAGEMENT

Function

This command allows users with the SUBSYSTEM-MANAGEMENT privilege to save changes to the dynamic subsystem catalog in a static subsystem catalog.

Changes made with the ADD-SUBSYSTEM, REMOVE-SUBSYSTEM and MODIFY-SUBSYSTEM-PARAMETER commands as a rule affect only the dynamic subsystem catalog, not the static catalog.

Consequently any such changes are lost the next time the system is started up unless they are saved in a static catalog with the aid of the SAVE-SUBSYSTEM-CATALOG command. Note, however, that changes which are useful for the current session may be pointless or even counter-productive after the next startup. (For example: a message file is assigned to a subsystem which has BEFORE-DSSM-LOAD as its activation point. If the subsystem is restarted during the current session, this may well be a useful change to make; but it cannot be implemented the next time the system is started up.)

Format

SAVE-SUBSYSTEM-CATALOG

CATALOG-NAME = *STD / ***STARTUP-CATALOG** / <filename 1..54 without-gen-vers>

,**FORCED** = *NO / *YES

Operands

CATALOG-NAME = *STD / *STARTUP-CATALOG / <filename 1..54 without-gen-vers>

Designates the file in which the dynamic catalog is to be saved.

CATALOG-NAME = *STD

The dynamic catalog is saved under the default file name '\$.SYS.SSD.CAT.X'.

CATALOG-NAME = *STARTUP-CATALOG

The dynamic catalog is stored under the name of the catalog used at startup time.

CATALOG-NAME = <filename 1..54 without userid>

The file named here is used as the static catalog.

FORCED = *NO / *YES

Defines whether, despite errors, the dynamic catalog is saved to the static catalog.

FORCED = *NO

A dynamic catalog which contains errors will not be saved in the static catalog.

FORCED = *YES

The dynamic catalog will be saved in the static catalog even if it contains errors.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	32	ESM0288	DSSM bourse not available
	32	ESM0296	Request for memory space (REQM) not executed
	32	ESM0350	Internal DSSM error; DSSM task restarted
	32	ESM0360	Error due to insufficient memory
	32	ESM0409	DSSM not initialized
	32	ESM0643	Internal error during save operation
	64	ESM0648	Command not executed

Notes

- The dynamic catalog to be saved may be inconsistent for a number of reasons. For example, the catalog required by DSSM may have been saved using the operand FORCED=*YES, in which case there will be inconsistencies between the subsystems. Another possibility is that changes made by means of /MODIFY-SUBSYSTEM-PARAMETER will be unacceptable at the next BS2000 startup, although they will be accepted in the current BS2000 session. Because of the danger of such inconsistencies, the catalog must first be subjected to a variety of checks before it can be saved. Any errors detected in the course of these checks are reported, and a corresponding message is output via SYSOUT.
- Even if the dynamic catalog was saved without inconsistencies being detected, it cannot be taken for granted that the next startup carried out with this catalog will be successful. For example, if the start time (CREATION-TIME) of a subsystem has been changed by means of an earlier /MODIFY-SUBSYSTEM-PARAMETER so that it is no longer started automatically during BS2000 system startup, this may lead to serious problems for other subsystems.
- If a DMS error relating to the catalog file occurs during saving of the catalog, message ESM1806 is output. The result of the save operation must be checked accordingly. If the same message is output in relation to one of the subsystems involved, it should merely be interpreted as a warning; it has no influence on the result of /SAVE-SUBSYSTEM-CATALOG.
- If the specified catalog name is the same as the name of an existing file, a message is displayed inquiring whether the user wishes to overwrite this file.
- If certain functions cannot be correctly processed, appropriate messages are output via SYSOUT.

Example

Provided that it contains no errors, the dynamic catalog is to be saved as a static catalog under the file name *COPY.DSSMCAT*:

```
/save-subsystem-catalog catalog-name=copy.dssmcat,forced=*no
CHECK REPORT:
**** NO ERROR ****
CHECK OF LINK REFERENCES:
VERSION RANGE CHECK:
**** NO ERROR ****
LINK RELATION CHECK:
**** NO ERROR ****
CHECK OF FUNCTIONAL DEPENDENCE:
VERSION RANGE CHECK:
**** NO ERROR ****
DEPENDENCE RELATION CHECK:
**** NO ERROR ****
CYCLE CHECK:
**** NO ERROR ****
CHECK OF RELATED FILES:
*****
*   2 * SUBSYSTEM NAME:      ACS      VERSION:   18.0      *
*****
**** NO ERROR ****
*****
*   3 * SUBSYSTEM NAME:      AID      VERSION:    03.4      *
*****
**** NO ERROR ****
.
.
.
*****
*  40 * SUBSYSTEM NAME:      SDF      VERSION:    04.7      *
*****
**** NO ERROR ****
.
.
.
% ESM1200 CATALOG ':MAG2:$TSOS.COPY.DSSMCAT' GENERATED
% ESM0254 COMMAND 'SAVE-SUBSYSTEM-CATALOG' COMPLETELY PROCESSED
```

SAVE-VARIABLE-CONTAINER

Save variable container

Description status:	SDF-P-BASYS V2.5E
Functional area:	Procedures
Domain:	PROCEDURE
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE OPERATING SAT-FILE-MANAGEMENT SAT-FILE-EVALUATION SECURITY-ADMINISTRATION

Function

The SAVE-VARIABLE-CONTAINER command is used to save variable containers.

Format

SAVE-VARIABLE-CONTAINER
<pre> CONTAINER-NAME = <composed-name 1..64 with-wild(80)>(…) / list-poss(2000);<composed-name 1..64>(…) <composed-name 1..64 with-wild(80)>(…) ELEMENT-VERSION = *<u>SAME</u> / *INCREMENT <composed-name 1..64>(…) ELEMENT-VERSION = *<u>SAME</u> / *INCREMENT </pre>

Operands

CONTAINER-NAME =

Name of the variable container.

CONTAINER-NAME = <composed-name 1..64 with-wild(80)>(…)

Variable container with name matching the specified pattern string.

ELEMENT-VERSION =

Designates the version of the library element (member).

ELEMENT-VERSION = *SAME

The element version remains unchanged. If the element does not yet exist, it is assigned the version *UPPER-LIMIT.

ELEMENT-VERSION = *INCREMENT

The element version is incremented. If the element does not yet exist, it is assigned the version 001.

LOCK-ELEMENT = *NO must have been specified in OPEN-VARIABLE-CONTAINER and the element version must end with a digit.

CONTAINER-NAME = list-poss(2000): <composed-name 1..64>(…)

Name of the variable container. A (large) number of variable containers can be named in a list.

ELEMENT-VERSION =

Designates the version of the library element (member).

ELEMENT-VERSION = *SAME

The element version remains unchanged. If the element does not yet exist, it is assigned the version *UPPER-LIMIT.

ELEMENT-VERSION = *INCREMENT

The element version is incremented. If the element does not yet exist, it is assigned the version 001.

LOCK-ELEMENT = *NO must have been specified in OPEN-VARIABLE-CONTAINER and the element version must end with a digit.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	3	CMD2203	Incorrect syntax file
	32	CMD0221	System error (internal error)
	64	CMD0216	Do not have required privilege
	64	SDP0091	Semantic error
	130	SDP0099	No more address space available

Example

See the DECLARE-VARIABLE command.

SECURE-RESOURCE-ALLOCATION

Request resources

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Job processing
Domain:	JOB
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT

Function

The SECURE-RESOURCE-ALLOCATION command reserves resources required by the job for execution. This reservation guarantees that subsequent accesses to resources will not be rejected by the system.

Within an interactive or batch job the following resources can be reserved by means of the SECURE-RESOURCE-ALLOCATION command:

- private volumes (disks, tapes)
- devices for private volumes (disk devices, tape devices)
- files, file generations and file generation groups on private and public volumes.

Reservation of a file also results in the reservation of the disk or tape containing it and, in turn, the reservation of the respective device.

Explicit reservations can be made for

- devices, by means of the DEVICE or UNIT operand
- volumes, by means of the DISK or TAPE operand
- files, by means of the FILE operand.

Implicitly reserved are devices or volumes which are required for an explicitly reserved file or volume.

If a device type is both implicitly and explicitly reserved in a command at the same time, the system will attempt to provide the sum of the implicitly and explicitly reserved devices.

A resource is *exclusively* reserved if no other job can use it while it is reserved. It is termed *shareable* if the system insures free access during the reservation period, although other jobs can use the resource as well.

An existing reservation is canceled:

- with every SECURE-RESOURCE-ALLOCATION command (even without operands). All previously reserved private resources are released (even those reserved only implicitly)
- with the REMOVE-FILE-LINK command.
REMOVE-FILE-LINK cancels the reservation of a file and of the associated disk/tape as required. The reservation of devices is retained if this is requested in the REMOVE-FILE-LINK command with RELEASE-DEVICE=*NO.
If disks/tapes or devices assigned to the file are also implicitly reserved by other files or disks/tapes, these disks/tapes and devices are not released until all system references have been cleared.
- with the WAIT-EVENT command (UNTIL=*USER-SWITCHES(...) operand).
- at job end (EXIT-JOB, LOGOFF, CANCEL-JOB).

The SECURE-RESOURCE-ALLOCATION command is rejected if:

- a program is loaded and assignments with USE=SPECIAL exist.
- a tape file to be reserved is open.
- the TFT entry of a tape file to be reserved is locked with /LOCK-FILE-LINK.
- a public volume is supposed to be reserved explicitly.
- one of the requested resources cannot be made available (see WAIT operand).
- implicitly requested devices do not exist or not in adequate numbers
- a non-privileged user tries to reserve a file under the TSOS user ID or the standard system user ID exclusively.
- the job has opened files on volumes which were to be reserved exclusively This is possible if SECURE-RESOURCE-ALLOCATION is issued within a procedure file and the file was previously allocated to a private volume of a logical system file (e.g. ASSIGN-SYSLST).

Each SECURE-RESOURCE-ALLOCATION command (even one without operands) first releases all private resources which were previously reserved (implicit RELEASE). TFT entries will not be deleted, and do not need to be recreated. However, the device reservations linked to the existing TFT entries are canceled.

If a volume which is not yet mounted is reserved, for tapes by default a PREMOUNT message (for tapes) is sent to the operator terminal (can be changed with MODIFY-MOUNT-PARAMETER). Private disk must be online or be made available during the execution of the command.

If any of the requested resources cannot be reserved, no reservation at all is made. Depending on the job type and what is specified for the WAIT operand, the system either issues a message, or places the job in the Secure queue until all requested resources are available or until the specified wait time elapses. Note, however, that the system branches to the next SET-JOB-STEP, EXIT-JOB or LOGOFF command if implicitly requested devices or the necessary number of devices do not exist.

If the operator rejects a resource request (MOUNT message on the console), no reservation is made and the system branches, in batch mode, to the next SET-JOB-STEP, EXIT-JOB or LOGOFF command.

If the command is rejected (e.g. resources not available), all volumes previously made available to the job are released again.

Whether or not a private disk can be reserved depends on the setting of the parameters "USER-ALLOCATION", "SYSTEM-ALLOCATION" and "OPERATOR-CONTROL". The user can query these via the SHOW-DISK-STATUS command.

Notes on tape processing

For any tape volume reserved by /SECURE-RESOURCE-ALLOCATION VOLUME (explicit reservation) or by /SECURE-RESOURCE-ALLOCATION FILE (implicit reservation), the VOLUME-PHASE will be set to PREMOUNT (see the command SHOW-TAPE-STATUS, SHOW-RESOURCE-ALLOCATION). In other words, this tape is pre-reserved solely to prevent the use of the same volume by another job. However, no input/output operations have yet taken place on the volume. There is an implicit device reservation. Between the time of OPEN and CLOSE, the PHASE for the tape is IN-USE (i.e. the tape is being processed). Following the CLOSE, the PHASE is set back to PREMOUNT.

Shareable private disks (SPD)

If files on SPD are reserved with the operand FILE (ALLOC=*EXCL), the corresponding indicator is set in the F1 label of the private disk. Other processors accessing this SPD will respect this reservation.

Remote file access (see also the "RFA" manual [31])

Files may also be reserved in a remote system via RFA. However, only files may be specified in this command and these must all belong to the same system.

The local TFT contains entries for all remote files which are being processed. Exclusively reserved remote files are not included; the same applies to remote files after input of the REMOVE-FILE-LINK command.

In order to avoid a deadlock situation, a SECURE-RESOURCE-ALLOCATION command without operands is sent to all RFA partner tasks during the disconnection phase at the start of command execution (unless the task is itself an RFA partner task).

Access to migrated files (for details see the "HSMS" manual [18])

Files migrated by means of HSMS to one of the hierarchical storage levels S1 or S2 can be implicitly recalled via /SECURE-RESOURCE-ALLOCATION, FILE=*PAR(filename) (implicit recall). HSMS outputs a summary report in this case.

Format

(Part 1 of 2)

SECURE-RESOURCE-ALLOCATION

```

DEVICE = *NO / list-poss(11): [*PARAMETERS](...)
  [*PARAMETERS](...)
    |
    | TYPE = <device> / <structured-name 1..8> / <alphanum-name 1..8>
    | ,NUMBER = 1 / <integer 0..255>
    | ,LOCATION = *USER-DEFAULT / *NONE / <alphanum-name 1..8> / *BY-FILENAME(...)
    |   *BY-FILENAME(...)
    |     |
    |     | NAME = <filename 1..54>
    |
    |
  ,UNIT = *NO / list-poss(48): <alphanum-name 2..2> / <alphanum-name 4..4>
  ,DISK = *NO / list-poss(48): [*PARAMETERS](...)
    [*PARAMETERS](...)
      |
      | VOLUME = <alphanum-name 1..6>
      | ,TYPE = <device>
      | ,ALLOCATION = *SHARED / *EXCLUSIVE
    ,TAPE = *NO / list-poss(48): [*PARAMETERS](...)
      [*PARAMETERS](...)
        |
        | VOLUME = <alphanum-name 1..6>
        | ,TYPE = *BY-VOLUME-CATALOG / <device>
        | ,ACCESS = *READ / *WRITE
        | ,MOUNT = *YES / *NO
      ,FILE = *NO / list-poss(48): [*PARAMETERS](...)
        [*PARAMETERS](...)
          |
          | NAME = <filename 1..54>
          | ,ACCESS = *READ / *WRITE
          | ,MOUNT = 1 / <integer 0..255>
          | ,ALLOCATION = *SHARED / *EXCLUSIVE

```

```
,WAIT = [*PARAMETERS] (...)  
  [*PARAMETERS](...  
    |  
    |   TIME = *TASK-STD / <integer 1..2097152 seconds>  
    |  
    |   ,EVENT = *ALL-MOUNT / *DISK-MOUNT
```

Operands

DEVICE = *NO / list-poss(11): *PARAMETERS(...)

Specifies whether devices are to be reserved.

DEVICE = *NO

No devices will be reserved by their device type.

DEVICE = list-poss(11): *PARAMETERS(...)

Specifies the number and type of devices to be reserved. No more than eleven different types of devices may be reserved.

TYPE = <device> / <structured-name 1..8> / <alphanum-name 1..8>

Specifies which device type is to be reserved.

A disk device should not be reserved using the TYPE operand because the associated disk can be used by privileged applications (such as FDDRL or VOLIN) in usage mode SPECIAL only.

Tape and cartridge tape devices are reserved by specifying a valid volume type (see also [section “Device types for DMS tape processing” on page 1-84](#)). Volume types WORK and TAPE can be used only for applications for which WORK and TAPE respectively have also been specified as volume type (in the CREATE-FILE command, for example).

The available device types can be determined from the output from the SHOW-DEVICE-CONFIGURATION command with UNIT=*SELECT(CLASS=*DEVICE, ATTRIBUTE=*ATTACHED) (see also the device table (device type column) of the „System Installation“ [\[46\]](#) manual).

See also the TYPE operand for reserving disks (DISK) and tapes (TAPE).

NUMBER = 1 / <integer 0..255>

Number of devices of the specified type that are to be reserved.

LOCATION = *USER-DEFAULT / *NONE / <alphanum-name 1..8> / *BY-FILENAME(...)

Only for reservation of tape devices

Either describes the way in which the location is determined or designates the location itself.

LOCATION = *USER-DEFAULT

The device administration should select suitable device groups. If the chargeable MAREN subsystem is loaded, the device administration should use MAREN (MAREN Exit) to obtain the appropriate device depot information.

LOCATION = *NONE

The devices to be reserved should be taken from the device group which is not assigned to a device depot (the RESTPOOL; see ADD-DEVICE-DEPOT command).

LOCATION = <alphanum-name 1..8>

Designates the storage location (device depot) from whose assigned device group the tape devices to be reserved are to be selected. Assignments of tape devices to device depots are defined by system support staff using the ADD-DEVICE-DEPOT command. These assignments can be listed with the SHOW-DEVICE-DEPOT command.

LOCATION = *BY-FILENAME(...)

The device administration must use the chargeable MAREN subsystem to find out where the tape is located. The specified file name is passed to MAREN. In conjunction with MAREN Exit, MAREN uses this name to find out where the relevant tape is stored. The procedure for obtaining depot information on MARENLM or MAREN-Exits is described in the "MAREN" manual [23].

If the location returned by MAREN is not one of the depots declared with ADD-DEVICE-DEPOT, processing continues without a depot specification. In this respect note the following:

1. If all tape devices are assigned to depots, the command is rejected with a return code of NKS0015, and any other device reservation (e.g. using a FILE or OPEN macro) is rejected with an appropriate return code.
2. If suitable devices with no depot assignment are available (from the RESTPOOL), the device request is implemented from this pool.
If the "devices" in this pool are ones which have simply been generated to allow for future additions but are not physically present, tasks may end up waiting permanently on the device queue. Any such tasks can be listed with the SHOW-RESOURCE-REQUESTS command (the *RESOURCES REQUESTED* output contains a device type designation with no depot specification).

NAME = <filename 1..54>

The location of the tape on which the specified file is archived is ascertained.

UNIT = *NO / list-poss(48): <alphanum-name 2..2> / <alphanum-name 4..4>

Mnemonic (two- or four-character) device name of the device to be reserved. The device is reserved exclusively for this job.

A disk device should not be reserved using the UNIT operand because the associated disk can be used by privileged applications (such as FDDRL or VOLIN) in usage mode SPECIAL only.

UNIT = *NO

No device is being reserved by specifying its UNIT.

UNIT = list-poss(48): <alphanum-name 2..2>

Mnemonic device name (2 characters) of the tape device which is to be reserved; the device will be exclusively reserved, and can also be used in non-DMS mode.

UNIT = list-poss(48): <alphanum-name 4..4>

Mnemonic device name (4 characters) of the tape device which is to be reserved; the device will be exclusively reserved, and can also be used in non-DMS mode.

DISK = *NO / list-poss(48): *PARAMETERS(...)

Specifies whether a private disk is to be reserved.

DISK = list-poss(48): *PARAMETERS(...)

For each private disk which is to be reserved, the volume serial number (VSN), the disk device type and the type of reservation must be specified. A maximum of 48 private disks can be reserved.

The "DMS" usage mode is implicitly defined for the volumes.

Whether a device can be reserved or not depends on the values of the "USER-ALLOCATION", "SYSTEM-ALLOCATION" and "OPERATOR-CONTROL" settings defined by system support staff using the SET-DISK-DEFAULTS and SET-DISK-PARAMETER commands. Users can request information about these values using the SHOW-DISK-DEFAULTS and SHOW-DISK-STATUS commands.

VOLUME = <alphanum-name 1..6>

Specifies the volume serial number(s) of the disk(s) to be reserved.

TYPE = <device>

Specifies the type of device on which the disk is to be mounted.

Only device types known within the system are accepted. In interactive mode, the possible device types are displayed with DEVICE-TYPE=?.

The available device types are shown in the output of the SHOW-DEVICE-CONFIGURATION command with UNIT=*SELECT(CLASS=*DEVICE,ATTRIBUTE=*ATTACHED) (see also the device table (device type column) of the „System Installation“ [46] manual).

ALLOCATION = *SHARED / *EXCLUSIVE

Specifies the reservation mode for the disk to be reserved.

ALLOCATION = *SHARED

Disk access by other jobs is permitted.

ALLOCATION = *EXCLUSIVE

Exclusive reservation: this means that the resource may not be used by any other jobs.

TAPE = *NO / list-poss(48): *PARAMETERS(...)

Specifies whether or not a tape is to be reserved. This reservation is always exclusive.

TAPE = list-poss(48): *PARAMETERS(...)

Specifies the volume serial number, device type and desired type of access for each tape to be reserved. A maximum of 48 tapes may be reserved.

The *DMS* usage mode is implicitly defined for the volumes. Reservations for the "SPECIAL" or "WORK" usage modes are possible only in explicit device reservations.

Points to note when using storage locations (MAREN subsystem)

When reserving a volume and the implicit device reservation linked to it, the device administration uses the chargeable MAREN subsystem to determine the storage location of the volume.

If the volume identifier is entered in the MAREN catalog, the storage location indicated there is used for the device reservation. Otherwise the default storage location supplied by MAREN or the storage location determined by using the MARENLM or MAREN-EXITS routine is used (see the "MAREN, Volume 1" manual [23]).

VOLUME = <alphanum-name 1..6>

Specifies the volume serial number of the volume to be reserved.

TYPE = *BY-VOLUME-CATALOG / <device>

Identifies the type of device on which the volume is to be mounted.

Only device types or volume types known within the system are accepted. In interactive mode, the possible device and volume types are displayed with DEVICE-TYPE=?.

The volume types T1600, T6250, TAPE, WORK, TAPE-C3, TAPE-C4, TAPE-C5 and TAPE-C6 (see also [section "Device types for DMS tape processing" on page 1-84](#)).

Volume types WORK and TAPE can be used only for applications for which WORK and TAPE respectively have also been specified as volume type (in the CREATE-FILE command, for example).

TYPE = *BY-VOLUME-CATALOG

The device type is determined via MAREN device substitution. If this function is not available, the command is rejected.

ACCESS = *READ / *WRITE

Specifies the type of accesses for which the tape must be mounted. The purpose of this operand is to inform the operator in the mount or premount request whether the tape should be mounted with the write protection lock activated or deactivated.

ACCESS = *READ

The tape is only to be read. The write protection lock must not be disabled. Tapes are *not* write-protected by default. If a write access is attempted to a tape which was requested without a write-enable ring, the processing will merely be interrupted and the system will request the operator to remount the tape with the write protection lock disabled.

ACCESS = *WRITE

The tape is to be written. The operator will be asked in the mount request to disable the write protection lock.

MOUNT = *YES / *NO

Specifies whether the implicit device reservation is to be executed immediately when the SEC-RES command is executed.

MOUNT = *YES

The system reserves the volume and device and issues the premount message on the operator terminal.

MOUNT = *NO

The system will reserve the volume but not the required device; no premount message will be output. The device will be reserved offline; this reservation will not be output if the command SHOW-RESOURCE-ALLOCATION is issued.

FILE = *NO / list-poss(48): *PARAMETERS(...)

Specifies whether or not a file, file generation or file generation group is to be reserved. Access to the file must be permitted (see SHOW-FILE-ATTRIBUTES command).

FILE = *NO

No file/file generation is to be reserved.

FILE = list-poss(48): *PARAMETERS(...)

The name must be specified for each file which is to be reserved; for tape files the reservation details must also be specified (ACCESS, MOUNT), and for disk files the type of reservation. A maximum of 48 files can be reserved.

For tape files, the reservation is always exclusive; for disk files it depends on the ALLOCATION operand.

NAME = <filename 1..54>

Identifies a cataloged file, file generation or system file. If the file/FGG specified by NAME is not cataloged, the job will not be put into the SECURE queue. In interactive mode, an error message will be output, in batch mode spin-off will be initiated.

If the file specified by NAME is cataloged under another user's ID, the file/FGG must be shareable. All the disks belonging to it will be reserved as shareable and mounted.

For files on SPDs (shareable private disks), the reservation is noted in the F1 label on the disk. This reservation is also taken into account by accesses from other computers. In multiprocessor systems, any reservation for a file which is not on a locally available subset will be rejected.

If no other details are specified by a file reservation, the following default values will apply:

- Disk files: The associated disks will be mounted and treated as shareable. The file will be reserved as shareable, but can also be reserved exclusively (ALLOCATION). If the file is spread across several private disks, all the volumes concerned will be reserved.
- Tape files: The associated tapes will *always* be reserved exclusively. This has the effect that all the files which are on these tapes are also exclusively reserved. The tape device will be implicitly reserved (see MOUNT operand).
The reserved tapes will be mounted with the write protection lock enabled (see ACCESS operand).
If the file is spread across several tapes, then a device will only be automatically reserved for the first volume (depending on the MOUNT operand).

ACCESS = *READ / *WRITE

This operand is only evaluated for tape files:

Specifies whether the associated tapes are to be mounted for reading only, or for writing as well. The purpose of this operand is to inform the operator in the mount request whether the tape should be mounted with the write protection lock enabled or disabled.

ACCESS = *READ

The tape is only to be read. The write protection lock must not be disabled.

Tapes are *not* write-protected by default.

ACCESS = *WRITE

The tape is to be written. The operator will be asked in the mount request to disable the write protection lock.

MOUNT = 1 / <integer 0..255>

This operand is only evaluated for tape files:

Specifies how many tape devices are to be implicitly reserved. The tapes will be selected in the sequence in which they are recorded in the catalog. For these tapes, MOUNT messages will be output on the operator's terminal for the devices which are implicitly reserved.

When using storage locations, the device administration determines the storage location as when reserving via the TAPE operand.

MOUNT = 1

Only one device will be implicitly reserved.

MOUNT = <integer 0..255>

The specified number of devices will be implicitly reserved.

If the number of devices implicitly reserved is less than there are tapes recorded in the catalog, then the remaining tapes will be reserved without a corresponding device reservation (offline).

If the number of devices specified is more than there are tapes recorded in the catalog, then only as many implicit device reservations will be executed as there are tapes in the catalog.

ALLOCATION = *SHARED / *EXCLUSIVE

This operand is only evaluated for disk files: Specifies whether the file/file generation specified by the NAME operand is to be reserved as shareable or exclusive, i.e. whether other jobs may access the reserved disk file or not.

ALLOCATION = *SHARED

A check will be made to see whether the file exists. It is still accessible for other jobs (both read and write access). The required disks and devices will be implicitly reserved and remain shareable (USE=DMS). No check will be made to see whether the file is already exclusively reserved. The file can still be exclusively reserved by another task.

ALLOCATION = *EXCLUSIVE

The file will be reserved exclusively for the calling job, and is therefore not accessible for other jobs; disks and devices are reserved as shareable. A file can only be reserved exclusively if it is not open or not already exclusively reserved by another job.

Files belonging to the user ID TSOS or the system default ID cannot be exclusively reserved by other users.

If a file generation group is specified, all the file generations which comprise it will be locked against access from outside.

WAIT = *PARAMETERS(...)

Determines the maximum time that the job should wait for the fulfillment of its reservation request. When this waiting time has expired, the request will be rejected.

The waiting time includes also the time required to fetch back any files which have been migrated (by HSMS).

TIME = *TASK-STD / <integer 1..2097152 seconds>

Specifies the maximum waiting time in seconds. The accuracy is in the order of minutes. If the command requires volumes to be mounted, any reservation which specifies a waiting time of less than 180 seconds will be rejected.

TIME = *TASK-STD

TASK-STD is the default setting:

The system makes a distinction between interactive and batch modes.

Interactive mode:

The command will be rejected if the requested resources are reserved and it will be necessary to wait for their release.

Batch mode:

There is no limit on the waiting period. As a rule, the job will wait for the defined period for the resources to be mounted and become available. If the requests have not been fulfilled by the end of this period, spin-off will be initiated (branch to /SET-JOB-STEP).

TIME = <integer 1..2097152 seconds>

Waiting time in seconds: $0 \leq \text{integer} \leq 2097152$ (approx. 582 hours or 24 days); the accuracy is of the order of minutes.

If a number < 180 is specified for the TIME operand, then the command will be rejected if a volume needs to be mounted or confirmation from the operator is required for a disk request.

EVENT = *ALL-MOUNT / *DISK-MOUNT

Specifies whether the mounting of tapes is to be synchronous or not with the reservation within the specified waiting time, i.e. whether or not to wait for a response to the mount or premount messages.

Mount requests for disks must always be satisfied within the waiting time.

EVENT = *ALL-MOUNT

Within the specified waiting period, the job will wait until all the requested volumes have been mounted, i.e. until the operator has responded to all the MOUNT messages. In this case, the mount requests will be synchronous.

EVENT = *DISK-MOUNT

The job will not wait if tapes have been requested; it will only wait for the mounting of private disks. This means that mount request and reservation are asynchronous for tapes, but on the other hand for disks they are synchronous.

Even if a reservation is satisfied, a subsequent mount request may still be rejected, and hence cause an error (spin-off).

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	32	NKS0036	Internal error
	64	NKS0001	Tape file open or in HOLD state
	64	NKS0003	Request local and remote files
	64	NKS0004	Request for a public disk
	64	NKS0005	Incompatible reservation modes
	64	NKS0006	Task deadlock
	64	NKS0007	Request for an invalid device type
	64	NKS0009	Wait time too short for operator contact
	64	NKS0013	Program loaded and USE=SPECIAL considerations
	64	NKS0035	Resources not available at present
	64	NKS0037	Termination due to CANCEL-JOB or shutdown
	64	NKS0044	Syntax error in command
	64	NKS0045	Request for resources from multiple systems
	64	NKS0048	Operator was unable to mount volume
	64	NKS0049	Requested resources not available on the system
	64	NKS0050	Command aborted after wait time elapsed
	64	NKS0051	No exclusive reservation of files under the standard system user ID
	64	NKS0052	Tape not online (wait time too short)
	64	NKS0064	Reservation via device type not permitted
	64	NKS0065	File migrated and HSMS not loaded
	64	NKS0066	File migrated and internal HSMS error
	64	NKS0067	File migrated; recall not possible without delay
	64	NKS0080	Error on processing a list object
	64	NKS0098	Error in RFA call

Examples

Example 1: Reserving a file

The interactive job *DIALOG1* reserves the file X.BEFORE for its use with the command:

```
/sec-res file=par(name=x.before,alloc=*excl).
```

Thereafter, if the interactive job *DIALOG2* wants to read this file with the command SHOW-FILE, it receives the error message *DMS0D99*:

```
/show-user-sta inf=*prog
%NAME      TSN TYPE      SIZE CURR-CMD
%DIALOG1   1CZI 3 DIALOG      SECURE-RESOURCE-ALLOCATION
%DIALOG2   1E1C 3 DIALOG      SHOW-USER-STATUS
/show-file x.vorher
% SH00003 'DMS' REPORTED ERROR '0D99'. COMMAND NOT PROCESSED

/help-msg dms0d99,lang=E
% DMS0D99 FILEWRITE PROTECTED OR ALREADY IN USE
% ? Possible errors:
% 1) Attempt to open a locked file.;
% 2) Attempt to open a read-only file in a mode other than INPUT
%    or REVERSE.;
% 3) Attempt to open an ISAM or PAM file in SHARED UPDATE mode when
%    it has already been opened as nonshareable by another user.
% 4) Attempt to open an ISAM or PAM file in an OPEN mode intended to
%    prohibit opening of the file when one or more users have already
%    opened it.
% 5) Attempt to open an ISAM file with LOCKENV=XCS.
% 6) File is currently being processed by a C-COPY command.
% ! Correct and try again later.
```

Example 2: Reserving two or more magnetic tape cartridge units

```
/sec-res dev=((type=tape-c4,num=1,location=d023ze02),
              (type=tape-u1,num=1,location=d023ze02)) _____ (1)
```

```
/sec-res dev=((type=tape-c4,num=1,location=roboter1),
              (type=tape-u1,num=1,location=roboter2)) _____ (2)
```

- (1) The SECURE-RESOURCE-ALLOCATION command reserves a magnetic tape cartridge device of type *TAPE-C4* and one of type *TAPE-U1*. Both devices should be fetched from the storage location *D023ZE02*.
- (2) The SECURE-RESOURCE-ALLOCATION command reserves a magnetic tape cartridge device of type *TAPE-C4* and one of type *TAPE-U1*. The devices should be fetched from the storage locations *ROBOTER1* and *ROBOTER2*.

Example 3: Reserving a tape

```
/set-logon-parameters ...  
.  
.  
.  
/sec-res tape=par(vol=b0000a,type=tape) _____ (1)  
  
/start-prog from-f=prog.test  
  
/sec-res _____ (2)
```

- (1) The SECURE-RES command reserves a tape with the volume serial number *B0000A* exclusively for this interactive process. To permit its use, a 9-track tape device is assigned to the job.
- (2) All the resources reserved for this job are now released.

See also the example for the SHOW-RESOURCE-ALLOCATION command.

SELECT-PRODUCT-VERSION

Select product version

Description status:	IMON-GPN V3.3A
Functional area:	Program control
Domain:	PROGRAM PROGRAMMING-SUPPORT UTILITIES
Privileges:	STD-PROCESSING SUBSYSTEM-MANAGEMENT

Function

This command allows nonprivileged users to select the product version of an installation unit or a DSSM subsystem (TU, as of DSSM V3.5). If more than one version of this product is installed and accessible, it is possible to specify the version with which the user wishes to work. When starting the associated program or when setting up a connection to a subsystem, the selected version is used.

The following applies in the case of command calls sharing the same scope (SCOPE operand):

- Only one version of a product can be selected.
- If the command is executed twice with different versions of the same product then the last specified version applies.

The SHOW-SELECTED-PRODUCT-VERSION command provides information on the current version selection.

Privileged function

Systems support can use SCOPE=*SYSTEM to select the product version of an installation unit for the duration of the session.

Format

SELECT-PRODUCT-VERSION

PRODUCT-NAME = <text 1..30 without-sep>
,VERSION = *STD / <product-version>
,SCOPE = *TASK / *PROGRAM / *SYSTEM

Operands

PRODUCT-NAME = <text 1..30 without-sep>

Specifies the name of the software product. For subsystems loaded by DSSM this is the name of the subsystem and/or the name of the IMON installation unit. In relation to DBL it is the name of a load unit.

VERSION =

Specifies the version of the product to be loaded. The full version need not be specified. In this case, the most suitable version is selected or, in the case of a DSSM subsystem, the exact version is selected.

VERSION = *STD

An earlier version selection is canceled. This means that the system presetting applies again (the highest version is used).

VERSION = <product-version>

Specifies the version of the software product. When loading the software the DBL uses only this version for external reference resolution.

SCOPE =

Specifies how long the selection is to apply for.

SCOPE = *TASK

The selection is valid until the end of the task.

SCOPE = *PROGRAM

The selection is valid until the end of the current or subsequent program.

SCOPE = *SYSTEM

This operand value can only be used by privileged users with the SUBSYSTEM-MANAGEMENT privilege.

The selection (installation units only) is valid throughout the system for this session (until shutdown). This setting cannot be made for DSSM subsystems.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	32	IMO9101	Command terminated abnormally. Internal error in IMON-GPN
	64	CMD0216	Privilege error
	64	IMO9100	Command not executed. Installation unit or version not found

Notes

The command is accepted for a product and an explicitly specified version in the following two cases:

1. The product name is registered as an installation unit in the SCI: in this case, the version that is explicitly specified in the VERSION operand must exist.
2. The product name is not registered in the SCI: in this case, it must be possible to connect a corresponding DSSM subsystem. This means that the subsystem is declared in the DSSM subsystem catalog under the specified name and version and that it has been started.

SELECT-PROGRAM-VERSION

Select version of program

Description status:	IMON-GPN V3.3A
Functional area:	Program control
Domain:	PROGRAM
Privileges:	STD-PROCESSING

Function

The SELECT-PROGRAM-VERSION command lets the user select a specific version of a program to work with.

This tells the DBL which version of a load unit to use if it has access to multiple loaded versions of it.

Format

SELECT-PROGRAM-VERSION

PROGRAM-NAME = <composed-name 1..32> / <text 1..32 without-sep>

,**VERSION** = *STD / <composed-name 1..24>

,**SCOPE** = *PROGRAM / *TASK

Operands

PROGRAM-NAME = <composed-name 1..32> / <text 1..32 without-sep>

Name of the program. From the DBL's viewpoint this is the name of a load unit.

This program must not yet be loaded at the time of version selection.

VERSION = *STD / <composed-name 1..24>

Version of the program.

*STD means that the program version is disregarded. DBL acts as if the SELECT-PROGRAM-VERSION command had not been executed.

SCOPE =

Applicability of the version selection.

SCOPE = *PROGRAM

The version selection applies only until a program terminates or a different version is selected. That means the version selection must be repeated each time the program is to be run.

SCOPE = *TASK

The version selection applies until the end of the task or until a different version is selected.



Separate versions of a program can be selected for SCOPE=*PROGRAM and for SCOPE=*TASK.

A subsequent version selection supersedes an earlier selection with the same SCOPE.

SCOPE=*PROGRAM takes precedence over SCOPE=*TASK. If differing scopes are defined for two different versions of a program, only the version defined using SCOPE=*PROGRAM applies.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
2	0	BLS0150	Warning during program execution
1	32	BLS0152	System error
	64	CMD0216	User not authorized to issue command

SEND-MSG

Send message to console or program (STXIT routine)

Description status:	BS2000 OSD/BC V10.0A
Functional area:	not allocated
Domain:	JOB PROGRAM
Privileges:	STD-PROCESSING OPERATING TSOS HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
Routing code:	P



The SEND-MSG command is being replaced by the INFORM-OPERATOR and INFORM-PROGRAM commands.

SEND-MSG continues to be supported to ensure backwards compatibility, but the new commands should be used for new applications.

All that follows is a brief overview of the command's function, syntax and return codes.

Function

The SEND-MSG command can be used to send a message to the console, to an interrupted program in the user's own interactive task and, for privileged users, to a program in a non-interactive task.

*Console (operand TO=*OPERATOR):*

This function is offered by the INFORM-OPERATOR command.

*Program (operand TO=*PROGRAM):*

This function is offered by the INFORM-PROGRAM command (JOB-IDENTIFICATION=*OWN).

Message to a program in a noninteractive task (privileged function):

This function is offered by the INFORM-PROGRAM command (JOB-IDENTIFICATION=*TSN(...) or *MONJV(...)).

Format

SEND-MSG	
TO = <u>*OPERATOR</u> (...) / *PROGRAM(...)	
<u>*OPERATOR</u> (...)	
WAIT-RESPONSE = <u>*NO</u> / *YES	
*PROGRAM(...)	
JOB-IDENTIFICATION = <u>*OWN</u> / *TSN(...) / *MONJV(...)	
*TSN(...)	
TSN = <alphanum-name 1..4>	
*MONJV(...)	
MONJV = <filename 1..54 without-gen>	
,MSG = <u>*NO</u> / <c-string 1..230 with-low>	

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
1	0	CMD0001	No action is required because when MSG=*NO is specified no message is sent to the operator
1	1	NBR0950	TO=*OPERATOR cannot be specified from a console
	64	EXC0920	Specified job ID invalid
	64	EXC0921	Command not permitted for an interactive task
	64	EXC0922	No program loaded
	64	EXC0923	No STXIT interface defined for this event in the specified program
	64	EXC0924	No STXIT routine defined for this event in the specified program
	64	EXC0925	STXIT routine already activated
	64	EXC0090	Insufficient storage space

SET-CONSLOG-READ-MARK

Set read mark in current CONSLOG file

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Error logging
Domain:	ERROR-LOGGING
Privileges:	TSOS SAT-FILE-MANAGEMENT

Function

The SET-CONSLOG-READ-MARK command sets a “read mark” at the current end of the CONSLOG file. Logging continues without a break after the read mark. Read access to the contents of the CONSLOG file ahead of the read mark is then possible without first having to close the file with the CHANGE-CONSLOG-FILE command.

Format

SET-CONSLOG-READ-MARK

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
1	0	NBR0905	No active CONSLOG file present
	32	NBR0983	Internal error on command server
	64	CMD0216	No authorization to issue command

Note

The “internal error” return code is generated in the event of bourse, DMS, memory and other system problems.

SET-DCAM-APPLICATION-LINK

Store specifications for DCAM application in CLT

Description status:	DCAM V13.3A
Functional area:	Data communication control
Domain:	NETWORK-MANAGEMENT

STD-PROCESSING

Function

The SET-DCAM-APPLICATION-LINK command can be employed by DCAM users to store specifications for a DCAM application in a job-specific table, the CLT (communication link table).

When the DCAM application is opened by a DCAM user program, the values in the table replace the corresponding entries in the application control block ACB (Assembler) or in the application structure (COBOL). The link between the CLT entry and this program area is established by means of the link name, which must be specified for this purpose both in the command and in the program (see also the “DCAM Program Interfaces” [7] and “DCAM Macros” [6] manuals on the subject of the name assignment function).

Specifications omitted from the command are taken from the program (default value: *BY-PROGRAM in the relevant command operands).

Format

SET-DCAM-APPLICATION-LINK

LINK-NAME = <name 1..8>

,**APPLICATION-NAME** = *BY-PROGRAM / <name 1..8>

,**DISTRIBUTION-NAME** = *BY-PROGRAM / <name 1..8>

,**PROTECTION** = *PARAMETERS (...)

*PARAMETERS(...)

CONNECTION-PASSWORD = *BY-PROGRAM / <c-string 1..4> / <x-string 1..8> / *SECRET

 ,**SHARE-PASSWORD** = *BY-PROGRAM / <c-string 1..4> / <x-string 1..8> / *SECRET

,**SHARE-PASSWORD** = *BY-PROGRAM / <c-string 1..4> / <x-string 1..8> / *SECRET

,**HOST-NAME** = *BY-PROGRAM / <name 1..8>

Operands

LINK-NAME = <name 1..8>

Link name defined in the ACB of the program that is to open a DCAM application or that wishes to connect with an existing DCAM application.

APPLICATION-NAME = *BY-PROGRAM / <name 1..8>

Name of the DCAM application.

DISTRIBUTION-NAME = *BY-PROGRAM / <name 1..8>

Distribution name under which a program may receive messages from the DCAM application.

PROTECTION = *PARAMETERS(...)

Protection attributes for the DCAM application.

CONNECTION-PASSWORD = *BY-PROGRAM / <c-string 1..4> / <x-string 1..8> / *SECRET

Defines the connection password as declared by the primary task and to be specified at each request for connection to this DCAM application.

The operand CONNECTION-PASSWORD is defined as “secret”:

- The value which is input will not be logged.
- In guided dialog, the input field is automatically blanked out.
- In unguided dialog and in foreground procedures, *SECRET or ^ allows for concealed input of the required value. SDF requests the input of the “secret” value and provides a blanked input field for this purpose.

SHARE-PASSWORD = *BY-PROGRAM / <c-string 1..4> / <x-string 1..8> / *SECRET

Defines the application password as defined by the primary task and to be specified by every secondary task when connecting to this DCAM application. The operand SHARE-PASSWORD is defined as “secret”:

- The value which is input will not be logged.
- In guided dialog, the input field is automatically blanked out.
- In unguided dialog and in foreground procedures, *SECRET or ^ allows for concealed input of the required value. SDF requests the input of the “secret” value and provides a blanked input field for this purpose.

SHARE-PASSWORD = *BY-PROGRAM / <c-string 1..4> / <x-string 1..8> / *SECRET

Specifies the application password for connection to a DCAM application, in the way the password was defined in the primary task or was stored in the RDF file.

The operand SHARE-PASSWORD is defined as “secret”:

- The value which is input will not be logged.
- In guided dialog, the input field is automatically blanked out.
- In unguided dialog and in foreground procedures, *SECRET or ^ allows for concealed input of the required value. SDF requests the input of the “secret” value and provides a blanked input field for this purpose.

HOST-NAME = *BY-PROGRAM / <name 1..8>

Specifies the name of the real or virtual host on which the DCAM application is to be opened.

Return codes

The command provides no command-specific command return codes (see [section “Return codes” on page 1-66](#)).

SET-DCAM-CONNECTION-LINK

Add virtual DCAM connection to CLT

Description status:	DCAM V13.3A
Functional area:	Data communication control
Domain:	NETWORK-MANAGEMENT
Privileges:	STD-PROCESSING

Function

The SET-DCAM-CONNECTION-LINK command is used by DCAM users in order to store specifications for a logical DCAM connection in a job-specific table, the CLT (communication link table). When such a connection is being established, the values in the table supplement or replace the corresponding entries in the connection control block CCB (Assembler) or in the connection structure (COBOL). The linkage of the CLT entry with this program area is formed by the link name, which must be specified for this purpose both in the command and in the program (see also the “DCAM Program Interfaces” [7] and “DCAM Macros” [6] manuals on the subject of the name assignment function).

Specifications not given in the command are taken from the program (default value: *BY-PROGRAM in the relevant command operands).

Format

SET-DCAM-CONNECTION-LINK

```

LINK-NAME = <name 1..8>
,PARTNER-ADDRESS = *PARAMETERS (...)
  *PARAMETERS(...)
    | PARTNER-NAME = *BY-PROGRAM / <name 1..8>
    | PROCESSOR-NAME = *BY-PROGRAM / <name 1..8>
,CONNECTION-PASSWORD = *BY-PROGRAM / <c-string 1..4> / <x-string 1..8> / *SECRET
,USER-DATA = *BY-PROGRAM / <c-string 1..4> / <x-string 1..8>

```

Operands

LINK-NAME = <name 1..8>

Link name defined in the CCB of the program that is to establish the logical connection. This link name forms the link between the entry in a job-specific table (CLT) and an area in the program (CCB or connection structure).

PARTNER-ADDRESS = *PARAMETERS(...)

Specifications regarding the partner to whom a connection is to be established.

PARTNER-NAME = *BY-PROGRAM / <name 1..8>

Name of the partner.

PROCESSOR-NAME = *BY-PROGRAM / <name 1..8>

Name of the processor where the partner is located as a station.

CONNECTION-PASSWORD = *BY-PROGRAM / <c-string 1..4> / <x-string 1..8> / *SECRET

Specifies the connection password as defined by the partner to whom the DCAM connection is to be established.

The CONNECTION-PASSWORD operand is defined as “secret”:

- The input value is not logged.
- The input field is automatically blanked in a guided dialog.
- The specification *SECRET is only permissible in an unguided dialog. This makes it possible to conceal the entry of the desired value. SDF prompts the user to enter the “secret” value and presents a blanked input field after the message.

USER-DATA = *BY-PROGRAM / <c-string 1..4> / <x-string 1..8>

Character string to be passed to the program via the connection as secondary information on a message.

With DCAM-COBOL, this operand is not evaluated.

Return codes

The command provides no command-specific command return codes (see [section “Return codes” on page 1-66](#)).

SET-DISK-DEFAULTS

Define default values for disk parameters

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Device management
Domain:	DEVICE
Privileges:	OPERATING
Routing code:	D

Function

This command defines system-global default values for disk parameters. These apply to all private disks in the DMS use mode for which no special presettings have been made with the SET-DISK-PARAMETER command.

Format

SET-DISK-DEFAULTS

ASSIGN-TIME = *UNCHANGED / *USER / *OPERATOR

USER-ALLOCATION = *UNCHANGED / *SHARE / *EXCLUSIVE / *ALL / *NO

OPERATOR-CONTROL = *UNCHANGED / *SHARE / *EXCLUSIVE / *ALL / *NO

Operands

Note

For the meanings of the operands and their values see the SET-DISK-PARAMETER command.

ASSIGN-TIME = *UNCHANGED / *USER / *OPERATOR

Defines the default value for the disk parameter ASSIGN-TIME.

The system presetting is *USER; the default value is *UNCHANGED.

USER-ALLOCATION = *UNCHANGED / *SHARE / *EXCLUSIVE / *ALL / *NO

Specifies the default value for the disk parameter USER-ALLOCATION.

The system presetting is *ALL; the default value is *UNCHANGED.

OPERATOR-CONTROL = *UNCHANGED / *SHARE / *EXCLUSIVE / *ALL / *NO

Defines the default value for the disk parameter OPERATOR-CONTROL.

The system presetting is *NO; the default value is *UNCHANGED.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	NKV0001	Syntax error
	130	NKVD003	NKA system task not available

SET-DISK-PARAMETER

Set default values for monitoring disks

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Device management
Domain:	DEVICE
Privileges:	OPERATING
Routing code:	D

Function

This command sets volume-specific default values for the allocation of private disks in the DMS use mode for:

- automatic allocation by the system (ASSIGN-TIME operand)
- the use mode of the disk with respect to other systems (SYSTEM-ALLOCATION operand)
- permitting allocation requests from users (USER-ALLOCATION operand)
- requesting allocation permission via the operator (OPERATOR-CONTROL operand).

No default values can be set with this command for public disks and for private disks in the SPECIAL use mode (special applications such as VOLIN).

Format

SET-DISK-PARAMETER

```

UNIT = *VOLUME(...) / list-poss(10): <alphanum-name 2..2> / <alphanum-name 4..4>
    *VOLUME(...)
        |   VOLUME = list-poss(10): <vsn 1..6>
,DEFAULT = *NO / *YES
,TYPE = *UNCHANGED / *FROM-DEVICE / *FROM-USER / <device>
,SYSTEM-ALLOCATION = *UNCHANGED / *EXCLUSIVE / *SHARE / *ALL
,ASSIGN-TIME = *UNCHANGED / *STD / *USER / *OPERATOR
,USER-ALLOCATION = *UNCHANGED / *STD / *SHARE / *EXCLUSIVE / *ALL / *NO
,OPERATOR-CONTROL = *UNCHANGED / *STD / *SHARE / *EXCLUSIVE / *ALL / *NO

```

Operands

UNIT =

Specifies one or more private disks for which default values are to be set.

UNIT = *VOLUME(...)

Specifies the volume serial number of one or more private disks for which default values are to be set.

VOLUME = list-poss(10): <vsn 1..6>

Specifies one or more volume serial numbers (VSNs). Up to 10 VSNs can be listed.

UNIT = list-poss(10): <alphanum-name 2..2> / <alphanum-name 4..4>

Specifies the mnemonic device name of one or more private disks for which defaults are to be set. A maximum of 10 private disks may be specified.

Note

This operand must not be used if the disk is intended as a mirror disk for double recording when working with the software product DRV.

In this case, disk parameters may only be defined by specifying the VSN (*VOLUME operand).

DEFAULT =

Specifies whether the defined default values (see the SET-DISK-DEFAULT command) are to be set for the ASSIGN-TIME, USER-ALLOCATION and OPERATOR-CONTROL parameters and whether the system presetting (=ALL) is to be set for the SYSTEM-ALLOCATION parameter.

DEFAULT = *NO

The parameters described above are not changed to the default values.

DEFAULT = *YES

The parameters described above are changed into the default values.

TYPE =

Specifies the device type of the disk units to be used for the disks defined in the UNIT operand.

Specification of an explicit device type is only permitted if the disk is not allocated or as long as no MOUNT message has been received for the appropriate disk (TYPE=*FROM-USER or *FROM-DEVICE is accepted at any time). Specification of an explicit device type for a disk specified by its mnemonic device name is rejected. The original presetting is *FROM-DEVICE.

TYPE = *UNCHANGED

The value valid up to now (previous SET-DISK or presetting) remains unchanged.

TYPE = *FROM-DEVICE

The device type is defined either by mounting the volume on a device or by a user request for a volume which has not yet been mounted (MOUNT message). A user's request for the disk is rejected if the device type specified does not match the disk already mounted.

TYPE = *FROM-USER

The device administration uses the device type specified in the user's request.

TYPE = <device>

Explicit specification of the device type. A mount request from a user in which a different device type is specified is rejected.

Only device types known within the system are accepted. In interactive mode, the possible device types are displayed with TYPE=?.

The possible specifications are given in the device table in [section "Device types for DMS tape processing" on page 1-84](#) (device type column).

SYSTEM-ALLOCATION =

Specifies the use mode of the disk for the system in relation to other systems. If the disk is reserved by users, the parameter cannot be changed unless the new parameter setting is similar to the previous one (e.g. the previous parameter setting was SYS=ALL and the disk is allocated as system-exclusive; SYSTEM-ALLOCATION=*EXCLUSIVE or *ALL is accepted as the new default value). The system presetting is *ALL.

SYSTEM-ALLOCATION = *UNCHANGED

The value valid up to now (previous SET-DISK or system presetting) remains unchanged.

SYSTEM-ALLOCATION = *EXCLUSIVE

The disk can only be allocated by excluding other systems (no SPD operation possible). Initially the system allocates devices which have no SPD capability as long as any are available.

SYSTEM-ALLOCATION = *SHARE

Other systems are not excluded from allocation (SPD operation possible). Initially the system allocates devices with SPD capability as long as any are available. However, this setting is rejected for disks which are explicitly intended for DRV operation. SPD disks are not supported by the software product DRV.

SYSTEM-ALLOCATION = *ALL

The system allocation is effected according to device characteristics, task allocation and recording method (DRV, SRV). If the disk is mounted on an SPD device (POOL=SH) and is to be allocated in SRV mode and as task-shareable (default allocation in the case of DMS applications) it is allocated as system-shareable. In all other cases it is allocated as system-exclusive (no SPD operation possible).

ASSIGN-TIME =

Defines the time for allocation and release of a private disk which is to be used for DMS. The system presetting is *STD.

ASSIGN-TIME = *UNCHANGED

The value valid up to now (previous SET-DISK or presetting) remains unchanged.

ASSIGN-TIME = *STD

The value set with the SET-DISK-DEFAULTS command is valid.

ASSIGN-TIME = *USER

The time is defined as the first request or the last return of disk allocation by the user.

ASSIGN-TIME = *OPERATOR

The private disk is allocated independently of a user request from the time the disk is mounted and recognized as being online. The disk is allocated until ASSIGN-TIME=*USER is set.

USER-ALLOCATION =

Defines default values for disk allocation by tasks according to the allocation types task-exclusive and task-shareable. The system presetting is *STD.

USER-ALLOCATION = *UNCHANGED

The value valid up to now (previous SET-DISK or presetting) remains unchanged.

USER-ALLOCATION = *STD

The value set with the SET-DISK-DEFAULTS command is valid.

USER-ALLOCATION = *SHARE

Only disk allocations of the allocation type task-shareable are permitted (all disk allocations resulting from DMS applications and reservations by means of SECURE-RESOURCE-ALLOCATION, except exclusive reservation for disks).

USER-ALLOCATION = *EXCLUSIVE

Only disk allocations of the allocation type task-exclusive are permitted (SECURE-RESOURCE-ALLOCATION=*EXCLUSIVE for disks).

USER-ALLOCATION = *ALL

Disk allocations of the allocation types task-shareable and task-exclusive are permitted.

USER-ALLOCATION = *NO

No disk allocations for the user type USE=DMS are permitted.

OPERATOR-CONTROL =

Determines whether the operator intends to check new allocations (first allocation attempt of a job for a private disk). The message is NKA0004. In this case the allocation request is permitted or rejected only after confirmation by the operator. The operator's reply to message NKA0004 is decisive for further access authorization for the appropriate job with respect to the disk; i.e. if the operator has not granted access authorization for a job, the job is not permitted to access the private disk unless the setting of this parameter is again changed with the SET-DISK-PARAMETER command. For jobs which already occupy the private disk at the time the parameter is set, the new parameter setting has no effect unless the job releases the disk and then attempts to allocate it again.

Confirmation by the operator is requested only once per job. Consequently the message prompting the operator to authorize the allocation request is not repeated for a job which allocates the disk again once the operator has already replied to the message, regardless of whether the job has previously released the disk or not.

The system presetting is *STD.

OPERATOR-CONTROL = *UNCHANGED

The value valid up to now (previous SET-DISK or presetting) remains unchanged.

OPERATOR-CONTROL = *STD

The value set with the SET-DISK-DEFAULT command is valid.

OPERATOR-CONTROL = *SHARE

Only new allocations of the type task-shareable are checked.

OPERATOR-CONTROL = *EXCLUSIVE

Only new allocations of the type task-exclusive are checked.

OPERATOR-CONTROL = *ALL

New allocations of the types task-shareable and task-exclusive are checked.

OPERATOR-CONTROL = *NO

New disk allocations are not checked.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	NKV0001	Syntax error
	64	NKA0094	Command partially processed
	64	NKA0096	Command not processed
	130	NKVD003	NKA system task not available

Notes

- The SET-DISK-PARAMETER command is rejected if SYSTEM-ALLOCATION and USER-ALLOCATION are not compatible (SET-DISK...,SYS-ALLOC=*SHARE,USER-ALLOC=*EXCL). The combination SYS-ALLOC=*SHARE,USER-ALLOC=*ALL is permitted but any attempt by the user to make a task-exclusive reservation is rejected.
- If SYSTEM-ALLOCATION = *EXCLUSIVE is specified, a disk is always operated as a normal private disk, even if it runs on a drive generated as an SPD. Performance is likewise the same as for a normal disk, because the performance-degrading coordination mechanism is disabled on the disk's VTOC.

SET-DSSM-OPTIONS

Activate/deactivate DSSM logging function

Description status:	DSSM V4.3B
Functional area:	Subsystem management
Domain:	SYSTEM-MANAGEMENT
Privileges:	OPERATING SUBSYSTEM-MANAGEMENT
Routing code:	R

Function

This command is used to control the logging function of DSSM. Logging to the DSSMLOG file may diminish performance. For this reason this function should not be activated unless errors actually occur.

The command can be issued independent of the state of subsystem management. At the time of the system start, logging is switched off by default but can be activated by means of the startup parameter LOGGING=*ON.

Format

SET-DSSM-OPTIONS

LOGGING = *OFF / *ON

,TITLE = *NONE / <c-string 1..100>

Operands

LOGGING =

Controls whether DSSM-specific logging is performed for error diagnosis.

LOGGING = *OFF

No DSSM-specific logging is performed.

LOGGING = *ON

All DSSM-specific data relevant to error diagnosis is logged to the file DSSMLOG.date.time.

TITLE =

Specifies a header line to be copied into the logging file.

TITLE = *NONE

No additional text is to be included in the logging file.

TITLE = <c-string 1..100>

The specified text is written as the first data record in the logging file.

If the file is already open, no new file is created. Instead, logging is continued at the current position. If the logging function is deactivated, this operand is ignored.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	32	ESM0432	Command terminated abnormally

SET-FILE-LINK

Store attributes of file in TFT

Description status:	BS2000 OSD/BC V10.0A
Functional area:	not allocated
Domain:	not allocated
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT
Routing code:	\$ (with NBCONOPI=N) or E (with NBCONOPI=Y)



As of BS2000/OSD V2.0, the SET-FILE-LINK command is superseded by the ADD-FILE-LINK command.

SET-FILE-LINK is still supported for reasons of compatibility. The ADD-FILE-LINK command should be used for new applications.

This command description is restricted to a brief description and overview of the functions, the syntax format and the return codes.

Function

The SET-FILE-LINK command saves the specified attribute details for a file, which will normally already exist (e.g. it has been created using a CREATE-FILE command), in the TFT under a particular file link name. These details will then be used when the file is opened, instead of the corresponding details specified in the program.

For more information on the function and purpose of the TFT entry see the Function section of the ADD-FILE-LINK command description.

Overview of functions

Function / Meaning	Level 1 operands	Level 2/3 operands
Define the file link name for which a TFT entry is to be created	LINK-NAME	
Name of file/file generation to which the SET-FILE-LINK command relates	FILE-NAME	
Access method (ISAM, SAM, BTAM ...)	ACCESS-METHOD	

Table 88: Overview of the SET-FILE-LINK command functions (Part 1 of 3)

Function / Meaning	Level 1 operands	Level 2/3 operands
Access method ISAM – key length – key position – immediate writing out of amended blocks – duplicate keys – block padding (for sequential processing) – length of value flag – evaluation of value flags – length of logical flags – overlapped processing – define pool link names for the user ISAM pool (NK-ISAM files)	=*ISAM	KEY-LENGTH KEY-POSITION WRITE-IMMEDIATE DUPLICATE-KEY PADDING-FACTOR VALUE-FLAG-LENGTH PROPAGATE-VALUE-FLAG LOGICAL-FLAG-LENGTH READ-IN-ADVANCE POOL-LINK
OPEN mode	OPEN-MODE	
Record format	RECORD-FORMAT	
variable – record length	=*VARIABLE	RECORD-SIZE
fixed – record length	=*FIXED	RECORD-SIZE
undefined – record length	=*UNDEFINED	RECORD-SIZE
Block length	BUFFER-LENGTH	
Specify device	SUPPORT	

Table 88: Overview of the SET-FILE-LINK command functions (Part 2 of 3)

Function / Meaning	Level 1 operands	Level 2/3 operands
Disk processing <ul style="list-style-type: none"> – mount a private disk – shared update processing – read-after-write check – performance attributes – closing mode 	=*DISK	VOLUME-ALLOCATION SHARED-UPDATE WRITE-CHECK IO-ATTRIBUTES CLOSE-MODE
Tape processing <ul style="list-style-type: none"> – mount request – tapes to mount – labels – label checking define scope – security level – supplementary checks – bypass label checking – tape positioning – specify label attributes – Define conversion table – EBCDIC conversion – Position tape within a FILE SET – Automatic checkpoint writing – Buffer offset – Retention period – Buffered/unbuffered processing – Overwrite residual data – Closing mode 	=*TAPE	PREMOUNT-LIST VOLUME-LIST LABEL-CHECK PROTECTION-LEVEL OVERWRITE-PROTECTION BYPASS POSITION LABEL CODE EBCDIC-TRANSLATION FILE-SEQUENCE CHECKPOINT-POSITION BLOCK-OFFSET RETENTION-PERIOD TAPE-WRITE DESTROY-OLD-CONTENTS CLOSE-MODE
Chained input/output	IO-CHAINING	
Define file format (BLKCTRL)	BLOCK-CONTROL-INFO	
Output of message on completion of CLOSE processing	FILE-CLOSE-MSG	

Table 88: Overview of the SET-FILE-LINK command functions (Part 3 of 3)

Format

(Part 1 of 3)

SET-FILE-LINK

```

LINK-NAME = <filename 1..8 without-gen>
,FILE-NAME = *BY-PROGRAM / *DUMMY / <filename 1..54>
,ACCESS-METHOD = *BY-PROGRAM / *BY-CATALOG / *SAM / *PAM / *BTAM / *UPAM / [*ISAM](...)
  [*ISAM](...)
    KEY-LENGTH = *BY-PROGRAM / *BY-CATALOG / <integer 1..255>
    ,KEY-POSITION = *BY-PROGRAM / *BY-CATALOG / <integer 1..32767>
    ,WRITE-IMMEDIATE = *BY-PROGRAM / *NO / *YES
    ,DUPLICATE-KEY = *BY-PROGRAM / *YES / *NO
    ,PADDING-FACTOR = *BY-PROGRAM / <integer 0..99>
    ,VALUE-FLAG-LENGTH = *BY-PROGRAM / *BY-CATALOG / <integer 0..255>
    ,PROPAGATE-VALUE-FLAG = *BY-PROGRAM / *MINIMUM / *MAXIMUM / *BY-CATALOG
    ,LOGICAL-FLAG-LENGTH = *BY-PROGRAM / *BY-CATALOG / <integer 0..255>
    ,READ-IN-ADVANCE = *BY-PROGRAM / *YES / *NO
    ,POOL-LINK = *BY-PROGRAM / <name 1..8>
,OPEN-MODE = *BY-PROGRAM / *INPUT / *OUTPUT / *EXTEND / *REVERSE / *UPDATE / *OUTIN /
  *INOUT / *SINOUT
,RECORD-FORMAT = *BY-PROGRAM / *VARIABLE(...) / *FIXED(...) / *UNDEFINED(...) / *BY-CATALOG
  *VARIABLE(...)
    RECORD-SIZE = *BY-PROGRAM / *BUFFER-LENGTH / <integer 4..32768>
    ,PRINT-CONTROL = *BY-PROGRAM / *NONE / *ASA / *EBCDIC
  *FIXED(...)
    RECORD-SIZE = *BY-PROGRAM / <integer 1..32768>
    ,PRINT-CONTROL = *BY-PROGRAM / *NONE / *ASA / *EBCDIC
  *UNDEFINED(...)
    REGISTER-NUMBER = *BY-PROGRAM / <integer 2..12>
    ,PRINT-CONTROL = *BY-PROGRAM / *NONE / *ASA / *EBCDIC
,BUFFER-LENGTH = *BY-PROGRAM / *BY-CATALOG / [*STD](...) / <integer 1..32768>
  [*STD](...)
    SIZE = 1 / <integer 1..16>

```

```

,SUPPORT = *NONE / *DISK(...) / *TAPE(...)

*DISK(...)
    VOLUME-ALLOCATION = *IMMEDIATE / *DELAYED
    ,SHARED-UPDATE = *BY-PROGRAM / *NO / *YES / *WEAK
    ,WRITE-CHECK = *BY-PROGRAM / *NO / *YES
    ,RETENTION-PERIOD = *BY-PROGRAM / <integer 0..32767>
    ,IO-ATTRIBUTES = *BY-PROGRAM / *BY-CATALOG / *STD / [*PARAMETERS](...)
        [*PARAMETERS](...)
            PERFORMANCE = *BY-PROGRAM / *BY-CATALOG / *STD / *HIGH / *VERY-HIGH /
                *USER-MAX
            ,USAGE = *BY-PROGRAM / *BY-CATALOG / *READ-WRITE / *WRITE / *READ
    ,CLOSE-MODE = *BY-PROGRAM / *INVALIDATE

*TAPE(...)
    PREMOUNT-LIST = *NONE / list-poss(255): <integer 0..255>
    ,VOLUME-LIST = *BY-CATALOG (...) / *BY-TAPE-SET(...) / list-poss(255): <alphanumeric-name 1..6>
        *BY-CATALOG(...)
            | START-POSITION = *BY-PROGRAM / list-poss(255): <integer 1..255>
        *BY-TAPE-SET(...)
            | TAPE-SET-NAME = <alphanumeric-name 1..4>
    ,LABEL-CHECK = *BY-PROGRAM / *PARAMETERS(...) / *BYPASS(...)
        *PARAMETERS(...)
            | PROTECTION-LEVEL = *LOW / *HIGH
            | ,OVERWRITE-PROTECTION = *NO / *YES
        *BYPASS(...)
            | POSITION = *NO / *ABSOLUTE(...) / *FORWARD(...) / *BACKWARD(...)
                *ABSOLUTE(...)
                    | TAPE-MARK = <integer 0..32767>
                *FORWARD(...)
                    | TAPE-MARK = <integer 0..127>
                *BACKWARD(...)
                    | TAPE-MARK = <integer 0..127>

```

```

,LABEL = *BY-PROGRAM / *STD(...) / *NON-STD(...) / *NO(...)
    *STD(...)
        |   DIN-REVISION-NUMBER = *HIGHEST / <integer 0..3>
    *NON-STD(...)
        |   TAPE-MARK = *BY-PROGRAM / *YES / *NO
    *NO(...)
        |   TAPE-MARK = *BY-PROGRAM / *YES / *NO
,CODE = *BY-PROGRAM / *BY-CATALOG / *EBCDIC / *ISO7 / *OWN
,EBCDIC-TRANSLATION = *BY-PROGRAM / *YES / *NO
,FILE-SEQUENCE = *BY-PROGRAM / *BY-CATALOG / *UNKNOWN / *NEW / <integer 0..9999>
,CHECKPOINT-POSITION = *BY-PROGRAM / *NO(...) / *FORCED-EOV(...) / *BLOCK-LIMIT(...) /
    *LATEST(...)
    *NO(...)
        |   RESTART-USAGE = *YES / *DUMMY
    *FORCED-EOV(...)
        |   RESTART-USAGE = *YES / *DUMMY
    *BLOCK-LIMIT(...)
        |   NUMBER-OF-BLOCKS = <integer 1..999999>
        |   ,RESTART-USAGE = *YES / *DUMMY
    *LATEST(...)
        |   NUMBER-OF-BLOCKS = <integer 1..999999>
        |   ,RESTART-USAGE = *YES / *DUMMY
,BLOCK-OFFSET = *BY-PROGRAM / *BY-CATALOG / *BY-HDR2 / <integer 0..99>
,RETENTION-PERIOD = *BY-PROGRAM / <integer 0..32767>
,STREAM = *NO / YES / *NO
,TAPE-WRITE = *BY-PROGRAM / *DEVICE-BUFFER / *IMMEDIATE
,DESTROY-OLD-CONTENTS = *STD / *NO / *YES
,CLOSE-MODE = *BY-PROGRAM / *REWIND / *REPOS / *UNLOAD / *LEAVE
,IO-CHAINING = *BY-PROGRAM / <integer 1..16> / *BY-PROGRAM
,BLOCK-CONTROL-INFO = *BY-PROGRAM / *BY-CATALOG / *NO / *WITHIN-DATA-BLOCK /
    *WITHIN-DATA-2K-BLOCK / *WITHIN-DATA-4K-BLOCK / *PAMKEY
,FILE-CLOSE-MSG = *STD / *NO / *YES

```

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
2	0	DMS0546	Catalog entry for specified file has reached maximum size
2	0	DMS054A	Insufficient disk space or access to disk not possible
	1	DMS0576	Invalid operand combination
	1	CMD0202	Syntactical or semantic error in command
	32	DMS0584	A state that does not allow the function to continue was reported during processing
	32	DMS05C7	Unexpected internal error in DMS
	64	CMD0216	Privileges error
	64	DMS0501	Requested catalog not available
	64	DMS0512	Requested catalog cannot be found
	64	DMS051B	Requested user ID not in pubset
	64	DMS051C	User not authorized to access pubset
	64	DMS0535	Specified file not shareable
	64	DMS0585	Error detected when processing catalog or multiprocessor system
	64	DMS0586	It is not possible to access or reserve a volume at present
	64	DMS0587	Use of the specified command has been restricted by the system administrator
	64	DMS0588	It was not possible to allocate disk space
	64	DMS05FC	Specified user ID not in HOME pubset
	64	DMS06C4	File generation group not yet cataloged
	64	DMS06FF	BCAM connection severed
	128	DMS0506	Function not executed due to change in master
	130	DMS0524	System address space exhausted
	130	DMS053C	Insufficient space for catalog file on pubset
	130	DMS0582	File is currently locked or being used and cannot be processed
	130	DMS0585	Error detected when processing catalog or multiprocessor system
	130	DMS0586	It is not possible to access or reserve a volume at present
	130	DMS0588	It was not possible to allocate disk space
	130	DMS0594	Not enough virtual memory available
	130	DMS05C8	Maximum permitted number of files reached

SET-FILE-NAME-PREFIX

Define file name prefix

Description status:	ACS V19.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The SET-FILE-NAME-PREFIX command is used to define a prefix for file or job variable names. This allows the user to effectively switch to a “subcatalog” of the user ID within the task, since ACS inserts the defined prefix before all file or job variable names which are specified by the user without a user ID in commands or macro calls. Prefix insertion is not performed if there is already an alias definition for the specified file or job variable name, since alias substitutions are given precedence in such cases.

If a prefix already exists and was not defined with the PROTECTED attribute, the existing prefix is overwritten. The user can have the defined prefix displayed by means of the SHOW-FILE-NAME-PREFIX command.

Prefix insertion rules

- No prefix is inserted if the file or job variable name contains a foreign user ID.
- If the file or job variable name contains the user’s own user ID and no catalog ID, the prefix is inserted, but only if it consists of just a catalog ID. Furthermore, there must not be any RFA connection for the catalog ID.
- File or job variable names with the user ID TSOS are excluded (i.e. not supplemented by the insertion of a prefix).
- If the file or job variable name and the prefix contain a catalog ID, the prefix is not inserted.
- If the file or job variable name contains a catalog ID but not a user ID, the prefix is inserted immediately after the catalog ID.
- If the file or job variable name becomes too long after inserting the prefix, the file name is rejected as invalid.
- If the file name already begins with the defined prefix, the prefix is inserted, but only if multiple insertions are permitted (see the DUPLICATE-PREFIX operand).
- The file or job variable name must comply with naming conventions even if a prefix is added to it later.

Format

SET-FILE-NAME-PREFIX	Alias: STFNP
<p>PREFIX = <u>*JOB-NAME</u> / <partial-filename 2..53> / *NONE</p> <p>,DUPLICATE-PREFIX = *YES / *NO</p> <p>,ATTRIBUTES = *STD / *PROTECTED</p> <p>,RANGE = *STD / *FILE / *JV / *BOTH</p>	

Operands

PREFIX = *JOB-NAME / <partial-filename 2..53> / *NONE

New prefix for file or job variable names (followed by a period).

PREFIX = *JOB-NAME

Defines the job name of the task (followed by a period) as the new prefix. If no job name was defined, this specification is equivalent to PREFIX=*NONE.

PREFIX = <partial-filename 2..53>

Explicit specification of the prefix. The specified prefix may contain both a user ID and a catalog ID. If a catalog ID is specified, there must not be any existing RFA connection for it.

PREFIX = *NONE

No prefix is to be inserted, but an existing prefix definition is to be removed.

DUPLICATE-PREFIX = *YES / *NO

Specifies whether the prefix is to be inserted even if the file name already begins with the same prefix.

ATTRIBUTES = *STD / *PROTECTED

Specifies whether the defined prefix is to be protected from being overwritten by a new definition. The default value is *STD, which means that the prefix can be overwritten by a new prefix definition.

RANGE = *STD / *FILE / *JV / *BOTH

Determines the range of the prefix definition. Insertion of the prefix can be defined for files and/or or job variables.

RANGE = *STD

Default: The prefix is inserted with the ACS setting applicable for the task (ACS option STANDARD-RANGE).

RANGE = *FILE

The prefix is inserted only for files.

RANGE = *JV

The prefix is inserted only for job variables.

RANGE = *BOTH

The prefix is inserted both for files and for job variables.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed normally Guaranteed message: ACS0019
	64	ACS0016	Prefix is protected
	128	ACS0018	ACS is not available
	130	ACS0036	Resource bottleneck

Examples

Example 1: Defining a prefix, studying the effects of its insertion, and logging the insertion

```

/show-file-attr file. _____ (1)
%      9 :20S2:$USER1.FILE.1
%      9 :20S2:$USER1.FILE.2
%:20S2: PUBLIC:      2 FILES RES=      18 FRE=      4 REL=      0 PAGES
/show-file-attr paul. _____ (2)
%      9 :20S2:$USER1.PAUL.FILE.1
%      9 :20S2:$USER1.PAUL.FILE.2
%      9 :20S2:$USER1.PAUL.FILE.3
%:20S2: PUBLIC:      3 FILES RES=      27 FRE=      8 REL=      3 PAGES
/set-file-name-prefix prefix=paul. _____ (3)
% ACS0048 CURRENT FILE NAME PREFIX IS 'PAUL.'. PREFIX IS USED FOR FILES AND
JOBVARIABLES.
/show-file-name-prefix _____ (4)
% ACS0048 CURRENT FILE NAME PREFIX IS 'PAUL.'. PREFIX IS USED FOR FILES AND
JOBVARIABLES.
/show-file-attr file. _____ (5)
%      9 :20S2:$USER1.PAUL.FILE.1
%      9 :20S2:$USER1.PAUL.FILE.2
%      9 :20S2:$USER1.PAUL.FILE.3
%:20S2: PUBLIC:      3 FILES RES=      27 FRE=      8 REL=      3 PAGES
/print-doc file.1 _____ (6)
% SCP0810 SPOOLOUT FOR FILE ':20S2:$USER01.PAUL.FILE.1' ACCEPTED. TSN: '
196D', SPOOLOUT-NAME: 'ULK', MONJV: '*NONE'
% SCP1025 PRINT JOB ACCEPTED BY SERVER 'D020H027' WITH TSN '46UH'
/copy-file from=file.1,to=file.3 _____ (7)
/show-file-attr file. _____ (8)

```

```

%          9 :20S2:$USER1.PAUL.FILE.1
%          9 :20S2:$USER1.PAUL.FILE.2
%          9 :20S2:$USER1.PAUL.FILE.3
%:20S2: PUBLIC:      3 FILES RES=          27 FRE=          6 REL=          0 PAGES
/show-file-attr $user1.file. _____ (9)
%          9 :20S2:$USER1.FILE.1
%          9 :20S2:$USER1.FILE.2
%:20S2: PUBLIC:      2 FILES RES=          18 FRE=          4 REL=          0 PAGES
/show-acs-opt _____ (10)
% ALIAS CATALOG SYSTEM V18.0
% =====
%
% STATUS: INACTIVE
%
% LOGGING: ALIAS-SUBSTITUTION=STD, PREFIX-INSERTION=YES
% SUCCESS-MSG OPTIONS: USER-FILE=YES, SYSTEM-FILE=YES
% COMPLETE-ALIAS-NAMES=NOT-ALLOWED (USER-MODIF=NOT-ALLOWED)
% ALIAS-USERID          =ALLOWED      (USER-MODIF=ALLOWED   )
% STANDARD-RANGE=BOTH
/mod-acs-opt log=(prefix-insert=*yes) _____ (11)
/show-file-attr file. _____ (12)
% ACS0000 FILE NAME 'FILE.' REPLACED BY 'PAUL.FILE.'
%          9 :20S2:$USER1.PAUL.FILE.1
%          9 :20S2:$USER1.PAUL.FILE.2
%          9 :20S2:$USER1.PAUL.FILE.3
%:20S2: PUBLIC:      3 FILES RES=          27 FRE=          6 REL=          0 PAGES
/copy-file from=file.1,to=file.3 _____ (13)
% ACS0000 FILE NAME 'FILE.1' REPLACED BY 'PAUL.FILE.1'
% ACS0000 FILE NAME 'FILE.3' REPLACED BY 'PAUL.FILE.3'
% ACS0000 FILE NAME 'FILE.1' REPLACED BY 'PAUL.FILE.1'
% ACS0000 FILE NAME 'FILE.3' REPLACED BY 'PAUL.FILE.3'
% ACS0000 FILE NAME 'FILE.1' REPLACED BY 'PAUL.FILE.1'
% ACS0000 FILE NAME 'FILE.1' REPLACED BY 'PAUL.FILE.1'
% ACS0000 FILE NAME 'FILE.3' REPLACED BY 'PAUL.FILE.3'
% ACS0000 FILE NAME 'FILE.3' REPLACED BY 'PAUL.FILE.3'
% ACS0000 FILE NAME 'FILE.3' REPLACED BY 'PAUL.FILE.3'
% ACS0000 FILE NAME 'FILE.3' REPLACED BY 'PAUL.FILE.3'
% ACS0000 FILE NAME 'FILE.3' REPLACED BY 'PAUL.FILE.3'
% ACS0000 FILE NAME 'FILE.3' REPLACED BY 'PAUL.FILE.3'
/print-doc file.1 _____ (14)
% ACS0000 FILE NAME 'FILE.1' REPLACED BY 'PAUL.FILE.1'
% ACS0000 FILE NAME 'FILE.1' REPLACED BY 'PAUL.FILE.1'
% ACS0000 FILE NAME 'FILE.1' REPLACED BY 'PAUL.FILE.1'
% SCP0810 SPOOLOUT FOR FILE ':20S2:$USER01.PAUL.FILE.1' ACCEPTED. TSN: '
196N', SPOOLOUT-NAME: 'ULK', MONJV: '*NONE'
% SCP1025 PRINT JOB ACCEPTED BY SERVER 'D020H027' WITH TSN '46UW'

```

- (1) Shows all catalog entries for files that have names beginning with *FILE*.
- (2) Shows all catalog entries for files that have names beginning with *PAUL*.
- (3) The SET-FILE-NAME-PREFIX command sets the prefix insertion function for the prefix *PAUL*.
- (4) The SHOW-FILE-NAME-PREFIX command indicates the defined prefix.
- (5) The name *FILE*, specified in the SHOW-FILE-ATTRIBUTES command has the defined prefix inserted before the command is executed. Consequently, the catalog entries of all files that have names beginning with *PAUL.FILE* are shown.
- (6) The name *FILE.1* specified in the PRINT-DOCUMENT command has the defined prefix inserted before the command is executed. The file named *PAUL.FILE.1* is printed as a result.
- (7) The names *FILE.1* and *FILE.3* which are specified in the COPY-FILE command have the defined prefix inserted before the command is executed. The contents of the file *PAUL.FILE.1* are thus copied to the file *PAUL.FILE.3*.
- (8) The name *FILE*, specified in the SHOW-FILE-ATTRIBUTES command has the defined prefix inserted before the command is executed. Consequently, the catalog entries of all files that have names beginning with *PAUL.FILE* are shown.
- (9) The insertion of a prefix is prevented by specifying the user *USER1* before *FILE*. The output of the SHOW-FILE-ATTRIBUTES now shows all files that have names beginning with *FILE*. A file named *FILE.3* was not created with COPY-FILE (see also step 8).
- (10) The prefix insertion function can be disabled by specifying the catalog ID or the catalog and user IDs.
- (11) Shows the current ACS settings for the task. PREFIX-INSERTION=NO has been set, i.e. no messages are output during prefix insertion.
- (12) The MODIFY-ACS-OPTIONS command is used to change the ACS settings. Prefix insertions are to be logged on SYSOUT.
The name *FILE*, specified in the SHOW-FILE-ATTRIBUTES command has the defined prefix inserted before the command is executed. Consequently, the catalog entries of all files that have names beginning with *PAUL.FILE* are shown.
The insertion of the prefix is indicated by message *ACS0000*.
- (13) The names *FILE.1* and *FILE.3* which are specified in the COPY-FILE command have the defined prefix inserted before the command is executed. The contents of the file *PAUL.FILE.1* are thus copied to the file *PAUL.FILE.3*.
The insertion of the prefix is indicated by message *ACS0000*. When the file is processed internally, several catalog accesses may be required. ACS inserts the prefix before the file name whenever the catalog is accessed, so message *ACS0000* is output in each such case.

- (14) The name *FILE.1* specified in the PRINT-DOCUMENT command has the defined prefix inserted before the command is executed. The file named *PAUL.FILE.1* is printed as a result. The insertion of the prefix is indicated by message *ACS0000*.

Example 2: Preventing duplicate insertions and protecting defined prefixes

```

/set-f-name-pre paul.,attr=*protect _____ (1)
% ACS0048 CURRENT FILE NAME PREFIX IS 'PAUL.'. PREFIX IS USED FOR FILES AND
JOBVARIABLES.
/cre-file paul.test.1 _____ (2)
% ACS0000 FILE NAME 'PAUL.TEST.1' REPLACED BY 'PAUL.PAUL.TEST.1'
% ACS0000 FILE NAME 'PAUL.TEST.1' REPLACED BY 'PAUL.PAUL.TEST.1'
/show-file-attr paul. _____ (3)
% ACS0000 FILE NAME 'PAUL.' REPLACED BY 'PAUL.PAUL.'
%          3 :20S2:$USER1.PAUL.PAUL.TEST.1
%:20S2: PUBLIC:      1 FILE RES=      3 FRE=      3 REL=      3 PAGES
/show-file-attr *<1,2> _____ (4)
% ACS0000 FILE NAME '*<1,2>' REPLACED BY 'PAUL.*<1,2>'
%          3 :20S2:$USER1.PAUL.PAUL.TEST.1
%:20S2: PUBLIC:      1 FILE RES=      3 FRE=      3 REL=      3 PAGES
/set-f-name-pre paul.,duplicate=no,attr=protect _____ (5)
% ACS0048 CURRENT FILE NAME PREFIX IS 'PAUL.'. PREFIX IS USED FOR FILES AND
JOBVARIABLES.
/cre-file paul.test.1 _____ (6)
/show-file-attr test. _____ (7)
% ACS0000 FILE NAME 'TEST.' REPLACED BY 'PAUL.TEST.'
%          3 :20S2:$USER1.PAUL.TEST.1
%:20S2: PUBLIC:      1 FILE RES=      3 FRE=      3 REL=      3 PAGES
/set-file-name-pre _____ (8)
% ACS0016 CURRENT FILE NAME PREFIX PROTECTED. COMMAND REJECTED
/set-file-name-pre paul. _____ (9)
% ACS0048 CURRENT FILE NAME PREFIX IS 'PAUL.'. PREFIX IS USED FOR FILES AND
JOBVARIABLES.
/set-file-name-pre _____ (10)
% ACS0019 CURRENT FILE NAME PREFIX IS 'ULK.'
/cre-file test.1 _____ (11)
% ACS0000 FILE NAME 'TEST.1' REPLACED BY 'ULK.TEST.1'
% ACS0000 FILE NAME 'TEST.1' REPLACED BY 'ULK.TEST.1'
/show-file-attr test. _____ (12)
% ACS0000 FILE NAME 'TEST.' REPLACED BY 'ULK.TEST.'
%          3 :20S2:$USER1.ULK.TEST.1
%:20S2: PUBLIC:      1 FILE RES=      3 FRE=      3 REL=      3 PAGES
/set-file-name-pre *none _____ (13)
% ACS0019 CURRENT FILE NAME PREFIX IS '*NONE'
/cre-file test.1 _____ (14)
/show-file-attr test.1 _____ (15)
%          3 :20S2:$USER1.TEST.1
%:20S2: PUBLIC:      1 FILE RES=      3 FRE=      3 REL=      3 PAGES

```

```
/show-file-attr **test.1 _____ (16)
%          3 :20S2:$USER1.ULK.TEST.1
%          3 :20S2:$USER1.PAUL.PAUL.TEST.1
%          3 :20S2:$USER1.PAUL.TEST.1
%          3 :20S2:$USER1.TEST.1
%:20S2: PUBLIC:          4 FILES RES=          12 FRE=          12 REL=          12 PAGES
```

In this example, all prefix insertions are reported (see example 1, step 11 on page 5-322).

- (1) The SET-FILE-NAME-PREFIX command is used to define the prefix insertion function for the prefix *PAUL.*. The definition is protected against overwriting by means of the PROTECTED attribute.
- (2) The name *PAUL.TEST.1* specified in the CREATE-FILE command has the defined prefix inserted before the command is executed, so a catalog entry for the file *PAUL.PAUL.TEST.1* is created. This approach is defined implicitly in the SET-FILE-NAME-PREFIX command (by the default value DUPLICATE-PREFIX=YES). In other words, the prefix is inserted even if the specified file name begins with the same prefix.
- (3) The name *PAUL.* specified in the SHOW-FILE-ATTRIBUTES command has the defined prefix inserted before the command is executed. Consequently, the catalog entries of all files that have names beginning with *PAUL.PAUL.* are shown.
- (4) The wildcard sequence **<1,2>* that is specified in the SHOW-FILE-ATTRIBUTES command has the defined prefix inserted before the command is executed. As a result, the catalog entries of all files that have names beginning with *PAUL.* and ending with the number 1 or 2 are shown. The rest of the name may be made up of any characters (even the null string). See also message *ACS0000*.
- (5) The command SET-FILE-NAME-PREFIX defines prefix insertion for the prefix *PAUL.* (the previous prefix). The prefix definition is protected against overwriting by the PROTECTED attribute, and duplicate insertions are prevented with DUPLICATE-PREFIX=*NO.
- (6) The name *PAUL.FILE.* specified in the CREATE-FILE command does not receive the defined prefix, since it already begins with the same prefix (see also Point 2). A catalog entry for the file *PAUL.TEST.1* is created.
- (7) The name *TEST.* specified in the SHOW-FILE-ATTRIBUTES command has the defined prefix inserted before the command is executed, so the catalog entries for all files that have names beginning with *PAUL.TEST.* are shown. The user could also specify *PAUL.TEST.* to achieve the same result, since the prefix would already be present in that case and would therefore not be inserted.
- (8) The command SET-FILE-NAME-PREFIX is issued without operands. This would have normally defined the job name of the task as the new prefix (default value); however, since the prefix has the PROTECTED attribute (to prevent inadvertent changes), no other prefix can be defined in this case.

- (9) The command SET-FILE-NAME-PREFIX is issued for the existing prefix *PAUL*. without any further operands. The settings for DUPLICATE-PREFIX and ATTRIBUTES are restored to default values, i.e. the prefix is no longer protected against changes.
- (10) The SET-FILE-NAME-PREFIX command is issued without operands, so the job name of the task is defined as the prefix. The new prefix is *ULK*. (see message *ACS0000*).
- (11) The name *TEST.1* specified in the CREATE-FILE command receives the defined prefix before the command is executed. A catalog entry is created for the file *ULK.TEST.1*.
- (12) The name *TEST.* specified in the CREATE-FILE command receives the defined prefix before the command is executed, so the catalog entries for all files that have names beginning with *ULK.TEST.* are shown.
- (13) The SET-FILE-NAME-PREFIX command with the PREFIX=*NONE specification turns off the prefix insertion function.
- (14) The CREATE-FILE command for the name *TEST.1* creates a catalog entry for the file *TEST.1*.
- (15) The SHOW-FILE-ATTRIBUTES command for the file name *TEST.1* shows the catalog entry that was created.
- (16) The SHOW-FILE-ATTRIBUTES command shows the catalog entries of all files that have names beginning with any arbitrary string (including the null string) and ending with *TEST.1*.

Example 3: Preventing prefix insertion for a file name

```

/show-file-name-prefix _____ (1)
% ACS0019 CURRENT FILE NAME PREFIX IS 'PAUL.'
/add-alias-cat alias=file.1,file=*same _____ (2)
% ACS0020 ALIAS CATALOG ACTIVATED
/show-alias _____ (3)
% ALIAS FILE NAME -> FILE NAME
%UB : FILE.1 -> *SAME
% ACS0037 NUMBER OF ALIAS CATALOG ENTRIES: 1 (FOR SYSTEM: 0, FOR USER: 1)
/print-doc file.1 _____ (4)
% SCP0810 SPOOLOUT FOR FILE ':20S2:$USER1.FILE.1' ACCEPTED. TSN: '1Q14', SPO
O LOUT-NAME: 'ULK', MONJV: '*NONE'
/hold-alias _____ (5)
% ACS0007 /HOLD-ALIAS-SUBSTITUTION PROCESSED

```

```
/print-doc file.1 _____ (6)
% ACS0000 FILE NAME 'FILE.1' REPLACED BY 'PAUL.FILE.1'
% ACS0000 FILE NAME 'FILE.1' REPLACED BY 'PAUL.FILE.1'
% ACS0000 FILE NAME 'FILE.1' REPLACED BY 'PAUL.FILE.1'
% SCP0810 SPOOLOUT FOR FILE ':20S2:$USER01.PAUL.FILE.1' ACCEPTED. TSN: '
197A', SPOOLOUT-NAME: 'ULK', MONJV: '*NONE'
% SCP1025 PRINT JOB ACCEPTED BY SERVER 'D020H027' WITH TSN '46VE'
/resume-alias _____ (7)
% ACS0008 /RESUME-ALIAS-SUBSTITUTION PROCESSED
% ACS0009 ALIAS CATALOG OPERATION CONTINUES
```

In this example, all prefix insertions are reported (see example 1, step [11 on page 5-322](#)).

- (1) The command SHOW-FILE-NAME-PREFIX shows that *PAUL.* is defined as the prefix.
- (2) The command ADD-ALIAS-CATALOG starts the ACS substitution function and creates the first entry in the task-local alias catalog with the alias *FILE.1* for a file with the same actual file name (FILE-NAME=*SAME). This entry ensures that the name *FILE.1* is neither replaced nor supplemented by the defined prefix.
- (3) Output of the entries in the alias catalog.
- (4) The file *FILE.1* is specified in the PRINT-DOCUMENT command and printed as a result.
- (5) The command HOLD-ALIAS-SUBSTITUTION halts the ACS substitution function.
- (6) When *FILE.1* is now specified in the PRINT-DOCUMENT command, the file *PAUL.FILE.1* is printed. The prefix was inserted before executing the command in this case, since the ACS substitution function has been halted, and the alias definition for *FILE.1* is ignored.
- (7) The command RESUME-ALIAS-SUBSTITUTION resumes the ACS substitution function, so the alias definition now has precedence over the insertion of a prefix.

SET-INSTALLATION-PATH

Define/modify installation path

Description status:	IMON-GPN V3.3A
Functional area:	System control and optimization
Domain:	SYSTEM-MANAGEMENT
Privileges:	SUBSYSTEM-MANAGEMENT

Function

The SET-INSTALLATION-PATH command allows systems support staff

- to assign a path name to the logical name of an installation item or to modify this path name.
- modify all path names of an installation unit by replacing a (sub)string of the name with a different string.

The SHOW-INSTALLATION-PATH command provides information on current assignments.

Each installation item has a logical name or identifier. A product is uniquely identified by its name and its version string.

Prerequisites for the command

The product's installation items must be included in the SCI along with their path names. This precondition is fulfilled in the following cases:

- The product is a standard software product. It was supplied by Fujitsu Technology Solutions (SOLIS2 delivery) and installed correctly using IMON.
- The product is a private software product. It was registered in SCI using a SYSSII file generated by the customer.

The path name is only allocated if its attributes allow it.

The command is a component of IMON-GPN, the nonchargeable part of the IMON software product. IMON is described in full in the "IMON" manual [19].

Format

SET-INSTALLATION-PATH
<pre> SCI-NAME = *STD / <filename 1..54 without-gen-vers> , LEVEL = *ITEM(...) / *UNIT(...) *ITEM(...) PATH-NAME = *NONE / <filename 1..54 without-gen-vers> / <partial-filename 2..53> , LOGICAL-IDENTIFIER = <filename 1..30 without-cat-user-gen-vers> , TARGET = *STD / A / S / P / K , INSTALLATION-UNIT = <text 1..30 without-sep>(...) <text 1..30 without-sep> (...) VERSION = <product-version mandatory-man-corr> *UNIT(...) INSTALLATION-UNIT = <text 1..30 without-sep>(...) <text 1..30 without-sep> (...) VERSION = <product-version mandatory-man-corr> / <product-version mandatory-man-without-corr> / <product-version without-man-corr> , OLD-STRING = <filename 1..22 without-gen-vers> / <partial-filename 2..23> , NEW-STRING = <filename 1..22 without-gen-vers> / <partial-filename 2..23> ,ENFORCE = *NO / *YES </pre>

Operands

SCI-NAME =

Defines the SCI to be processed.

SCI-NAME = *STD

The standard SCI is processed (the files \$TSOS.SYS.IMON.SCI and \$TSOS.SYS.IMON.SCI.GPN).

SCI-NAME = <filename 1..54 without-gen-vers>

Name of the alien SCI. Alien SCIs (e.g. on imported pubsets) can be modified using this operand. If the name of an IMON SCI is specified, the relevant IMON-GPN-SCI is also accepted by the suffix .GPN automatically being added.

LEVEL =

Defines the operation to be carried out.

LEVEL = *ITEM(...)

A path name is to be set (or possibly reset) and linked with the logical name of an item of an existing installation unit.

PATH-NAME =

Designates the path name assigned to the logical name of the installation item.

PATH-NAME = *NONE

No path name is assigned to the logical name. Any existing assignment is canceled.

PATH-NAME = <filename 1..54 without-gen-vers>

Explicit path name specification.

PATH-NAME = <partial-filename 2..53>

The path name is specified in partially qualified form. It refers to all files assigned to the logical name.

LOGICAL-IDENTIFIER =

Designates the logical name of the installation item.

LOGICAL-IDENTIFIER = <filename 1..30 without-cat-user-gen-vers>

Explicit specification of the logical name of the installation item.

TARGET =

Specifies the hardware version of the subsystem to which the installation item belongs.

TARGET = *STD

The current system's standard selection procedure is used.

TARGET = A

The installation item is independent of the hardware version.

TARGET = S

The installation item pertains to the /390 version of the subsystem (S server).

TARGET = P

This hardware version is meaningless for systems as of BS2000/OSD V9.0.

TARGET = K

The installation item belongs to the X86 version of the subsystem (SQ server).

INSTALLATION-UNIT = <structured-name 1..30>(…)

Name of the installation unit containing the logical name.

VERSION = <product-version mandatory-man-corr>

Explicit installation unit version specification.

LEVEL = *UNIT(...)

A string or substring in all path names of the specified installation unit(s) is to be replaced.

INSTALLATION-UNIT = <text 1..30 without-sep>(…)

Name of the installation unit containing the logical name.

VERSION = <product-version mandatory-man-corr> /**<product-version mandatory-man-without-corr> /****<product-version without-man-corr>**

Explicitly specified version of the installation unit.

OLD-STRING = <filename 1..22 without-gen-vers> / <partial-filename 2..23>

String to be searched for in the path names and to be replaced by the string specified with NEW-STRING.

NEW-STRING = <filename 1..22 without-gen-vers> / <partial-filename 2..23>

New string that will be inserted in the place of the OLD-STRING.

ENFORCE = *NO / YES

Determines whether the path name can be assigned even though the logical name was defined with UPDATE=NO (see the “IMON” manual [19]).

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	32	IMO9101	Command terminated abnormally (internal error in IMON-GPN)
	64	CMD0216	User does not have required privilege
	64	IMO9100	Command not executed. Installation unit or version not found, or path name cannot be modified.

SET-JOB-STEP

Identify error handling (spin-off) section

Description status:	SYSFILE V19.0A
Functional area:	File processing
Domain:	JOB PROCEDURE
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

With the SET-JOB-STEP command, users can subdivide a procedure or an ENTER file into sections.

Processing branches to SET-JOB-STEP when spin-off is initiated in a procedure or a batch job (see “Spin-off mechanism” below). The command

- clears job switches 16 through 31 (value *OFF),
- resets compiler options set using the ISP PARAMETER command to their default values.

This command may be used only in procedures and ENTER files; it is ignored in interactive mode and consequently not offered in the menu.

If SET-JOB-STEP is issued while a program is loaded, an error message appears.

Spin-off mechanism

If an invalid command is encountered during procedure execution, the following responses are possible:

- the invalid command is ignored and processing continues with the next command;
- the invalid command is rejected but processing ignores the following commands, with the exception of the following commands:
EXIT-JOB, CANCEL-PROCEDURE, END-PROCEDURE, EXIT-PROCEDURE,
LOGOFF, SET-JOB-STEP.

This mechanism is called spin-off.

The EXIT-JOB and LOGOFF commands terminate the job, while the CANCEL-PROCEDURE command terminates the procedure. The END-PROCEDURE and EXIT-PROCEDURE commands cause the system to branch to the last procedure level exited, but without switching off the SPIN-OFF mechanism.

The SET-JOB-STEP command switches off the spin-off mechanism and the procedure continues normally with the next command in the sequence.

Spin-off is initiated in the following cases:

- syntax errors; this applies to all commands
- content errors; this does not apply to all commands.

Format

SET-JOB-STEP	Alias: STJSP

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	32	EXC0041	System error
	130	CMD2282	Command not possible because a program is loaded

SET-JV-LINK

Assign link name to job variable

Description status:	JV V15.1A
Functional area:	Job variables
Domain:	JOB-VARIABLES
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
Routing code:	\$ (with NBCONOPI=N) or J (with NBCONOPI=Y)

This function is available to the user only if the chargeable software product JV has been loaded as a subsystem.

Function

The SET-JV-LINK command allows the user to assign a link name to a job variable. This assignment is entered in the JV-LINK table associated with the job. A link name is always assigned uniquely to a job variable, but more than one link name can be assigned to a single job variable.

If the specified job variable does not exist, it is created provided no other user ID has been specified (implicit CREATE-JV).

Using link names enables the names of the job variables used to be kept variable in programs and procedures (e.g. no specific name or user ID needs to be defined). Before invoking the program or procedure, the user creates JV-LINK entries with the specified link names for the job variables that are to be used.

A JV-LINK entry exists up to the end of the job, unless it is deleted beforehand with the REMOVE-JV-LINK command. The entries can be displayed using the SHOW-JV-LINK command.

Default link names

For a job-monitoring job variable, a JV-LINK entry with the link name **SMONJVJ** is automatically created. Similarly, a program-monitoring job variable is assigned the link name **SMONJVP**. This enables a job or program to access its monitoring job variable.

Users should not use these default link names for their own JV-LINK entries.

Privileged functions

If systems support (TSOS and OPERATING privileges) specifies a non-existent job variable with a foreign user ID, the job variable is created under this ID. Co-ownership of TSOS can be restricted for permanent job variables when SECOS is used.

Format

SET-JV-LINK	Alias: STJVL
LINK-NAME = *NONE / <alphanum-name 1..7> JV-NAME = <filename 1..54 without-gen-vers>	

Operands

LINK-NAME = *NONE / <alphanum-name 1..7>

Link name. The JV can be accessed under this name within the currently executing job. The assignment between link name and JV name is registered in the JV-LINK table for the job.

Only one entry per link name may be present in the JV-LINK table. One JV can however be assigned to more than one link name.

If the specified link name was already assigned to another JV, the old assignment is replaced by the new assignment.

JV-NAME = <filename 1..54 without-gen-vers>

Name of the JV.

If the JV already exists, the user must have access authorization.

If the JV does not yet exist, only the user's own ID may be specified. The JV is cataloged with the default attributes of the CREATE-JV command.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
1	0	CMD0001	No action necessary
2	0	CMD0001	Command executed with a warning
	1	CMD0202	Syntax error
	32	CMD0221	System error
	64	JVS04E0	Command not executable in the call environment; if possible, remove cause of error (see SYSOUT message JVS04xx)
	130	JVS04E1	Command cannot be executed at this time; for cause see SYSOUT message JVS04xx
	130	CMD2282	Subsystem JV not available for indefinite time

Example

For an example see the SHOW-JV-LINK command.

SET-LOGON-PARAMETERS

Initiate interactive or batch job

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Job processing
Domain:	JOB
Privileges:	alle Privilegien
Routing code:	@ (nur bei NBCONOPI=Y)

Function

With the SET-LOGON-PARAMETERS command, users can initiate an interactive job on the terminal. When SET-LOGON-PARAMETERS is given as the first command in an ENTER file, it initiates a batch job on starting with the ENTER-JOB command.

The specifications in the SET-LOGON-PARAMETERS command identify the user (system access authorization check), characterize the job and control logging of job execution. The access authorization specifications are checked against the user entry; further specifications relating to the job class and to the job attributes (job/run priority, system resources) are also checked against the entry in the job class definition. The entries are accessible to the user by means of the SHOW-USER-ATTRIBUTES and SHOW-JOB-CLASS commands. If different specifications appear for RUN-PRIORITY and CPU-LIMIT in the user entry and in the job class definition, the value more favorable to the user is permitted.

The operands of the SET-LOGON-PARAMETERS command are evaluated for batch jobs only if the operator starts the job either on the console or with the ENTER-JOB operand DEFAULT-FROM-FILE=*YES. Explicit specifications in the ENTER-JOB command do, however, have priority, i.e. an operand value from /SET-LOGON-PARAMETERS becomes effective only if this operand also has its preset value unchanged in the ENTER-JOB command (see the ENTER-JOB command).

The JOB-PRIORITY, RERUN-AFTER-CRASH, FLUSH-AFTER-SHUTDOWN operands and a SCHEDULING-TIME not equal to *STD are only possible for batch jobs.

Operator functions on physical consoles

If the "Operator LOGON" function is used (incompatible mode; system parameter NBCONOPI=Y), users can authenticate themselves with the SET-LOGON-PARAMETERS command on physical consoles as well. Values may then be specified for the USER-IDENTIFICATION, ACCOUNT and PASSWORD operands only.

Having successfully logged on, the operator still has no authorization to enter commands (apart from a few SHOW commands). This can be obtained with the REQUEST-OPERATOR-ROLE command; SHOW-OPERATOR-ROLE INFORMATION=*ROUTING-CODES indicates which operator roles a user ID is allowed to assume. The operator task is ended either explicitly by an EXIT-JOB command or by the failure of the console. Without authentication through SET-LOGON-PARAMETERS, all that can be entered at physical consoles is the SHOW-PENDING-MSG command to list any unanswered response messages.

Format

SET-LOGON-PARAMETERS	Alias: STLGP
<pre> USER-IDENTIFICATION = *<u>NO</u> / <name 1..8> ,ACCOUNT = *<u>NONE</u> / <alphanum-name 1..8> ,PASSWORD = *<u>NONE</u> / <c-string 1..8> / <c-string 9..32> / <x-string 1..16> / *SECRET ,JOB-CLASS = *<u>STD</u> / <name 1..8> ,JOB-NAME = *<u>NO</u> / <name 1..8> ,MONJV = *<u>NONE</u> / <filename 1..54 without-gen-vers> ,JV-PASSWORD = *<u>NONE</u> / <c-string 1..4> / <x-string 1..8> / *SECRET / <integer -2147483648..2147483647> ,JOB-PRIORITY = *<u>STD</u> / <integer 1..9> ,RERUN-AFTER-CRASH = *<u>NO</u> / *YES ,FLUSH-AFTER-SHUTDOWN = *<u>NO</u> / *YES ,SCHEDULING-TIME = *<u>STD</u> / *PARAMETERS(...) / *BY-CALENDAR(...) *PARAMETERS(...) START = *<u>STD</u> / *SOON / *IMMEDIATELY / *AT-STREAM-STARTUP / *WITHIN(...) / *AT(...) / *EARLIEST(...) / *LATEST(...) *WITHIN(...) HOURS = <u>0</u> / <integer 0..23 <i>hours</i>> ,MINUTES = <u>0</u> / <integer 0..59 <i>minutes</i>> *AT(...) DATE = *<u>TODAY</u> / <date> ,TIME = <time> *EARLIEST(...) DATE = *<u>TODAY</u> / <date> ,TIME = <time> </pre>	

(Part 1 of 2)

```

    *LATEST(...)
        |
        | DATE = *TODAY / <date>
        | , TIME = <time>
    , REPEAT-JOB = *STD / *NO / *DAILY / *WEEKLY / *AT-STREAM-STARTUP / *PERIOD(...)
    *PERIOD(...)
        |
        | HOURS = 0 / <integer 0..23 hours>
        | , MINUTES = 0 / <integer 0..59 minutes>
    *BY-CALENDAR(...)
        |
        | CALENDAR-NAME = <filename 1..54 without-gen-vers>
        | , SYMBOLIC-DATE = <filename 1..20 without-cat-user-vers> /
        |   <partial-filename 2..20 without-cat-user>
    , LIMIT = *STD / <integer 1..32767> / *BY-DATE(...)
    *BY-DATE(...)
        |
        | DATE = <date>
        | , TIME = <time>
    , RESOURCES = *PARAMETERS (...)
    *PARAMETERS(...)
        |
        | RUN-PRIORITY = *STD / <integer 30..255>
        | , CPU-LIMIT = *STD / *NO / <integer 1..32767 seconds>
        | , SYSLST-LIMIT = *STD / *NO / <integer 0..999999>
    , LOGGING = *PARAMETERS (...)
    *PARAMETERS(...)
        |
        | LISTING = *NO / *YES
        | , HARDCOPY = *NO / *YES
    , JOB-PARAMETER = *NO / <c-string 1..127>
    , PROTECTION = *NONE / *CANCEL

```

(Part 2 of 2)

Operands

USER-IDENTIFICATION = *NO / <name 1..8>

User ID under which the job is to run.

ACCOUNT = *NONE / <alphanum-name 1..8>

Account number of the user ID under which the job is to run.

PASSWORD = *NONE / <c-string 1..8> / <c-string 9..32> / <x-string 1..16> / *SECRET
Password for the user ID.

The long password mechanism is supported (<c-string 9..32>). See the MODIFY-USER-PROTECTION command for details of the long password mechanism.

The PASSWORD operand has the following special characteristics:

- The password entered is not logged.
- The input field is automatically blanked out in the guided dialog.
- In unguided dialog and foreground procedures, the entry *SECRET or ^, SDF provides a blanked out input field for inputting the password .

JOB-CLASS = *STD / <name 1..8>

Job class in which the job is to run. The job class must be permitted for the job type (e.g. interactive job). The user can ascertain the job classes he is allowed to use from his user entry for the home pubset (SHOW-USER-ATTRIBUTES command output). This also displays the default job class that is preset with *STD. Users can obtain information about the characteristics of job classes (job class definition) by means of the SHOW-JOB-CLASS command.

JOB-NAME = *NO / <name 1..8>

The name of the job. The job can be accessed using this name (e.g. using SHOW-JOB-STATUS). All unnamed jobs started from within this job are also assigned this name.

JOB-NAME = *NO

The job is to run without a name of its own.

If there is a non-S label prefixed to the SET-LOGON-PARAMETERS command, the job is given the name of the label.

JOB-NAME = <name 1..8>

Job name.

MONJV = *NONE / <filename 1..54 without-gen-vers>

Specifies whether the job is to be monitored by a JV.

MONJV = *NONE

The job is not monitored.

MONJV = <filename 1..54 without-gen-vers>

Applies only if the JV software product is being used

Name of the JV that is to monitor the job.

Job monitoring is only started if the job is accepted by the system's job management facility (JOB ACCEPTED).

The job originator must have write authorization because he instructs the system to write to the JV. If the JV is not accessible at the time of command processing, an error message is output to SYSOUT and the command is rejected. If the specified JV does not yet exist, it is - if the requisite authorization exists - created by the system and made available for all users (ACCESS=*WRITE and USER-ACCESS=*ALL-USERS).

Users can address this job via the specified JV (see the "Job Variables" manual [20]):

\$S Job on queue
 \$R Job running
 \$T Job terminated
 \$A Job aborted
 \$M Job exported with MOVE-JOBS

JV-PASSWORD = *NONE / <c-string 1..4> / <x-string 1..8> / <integer -2147483648..2147483647> / *SECRET

Applies only if the JV software product is being used

Password for the JV.

The operand is only evaluated when job monitoring has been defined (see the MONJV operand). The operand JV-PASSWORD is defined as "secret":

- The password entered is not logged.
- The input field is automatically blanked out in the guided dialog.
- In unguided dialog and foreground procedures, the entry *SECRET or ^, SDF provides a blanked out input field for inputting the password .

JOB-PRIORITY = *STD / <integer 1..9>

For batch jobs only

Job priority to be given to the batch job. The lower the value, the higher the priority. The values can be queried with the SHOW-USER-ATTRIBUTES and SHOW-JOB-CLASS commands.

JOB-PRIORITY = *STD

The standard priority specified for the job class applies.

RERUN-AFTER-CRASH = *NO / *YES

For batch jobs only

Specifies whether the batch job is to be restarted during the next system session if processing has been aborted as the result of a system error or termination of the system session.

FLUSH-AFTER-SHUTDOWN = *NO / *YES

Specifies whether the batch job is to be removed from the job queue if it has not been processed by the end of the session.

SCHEDULING-TIME = *STD / *PARAMETERS(...) / *BY-CALENDAR(...)*For batch jobs only*

Defines how scheduling times are specified for the batch job.

SCHEDULING-TIME = *STD

The default settings for START and REPEAT-JOB scheduling time specifications for the selected job class apply (see the operands of the SCHEDULING-TIME=*PARAMETERS(...) structure).

SCHEDULING-TIME = *PARAMETERS(...)

Defines a scheduling time (start time) for the batch job. It is also possible to define job repeats (repeat job).

START =

Starting time for the batch job. Values other than *STD are appropriate only if permitted in accordance with the job class definition (see the SHOW-JOB-CLASS command).

START = *STD

The default value for the chosen job class applies.

START = *SOON

The job is to be started as soon as possible, in accordance with its priority.

START = *IMMEDIATELY

The job is to be started immediately.

START = *AT-STREAM-STARTUP

The job is to be started after the next startup of the job scheduler.

START = *WITHIN(...)

The job is to be started within the specified time period.

HOURS = 0 / <integer 0..23 hours>

Number of hours.

MINUTES = 0 / <integer 0..59 minutes>

Number of minutes.

START = *AT(...)

The job is to be started exactly at the time specified in the following.

DATE = *TODAY / <date>

Date. This can be specified in the form [yy]yy-mm-dd. Only the last two digits of the year are evaluated, which means that the century is ignored in four-digit year specifications.

20 is automatically prefixed to two-digit year specifications < 80, 19 to two-digit year specifications ≥ 80.

TIME = <time>

Time of day in the format hh:mm, where hh = hours and mm = minutes. Seconds are not interpreted.

START = *EARLIEST(...)

The job is to be started no earlier than the time specified.

DATE = *TODAY / <date>

Date. This can be specified in the form [yy]yy-mm-dd. Only the last two digits of the year are evaluated, which means that the century is ignored in four-digit year specifications.

20 is automatically prefixed to two-digit year specifications < 80, 19 to two-digit year specifications \geq 80.

TIME = <time>

Time of day in the format hh:mm, where hh = hours and mm = minutes. Seconds are not interpreted.

START = *LATEST(...)

The job is to be started no later than the time specified.

DATE = *TODAY / <date>

Date. This can be specified in the form [yy]yy-mm-dd. Only the last two digits of the year are evaluated, which means that the century is ignored in four-digit year specifications.

20 is automatically prefixed to two-digit year specifications < 80, 19 to two-digit year specifications \geq 80.

TIME = <time>

Time of day in the format hh:mm, where hh = hours and mm = minutes. Seconds are not interpreted.

REPEAT-JOB =

Time interval at which the batch job is to be repeated. Values other than *STD are appropriate only if permitted in accordance with the job class definition (see the SHOW-JOB-CLASS command). The time interval for the repetitions depends on the specification in the START operand; see the note in this regard, "Combinations of the START and REPEAT-JOB operands". For the repetitions, the following applies:

- The i-th repetition ($i \geq 1$) of a job is not started until the (i-1)th repetition has ended.
- Cancellation of the currently executing job (i) has no effect on the start of (i+1); ($i \geq 0$).
- Cancellation of the entire job: Both the currently executing job (i) and the subsequent job (i+1) must be canceled, ($i \geq 0$); (CANCEL-JOB command, or make job (i) the last job in the series using the command MODIFY-JOB ...,REPEAT-JOB=*NO).

REPEAT-JOB = *STD

The default value for the chosen job class applies.

REPEAT-JOB = *NO

The batch job is not repeated.

REPEAT-JOB = *DAILY

Daily repetition at the time specified with START.

REPEAT-JOB = *WEEKLY

Weekly repetition at the time specified with START.

REPEAT-JOB = *AT-STREAM-STARTUP

Repetition following each startup of the job scheduler.

REPEAT-JOB = *PERIOD(...)

Repetition after the specified time interval.

HOURS = 0 / <integer 0..23 hours>

Number of hours.

MINUTES = 0 / <integer 0..59 minutes>

Number of minutes.

SCHEDULING-TIME = *BY-CALENDAR(...)

For batch jobs only

The batch job scheduling time and any repeat jobs are specified in the form of a symbolic date defined in a calendar file (calendar job). The entries in a calendar file can be listed with the SHOW-CALENDAR command. Creation of calendar files with the CALENDAR-EDITOR utility is described in the "Calendar" manual [4].

CALENDAR-NAME = <filename 1..54 without-gen-vers>

Name of the calendar file.

SYMBOLIC-DATE = <filename 1..20 without-cat-user-vers> / <partial-filename 2..20 without-cat-user>

Symbolic date which defines the scheduling time and any repetition cycles within the calendar file. The symbolic date may also be given in partially qualified mode. In this way, several scheduling times can be defined for one calendar day with the appropriate definition of SYSDATs.

Example: Definition of SYMDATs in the calendar file:

- WORK.DAY.1 (every other day at 06:00 hrs)
- WORK.DAY.2 (every other day at 6:00 PM hrs)
- WORK.WEEK.1 (every Friday at 21:00 hrs)

A calendar job considering all three scheduling points is started with
SYMBOLIC-DATE=WORK..

LIMIT = *STD / <integer 1..32767> / *BY-DATE(...)

Governs how long a calendar job remains in existence. This limit applies in addition to the limits set by the calendar.

LIMIT = *STD

The duration of the calendar job depends entirely on the symbolic date entry in the calendar.

LIMIT = <integer 1..32767>

This specification is only permitted for calendar jobs.

Maximum number of repetitions of the calendar job.

When a single job run ends, the run counter is incremented by 1. Then the run counter is checked against the limit. If this is the case, the entire calendar job is terminated.

LIMIT = *BY-DATE(...)

This specification is only permitted for calendar jobs.

After the specified date has been reached, no repeat jobs for the calendar job are started.

A repeat which is currently in progress will abort when the date arrives.

The specified date relates only to the calculated starting date for repeat jobs. Overshoots due to rescheduling of postponed repeats or to delays in the job scheduler are allowed. The date specification consists of the day and the time:

DATE = <date>

Date. This can be specified in the form [yy]yy-mm-dd. Only the last two digits of the year are evaluated, which means that the century is ignored in four-digit year specifications. 20 is automatically prefixed to two-digit year specifications < 80, 19 to two-digit year specifications ≥ 80.

TIME = <time>

Time of day.

RESOURCES = *PARAMETERS(...)

Values for run priority, CPU time and maximum number of SYSLST records.

RUN-PRIORITY = *STD / <integer 30..255>

Run priority which the job is to be assigned. The lower the value, the higher the priority.

The maximum permissible priority value is the lesser of the two values (i.e. the more favorable of the values) from the user catalog and the job class definition.

If no maximum value is defined for the job class, the following rules apply:

- If the value specified explicitly is numerically lower than the value in the user entry, the message JMS0045 is issued. The batch job is assigned the higher of the two values (i.e. the less favorable value) for the run priority from the user entry and the default run priority for the job class.
- If no value is specified explicitly or if *STD is specified explicitly the job is given the default job priority for the job class.

The values can be queried with the SHOW-USER-ATTRIBUTES and SHOW-JOB-CLASS commands.

RUN-PRIORITY = *STD

The standard run priority specified for the job class applies.

CPU-LIMIT = *STD / *NO / <integer 1..32767 seconds>

Maximum CPU time, in seconds, that the batch job may consume. The maximum time permitted depends on the job class specified. See also [section “Time limits in BS2000” on page 1-103](#).

CPU-LIMIT = *STD

The default value for the chosen job class applies.

CPU-LIMIT = *NO

Specifies no time limit (NTL) for the job run. This operand value is permitted only if the requisite authorization exists in the user entry or the job class definition.

SYSLST-LIMIT = *STD / *NO / <integer 0..999999>

Specifies the maximum number of records the job is allowed to output to the system files SYSLST, SYSLST01, SYSLST02, ..., SYSLST99. Data records in the system file SYSOUT that are simultaneously written to SYSLST are not counted. This value must not be above the limit set in the job class definition. This limit may be queried using the SHOW-JOB-CLASS command.

SYSLST-LIMIT = *STD

The default value for the chosen job class applies. If the specified number is exceeded:

- in interactive mode, the user may specify whether the job is to be continued or terminated. If continued, output is repeated up to “number”.
- in batch mode, the job is terminated abnormally.

SYSLST-LIMIT = *NO

Sets no limit on the number of records output.

LOGGING = *PARAMETERS(...)

Job logging parameters.

LISTING = *NO / *YES

Specifies whether the job run is also to be logged on SYSLST.

HARDCOPY = *NO / *YES

Specifies whether the dialog job is also to be logged at a hardcopy printer.

JOB-PARAMETER =

Specifies additional attributes for the selected job class - assuming that systems support has defined some and made them known.

JOB-PARAMETER = *NO

No additional attributes.

JOB-PARAMETER = <c-string 1..127>

c-string = sequence of any characters; assigned by systems support to identify additional job class attributes.

PROTECTION = *NONE / *CANCEL

Specifies whether a job is to be protected against being canceled unintentionally with the CANCEL-JOB command.



The PROTECTION specification from the ENTER-JOB command always applies for batch jobs. The value entered here is ignored. This also applies when the operator starts the job on the console or by specifying the ENTER-JOB operand DEFAULT-FROM-FILE=*YES.

PROTECTION = *NONE

The job is not protected against unintentional cancelation.

PROTECTION = *CANCEL

The job is not protected against accidental termination. When an interactive job is terminated with the CANCEL-JOB command, the system demands an additional confirmation from the user. Accidental termination of the job due to incorrect specification of the job number should thus be prevented.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	64	JMS0640	Command rejected

If SET-LOGON-PARAMETERS is the **first** command in the dialog (input after connection setup and LOGON prompt) or in an ENTER file, it is rejected in the event of an error (SC1 not 0) and the task aborted. The command return code cannot be evaluated in this case.

SET-MSG-SUPPRESSION

Suppress console messages

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Operator terminal control Message processing
Domain:	CONSOLE-MANAGEMENT
Privileges:	OPERATING
Routing code:	@

Function

The SET-MSG-SUPPRESSION command enables the output of certain messages to be suppressed at operator terminals (consoles). The messages must originate from a message file and have been created by means of the MSG7 or MSG7X macro. Up to 1024 different messages can be suppressed during a session.

The following applies to messages with responses (queries):

Queries connected with commands (request for additional command information with "&") cannot be suppressed.

All other query types can be suppressed. Suppressed queries, with the exception of queries without responses (acknowledgable queries), will definitely be output (possibly at the main console).

If the "Operator LOGON" function is used (system parameter NBCONOPI=Y), only the values *NO and *OWN are allowed for the CONSOLE-UNIT and APPLICATION-NAME operands, which means that the command cannot be issued for other operator terminals or authorized user programs.

If the "Operator LOGON" function is not used, the operator can issue the command at the main operator terminal with reference to other operator terminals or authorized user programs as well.

In a user task with OPERATING privilege, the command applies only when reading from the event stream of the user's own task. In this case only the value *NO is permissible for the CONSOLE-UNIT and APPLICATION-NAME operands.

The operator can use the SHOW-MSG-SUPPRESSION command to request a list of the currently defined arrangements to be displayed.

Format

SET-MSG-SUPPRESSION
MSG-ID = list-poss(12): <alphanum-name 7..7> CONSOLE-UNIT = <u>*NO</u> / *OWN / *ALL / list-poss(20): <name 2..2> APPLICATION-NAME = <u>*NO</u> / *OWN / *ALL / list-poss(20): <name 4..4>

Operands

MSG-ID = list-poss(12): <alphanum-name 7..7>

Mandatory operand which specifies a seven-digit message number or a list of message numbers identifying messages whose output to the operator terminal is to be suppressed.

Note

Messages with nonexistent message numbers or messages which cannot be suppressed are not rejected (see also “Control of message delivery” in the “Introduction to System Administration” [14]).

CONSOLE-UNIT =

Mnemonic device name of the operator terminal on which the specified messages are not to appear.

CONSOLE-UNIT = *NO

The existing definition for the operator terminal is retained. However, when input is from an operator terminal, the change becomes effective for the operator terminal where the input is made.

CONSOLE-UNIT = *OWN

This operand value is only possible when input is made at a console.

The messages are suppressed at the operator terminal on which the command was issued.

CONSOLE-UNIT = *ALL

The arrangements made are to apply to all operator terminals.

This operand may only be used in the mode without operator LOGON at the main operator terminal.

CONSOLE-UNIT = list-poss(20): <name 2..2>

Mnemonic device name of the main or standby operator terminal at which the specified messages are no longer to appear.

In this operand remote consoles may only be specified in the mode without operator LOGON from the main operator terminal.

APPLICATION-NAME =

Specifies the authorized user program for which the specified messages are to be suppressed.

Note

If messages are suppressed by an authorized user program with generated authorization names, suppression applies until the authorized user program is disconnected. On disconnection, suppression is remembered and comes back into force automatically as soon as the program is reconnected.

In the case of user programs with dynamic authorization names, suppression applies only until disconnection.

APPLICATION-NAME = *NO

The existing definition for the authorized user programs is retained. However, when input is from an authorized user program, the changes become effective for this user program.

APPLICATION-NAME = *OWN

This operand value is only permissible when input is from an authorized user program.

Message suppression is to apply to the authorized user program for which the command was issued.

APPLICATION-NAME = *ALL

The specified messages are suppressed for all known authorized user programs.

This operand may only be used in the mode without operator LOGON at the main operator terminal.

APPLICATION-NAME = list-poss(20): <name 4..4>

Name of the authorized user program (4 alphanumeric characters) for which the specified messages are to be suppressed.

Remote authorized user programs may only be specified in the mode without operator LOGON from the main operator terminal.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NBR0884	Command partially executed
	32	NBR0007	OPR task anchor not accessible
	64	NBR0200	Command not available
	1	CMD0202	Syntax error
	64	NBR0865	Authorized application not found
	64	NBR0866	Operator terminal not found
	64	NBR0881	Maximum number of suppressed messages
	64	NBR0883	May only be issued from main operator terminal in this form
	130	NBR0875	Class-4 memory shortage
	130	NBR0877	Message table locked
	130	NBR0921	Class-5 memory shortage

SET-NET-CLIENT-ALTERNATE

Assign net clients for high availability

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Net-Storage administration
Domain:	DEVICE STORAGE-MANAGEMENT
Privileges:	TSOS OPERATING
Routing code:	G

Function

The SET-NET-CLIENT-ALTERNATE command specifies an assignment of two net clients on redundant HNCs for high availability. This assignment is a symmetrical relationship between the two net clients. There can only ever be one alternative net client for a net client. When one of the two net clients fails, the other takes over the existing Net-Storage connections of the failed net client.

Another SET-NET-CLIENT-ALTERNATE for one of the two net clients has the following effect:

- ALTERNATE-CLIENT=*NONE cancels the existing assignment.
- ALTERNATE-CLIENT=<client> cancels the existing assignment and specifies a new assignment for the specified net clients.

Information on the high availability of net clients can be requested using the SHOW-NET-CLIENT-ALTERNATE command.

Fundamental information on the use of Net-Storage in BS2000 is provided in the "Introduction to System Administration" [14]. How to work with files on Net-Storage is described in the "Introductory Guide to DMS" [13].

Format

SET-NET-CLIENT-ALTERNATE
<p>CLIENT = <composed-name 1..8 with-under> / <c-string 1..8> / *DNS(...) / *IP-ADDRESS(...)</p> <p> *DNS(...) DNS-NAME = <c-string 1..256 with-low></p> <p> *IP-ADDRESS(...) IP-ADDRESS = <composed-name 7..15> / <c-string 2..39></p> <p>ALTERNATE-CLIENT = <composed-name 1..8 with-under> / <c-string 1..8> / *DNS(...) / *IP-ADDRESS(...)</p> <p> *DNS(...) DNS-NAME = <c-string 1..256 with-low></p> <p> *IP-ADDRESS(...) IP-ADDRESS = <composed-name 7..15> / <c-string 2..39></p>

Operands

CLIENT =

Specifies the net client to which an alternative net client is to be assigned.

CLIENT = <composed-name 1..8 with-under> / <c-string 1..8>

Internal BCAM name of the net client.

CLIENT = *DNS(...)

Domain name of the net client.

DNS-NAME = <c-string 1..256 with-low>

Specifies the fully qualified domain name of the net client.

CLIENT = *IP-ADDRESS(...)

IP address of the net client.

IP-ADDRESS = <composed-name 7..15> / <c-string 2..39>

Specifies the IP address of the net client in IPv4 or IPv6 format.

ALTERNATE-CLIENT =

Specifies the net client which is to be assigned as alternative net client.

ALTERNATE-CLIENT = <composed-name 1..8 with-under> / <c-string 1..8>

Internal BCAM name of the alternative net client.

ALTERNATE-CLIENT = *DNS(...)

Domain name of the alternative net client.

DNS-NAME = <c-string 1..256 with-low>

Specifies the fully qualified domain name of the net client.

ALTERNATE-CLIENT = *IP-ADDRESS(...)

IP address of the alternative net client.

IP-ADDRESS = <composed-name 7..15> / <c-string 2..39>

Specifies the IP address of the net client in IPv4 or IPv6 format.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
1	0	CMD0001	Command executed without error
	0	NKAN015	Alternate assignment already exists
	1	NKAN003	Syntax error in the input
	32	NKAN004	Error in command execution

SET-PROCEDURE-OPTIONS

Define procedure attributes

Description status:	SDF-P-BASYS V2.5E
Functional area:	Procedures
Domain:	PROCEDURE
Privileges:	STD-PROCESSING OPERATING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The SET-PROCEDURE-OPTIONS command enables the user to define the attributes of an *S procedure*. It is an optional command. If used, it must be the *first* command in the procedure head; if it is not used, the attributes are defined in accordance with the SDF-P default values.

The following options can be set in the SET-PROCEDURE-OPTIONS command (the SDF-P default values are given in parentheses):

- permissible procedure call (CALLER=*ANY)
- implicit declaration of S variables (IMPLICIT-DECLARATION=*YES)
- scope of logging (LOGGING=*YES)
- interruption of the procedure (INTERRUPT-ALLOWED=*YES)
- format of the procedure (INPUT-FORMAT=*FREE-RECORD-LENGTH)
- replacement of variables within data records (DATA-ESCAPE-CHAR=*NONE)
- SYSFILE context of the current procedure level (SYSTEM-FILE-CONTEXT=*STD)
- error recovery when there is a mixture of input data and commands (DATA-ERROR-HANDLING=*YES)
- setting for job variable replacement (default in interactive mode: JV-REPLACEMENT=*AFTER-BUILTIN-FUNCTION; in S procedures JV-REPLACEMENT=*NO)
- setting for error handling (ERROR-MECHANISM=*SPIN-OFF-COMPATIBLE)
- suppression of selected SDF-P messages (SUPPRESS-SDP-MSG=*NONE)

Note

If the SET-PROCEDURE-OPTIONS command is not specified explicitly, the SDF-P defaults apply. Defaults for the command which have been modified in the activated syntax file apply to the procedure only when the SET-PROCEDURE-OPTIONS command is specified explicitly.

The procedure attributes can be changed by means of the MODIFY-PROCEDURE-OPTIONS command. The “SDF-P message suppression” option can be modified at any time, but the other settings can only be changed if the chargeable SDF-P subsystem is in operation (see the MODIFY-PROCEDURE-OPTIONS command).

Format

SET-PROCEDURE-OPTIONS

```

CALLER = *ANY / *CALL / *INCLUDE
,IMPLICIT-DECLARATION = *YES / *NO
,LOGGING-ALLOWED = *PARAMETERS(...) / *YES / *NO /
  *PARAMETERS(...
  |   CMD = *YES / *NO
  |   ,DATA = *YES / *NO
,INTERRUPT-ALLOWED = *YES / *NO
,INPUT-FORMAT = *FREE-RECORD-LENGTH / *BY-SDF-OPTION
,DATA-ESCAPE-CHAR = *NONE / '&&' / '#' / '*' / '@' / '$' / *STD
,SYSTEM-FILE-CONTEXT = *STD / *SAME-AS-CALLER / *OWN
,DATA-ERROR-HANDLING = *YES / *NO
,JV-REPLACEMENT = *NONE / *AFTER-BUILTIN-FUNCTION
,ERROR-MECHANISM = *SPIN-OFF-COMPATIBLE / *BY-RETURNCODE
,SUPPRESS-SDP-MSG = *NONE / list-poss(2000): <alphanum-name 7..7>
,TRANSLATION-CSS = *STD / *EDF03IRV / *CURRENT

```

Operands

CALLER =

This defines how the procedure may be called.

CALLER = *ANY

The procedure can be called using the commands CALL-PROCEDURE and INCLUDE-PROCEDURE. The latter command is only available if the chargeable subsystem SDF-P is loaded. Invocation as an INCLUDE procedure is described in the “SDF-P” manual [34].

CALLER = *CALL

The procedure can only be called by means of the CALL-PROCEDURE command.

CALLER = *INCLUDE

The procedure can only be called by means of the INCLUDE-PROCEDURE command (which in turn is only possible if the subsystem SDF-P is loaded).

IMPLICIT-DECLARATION = *YES / *NO

This specifies whether S variables may be declared implicitly.

Implicit declaration means that S variables are created automatically when they are assigned for the first time, and corresponds to explicit declaration using DECLARE-VARIABLE and preset values:

A *simple* S variable without an initial value and without definition of the variable type is created in class 5 memory. This S variable is known only within the procedure (see [section "SDF-P-BASYS" on page 1-131](#)).

S variables which are used as procedure parameters (see the DECLARE-PARAMETER command) are also declared explicitly. They too are created within the procedure only. If implicit declaration is not permitted, S variables must be created explicitly before they are first assigned. The attributes of the S variables can be defined at this point. Only variables of type ANY are permitted with SDF-P-BASYS.

LOGGING-ALLOWED =

This determines whether logging of procedure execution is permitted. The specification applies only to the current procedure level.

Whether logging is actually performed is determined by the caller in the CALL-PROCEDURE command.

LOGGING-ALLOWED = *PARAMETERS(...)

Logging is permitted. However, the user can grant the requisite authorization separately for commands and data records:

CMD = *YES / *NO

This specifies whether commands can be logged.

DATA = *YES / *NO

This specifies whether data records can be logged.

LOGGING-ALLOWED = *YES

Logging is permitted without restrictions.

LOGGING-ALLOWED = *NO

Logging is not permitted.

INTERRUPT-ALLOWED = *YES / *NO

This specifies whether the procedure may be interrupted by means of the [K2](#) key or the HOLD-PROCEDURE command. The interrupted procedure can be resumed by means of the RESUME-PROCEDURE command.

If interruption is not permitted, a query to this effect is output after the interrupt request. If the user insists upon an interruption, the system terminates the job immediately.

INPUT-FORMAT =

This specifies the length in which the input records for the procedure are to be evaluated and the positions at which a continuation character is possible.

INPUT-FORMAT = *FREE-RECORD-LENGTH

Input records are evaluated in their full length. The continuation character is located in the last column that does not contain a blank.

The maximum length of an input record is 4096 characters (4 K).

INPUT-FORMAT = *BY-SDF-OPTION

Input records are evaluated up to and including column 72; any subsequent characters are ignored. The location of the continuation character is determined by the current SDF setting (output by means of the SHOW-SDF-OPTIONS command; setting via the CONTINUATION operand of the MODIFY-SDF-OPTIONS command).

DATA-ESCAPE-CHAR = *NONE / '&&' / '#' / '*' / '@' / '\$' / *STD

This specifies whether variables are to be replaced and expressions evaluated in data records.

It is possible to define the character with which the relevant variables or expressions begin. Permissible characters are &, #, *, @ and \$. Specifying & is equivalent to specifying *STD (as on command level). If the character & is to be specified explicitly, it *must* be entered twice.

SYSTEM-FILE-CONTEXT =

This specifies the system file context with which the procedure is to execute.

SYSTEM-FILE-CONTEXT = *STD

A separate system file context is created. The system file SYSDDTA is assigned automatically to the system file SYSCMD (i.e. to the procedure file) and the assignments made by the caller are assumed for the other system files. Modifications to assignments apply solely to the current procedure level. When a procedure is terminated, the system files are again given the assignments made by the caller.

SYSTEM-FILE-CONTEXT = *SAME-AS-CALLER

The procedure executes in the system file context of the caller.

Modifications to assignments within the current procedure level thus *always* affect the system file context of the caller.

SYSTEM-FILE-CONTEXT = *OWN

A separate system file context is created. The assignments made by the caller are adopted for *all* system files (including SYSDDTA). Modifications to assignments are only valid within the current procedure level. When a procedure is terminated, the system files are again given the assignments made by the caller.

The specification *OWN corresponds to what was previously valid for *non-S procedures*.

DATA-ERROR-HANDLING =

This specifies whether SDF-P error recovery is to be activated in the following cases:

- data (without a leading slash or with a leading double slash) is found at a point where commands are expected
- *&<variable>* or only *&* occurs within data, and *<variable>* is not known either as an S variable or as a builtin function.

DATA-ERROR-HANDLING = *YES

SDF-P error recovery is triggered in the cases specified above.

DATA-ERROR-HANDLING = *NO

SDF-P error recovery is not triggered in the cases specified above.

JV-REPLACEMENT =

This specifies whether job variable replacement is to be carried out.

JV-REPLACEMENT = *NONE

Job variables are not replaced. Only S variables or builtin functions are replaced. This setting guarantees that builtin functions can be introduced compatibly (i.e. their names will not overlap with JV names already assigned by the user).

JV-REPLACEMENT = *AFTER-BUILTIN-FUNCTION

Job variables are replaced. Replacement occurs in the following sequence: first S variable, then builtin function and finally job variable. Incompatibilities during job variable replacement due to like-named builtin functions can be avoided by specifying the user ID along with the JV names. Moreover, the desired job variable replacement can also be achieved through the builtin function JV.

ERROR-MECHANISM =

Specifies whether SDF-P error handling is triggered in compatible fashion with the previous spin-off mechanism or on a nonzero subcode1.

ERROR-MECHANISM = *SPIN-OFF-COMPATIBLE

SDF-P error handling is triggered in compatible fashion with the previous spin-off mechanism. Subcode1 is **not** taken into consideration.

This setting ensures that the error behavior of S procedures created in BS2000 Version 10.0A remains compatible.

ERROR-MECHANISM = *BY-RETURNCODE

SDF-P error handling is triggered on a nonzero subcode1. Spin-off is **not** taken into consideration. Error handling in the procedure must be based on the possible command return codes of the commands contained in the procedure.

SUPPRESS-SDP-MSG =

Determines whether the output of certain SDF-P messages (message class SDP) is to be suppressed. The option applies only to the calling procedure (it is not propagated).

SUPPRESS-SDP-MSG = *NONE

Message output is not suppressed; all SDF-P messages are output.

SUPPRESS-SDP-MSG = list-poss(2000): <alphanum-name 7..7>

Set of SDF-P messages which are to be suppressed.

TRANSLATION-CSS =

Determines which character set (CSS, Coded Character Set) the built-in functions UPPER-CASE and LOWER-CASE use for conversion to uppercase and lowercase letters.

TRANSLATION-CSS = *STD

The standard character set EDF03IRV is used. When an optional Rep is employed for SDF-P-BASYS, *STD has a system-global effect like *CURRENT.

TRANSLATION-CSS = *EDF03IRV

Forces the use of the standard character set EDF03IRV.

TRANSLATION-CSS = *CURRENT

The character set which is currently set for the task's input stream is used.

The command is rejected in the following cases:

- The character set used is not supported or is not known.
- The character set is not EDF03IRV and the XHCS subsystem is not loaded.
- The character set is a 16-bit character set (only 8-bit character sets are supported).

Return codes

The SET-PROCEDURE-OPTIONS command can only be used as the first command in the procedure head of an S procedure. SDF-P detects errors in the procedure head during pre-analysis and terminates the procedure call.

The command return codes can only occur if the command is used outside the procedure head.

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	1	SDP0118	Command in incorrect context
	3	CMD2203	Incorrect syntax file
	32	CMD0221	System error (internal error)
	130	SDP0099	No further address space available

SET-PUBSET-ATTRIBUTES

Define attributes of pubset

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	TSOS

Function

This command is used by systems support to define the following pubset attributes:

- rshareability of the pubset
- desired nowner (master) of the pubset
- desired master change mode
- desired backup owner (backup master) of the pubset
- system identification (SYSID) of the processor that uses this pubset as the home pubset.
- the pubset's disk and file properties (> 32 GB)
- maximum permitted number of Snapsets

Only the PUBRES of the pubset in question must be available for execution of the command (in an SM pubset this is the PUBRES of the control volume set). The attributes defined here (the pubset characteristics) are recorded in the SVL (standard volume label) of the PUBRES.

When assigning a SYSID which is used internally as a synonym of the BCAM name, a distinction must be made according to the type of catalog ID.

- Single-character catalog identifier complying with naming convention PUBxyy

PUB = distinguishes public from private disks	} VSN (6 characters)
x = catalog identifier, 1 character	
yy = no. within the pubset, 2 characters	

The SYSID must be **identical** to the catalog identifier (x).

- Multiple-character catalog identifier complying with naming convention xxx.yy (period notation)

xxx = catalog identifier, 2–4 characters long	} VSN (6 characters)
. = delimiter between catalog identifier and	
no. within the pubset, distinguishes public	
from private disks	
yy = no. within the pubset, 1–3 characters long	

The SYSID must be an integer in the range **65...192**.

When assigning the SYSID it must be avoided that two processors of an MSCF network or two processors operating a common SPD have the same SYSID. In SPD operation it would otherwise no longer be possible in such a case to determine which sharer system holds a file lock.

Specification of new attributes is not immediately effective for pubsets that have already been imported but only after the pubset is re-imported.

Format

SET-PUBSET-ATTRIBUTES
<pre> PUBSET = <catid 1..4> ,PUBSET-TYPE = <u>*ANY</u> / *SINGLE-FEATURE / *SYSTEM-MANAGED(...) *SYSTEM-MANAGED(...) CONTROL-VOLUME-SET = <u>*ANY</u> / <catid 1..4> ,DEVICE-TYPE = <u>*STD</u> / *NONE / <device> ,SYSID = <u>*UNCHANGED</u> / <alphanum-name 1..3> ,MASTER = <u>*UNCHANGED</u> / *NONE / <alphanum-name 1..3> ,BACKUP-MASTER = <u>*UNCHANGED</u> / *NONE / <alphanum-name 1..3> ,ALTERNATE-BACKUP = <u>*UNCHANGED</u> / *BY-OPERATOR / *BY-SHARER / *NONE ,SHARE = <u>*UNCHANGED</u> / *NO / *YES ,LARGE-VOLUMES = <u>*UNCHANGED</u> / *ALLOWED(...) *ALLOWED(...) LARGE-FILES = <u>*UNCHANGED</u> / *ALLOWED ,SNAPSET-LIMIT = <u>*UNCHANGED</u> / <integer 1..52> </pre>

Operands

PUBSET = <cat-id 1..4>

Pubset to which the following declarations are to apply.

PUBSET-TYPE = *ANY / *SINGLE-FEATURE / *SYSTEM-MANAGED(...)

Specifies the type of pubset involved.

The default applies if an MRSCAT entry exists or if the pubset identifier refers to a single-feature pubset.

PUBSET-TYPE = *ANY

Default: A valid MRSCAT entry exists (the pubset type is irrelevant), or the pubset is a single-feature pubset.

PUBSET-TYPE = *SINGLE-FEATURE

The pubset in question is a single-feature pubset.

PUBSET-TYPE = *SYSTEM-MANAGED(...)

The pubset in question is a system-managed pubset.

CONTROL-VOLUME-SET = *ANY

The pubset in question is an SM pubset with a valid MRSCAT entry.

CONTROL-VOLUME-SET = <cat-id 1..4>

The pubset in question is an SM pubset for which there is no MRSCAT entry.

DEVICE-TYPE = *STD / *NONE / <device>

Device type of the PUBRES of the SF pubset or of the control volume set of the SM pubset, as appropriate.

DEVICE-TYPE = *STD

The default value applies if an MRSCAT entry with the device type exists for this pubset.

DEVICE-TYPE = *NONE

A valid MRSCAT entry exists; there is no need to specify the device type.

DEVICE-TYPE = <device>

Device type of the PUBRES or of the control volume set, as appropriate.

Only disk device types known on the system will be accepted.

Entering DEVICE-TYPE=? in interactive mode calls up a list of available device types.

SYSID = *UNCHANGED / <alphanum-name 1..3>

Issues a SYSID assigned to the pubset.

SYSID = <alphanum-name 1..3>

If the pubset with the name convention PUBxxy is used as a home pubset, the specification here, which corresponds to the catalog identifier, is used as the SYSID for the processor.

In the case of a catalog identifier with 2-4 characters, a whole number in the range 65 to 192 must be assigned to the pubset as the SYSID.

MASTER = *UNCHANGED / *NONE / <alphanum-name 1..3>

Specifies the ownership of the pubset.

MASTER = *NONE

Ownership is not explicitly declared. Instead, ownership passes to the system that executes the first IMPORT-PUBSET.

MASTER = <alphanum-name 1..3>

SYSID of the desired master system.

BACKUP-MASTER = *UNCHANGED / *NONE / <alphanum-name 1..3>

Specifies which system is to automatically take over the function of master if the owner of a shared pubset fails. The ALTERNATE-BACKUP operand can be used to define a secondary backup system to take over the function of the master if the backup master specified here is also unavailable.

BACKUP-MASTER = *UNCHANGED

Default: the existing backup master setting continues to apply.

BACKUP-MASTER = *NONE

No preselected system is to take over the role of master automatically if the owner of a shared pubset fails.

BACKUP-MASTER = <alphanum-name 1..3>

SYSID of the required backup owner system.

If the specified system is active as a slave at the time when the owner of a shared pubset fails, it automatically takes over the role of master; if it is not active, the ALTERNATE-BACKUP operand determines whether or how the new master can be identified.

After a change of master to the specified backup master, a further change of master can be carried out without modification of the BACKUP-MASTER operand if the system identified by the MASTER operand is active as a slave system.

ALTERNATE-BACKUP = *UNCHANGED / *NONE / *BY-OPERATOR / *BY-SHARER

Defines how a change of master is to be implemented if the backup master is not active or not defined (BACKUP-MASTER operand). If the backup master is active, the master is changed automatically and the backup master becomes the new master.

ALTERNATE-BACKUP = *UNCHANGED

Default: the existing setting continues to apply.

ALTERNATE-BACKUP = *NONE

No alternate backup master is defined. If there is an explicitly defined backup master which is not active, no other system is allowed to act as master.

ALTERNATE-BACKUP = *BY-OPERATOR

If the backup master is not active or not defined, an operator can nominate an alternate backup master on one of the slave systems and thus initiate a change of masters (using the command /IMPORT-PUBSET . . . , MASTER-CHANGE=*YES).

ALTERNATE-BACKUP = *BY-SHARER

If the backup master is not active or not defined, the role of master is automatically taken by the system which is the first sharer in the current SVL sharer list and hence currently the oldest slave system.

SHARE = *UNCHANGED / *NO / *YES

Governs whether the pubset may be operated as a shared pubset.

SHARE = *UNCHANGED

Default: the existing setting continues to apply.

SHARE = *NO

The pubset must not be imported as a shared pubset.

SHARE = *YES

The pubset may be imported as a shared pubset.

LARGE-VOLUMES = *UNCHANGED / *ALLOWED(...)

Specifies whether the pubset may contain large volumes (capacity > 32 GB).

LARGE-VOLUMES = *UNCHANGED

Default: the existing setting is unchanged.

LARGE-VOLUMES = *ALLOWED(...)

Once set, this attribute cannot be revoked using a command.

The pubset may contain large volumes.

LARGE-FILES = *UNCHANGED / *ALLOWED

Specifies whether the pubset may contain files \geq 32 GB.

LARGE-FILES = *UNCHANGED

Default: the existing setting is unchanged.

LARGE-FILES = *ALLOWED

Once set, this attribute cannot be revoked using a command.

The pubset may contain large volumes.



Pubsets with this attribute cannot be used as home pubsets.

SNAPSET-LIMIT = *UNCHANGED / <integer 1..52>

Specifies the maximum number of Snapsets permitted for the pubset. Up to 52 Snapsets can exist for a pubset (provided this maximum number is supported by the disk storage system).

Any attempt to reduce the Snapset limit to below the number of existing Snapsets is rejected. However, as this can only be checked in the case of imported pubsets, for safety's sake all snap mirrors are treated as if they belonged to a Snapset in the case of a pubset which was not imported.

An increase to the Snapset limit is rejected if the number of unused snap units is not sufficient for this.

Notes

- The /DELETE-SNAPSET SNAPSET=*ALL command causes all Snapsets of a pubset to be deleted, the Snapset catalog also being removed. When the Snapset catalog is removed, the Snapset limit in the SVL is reset to 0.
- In the shared pubset network it must be borne in mind that BS2000/OSD V7.0 supports a maximum of 26 Snapsets. If a pubset's SNAPSET-LIMIT is greater than 26, systems with BS2000/OSD V7.0 may not be able to recognize the Snapsets belonging to this pubset.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD0202	Syntax error
	32	DMS03BE	Error during communications processing: <ul style="list-style-type: none"> – during read access to MRSCAT – during time-stamped read access – during SVL access – during the SYSID conversion call – during output to SYSOUT – in the pubset occupancy
	64	DMS03BE	No authorization to use command
	64	DMS03BE	Device type missing in the MRSCAT
	64	DMS03BE	Current CATID is not a volume set CATID
	64	DMS13DA	Snapset limit not in the possible value range
	64	DMS13DF	SHC-OSD subsystem not available
	64	DMS13E7	No Snapsets are supported for the pubset
	130	DMS03BE	Disk request rejected
	130	DMS03BE	Pubset in process of being exported

Notes

1. A change of master can only take place in a shared pubset network if a backup master is defined and active, or if the ALTERNATE-BACKUP=*BY-SHARER operand is set. If none of the permissible backup masters is active, all pubset sharers are switched to "INACCESSIBLE, QUIET" if the master fails. In this case a change of master can subsequently take place provided the ALTERNATE-BACKUP=*BY-OPERATOR operand is set. A subsequent change of master must be triggered manually by explicitly issuing an IMPORT-PUBSET command (specifying MASTER-CHANGE=*YES).
2. Once set, the pubset attributes LARGE-VOLUMES=*ALLOWED and LARGE-FILES=*ALLOWED cannot be changed using a command, i.e. they cannot be revoked.

SET-REPLOG-READ-MARK

Close REPLOG file briefly

Description status:	BLSSERV V2.8A
Functional area:	Program control
Domain:	PROGRAM
Privileges:	TSOS SAT-FILE-MANAGEMENT

Function

The SET-REPLOG-READ-MARK command allows systems support under TSOS or - if SECOS is being used - the SAT file administrator under the SYSAUDIT user ID, to effect temporary closure of the REPLOG file.

All the correction data (REPs) imported for SYSIPL, SYSSTART, for BS2000 and all dynamically loaded subsystems, is logged in the REP logging file
\$SYSAUDIT.SYS.REPLOG.<date>.<session-number>.01.

All data logged up to the point when the file is input can be analyzed or, if desired, copied to a file. Systems support cannot access correction data written to the REPLOG file after this command call until SET-REPLOG-READ-MARK has been issued again.

Format

SET-REPLOG-READ-MARK

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	BLS0979	No REPLOG file available
	32	BLS0152	System error
	32	BLS0994	Error during the Close function
	64	CMD0216	Caller is not privileged

SET-RESTART-OPTIONS

Control automatic restart

Description status:	BS2000 OSD/BC V10.0A
Functional area:	System control and optimization
Domain:	not allocated
Privileges:	OPERATING
Routing code:	R

Function

The SET-RESTART-OPTIONS command specifies whether, and if so when, an automatic restart is to be performed. In the case of an automatic restart, the type of error documentation to be generated before the restart can also be defined.

For information on automatic restart see the “Introduction to System Administration” [14].

Format

SET-RESTART-OPTIONS
<pre> MODE = *ON(...) / *OFF *ON(...) DELAY = *STD / <integer 0..32767 seconds> ,UPTIME = *STD / <integer 0..32767 minutes> ,DUMP = *STD / *NO / *SNAP / *SLED </pre>

Operands

MODE =

Specifies whether the automatic restart is to be activated.

MODE = *ON(...)

The automatic restart is to be activated.

In the event of a system crash the system will be reloaded automatically.

DELAY =

After a system crash has been reported (NRTT501 SETS;...) it defines how much time elapses before a memory dump is taken with SLED.

This gives the operator an opportunity to intervene.

DELAY = *STD

No waiting is the default.

DELAY = <integer 0..32767 seconds>

Specifies the time in seconds to be waited before making a memory dump.

UPTIME =

Specifies a time interval in minutes after SYSTEM READY. If a system crash occurs within this time, no automatic restart is initiated.

UPTIME = *STD

The default time interval after SYSTEM READY is 10 minutes, in which time no automatic restart is to be initiated.

UPTIME = <integer 0..32767 minutes>

If a system crash occurs within the time specified in minutes after SYSTEM READY, no automatic restart is to be initiated.

DUMP = *STD / *NO / *SNAP / *SLED

Determines what type of error documentation is to be generated before an automatic restart.

The default value is *STD, i.e. the caller determines the type of error documentation.

*SNAP and *SLED specify snapshot and SLED documentation respectively.

MODE = *OFF

The automatic restart is not to be activated.

Any previous SET-RESTART-OPTIONS command with MODE = *ON is ineffective, i.e. the system is not automatically reloaded after a system crash.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	EXC0750	Automatic restart must be set because of STCK error
	1	CMD0202	Syntax error or semantic error
	64	CMD0216	Caller is not privileged
	64	EXC0688	IPL disk is not a public disk

SET-RFA-CONNECTION

Set up RFA connection

Description status:	RFA V19.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	STD-PROCESSING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT

This command is available only to users who have the RFA software product (see also the “RFA” manual [31]).

Function

This command sets up an RFA connection. The first time a connection to a remote system is set up, a partner task is generated under the specified user ID. This command can also be used for a local catalog. In that case, an RFA connection is set up within the local system; a partner task is not generated.

The user can issue the SHOW-RFA-CONNECTIONS command to get information on all existing RFA connections.

The REMOVE-RFA-CONNECTION command is used to clear down an RFA connection. For each SET-RFA-CONNECTION command, a corresponding REMOVE-RFA-CONNECTION must be given. A partner task on a remote system is not terminated until the last connection is cleared. When the local user task is terminated, all existing RFA connections are automatically cleared down by the system.

Prerequisite

Each processor on which the command will be given must have an entry for the specified catalog ID with the appropriate processor name in the MRS catalog. The user can check up on entries in the MRS catalog with the aid of the SHOW-MASTER-CATALOG-ENTRY command.

Format

<pre> SET-RFA-CONNECTION CATALOG-ID = <cat-id 1..4> , PROCESSING-ADMISSION = <u>*PARAMETERS</u> (...) <u>*PARAMETERS</u>(...) USER-IDENTIFICATION = <u>*SAME</u> / <name 1..8> , ACCOUNT = <u>*SAME</u> / <alphanum-name 1..8> , PASSWORD = <u>*NONE</u> / <c-string 1..8> / <c-string 9..32> / <x-string 1..16> / *SECRET , CONNECTION = <u>*IMMEDIATE</u> / <u>*WITHIN</u>(...) *<u>WITHIN</u>(...) SECONDS = <integer 32..99999999 seconds> , ANSWER = <u>*STD</u> / N / Y / *SYSDTA </pre>

Operands

CATALOG-ID = <cat-id 1..4>

Catalog ID to which the RFA connection is to be set up.

If the catalog ID is not entered in the MRS catalog, or the entry is incorrect or incomplete or the catalog is not accessible, the command is rejected.

The user can issue the command SHOW-MASTER-CATALOG-ENTRY to find out if the catalog ID is entered in the MRS catalog.

If the catalog ID refers to a remote processor, and if the SET-RFA-CONNECTION command is the first for this processor, a partner task will be generated on this processor. If the catalog ID refers to the local system, no partner task is generated.

PROCESSING-ADMISSION = *PARAMETERS(...)

Specifications concerning the partner task to be created.

These specifications are only evaluated if the RFA connection to a remote processor is being set up for the first time. In this case, a partner task is generated and the specifications checked for LOGON authorization.

For subsequent SET-RFA-CONNECTIONS to other catalogs of the remote processor these specifications are ignored. (For exception, see notes for shared pubset [on page 5-373.](#))

The already-generated partner task is used for access to additional catalogs of this remote processor.

USER-IDENTIFICATION = *SAME / <name 1..8>

User ID under which the partner task is to run.

USER-IDENTIFICATION = *SAME

The user's own user ID (under which the command is issued) applies.

ACCOUNT = *SAME / <alphanum-name 1..8>

Account number under which the partner task is to run.

ACCOUNT = *SAME

The account number of the current user task (under which the command was issued) applies.

PASSWORD = *NONE / <c-string 1..8> / <c-string 9.32>/ <x-string 1..16> / *SECRET

Password of the user ID under which the partner task is to run.

The long password mechanism is supported (<c-string 9..32>). See the MODIFY-USER-PROTECTION command description for details of the long password mechanism.

If the PASSWORD operand is defined as "secret":

- The value which is input will not be logged.
- In guided dialog, the input field is automatically blanked out.
- In unguided dialog and in foreground procedures, *SECRET or ^ allows for concealed input of the required value. SDF requests the input of the "secret" value and provides a blanked input field for this purpose.

The password must be specified even if it is the same as the one for the current user task. The user ID, account number and password are all checked by the remote system. The other LOGON parameters (JOB-NAME and LOGGING) for the partner task are taken from the current user task.

CONNECTION =

Specifies whether the attempt to set up a connection is to be made only once or more than once within a defined period.

CONNECTION = *IMMEDIATE

The attempt to set up an RFA connection is made just once. If it is unsuccessful, the user is issued an error message.

CONNECTION = *WITHIN(...)

Specification of a period within which the system attempts to set up the RFA connection.

SECONDS = <integer 32..99999999 seconds>

Period in seconds within which the system attempts to set up the connection every 32 seconds (if repetition is reasonable).

If the attempts were unsuccessful, an error message is issued.

ANSWER = *STD / N / Y / *SYSDTA

This operand is evaluated only in procedures or batch operation.

After the LOGON is processed, the first information block of the bulletin file, containing systems support information, is output. If the prompt CONTINUE Y/N is issued, the user can see the next information block by entering "Y", or answer "N" to decline.

This operand specifies how prompts concerning continued output of the information blocks output by the remote system during connection setup are to be answered.

ANSWER = *STD

In interactive operation, the prompts of the remote system are sent to the local processor and are to be answered there from the terminal. The responses are sent to the remote system and evaluated there.

In procedure mode and batch mode, ANSWER=N applies, i.e. all prompts are answered with "N".

ANSWER = N

All prompts from the remote system are answered with "N".

ANSWER = Y

All prompts from the remote system are answered with "Y".

ANSWER = *SYSDTA

All prompts from the remote system are sent to the local processor, where the responses are expected from SYSDTA. The responses are sent to the remote system and evaluated there.

Responses from SYSDTA make sense only if the user knows the number of information blocks in the remote bulletin file, i.e. when the user knows exactly which information blocks he or she wants to receive.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	RFA0002	Command executed
	1	RFA0026	Command for shared pubset rejected
	64	RFA0016	BS2000 version of remote system not supported
	64	RFA0023	RFA connection faulty
	64	RFA0024	No additional RFA connections possible
	64	RFA0027	Configuration error

Notes

- Setting up a connection to a target processor by means of RFA is subject to the following restrictions:
 - RFA does not support user authentication via the Kerberos LOGON, i.e. no user ID protected by the Kerberos LOGON may be specified in the target processor in the SET-RFA-CONNECTION command.
 - RFA does not support the entry of a personal user ID (SET-PERSONAL-ATTRIBUTES command, see the “SECOS” manual [35]). RFA connection setup to a target ID protected with a “personal LOGON” is only possible if PASSWORD-CHECK=*NO is set for the user ID, but the password is specified anyway in the SET-RFA-CONNECTION command.
- The REMOVE-RFA-CONNECTION command clears down the RFA connection. When the task is terminated, the system automatically clears down any RFA connections which still exist.
- Procedure nesting: if two or more SET-RFA-CONNECTION commands are issued for the same catalog ID (of the remote system), there must be as many REMOVE-RFA-CONNECTION commands as there were SET-RFA-CONNECTION commands in order to clear this connection.

Shared pubsets

- A pubset entered in the MRSCAT in conjunction with SHARED-PUBSET=*YES in the ADD-MASTER-CATALOG-ENTRY or MODIFY-MASTER-CATALOG-ENTRY command can be used as a shared pubset.
If there is not yet an RFA connection to the processor associated with this pubset, an RFA connection can be set up to the pubset
 - if the user ID in the SET-RFA-CONNECTION command matches the user ID of the RFA task;
 - if the user ID in the SET-RFA-CONNECTION command is not the same as the user ID of the RFA task, and the pubset is not imported as a shared pubset and not locally accessible.

If there already is an RFA connection to the processor associated with this pubset, an RFA connection to the pubset can only be set up if the user ID in the SET-RFA-CONNECTION command matches the user ID of the RFA task **and** the AFR partner task.

In all other cases, a SET-RFA-CONNECTION command for this pubset is rejected.
Due to this restriction, SHARED-PUBSET=*YES should only be defined for pubsets which are really used as shared pubsets.
- An RFA connection to a shared pubset with the catalog ID *catid* will not be set up if *catid* is entered in the user catalog as the default catalog ID for the user ID of the local task.

SET-SNAPSET-PARAMETER

Define the Snapset environment

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT SNAPSET
Privileges:	TSOS HSMS-ADMINISTRATION

Function

The SET-SNAPSET-PARAMETER command sets the processing environment for the Snapsets of an (imported) pubset. The settings are stored in the pubset's Snapset catalog. The following settings are possible:

- In the case of Symmetrix systems, the pubset can be assigned a dedicated save pool (area in a disk storage system for storing the files copied to snap units).
 -  In the case of ETERNUS DX systems, only a single (default) save pool is supported. In the case of VMAX3 systems, no save pool is supported.
- In the case of remote mirroring, snap copies can also be generated on the remote disk storage system. When Concurrent SRDF (Symmetrix or VMAX3 system) is used, which of the remote disk storage systems the snap copies are to be generated on must be specified.

The SHOW-SNAPSET-CONFIGURATION command displays the current settings.

Format

SET-SNAPSET-PARAMETER

```

PUBSET = <cat-id 1..4>
,SAVE-POOL-NAME = *UNCHANGED / <name 1..32 with-under-low> / *DEFAULT-POOL
,REMOTE-COPY = *UNCHANGED / *NO / *YES(...)
  *YES(...)
    | RA-GROUP = *UNIQUE / <integer 1..250>

```

Operands**PUBSET = <cat-id 1..4>**

Catalog ID of the pubset for which the Snapset processing environment is to be set.

SAVE-POOL-NAME =

This values is relevant for Symmetrix systems only.

Name of the save pool in the disk storage system which is to be used for snap copies from the specified pubset.

SAVE-POOL-NAME = *UNCHANGED

The current setting is retained.

SAVE-POOL-NAME = <name 1..32 with-under-low>

Name of a dedicated save pool which is used for snap copies of the pubset. The specified save pool must have been set up in the disk storage system by an engineer.

SAVE-POOL-NAME = *DEFAULT-POOL

The default save pool in the disk storage system is used.

REMOTE-COPY = *UNCHANGED / *NO / *YES(...)

This setting is evaluated only in the case of mirroring in a remote disk storage system.

Specifies whether snap copies are also to be created on the remote disk storage system.

REMOTE-COPY = *UNCHANGED

The current setting is retained.

REMOTE-COPY = *NO

No snap copies are created on the remote disk storage system.

REMOTE-COPY = *YES(...)

Snap copies are also created on the remote disk storage system.

RA-GROUP = *UNIQUE

Only one remote disk storage system is operated, and additional snap copies (target units) are also kept on this.

RA-GROUP = <integer 1..250>

Only for Symmetrix or VMAX3 systems.

The specified RA group determines the remote disk storage system on which the snap copies are kept. This specification is required if the pubset is mirrored on multiple remote disk storage systems using Concurrent SRDF.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without error
	32	CMD0216	Required authorization not available
	64	DMS1351	Internal error
	64	DMS1386	Error in the memory request
	64	DMS1389	Error in MSCF communication
	64	DMS138B	Not an MRSCAT entry
	64	DMS138C	Pubset not accessible
	64	DMS13D6	Snapset limit exceeded
1	64	DMS13D7	Internal error in Snapset management: Return code of GCF
	64	DMS148F	GCF not loaded

SET-SPACE-SATURATION-LEVEL

Change allocation parameters

Description status:	BS2000 OSD/BC V10.0A
Functional area:	System control and optimization
Domain:	SYSTEM-TUNING
Privileges:	TSOS



The SET-SPACE-SATURATION-LEVEL command is now supported only to ensure backwards compatibility. The following replacement commands should be used for new applications:

- MODIFY-SPACE-SATURATION-LEVELS to set saturation levels
- MODIFY-PUBSET-SPACE-DEFAULTS to modify allocation parameters

Format

SET-SPACE-SATURATION-LEVEL
<p>SATURATION-LEVEL = <u>*STD</u> / *PARAMETERS(...)</p> <p>*PARAMETERS(...)</p> <pre> LEVEL1 = <integer 1..999999 2Kbyte> ,LEVEL2 = <integer 1..999999 2Kbyte> ,LEVEL3 = <integer 1..999999 2Kbyte> ,LEVEL4 = <integer 1..999999 2Kbyte> ,LEVEL5 = <integer 1..999999 2Kbyte> </pre> <p>,PUBLIC-VOLUME-SET = <u>*HOME</u> / <cat-id 1..4></p> <p>,PRIMARY-ALLOCATION = <u>*STD</u> / <integer 1..999999 2Kbyte></p> <p>,SECONDARY-ALLOCATION = <u>*STD</u> / <integer 1..32767 2Kbyte></p> <p>,MAXIMAL-ALLOCATION = <u>*STD</u> / <integer 1..999999 2Kbyte></p>

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	DMS0670	Syntax error
	64	DMS0668	Caller is not privileged
	64	DMS0671	Pubset is not available
	64	DMS0672	Operand error

SET-SYSLST-READ-MARK

Set read mark in SYSLST file

Description status:	SYSFILE V19.0A
Functional area:	Job processing File processing
Domain:	JOB PROCEDURE PROGRAM
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The SET-SYSLST-READ-MARK command sets a “read mark” at the current end of the SYSLST file. Further outputs to SYSLST are continued without interruption behind the read mark. When SYSLST is assigned to a file, the content of the file ahead of the read mark can then be accessed in read mode without the assignment of SYSLST having to be changed.

A read mark cannot be set if a library element or an S variable is assigned.

By default the command applies for the SYSLST file of the user’s own task. The read mark can also be set in files which are assigned to the system files SYSLST01 through SYSLST99.

Specifying a TSN or monitor JV permits nonprivileged users also to issue the command for the SYSLST files of other tasks under their user ID.

The primary allocation and properties of SYSLST are described in [section “System files” on page 1-73](#).

Privileged function

The TSOS privilege enables the command to be issued for the SYSLST file of any task.

Format

SET-SYSLST-READ-MARK
<p>JOB-IDENTIFICATION = <u>*OWN</u> / <alphanum-name 1..4> / *TSN(...) / *MONJV(...)</p> <p style="padding-left: 2em;">*TSN(...)</p> <p style="padding-left: 4em;"> TSN = <alphanum-name 1..4></p> <p style="padding-left: 2em;">*MONJV(...)</p> <p style="padding-left: 4em;"> MONJV = <filename 1..54 without-gen-vers></p> <p>,SYSLST-NUMBER = <u>*STD</u> / <integer 1..99></p>

Operands

JOB-IDENTIFICATION =

Specifies the job in whose SYSLST file the read mark is to be set. The job can be identified either via its TSN or the JV which monitors it.

JOB-IDENTIFICATION = *OWN

The command is executed for the user's own task.

JOB-IDENTIFICATION = <alphanum-name 1..4>

TSN of the job (see also JOB-IDENTIFICATION=*TSN).

JOB-IDENTIFICATION = *TSN(...)

The job is identified by its task serial number (TSN). The command is rejected if the TSN does not exist or a job under a foreign user ID is not concerned.

TSN = <alphanum-name 1..4>

TSN of the job. Leading zeros can be omitted.

JOB-IDENTIFICATION = *MONJV(...)

This operand is only available to a user with the software product JV.

The job is identified via the monitoring JV. The command is rejected if the JV cannot be accessed (no read permission or the JV does not exist), if the JV is not monitoring a job or if the job is running on a foreign computer.

MONJV = <filename 1..54 without-gen-vers>

Name of the JV which monitors the job.

SYSLST-NUMBER = *STD / <integer 1..99>

Specifies the SYSLST file for which the read mark is to be set. *STD presets the system file SYSLST. The specification <integer 1..99> sets the read mark in the file which is assigned to the system file SYSLST01 through SYSLST99.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	0	SSM1204	Pseudo close for system file successful
	0	SSM1205	Wait time for pseudo close has expired; processing will continue
	32	SSM1201	Internal error when setting the read mark
	64	CMD0216	No authorization to execute command
	64	SSM1202	System file is empty or not assigned

SET-SYSOUT-READ-MARK

Set read mark in SYSOUT file

Description status:	SYSFILE V19.0A
Functional area:	Job processing File processing
Domain:	JOB PROCEDURE PROGRAM
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The SET-SYSOUT-READ-MARK command sets a “read mark” at the current end of the SYSOUT file. Further outputs to SYSOUT are continued without interruption behind the read mark. When SYSOUT is assigned to a file, the content of the file ahead of the read mark can then be accessed in read mode without the assignment of SYSOUT having to be changed.

A read mark cannot be set if a library element or an S variable is assigned.

By default the command applies for the SYSOUT file of the user’s own task. Specifying a TSN or monitor JV permits nonprivileged users also to issue the command for the SYSLST files of other tasks under their user ID.

The primary allocation and properties of SYSLST are described in [section “System files” on page 1-73](#).

Privileged function

The TSOS privilege enables the command to be issued for the SYSLST file of any task.

Format

SET-SYSOUT-READ-MARK
JOB-IDENTIFICATION = *OWN / <alphanum-name 1..4> / *TSN(...) / *MONJV(...) *TSN(...) TSN = <alphanum-name 1..4> *MONJV(...) MONJV = <filename 1..54 without-gen-vers>

Operands

JOB-IDENTIFICATION =

Specifies the job in whose SYSOUT file the read mark is to be set. The job can be identified either via its TSN or the JV which monitors it.

JOB-IDENTIFICATION = *OWN

The command is executed for the user's own task.

JOB-IDENTIFICATION = <alphanum-name 1..4>

TSN of the job (see also **JOB-IDENTIFICATION=*TSN**).

JOB-IDENTIFICATION = *TSN(...)

The job is identified by its task serial number (TSN). The command is rejected if the TSN does not exist or a job under a foreign user ID is not concerned.

TSN = <alphanum-name 1..4>

TSN of the job. Leading zeros can be omitted.

JOB-IDENTIFICATION = *MONJV(...)

This operand is only available to a user with the software product JV.

The job is identified via the monitoring JV. The command is rejected if the JV cannot be accessed (no read permission or the JV does not exist), if the JV is not monitoring a job or if the job is running on a foreign computer.

MONJV = <filename 1..54 without-gen-vers>

Name of the JV which monitors the job.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	0	SSM1204	Pseudo close for system file successful
	0	SSM1205	Wait time for pseudo close has expired; processing will continue
	32	SSM1201	Internal error when setting the read mark
	64	CMD0216	No authorization to execute command
	64	SSM1202	System file is empty or not assigned

SET-TASKLIB

Assign TASKLIB to object module library

Description status:	SYSFILE V19.0A
Functional area:	Program control
Domain:	PROGRAM
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE

Function

The SET-TASKLIB command assigns an object module library as a TASKLIB. The Dynamic Binder Loader (DBL) searches for the object module in the allocated object module library on the following calls:

- When the LOAD or START-EXECUTABLE-PROGRAM command is called, the Tasklib is used as an alternate library (ALTERNATE-LIBRARY=*TASKLIB operand) when searching for symbols.
- When the BIND macro is called with ALTLIB=*TASKLIB, the Tasklib is used as an alternate library when searching for unresolved external references.
- When the LOAD or START-PROGRAM command is called with LIBRARY=*STD and RUN-MODE=*STD, the Tasklib is used as the input source for the object modules.

When the Tasklib is searched, the DBL searches in the following libraries in the following order:

1. The Tasklib assigned with SET-TASKLIB
2. The TASKLIB file under the caller's user ID or, if this does not exist, the TASKLIB file in the system default ID (DEFLUID)

Format

SET-TASKLIB	Alias: STTL
LIBRARY = <filename 1..54 without-gen>	

Operands

LIBRARY = <filename 1..54 without-gen>

Name of the object module library.

After termination of a procedure (END-PROCEDURE, EXIT-PROCEDURE or EOF condition) TASKLIB is given the same assignment it had before the procedure was called (contingent, in *S procedures*, upon the declaration made in SET-PROCEDURE-OPTIONS).

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	1	SSM2036	Operand invalid

SET-VARIABLE

Assign values to S variable

Description status:	SDF-P-BASYS V2.5E
Functional area:	Procedures
Domain:	PROCEDURE
Privileges:	STD-PROCESSING OPERATING HARDWARE-MAINTENANCE SECURITY-ADMINISTRATION SAT-FILE-MANAGEMENT SAT-FILE-EVALUATION

Function

The SET-VARIABLE command assigns values to an S variable. If the S variable does not yet exist, it is *implicitly* declared by SDF-P. Implicit declaration of S variables is preset but can be prohibited using the SET-PROCEDURE-OPTIONS command.



The operands for the SET-VARIABLE command are evaluated by SDF-P only and should be entered as shown below. It is not necessary to include the command name. The SDF abbreviation rules apply to the operands. SDF functions such as information about possible operand values or correction dialog are not available at operand level. Only one input field with “# =” is provided by SDF in guided dialog.

For command entry, it is also possible to abbreviate

```
/SET-VARIABLE <variable1> = <variable2> / <text>
```

to

```
</variable1> = <variable2> / <text>
```

The notation without the command name is also recommended for performance reasons (see the “SDF-P” User Guide [34]).

Restrictions

If the chargeable SDF-P subsystem is not available, the SET-VARIABLE command may refer to simple S variables only (TYPE=*ANY and MULTIPLE-ELEMENTS=*NO). Complex S variables are part of the chargeable SDF-P subsystem; their use is described in the “SDF-P” manual [34].

Format

SET-VARIABLE	Alias: STV
<pre> <composed-name₁ 1..255> = <text 0..1800 with-low <i>expr</i>> / <composed-name₂ 1..255> / *STRING-TO-VARIABLE(...) / *LIST(...) *STRING-TO-VARIABLE(...) STRING = <text 0..1800 with-low <i>expr</i>> ,VALUE-TYPE = *STD / *STRING *LIST(...) LIST-NAME = <composed-name 1..255> ,FROM-INDEX = *FIRST / <integer 1..2147483647> ,NUMBER-OF-ELEMENTS = <u>1</u> / <integer 1..2147483647> ,WRITE-MODE = *REPLACE / *MERGE / *EXTEND / *PREFIX </pre>	

Operands

<composed-name₁ 1..255>

Name of an S variable to which a value is assigned.

= <text 0..1800 with-low *expr*>

Assigns the value which results from the evaluation of *expression* to *composed-name₁*. A valid SDF-P expression must be specified for *expression* (see [section “SDF-P-BASYS” on page 1-131](#) or the “SDF-P” manual [34]).

= <composed-name₂ 1..255>

Assigns the value of the S variable *composed-name₂* to the specified S variable *composed-name₁*.

= *STRING-TO-VARIABLE(STRING=<text 0..1800 with-low *string-expr*>, VALUE-TYPE=...)

Only allowed in the case of complex S variables

Assigns to the specified S variable *composed-name₁* the value resulting from the conversion of *string-expr* to an S variable structure. For conversion rules, see the “SDF-P” manual [34].

= *LIST(LIST-NAME=...,FROM-INDEX=...,NUMBER-OF-ELEMENTS=...)

Only allowed in the case of complex S variables

Assigns the elements of a list variable to the specified S variable *composed-name*. Depending on the number of assigned list elements, *composed-name* must be either a simple or a composed S variable.

WRITE-MODE

Defines how the allocation of values is to be carried out.

= ***REPLACE**

Overwrites an existing value (default).

= ***MERGE**

Only allowed in the case of complex S variables

= ***EXTEND**

Only allowed in the case of complex S variables

= ***PREFIX**

Only allowed in the case of complex S variables

Complex S variables are part of the chargeable SDF-P subsystem; their use is described in the “SDF-P” manual [34].

Return codes

The command return code has no guaranteed value if an error occurs when complex S variables are assigned.

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	No error Guaranteed message: CMD0001
	1	CMD0202	Syntax error Guaranteed message: CMD0202
	1	SDP0118	Command in incorrect context Guaranteed message: SDP0118
	3	CMD2203	Incorrect syntax file Guaranteed message: CMD2203
	32	CMD0221	System error (internal error) Guaranteed message: CMD0221
	64	SDP0091	Semantic error Guaranteed message: SDP1030
	130	SDP0099	No more address space available

SHOW-ACCOUNTING-STATUS

Display accounting system information

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Accounting system control
Domain:	ACCOUNTING
Privileges:	TSOS

Function

The following information on the accounting system can be requested by means of the SHOW-ACCOUNTING-STATUS command.

- state of the accounting procedure
- name of the current accounting file
- time at which the file was opened
- names of the continuation files
- list of account records and record extensions that were explicitly activated or deactivated
- frequency of periodic saving of specific accounting records
- names of cyclically monitored job classes

The command supports structured output in S variables (see [“Output in S variables” on page 5-391](#)).

Format

SHOW-ACCOUNTING-STATUS
INFORMATION = *SUMMARY / *FILES / *PARAMETERS / *ALL

Operands

INFORMATION =

Defines the type of information desired.

INFORMATION = *SUMMARY

If the accounting system is active, the name of the currently active accounting file is displayed in addition to the information ACCOUNTING ACTIVE.

If the accounting system is inactive, the following information is displayed:

ACCOUNTING NOT ACTIVE.

INFORMATION = *FILES

Specifies:

- whether the accounting system is active/inactive
- name of the currently active accounting file
- time and date when the file was opened
- continuation file names

INFORMATION = *PARAMETERS

Displays all accounting records and record extensions that were explicitly activated or deactivated as well as the frequency of the accounting interval and the names of the job classes monitored within this interval.

INFORMATION = *ALL

Displays an overview of all information provided by this command.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NAM3001	Requested action has been performed, but linked with warnings
	1	CMD0202	Syntax error
	32	CMD0221	Internal system error
	64	NAM0012	No authorization for the command
	128	CMD2280	Command cannot temporarily be executed

Example

```
/show-acc  
ACCOUNTING ACTIVE, FILENAME= :B6F1:$TSOS.SYS.ACCOUNT.2012-01-26.074.01
```

```
/show-acc inf=*files
```

```
ACCOUNTING STATUS INFORMATION  
=====
```

```
CURRENT ACCOUNTING FILE: (AUTOMATIC)
```

```
-----  
:SBZ8:$TSOS.SYS.ACCOUNT.2012-01-26.074.01  
OPENED AT : 2012-01-26, 17:02:07-W
```

```
ALTERNATE FILENAMES:
```

```
-----  
** NONE SPECIFIED **
```

Output in S variables

The command's INFORMATION operand identifies the S variables which are to be created. The following specifications are possible for INFORMATION:

Notation used in command	Abbreviated form used in table
INFORMATION = SUMMARY	1
INFORMATION = FILES	2
INFORMATION = PARAMETERS	3
INFORMATION = ALL	4

Supplementary conditions which work in combination with the INFORMATION specifications:

Supplementary conditions	Abbreviated form used in table
Value assignment; only if ACCOUNT-ACTIVE=TRUE	a
*NONE and <name> cannot appear together as values	b
*ALL and <name> cannot appear together as values	c

Output information	Name of the S variable	T	Contents	Condition
Accounting system active	var(*LIST).ACCOUNT-ACTIVE	B	TRUE FALSE	1-4
Frequency of periodic saving of accounting records	var(*LIST).ACCOUNT-PERIOD	I	<integer>	3,4,a
Names of continuation files	var(*LIST).ALT-FILES(*LIST)	S	*NONE <name>	2,4,a,b
Names of job classes cyclically monitored by the accounting system	var(*LIST).JOB-CLASS(*LIST)	S	*NONE <name>	3,4,a,b
Name of the current accounting files	var(*LIST).NAME	S	<filename>	1,2,4,a
Activation of list of accounting records and record extensions	var(*LIST).NOT-LISTED-REC	S	*ON *OFF	3,4,a
Date when the file was opened	var(*LIST).OPEN-DATE	S	<date>	2,4,a
Time when the file was opened	var(*LIST).OPEN-TIME	S	<open time & season>	2,4,a
Deactivated accounting records	var(*LIST).REM-REC-TYPE(*LIST)	S	*NONE <name>	3,4,a,b
Activated accounting records	var(*LIST).SET-REC-TYPE(*LIST)	S	*ALL <name>	3,4,a,c

SHOW-ACS-OPTIONS

Show ACS option settings

Description status:	ACS V19.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING ACS-ADMINISTRATION SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The SHOW-ACS-OPTIONS command writes the following information on the currently set ACS options of the task to SYSOUT:

- status of the alias catalog (INACTIVE, ACTIVE or INHOLD)
- list of all the AC system files and AC files that were loaded since the beginning of the task or since the alias catalog was last deleted
- number of changes made to the current alias catalog with the ADD-, MODIFY- and REMOVE-ALIAS-CATALOG-ENTRY commands
- current settings of all ACS options:
 - Message output when the alias catalog is loaded
 - Logging of alias substitution and prefix insertion
 - Permitting catalog and user IDs in the alias (fully qualified)
 - Permitting user IDs in the alias
 - Standard range of alias substitution and prefix insertion (for files and/or job variables)

The command supports structured output in S variables (see [“Output in S variables” on page 5-395](#)).

Privileged functions

Users with the ACS-ADMINISTRATION privilege can select the SCOPE operand to request details of ACS option settings for the task which is running or of the system-global preset values:

- the logging of ACS actions
- the permissibility of catalog and user IDs in alias names
- the pubset on which temporary SPOOL files are set up.

Format

SHOW-ACS-OPTIONS

SCOPE = ***TASK** / ***SYSTEM****Operands****SCOPE =***Only for users with ACS-ADMINISTRATION privilege:*

Selects whether the task-local or the system-global default settings are being requested.

SCOPE = *TASK

Preset value: only the options specified for the task currently running are to be displayed.

SCOPE = *SYSTEM

Specifies that all the system-global options should be displayed.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed normally

Information output

The output begins with the version of the system component ACS. The following information is then output:

Output field	Meaning
STATUS	Status of the alias catalog (INACTIV, ACTIVE or IN HOLD)
ACTIVATED ALIAS CATALOG FILE(S): <ul style="list-style-type: none"> - ID - U-INFO - DESC - DATE - FILE-NAME 	List of all AC system files and AC files which have been loaded since the start of the task or since the last time the alias catalog was deleted. <ul style="list-style-type: none"> - Symbolic name of the AC system file or AC file - User information specified when saving - Additional information specified when saving - Creation date of the AC system file or AC file - Path name of the AC system file or AC file
ENTRIES ADDED/MODIFIED BY INDIVIDUAL COMMANDS:	Number of modifications to the current alias catalog made using the ADD-, MODIFY- and REMOVE-ALIAS-CATALOG-ENTRY commands.
LOGGING: <ul style="list-style-type: none"> - ALIAS-SUBSTITUTION= - PREFIX-INSERTION= 	Logging: <ul style="list-style-type: none"> - when substituting aliases (YES/NO/STD) - when inserting a prefix (YES/NO/STD)
SUCCESS-MSG OPTIONS: <ul style="list-style-type: none"> - USER-FILE= - SYSTEM-FILE= 	Output of a message after successful loading: <ul style="list-style-type: none"> - for an AC system file (YES/NO) - for an AC file (YES/NO)
COMPLETE-ALIAS-NAMES	Catalog and user IDs in the alias (fully qualified) <ul style="list-style-type: none"> - ALLOWED (is permitted) - NOT-ALLOWED (USER-MODIF=ALLOWED/NOT-ALLOWED) <p>Is not permitted; the privileged user can prevent the user-specific modification of this setting</p>
ALIAS-USERID	User IDs in the alias <ul style="list-style-type: none"> - ALLOWED (is permitted) - NOT-ALLOWED (USER-MODIF=ALLOWED/NOT-ALLOWED) <p>Is not permitted; the privileged user can prevent the user-specific modification of this setting</p>
STANDARD-RANGE	Standard range for substitution of aliases and prefix insertion: <ul style="list-style-type: none"> - FILE (only for files) - JV (only for job variables) - BOTH (for files and job variables)

Table 89: Output fields for the SHOW-ACS-OPTIONS command

Examples

See the ADD-ALIAS-CATALOG-ENTRY and SET-FILE-NAME-PREFIX commands.

Output in S variables

The SCOPE operand identifies the S variables which are to be created. The possible values for SCOPE are *TASK and *SYSTEM.

Output information	Name of the S variable	T	Contents	Condition
AC file name alias	var(*LIST).ALIAS-CAT-F(*LIST). ALIAS-CAT-ID	S	" * *OWN <name 1...20>	SCOPE= *TASK
AC file creation date	var(*LIST).ALIAS-CAT-F(*LIST).DATE	S	" <yyyy-mm-dd>	SCOPE= *TASK
Additional information on AC file	var(*LIST).ALIAS-CAT-F(*LIST). DESCRIPTOR	S	" <alphan.-name 1..8>	SCOPE= *TASK
Actual file name of AC file	var(*LIST).ALIAS-CAT-F(*LIST).F-NAME	S	" *SYS <filename 1..54>	SCOPE= *TASK
Additional name for AC file	var(*LIST).ALIAS-CAT-F(*LIST).USER-INFO	S	" <name 1...8>	SCOPE= *TASK
Output of message ACS0000 each time the alias is substituted	var(*LIST).ALIAS-SUBST	S	*STD *YES	SCOPE= *TASK/ *SYSTEM
User IDs allowed in aliases	var(*LIST).ALIAS-USER-ID	S	*ALLOW *NOT-ALLOW	SCOPE= *TASK/ *SYSTEM
Changing of user IDs allowed in aliases	var(*LIST).ALIAS-USER-ID-MOD	S	*ALLOW *NOT-ALLOW	SCOPE= *TASK/ *SYSTEM
Fully qualified aliases allowed	var(*LIST).COMPL-ALIAS-NAME	S	*ALLOW *NOT-ALLOW	SCOPE= *TASK/ *SYSTEM
Changing of ACS option ALIAS-USERID allowed	var(*LIST).COMPL-USER-MOD	S	*ALLOW *NOT-ALLOW	SCOPE= *TASK/ *SYSTEM
Number of changes to the alias catalog	var(*LIST).NUM-OF-AC-CMD	I	<integer 0...65535>	SCOPE= *TASK
Output of message ACS0000 each time a prefix is inserted	var(*LIST).PREFIX-INS	S	*NO *YES	SCOPE= *TASK/ *SYSTEM

(Part 1 of 2)

SHOW-ACS-OPTIONS

Output information	Name of the S variable	T	Contents	Condition
Security level	var(*LIST).SEC-LEV	S	*HIGH *LOW *UNDEF	SCOPE= *SYSTEM
Pubset for spool file	var(*LIST).SPOOL-F-PUBSET	S	*STD <cat-id 1..4>	SCOPE= *SYSTEM
Alias catalog status	var(*LIST).STA	S	*ACTIVE *IN-HOLD *INACTIVE *NOT-AVAIL	SCOPE= *TASK
Range when replacing the alias or adding a prefix (for files and/or job variables)	var(*LIST).STANDARD-RANGE	S	*FILE *BOTH	SCOPE= *TASK/ *SYSTEM
Preset system message file used	var(*LIST).SYS-F-MSG	S	*NO *YES	SCOPE= *TASK/ *SYSTEM
Preset user message file used	var(*LIST).USER-F-MSG	S	*NO *YES	SCOPE= *TASK/ *SYSTEM

(Part 2 of 2)

SHOW-ACS-SYSTEM-FILES

Show names of available AC system files

Description status:	ACS V19.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The SHOW-ACS-SYSTEM-FILES command displays the alias catalog IDs and file names of all AC system files that the ACS system administrator has made available to all users. The output is written to SYSOUT. AC system files with the attribute INVISIBLE are not shown. The default AC system file is identified in the output by a preceding ">" symbol.

The command supports structured output in S variables (see ["Output in S variables" on page 5-398](#)).

Format

SHOW-ACS-SYSTEM-FILES
ALIAS-CATALOG-ID = <u>*ALL</u> / *STD / <composed-name 1..20>

Operands

ALIAS-CATALOG-ID =

Specifies which AC system files are to be displayed. AC system files which were created by the AC administrator with the INVISIBLE attribute are not available to all users and are consequently not shown.

ALIAS-CATALOG-ID = *ALL

Displays all AC system files.

ALIAS-CATALOG-ID = *STD

Displays only the default AC system file.

ALIAS-CATALOG-ID = <composed-name 1..20 with-wild>

ID of the AC system file to be displayed or a wildcard sequence to identify and select AC system files to be displayed.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed normally
	32	CMD2009	Error during S variable generation
	32	CMD0221	Internal error
	64	ACS0012	Error: AC system file not found
	64	OPS0001	Insufficient memory for output in S variables
	130	ACS0036	Resource bottleneck

Output in S variables

This command outputs the alias catalog IDs and file names of all the AC system files that the ACS administrator makes available to all users.

Output information	Name of the S variable	T	Contents	Condition
Symbolic name of the AC system file	var(*LIST).ALIAS-CAT-ID	S	<name 1...20 >	
Fully qualified actual file name of the AC system file	var(*LIST).F-NAME	S	*SYS <filename 1..54>	
Entries in the AC system file are added to the task's virtual alias catalog as system entries	var(*LIST).PRIVIL	S	*NO *YES	
The string *SYS is output instead of the file name of the AC system file if a nonprivileged user has AC files output	var(*LIST).SECRET-F-NAME	S	*NO *YES	
The AC system file acts as a default AC system file	var(*LIST).SYS-DEF	S	*NO *YES	
The AC system file name is displayed if a nonprivileged has AC system files output	var(*LIST).VISIBLE	S	*NO *YES	

Example

See the ADD-ALIAS-CATALOG-ENTRY command.

SHOW-ACTIVE-SPOOL-DEVICES

Request information on active SPOOL devices

Description status:	SPOOL V4.9A
Functional area:	Controlling spoolout job
Domain:	SPOOL-PRINT-ADMINISTRATION SPOOL-PRINT-SERVICES
Privileges:	STD-PROCESSING OPERATING PRINT-SERVICE-ADMINISTRATION SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
Routing code:	S

Function

The SHOW-ACTIVE-SPOOL-DEVICES command requests information on assigned SPOOL and RSO devices (i.e. on devices to which a START-PRINTER-OUTPUT command has been issued; output to SYSOUT).

The command outputs the same information for PCL printers as for local HP/HP90 printers.

The command supports structured output in S variables (see [“Output in S variables” on page 5-415](#)).

Privileged functions

Nonprivileged users are only given information on devices whose authorization list contains the user ID or *ALL. RSO device administrators also receive information on the devices they manage, while systems support staff can call down information on all devices. Information on user IDs and account numbers is only output to privileged users (RSO device administrators or systems support).

Effect of the device specification in START-PRINTER-OUTPUT

The following table shows how the devices specified (explicitly/implicitly) in the START-PRINTER-OUTPUT command are displayed in the output of the SHOW-ACTIVE-SPOOL-DEVICES command:

Value specified in SHOW-ACTIVE-SPOOL-DEVICES	Value specified in START-PRINTER-OUTPUT				
	*ALL	(A,B)	*EX(A,B)	A	*EX(A)
*ALL	EXPL	EXPL	EXPL	EXPL	EXPL
A	IMPL	EXPL	====	EXPL	====
C	IMPL	====	IMPL	====	IMPL
*EX(A)	====	====	EXPL	====	EXPL
*EX(C)	====	IMPL	====	IMPL	====
(A,B)	IMPL	EXPL	====	EXPL	IMPL
(A,C)	IMPL	EXPL	IMPL	EXPL	IMPL
*EX(A,B)	====	====	EXPL	IMPL	EXPL
*EX(A,C)	====	IMPL	EXPL	IMPL	EXPL

Table 90: Explicit/implicit specifications in START-PRINTER-OUTPUT

Format

(Part 1 of 2)

SHOW-ACTIVE-SPOOL-DEVICES

```

DEVICE-NAME = *ALL / list-poss(8): <alphanum-name 1..8 with-wild(24)> / <alphanum-name 2..2>
, INFORMATION = *STD / *COUNT
, SERVER-NAME = *ALL / *HOME / <alphanum-name 1..8 with-wild(24)> / list-poss(8): <alphanum-name 1..8>
, CLUSTER-NAME = *LOCAL-CLUSTER / <name 1..8> /
, SCHEDULING-STATE = *NEXT-JOB / *CURRENT-JOB
, DESTINATION = *LOCAL / *ALL / *REMOTE / *PUBLIC-REMOTE / list-poss(16): *CENTRAL / <name 1..8>
, FORM-NAME = *ALL / *STD / *EXCEPT(...) / list-poss(8): <alphanum-name 1..6>
    *EXCEPT(...)
        | FORMS-LIST = list-poss(16): <alphanum-name 1..6>
, USER-IDENTIFICATION = *ALL / *EXCEPT(...) / list-poss(16): <name 1..8> / <c-string 1..8 with-low>
    *EXCEPT(...)
        | USER-IDENT-LIST = list-poss(16): <name 1..8> / <c-string 1..8 with-low>
, HOST-NAME = *ALL-CLUSTERS / *HOME / *LOCAL-CLUSTER / *EXCEPT(...) /
    list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>
    *EXCEPT(...)
        | HOST-LIST = list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>
, SPOOLOUT-CLASS = *ALL / *EXCEPT(...) / list-poss(16): <integer 1..255>
    *EXCEPT(...)
        | SPOOLOUT-CLASS-LIST = list-poss(16): <integer 1..255>
, SPOOLOUT-NAME = *ALL / *EXCEPT(...) / list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>
    *EXCEPT(...)
        | SPOOLOUT-NAME-LIST = list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>
, ACCOUNT = *ALL / *EXCEPT(...) / list-poss(16): <alphanum-name 1..8>
    *EXCEPT(...)
        | ACCOUNT-LIST = list-poss(16): <alphanum-name 1..8>
, FORMS-OVERLAY = *ALL / *NONE / *ONLY / *EXCEPT(...) / list-poss(16): <alphanum-name 2..2>
    *EXCEPT(...)
        | FORMS-OVERLAY-LIST = list-poss(16): <alphanum-name 2..2>
, FORMS-OVERLAY-BUFFER = *ANY / *ONLY / *NO / *RANGE(...)
    *RANGE(...)
        | LOW = 0 / <integer 0..32767>
        | HIGH = 4032 / <integer 0..32767>

```

(Part 2 of 2)

```

,PRIORITY = *ALL / *RANGE(...)
  *RANGE(...)
  |   FROM = 30 / <integer 30..255>
  |   ,TO = 255 / <integer 30..255>
,CHARACTER-SET-NUMBER = *ALL / *ONE / *RANGE(...)
  *RANGE(...)
  |   LOW = 1 / <integer 1..32767>
  |   ,HIGH = 64 / <integer 1..32767>
,ROTATION = *ANY / *YES / *NO / *MANUAL
,TWO-UP-PROCESSING = *ANY / *YES / *NO / *MODE-1 / *MODE-2

```

Operands

DEVICE-NAME = *ALL / list-poss(8): <alphanum-name 1..8> / <alphanum-name 1..24 with-wild>

Names of active SPOOL devices on which information is requested. If *ALL is specified, brief information is output on each device you are allowed to access. If a device name is specified, only the SCHEDULING-STATE operand may be specified in addition. If the character string ALL occurs in a name (e.g. FIXALL) and this name is addressed using the *ALL wildcard pattern, the asterisk must be doubled: **ALL.

INFORMATION = *STD / *COUNT

Determines the type of information returned.

INFORMATION = *STD

Returns information on the devices which match the selection criteria either in the form of a summary list if DEVICE-NAME=*ALL or contains wildcards, or in the form of a complete list if an explicit list without wildcards is specified in the DEVICE-NAME operand.

INFORMATION = *COUNT

Returns the number of devices which match the selection criteria with the message SCP1124.

SERVER-NAME = *ALL / *HOME / list-poss(16): <alphanum-name 1..8> <alphanum-name 1..24 with-wild>

Selects the SPOOL device by means of the server that manages it. An active printer can only process print jobs accepted by the server belonging to the host to which the printer is connected.

If a remote cluster is specified, *ALL is the only value permitted here.

SERVER-NAME = *ALL

Addresses SPOOL devices managed by all the servers on all the hosts in the addressed cluster.

SERVER-NAME = *HOME

Addresses only SPOOL devices managed by the local server. The printers can be started on a distributed or local basis.

SERVER-NAME = list-poss(16): <alphanum-name 1..8>

Selects the SPOOL devices managed by the specified servers on the hosts in the specified clusters.

CLUSTER-NAME = *LOCAL-CLUSTER / <name 1..8>

Selects the SPOOL device by means of the cluster containing the server that manages it.

SCHEDULING-STATE = *NEXT-JOB / *CURRENT-JOB

Determines whether the operand values for the next scheduling operation on SYSOUT (default value) or those valid for the current job should be output. Differences can arise only if changes have been made with MODIFY-PRINTER-OUTPUT during the current job.

The following applies to all the operands that follow:

If several devices are specified information is output only for those devices which satisfy all the selection criteria defined with the subsequent operands. The values ANY and *ALL each mean that there are no restrictions.

DESTINATION = *LOCAL / *ALL / *REMOTE / *PUBLIC-REMOTE / list-poss(16): *CENTRAL / <alphanum-name 1..8>

Information is requested on active SPOOL devices which have been defined in START-PRINTER-OUTPUT under DESTINATION as

- local printers (default value)
- RSO printers - private devices
- RSO printers - public devices
- central printers
- any printers

or the specified active printers.

FORM-NAME = *ALL / *STD / *EXCEPT(...) / list-poss(8): <alphanum-name 1..6>

Information is requested on active SPOOL devices to which the specified forms have been assigned or for which they have been excluded (START-PRINTER-OUTPUT).

FORM-NAME = *EXCEPT(...)

Information is requested on active SPOOL devices for which the specified forms are not admitted.

FORMS-LIST = list-poss(16): <alphanum-name 1..6>

List of forms which are not admitted.

USER-IDENTIFICATION = *ALL / *EXCEPT(...) /

list-poss(16): <name 1..8> / <c-string 1..8 with-low>

Information is requested on active SPOOL devices to which the specified user IDs have been assigned or for which they have been excluded (START-PRINTER-OUTPUT).

USER-IDENTIFICATION = *EXCEPT(...)

Information is requested on active SPOOL devices for which the specified user IDs are not admitted.

USER-IDENT-LIST = list-poss(16): <name 1..8> / <c-string 1..8 with-low>

List of user IDs which are not admitted.

HOST-NAME = *ALL-CLUSTERS / *HOME / *LOCAL-CLUSTER / *EXCEPT(...) /

list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>

Information is requested on active SPOOL devices on which print jobs coming from the specified host can or cannot be printed (see also the START-PRINTER-OUTPUT command).

HOST-NAME = *ALL-CLUSTERS

Information is output on active SPOOL devices on which print jobs from any host in any cluster can be processed.

HOST-NAME = *HOME

Information is output on active SPOOL devices on which print jobs from the local host can be processed.

HOST-NAME = *LOCAL-CLUSTER

Information is output on active SPOOL devices on which print jobs from any host in the local cluster can be processed.

HOST-NAME = *EXCEPT(...)

Information is output on active SPOOL devices on which print jobs from any host except those specified in this list can be processed.

HOST-LIST = list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>

Specifies the active devices that cannot accept print jobs from the specified hosts (see also the START-PRINTER-OUTPUT command).

HOST-NAME = list-poss(16): <alphanum-name 1..8>

Information is output on active SPOOL devices on which print jobs from the specified hosts can be processed.

SPOOLOUT-CLASS = *ALL / *EXCEPT(...) / list-poss(16): <integer 1..255>

Information is requested on active SPOOL devices to which the specified spoolout classes have been assigned or for which they have been excluded (START-PRINTER-OUTPUT).

SPOOLOUT-CLASS = *EXCEPT(...)

Information is requested on active SPOOL devices for which the specified spoolout classes are not admitted.

SPOOLOUT-CLASS-LIST = list-poss(16): <integer 1..255>

List of spoolout classes which are not admitted.

SPOOLOUT-NAME = *ALL / *EXCEPT(...) / list-poss(16): <alphanum-name 1..8 / <c-string 1..8 with-low>

Information is requested on active SPOOL devices to which the specified job names have been assigned or for which they have been excluded (START-PRINTER-OUTPUT).

SPOOLOUT-NAME = *EXCEPT(...)

Information is requested on active SPOOL devices for which the specified job names are not admitted.

SPOOLOUT-NAME-LIST = list-poss(16): <alphanum-name 1..8> / <c-string 1..8 with-low>

List of job names which are not admitted.

ACCOUNT = *ALL / *EXCEPT(...) / list-poss(16): <alphanum-name 1..8>

Information is requested on active SPOOL devices to which the specified account numbers have been assigned or for which they have been excluded (START-PRINTER-OUTPUT).

ACCOUNT = *EXCEPT(...)

Information is requested on active SPOOL devices for which the specified account numbers are not admitted.

ACCOUNT-LIST = list-poss(16): <alphanum-name 1..8>

List of account numbers which are not admitted.

FORMS-OVERLAY = *ALL / *NONE / *ONLY / *EXCEPT(...) / list-poss(16): <alphanum-name 2..2>

Information is requested on active SPOOL devices to which the specified film overlays have been assigned or for which they have been excluded (START-PRINTER-OUTPUT).

FORMS-OVERLAY = *NONE

Information is requested about devices which do not process film overlays.

FORMS-OVERLAY = *ONLY

Information is requested about devices which do process film overlays.

FORMS-OVERLAY = *EXCEPT(...)

Information is requested on active SPOOL devices for which the specified film overlays are not admitted.

FORMS-OVERLAY-LIST = list-poss(16): <alphanum-name 2..2>

List of film overlays which are not admitted.

FORMS-OVERLAY-BUFFER = *ANY / *ONLY / *NO / *RANGE(...)

Information is requested on active SPOOL devices for which matching entries have been made in the FORMS-OVERLAY-BUFFER (FOB data overlays) operand in the START-PRINTER-OUTPUT command.

The values for RANGE in the START-PRINTER-OUTPUT command (number of sublines) must lie within the range specified here.

Information on printers without graphics buffer is only output for the operand value *ANY.

FORMS-OVERLAY-BUFFER = *RANGE(...)

Graphics buffer range.

LOW = 0 / <integer 0..32767>

Lower limit of the range.

HIGH = 4032 / <integer 0..32767>

Upper limit of the range.

PRIORITY = *ALL / *RANGE(...)

Information is requested on active SPOOL devices for which a priority in the range has been defined (START-PRINTER-OUTPUT).

PRIORITY = *RANGE(...)

Priority range.

FROM = 30 / <integer 30..255>

Lower limit of the range.

TO = 255 / <integer 30..255>

Upper limit of the range.

CHARACTER-SET-NUMBER = *ALL / *ONE / *RANGE(...)

Information is requested on active SPOOL devices for which any number character sets or a single character set or a number of character sets within the range (RANGE) are admitted (START-PRINTER-OUTPUT).

Information on non-HP printers is only output if CHARACTER-SET-NUMBER=ALL is specified.

CHARACTER-SET-NUMBER = *RANGE(...)

Information is requested on active SPOOL devices for which a number of character sets within a specified range are admitted.

LOW = 1 / <integer 1..32767>

Lower limit of the range.

HIGH = 64 / <integer 1..32767>

Upper limit of the range.

ROTATION = *ANY / *YES / *NO / *MANUAL

Information is requested on active SPOOL devices according to the entry in the ROTATION operand in the START-PRINTER-OUTPUT or START-TAPE-OUTPUT or START-TAPE-REPLAY command.

Information on printers without page rotation modules is only output for ROTATION=*ANY. (*NO means that ROTATION is deactivated).

TWO-UP-PROCESSING = *ANY / *YES / *NO / *MODE-1 / *MODE-2

Information is requested about printers (LP65) for which the corresponding value for TWO-UP-PROCESSING was specified in the START-PRINTER-OUTPUT command.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	SCP1052	Information incomplete
	1	CMD0202	Syntax error
	1	SCP0973	Semantic error
	32	SCP0974	System error. Command rejected
	64	SCP0976	Invalid operand value
	128	SPS0266	SPOOL subsystem not available

Notes

Within the framework of support for interoperability between BS2000- and UNIX-based systems, new printer statuses based on an ISO reference have been introduced. The following statuses are displayed by means of the SHOW-ACTIVE-SPOOL-DEVICES command:

- I(IDLE): the printer is ready to output; no print job is currently being processed
- R(RUN): the printer is active
- M(Message): there is a console message concerning the printer
- D(DETACHED): this is the status between the entry of the START-PRINTER-OUTPUT command and its execution by the controller task or the status after the STOP-PRINTER-OUTPUT command is entered
- T(TRANSFER): a started spoolout job is waiting for transport confirmation
- U(UNKNOWN): the status is not known

SHOW-ACTIVE-SPOOL-DEVICES

The connections between the above statuses and the statuses in the ISO reference are shown in the following table:

Displayed status	Print jobs for printers of type			ISO statuses
	Spool	APA	RSO	
A (ATTACHED)			X	idle
I (IDLE)	X	X	X	idle
T (TRANSFER)	X		X	running
R (RUN)	X	X	X	running
M (MESSAGE)	X	X	X	needs attention
S (STOPPED)			X	needs attention
W (WORKING FOR ADM)			X	needs attention
D (DETACHED)	X	X	X	shutdown
U (UNKNOWN)	X	X	X	shutdown

Output forms

Output when no device is specified or if a device name is specified with a wildcard

```
DEV-NAME DEV-TYPE C-USERID C-TSN EXIT C-FORM C-CL SSU ADM CRI
@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@   @@ @@@@@@ ### @@@ @@@ @@@
...      ...      ...      ...      ... ..  ... ..  ... ..
```

Meanings of the output fields

Output field	Meaning
DEV-NAME	Device name
DEV-TYPE	Device type
C-USERID	User ID of the current job (output for systems support and RSO device administrator only; otherwise blank).
C-TSN	TSN of the current job (output for systems support and RSO device administrator only; otherwise blank).
EXIT	Exit routines activated: YES/NO
C-FORM	Form used for printing out the current job
C-CL	Spoolout class of the current job
SSU	S: printer status, see notes S: printer area; the printer is started locally (L) or as a distributed printer (C) U: STOP-... command issued. NO/blank.

Table 91: SHOW-ACTIVE-SPOOL-DEVICES; output with no device specification or with wildcard specification (Part 1 of 2)

Output field	Meaning
ADM	Caller of the command is systems support / RSO device administrator for this device: YES/blank
CRI	Selection criteria were all specified explicitly in the START-... command for the specified device (EXP) not specified at all (blank).

Table 91: SHOW-ACTIVE-SPOOL-DEVICES; output with no device specification or with wildcard specification (Part 2 of 2)

Output when an individual device is specified

Output for all device types

```

DEV-NAME: @@@@@@@@ DEV-TYP: @@@@@@@@@@ REV: ### SCHED: @@@@-JOB
C-USERID: @@@@@@@@ PRIORITY: ###/### USE: @@ C-TSN: @@@@
CLASSES(@): ### ### ### ### ### ### ### ### ### ### ### ### ###
            ### ### ###
FORM(@@): @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@
           @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@
           @@@@@@ @@@@@@
PNAME(@): @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@
           @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@
           @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@
USER (@): @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@
           @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@
           @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@
ACC (@): @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@
           @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@
           @@@@@@@@@ @@@@@@@@@
DESTS: @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@
        @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@
        ...
        @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@ @@@@@@@@@
    
```

Meanings of the output fields

Output field	Meaning
DEV-NAME	Device name
DEV-TYP	Device type
USE	Type of device activation
REV	Revision number; processing state of the device; a counter is incremented by 1 for each MODIFY-PRINTER-OUTPUT-STATUS command

Table 92: SHOW-ACTIVE-SPOOL-DEVICES output for all device types (Part 1 of 2)

SHOW-ACTIVE-SPOOL-DEVICES

Output field	Meaning
SCHED	SCHEDULING-STATE: During a job, device characteristics can be changed via MODIFY-...-OUTPUT-STATUS; this does not take effect until the subsequent job. The field indicates whether the values output apply to the current job or the next job.
PRIORITY	Value range of the priorities admitted for the specified device
C-USERID	User ID of the current job (output for RSO device administrator and systems support only; otherwise blank)
C-TSN	TSN of the current job (output for RSO device administrator and systems support only; otherwise blank)
CLASSES(@) Auxiliary field	Spoolout classes admitted for the specified device. A : All spoolout classes are admitted P : All specified spoolout classes are admitted N : All spoolout classes except those specified here are admitted
FORM(@@) Auxiliary field 1 Auxiliary field 2	Forms admitted for the specified device. A : All forms are admitted. P : All specified forms are admitted. N : All forms except those specified here are admitted. E : The specified forms are equivalent. _ : The specified forms are not equivalent.
PNAME(@) Auxiliary field	Job names admitted for the specified device. A : All job names are admitted P : All specified job names are admitted N : All job names except those specified here are admitted
USER(@) Auxiliary field	User IDs admitted for the specified device (output to systems support and RSO device administrator only; otherwise blank). A : All user IDs are admitted P : All specified user IDs are admitted N : All user IDs except those specified here are admitted
ACC(@) Auxiliary field	Account numbers admitted for the specified device (displayed only to systems support and the device administrator; otherwise blank). A : All account numbers are admitted P : All specified account numbers are admitted N : All account numbers except those specified here are admitted
DESTS	Device pools that can contain the specified device.

Table 92: SHOW-ACTIVE-SPOOL-DEVICES output for all device types (Part 2 of 2)

Additional information on local printers

```
CURRENT-FORM: @@@@ SAMPLE: @@@ EXIT: @ TRACE: @@@
SERVER-NAME: @@@@@@ HOST-NAME : @@@@@@
PRINTER-STATE: @ PRINTER-SCOPE: @ PRINTER-ERR-TYPE : @@@
HOSTS(@): @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@
          @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@
          @@@@@@ @@@@@@ @@@@@@ @@@@@@
```

Additional information when a PCL printer or a local HP/HP90 printer is specified

This information is only output if a PLC printer or a local HP/HP90 printer is specified in the NAME operand.

```
CURRENT-FORM: @@@@@ SAMPLE: @@@ EXIT: @@@ TRACE: @@@
CURRENT-DIA: @@ T-UP-P: @@@@@
ROTATION: @@@ FOB: ###/ ### CHAR-SET: ##/ ##
DIAS (@@@): @@ @@ @@ @@ @@ @@ @@ @@ @@ @@ @@ @@ @@ @@
SERVER-NAME: @@@@@@ HOST-NAME : @@@@@@
PRINTER-STATE: @ PRINTER-SCOPE: @ PRINTER-ERR-TYPE : @@@
HOSTS(@): @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@
          @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@
          @@@@@@ @@@@@@ @@@@@@ @@@@@@
```

Additional information when an APA printer is specified

```
CURRENT-FORM: @@@@@ TRACE: @@@(LEVEL=@) EXIT: @
SERVER-NAME: @@@@@@ HOST-NAME : @@@@@@
PRINTER-STATE: @ PRINTER-SCOPE: @ PRINTER-ERR-TYPE : @@@
HOSTS(@): @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@
          @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@ @@@@@@
          @@@@@@ @@@@@@ @@@@@@ @@@@@@
```

Meanings of the output fields

Output field	Meaning
CHAR-SET	HP printers only: Number of character sets (range) that can be processed on the specified device.
CURRENT-DIA	Film overlay loaded on the specified device.
CURRENT-FORM	Form loaded on the specified device

Table 93: Output fields of SHOW-ACTIVE-SPOOL-DEVICES for local printers (Part 1 of 2)

Output field	Meaning
DIAS Auxiliary field:	In local SPOOL only for HP and HP90: List of film overlays that can be processed on the device. (A): All film overlays (P): The specified film overlays (positive list) (N): All except the specified film overlays (negative list) (ONLY): Only devices on which film overlays can be processed (NONE): Only devices on which film overlays cannot be processed
EXIT	Exit routines activated for the specified device: yes/no
FOB	HP or LED printers only. Size range of an FOB data overlay that can be processed on the specified device.
PRINTER STATE	See “Notes” on page 5-407.
PRINTER SCOPE	Printer scope (L: local or C: distributed).
PRINTER-ERR-TYPE	Error class based on the printer error status: – OPER: Technical error: manual intervention is necessary before the message can be answered at the console. – DATA: Data error: the message at the console must be answered. – LOAD: Loading error: the message at the console must be answered. – JOB: Job error: the message at the console concerning the job just processed by the printer must be answered. – UNDEF: Undefined error.
ROTATION	Jobs that call the page rotation module can be processed on the specified device: YES/NO/ANY/MANUAL (see START-PRINTER-OUTPUT)
SAMPLE	Sample printout: yes/no
T-UP-P	TWO-UP-PROCESSING: output of two pages side by side on HP90 printers
TRACE Auxiliary field:	TRACE activated with START-PRINTER-OUTPUT command y/n LEVEL: trace level activated

Table 93: Output fields of SHOW-ACTIVE-SPOOL-DEVICES for local printers (Part 2 of 2)

Additional information when a virtual printer is specified

This information is only output if a virtual printer is specified in the NAME operand.

```

PRINTER-STATE: @          PRINTER-SCOPE: @    PRINTER-ERR-TYPE : @@@@
SERVER-NAME: @@@@ @@@@ HOST-NAME : @@@@ @@@@ PROGRAM-TASK : @@@@
HOSTS(@): @@@@@ @@@@@ @@@@@ @@@@@ @@@@@ @@@@@
          @@@@@ @@@@@ @@@@@ @@@@@ @@@@@ @@@@@
          @@@@@ @@@@@ @@@@@ @@@@@
    
```

Additional information when an RSO printer is specified

This information is only output if an RSO printer is specified in the NAME operand.

```
CURRENT-FORM: @@@@ TRACE: @@@ EXIT: @@@ SAMPLE: @@@
PRINTER-STATE: @ MONJV: @@@@
ACCESSES : @@@ @@@ @@@ @@@
```

Meanings of the output fields

Output field	Meaning
CURRENT-FORM	Form loaded on the specified device.
TRACE	A TRACE file is to be created for the specified device: YES/NO (this is only issued to systems support; the field remains empty in all other cases).
EXIT	EXIT routine activated for the specified device: YES/NO.
SAMPLE	Sample printout: YES/NO
PRINTER STATE	See "Notes" on page 5-407.
MONJV	Name of the monitoring job variable if specified in the device record of the SPOOL parameter file (\$SYSSPOOL.PRT.RSO.<device-name>), otherwise *NONE
ACCESSES	Access paths allowed, e.g. RSO, UTM

Table 94: Output fields of SHOW-ACTIVE-SPOOL-DEVICES for RSO printers

Information when a printer of a UNIX-based system is specified

This information is only output if a printer of a UNIX-based system is specified in the NAME operand.

```
DEV-NAME CURRENT-FORM PRINTER-STATE
@@@@@ @@@@@ @
```

Additional information when a tape device is specified

This information is only output if a tape device is specified in the NAME operand.

```
ROTATION: @@@ FOB: #####/##### CHAR-SET: #####/#####
DIAS (@@@@): @@ @@ @ @ @ @ @ @ @ @ @ @ @ @ @ @ @ @ @ @ @
RETPD: @@@ RMODE: @@@@@ IMPORT: @@@@@@
DENSITY: @@@@@@ T-UP-P: @@@@@@
TYPE (@@@@): @@@@@ @@@@@ @@@@@ @@@@@ @@@@@ @@@@@
```

```
VSN: @@@@@ @@@@@ @@@@@ @@@@@ @@@@@ @@@@@ @@@@@ @@@@@
@@@@@ @@@@@ @@@@@ @@@@@ @@@@@ @@@@@ @@@@@ @@@@@
```

Meaning of the output fields

Output field	Meaning
ROTATION	See output for local printers.
FOB	See output for local printers.
CHAR-SET	See output for local printers.
DIAS Auxiliary field:	List of film overlays which can be processed on the device (A): All film overlays (P): The specified film overlays (positive list) (N): All except the specified film overlays (negative list) (ONLY): Only devices on which film overlays can be processed (NONE): Only devices on which film overlays cannot be processed
RETPD	Retention period for tape files in days
RMODE	Outputs the tape processing mode: COPY/DIRECT.
IMPORT	VSN of the tape on which the directory file is stored
TYPE Auxiliary field:	Scheduling type defined in the SPOOLOUT-TYPE operand (START-TAPE-OUTPUT): LP, HP, FD, LP65, HP90, LP48, LP-EM, 2050-APA, 2090-APA (ALL): All types of job (MAY): Job for which SELECTION-TYPE = MAY has been specified (MUST): Job for which SELECTION-TYPE = MUST has been specified
DENSITY	Recording density for a tape (the recording density is not specified in START-TAPE.. but depends on the output device).
T-UP-P	See output for local printers.
VSN	List of volume serial numbers permitted on the device (output for systems support only; otherwise blank)

Table 95: Output fields of SHOW-ACTIVE-SPOOL-DEVICES for tape devices

Output in S variables

The command's DEVICE-NAME operand identifies the S variables which are to be created. The following specifications are possible for DEVICE-NAME:

Notation used in command	Abbreviated form used in table
DEVICE-NAME=*ALL	DEV =*ALL
DEVICE-NAME= <alphanum-name 1..8>	DEV =<name>
DEVICE-NAME= <alphanum-name 1..24 with-wild>	DEV =<name with-wild>

Note

S variables marked S/X in the "Name of the S variable" column are generated both for SPOOL and for Xprint jobs. All other S variables are generated for SPOOL jobs only.

Output information	Name of the S variable	T	Contents	Condition
Print jobs permitted for the specified device (RSO and UTM print jobs)	var(*LIST).ACCESS(*LIST)	S	' ' <allowed-accesses>	DEV=<name>
Account number	var(*LIST).ACCOUNT(*LIST)	S	' ' <account>	DEV=<name>
Account numbers with authorization for the specified device (output for system administrator/RSO device administrator only) *ALL = all numbers are authorized *NEGATIV = all except those listed *POSITIV = all those listed	var(*LIST).ACCOUNT-ADMIS	S	*ALL *NEGATIV *POSITIV	DEV=<name>
Command issued by the system administrator/RSO device administrator for this device	var(*LIST).ADM	S	*NO *YES	DEV=*ALL/ <name with-wild>
Form used to print the current job	var(*LIST).CURR-FORM	S/X	' ' <form-name>	DEV=<name>
Current form name	var(*LIST).CURR-FORM-NAME	S	' ' <form-name>	DEV=*ALL/ <name with-wild>
Current forms overlay	var(*LIST).CURR-FORM-OVERLAY	S	<forms-overl>	DEV=<name>
Current SPOOLOUT class	var(*LIST).CURR-PRINT-JOB-CLASS	S	0..255	DEV=*ALL/ <name with-wild>
TSN of the current job	var(*LIST).CURR-TSN	S	' ' <tsn>	

(Part 1 of 6)

SHOW-ACTIVE-SPOOL-DEVICES

Output information	Name of the S variable	T	Contents	Condition
User ID of the current job	var(*LIST).CURR-USER-ID	S	' ' <user-id>	
Number of character sets, bottom of range	var(*LIST).CHAR-SET-NUM.FROM	S	0..32767	DEV=<name>
Number of character sets, top of range	var(*LIST).CHAR-SET-NUM.TO	S	0..32767	DEV=<name>
Recording density supported by a tape	var(*LIST).DENSITY	S	' ' <density>	DEV=<name>
Device pool that may contain the device	var(*LIST).DEST(*LIST)	S	<destination>	DEV=<name>
Device name	var(*LIST).DEV-NAME	S/X	' ' <dev-name>	
Device type	var(*LIST).DEV-TYPE	S	' ' <dev-type>	
Number of devices which match the selection criteria	var(*LIST).DEVICE-NUMBER	S	<0..999999>	
Error code	var(*LIST).ERR-CODE	S	' ' <error code>	DEV=<name>
Error message	var(*LIST).ERR-MSG	S	' ' <error msg>	DEV=<name>
Are exit routines activated for the specified device?	var(*LIST).EXIT	S	*NO *YES	
Forms overlay buffer, bottom of range	var(*LIST).FOB.FROM	S	0..32767	DEV=<name>
Forms overlay buffer, top of range	var(*LIST).FOB.TO	S	0..32767	DEV=<name>
Form name	var(*LIST).FORM-NAME(*LIST)	S	' ' <form-name>	DEV=<name>
Forms authorized for use on the specified device *ALL = all forms are authorized *NEGATIV = all except those listed *POSITIV = all those listed	var(*LIST).FORM-NAME-ADMIS	S	*ALL *NEGATIV *POSITIV	DEV=<name>
Equivalence of the output forms	var(*LIST).FORM-NAME-EQUIV	S	' ' *EQUIVALENT	DEV=<name>
Name of the forms overlay	var(*LIST).FORM-OVERLAY(*LIST)	S	' ' <forms-overl>	DEV=<name>

(Part 2 of 6)

Output information	Name of the S variable	T	Contents	Condition
Forms overlays which can be processed on the device *ALL = all overlays *POSITIV = all those listed *NEGATIV = all except those listed *ONLY = only devices which support forms overlay processing *NONE = only devices which do not support forms overlay processing	var(*LIST).FORM-OVERLAY-ADMIS	S	*ALL *NEGATIV *NONE *ONLY *POSITIV	DEV=<name>
Host system	var(*LIST).HOST(*LIST)	S	' ' <host-name>	DEV=<name>
Hosts authorized to use the specified device *ALL=all hosts *POSITIV=all those listed *NEGATIV=all except those listed *LOCAL-HOST=local host *LOCAL-CLUSTER=all hosts in the local cluster	var(*LIST).HOST-ADMIS	S	*ALL *POSITIV *NEGATIV *LOCAL-HOST *LOCAL-CLUSTER	DEV=<name>
Name of the host	var(*LIST).HOST-NAME	S	' ' <host-name>	DEV=<name>
VSN of the tape containing the directory file	var(*LIST).IMPORT	S	' ' <import>	DEV=<name>
Date of most recent scheduling operation	var(*LIST).LAST-SCHED.DATE	S	*NONE <yyyy-mm-dd>	
Time of most recent scheduling operation	var(*LIST).LAST-SCHED.TIME	S	*NONE <hh:mm>	
Season information for the time of most recent scheduling operation	var(*LIST).LAST-SCHED.SEASON	S	*NONE *SUMMER *WINTER	
Local name of the device as defined in the SPOOL parameters. With local printer: Logical name used when the printer is started. With distributed printer: Name of the logical device which is connected to the distributed printer.	var(*LIST).LOCAL-DEVICE-NAME	S/X	S <device-name>	

(Part 3 of 6)

SHOW-ACTIVE-SPOOL-DEVICES

Output information	Name of the S variable	T	Contents	Condition
Name of the RSO job variables	var(*LIST).MONJV	S	' '\$SYSSPOOL.PRT. RSO.<device-name>	DEV=<name>
Tape operating mode	var(*LIST).OUT-MODE	S	' '*COPY *DIRECT	DEV=<name>
Spoolout class	var(*LIST).PRINT-JOB-CLASS(*LIST)	S	0..255	DEV=<name>
Spoolout classes authorized for use on the device *ALL = all classes *POSITIV = all those listed *NEGATIV = all except those listed	var(*LIST).PRINT-JOB-CLASS-ADMI	S	*ALL *NEGATIV *POSITIV	DEV=<name>
Spoolout name	var(*LIST).PRINT-JOB-NAME(*LIST)	S	' '<spool-name>	DEV=<name>
Names of jobs authorized to use the device *ALL = all jobs *POSITIV = all those listed *NEGATIV = all except those listed	var(*LIST).PRINT-JOB-NAME-ADMIS	S	*ALL *NEGATIV *POSITIV	DEV=<name>
Job priority, bottom of range	var(*LIST).PRINT-JOB-PRIO.FROM	S	30..255	DEV=<name>
Job priority, top of range	var(*LIST).PRINT-JOB-PRIO.TO	S	30..255	DEV=<name>
Error class based on the printer error status: *OPER: Hardware error: manual intervention is necessary before the message on the console can be acknowledged. *DATA: Data error: requires the message on the console to be acknowledged. *LOAD: Load error: data error: Requires the message on the console to be acknowledged *JOB: Job error: requires the message on the console concerning the present print job to be acknowledged. *UNDEF: Error undefined.	var(*LIST).PRINTER-ERR-TYPE	S	*OPER *DATA *LOAD *JOB *UNDEF	DEV=<name>
Tape file retention period	var(*LIST).RETENT-PERIOD	S	<integer>	DEV=<name>
Revision number	var(*LIST).REVISION	S	0..255	DEV=<name>

(Part 4 of 6)

Output information	Name of the S variable	T	Contents	Condition
Jobs that call the page rotation module	var(*LIST).ROT	S	' *ANY *MAN *NO *YES	DEV=<name>
Specimen printout required	var(*LIST).SAMPLE	S	*NO *YES	DEV=<name>
Applicability (data of current job or next job)	var(*LIST).SCHED-STA	S	*CURR-JOB *NEXT-JOB	DEV=<name>
Scope	var(*LIST).SCOPE	S	*CLUSTER *LOCAL	
Selection criterion	var(*LIST).SEL-CRITERIA	S	' *EXP	DEV=*ALL/ <name with-wild>
Name of server	var(*LIST).SERVER-NAME	S	' <server-name>	DEV=<name>
Device types for which spoolout jobs can be processed on the specified devices	var(*LIST).SPOOL-TYPE(*LIST)	S	' <spool-type>	DEV=<name>
Device type limitation	var(*LIST).SPOOL-TYPE-ADMIS	S	*MAY *MUST	DEV=<name>
Printer status	var(*LIST).STA	S/X	' <print-state>	
Trace file required	var(*LIST).TRACE	S	*NO *YES	DEV= <name>
Active trace level	var(*LIST).TRACE-LEV	S	' <trace-level>	DEV= <name>
TWO-UP processing	var(*LIST).TWO-UP-PROCESS	S	' *ANY *MODE-1 *MODE-2 *NO *YES	DEV=<name>
Device activation style	var(*LIST).USE	S	' *NO	DEV=*ALL/ <name with-wild>
		S	*IN *NO *OUT *PAGE-PRINT-OUT	DEV=<name>
User ID	var(*LIST).USER-ID(*LIST)	S	' <user-id>	DEV=<name>

(Part 5 of 6)

SHOW-ACTIVE-SPOOL-DEVICES

Output information	Name of the S variable	T	Contents	Condition
User IDs with authorization for the device *ALL = all user IDs *POSITIV = all those listed *NEGATIV = all except those listed	var(*LIST).USER-ID-ADMIS	S	*ALL *NEGATIV *POSITIV	DEV=<name>
VSN	var(*LIST).VOL(*LIST)	S	' ' <vsn>	DEV=<name>

(Part 6 of 6)

Example

Four devices have been activated as follows:

```
Device 1: START-PRINTER-OUTPUT DEV-NAME=L1
Device 2: START-PRINTER-OUTPUT DEV-NAME=L2,(FORM-NAME=FORM01)
Device 3: START-PRINTER-OUTPUT DEV-NAME=L3,(FORM-NAME=(FORM01,FORM02))
Device 4: START-PRINTER-OUTPUT DEV-NAME=L4,(FORM=FORM02)
```

If the FORM operand is omitted in SHOW-ACTIVE-SPOOL-DEVICES, information on all four devices is output. For FORM=FORM01, information on device 2 and device 3 is output. For FORM=FORM02, information on device 3 and device 4 is output. For FORM=(FORM01,FORM02), information on device 3 is output.

SHOW-ADDRESS-SPACE-STATUS

Show information on system and user address space

Description status:	BS2000 OSD/BC V10.0A
Functional area:	System control and optimization
Domain:	SYSTEM-MANAGEMENT SYSTEM-TUNING
Privileges:	STD-PROCESSING SW-MONITOR-ADMINISTRATION TSOS

Function

The SHOW-ADDRESS-SPACE-STATUS command displays information on important and possibly critical values of the system and user address space. The following information is displayed:

- Information on the system address space
 - Size of the the system address space
 - Current size of memory classes 1 through 4
 - Maximum size of memory classes 3 and 4 during the session
 - Current and maximum sizes of the system address space used
 - Free gap between memory classes 3 and 4
- Information on the user address space
 - Size of the the user address space
 - Maximum size of class 5 and class 6 memory in the user address space during the runtime of the specified task

The information on the system address space is only received by privileged users. The scope of information on the user address space can be defined with the USER-ADDRESS-SPACE operand.

Privileged functions

Privileged users (TSOS or SW-MONITOR-ADMINISTRATION privilege) receive information on the system address space and can have information displayed on the user address space of tasks of foreign user IDs.

Indications of critical situations

When class 3 and class 4 memory is requested, the system address space is searched for an adequately sized free area, but in different directions:

- In the case of class 3 memory, the search takes place from the front in the direction of ascending addresses.

- In the case of class 4 memory, the search takes place from the back in the direction of descending addresses.

Normally a gap of many MB remains free between class 3 and class 4 memory. If this gap shrinks to a few MB or disappears totally, larger requests for class 3 or class 4 memory are generally no longer possible. An acute danger of system address space saturation then exists.

Critical situations exist in the following cases:

- The size of the system address space used differs by only a few MB from the maximum size of the system address space.
- The maximum size of the class 5 and class 6 memory of a task differs by just a few MB from the size of the user address space.

Format

```
SHOW-ADDRESS-SPACE-STATUS
```

```
USER-ADDRESS-SPACE = *OWN / *LARGEST(...) / *ALL / *NONE / *TSN (...)
```

```
*LARGEST(...)
```

```
  | NUMBER = 5 / <integer 1..4096>
```

```
*TSN(...)
```

```
  | TSN = <alphanum-name 1..4>
```

Operands

USER-ADDRESS-SPACE = *OWN / *LARGEST(...) / *ALL / *NONE / *TSN (...)

Determines the scope of the information on the user address space.

USER-ADDRESS-SPACE = *OWN

Information is output on the user address space of the local task.

USER-ADDRESS-SPACE = LARGEST(...)

Information is output on the user address space of a particular number of tasks which occupy the most user address space. The output takes place in descending order beginning with the task which has reached the highest level of class 5 and class 6 memory.

Nonprivileged users are only provided with information relating to tasks running under their own user ID.

NUMBER = 5 / <integer 1..4096>

Specifies the maximum number of tasks for which information will be output. The default is 5 tasks.

USER-ADDRESS-SPACE = *ALL

Information is output on the user address space of all tasks. The output takes place in descending order beginning with the task which has reached the highest level of class 5 and class 6 memory. Nonprivileged users are only provided with information relating to tasks running under their own user ID.

USER-ADDRESS-SPACE = *NONE

No information on the user address space will be output.

USER-ADDRESS-SPACE = *TSN(...)

Information is output on the user address space of the specified task.

TSN = <alphanum-name 1..4>

TSN of the task. Nonprivileged users can only specify a task which is running under their own user ID.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed successfully
	32	EMM3601	system error
	64	CMD0216	Error: command privilege missing
	64	EMM3600	Error: access authorization missing
	64	EMM3602	Specified task does not exist
	130	EMM3603	Insufficient storage space

SHOW-ADDRESS-SPACE-STATUS

Output format

Sample output

`/show-address-space-status user-address-space=*all`

SYSTEM ADDRESS SPACE REPORT ----- (1)

SYSSIZE	MAX. USED	MAX. CLASS 3	MAX. CLASS 4	SIZE OF HOLE
1024 MB	258.25 MB	98.18 MB	104.48 MB	754.18 MB

SUM SIZE	SIZE CLASS 1	SIZE CLASS 2	SIZE CLASS 3	SIZE CLASS 4
237.38 MB	36.09 MB	0.28 MB	96.78 MB	104.22 MB

USER ADDRESS SPACE REPORT ----- (2)

SIZE USER ADDRESS SPACE: 1900 MB

TASK	MAX. CLASS 5/6
1RHC	553.08 MB
1RHE	544.76 MB
1RCO	306.77 MB

...

IGPN	17.95 MB
1RGD	17.87 MB
BCAM	17.84 MB

...

PGE	0.16 MB
VMM	0.16 MB
KTT	0.16 MB

/

Explanation of the output information

Info column	Meaning
SYSTEM ADDRESS SPACE REPORT	Information block for the system address space
SYSSIZE	Size of the the system address space
MAX. USED	Maximum system address space used during the session
MAX. CLASS 3	Maximum class 3 memory used during the session
MAX. CLASS 4	Maximum class 4 memory used during the session
SIZE OF HOLE	Size of the gap between class 3 and class 4 memory
SUM SIZE	Current size of the class 1 through class 4 memory
SIZE CLASS 1	Current size of the class 1 memory (=maximum)
SIZE CLASS 2	Current size of the class 2 memory(=maximum)
SIZE CLASS 3	Current size of the class 3 memory
SIZE CLASS 4	Current size of the class 4 memory
USER ADDRESS SPACE REPORT	Information block for the user address space
SIZE USER ADDRESS SPACE:	Size of the the user address space
TASK	The following values are displayed for each task: the task's TSN
MAX. CLASS 5/6	Maximum class 5 and class 6 memory used by the task (including memory pools)

Notes

- The total system and user address space used always remains below 2048 MB on SUs /390 and S servers because there the nonprivileged class 4 memory counts neither as user nor as system address space.
On SUs /x86 and SQ servers this total always remains below the maximum possible value of 4096 MB because there the area between user and system address space is used for shared modules (nonprivileged class 4 memory) and for HAL data.
- The value MAX. USED is not equivalent to the total of MAX. CLASS 3, MAX. CLASS 4, SIZE CLASS 1 and SIZE CLASS 2 because MAX. CLASS 3 and MAX. CLASS 4 can be reached at different times during the session.
- In the system address space there are areas which cannot be assigned to any of the memory classes 1 through 4. These areas are contained in the MAX. USED value.

SHOW-ALIAS-CATALOG-ENTRY

Show entries in alias catalog

Description status:	ACS V19.0A
Functional area:	File processing
Domain:	FILE
Privileges:	STD-PROCESSING SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The SHOW-ALIAS-CATALOG-ENTRY command outputs AC entries to SYSOUT. Entries with the attribute INVISIBLE are not shown. The user selects the entries to be displayed by specifying the defined aliases. If all entries are selected, the scope of the output information can be restricted as follows:

- output of a totals line for all AC entries
- selection based on the scope of entries (user or system entries).
- selection based on the range of the entries (for files and/or job variables)

The command supports structured output in S variables (see [“Output in S variables” on page 5-429](#)).

Format

SHOW-ALIAS-CATALOG-ENTRY

```

ALIAS-FILE-NAME = *ALL / <filename 1..80 with-wild>
, SELECT = *ALL / [*BY-ATTRIBUTES](...)
  [*BY-ATTRIBUTES](...)
    | TYPE = *ALL / *USER-ENTRIES / *SYSTEM-ENTRIES
    | , RANGE = *ANY / *FILE / *JV
, INFORMATION = *STD / *SUMMARY

```

Operands

ALIAS-FILE-NAME = *ALL / <filename 1..80 with-wild>

Selects the AC entries to be output on the basis of the associated alias contained in the entry. Entries with the `INVISIBLE` attribute are not shown.

ALIAS-FILE-NAME = *ALL

Selects the AC entries for all aliases. The scope of the information to be shown can be restricted.

ALIAS-FILE-NAME = <filename 1..80 with-wild>

Specification of a defined alias or a wildcard sequence to select a set of aliases for which AC entries are to be shown.

SELECT = *ALL / *BY-ATTRIBUTES(...)

The AC entry selection criteria.

SELECT = *ALL

Returns information on all AC entries.

SELECT = *BY-ATTRIBUTES(...)

Restricts the AC entries selected from the set to those which satisfy the following specifications.

TYPE = *ALL / *USER-ENTRIES / *SYSTEM-ENTRIES

Returns information on AC entries depending on the entry type (user or system entries).

TYPE = *ALL

The entry type is not to be used as a selection criterion. Both user and system entries (`*ALL`) are to be shown..

TYPE = *USER-ENTRIES

Returns information on user entries.

TYPE = *SYSTEM-ENTRIES

Returns information on system entries.

RANGE = *ANY / *FILE / *JV

Returns information on AC entries depending on the range (for files or job variables).

RANGE = *ANY

The range is not to be used as a selection criterion.

RANGE = *FILE

Provides information on all AC entries which are valid for files (i.e. all entries which are set up with the range `RANGE=*FILE` or `*BOTH`).

RANGE = *JV

Provides information on all AC entries which are valid for job variables (i.e. all entries which are set up with the range `RANGE=*JV` or `*BOTH`).

INFORMATION = *STD / *SUMMARY

Defines the scope of the output.

INFORMATION = *STD

For each ACS entry, the alias and the actual file or job variable name are shown with a preceding “S” to identify system entries and a preceding “U” for user entries. The “+” character before an alias indicates that the entry has the LOGGING attribute; the character “P” indicates that it is protected (by the PROTECTED attribute).

The third character shows the range of the AC entry (definition in the RANGE operand). The possible values are “F” (*FILE), “J” (*JV) and “B” (*BOTH).

The output ends with a totals line containing the total number of aliases selected in the ALIAS-FILE-NAME operand and a breakdown of system and user entries.

INFORMATION = *SUMMARY

Only the totals line is to be shown.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed normally
2	0	ACS0006	Warning: AC entry not found
	32	CMD0221	Internal error
	64	ACS0017	Error: alias catalog not available
	64	ACS0024	Invalid alias catalog entry
	128	ACS0018	ACS is not available

Output in S variables

The INFORMATION operand identifies the S variables which are to be created. The possible values for INFORMATION are *STD and *SUMMARY.

Output information	Name of the S variable	T	Contents	Condition
File or job variable name alias	var(*LIST).ACS(*LIST).ALIAS-F-NAME	S	<filename 1..54>	INF=*STD
Actual file or job variable name	var(*LIST).ACS(*LIST).F-NAME	S	<filename 1..54>	INF=*STD
Logging enabled	var(*LIST).ACS(*LIST).LOG	S	*NO *YES	INF=*STD
Alias catalog entry protection enabled	var(*LIST).ACS(*LIST).PROT	S	*NO *YES	INF=*STD
Range of the alias catalog entry (for files and/or job variables)	var(*LIST).ACS(*LIST).RANGE	S	*FILE *JV *BOTH	INF=*STD
Type of alias catalog entry	var(*LIST).ACS(*LIST).TYPE	S	*SYS *USER	INF=*STD
AC entry visible	var(*LIST).ACS(*LIST).VISIBLE	S	*NO *YES	INF=*STD
Number of system entries	var(*LIST).NUM-OF-ENTRY.SYS	I	<integer 0...65535>	INF=*STD/ *SUMMARY
Total number of AC entries	var(*LIST).NUM-OF-ENTRY.TOTAL	I	<integer 1...65535>	INF=*STD/ *SUMMARY
Number of user entries	var(*LIST).NUM-OF-ENTRY.USER	I	<integer 0...65535>	INF=*STD/ *SUMMARY

Examples

See the ADD-ALIAS-CATALOG-ENTRY, LOAD-ALIAS-CATALOG and SET-FILE-NAME-PREFIX commands.

SHOW-ASE-ELEMENT

Display ASE element

Description status:	ASE V1.0B
Functional area:	Error logging
Domain:	ERROR-LOGGING
Privileges:	TSOS

Function

The SHOW-ASE-ELEMENT command provides information on the properties of all ASE elements which are declared in the system. Specifying the element ID enables information to be displayed for a particular ASE element.

In addition to the declared properties, the element ID, the TSN of the task under which the declaration was made, the number of actions already performed and the date and time of the declaration are displayed.

Format

SHOW-ASE-ELEMENT

ELEMENT-ID = *ALL / <x-text 2..2>

Operands

ELEMENT-ID = *ALL / <x-text 2..2>

Specifies which ASE elements are to be displayed. The default *ALL causes all elements to be displayed. Specifying the element ID also enables the display of a particular element to be requested.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without errors
	1	ASE0010	Syntax error
	32	CMD0221	System error
	64	ASE0011	Semantic error

Output format

The information is displayed in a table. The output begins with a header line containing the names of the output columns. This is followed by a value line for each declared ASE element. If a range of message numbers, a list with multiple elements or elements that are to be excluded was specified when the SERSLOG events were selected, the value line is followed by one or more continuation lines.

When the value displayed in an output column comes from the declaration made with ADD-ASE-ELEMENT, the corresponding operand is enclosed in parentheses in the explanation.

Sample output

```

ID OWNER RECTYPE TH S(#, SLEEP ) ACTION DONE CRE-DATE CRE-TIME TASK
04 (OWN) (ALL) ___ Y(3,UNLIMIT ) LO 0003 2012-02-01 01:30:00 0015
01 OABC (ALL) 1F N LO+CO *1AFE 2012-02-01 01:30:00 ____
    \IDA
    \AUD0815
02 OABC IDA(ALL) 03 N CO 0000 2012-02-01 01:30:00 ____
    \IDA0BAD
    \IDA0DUM
2A OABC AUD(ALL) 01 N CO 0000 2012-02-01 01:30:00 ____
22 OABC IDA0002- ___ N CO 0000 2012-02-01 01:30:00 ____
    IDA0006
    \IDA0004
3E 1TSN AUD4711, ___ Y(1,01:30:00) CO 0000 2012-02-01 01:30:00 ____
    IDA0911
3F 1TSN IDA0911 ___ Y(1,024hours) LO+CO+TS 0000 2012-02-01 01:30:00 ____

```

Explanation of the output columns

Output column	Meaning
ID	Identifier of the ASE elements which is specified uniquely when the declaration is made. Possible values: <x-text 2..2> or empty in the case of a continuation line
OWNER	TSN of the task which declared the ASE element. Possible values: <alphanum-name 4..4>, (OWN) for the user's own task or empty in the case of a continuation line

Table 96: Output columns of the SHOW-ASE-ELEMENT command (Part 1 of 2)

Output column	Meaning
RECTYPE	<p>Monitored SERSLOG events (RECORD-ID operand). Possible values:</p> <ul style="list-style-type: none"> – (ALL) = All SERSLOG records are selected – ccc(ALL) = All SERSLOG records of message class ccc are selected – cccmmmm = The SERSLOG record with message number cccmmmm is selected – cccmmmm, = First element of a list of message numbers (for further list elements see continuation line) – cccmmmm- = Specifies a lower limit for the range (for the upper limit see continuation line) <p><i>In event of output in continuation lines</i></p> <ul style="list-style-type: none"> – cccmmmm, = Another list element – cccmmmm = Last list element or upper limit of range – \cccmmmm = Excluded SERSLOG record – \cccm(ALL) = Excluded message class
TH	<p>Threshold value (hexadecimal value of the THRESHOLD operand). Possible values: <x-text 2..2> or “_” for *NONE</p>
S(#, SLEEP)	<p>Handling of duplicated SERSLOG events (SUPPRESS-DUPLICATES operand). Possible values:</p> <ul style="list-style-type: none"> – N when SUPPRESS-DUPLICATES=*NO – Y(<integer 1..9>, <sleep>) when SUPPRESS-DUPLICATES=*YES, where the values of the AFTER and SLEEP-TIME operands are displayed in parentheses. The following values are possible for <sleep>: UNLIMIT, hh.mm.ss (when the time is specified) or nnn hours (when nnn hours is specified)
ACTION	<p>Action which is to be executed when the defined event occurs (ACTION operand). Possible values: LO (internal logging), CO (console message) or TS (teleservice call); in a list the values are separated from each other by “+”</p>
DONE	<p>Number (hexadecimal display) of the actions executed. A leading asterisk indicates a counter overflow. Possible values: <x-text 4..4></p>
CRE-DATE	<p>Date of the declaration in the format yyyy-mm-dd</p>
CRE-TIME	<p>Time of the declaration in the format hh:mm:ss</p>
TASK	<p>TSN of the task which is monitored (TASK operand). Possible values: <alphanum-name 4..4> or “_” for all tasks</p>

Table 96: Output columns of the SHOW-ASE-ELEMENT command (Part 2 of 2)

SHOW-ASE-LOGGING

Display ASE logging data

Description status:	ASE V1.0B
Functional area:	Error logging
Domain:	ERROR-LOGGING
Privileges:	TSOS

Function

The SHOW-ASE-LOGGING command outputs all SERSLOG events which have been logged internally (ACTION=*INTERNAL-LOGGING). The output is directed to SYSOUT, and can also optionally be directed to SYSLST. The set of logging records to be output can be restricted to message keys which, in the length specified, match the specified substring.

Format

SHOW-ASE-LOGGING

RECORD-ID = *ALL / <alphanum-name 1..7>

OUTPUT = list-poss(2): *SYSOUT / *SYSLST

Operands

RECORD-ID = *ALL / <alphanum-name 1..7>

Specifies the SERSLOG events for which the logged information is to be output. The default *ALL causes all logging records to be output. When a particular message key is specified or part of one, information is output only for the message keys which, in the length specified, match the specified value.

OUTPUT = list-poss(2): *SYSOUT / *SYSLST

Specifies where the information is to be output. The default setting is output to SYSOUT.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without errors
	1	ASE0010	Syntax error
	32	CMD0221	System error
	64	ASE0011	Semantic error

Output format

The information is displayed in a table. The output begins with a header line containing the names of the output columns. This is followed by a value line for each logging record displayed.

Sample output

```
RECTYPE  TSN          CALLER          DATE          TIME          ELSN
CRY0001  83N6  CRYASS  +000007C4  2012-02-17  09:29:20  0000AFFE
```

Explanation of the output columns

Output column	Meaning
RECTYPE	SERSLOG record identifier (corresponds to message number)
TSN	TSN of the task which triggered the SERSLOG event
CALLER	Address of the \$NERLOS call, defined by module name and relative distance (hexadecimal) to the start of the module in the format <name 1..8>+<x-text 8..8>
DATE	Date of the SERSLOG event in the format yyyy-mm-dd
TIME	Time of the SERSLOG event in the format hh-mm-ss
ELSN	Error Logging Sequence Number (hexadecimal) of the SERSLOG event in the format <x-text 8..8>

Table 97: Output columns of the SHOW-ASE-LOGGING column

SHOW-ASE-PARAMETERS

Display global ASE settings

Description status:	ASE V1.0B
Functional area:	Error logging
Domain:	ERROR-LOGGING
Privileges:	TSOS

Function

The SHOW-ASE-PARAMETERS command displays global ASE settings which can be changed using the MODIFY-ASE-PARAMETERS command. The output provides information on the current size of the logging buffer.

Format

SHOW-ASE-PARAMETERS

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without errors
	1	ASE0010	Syntax error
	32	CMD0221	System error
	64	ASE0011	Semantic error

Output format

The size of the internal logging buffer is displayed in an information line:

SIZE OF LOGGING TABLE: n KB

Here n is a multiple of 4 from <integer 4..64>.

SHOW-ASE-STATUS

Display ASE status information

Description status:	ASE V1.0B
Functional area:	Error logging
Domain:	ERROR-LOGGING
Privileges:	TSOS

Function

The SHOW-ASE-STATUS command enables status information about the ASE subsystem to be queried. The output provides information on whether ASE buffer areas which are not large enough had to be overwritten. When required, the internal logging buffer can be enlarged using the MODIFY-ASE-PARAMETERS command.

Format

SHOW-ASE-STATUS

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed without errors
	1	ASE0010	Syntax error
	32	CMD0221	System error
	64	ASE0011	Semantic error

Output format

An information line is output for each ASE buffer area.

Sample output

```
LOGGING TABLE WRAPPED: YES
INTERNAL DATA WRAPPED: NO
```

Explanation of the output columns

Output field	Meaning
LOGGING TABLE WRAPPED:	Indicates whether a wrap-around (i.e. the new data overwrites the oldest entries in the event of a buffer overflow) of the internal logging buffer has occurred. If necessary, the buffer can be enlarged using the MODIFY-ASE-PARAMETERS command. Possible values: YES or NO
INTERNAL DATA WRAPPED:	<i>This information is only relevant for internal diagnostics.</i> Indicates whether a wrap-around of an internal table has occurred. Possible values: YES or NO

Table 98: Output information of the SHOW-ASE-STATUS command

SHOW-AUDIT-STATUS

Show status information on linkage and hardware AUDIT

Description status:	BS2000 OSD/BC V10.0A
Functional area:	AUDIT mode control
Domain:	PROGRAM
Privileges:	TSOS

Function

The SHOW-AUDIT-STATUS command outputs status information on the linkage and hardware AUDIT modes to SYSOUT. Both the system-wide and the task-specific usage of the AUDIT functions in the system are displayed. In addition to the general overview, the display can also show which tasks started the linkage or hardware AUDIT mode.

Format

SHOW-AUDIT-STATUS
INFORMATION = <u>*SUMMARY</u> / *ALL(...) *ALL(...) SELECT = <u>*ALL</u> / *LINKAGE-AUDIT / *HARDWARE-AUDIT

Operands

INFORMATION = *SUMMARY / *ALL(...)

Specifies the scope of the information which is to be displayed.

INFORMATION = *SUMMARY

The statuses of the following AUDIT functions are displayed:

- processor-local linkage AUDIT
- ALL-JOBS-AUDIT for linkage AUDIT
- ALL-JOBS-AUDIT for hardware AUDIT

The number of tasks in which the linkage or hardware AUDIT is still active (enabled and not on hold) is also shown.

INFORMATION = *ALL(...)

The same information is displayed as with *SUMMARY. Further task-specific information is also displayed for each task which has linkage or hardware AUDIT enabled.

SELECT = *ALL / *LINKAGE-AUDIT / *HARDWARE-AUDIT

Specifies the AUDIT mode for which information is to be displayed.

SELECT = *ALL

Information is displayed for linkage AUDIT and for hardware AUDIT.

SELECT = *LINKAGE-AUDIT

Information is displayed for linkage AUDIT only.

SELECT = *HARDWARE-AUDIT

Information is displayed for hardware AUDIT only.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without errors
	32	CMD0221	System error
	64	CMD0216	Privileges error

Output format

INFORMATION =*SUMMARY causes the 5 following information lines to be displayed which contain global information:

Information line	Meaning
Processor-local LINKAGE-AUDIT:	Status of the processor-local linkage AUDIT: <ul style="list-style-type: none"> – INTERRUPT-HANDLING (ON for SIH) – SYSTEM-LEVEL (ON for SIH and TPR) – OFF
All-task LINKAGE-AUDIT :	Status of the ALL-JOBS-AUDIT for linkage AUDIT: ON or OFF
All-task HARDWARE-AUDIT :	Status of the ALL-JOBS-AUDIT for hardware AUDIT
LINKAGE-AUDIT active in <i>nnnn</i> task(s)	Number of tasks with active linkage AUDIT (ON, but not in HOLD status)
HARDWARE-AUDIT active in <i>nnnn</i> task(s)	Number of tasks with active hardware AUDIT (ON, but not in HOLD status)

Table 99: AUDIT status information

INFORMATION =*ALL causes task-specific information to be displayed in addition for each task with the AUDIT function enabled. This detailed information is displayed in table form ahead of the information lines which show the total number of tasks. One value line containing the following information is displayed for each task:

Information column	Meaning
TID	TID of the displayed task.
TSN	TSN of the displayed task
TYPE	Type of the enabled AUDIT function: <ul style="list-style-type: none"> – LKA (linkage AUDIT) – HWA (hardware AUDIT)
STATE	Functional state of the enabled AUDIT function: <ul style="list-style-type: none"> – SYSTEM (enabled for TPR) – USER (enabled for TU)
ACTIVE	Activity status of the enabled AUDIT function: <ul style="list-style-type: none"> – YES (enabled and not in Hold status) – NO (enabled and in Hold status) – PND (deactivation initiated): Deactivation of the AUDIT will only become effective with the next task activation. – INC (inconsistent internal status): Activation of the AUDIT has overtaken deactivation. An explicit STOP command or macro is required.

Table 100: AUDIT status information (task-specific information)

Examples

```

/show-audit-sta inf=*all
Processor-local LINKAGE-AUDIT: INTERRUPT-HANDLING
All-task LINKAGE-AUDIT      : OFF
All-task HARDWARE-AUDIT    : OFF
Task-specific AUDITs:
  TID   TSN   TYPE STATE  ACTIVE
00010001 TSC   LKA  SYSTEM YES
00010002 HERS   HWA  SYSTEM YES
00010068 OFQ3  LKA  SYSTEM YES
00010068 OFQ3  LKA  USER   YES
00010068 OFQ3  HWA  SYSTEM YES
00010068 OFQ3  HWA  USER   YES
0001006C OFQ7  LKA  USER   NO
0001006D OFQ8  HWA  SYSTEM NO
LINKAGE-AUDIT active in 0002 task(s)
HARDWARE-AUDIT active in 0002 task(s)

```

```
/show-audit-sta inf=*sum  
Processor-local LINKAGE-AUDIT: INTERRUPT-HANDLING  
All-task LINKAGE-AUDIT      : OFF  
All-task HARDWARE-AUDIT    : OFF  
LINKAGE-AUDIT active in 0002 task(s)  
HARDWARE-AUDIT active in 0002 task(s)
```

SHOW-BLOCK-TO-FILE-ASSIGNMENT

Show file name associated with specified block

Description status:	BS2000 OSD/BC V10.0A
Functional area:	System control and optimization
Domain:	SYSTEM-TUNING
Privileges:	TSOS

Function

This command tells systems support the names of the files in which the specified blocks are located. Its primary function is to identify the files which are associated with bad blocks. For files to be consistently associated with disks/blocks, the corresponding pubset must not be subject to CMS or allocator actions. Such conditions apply only during a pubset's IMCAT phase or in the case of an exclusively imported pubset.

The command supports structured output in S variables (see [“Output in S variables” on page 5-443](#)).

Format

SHOW-BLOCK-TO-FILE-ASSIGNMENT
VOLUME = <vsn 1..6> , BLOCK-NUMBER = list-poss(255): <integer 1..2147483647>

Operands

VOLUME = <vsn 1..6>

Identifies the disk containing the specified blocks by volume serial number (VSN).

BLOCK-NUMBER = list-poss(255): <integer 1..2147483647>

Identifies the physical half-page number of the required block.

Return codes

(SC2)	SC1	Maincode	Meaning
1	0	CMD0001	Command executed without error
	0	CMD0001	K2 interrupt
	32	CMD2009	Error on output to S variables (e.g. subsystem not available)
	32	DMS05C7	Internal DMS error
	64	CMD0202	Syntax or semantic error
	64	DMS0501	Requested catalog not available
	64	DMS0512	Requested catalog not found
	64	DMS06CC	No file uses the specified block
	64	OPS0002	K2 interrupt on output to S variables
	130	OPS0001	Space problems on output to S variables

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Physical half-page number of a (defective) block which can be associated with a file	var(*LIST).FOUND(*LIST).BLOCK	I	<integer>	
Name of the file containing the (defective) block	var(*LIST).FOUND(*LIST).F-NAME	S	<path-name>	
Physical half-page number of a (defective) block which cannot be associated with a file	var(*LIST).NOT-FOUND(*LIST).BLOCK	I	<integer>	
VSN of the disk on which the (defective) blocks are located	var(*LIST).VOL	S	<vsn>	

SHOW-CACHE-CONFIGURATION

Show PFA cache area configuration

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Caching media control Pubset and MRSCAT management
Domain:	MULTI-CATALOG-AND-PUBSET-MGMT
Privileges:	TSOS HARDWARE-MAINTENANCE SW-MONITOR-ADMINISTRATION

Function

The SHOW-CACHE-CONFIGURATION command supplies systems support staff with information on the PFA cache areas. As part of the PFA (“Performant File Access”) concept, the user can put files into buffer storage (“cache” them) via the DMS interfaces. The PFA interfaces support main memory (MAIN-MEMORY) and global storage (GS). The subsystem DAB is required as drivers for these media.

The command supports structured output in S variables (see [“Output in S variables” on page 5-451](#)).

Format

SHOW-CACHE-CONFIGURATION
<pre> CACHE-MEDIUM = <u>*ALL</u> / *MAIN-MEMORY / *GS(...) *GS(...) PARTITION-ID = <u>*ALL</u> / <name 1..8> ,CACHE-ID = <u>*ALL</u> / list-poss(2000): <alphanum-name 1..4> </pre>

Operands

CACHE-MEDIUM =

Identifies the storage medium which is used for caching.

CACHE-MEDIUM = *ALL

Preset value: all storage media will be considered. If an explicit CACHE-ID is specified, a check is made to determine if this cache area is held in any of the media. If CACHE-ID=*ALL is specified, information is supplied for all the cache areas in all the media.

CACHE-MEDIUM = *MAIN-MEMORY

Requests information about the cache areas which use main memory as the cache medium.

If the cache area is not found in this medium, or if there is no cache area set up in this medium, the command will be rejected with an error message.

CACHE-MEDIUM = *GS(...)

Requests information about the cache areas which use global storage as the cache medium.

If the identifier of the cache area is not found in this medium, or if there is no cache area set up in this medium, the command will be rejected with an error message.

PARTITION-ID = *ALL / <name 1..8>

Identifies the DAB partition in global storage which is to be searched for the cache area specified in the CACHE-ID operand (see also “Memory management” in the “Introduction to System Administration” [14]).

PARTITION-ID = *ALL

The cache area specified in the CACHE-ID operand is sought in each DAB partition in global storage.

PARTITION-ID = <name 1..8>

The cache area specified in the CACHE-ID operand is sought in the DAB partition of the specified name in global storage.

CACHE-ID = *ALL / list-poss(2000): <alphanum-name 1..4>

Identifier of the cache area for which information is required. With PFA cache areas this is the pubset identifier (SF pubsets) or the volume set identifier (SM pubsets).

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
	1	CMD2201	Error at the interface between SDF and the command server
	3	CMD2203	SDF version is not supported
	32	ECC0001	Internal error
	64	CMD0216	No authorization to invoke command
	64	ECC0303	No cache handler loaded
	64	ECC0006	DAB/PCA cache handler not loaded
	64	ECC0301	Cache buffer does not exist
	64	ECC0304	No cache buffer available

Format of the output data

The data provided is split into output blocks by cache medium (MM or GS):

Each output block starts with the heading line:

```
CACHE-CONFIGURATION IN CACHE-MEDIUM <mdm> FOR CACHE-METHOD <mtd>
```

where the following values are possible:

<mdm> = MAIN-MEMORY, GS

<mtd> = DAB

Each individual output block specifies the configuration of all the cache buffers for the named cache medium and managed by the DAB cache handler. This is subdivided into various configuration records; these are

1. Partition configuration records.
2. Buffer configuration records.

A partition configuration record is always output for the cache media GS, ES and MM, although the term “partition” only refers to the cache medium GS.

The partition configuration record contains the following information on the DAB partitions:

- Name of the partition ID (for GS only).
- Size of the partition in megabytes.
Size of the reserved cache storage. With MM, what is shown is the total amount of cache storage occupied so far; with ES and GS it is the area within the cache medium which is allocated to the partition in question.
- Size of the unused storage area in Mbytes in the partition (for GS only).
- GS unit ID (for GS only).
Number of the GS unit in which the partition has been set up (1, 2) or DUAL for a DAB partition with dual data recording on two GS units.
- Status of the partition in the cache medium.
With MM, the availability of the medium is indicated (OPERABLE / DEFECT).
With GS, the current status of the GS partition is shown. The status indicates which system was the first to occupy the GS partition:
 - status HOME: ADM PFA partition
All PFA cache areas for SF pubsets for which there is no GS partition are created in the home partition. The ADM PFA cache areas are also created there, if the data areas do not belong to SM pubsets.
 - status PFA: PFA partition (own partition for the pubset)
 - status CONNECTED: (HOME/PFA) partition reconstructed
 - status SHARED: shared GS partition for the (local) cache areas of a shared pubset.
- The number of installed cache areas in the medium or in the GS partition
- In a shared GS partition for a shared pubset, the slices of areas used by the pubset sharers and the free areas within the GS partition. If the GS is used network-wide, this information relates to the global XCS attributes. The free areas specified are available to all XCS users.

For every cache medium there is one buffer configuration record per cache area. When MM or GS is used as the cache medium, the buffer configuration record provides the following information:

- Cache ID.
Identifier of the cache area for which information is required. With PFA cache areas this is the pubset ID (SF pubsets) or the volume set ID (SM pubsets).
- Cache size in megabytes or kilobytes.
- Segment size of the cache area in kilobytes (not for AutoDAB).
- For cache areas with GS for shared pubsets:
SYSID of the system using the cache area
Indicates which system has created a cache area for a shared pubset in the same GS partition.
- Cache area utilization.
Indicates how much of the cache area is occupied by data.
- Status.
 - CONNECTED: the cache area is being actively used for a pubset.
 - DISCONNECTED: the cache area is currently not being used (typically because it could not be saved when the pubset was exported). The next time the pubset is imported, the status will change back to CONNECTED.
 - DEFECT: an access error was detected when the cache medium was addressed. Where possible, caching is disabled.
- Force-out cycle.
Indicates when the write data in the cache area is transferred to the associated disks
 - NO: the data is not written out periodically, but only when the files are closed or the cache area is deleted
 - AT-HIGH-FILLING: the data is written out when the cache is 75% full of write data
 - AT-LOW-FILLING: the data is written out when the cache is 25% full of write data.

Note

If the cache area serves a shared pubset with a GS unit in a global GS environment (XCS), the cache configuration of the entire network is displayed, i.e. all local cache areas of all pubset sharers are output in one single line.

Example

```

/show-cache-configuration
%
% CACHE-CONFIGURATION IN CACHE-MEDIUM MAIN-MEMORY OF CACHE-METHOD DAB:
%
% PARTITION-CONFIGURATION-RECORD:
% PARTITION-ID SIZE FREE STATE #BUFFER
% ----- 31MB --MB OPERABLE 1
%
% BUFFER-CONFIGURATION-RECORD:
% CACHE-ID SIZE SEG-SIZE IN-USE STATE FORCE-OUT
% 2OSQ 19MB ---- 18% CONNECTED AT-LOW-FILLING
%
% BUFFER-CONFIGURATION-RECORD:
% CACHE-ID SIZE SEG-SIZE IN-USE STATE FORCE-OUT
% 2OSG 12MB 32KB 73% CONNECTED AT-HIGH-FILLING
%
% CACHE-CONFIGURATION IN CACHE-MEDIUM GS OF CACHE-METHOD DAB:
%
% PARTITION-CONFIGURATION-RECORD:
% PARTITION-ID SIZE FREE GS-UNIT STATE #BUFFER
% DAB1X 512MB 11MB 1 HOME 1
%
% BUFFER-CONFIGURATION-RECORD:
% CACHE-ID SIZE SEG-SIZE IN-USE STATE FORCE-OUT
% 1OSL 480MB ---- 87% CONNECTED AT-LOW-FILLING
%
% PARTITION-CONFIGURATION-RECORD:
% PARTITION-ID SIZE FREE GS-UNIT STATE #BUFFER
% DABDSFPS 512MB 112MB DUAL SHARED 2
% SLICE1 200MB 0MB DUAL ALLOCATED 1
% SLICE2 200MB 0MB DUAL ALLOCATED 1
% SLICE3 112MB 112MB DUAL FREE
%
% BUFFER-CONFIGURATION-RECORD:
% CACHE-ID SIZE SEG-SIZE SYSID IN-USE STATE FORCE-OUT
% SFPS 200MB ---- 193 81% CONNECTED AT-LOW-FILLING
% SFPS 200MB ---- 156 -- CONNECTED --

```

Explanation of output for the DAB cache media

The information consists of several information

PARTITION-CONFIGURATION-RECORD:

PARTITION-ID	SIZE	FREE	GS-UNIT	STATE	#BUFFER
(1)	(2)	(3)	(4)	(5)	(6)

BUFFER-CONFIGURATION-RECORD:

CACHE-ID	SIZE	SEG-SIZE	SYSID	IN-USE	STATE	FORCE-OUT
(7)	(8)	(9)	(10)	(11)	(12)	(13)

Explanation

Partition information block (PARTITION-CONFIGURATION-RECORD)

- (1) PARTITION-ID
Information on the partition ID. The information is only of relevance for the global storage cache medium.
- (2) SIZE
Size of the partition in MBytes.
Size of the available cache. For the main memory (MM) cache medium, the total cache space in use. For the GS cache medium, the size of the GS partition created is output.
- (3) FREE
The free storage area on the partition.
This information is only output for the GS cache media.
- (4) GS-UNIT
Number of the GS unit on which the partition was created.
This information is only output for the GS cache medium.
 - 1: The partition is on GS unit 1.
 - 2 : The partition is on GS unit 2.
 - DUAL:
The partition is a dual partition with dual data storage on two GS units.

- (5) STATE
Status of the partition of the cache medium and the slices. The following states are possible:
- HOME
DAB partition referring to the home pubset of the current system (ADM PFA partition).
 - CONNECTED
The GS partition was reconstructed.
 - PFA
The cache area or areas of an SF or SM pubset was or were created in a separate GS partition.
 - OPERABLE
The availability of the cache medium main memory.
 - DEFECT
Indicates that the cache medium is not available.
 - SHARED
The partition is used for a shared pubset.
- (6) #BUFFER
Number of cache areas installed in this partition.

Cache area information block (BUFFER-CONFIGURATION-RECORD)

- (7) CACHE-ID
Identifies the cache area on which information is requested. In the case of PFA cache areas this is the pubset ID (SF pubset) or the volume set ID (SM pubset).
- (8) SIZE
The size of the cache area in megabytes (or in kilobytes, if the cache medium specified was MM).
- (9) SEG-SIZE
Segment size of the cache area in kilobytes.
- (10) SYSID
for the cache area of a foreign system
Indicates which other system has installed a cache area for a shared pubset in the same GS partition.
- (11) IN-USE
Degree of utilization of the cache area.

(12) STATE

State of the cache area. The following states may occur:

- CONNECTED
The cache area is currently in use.
- DISCONNECTED
The cache area is not in use at the moment, e.g. because it was not possible to save the related files when the pubset was exported.
- DEFECT
An error was encountered when accessing the cache medium. Where possible, caching is disabled.

(13) FORCE-OUT

The intervals at which the write data in the cache area is transferred to the associated disks.

- NO
The data is not transferred periodically. The data is only transferred to the disk when the files are closed or when the cache area is deleted.
- AT-HIGH-FILLING
The data is written out when the cache area is 75% full of write data.
- AT-LOW-FILLING
The data is written out when the cache area is 25% full of write data.

Output in S variables

The CACHE-MEDIUM operand specifies the cache medium to which the output information relates.

Supplementary conditions	Abbreviated form used in table
CACHE-MEDIUM = *ALL	1
CACHE-MEDIUM = *MAIN-MEMORY	2
CACHE-MEDIUM = *GS	3
CACHE-MEDIUM = *GS and pubset imported in shared mode	4

SHOW-CACHE-CONFIGURATION

Output information	Name of the S variable	T	Contents	Condition
Cache medium *MAIN-MEM=main memory *GS=global storage	var(*LIST).CACHE-MED	S	*MAIN-MEM *GS	1,2,3,4
Name of the cache area (corresponds to the pubset ID)	var(*LIST).PART(*LIST).BUF(*LIST). CACHE-ID	S	<c-string 1..4>	2,3
Segment length of the cache area	var(*LIST).PART(*LIST).BUF(*LIST). CACHE-SEGMENT-SIZE	S	**UNDEF <c-string 1..2>	2,3
Size of the cache area	var(*LIST).PART(*LIST).BUF(*LIST). CACHE-SIZE	I	<integer 1..999999>	2,3
Cache utilization level above which the write data of the cache area are written back to disk	var(*LIST).PART(*LIST).BUF(*LIST). FORCE-OUT	S	*NO *AT-HIGH-FILL *AT-LOW-FILL	2,3
Percentage of the cache memory in use	var(*LIST).PART(*LIST).BUF(*LIST).IN-USE	I	<integer 0..100>	2,3
Specification of the size of the cache area in: *KB=kilobytes *MB=megabytes	var(*LIST).PART(*LIST).BUF(*LIST). SIZE-DIM	S	*KB *MB	2,3
Name of the cache area in a GS partition	var(*LIST).PART(*LIST).BUF(*LIST). SLICE(*LIST).CACHE-ID	S	<c-string 1..4>	4
Segment length of the cache area	var(*LIST).PART(*LIST).BUF(*LIST). SLICE(*LIST).CACHE-SEGMENT-SIZE	S	" <c-string 1..2>	4
Size of the cache area in a GS partition	var(*LIST).PART(*LIST).BUF(*LIST). SLICE(*LIST).CACHE-SIZE	I	<integer 1..999999>	4
Cache utilization level above which the write data of the cache area are written back to disk	var(*LIST).PART(*LIST).BUF(*LIST). SLICE(*LIST).FORCE-OUT	S	*NO *AT-HIGH-FILL *AT-LOW-FILL *UNDEF	4
Percentage of the cache memory in use	var(*LIST).PART(*LIST).BUF(*LIST). SLICE(*LIST).IN-USE	I	<integer 0..100>	4
Specification of the size of the cache area	var(*LIST).PART(*LIST).BUF(*LIST). SLICE(*LIST).SIZE-DIM	S	*KB *MB	4
Status of the cache area	var(*LIST).PART(*LIST).BUF(*LIST). SLICE(*LIST).STA	S	*CONN *DISCONN *DEFECT	4
SYSID of the system created by the cache area	var(*LIST).PART(*LIST).BUF(*LIST). SLICE(*LIST).SYSID	I	<integer 0..255>	4
Status of the cache area	var(*LIST).PART(*LIST).BUF(*LIST).STA	S	*CONN *DISCONN *DEFECT	2,3
Free area in the GS partition	var(*LIST).PART(*LIST).FREE-SIZE	I	<integer 0..999999>	3

(Part 1 of 2)

Output information	Name of the S variable	T	Contents	Condition
GS unit specification	var(*LIST).PART(*LIST).GS-UNIT	S	1 2 *DUAL	3
Number of cache areas in the partition or in main memory	var(*LIST).PART(*LIST).NUM-OF-BUF	I	<integer 1..999999>	2,3
Partition ID	var(*LIST).PART(*LIST).PART-ID	S	" <c-string 1..8>	2,3
Size of the partition or total size of the cache areas in main memory	var(*LIST).PART(*LIST).SIZE	I	<integer 1..999999>	2,3
Specification of the size of the partition in: *KB=kilobytes *MB=megabytes	var(*LIST).PART(*LIST).SIZE-DIM	S	*KB *MB	2,3
Free area in the GS partition	var(*LIST).PART(*LIST).SLICE(*LIST).FREE-SIZE	I	<integer 0..999999>	4
GS unit of the GS partition (corresponds to the GS unit specification of the GS partition)	var(*LIST).PART(*LIST).SLICE(*LIST).GS-UNIT	S	1 2 *DUAL	4
Number of cache areas in the GS partition	var(*LIST).PART(*LIST).SLICE(*LIST).NUM-OF-BUF	I	<integer 1..999999>	4
Size of a GS partition for the cache area of a shared pubset	var(*LIST).PART(*LIST).SLICE(*LIST).SIZE	I	<integer 1..999999>	4
Specification of the size of the cache area of the GS partition	var(*LIST).PART(*LIST).SLICE(*LIST).SIZE-DIM	S	*MB	4
Status of the GS partition: *ALLOC=allocated *FREE=available for further cache areas *DISCONN=allocated, but not presently in use	var(*LIST).PART(*LIST).SLICE(*LIST).STA	S	*ALLOC *FREE *DISCONN	4
Status of the partition	var(*LIST).PART(*LIST).STA	S	*HOME *PFA *SHARED *CONN *OPERABLE *DEFECT	2,3

(Part 2 of 2)

Example

```
/declare-var var-name=var(type=struc),multiple-elem=*list
/exec-cmd (show-cache-configuration cache-medium=*gs),text-output=*none,struc-output=var
/show-var var
VAR(*LIST).CACHE-MED = *GS
VAR(*LIST).PART(*LIST).PART-ID = DABDS062
VAR(*LIST).PART(*LIST).SIZE = 480
VAR(*LIST).PART(*LIST).SIZE-DIM = *MB
VAR(*LIST).PART(*LIST).FREE-SIZE = 0
VAR(*LIST).PART(*LIST).GS-UNIT = *DUAL
VAR(*LIST).PART(*LIST).STA = *SHARED
VAR(*LIST).PART(*LIST).NUM-OF-BUF = 2
VAR(*LIST).PART(*LIST).SLICE(*LIST).SIZE = 300
VAR(*LIST).PART(*LIST).SLICE(*LIST).SIZE-DIM = *MB
VAR(*LIST).PART(*LIST).SLICE(*LIST).FREE-SIZE = 0
VAR(*LIST).PART(*LIST).SLICE(*LIST).GS-UNIT = *DUAL
VAR(*LIST).PART(*LIST).SLICE(*LIST).STA = *ALLOC
VAR(*LIST).PART(*LIST).SLICE(*LIST).NUM-OF-BUF = 1
VAR(*LIST).PART(*LIST).SLICE(*LIST).SIZE = 179
VAR(*LIST).PART(*LIST).SLICE(*LIST).SIZE-DIM = *MB
VAR(*LIST).PART(*LIST).SLICE(*LIST).FREE-SIZE = 0
VAR(*LIST).PART(*LIST).SLICE(*LIST).GS-UNIT = *DUAL
VAR(*LIST).PART(*LIST).SLICE(*LIST).STA = *ALLOC
VAR(*LIST).PART(*LIST).SLICE(*LIST).NUM-OF-BUF = 1
VAR(*LIST).PART(*LIST).BUF(*LIST).CACHE-ID = CV62
VAR(*LIST).PART(*LIST).BUF(*LIST).SIZE = 179
VAR(*LIST).PART(*LIST).BUF(*LIST).SIZE-DIM = *MB
VAR(*LIST).PART(*LIST).BUF(*LIST).CACHE-SEGMENT-SIZE = *UNDEF
VAR(*LIST).PART(*LIST).BUF(*LIST).IN-USE = 0
VAR(*LIST).PART(*LIST).BUF(*LIST).STA = *CONN
VAR(*LIST).PART(*LIST).BUF(*LIST).FORCE-OUT = *AT-LOW-FILL
VAR(*LIST).PART(*LIST).BUF(*LIST).SLICE(*LIST).CACHE-ID = CV62
VAR(*LIST).PART(*LIST).BUF(*LIST).SLICE(*LIST).SIZE = 300
VAR(*LIST).PART(*LIST).BUF(*LIST).SLICE(*LIST).SIZE-DIM = *MB
VAR(*LIST).PART(*LIST).BUF(*LIST).SLICE(*LIST).CACHE-SEGMENT-SIZE = *UNDEF
VAR(*LIST).PART(*LIST).BUF(*LIST).SLICE(*LIST).SYSID = 80
VAR(*LIST).PART(*LIST).BUF(*LIST).SLICE(*LIST).STA = *CONN
VAR(*LIST).PART(*LIST).BUF(*LIST).SLICE(*LIST).FORCE-OUT = *UNDEF
```

SHOW-CALENDAR

Request information from calendar file

Description status:	CALENDAR V19.0A
Functional area:	Job processing
Domain:	UTILITIES
Privileges:	STD-PROCESSING

Function

The SHOW-CALENDAR command is used to obtain information on the calendar data in the specified calendar file.

By default (`SELECT=*TODAY`), the following information is output for the current day: the name of the calendar file, the current date, the name of the weekday (Monday...Sunday), the attribute of the current day (free day / working day), the number of associated SYMDATs (symbolic dates), the working hours, and if appropriate the holiday name, the names of the associated SYMDATs, and the time specifications assigned to them.

You use `SELECT=*BASIC-INFORMATION` to output the basic information of the calendar file: the name of the calendar, the calendar limits, and definitions of the standard working week. Within the standard working week, the attributes and working hours for the weekdays are defined.

You use `SELECT=*DATE` to output the day information relating to one or more days: the date, the name of the weekday, the attribute, the number of assigned SYMDATs, the working hours, the holiday name if appropriate, and using a special operand the names of the associated SYMDATs and the assigned time specifications.

You use `SELECT=*SYMBOLIC-DATE` to output information on SYMDATs. These are symbolic dates under whose names calendar days are combined (see the “Calendar” manual [4]).

You use `SELECT=*HOLIDAY` to output information on holidays. Output can be routed to SYSOUT or SYSLST.

The command supports structured output in S variables (see [“Output in S variables” on page 5-468](#)).

SHOW-CALENDAR accesses the specified calendar file in read-only mode. You can create and modify calendar files using the CALENDAR utility or the program interface (CALENDR macro). To start the CALENDAR utility you use the START-CALENDAR-EDITOR command. There are in-depth descriptions of the utility and the program interface in the “Calendar” manual [4].

Format

(Part 1 of 2)

SHOW-CALENDAR

CALENDAR-NAME = <filename 1..54>**,SELECT** = ***TODAY** / ***BASIC-INFORMATION** / ***DATE(...)** / ***SYMBOLIC-DATE(...)** / ***HOLIDAY(...)*****DATE(...)****FROM** = ***TODAY** / ***FIRST-CALENDAR-DATE** / <date>**,TO** = ***SAME** / ***TODAY** / ***LAST-CALENDAR-DATE** / <date> / ***BY-NUMBER-OF-DAYS(...)*****BY-NUMBER-OF-DAYS(...)****NUMBER-OF-DAYS** = <integer 1..1827 days>**,ASSIGNED-SYM-DATE** = ***NONE** / ***ALL(...)** /

<filename 1..20 without-cat-user-gen-vers with-wild>(...)

ALL(...)*ORDER-WITHIN-DAY** = ***BY-TIME** / ***BY-SYMBOLIC-DATE**

<filename 1..20 without-cat-user-gen-vers with-wild>(...)

ORDER-WITHIN-DAY = ***BY-TIME** / ***BY-SYMBOLIC-DATE*****SYMBOLIC-DATE(...)****FROM** = ***FIRST-SYMBOLIC-DATE** / <filename 1..20 without-cat-user-gen-vers with-wild>**,TO** = ***SAME** / ***LAST-SYMBOLIC-DATE** /

<filename 1..20 without-cat-user-gen-vers with-wild> /

BY-NUMBER-OF-SYMBOLIC-DATES(...)**BY-NUMBER-OF-SYMBOLIC-DATES(...)****NUMBER-OF-SYM-DATES** = <integer 1..4096>**,ASSIGNED-DATES** = ***NO** / ***ALL** / ***NEXT-DATE** / ***INTERVAL(...)*****INTERVAL(...)****FROM** = ***TODAY** / ***FIRST-ASSIGNED-DATE** / <date>**,TO** = ***SAME** / ***TODAY** / ***LAST-ASSIGNED-DATE** / <date> /***BY-NUMBER-OF-DAYS(...)*****BY-NUMBER-OF-DAYS(...)****NUMBER-OF-DAYS** = <integer 1..1827 days>

```

*HOLIDAY(...)
  |
  | FROM = *FIRST-HOLIDAY / <filename 1..30 without-cat-user-gen-vers with-wild>
  |
  | ,TO = *SAME / <filename 1..30 without-cat-user-gen-vers with-wild> /
  |   *LAST-HOLIDAY / *BY-NUMBER-OF-HOLIDAYS(...)
  |
  |   *BY-NUMBER-OF-HOLIDAYS(...)
  |   |
  |   | NUMBER-OF-HOLIDAYS = <integer 1..1024 days>
  |
  | ,ASSIGNED-DATES = *NO / *YES
  |
,OUTPUT = *SYSOUT / list-poss(2): *SYSOUT / *SYSLST(...)
  |
  | *SYSLST(...)
  | |
  | | SYSLST-NUMBER = *STD / <integer 1..99>
  |

```

Operands

CALENDAR-NAME = <filename 1..54>

Name of the calendar file from which information is to be output.

SELECT = ***TODAY** / ***BASIC-INFORMATION** / ***DATE(...)** / ***SYMBOLIC-DATE(...)** / ***HOLIDAY(...)**

Specification indicating which information is to be output from the calendar file.

SELECT = ***TODAY**

Specifies the information for the current day:

- the name of the calendar file
- the current date
- the name of the weekday
- the attribute: W = workday or F = free day
- the number of associated SYMDATs
- the working hours (beginning and end)
- if appropriate, the name of the holiday
- a list containing the names of associated SYMDATs and the time specifications assigned to them (sorted by time)

SELECT = ***BASIC-INFORMATION**

Specifies the basic information of the calendar:

- the name of the calendar file
- the calendar limits
- the days of the standard working week and their attributes (working day / free day)

SELECT = *DATE(...)

Specifies the day information for a range of days. The desired range is selected using the subordinate operands FROM and TO. The following information is output for each selected day:

- the date
- the name of the weekday
- the attribute: W = workday or F = free day
- the number of associated SYMDATs
- the working hours (beginning and end)
- if appropriate, the name of the holiday

You can also use the subordinate operand ASSIGNED-SYM-DATE to request a list of the names of associated SYMDATs and the times assigned to them.

FROM = *TODAY / *FIRST-CALENDAR-DATE / <date>

Determines the first day at which output of the information is to begin.

FROM = *TODAY

Output begins from the current day.

FROM = *FIRST-CALENDAR-DATE

Output begins with the first day in the calendar file.

FROM = <date>

Output begins with the specified date.

TO = *SAME / *TODAY / *LAST-CALENDAR-DATE / <date> / *BY-NUMBER-OF-DAYS(...)

Determines the last day at which output of the information is to end.

TO = *SAME

Information is output for the day specified in FROM only.

TO = *TODAY

Output ends with the current day.

TO = *LAST-CALENDAR-DATE

Output ends with the last day in the calendar file.

TO = *BY-NUMBER-OF-DAYS(...)

Determines the size of the desired range in days beginning with the day specified in FROM.

NUMBER-OF-DAYS = <integer 1..1827 days>

Number of days.

ASSIGNED-SYM-DATE = *NONE / *ALL(...) /

<filename 1..20 without-cat-user-gen-vers with-wild>(...)

Specifies whether the associated SYMDATs are to be output in addition to the calendar days.

The default value is *NONE, i.e. no additional list is output.

ASSIGNED-SYM-DATE = *ALL(...)

All the names of the SYMDATs assigned to the specified calendar days are output.

ORDER-WITHIN-DAY = *BY-TIME / *BY-SYMBOLIC-DATE

Determines the sort criterion. Output is sorted in accordance with the assigned time (*BY-TIME; default) or alphabetically by SYMDAT name (*BY-SYMBOLIC-DATE).

ASSIGNED-SYM-DATE =

<filename 1..20 without-cat-user-gen-vers with-wild>(...)

The specified SYMDAT or the group of SYMDATs identified in the pattern string is also output. (You can select several SYMDATs with a single specification using a pattern string, where only the pattern character * is permitted at the end for any character string.)

ORDER-WITHIN-DAY = *BY-TIME / *BY-SYMBOLIC-DATE

Determines the sort criterion.

Output is sorted in accordance with the assigned time (*BY-TIME; default) or alphabetically by SYMDAT name (*BY-SYMBOLIC-DATE).

SELECT = *SYMBOLIC-DATE(...)

Specifies information on the SYMDATs defined in the calendar. The range of output is defined using the subordinate operands FROM and TO. You can also output the assigned days using the subordinate operand ASSIGNED-DATES.

FROM = *FIRST-SYMBOLIC-DATE /

<filename 1..20 without-cat-user-gen-vers with-wild>

Specifies the SYMDAT at which output is to begin.

FROM = *FIRST-SYMBOLIC-DATE

Output begins with the first SYMDAT in the alphabetical sequence.

FROM = <filename 1..20 without-cat-user-gen-vers with-wild>

Output begins with the specified SYMDAT or with the group of SYMDATs (in alphabetical order) identified in the pattern string.

(You can select several SYMDATs with a single pattern string, where only the pattern character * is permitted at the end for any character string.)

**TO = *SAME / *LAST-SYMBOLIC-DATE /
<filename 1..20 without-cat-user-gen-vers with-wild> /
*BY-NUMBER-OF-SYMBOLIC-DATES(...)**
Specifies the SYMDAT at which output is to end.

TO = *SAME
The specification entered for the FROM operand also applies here.

TO = *LAST-SYMBOLIC-DATE
Output ends with the last SYMDAT in the alphabetical sequence.

TO = <filename 1..20 without-cat-user-gen-vers with-wild>
Output ends with the specified SYMDAT or with the group of SYMDATs (in alphabetical order) identified in the pattern string.
(You can select several SYMDATs with a single pattern string, where only the pattern character * is permitted at the end for any character string.)

TO = *BY-NUMBER-OF-SYMBOLIC-DATES(...)
Determines the number of SYMDATs to be output beginning with the SYMDAT specified in FROM.

NUMBER-OF-SYM-DATES = <integer 1..4096>
Number of SYMDATs.

ASSIGNED-DATES = *NO / *ALL / *NEXT-DATE / *INTERVAL(...)
Specifies whether the calendar days assigned to a selected SYMDAT are also to be output.
The default value is *NO, i.e. no additional list is output.

ASSIGNED-DATES = *ALL
All calendar days assigned to the selected SYMDAT are also output.

ASSIGNED-DATES = *NEXT-DATE
All calendar days assigned to the selected SYMDAT which occur after the current date are also output.

ASSIGNED-DATES = *INTERVAL(...)
Defines a range of days to be listed.

FROM = *TODAY / *FIRST-ASSIGNED-DATE / <date>
First day in the range of days to be listed.

FROM = *TODAY
The range begins with the current day.

FROM = *FIRST-ASSIGNED-DATE
The range begins with the next assigned day.

FROM = <date>
The range begins with the specified day.

TO = *SAME / *TODAY / *LAST-ASSIGNED-DATE / <date> / *BY-NUMBER-OF-DAYS(...)

Last day in the range of days to be listed.

TO = *SAME

The specification entered for the FROM operand also applies here.

TO = *TODAY

The range ends with the current day.

TO = *LAST-ASSIGNED-DATE

The range ends with the last assigned day.

TO = <date>

The range ends with the specified day.

TO = *BY-NUMBER-OF-DAYS(...)

Determines the number of days to be listed beginning with the day specified in FROM.

NUMBER-OF-DAYS = <integer 1..1827 days>

Number of days.

SELECT = *HOLIDAY(...)

Specifies information on holidays. This includes the names of the holidays and their properties (type: cyclic / non-cyclic; activation status: yes / no). The range of output is defined using the subordinate operands FROM and TO. You can also request a list of assigned days using the subordinate operand ASSIGNED-DATES.

FROM = *FIRST-HOLIDAY /

<filename 1..30 without-cat-user-gen-vers with-wild>

Specifies the holiday at which output is to begin.

FROM = *FIRST-HOLIDAY

Output begins with the first holiday in the calendar file.

FROM = <filename 1..30 without-cat-user-gen-vers with-wild>

Output begins with the specified holiday or with the group of holidays (in alphabetical order) identified in the pattern string.

(You can select several holidays with a single pattern string, where only the pattern character * is permitted at the end for any character string.)

TO = *SAME / <filename 1..30 without-cat-user-gen-vers with-wild> /

***LAST-HOLIDAY / *BY-NUMBER-OF-HOLIDAYS(...)**

Specifies the holiday at which output is to end.

TO = *SAME

The specification entered for the FROM operand also applies here.

TO = *LAST-HOLIDAY

Output ends with the last holiday in the calendar file.

TO = <filename 1..30 without-cat-user-gen-vers with-wild>

Output ends with the specified holiday or with the group of holidays (in alphabetical order) identified in the pattern string.

(You can select several holidays with a single pattern string, where only the pattern character * is permitted at the end for any character string.)

TO = *BY-NUMBER-OF-HOLIDAYS(...)

Determines the number of holidays to be output beginning with the holiday specified in FROM.

NUMBER-OF-HOLIDAYS = <integer 1..1024 days>

Number of days to be output.

ASSIGNED-DATES = *NO / *YES

Specifies whether all calendar days that fall on the selected holidays are also to be listed.

The default value is *NO, i.e. no additional list is output.

OUTPUT = *SYSOUT / list-poss(2): *SYSOUT / *SYSLST(...)

Specifies whether output is to be written to SYSOUT or SYSLST.

The default value is *SYSOUT. Simultaneous output to both SYSLST and SYSOUT is possible (list specification).

OUTPUT = *SYSLST(...)

Output is written to SYSLST.

SYSLST-NUMBER = *STD / <integer 1..99>

Number of the SYSLST file.

The default value is *STD, i.e. output is written to SYSLST.

When entering a number, you must make sure that a cataloged file is assigned to the corresponding SYSLST file (SYSLST01 through SYSLST99) (see ASSIGN-SYSLST command).

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	64	CLD1031	Calendar file does not exist
	64	CLD1032	DMS error when accessing calendar file

Output formats

You can use the OUTPUT operand to route the desired output to SYSOUT and/or SYSLST. If desired, the user has the option of using a German-language interface. The layouts of the English interface, which are described below, are identical for SYSOUT and SYSLST.

SHOW-CALENDAR calendar.work-2

```

-----
%
%                               INFORMATION ABOUT CURRENT DAY
%
%-----
% CALENDAR NAME:   :20SG:$USER1.CALENDAR.WORK-3
%
%-----
%      DATE      DAY ATTR #SYM  WORKING HOURS HOLIDAY
%-----
%
% 2012-01-30  MON   W      2  07:30-15:00
%
% SYMBOLIC DATE ----- TIME ----- SYMBOLIC DATE ----- TIME -----
% INFOTAG              13:00:00      ULTIMO              13:00:00
%-----
%

```

SHOW-CALENDAR calendar.work-2,SELECT=*BASIC-INFORMATION

```

-----
%
%                               BASIC INFORMATION
%
%-----
% CALENDAR NAME:   :20SG:$USER1.CALENDAR.WORK-3
%
%-----
% CALENDAR LIMITS          START : 2011-01-30
%                          END   : 2012-01-30
%
%-----
% STANDARD WEEK           WORKING HOURS
%                          START  END
%                          (HH:MM) (HH:MM)
%-----
%      DAY              ATTR              (HH:MM) (HH:MM)
%-----
%      MON              W                08:30 - 17:00
%      TUE              W                08:30 - 17:00
%      WED              W                08:30 - 17:00
%      THU              W                08:30 - 17:00
%      FRI              W                07:30 - 15:00
%      SAT              F                00:00 - 23:59
%      SUN              F                00:00 - 23:59
%-----
%

```

SHOW-CALENDAR

SHOW-CALENDAR calendar.work-2,SELECT=*DATE(FROM=2011-12-20,TO=2012-01-02)

```
/sh-cal calendar.work-3,sel=*date(from=2011-12-20,to=2012-01-02)
%-----
%                               LIST OF DAYS
%-----
%  CALENDAR NAME:   :20SG:$USER1.CALENDAR.WORK-3
%-----
%  DATE            DAY ATTR #SYM WORKING HOURS HOLIDAY
%-----
%  2011-12-20     TUE  F    0  00:00-23:59
%  2011-12-21     WED  F    0  00:00-23:59
%  2011-12-22     THU  W    0  08:30-17:00
%  2011-12-23     FRI  W    0  08:30-17:00
%  2011-12-24     SAT  W    0  08:30-17:00
%  2011-12-25     SUN  F    0  08:30-17:00  ERSTER.WEIHNACHTSFEIERTAG
%  2011-12-26     MON  F    0  07:30-15:00  ZWEITER.WEIHNACHTSFEIERTAG
%  2011-12-27     TUE  F    0  00:00-23:59
%  2011-12-28     WED  F    0  00:00-23:59
%  2011-12-29     THU  W    0  08:30-17:00
%  2011-12-30     FRI  W    0  08:30-17:00
%  2011-12-31     SAT  W    2  08:30-17:00
%  2012-01-01     SUN  F    0  08:30-17:00  NEUJAHR
%  2012-01-02     MON  W    0  07:30-15:00
%-----
```

SHOW-CALENDAR calendar.work-2,SELECT=*DATE(FROM=2012-01-29,
TO=2012-02-01,ASSIGNED-SYM-DATE=*ALL)

```
%-----
%                               DAY INFORMATION
%-----
%  CALENDAR NAME:   :20SG:$USER1.CALENDAR.WORK-3
%-----
%  DATE            DAY ATTR #SYM WORKING HOURS HOLIDAY
%-----
%  2012-01-29     THU  W    0  08:30-17:00
%-----
%  DATE            DAY ATTR #SYM WORKING HOURS HOLIDAY
%-----
%  2012-01-30     FRI  W    2  07:30-15:00
%-----
%  SYMBOLIC DATE  ----- TIME ----- SYMBOLIC DATE ----- TIME -----
%  INFOTAG                13:00:00          ULTIMO                13:00:00
%-----
%  DATE            DAY ATTR #SYM WORKING HOURS HOLIDAY
%-----
%  2012-01-31     SAT  F    0  00:00-23:59
%-----
%  DATE            DAY ATTR #SYM WORKING HOURS HOLIDAY
%-----
%  2012-02-01     SUN  F    0  00:00-23:59
%-----
```

SHOW-CALENDAR calendar.work-2,SELECT=*SYMBOLIC-DATE
 (FROM=*FIRST-SYMBOLIC-DATE,TO=*LAST-SYMBOLIC-DATE)

```

%-----
%                               LIST OF SYMBOLIC DATES
%-----
% CALENDAR NAME:   :20SG:$USER1.CALENDAR.WORK-3
%-----
% SYMBOLIC DATE      TIME      TYPE      CYCLTYP  CYCLVAL  CYCLALT
%-----
% MONATSINFO        09:00:00    C        MONTH          1  AFTER
% ULTIMO             13:00:00    C        MONTH          1  BEFORE
%-----
    
```

SHOW-CALENDAR calendar.work-2,SELECT=*SYMBOLIC-DATE
 (FROM=*FIRST-SYMBOLIC-DATE,TO=*LAST-SYMBOLIC-DATE,
 ASSIGNED-DATES=*INTERVAL(FROM=*TODAY,TO=2012-02-09))

```

%-----
%                               SYMBOLIC DATE INFORMATION
%-----
% CALENDAR NAME:   :20SG:$USER1.CALENDAR.WORK-3
%-----
% SYMBOLIC DATE      TIME      TYPE      CYCLTYP  CYCLVAL  CYCLALT
%-----
% MONATSINFO        09:00:00    C        MONTH          1  AFTER
%-----
%                   ASSIGNED DATES -----
%                   2012-02-09
%-----
% SYMBOLIC DATE      TIME      TYPE      CYCLTYP  CYCLVAL  CYCLALT
%-----
% ULTIMO             13:00:00    C        MONTH          1  BEFORE
%-----
%                   ASSIGNED DATES -----
%                   2012-01-30  2012-02-27
%-----
    
```

SHOW-CALENDAR

Note:

The following example is based on the German calendar file.

```
SHOW-CALENDAR calendar.work-2,SELECT=*HOLIDAY(FROM=*FIRST,  
TO=neujahr)
```

```
%-----  
%                               LIST OF HOLIDAYS  
%-----  
% CALENDAR NAME:   :20SG:$USER1.CALENDAR.WORK-2  
%-----  
% HOLIDAY NAME           TYPE   ACTIVE  
%-----  
% CHRISTI.HIMMELFAHRT           N     Y  
% ERSTER.WEIHNACHTSFEIERTAG     C     Y  
% FRONLEICHNAM                 N     Y  
% KARFREITAG                   N     Y  
% MAIFEIERTAG                  C     Y  
% NEUJAHR                      C     Y  
%-----
```

```
SHOW-CALENDAR calendar.work-2, SELECT = *HOLIDAY(FROM=oster*,  
TO=*SAME,ASSIGNED-DATES=*YES)
```

```
%-----  
% CALENDAR NAME:   :20SG:$USER1.CALENDAR.WORK-2  
%-----  
% HOLIDAY NAME           TYPE   ACTIVE   DATE  
%-----  
% OSTERMONTAG           N     Y  
%-----  
% ASSIGNED DATES -----  
% 2011-04-25   2012-03-09  
%-----  
% HOLIDAY NAME           TYPE   ACTIVE   DATE  
%-----  
% OSTERSONNTAG         N     Y  
%-----  
% ASSIGNED DATES -----  
% 2011-04-24   2012-03-08  
%-----
```

Description of output fields

Output field	Meaning
ACTIVE	Activation status of the holiday: Y = activated, N = not activated
ASSIGNED DATES	Dates of the calendar days assigned to a SYMDAT or a holiday; output in yyyy-mm-dd format
ATTR	Attribute of the weekday: W = working day, F = free day
CALENDAR LIMITS	Calendar limits:
START	First date in the calendar (lower calendar limit); output in yyyy-mm-dd format
END	Last date in the calendar (upper calendar limit); output in yyyy-mm-dd format
CALENDAR NAME	Name of the calendar file
CYCLALT	Alternative for a case where a calculated SYMDAT entry is a free day; possible values: BEFORE = insert before free day, AFTER = insert after free day, SKIP = skip day, ON = insert on free day
CYCLTYP	Cycle type of the SYMDAT: DAY, WORKDAY, MONTH, WEEK
CYCLVAL	Cycle value
DATE	Date; output in yyyy-mm-dd format; for cyclic holidays, output in format: ****-mm-dd
DAY	Name of the weekday: MON (Monday), TUE (Tuesday), WED (Wednesday), THU (Thursday), FRI (Friday), SAT (Saturday), SUN (Sunday)
HOLIDAY	Name of the associated holiday
HOLIDAY NAME	Name of the holiday; max. 30 characters
SYMBOLIC DATE	Name of a SYMDAT; max. 20 characters
STANDARD WEEK	Definitions of the standard working week include the following information: DAY, ATTR, and WORKING HOURS (see relevant descriptions)
TIME	Time entry assigned to the SYMDAT; output in hh:mm:ss format
TYPE	Type of SYMDAT or holiday: C = cyclic, N = non-cyclic
WORKING HOURS	Beginning and end of the working hours; output in hh:mm-hh:mm format
#SYM	Number of SYMDATs assigned to a particular day

Table 101: Output fields of the SHOW-CALENDAR command

Output in S variables

The command's SELECT operand identifies the S variables which are to be created. The following specifications are possible for SELECT

Notation used in command	Abbreviated form used in table
SEL=*BASIC-INFORMATION	1
SEL=*DATE(ASSIGNED-SYM-DATE=*NONE)	2
SEL=*DATE(ASSIGNED-SYM-DATE=*ALL/name)	3
SEL=*HOLIDAY(ASSIGNED-DATES=*NO)	4
SEL=*HOLIDAY(ASSIGNED-DATES=*YES)	5
SEL=*SYMBOLIC-DATE(ASSIGNED-DATES=*NO)	6
SEL=*SYMBOLIC-DATE(ASSIGNED-DATES=*ALL/*NEXT-DATE/*INTERVAL)	7
SEL=*TODAY	8

Output information	Name of the S variable	T	Contents	Condition
Public holidays activated	var(*LIST).ACTIVE	S	*NO *YES	4,5
Alternative in case a calculated SYMDAT falls on a free day *AFTER=enter the first available working day after the calculated SYMDAT ¹ *BEFORE=enter the first available working day before the calculated SYMDAT ² *ON=do not search; enter the SYMDAT on the free day *SKIP=do not search; do not enter an alternative date	var(*LIST).ALT	S	*AFTER *BEFORE *ON *SKIP	6,7
Date of the days assigned to the SYMDAT or holiday	var(*LIST).ASS-DATE(*LIST)	S	<yyyy-mm-dd>	5,7
Type of day *FREE=free day *WORK=working day	var(*LIST).ATTR	S	*FREE *WORK	2,3,8
First date in the calendar (beginning of range)	var(*LIST).CALEN-BEGIN	S	<yyyy-mm-dd>	1
Last date in the calendar (end of range)	var(*LIST).CALEN-END	S	<yyyy-mm-dd>	1
Name of the calendar file	var(*LIST).CALEN-NAME	S	<filename 1..54>	1,2,3,4,5,6,7,8

(Part 1 of 3)

Output information	Name of the S variable	T	Contents	Condition
Cycle type for symbolic date	var(*LIST).CYCL-TYPE	S	*DAY *MONTH *WEEK *WORKDAY	6,7
Cycle value	var(*LIST).CYCL-VAL	I	<integer 1..9999>	6,7
Date If 5: date assigned to the public holiday; the S variable is assigned a value only for cyclic holidays. In this case the output for yyyy is ****. In the case of non-cyclic holidays the output consists of a blank.	var(*LIST).DATE	S	<yyyy-mm-dd>	2,3,5,8
Name of the day of the week	var(*LIST).DAY	S	MON TUE WED THU FRI SAT SUN	2,3,8
The designated day is a holiday (see var(*LIST).DATE)	var(*LIST).HOLIDAY	S	*NO *YES	2,3,8
Name of the holiday	var(*LIST).HOLIDAY-NAME	S	" <name 1..30>	2,3,4,5,8
Number of SYMDATs associated with the day (see var(*LIST).DATE)	var(*LIST).NUM-OF-SYMB-DATE	I	<integer 1..4096>	2,3,8
Type of day *FREE=free day *WORK=working day (standard working week)	var(*LIST).STD-WEEK(*LIST).ATTR	S	*FREE *WORK	1
Name of the day of the week (standard working week)	var(*LIST).STD-WEEK(*LIST).DAY	S	MON TUE WED THU FRI SAT SUN	1
Start of working hours (standard working week)	var(*LIST).STD-WEEK(*LIST). WORK-TIME-BEGIN	S	<hh:mm>	1
End of working hours (standard working week)	var(*LIST).STD-WEEK(*LIST). WORK-TIME-END	S	<hh:mm>	1

(Part 2 of 3)

SHOW-CALENDAR

Output information	Name of the S variable	T	Contents	Condition
Name of the SYMDAT (lexically ascending series starts with the specified SYMDAT)	var(*LIST).SYMB-DATE-NAME	S	<name 1..20>	6,7
Name of the SYMDAT assigned to the day (see var(*LIST).DATE); if no SYMDAT is defined, the S variable is not generated	var(*LIST).SYMB-DATE(*LIST).NAME	S	<name 1..20>	3,8
Time of day on the SYMDAT assigned to the day (see var(*LIST).DATE); if no SYMDAT is defined, the S variable is not generated	var(*LIST).SYMB-DATE(*LIST).TIME	S	<hh:mm:ss>	3,8
Time of day assigned to the SYMDAT	var(*LIST).TIME	S	<hh:mm:ss>	6,7
Type of SYMDAT or holiday	var(*LIST).TYPE	S	*CYCL *NOT-CYCL	4,5,6,7
Start of working hours	var(*LIST).WORK-TIME-BEGIN	S	<hh:mm>	2,3,8
End of working hours	var(*LIST).WORK-TIME-END	S	<hh:mm>	2,3,8

(Part 3 of 3)

Key to var(*LIST).ALT:

- ¹ *AFTER: The next working day is searched for in the range “calculated date + (cycle value - 1)”. If the search is successful, the alternative day is entered *after* the date originally calculated. If no working day is found within the period, the entry is dropped.
- ² *BEFORE: The next working day is searched for in the range “calculated date - (cycle value - 1)”. If the search is successful, the alternative day is entered *before* the date originally calculated. If no working day is found within the period, the entry is dropped.

SHOW-CCOPY-SESSION

Display information on CCOPY sessions

Description status:	CCOPY V9.0B
Functional area:	Pubset and MRSCAT management
Domain:	STORAGE-MANAGEMENT
Privileges:	TSOS HSMS-ADMINISTRATION

Function

The user can obtain information on all existing CCOPY sessions using the SHOW-CCOPY-SESSION command (as of CCOPY V3.0A). Output can be directed to either SYSOUT or SYSLST. The INFORMATION operand can be used in order to define whether only the attributes of the installed CCOPY sessions are to be output (e.g. identification, status, name and size of work file) or whether the relevant objects (files and job variables) are to be displayed as well.

The command supports structured output in S variables (see [“Output in S variables” on page 5-473](#)).

Format

SHOW-CCOPY-SESSION

```

SESSION-ID = *ALL / <alphanum-name 8..8>
, INFORMATION = *ATTRIBUTES / *OBJECTS-AND-ATTRIBUTES
, OUTPUT = *SYSOUT / *SYSLST(...)
   *SYSLST(...)
   | SYSLST-NUMBER = *STD / <integer 1..99>

```

Operands

SESSION-ID = *ALL / <alphanum-name 8..8>

Specifies whether information is to be output on all CCOPY sessions or only on a specific CCOPY session.

SESSION-ID = *ALL

Information is to be output on all CCOPY sessions

SESSION-ID = <alphanum-name 8..8>

Information is to be output on the specified CCOPY session only.

INFORMATION = *ATTRIBUTES / *OBJECTS-AND-ATTRIBUTES

Defines the scope of the information that is to be output for each CCOPY session that is selected.

INFORMATION = *ATTRIBUTES

The attributes of the installed CCOPY sessions are output (e.g. identification, status, name and size of the work file).

INFORMATION = *OBJECTS-AND-ATTRIBUTES

The same information is output as with INFORMATION=*ATTRIBUTES, but with additional information on the objects (e.g. object name, object type and object status).

OUTPUT = *SYSOUT / *SYSLST(...)

Defines the destination to which the information is output.

OUTPUT = *SYSOUT

Output is directed into the SYSOUT system file.

OUTPUT = *SYSLST(...)

Output is directed into the SYSLST system file.

SYSLST-NUMBER = *STD /<integer 1..99>

For SYSLST-NUMBER=*STD, output is directed to SYSLST or into a SYSLST file whose name consists of "SYSLST" and a number between 1 and 99 (SYSLST01 to SYSLST99).

Return codes

(SC2)	SC1	Maincode	Meaning
	00	CMD0001	No error
	32	CMD2009	VAS / OPS reports an internal error
	32	DCH0005	Internal error occurred when setting / releasing a lock in the CCOPY subsystem
	32	DCH000D	System error occurred on program execution
	32	DCH000E	System error during output in S variable
	64	CMD0216	User not privileged
	64	DCH0006	No CCOPY session
	64	DCH0007	Invalid SESSION-ID
	130	OPS0001	Insufficient storage for output in S variable

Output in S variables

Output information	Name of the S variable	T	Contents
Creation date	var(*LIST).CRE-DATE	S	<c-string 10..10: yyyy-mm-dd>
Creation time	var(*LIST).CRE-TIME	S	<c-string 8..8: hh:mm:ss>
Runtime environment *HOST= local *CCS= shared pubset network	var(*LIST).ENVIR	S	*HOST *CCS
Number of objects	var(*LIST).NUM-OF-OBJECT	I	<integer 0..2147483647>
Number of objects already backed up	var(*LIST).OBJECT-PROCESS	I	<integer 0..2147483647>
Object status *OMIT=object will not be backed up *SEL-FOR-SAVE=object will be backed up *SAVE-START=backing up *SAVE-ABORT=backup aborted *OBJECT-SAVE=object has been backed up *WORK-FILE=object is a work file and will not be backed up	var(*LIST).OBJECT-STA	S	*OMIT' *SEL-FOR-SAVE *SAVE-START *SAVE-ABORT *OBJECT-SAVE *WORK-FILE
Number of objects to be backed up	var(*LIST).OBJECT-TO-SAVE	I	<integer 0..2147483647>
Fully qualified object name	var(*LIST).OBJECT(*LIST). OBJECT-NAME	S	<c-string 1..54>
Object type *FILE=file *FGGI=file generation index *FGG=file generation group *JV=job variable	var(*LIST).OBJECT(*LIST). OBJECT-TYPE	S	*FILE *FGGI *FGG *JV
CCOPY session ID (eight characters long)	var(*LIST).SESSION-ID	S	<c-string 8..8>
Status of CCOPY session *IN-CRE=being created *RUN=running *BACKUP-IN-PROGRESS=backing up *TERM=terminated *ABORT=aborted	var(*LIST).STA	S	*IN-CRE *RUN *BACKUP-IN-PROGRESS *TERM *ABORT
Fully qualified name of work file	var(*LIST).WORK-FILE-NAME	S	<c-sting 1..54>
Size of work file	var(*LIST).WORK-FILE-SIZE	I	<integer 0..2147483647>

Examples*Output format for INFORMATION=*ATTRIBUTES*

```
===== CCOPY - SESSION - DATA =====  
SESSION-ID = 00010001      STATUS = RUNNING                      ENV = HOST  
CRE-DATE = 2012-03-31     CRE-TIME = 12:00:00  
OBJECTS-TO-SAVE = 10      OBJECTS-PROCESSED = 7  
WORK-FILE-NAME = <work file>  
WORK-FILE-SIZE = 48 KB
```

An output block as shown in this example is issued for every CCOPY session (if SESSION-ID=*ALL was specified) or for the session chosen.

*Output format for INFORMATION=*OBJECTS-AND-ATTRIBUTES*

```
===== CCOPY - SESSION - DATA =====  
SESSION-ID = 00010001      STATUS = RUNNING                      ENV = HOST  
CRE-DATE = 2012-03-31     CRE-TIME = 12:00:00  
OBJECTS-TO-SAVE = 10      OBJECTS-PROCESSED = 7  
WORK-FILE-NAME = <work file>  
WORK-FILE-SIZE = 48 KB  
----- OBJECTS ----- TYPE ----- STATUS -----  
<filename>                FILE      SELECTED-FOR-SAVE  
<filename>                FILE      SELECTED-FOR-SAVE  
<filename>                FGGI     SELECTED-FOR-SAVE  
<filename>                JV       SELECTED-FOR-SAVE  
<filename>                FILE     SELECTED-FOR-SAVE  
...
```

SHOW-CE-LOCK

Display locks for catalog entries

Description status:	BS2000 OSD/BC V10.0A
Functional area:	File processing
Domain:	FILE FILE-GENERATION
Privileges:	STD-PROCESSING TSOS

Function

The SHOW-CE-LOCK command determines whether a lock (CE lock) exists for the catalog entry of a file or job variable. If a lock exists the TID (task ID) of the lock holder and the SYSID (system identification) of the system in which the task is running are output to SYSOUT.

The catalog entry cannot be modified while it is locked. Systems support staff can reset a CE lock that is hung, e.g. due to an error in systems communication (see REMOVE-CE-LOCK command).

For a shared pubset, this command can be entered from any system in the network.

The command supports structured output in S variables (see [“Output in S variables” on page 5-476](#)).

Format

SHOW-CE-LOCK

FILE-NAME = <filename 1..54>

,**OBJECT** = *FILE / *JV

Operands

FILE-NAME = <filename 1..54>

Name of the file or job variable whose catalog entry is to be examined for CE locks. A file generation may not be specified relatively.

OBJECT = *FILE / *JV

Specifies whether the catalog entry of a file or of a job variable is to be examined.

Return code

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	DMS1342	No CE lock
	1	CMD0202	Syntax error
	32	CMD0221	Internal error
	32	CMD2009	Error during output to S variable (e.g. subsystem not available)
	64	CMD0501	Catalog not available
	64	DMS0505	Error during systems communication
	64	DMS0512	Catalog unknown in the system
	64	DMS1343	Master change underway for the pubset
	64	OPS0001	SDF-P reports insufficient storage (poss. reaction: FREE-VARIABLE and repeat command)

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Name of the file or JV	var(*LIST).NAME	S	<filename 1..54>	
Sysid of the system in which the lockholder operates	var(*LIST).SYSID	S	<sys-id>	
Task identifier (TID) of the lockholder	var(*LIST).TID	S	<x-text 4..4>	

SHOW-CHANGE-DATES

Display changeover times

Description status:	BS2000 OSD/BC V10.0A
Functional area:	System control and optimization
Domain:	SYSTEM-MANAGEMENT
Privileges:	TSOS

Function

The SHOW-CHANGE-DATES command displays changeover times from standard daylight time to daylight saving time (or vice versa).

Format

SHOW-CHANGE-DATE

SELECT = *<u>NEXT</u> / *PREVIOUS / *FUTURE / *PAST / *ALL

Operands

SELECT = *NEXT / *PREVIOUS / *FUTURE / *PAST / *ALL

Selects the changeover times which are to be displayed.

SELECT = *NEXT

The next future changeover time is displayed.

SELECT = *PREVIOUS

The most recent past changeover time is displayed.

SELECT = *FUTURE

All future changeover times are displayed.

SELECT = *PAST

All past changeover times are displayed.

SELECT = *ALL

All changeover times are displayed.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	1	CHD0010	Syntax error in the command
	32	CMD0221	System error in the command
	64	CHD0011	Semantic error in the command

Output format

```
/SHOW-CHANGE-DATES SELECT=*FUTURE
```

```
    DATE      TIME W/S
2011-10-30 03:00(S)
2012-03-25 02:00(W)
```

Output field	Meaning / Information
DATE	Date of the changeover time.
TIME	Time of day of the changeover time.
W/S	(W): Specification of standard daylight time. Changeover time from standard daylight time to daylight saving time. (S): Specification of daylight saving time. Changeover time from daylight saving time to standard daylight time. <i>Exception</i> In the first changeover time the specification refers to the next current season.

Table 102: Meaning of the output fields of the SHOW-CHANGE-DATES command

SHOW-CJC-STATUS

Display conditional job control information

Description status:	JV V15.1A
Functional area:	Job variables
Domain:	JOB-VARIABLES
Privileges:	STD-PROCESSING OPERATING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION
Routing code:	E

This function is available to the user only if the chargeable software product JV has been loaded as a subsystem.

Function

The SHOW-CJC-STATUS command displays information about jobs that are currently using CJC (conditional job control) functions.

The query may be limited to the user's own processor, but may also be extended to include any or all processors in an existing multiprocessor network. When queries concern "foreign" processors, only information about jobs using job variables belonging to the user's processor is displayed. Nonprivileged users are only supplied with information about jobs running under their own user ID.

Furthermore, it is possible to limit the information to one or more job variables, identified by name. In this case, only those jobs are shown that have functions in which the job variables named occur in conditional expressions.

The following information can be output:

- number of jobs, number of user IDs, referenced catalogs (INFORMATION = *SUMMARY).
- job numbers of the jobs, user IDs (listed under TSOS only), referenced catalogs (INFORMATION = *USER-LIST).

The command supports structured output in S variables (see ["Output in S variables" on page 5-482](#)).

Privileged functions

Systems support staff (TSOS user ID or OPERATING privilege) are supplied with information about all jobs.

Format

SHOW-CJC-STATUS

```
HOST = *OWN / *ALL / *FOREIGN / *CATALOG(...) /
        list-poss(25): <c-string 1..8> / <filename 1..54 without-gen>
    *CATALOG(...)
        | CATALOG-ID = list-poss(25): <c-string 1..4> / <filename 1..54 without-gen>
, JV-NAME = *ALL / list-poss(25): <filename 1..54 without-gen> / <partial-filename 2..53>
, INFORMATION = *SUMMARY / *USER-LIST
```

Operands

HOST =

Processor or catalog IDs to which the query refers. Non-local processors may be specified only if the software product HIPLEX MSCF is installed (see the “HIPLEX MSCF” manual [25]).

With non-local processors, jobs are taken into account only if in CJC functions they use at least one job variable not cataloged in the local processor.

HOST = *OWN

Local processor.

HOST = *ALL

All processors in the MSCF network.

HOST = *FOREIGN

All processors in the MSCF network, with the exception of the local processor.

HOST = *CATALOG(...)

Catalog ID, specified in the following.

CATALOG-ID = list-poss(25): <c-string 1..4> / <filename 1..54 without-gen>

Catalog ID of the processor to which the query refers, or name of a JV whose value denotes the catalog ID (left-justified, no following characters or blanks).

HOST = list-poss(25): <c-string 1..8> / <filename 1..54 without-gen>

BCAM name (left-justified with no trailing characters or blanks) of the processor in the MSCF network to which the query refers, or name of a JV whose value denotes the BCAM name of a processor. If a list is specified, BCAM and job variable names may not be mixed.

JV-NAME = *ALL / list-poss(25): <filename 1..54 without-gen> / <partial-filename 2..53>

JVs to which the query refers.

Default: All JVs.

Only jobs using one of the specified JVs in CJC functions are taken into account. The argument "JV-NAME=:cat1:", for example, refers to all jobs which use JVs cataloged on subset cat1 in CJC functions..

Special job variables must not be specified.

INFORMATION = *SUMMARY / *USER-LIST

Type of information to be displayed.

INFORMATION = *SUMMARY

For each processor:

- local catalogs of the processor
- number of jobs
- number of user IDs
- referenced catalogs (slave processors of a shared subset obtain, if required, information on a catalog which is not available locally)

INFORMATION = *USER-LIST

For each processor:

- local catalogs of the processor
- task sequence number (TSN) of the jobs
- user IDs (under TSOS only)
- referenced catalogs (slave processors of a shared subset obtain, if required, information on a catalog which is not available locally)

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command executed
	1	CMD0202	Buffer overflow or output not possible, syntax error
	32	CMD2009	Error during S variable generation
	32	CMD0221	Internal error
	130	CJC0070	No access to other processors because MSCF is not active

Output in S variables

The INFORMATION operand identifies the S variables which are to be created. The possible values for INFORMATION are *SUMMARY and *USER-LIST.

Output information	Name of the S variable	T	Contents	Condition
Name of the host	var(*LIST).HOST	S	*LOC <host-name>	INF=*SUM/ *USER-LIST
Local catalog IDs of the host	var(*LIST).LOC-CAT-ID(*LIST)	S	<cat-id>	INF=*SUM/ *USER-LIST
Number of jobs; on error (RESULT=*ERROR) NUM-OF-TSN is set to -1.	var(*LIST).NUM-OF-TSN	I	-1 <integer>	INF=*SUM
Number of user IDs; on error (RESULT=*ERROR) NUM-OF-USER is set to -1.	var(*LIST).NUM-OF-USER	I	-1 <integer>	INF=*SUM
Referenced catalogs	var(*LIST).REF-CAT-ID(*LIST)	S	" <cat-id>	INF=*SUM
Result of the query	var(*LIST).RESULT	S	*ERROR *NO-CJC *NO-ERROR	INF=*SUM/ *USER-LIST
Catalogs referenced for the job	var(*LIST).TASK(*LIST).REF-CAT-ID(*LIST)	S	" <cat-id>	INF=*USER- LIST
TSN of the job currently using the CJC function; on error (RESULT=*ERROR) TASK(*LIST).TSN is set to "".	var(*LIST).TASK(*LIST).TSN	S	" *NO-TASK <tsn>	INF=*USER- LIST
User ID under which the job is running; on error (RESULT= *ERROR) TASK(*LIST).USER-ID is set to "".	var(*LIST).TASK(*LIST).USER-ID	S	" *NO-USER <user-id>	INF=*USER- LIST

Example (privileged user)

```
/show-cjc
```

HOST	!CAT.LOC.	! # TASKS	# USERS	CAT.REF.
*LOC	!1STZ	!	4	2 1STZ

```
/show-cjc inf=*user-list
```

HOST	!CAT.LOC.	! TSN	USER	CAT.REF.
*LOC	!1STZ	!	042M	TSOS 1STZ
	!	!	05BT	FT 1STZ
	!	!	05BP	FT 1STZ
	!	!	042P	TSOS 1STZ

Example (S variable output)

```

declare-var var-name=var(type=struc),multiple-elem=*list
/exec-cmd (show-cjc-status inf=*summary),text-output=*none,struc-output=var
/show-var var,inf=*par(val=*c-literal)
VAR(*LIST).HOST = '*LOC'
VAR(*LIST).LOC-CAT-ID(*LIST) = '1SBZ'
VAR(*LIST).RESULT = '*NO-ERROR'
VAR(*LIST).NUM-OF-TSN = 2
VAR(*LIST).NUM-OF-USER = 1
VAR(*LIST).REF-CAT-ID(*LIST) = '1SBZ'

/exec-cmd (show-cjc-status inf=*user-list),text-output=*none,struc-output=var
/show-var var,inf=*par(val=*c-literal)
VAR(*LIST).HOST = '*LOC'
VAR(*LIST).LOC-CAT-ID(*LIST) = '1SBZ'
VAR(*LIST).RESULT = '*NO-ERROR'
VAR(*LIST).TASK(*LIST).TSN = '08NB'
VAR(*LIST).TASK(*LIST).USER-ID = 'TSOS'
VAR(*LIST).TASK(*LIST).REF-CAT-ID(*LIST) = '1SBZ'
VAR(*LIST).TASK(*LIST).TSN = '08ND'
VAR(*LIST).TASK(*LIST).USER-ID = 'TSOS'
VAR(*LIST).TASK(*LIST).REF-CAT-ID(*LIST) = '1SBZ'

```

SHOW-CMD

Output command syntax description

Description status:	SDF V4.7D
Functional area:	SDF control
Domain:	SDF
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE SAT-FILE-EVALUATION SAT-FILE-MANAGEMENT SECURITY-ADMINISTRATION

Function

The SHOW-CMD command outputs the syntax description of a command. In addition, the name and type of the employed syntax file are displayed. CMD-NAME= *ALL produces a list of all command names. Using wildcards in the command name, the user can display a list of command names which match the search pattern.

Output can be directed to either SYSOUT or to SYSLST.

The INFORMATION operand controls the scope of the syntax description. INFORMATION=*MINIMUM displays the command name, the name of the syntax file containing the syntax description, the operand names and any default values. Alternative operand values are displayed with INFORMATION=*MEDIUM, while with INFORMATION=*MAXIMUM help texts are also displayed.

The output only shows the syntax description of the assigned syntax files. In particular, task-specific default values are not displayed.

The FORM operand controls output of syntax objects whose input is not permitted in guided dialog. FORM=*UNGUIDED shows the command syntax which can also be entered in unguided dialog, or a command list which also contains aliases of the command names. Commands and operands which are not permitted in unguided dialog are indicated in the output with an asterisk (*).

The CHECK-PRIVILEGES operand determines whether the output will take account of the privileges of the user. If CHECK-PRIVILEGES=*YES is specified, the output only contains information on operands and operand values of commands which the user's privileges allow him/her to use. If a list of command names is output, commands which the user is not authorized to use are marked with an asterisk (*).

The CHECK-INPUT-MODE operand controls the output of syntax objects which may only be input in a particular input mode. Users can thus inform themselves as to which operands and values are permissible, for example, for input in batch mode. If no input mode is specified (*NO), commands and operands for which restrictions exist as regards the input modes (interactive mode, batch mode, procedure in interactive or batch mode) are marked with an asterisk (*).

Format

SHOW-CMD
<pre> CMD-NAME = *ALL / <structured-name 1..30 with-wild> , INFORMATION = *<u>MINIMUM</u> / *MEDIUM / *MAXIMUM , FORM = *<u>GUIDED</u> / *UNGUIDED , CHECK-PRIVILEGES = *<u>YES</u> / *NO , CHECK-INPUT-MODE = *CURRENT / *DIALOG / *DIALOG-PROC / *BATCH / *BATCH-PROC / *NO , OUTPUT = *<u>SYSOUT</u> / *SYSLST(...) *SYSLST(...) SYSLST-NUMBER = *<u>STD</u> / <integer 1..99> , LINES-PER-PAGE = *<u>STD</u> / *UNLIMITED / <integer 1..200> </pre>

Operands

CMD-NAME = *ALL / <structured-name 1..30 with-wild>

Name of the desired command.

CMD-NAME = *ALL

Lists all commands in alphabetical order. FORM=*UNGUIDED also displays defined aliases (in separate output lines).

CMD-NAME = <structured-name 1..30 with-wild>

Name of the command whose syntax is to be output. If you specify an alias, the real command name is displayed followed by the alias in parentheses.

If wildcards are used, all commands which match the search pattern are listed in alphabetical order. FORM=*UNGUIDED also outputs defined aliases (in separate output lines).

INFORMATION = *MINIMUM / *MEDIUM / *MAXIMUM

Determines the scope of the output. When lists of commands are output, the SIZE operand is ignored.

INFORMATION = *MINIMUM

The output contains the command names, operands and preset operand values.

INFORMATION = *MEDIUM

The output contains the command names, operands, preset operand values and alternative operand values.

INFORMATION = *MAXIMUM

The output contains the command names, operands, preset and alternative operand values and help texts.

FORM = *GUIDED / *UNGUIDED

Determines whether the syntax for guided or unguided dialog is to be output.

FORM = *GUIDED

Operands and operand values which are not allowed in guided dialog are not output.

FORM = *UNGUIDED

The output also contains operands and operand values which are not allowed in guided dialog. When lists of commands are displayed (CMD=*ALL) , these also contain the aliases.

CHECK-PRIVILEGES = *YES / *NO

Specifies whether the output is to take account of the privileges of the user.

CHECK-PRIVILEGES = *YES

Information is displayed only on commands, operands and operand values which the user is authorized to use.

CHECK-PRIVILEGES = *NO

Information is displayed on all commands, operands and operand values, regardless of the user's privileges.

CHECK-INPUT-MODE = *CURRENT / *DIALOG / *DIALOG-PROC / *BATCH / *BATCH-PROC / *NO

Determines the input mode for which the syntax is to be displayed. Only those syntax objects are displayed for the user which are permissible in the specified input mode.

CHECK-INPUT-MODE = *CURRENT

The output contains only the syntax objects permitted for the current input mode.

CHECK-INPUT-MODE = *DIALOG

The output contains only the syntax objects permitted for interactive mode.

CHECK-INPUT-MODE = *DIALOG-PROC

The output contains only the syntax objects permitted for the interactive procedure mode.

CHECK-INPUT-MODE = *BATCH

The output contains only the syntax objects permitted for batch mode.

CHECK-INPUT-MODE = *BATCH-PROC

The output contains only the syntax objects permitted for the batch procedure mode.

CHECK-INPUT-MODE = *NO

Output takes place independently of the input mode. The output lines with commands and operands which are not permitted in the current input mode are marked with an asterisk (*).

OUTPUT = *SYSOUT / *SYSLST(...)

Specifies where the information is to be output.

OUTPUT = *SYSOUT

The information is output to the system file SYSOUT.

OUTPUT = *SYSLST(...)

The information is output ready for printing to the system file SYSLST.

The first byte of each output record is X'40'. The LINES-PER-PAGES operand defines after how many output records a header line with page feed is generated.

SYSLST-NUMBER = *STD / <integer 1..99>

Specifies whether the information is to be output to the system file SYSLST or to a SYSLST file from the set SYSLST01 through SYSLST99.

The default is *STD, i.e. output is directed to the system file SYSLST.

LINES-PER-PAGE = *STD / *UNLIMITED / <integer 1..200>

Defines after how many output records a new page is to begin. Each printed page begins with a header line which contains a page-feed control character in the first byte. The header contains the name of the displayed command and the page number.

LINES-PER-PAGE = *STD

A new page begins after 55 output records.

LINES-PER-PAGE = *UNLIMITED

The output is not divided into printed pages. No header lines are output.

Return codes

(SC2)	SC1	Maincode	Meaning/Guaranteed messages
	0	CMD0001	Command executed without errors
1	32	CMD0500	Syntax description in current syntax file invalid
1	64	CMD0812	Command execution not successful.
			Guaranteed messages: CMD0500, CMD0812

Examples

```
/show-cmd cmd=add-pass _____ (1)
%ADD-PASSWORD (ADD-PASS,ADPW)
% FROM :20SH:$TSOS.SYSSDF.BS2CP.180 (SYSTEM)
% PASSWORD =

/show-cmd cmd=add-pass,information=max _____ (2)
%ADD-PASSWORD (ADD-PASS,ADPW)
% FROM :20SH:$TSOS.SYSSDF.BS2CP.180 (SYSTEM)
%Adds passwords for files or job variables to the password table of the
%task
% PASSWORD =
% -list-possible (63)-: x-string_1..8 or c-string_1..4 or
% integer_-2147483648..2147483647
% Specifies passwords to be added to the password table

/show-cmd cmd=write* _____ (3)
% WRITE-ACCOUNTING-RECORD
% WRITE-SPOOL-TAPE
% WRITE-TEXT
```

- (1) The syntax of the ADD-PASSWORD command is output.
- (2) The syntax of the ADD-PASSWORD command is output with all operands, operand values and help texts (INFORMATION=*MAXIMUM).
- (3) All commands beginning with the string "WRITE" are output.

SHOW-CMD-ATTRIBUTES

Display information on operator commands

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Operator terminal control
Domain:	CONSOLE-MANAGEMENT
Privileges:	OPERATING
Routing code:	@

Function

This command provides the operator with an overview of the authorization and type of the operator commands.

The CMD-NAME and SELECT operands are used to select the commands to be queried. The INFORMATION operand controls the scope of the information to be output.

Restriction

The command can be entered only at logical or physical operator terminals (consoles). It must not be issued from a user task with the OPERATING privilege.

Format

SHOW-CMD-ATTRIBUTES
<pre> CMD-NAME = <u>*ALL</u> / <structured-name 1..30> ,SELECT = <u>*ALL</u> / *EXTERNAL-SERVER(...) / *INTERNAL-SERVER(...) / *AUTHORIZATION-CODE(...) *EXTERNAL-SERVER(...) APPLICATION-NAME = <u>*ALL</u> / *OWN / <name 1..4> *INTERNAL-SERVER(...) ENTRY = <u>*ALL</u> / *NONE / *ENTRY-NAME(...) / *ENTRY-ADDRESS(...) *ENTRY-NAME(...) ENTRY-NAME = <u>*ALL</u> / <name 1..8> *ENTRY-ADDRESS(...) ENTRY-ADDRESS = <u>*ALL</u> / <x-string 1..8> *AUTHORIZATION-CODE(...) AUTHORIZATION-CODE = <u>*ALL</u> / <alphanum-name 1..1> / * ,INFORMATION = <u>*MINIMUM</u> / *MEDIUM / *MAXIMUM </pre>

Operands

CMD-NAME =

Specifies the command name for which an entry in the command table is to be displayed.

CMD-NAME = *ALL

All operator commands are to be displayed.

If SHOW-CMD-ATTRIBUTES CMD-NAME=*ALL is entered, the command output is sorted, with identical commands grouped together. The first command listed (in the previously valid format) is the primary command, which is fully abbreviable. This is usually the longest of the identical commands (current exception: SET/RESET/SHOW-MSG-SUPPRESSION).

Then the aliases of the given command are listed. They are marked as aliases by being indented by one column in the associated output line. These aliases cannot be abbreviated.

CMD-NAME = <structured-name 1..30>

Specifies the name of the command for which the entry in the command table is to be displayed. The command name can be up to 30 characters long and must comply with the naming convention for command names.

SELECT =

Selects the information.

SELECT = *ALL

All command names are to be output.

SELECT = *EXTERNAL-SERVER(...)

Specifies that information on special operator commands is to be displayed. Special operator commands are commands that are executed in \$CONSOLE applications (authorized user programs).

APPLICATION-NAME =

Specifies the names of the \$CONSOLE applications.

APPLICATION-NAME = *ALL

Information on all special operator commands is requested.

APPLICATION-NAME = *OWN

Information is listed on all special operator commands for which the command issuer is also the command processor. The scope of the information is defined in the INFORMATION operand. In this form, the command can only be issued from \$CONSOLE applications.

APPLICATION-NAME = <alphanum-name 4..4>

Lists the set of special operator commands for which the specified \$CONSOLE application acts as command processor.

SELECT = *INTERNAL-SERVER(...)

The information should relate to standard operator commands.
These commands are executed in system components.

ENTRY =

Selects the commands via the call interface.

ENTRY = *ALL

Selects all call interfaces.

ENTRY = *NONE

Selects all standard operator commands for which there are no entries in the command table relating to the call interface.

ENTRY = *ENTRY-NAME(...)

Selects standard operator commands whose call interface is entered by name.

ENTRY-NAME = *ALL

Displays all the commands whose call interface is entered by name in the table.

ENTRY-NAME = <name 1..8>

Name of the call interface which the command uses.

ENTRY = *ENTRY-ADDRESS(...)

Selects the standard operator commands whose call interface is entered via the address.

ENTRY-ADDRESS = *ALL

Displays all commands for which the address of their call interface is entered in the table.

ENTRY-ADDRESS = <x-string 1..8>

Address of the call interface which the command uses.

SELECT = *AUTHORIZATION-CODE(...)

The commands that are to be displayed are to be selected on the basis of the routing code (authorization code) needed to be able to issue them at an operator terminal.

AUTHORIZATION-CODE =

Commands are selected by routing code.

AUTHORIZATION-CODE = *ALL

All commands which are protected by any routing code are to be displayed.

AUTHORIZATION-CODE = <alphanum-name 1..1> / *

All the commands protected by the specified routing code (one of the characters A..Z, 0..9, #, @ and *) are to be displayed.

INFORMATION =

Defines the scope of the information to be output on the selected command.

INFORMATION = *MINIMUM

For each selected command, the command name and routing code required for its use are output.

INFORMATION = *MEDIUM

As for INFORMATION=*MAXIMUM, all available information is displayed (see below). The only difference between *MEDIUM and *MAXIMUM is that *MEDIUM outputs the current values and *MAXIMUM also outputs the “inactive” table entries. Normally, where the command is entered just once in the table, the output of *MEDIUM and *MAXIMUM is identical; you have multiple table entries for the following cases only:

- multiple command name logon (see CONNECT-CMD-SERVER)
- for “safe” system commands for which all of the four maximum table entries possible are occupied to prevent anyone else logging on for the command.

INFORMATION = *MAXIMUM

All available information is displayed for each selected command.

The following information is output:

- the command name
- the authorization lock of the command
- the command type (INTERNAL = command execution in system components
EXTERNAL = command execution in authorized user programs)
- the call interface (D=direct, S=SDF, \$=\$CONSOLE)
- the communication interval limit (unit = *n* seconds)

The specified number multiplied by *n* (the unit *n* is governed by the class 2 system parameter NBRCILU) gives the time that may elapse during command processing before the next command waiting for execution is started.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NBR1111	No output of command/server links
	1	CMD0202	Syntax error
1	64	NBR1115	Semantic operand error

Example

```

/show-cmd-attr show-conslog
+XAAN |SHOW-CONSLLOG-ATTRIBUTES |E|
+XAAN-000.115709 % NBR1122 USE /HELP-MSG-INFORMATION MSG-IDENTIFICATION=NBR112
3 FOR EXPLANATION OF OUTPUT
! UCO-000.115709 % NBR0740 COMMAND COMPLETED ,SHOW-CMD-ATTR'; (RESULT: SC2=000,
SC1=000, MC=CMD0001); DATE: 2012-06-30

/SHOW-CMD-ATTR SHOW-CONSLLOG,INF=*MAX
+XAAN |SHOW-CONSLLOG-ATTRIBUTES |E|N|I|S| - | 1|-|1|
+XAAN-000.115821 % NBR1122 USE /HELP-MSG-INFORMATION MSG-IDENTIFICATION=NBR112
3 FOR EXPLANATION OF OUTPUT
! UCO-000.115821 % NBR0740 COMMAND COMPLETED ,SHOW-CMD-ATTR'; (RESULT: SC2=000 SC1=000,
MC=CMD0001); DATE: 2012-06-30

/show-cmd-attr cmd-name=*all,entry-name=nbtop,inf=*max
+XAAN |FSTATUS |@|N|I|D|X*71802EB8'| 1|-|1|
+XAAN | FS |@|N|I|D|X*71802EB8'| 1|-|1|
+XAAN |SHOW-FILE-ATTRIBUTES |@|N|I|D|X*71802EB8'| 1|-|1|
+XAAN | SHOW-FILE-ATTR |@|N|I|D|X*71802EB8'| 1|-|1|
+XAAN | SHFA |@|N|I|D|X*71802EB8'| 1|-|1|
+XAAN | SH |@|N|I|D|X*71802EB8'| 1|-|1|
:
+XAAN |SHOW-SPOOL-DEVICES |$|N|I|D|X*71802EB8'| 1|-|1|
+XAAN | SHOW-SPOOL-DEV |$|N|I|D|X*71802EB8'| 1|-|1|
+XAAN |SHOW-SPOOL-FORMS |$|N|I|D|X*71802EB8'| 1|-|1|
+XAAN | SHOW-SPOOL-FORM |$|N|I|D|X*71802EB8'| 1|-|1|
+XAAN |SHOW-SPOOL-CHARACTER-SETS |$|N|I|D|X*71802EB8'| 1|-|1|
+XAAN | SHOW-SPOOL-CHAR |$|N|I|D|X*71802EB8'| 1|-|1|
+XAAN-000.120432 % NBR1122 USE /HELP-MSG-INFORMATION MSG-IDENTIFICATION=NBR112
3 FOR EXPLANATION OF OUTPUT
! UCO-000.120432 % NBR0740 COMMAND COMPLETED ,SHOW-CMD-ATTR'; (RESULT: SC2=0000,
SC1=000, MC=CMD0001); DATE: 2012-06-30

/help-msg nbr1123
+XAAN-000.120525 % NBR1123 STRUCTURE OF OUTPUT OF /SHOW-CMD-ATTRIBUTES:
+XAAN-000.120525 % ? ! Command !C!P!T!M! Server !CIL!A!P!
+XAAN-000.120525 % +-----+ ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % ! Auth.-Code ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % +-----+ ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % ! Password P=yes ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % ! possible N=no ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % +-----+ ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % ! Type I=int E=ext ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % +-----+ ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % ! Method of call ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % ! D=direct S=SDF $=$CONSOLE ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % ! - =not available ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % +-----+ ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % ! Comm.-Interval Unit = 5 seconds ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % +-----+ ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % ! Administrability A=yes N=no ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % +-----+ ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % ! Priority of server 1=max 4=min ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % +-----+ ! ! ! ! ! ! ! ! ! !
+XAAN-000.120525 % RESPONSE : NONE
! UCO-000.120525 % NBR0740 COMMAND COMPLETED ,HELP-MSG'; (RESULT: SC2=000, SC1=000,
MC=CMD0001); DATE: 2012-06-30

```

SHOW-CONSLOG-ATTRIBUTES

Show system logging information

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Error logging
Domain:	ERROR-LOGGING SECURITY-ADMINISTRATION
Privileges:	OPERATING SAT-FILE-MANAGEMENT TSOS
Routing code:	@

Function

The SHOW-CONSLOG-ATTRIBUTES command shows whether logging is active or inactive and the name of the current logging file.

Using the NBKESNR system parameter, systems support can define whether the CONSLOG file is cataloged under the user ID TSOS or SYSAUDIT and whether the serial number of the file is to have two or three digits.

Using the FMTYFNLG system parameter, systems support can define whether the date contained in the name of the CONSLOG file is to have two digits (without the century, in yy.mm.dd format) or four digits (with the century, in yyyy-mm-dd format).

The command supports structured output in S variables (see [“Output in S variables” on page 5-495](#)).

Format

SHOW-CONSLOG-ATTRIBUTES

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NBR0905	CONSLOG inactive

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Catalog ID of the logging file	var(*LIST).CAT-ID	S	<cat-id 1..4>	
Logging file creation date; the output format is governed by the class 2 system parameter FMTYFNLG: FMTYFNLG=2: <yy.mm.dd> FMTYFNLG=4: <yyyy-mm-dd>	var(*LIST).CRE-DATE	S	<yyyy-mm-dd>	
Logging file path name	var(*LIST).F-NAME	S	<path-name>	
Logging file sequence number; the output format is governed by the class 2 system parameter NBKESNR: NBKESNR=0/1:<integer 1..999> NBKESNR=2/3:<integer 1..99>	var(*LIST).SEQ-NUM	I	<integer>	
System session number	var(*LIST).SESSION-NUM	I	<integer 1..999>	
Logging file base name	var(*LIST).SHORT-F-NAME	S	<filename>	
Logging file user ID	var(*LIST).USER-ID	S	<name 1..8>	

SHOW-CONSOLE-FILTER

Show filter levels for routing codes

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Operator terminal control
Domain:	CONSOLE-MANAGEMENT
Privileges:	OPERATING
Routing code:	@

Function

This command provides operators with information on the filter levels defined for the various routing codes. The information relates only to the console or authorized user program from which the command was issued.

For details of the routing code and filter level mechanism see the manuals “Introduction to System Administration” [14].

Utilization in a user task with the OPERATING privilege

Like any operator terminal, the user task can display only those filter levels which are set for itself. The filter levels apply only to event stream read operations. When the user task terminates, all the filter levels that it has set are reset.

The command supports structured output in S variables (see “Output in S variables” on [page 5-499](#)).

These functions are available regardless of any system parameter settings.

Format

SHOW-CONSOLE-FILTER

SELECT = ***FILTER** (...) / ***ROUTING-CODE**(...)

***FILTER**(...)

| **FILTER** = ***ANY** / **ALL** / list-poss(5): <integer 1..5>

***ROUTING-CODE**(...)

| **ROUTING-CODE** = ***ALL** / list-poss(40): <alphanum-name 1..1> / *

Operands

SELECT = *FILTER (...) / *ROUTING-CODE (...)

Indicates whether to sort the output data by filter level or by routing code.

SELECT = *FILTER (...)

The output data is to be sorted by filter level.

The output shows which routing codes are associated with each filter level.

FILTER = *ANY

There are five filter levels. Message NBR1063 is issued for each filter level, indicating the routing codes associated with that filter level at the console where the command was entered. If there are no routing codes associated with a particular filter level, message NBR1064 is issued.

FILTER = *ALL

Message NBR1065 lists all the routing codes for which all filter levels are set on the console where the command was entered. If there are no routing codes with all the filter levels set, message NBR1066 is issued.

FILTER = list-poss(5): <integer 1..5>

Message NBR1063 is issued for each of the specified filter levels, indicating the routing codes associated with that filter level. If there are no routing codes associated with a particular filter level, message NBR1064 is issued.

SELECT = *ROUTING-CODE (...)

The output data is to be sorted by routing code.

The output shows which filter levels are allocated to each routing code.

ROUTING-CODE = *ALL

Message NBR1062 is issued for each of the 40 routing codes defined on the system, indicating the filter levels associated with that routing code on the console where the command was entered. If there are no filter levels set for a particular routing code, message NBR1061 is issued; if a particular routing code is not assigned to the input console, message NBR1061 is issued.

ROUTING-CODE = list-poss(40): <alphanum-name 1..1> / *

Routing code for which the filter level settings are to be displayed.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
	1	CMD0202	Syntax error in command
	2	CMD0198	Shutdown in progress
	32	CMD2009	Error on output to structured S variable
	64	CMD0216	User does not have required privilege

(Part 1 of 2)

(SC2)	SC1	Maincode	Meaning
	130	NBR1042	Not enough class 5 memory; filter levels cannot be displayed

(Part 2 of 2)

Example

```

show-console-filter sel=*routing
% NBR1061 ROUTING-CODE '*' FILTER NONE
% NBR1061 ROUTING-CODE 'A' FILTER NONE
% NBR1061 ROUTING-CODE 'B' FILTER NONE
% NBR1061 ROUTING-CODE 'C' FILTER NONE
% NBR1061 ROUTING-CODE 'D' FILTER NONE
% NBR1061 ROUTING-CODE 'E' FILTER NONE
% NBR1061 ROUTING-CODE 'F' FILTER NONE
% NBR1061 ROUTING-CODE 'G' FILTER NONE
% NBR1061 ROUTING-CODE 'H' FILTER NONE
% NBR1061 ROUTING-CODE 'I' FILTER NONE
% NBR1061 ROUTING-CODE 'J' FILTER NONE
% NBR1061 ROUTING-CODE 'K' FILTER NONE
% NBR1061 ROUTING-CODE 'L' FILTER NONE
% NBR1061 ROUTING-CODE 'M' FILTER NONE
% NBR1061 ROUTING-CODE 'N' FILTER NONE
% NBR1061 ROUTING-CODE 'O' FILTER NONE
% NBR1061 ROUTING-CODE 'P' FILTER NONE
% NBR1061 ROUTING-CODE 'Q' FILTER NONE
% NBR1061 ROUTING-CODE 'R' FILTER NONE
% NBR1061 ROUTING-CODE 'S' FILTER NONE
% NBR1061 ROUTING-CODE 'T' FILTER NONE
% NBR1061 ROUTING-CODE 'U' FILTER NONE
% NBR1061 ROUTING-CODE 'V' FILTER NONE
% NBR1061 ROUTING-CODE 'W' FILTER NONE
% NBR1061 ROUTING-CODE 'X' FILTER NONE
% NBR1061 ROUTING-CODE 'Y' FILTER NONE
% NBR1061 ROUTING-CODE 'Z' FILTER NONE
% NBR1061 ROUTING-CODE '0' FILTER NONE
% NBR1061 ROUTING-CODE '1' FILTER NONE
% NBR1061 ROUTING-CODE '2' FILTER NONE
% NBR1061 ROUTING-CODE '3' FILTER NONE
% NBR1061 ROUTING-CODE '4' FILTER NONE
% NBR1061 ROUTING-CODE '5' FILTER NONE
% NBR1061 ROUTING-CODE '6' FILTER NONE
% NBR1061 ROUTING-CODE '7' FILTER NONE
% NBR1061 ROUTING-CODE '8' FILTER NONE
% NBR1061 ROUTING-CODE '9' FILTER NONE
% NBR1061 ROUTING-CODE '$' FILTER NONE
% NBR1061 ROUTING-CODE '#' FILTER NONE
% NBR1061 ROUTING-CODE '@' FILTER NONE

/show-console-filter
% NBR1064 FILTER 1 ROUTING-CODES NONE
% NBR1064 FILTER 2 ROUTING-CODES NONE
% NBR1064 FILTER 3 ROUTING-CODES NONE
% NBR1064 FILTER 4 ROUTING-CODES NONE
% NBR1064 FILTER 5 ROUTING-CODES NONE

```

Output in S variables

The SELECT operand of this command identifies the S variables which are to be created. The possible values for SELECT are *FILTER and *ROUTING-CODE (given in the table in abbreviated form as SEL=*FILT/*ROUT):

Output information	Name of the S variable	T	Contents	Condition
Filter assigned	var(*LIST).FILTER	S	<filter>	SEL=*FILT
Routing code to which the filter is assigned	var(*LIST).ROUT-CODE(*LIST)	S	<routing-code>	SEL=*FILT
Filter levels set for the specified routing code	var(*LIST).FILTER(*LIST)	S	<filter>	SEL=*ROUT
Routing code assigned	var(*LIST).ROUT-CODE	S	<routing-code>	SEL=*ROUT

SHOW-CONSOLE-OPTIONS

Display console output control settings

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Operator terminal control
Domain:	not allocated
Privileges:	OPERATING
Routing code:	@

Function

The SHOW-CONSOLE-OPTIONS command displays information on the values set by means of the MODIFY-CONSOLE-OPTIONS command for controlling operator terminal output.

Format

SHOW-CONSOLE-OPTIONS
CONSOLE-UNIT = <u>*OWN</u> / <alphanum-name 2..2>

Operands

CONSOLE-UNIT =

Specifies the operator terminal about which information is to be displayed.

CONSOLE-UNIT = *OWN

The information displayed refers to the operator terminal at which the command was issued (default).

CONSOLE-UNIT = <alphanum-name 2..2>

Mnemonic device name of the operator terminal about which information is to be displayed.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NBR0928	Warning: not all operands could be processed
	1	CMD0002	Syntax error
1	32	NBR0926	Internal error in the command server
	64	CMD0216	Privilege violation
2	64	NBR0923	Invalid console name
	130	NBR0921	Memory shortage

SHOW-CONSOLE-STATUS

Fetch information on operator terminals and authorized user programs

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Operator terminal control
Domain:	CONSOLE-MANAGEMENT
Privileges:	OPERATING
Routing code:	@

Function

This command supplies operators with the following information:

- device mnemonics for operator terminals (consoles) or authorization names for authorized user programs
- station and processor names of available authorized user programs
- the set of routing codes
- the availability of operator terminals and authorized user programs
- the current main operator terminal

If entered from a user task with OPERATING privilege, the command supports structured output in S variables (see “[Output in S variables](#)” on page 5-505).

Format

SHOW-CONSOLE-STATUS

CONSOLE = <u>*OWN</u> / *ALL / list-poss(216): <alphanum-name 2..2> / <name 4..4>
--

Operands

CONSOLE = *OWN / *ALL / list-poss(216): <alphanum-name 2..2> / <name 4..4>

Selects the operator terminals and authorized user programs for which status information is required.

CONSOLE = *OWN

Status information is required for the command issuer’s own operator terminal.

CONSOLE = *ALL

Status information is required for all operator terminals and authorized user programs.

CONSOLE = list-poss(216): <alphanum-name 2..2> / <name 4..4>

Up to 216 operator terminal mnemonics (two characters) or names of authorized user programs (four characters) can be specified.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Command successfully executed
2	0	NBR1074	Some of the specified console names could not be found; command only partially executed
	1	CMD0202	Syntax error in command
	2	CMD0198	Shutdown in progress
	32	CMD2009	Error on output to structured S variable
	64	CMD0216	User does not have required privilege
	64	NBR1070	CONSOLE=*OWN allowed only at console
	64	NBR1073	None of the specified console names could be found; command not executed

Notes

If the command is issued from a user task with the OPERATING privilege, a value other than *OWN must be specified explicitly for the CONSOLE operand.

In interactive mode, **[K2]** may be used as an interrupt key. In this case no return code is supplied.

The station and processor name information for an authorized user program allows operators to disconnect the identified user program (command /BCCONN PARTNER=(NEA,<station-name><processor-name>); see the "BCAM" manual [2]).

Results

Each time the command is entered, the following message is issued:

```
NBR1071 MAIN CONSOLE IS '(&00)'
```

In conjunction with the Operator LOGON function: if the physical main operator terminal has implicitly gained additional message output routing codes owing to the non-availability of other operator terminals, the following message is also issued:

```
NBR1054 CONSOLE '(&00)' IMPLICIT CODES: '(&01)'
```

In the case of physical operator terminals, the following additional message is output:

```
NBR1052 CONSOLE '(&00)' ASSIGNED CODES: '(&01)'
```

If the console is not assigned any routing codes, the value of Insert 01 is “NONE”.

If the routing code set of a physical operator terminal has been temporarily extended because that console is currently acting as substitute for other unavailable physical operator terminals, the following message indicates the temporary additions:

```
NBR1053 CONSOLE '(&00)' TEMPORARY CODES: '(&01)'
```

If the Operator LOGON function is used, message NBR1053 does not appear.

If an operator has logged on at a physical operator terminal, the operator ID is included in the following message:

```
NBR1078 CONSOLE '(&00)' OPERATOR-ID '(&01)'
```

If a physical operator terminal is defective (INOP) or has been switched off (OFF) with the command CONSOLE SWITCH, OFF=<mn>, or if no operator has logged on there (INACTIVE), this is indicated by the following message:

```
NBR1077 CONSOLE '(&00)' STATES: (&01)
```

The value of Insert 01 may be “INOP”, “OFF” or “INACTIVE”. INACTIVE is possible only in conjunction with the Operator LOGON function, in which case OFF is not possible. If the INOP state applies, the INACTIVE state is not displayed; but the combination of INOP and OFF is possible.

The following message reports the routing codes assigned to each authorized user program selected:

```
NBR1051 APPLICATION '(&00)' CODES: '(&01)'
```

If the authorized user program is not assigned any routing codes, the value of Insert 01 is “NONE”.

If an authorized user program is unavailable, the following message is issued:

```
NBR1076 APPLICATION '(&00)' STATES: '(&01)'
```

The value of Insert 01 may be “INOP”.

The following message reports on connected authorized user programs:

```
NBR1075 APPLICATION '(&00)' PROCESSOR '(&01)' STATION '(&02)'
```

If an operator has logged on to a user program with dynamic authorization names, the operator ID is included in the following message:

```
NBR1079 APPLICATION '(&00)' OPERATOR-ID '(&01)'
```

If consoles or authorized user programs have been explicitly specified and the given names do not exist, message NBR1072 is issued for each nonexistent name.

If CONSOLE=*ALL is specified, the number of unavailable authorized user programs is indicated by the following message:

```
NBR1058 /SHOW-CONSOLE-STATUS: (&00) FURTHER APPLICATIONS WITH DYNAMICAL
AUTHORIZATION NAMES ARE NOT CONNECTED
```

Output in S variables

The command's CONSOLE operand identifies the S variables which are to be created. The following specifications are possible for CONSOLE

Notation used in command	Abbreviated form used in table
CONSOLE=*ALL	1
CONSOLE=<alphanum-name 2..2> (for consoles)	2
CONSOLE=<name 4..4> (for authorized user programs)	3
CONSOLE=*OWN	4

The command allows consoles and authorized user programs to be included together in a list. In this case all the S variables are generated.

Output information	Name of the S variable	T	Contents	Condition
Connection status of the authorized user program	var(*LIST).APPL(*LIST).CONN-STA	S	*CONN *DISCONN	1,3
Authorization name of the authorized user program	var(*LIST).APPL(*LIST).NAME	S	<application-name>	1,3
Operator ID (*)	var(*LIST).APPL(*LIST).OPER-ID	S	<operator-id>	1,3
Processor name of the authorized user program	var(*LIST).APPL(*LIST).PROCESSOR-NAME	S	" <processor-name>	1,3
Routing code for the authorized user program	var(*LIST).APPL(*LIST).ROUT-CODE(*LIST)	S	<routing-code>	1,3
Station name of the authorized user program	var(*LIST).APPL(*LIST).STATION-NAME	S	" <station-name>	1,3
Status of the console	var(*LIST).CONS(*LIST).OPERABLE-STA	S	*INOP *OPERABLE	1,2
Operator ID (*)	var(*LIST).CONS(*LIST).OPER-ID	S	<operator-id>	1,2

(Part 1 of 2)

Output information	Name of the S variable	T	Contents	Condition
Routing code for the console	var(*LIST).CONS(*LIST).ROUT-CODE(*LIST)	S	" <routing-code>	1,2
Console device mnemonic	var(*LIST).CONS(*LIST).UNIT	S	<mnemo-name>	1,2
Implicit routing code	var(*LIST).IMPL-ROUT-CODE(*LIST)	S	<routing-code>	1,2,3,4
Main console device mnemonic	var(*LIST).MAIN-CONS-UNIT	S	<mnemo-name>	1,2,3,4
Routing code for user tasks with the OPR privilege	var(*LIST).TASK(*LIST).ROUT-CODE(*LIST)	S	<routing-code>	4
TSN of the user task with the OPR privilege	var(*LIST).TASK(*LIST).TSN	S	<tsn>	4

(Part 2 of 2)

- (*) For physical consoles and authorized user programs 8 blanks are output as the operator ID if the "operator logon" function is not used or if nobody has logged on as the operator. The same contents are also output for authorized user programs with static authorization names.

Examples

```

/decl-var var-name=var(type=*structure),multiple-elem=*list
/exec-cmd (show-console-status console=@002),text-output=*none,struct-
output=var
/show-var var,inf=*par(val=*c-literal)
VAR(*LIST).MAIN-CONS-UNIT = 'CO'
VAR(*LIST).APPL(*LIST).NAME = '@002'
VAR(*LIST).APPL(*LIST).CONN-STA = '*CONN'
VAR(*LIST).APPL(*LIST).STATION-NAME = 'BT200226'
VAR(*LIST).APPL(*LIST).PROCESS = 'D016ZE07'
VAR(*LIST).APPL(*LIST).OPER-ID = 'TSOS      '
VAR(*LIST).APPL(*LIST).ROUT-CODE(*LIST) = '

```

```

/exec-cmd (show-console-status console=C0),text-output=*none,struct-output=var
/show-var var,inf=*par(val=*c-literal)
VAR(*LIST).MAIN-CONS-UNIT = 'CO'
VAR(*LIST).CONS(*LIST).UNIT = 'CO'
VAR(*LIST).CONS(*LIST).OPERABLE-STA = '*OPERABLE'
VAR(*LIST).CONS(*LIST).OPER-ID = '      '
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = '* '
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'A'
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'B'
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'C'
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'D'
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'E'
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'F'
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'G'

```

```
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'H'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'I'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'J'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'K'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'L'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'M'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'N'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'O'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'P'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'Q'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'R'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'S'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'T'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'U'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'V'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'W'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'X'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'Y'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = 'Z'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = '0'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = '1'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = '2'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = '3'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = '4'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = '5'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = '6'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = '7'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = '8'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = '9'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = '$'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = '#'  
VAR(*LIST).CONS(*LIST).ROUT-CODE(*LIST) = '@'
```

SHOW-DBL-DEFAULTS

Show defaults for DBL calls

Description status:	BLSSERV V2.8A
Functional area:	Program control
Domain:	PROGRAM
Privileges:	STD-PROCESSING

Function

The SHOW-DBL-DEFAULTS command outputs the current defaults for DBL (dynamic binder loader) calls on SYSOUT.

These settings can be modified with the MODIFY-DBL-DEFAULTS command or restored to the original DBL defaults with RESET-DBL-DEFAULTS.

Format

SHOW-DBL-DEFAULTS

Return codes

(SC2)	SC1	Maincode	Meaning
1	0	CMD0001	Command executed
	32	BLS0152	System error
	64	CMD0216	User is not authorized to issue the command

Output information

The following example illustrates the output of SHOW-DBL-DEFAULTS. For explanations of the listed operands which apply to command calls (CMD-CALLS output field), see the LOAD- and START-EXECUTABLE-PROGRAM commands. For explanations of operands which apply only to programs calls (PROG-CALLS output field), see the MODIFY-DBL-DEFAULTS command.

The defaults for command and program calls are shown separately for each operand. The right-hand column of the output shows the value of the PRIORITY operand (see the MODIFY-DBL-DEFAULTS command).

```
#####
##### D B L   D E F A U L T S #####
%# VALUES ASSOCIATED TO SCOPE                                PRIORITY  #
%# LIBRARY                                                    #
%#   CMD-CALLS : *STD                                         #
%#   PROG-CALLS: *STD                                         #
%# LOADING DEFAULTS                                          #
%#   PROGRAM-MODE                                             #
%#     CMD-CALLS : *STD                                       *STD      #
%#     PROG-CALLS: *ANY                                       *STD      #
%# LOAD-INFORMATION                                           #
%#   CMD-CALLS : *DEFINITIONS                                *STD      #
%#   PROG-CALLS: *DEFINITIONS                                *STD      #
%# REP-FILE                                                  #
%#   CMD-CALLS : *NONE                                        #
%#   PROG-CALLS: *NONE                                        #
%# IGNORE-ATTRIBUTES                                         #
%#   CMD-CALLS : *NONE                                       *STD      #
%#   PROG-CALLS: *NONE                                       *STD      #
%# REP-SCOPE                                                 #
%#   PROG-CALLS: *CONTEXT                                    *STD      #
%# CONTEXT-NAME                                              #
%#   PROG-CALLS: LOCAL#DEFAULT                              #
%# CONTEXT-STATE                                             #
%#   PROG-CALLS: *ANY                                        #
%# CLOSE-LIBRARIES                                           #
%#   PROG-CALLS: *ALL                                       *STD      #
%# PROGRAM-MMODE                                             #
%#   CMD-CALLS : *STD                                       *STD      #
%# AMODE-CHECK                                               #
%#   CMD-CALLS : *STD                                       *STD      #
%#   PROG-CALLS: *STD                                       *STD      #
%# RESOLUTION DEFAULTS                                       #
%#   SHARE-SCOPE                                            #
%#     CMD-CALLS : *SYSTEM-MEMORY                            *STD      #
%#     PROG-CALLS: *SYSTEM-MEMORY                            *STD      #
%#   PROGRAM-VERSION                                         #
%#     CMD-CALLS : *STD                                       #
%#     PROG-CALLS: *STD                                       #
%# ALTERNATE-LIBRARIES                                       #
%#   CMD-CALLS : *NO                                         *STD      #
%#   PROG-CALLS: *NO                                         *STD      #
%# AUTOLINK                                                  #
%#   CMD-CALLS : *YES                                       *STD      #
%#   PROG-CALLS: *YES                                       *STD      #
%# RESOL-TYPE                                               #
%#   PROG-CALLS: *STD                                       *STD      #
%#
```

SHOW-DBL-DEFAULTS

```
%# PUBLIC-RESOL-TYPE                                     #
%#   PROG-CALLS: *STD                                     *STD #
%# MMODE-CHECK                                           #
%#   CMD-CALLS : *YES                                     *STD #
%#   PROG-CALLS: *YES                                     *STD #
%# ERROR PROCESSING DEFAULTS                             #
%#   NAME-COLLISION                                     #
%#   CMD-CALLS : *STD                                     *STD #
%#   PROG-CALLS: *STD                                     *STD #
%# UNRESOLVED-EXTERNS                                    #
%#   CMD-CALLS : *STD                                     *STD #
%#   PROG-CALLS: *STD                                     *STD #
%# ERROR-EXIT                                             #
%#   CMD-CALLS : FFFFFFFF                                 *STD #
%#   PROG-CALLS: FFFFFFFF                                 *STD #
%# REPORTING DEFAULTS                                    #
%#   MESSAGE-CONTROL                                    #
%#   CMD-CALLS : *INFORMATION                            *STD #
%#   PROG-CALLS: *INFORMATION                            *STD #
%#   PROGRAM-MAP                                        #
%#   CMD-CALLS : *NO                                     *STD #
%#   PROG-CALLS: *NO                                     *STD #
%# TEST-OPTIONS                                          #
%#   CMD-CALLS : *NONE                                    *STD #
%#   PROG-CALLS: *NONE                                    *STD #
%# RUN-MODE                                              #
%#   CMD-CALLS : *STD                                     *STD #
%# CISC-COMPILATION                                      #
%#   CMD-CALLS : *YES (WORKSPACE= *STD,                 *STD #
%#                   SHOW-MEMORY-USAGE=*NO)              #
%######
```

SHOW-DEVICE-CONFIGURATION

Display system configuration and hardware unit availability

Description status: BS2000 OSD/BC V10.0A
Functional area: Device management
Domain: DEVICE
Privileges: STD-PROCESSING
 OPERATING
 HARDWARE-MAINTENANCE
 SW-MONITOR-ADMINISTRATION
Routing code: E

Function

This command provides information about the system configuration and the availability of hardware units (see also [section “Information services of device management: Meanings of the output values of SHOW commands” on page 1-86](#)).

The command supports structured output in S variables (see [“Output in S variables” on page 5-519](#)).

Format

(Part 1 of 2)

```

SHOW-DEVICE-CONFIGURATION

UNIT = *STD / *SELECT(...) / *CPU(...) / *CHANNEL(...) / *CONTROLLER(...) /
      *CHANNEL-RANGE(...) / *PUBSET-DEVICES(...) /
      list-poss(26): <alphanum-name 2..2 with-wild(20)> / <alphanum-name 4..4 with-wild(20)>

*SELECT(...)
  |
  | CLASS = *ALL / *CENTRAL-PROCESSOR / *CHANNEL / *CONTROLLER / *DEVICE(...)
  | *DEVICE(...)
  | | TYPE = *ALL / <device>
  | | ,VM-ASSIGNMENT = *ANY / *NO / *YES / *BY-GUEST-POSSIBLE
  | ,ATTRIBUTE = *ALL / *ATTACHED / *DETACHED / *DETACH-PENDING / *ATTACH-PENDING /
  | *INVALID

*CPU(...)
  | CPU-IDENTIFIER = list-poss(26): <alphanum-name 2..2 with-wild(10)>

```

```

*CHANNEL(...)
  | CHANNEL-PATH-ID = list-poss(26): <alphanum-name 2..2 with-wild(10)>
*CONTROLLER(...)
  | CONTROLLER-UNIT = list-poss(26): <alphanum-name 2..2 with-wild(20)> /
  | <alphanum-name 4..4 with-wild(20)>
*CHANNEL-RANGE(...)
  | FROM = <alphanum-name 2..2>
  | ,TO = <alphanum-name 2..2>
*PUBSET-DEVICES(...)
  | PUBSET = <cat-id 1..4> / *BY-PUBRES-DEVICE(...)
  | *BY-PUBRES-DEVICE(...)
  | | UNIT = <alphanum-name 2..2> / <x-text 4..4>
,INFORMATION = *STD / *INNER / *OUTER / *ALL / *PATH / *VM2000 / *PAV

```

Operands

UNIT = *STD / *SELECT(...) / *CPU(...) / *CHANNEL(...) / *CONTROLLER(...) / *CHANNEL-RANGE(...) / *PUBSET-DEVICES(...) /

list-poss(26): <alphanum-name 4..4>

Selection of hardware units by device class or device mnemonic. A maximum of 26 device mnemonics may be specified.

UNIT = *STD

The default value is output for all generated units. Users should note that the output may be very extensive.

The command is rejected if entered at the console, since the output of the entire configuration can be extensive and may occupy the operating terminal for too long.

UNIT = *SELECT(...)

Specifies a subset of the hardware units known to the system for which information is to be output. Hardware units are selected by the following device class and state:

CLASS = *ALL / *CENTRAL-PROCESSOR / *CHANNEL / *CONTROLLER / *DEVICE(...)

Device class. Default information is output for all hardware units belonging to the device class specified.

The following device classes can be specified:

Operand value (device class)	Meaning
*ALL	any device class
*CENTRAL-PROCESSOR	central processors
*CHANNEL	channels
*CONTROLLER	controllers
*DEVICE(...)	devices

CLASS = *DEVICE(...)

Information on terminal devices is output.

TYPE = *ALL / <device>

Information on terminal devices belonging to the specified type is output. The default setting is *ALL, i.e. all device types are displayed. If a device type is explicitly specified then only device or volume types known within the system are accepted. To display the possible types, enter TYPE=? in the dialog.

The device type can be specified for all devices (see see also the device table (device type column) of the „System Installation“ [46] manual). For tape devices, volume types can also be specified (see [section “Device types for DMS tape processing” on page 1-84](#)).

VM-ASSIGNMENT = *ANY / *NO / *YES / *BY-GUEST-POSSIBLE

Displays information on terminal devices which possess the specified status. The default setting is *ANY, i.e. output is independent of the status.

VM-ASSIGNMENT = *NO

If INFORMATION=*VM2000 is specified information is displayed on terminal devices which are not assigned to the user’s own VM.

VM-ASSIGNMENT = *YES

Information is displayed on terminal devices which are assigned to the user’s own VM.

VM-ASSIGNMENT = *BY-GUEST-POSSIBLE

Information is displayed on terminal devices which are not assigned to the user's own VM. but which can currently be explicitly assigned (e.g. with the ATTACH-DEVICE command).

ATTRIBUTE = *ALL / *ATTACHED / *DETACHED / *DETACH-PENDING / *ATTACH-PENDING / *INVALID

Specifies the state of hardware units for which default information is to be output. The following states can be specified:

Operand value (state)	Information about
*ALL	Hardware units in any state
*ATTACHED	Hardware units attached to the system
*DETACHED	Hardware units detached from the system
*DETACH-PENDING	Hardware units which are currently assigned but will be unavailable when the assignment ends
*ATTACH-PENDING	Hardware units which are currently not available owing to ATTACH processing
*INVALID	Unusable hardware units (see the "System Installation" manual [46])

UNIT = *CPU(...)

Denotes one or more CPUs for which information is output.

CPU-IDENTIFIER = list-poss(26): <alphanum-name 2..2 with-wild(10)>

Identifiers for the CPUs.

UNIT = *CHANNEL(...)

Denotes one or more channels for which information is output.

CHANNEL-PATH-ID = list-poss(26): <alphanum-name 2..2 with-wild(10)>

Channel path IDs for the channels. In the case of channels, the device name (MN) is the same as the channel path ID in hexadecimal representation.

UNIT = *CONTROLLER(...)

Denotes one or more controllers for which information is output.

CONTROLLER-UNIT = list-poss(26): <alphanum-name 2..2 with-wild(20)> / <alphanum-name 4..4 with-wild(20)>

Mnemonic device names (MN) of the controllers.

UNIT = *CHANNEL-RANGE(...)

Denotes a range of channels for which information is output.

FROM = <alphanum-name 2..2>

First channel path ID of a range of channels.

TO = <alphanum-name 2..2>

Last channel path ID of a range of channels.

UNIT = *PUBSET-DEVICES(...)

Specifies that information on a pubset's disks is to be output.

The pubset must have been imported at least once. The mnemonic device codes (MNs) of the associated disks are administered in the system disk's SVL. This entry is made on IMPORT-PUBSET, EXPORT-PUBSET or MODIFY-PUBSET-PROCESSING. If the system disk or the associated mirror disk is not attached then it is implicitly attached and the information is then read from the SVL before the disk is implicitly detached again. Under VM2000, the disk must also be assigned to the guest system.

If pubset disks are mirrored then the following should be noted:

- In the case of mirroring with DRV, both disks are output.
- In the case of mirroring in a disk storage system then only the standard disks (source units) are output. If the mirror disks are to be output, then the mirror disk (target unit) of the system disk (pubres) must be specified in the PUBSET operand. For detailed information on mirroring in disk storage systems, see, for example, the "SHC-OSD" manual [37].

PUBSET =

Designates the pubset whose disks are to be output. The pubset can be specified via the catalog ID or the device code of its system disk.

PUBSET = <cat-id 1..4>

Specifies the pubset's catalog ID. A corresponding entry must exist in the MRS catalog. If no such entry exists then the disks can only be output by specifying the system disk (see PUBSET=*BY-PUBRES-DEVICE).

PUBSET = *BY-PUBRES-DEVICE(...)

Specifies the pubset's system disk (pubres).

UNIT = <alphanum-name 2..2> / <x-text 4..4>

Mnemonic device code (MN) of the pubres.

UNIT = list-poss(26): <alphanum-name 2..2 with-wild(20)> / <alphanum-name 4..4 with-wild(20)>

Denotes one or more devices for which information is output, using their mnemonic device names (2 or 4 alphanumeric characters; see Notes). A maximum of 26 devices can be specified.

INFORMATION = *STD / *INNER / *OUTER / *PATH / *ALL / *VM2000 / *PAV

Type of information desired. If UNIT=*SELECT is specified, only standard information is output, i.e. any specification other than *STD is ignored.

A header line is output, followed by a new line for each device containing the values.

INFORMATION = *STD

Default information.

Output format:

MNEM	UN-CLASS	UN-TYPE	CONF-STATE	POOL/SIDE
------	----------	---------	------------	-----------

INFORMATION = *INNER

In addition to the default information, information about all inner connections (i.e. from the specified unit to the CPU) is output.

Output format:

MNEM	UN-CLASS	UN-TYPE	CONF-STATE	INNER CONNECTION
------	----------	---------	------------	------------------

INFORMATION = *OUTER

In addition to the default information, information about all outer connections (i.e. from the specified unit to peripherals) is output.

Output format:

MNEM	UN-CLASS	UN-TYPE	CONF-STATE	OUTER CONNECTION
------	----------	---------	------------	------------------

INFORMATION = *ALL

In addition to the standard information, information about all internal and external connections of the designated units is output.

INFORMATION = *PATH

Information about the possible I/O paths of the designated terminals and their status is output. In the case of devices with path groups (disk and MTC devices), output may be delayed since the command triggers an internal update of the path statuses with Sense-Path-Group-Id.

Output format:

DVC	DEV-TYPE	CONF-STATE	PID	CTL	CHPID	IOS	SCD	PORT	SIDE	DEV-ADDR	PATH
-----	----------	------------	-----	-----	-------	-----	-----	------	------	----------	------

INFORMATION = *VM2000

Information on possible assignments to the user's own VM and utilization of the user's own VM.

Output format:

```
MNEM          UN-CLASS      UN-TYPE      CONF-STATE   VM-ASSIGN   VM-USAGE
```

INFORMATION = *PAV

Information on PAV devices (**P**arallel **A**ccess **V**olumes, see the "Introduction to System Administration" [14]). The basic device name and the alias device names (max. 3) combined with the relevant status information are output for each logical PAV device.

Output format:

```
BASE          ALIAS1          ALIAS2          ALIAS3
```

Notes

- For the DVC device class, no external connections exist.
- For the CPU device class, no defined connections exist.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Warning: information incomplete
	1	NKD0001	Syntax error in the input, correction of the command parameters recovers the error
4	1	NKD0001	Syntax error in subprocedure
	1	NKD0013	Syntax error in SHOW-DEVICE-CONFIGURATION
	32	CMD2009	Error on output to S variable (e.g. subsystem not available)
	64	NKD0002	No information available
	64	NKD0006	Internal error during initialization of the command server or: Syntax error in NKDDEVC procedure
	64	NKD0024	No information available for <unit class> and <config state>
	64	NKD0025	No information available for <unit> and <information>
	64	OPS0002	Interrupt (e.g. by K2 key) during S variable generation
	130	OPS0001	SDF-P reporting space problems (possible response: FREE-VARIABLE and repeat command)

Note

Mnemonics which cannot be generated are treated as unknown mnemonics.

Examples

Example 1: Information about an MTC device with the mnemonic device name MQ

```
/show-dev-conf unit=hf
% MNEM UN-CLASS UN-TYPE CONF-STATE POOL/SIDE
% HF DVC 3590E DET(EX) SW
/show-dev-conf unit=hf,inf=*inner
% MNEM UN-CLASS UN-TYPE CONF-STATE INNER-CONNECTION
% HF DVC 3590E DET(EX) CTL :HY ,INCLUDED
%
% CTL :HZ ,INCLUDED
/show-dev-conf unit=hf,inf=*path
% DVC DEV-TYPE CONF-STATE PID CTL CHPID IOS SCD PORT SIDE DEV-ADDR PATH
% HF 3590E DET(EX) - HY C1 - CD02 8E - C18E000F AVAIL
%
% HZ D1 - CD03 8E - D18E000F AVAIL
```

Example 2: Information about CPUs (S170-40 system with 1 spare CPU)

```
/show-dev-conf unit=*select(class=*central-proc)
% MNEM UN-CLASS UN-TYPE CONF-STATE POOL/SIDE
% 00 CPU S170-40 ATTACH /ON NORMAL
% 01 CPU S170-40 ATTACH /ON NORMAL
% 02 CPU S170-40 ATTACH /ON NORMAL
% 03 CPU S170-40 ATTACH /ON NORMAL
% 04 CPU S170-40 DET(EX)/OFF SPARE
/show-dev-conf unit=*cpu(00),inf=*outer
% NKD0030 OPERAND CHANGED TO 'INFORMATION = STD'. PROCESSING CONTINUES
% MNEM UN-CLASS UN-TYPE CONF-STATE POOL/SIDE
% 00 CPU S170-40 ATTACH /ON NORMAL
```

Example 3: Information about CPUs (S140-20 system with 1 extra and 1 spare CPU)

```
/show-dev-conf unit=*select(class=*central-proc)
% MNEM UN-CLASS UN-TYPE CONF-STATE POOL/SIDE
% 00 CPU S140-20 ATTACH /ON NORMAL
% 01 CPU S140-20 ATTACH /ON NORMAL
% 02 CPU S140-20 DETACH /OFF EXTRA
% 03 CPU S140-20 DETACH /OFF SPARE
```

Output in S variables

The command's INFORMATION operand identifies the S variables which are to be created. The following values are possible for INFORMATION: *STD/*ALL/*INNER/OUTER/*PATH/*VM2000 and *PAV.

Output information	Name of the S variable	T	Contents	Condition
Mnemonic base name of a PAV device x='P' for Preferred Device, otherwise '.' y='R' for Ready or 'N' for Not Ready	var(*LIST).BASE	S	<mnemo-name>-xy x = 'P' / '.' y = 'R' / 'N'	INF=*PAV
Mnemonic alias name 1 of a PAV device (for a definition of the extension xy, see BASE)	var(*LIST).ALIAS1	S	<mnemo-name>-xy x = 'P' / '.' y = 'R' / 'N'	INF=*PAV
Mnemonic alias name 2 of a PAV device (for a definition of the extension xy, see BASE)	var(*LIST).ALIAS2	S	<mnemo-name>-xy x = 'P' / '.' y = 'R' / 'N'	INF=*PAV
Mnemonic alias name 3 of a PAV device (for definition of the extension xy, see BASE)	var(*LIST).ALIAS3	S	<mnemo-name>-xy x = 'P' / '.' y = 'R' / 'N'	INF=*PAV
Device class *CHN: channel *CTL: device controller *CPU: CPU *DVC: device	var(*LIST).CLASS	S	*CHN *CTL *CPU *DVC	INF=ALL/ INNER/ OUTER/ STD
Configuration state	var(*LIST).CONF-STA	S	ATTACHED ATTACH-PENDING DETACHED DETACH-PENDING DETACH-PEND(EX) DETACH-PEND (EX+IM) DETACH-PEND(IM) DETACHED (EXPLICIT) DETACHED(EX+IM) DETACHED (IMPLICIT) INVALID	INF=ALL/ INNER/ OUTER/ PATH/ STD
Channel path ID of the I/O path	var(*LIST).CONN(*LIST).CHAN-PATH-ID	S	<mnemo-name>	INF=PATH
Device class of the inner or outer unit	var(*LIST).CONN(*LIST).CLASS	S	*CHN *CTL *CPU *DVC	INF=INNER/ OUTER

(Part 1 of 4)

SHOW-DEVICE-CONFIGURATION

Output information	Name of the S variable	T	Contents	Condition
I/O path control unit	var(*LIST).CONN(*LIST).CONTR-UNIT	S	" <mnemo-name>	INF=PATH
IOS ID of the I/O path	var(*LIST).CONN(*LIST).IOS-ID	S	" <mnemo-name>	INF=PATH
Physical address of the I/O path	var(*LIST).CONN(*LIST).PHYS-ADDR	S	<cuu>	INF=PATH
Port number on the SCD	var(*LIST).CONN(*LIST).PORT-ID	S	" <scd-port-id>	INF=PATH
SCD ID of the I/O path	var(*LIST).CONN(*LIST).SCD-ID	S	" <mnemo-name>	INF=PATH
Configuration status of the I/O path or Configuration status of the inner or outer unit	var(*LIST).CONN(*LIST).STA var(*LIST).CONN(*LIST).STA	S S	AVAIL NOT-AVAIL INCLUDED INVALID REMOVED REMOVED (EXPLICIT) REMOVED (IMPLICIT) REMOVED(EX+IM) REMOVE-PENDING REMOVE-PEND(EX) REMOVE-PEND(IM) REMOVE-PEND (EX+IM)	INF=PATH INF=INNER/ OUTER
Device mnemonic of the inner or outer unit	var(*LIST).CONN(*LIST).UNIT	S	<mnemo-name>	INF=INNER/ OUTER
Configuration status of the CPU	var(*LIST).CPU(*LIST).CONF-STA	S	ATTACHED ATTACH-PENDING DETACHED DETACH-PENDING DETACH-PEND(EX) DETACH-PEND (EX+IM) DETACH-PEND(IM) DETACHED (EXPLICIT) DETACHED(EX+IM) DETACHED (IMPLICIT) INVALID	INF=STD
CPU ID	var(*LIST).CPU(*LIST).ID	S	<mnemo-name>	INF=STD
Hardware status	var(*LIST).HARDWARE-STA	S	" OFF ON	INF=ALL/ INNER/ OUTER/ STD

(Part 2 of 4)

Output information	Name of the S variable	T	Contents	Condition
Device class of the inner unit	var(*LIST).INNER-CONN(*LIST).CLASS	S	*CHN *CTL *CPU *DVC	INF=ALL
Configuration status of the inner unit	var(*LIST).INNER-CONN(*LIST).STA	S	INCLUDED INVALID REMOVED REMOVED (EXPLICIT) REMOVED (IMPLICIT) REMOVED(EX+IM) REMOVE-PENDING REMOVE-PEND(EX) REMOVE-PEND(IM) REMOVE-PEND (EX+IM)	INF=ALL
Device mnemonic of the inner unit	var(*LIST).INNER-CONN(*LIST).UNIT	S	<mnemo-name>	INF=ALL
Device class of the outer unit	var(*LIST).OUTER-CONN(*LIST).CLASS	S	*CHN *CTL *CPU *DVC	INF=ALL
Configuration status of the outer unit	var(*LIST).OUTER-CONN(*LIST).STA	S	INCLUDED INVALID REMOVED REMOVED (EXPLICIT) REMOVED (IMPLICIT) REMOVED(EX+IM) REMOVE-PENDING REMOVE-PEND(EX) REMOVE-PEND(IM) REMOVE-PEND (EX+IM)	INF=ALL
Device mnemonic of the outer unit	var(*LIST).OUTER-CONN(*LIST).UNIT	S	<mnemo-name>	INF=ALL
ID of the physical device used for I/O	var(*LIST).PHYS-DEV-ID	S	" <phys-dev-id>	INF=PATH
Shared availability of a device (CLASS=*CTL/*DVC); displayed with NONE, SHARED or SWITCHABLE or CPU attribute (CLASS=*CPU); displayed with NORMAL, EXTRA, SPARE or ERROR	var(*LIST).POOL-ATTR	S	NONE SHARED SWITCHABLE NORMAL EXTRA SPARE ERROR	INF=STD

(Part 3 of 4)

SHOW-DEVICE-CONFIGURATION

Output information	Name of the S variable	T	Contents	Condition
Hardware unit type (with INF=PATH this refers to a terminal device)	var(*LIST).TYPE	S	<cpu-type> <device-type> BLCK-MUX FL-DISK IBL IBL(XS) IBF/FCP IBS/CNC IBY IBY(XS) IE1(XS) L-PRNTR MBS/SEL OFFL/SEL PPS/BLM SBL SBL(XS) SBS/SEL SBY SBY(XS) SELECTOR	INF=ALL/ INNER/ OUTER/ PATH/ STD
Hardware unit mnemonic (configuration element) (with INF=PATH this refers to a terminal device)	var(*LIST).UNIT	S	<mnemo-name>	INF=ALL/ INNER/ OUTER/ PATH/ STD
Possibility of connecting to a VM	var(*LIST).VM-ASS	S	BY-GUEST BY-VM-ADM VM-INHIBIT DEV-INHIBIT ELSEWHERE BY-GUEST- POSSIBLE	INF=*VM2000
Utilization by a VM	var(*LIST).VM-USAGE	S	NONE EXCL SH(D) SH(I)	INF=*VM2000

(Part 4 of 4)

SHOW-DEVICE-DEPOT

Show assignment of tape devices to storage locations

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Device management
Domain:	DEVICE
Privileges:	STD-PROCESSING OPERATING HARDWARE-MAINTENANCE
Routing code:	E

Function

The SHOW-DEVICE-DEPOT command provides information on the assignment of tape devices to volume storage locations.

The command supports structured output in S variables (see [“Output in S variables” on page 5-525](#)).

Format

SHOW-DEVICE-DEPOT

```

UNIT = *SELECT(...) / *LOCATION(...) /
        list-poss(26): <alphanum-name 2..2 with-wild(20)> / <alphanum-name 4..4 with-wild(20)>
*SELECT(...)
  | ROUTING-CODE = *ANY / <name 1..1>
*LOCATION(...)
  | LOCATION = list-poss(10): <alphanum-name 1..8 with-wild(40)>

```

Operands

UNIT =

Selection criterion for information output. Possible specifications: storage locations, routing codes of storage locations, device mnemonics.

UNIT = *SELECT(...)

Specification of a subset of the possible selection parameters that determine the scope of the output.

ROUTING-CODE = *ANY / <name 1..1>

Provides information about device sets to which storage locations with the specified routing code are assigned.

ROUTING-CODE = *ANY

Provides information about device sets, not depending on the routing codes of the assigned storage locations.

ROUTING-CODE = <name 1..1>

The storage locations with the specified routing code are selected.

UNIT = *LOCATION(...)

Specifies one or more depots whose assigned tape devices are to be output.

LOCATION = list-poss(10): <alphanum-name 1..8 with-wild(40)>

Depot names (1 - 8 characters long). A maximum of 10 depots can be specified.

UNIT = list-poss(26): <alphanum-name 2..2 with-wild(20)> / <alphanum-name 4..4 with-wild(20)>

Specification of tape devices whose storage location is to be output. Up to 26 devices can be specified.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Warning: information incomplete
	1	NKD0001	Syntax error in the input, correction of the command parameters recovers the error
	32	CMD2009	Error on output to S variable (e.g. subsystem not available)
	64	NKD0006	Internal error during initialization of the command server
	64	NKD0002	No information available
	64	NKD0006	Software error in NKDDEVD procedure
	64	NKD0023	No information available
	64	NKD0036	No information available for LOCATION list
	64	NKD0037	No information available for routing code
	64	OPS0002	Interrupt (e.g. by K2 key) during S variable generation
	130	OPS0001	SDF-P reporting space problems (possible response: FREE-VARIABLE and repeat command)

Output format

All three command options have the following header line:

```
LOCATION          RTC          TAPE-MNEMONICS
```

Example

Example of information displayed

/show-dev-depot

```
% LOCATION RTC TAPE-MNEMONICS
% ROBOTER1 T E0 ,E1 ,E2 ,E3 ,E4 ,E5 ,E6 ,E7 ,E8
%          E9 ,EC ,ED ,EA ,EB ,EE ,EF
% ROBOTER2 T EU ,EX ,ES ,ET ,EW ,EV ,EY ,EZ ,EK
%          EL ,EO ,EP ,EM ,EN ,EQ ,ER
% D016ZE04 T TE ,TL ,MA ,MB ,MC ,ME ,MD ,MF ,MM
%          MN ,MO ,MP ,MQ ,MR
```

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Name of the depot	var(*LIST).LOCATION	S	" <location>	
Routing code of the depot	var(*LIST).ROUT-CODE	S	" <alphan.-name 1..1>	
Tape device mnemonic	var(*LIST).UNIT(*LIST)	S	" <mnemo-name>	

SHOW-DEVICE-STATUS

Show assignment and monitoring of devices

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Device management
Domain:	DEVICE
Privileges:	STD-PROCESSING OPERATING HARDWARE-MAINTENANCE SAT-FILE-MANAGEMENT SAT-FILE-EVALUATION SW-MONITOR-ADMINISTRATION TAPE-ADMINISTRATION
Routing code:	E

Function

The SHOW-DEVICE-STATUS command displays information on device assignment and monitoring.

Nonprivileged users obtain information only on devices reserved for their own jobs. Information on volumes is displayed only if the volumes are physically online (in contrast to SHOW-DISK-STATUS). If there is no volume online on a device, the output indicates which volume should be mounted on that device.

The command supports structured output in S variables (see [“Output in S variables” on page 5-531](#)).

Privileged functions

Systems support staff are shown information about all devices.

Format

SHOW-DEVICE-STATUS
<pre> UNIT = *STD / *SELECT-TYPE(...) / *SELECT-LOCATION(...) / *DEVICE-RANGE(...) / list-poss(26): <alphanum-name 2..2 with-wild(20)> / <alphanum-name 4..4 with-wild(20)> *SELECT-TYPE(...) TYPE = *ALL / <composed-name 1..8> / <structured-name 1..8> / <device> ,ATTRIBUTE = *ALL / *ATTACHED / *DETACHED / *DETACH-PENDING / *ATTACH-PENDING / *INVALID / *FREE / *DMS / *EXCLUSIVE / *PUBLIC / *SWITCH / *SHARE *DEVICE-RANGE(...) FROM = <alphanum-name 2..2> / <x-text 4..4> ,TO = <alphanum-name 2..2> / <x-text 4..4> *SELECT-LOCATION(...) LOCATION = *ALL / list-poss(10): <structured-name 1..8 with-wild(40)> ,INFORMATION = *STD / *SUMMARY / *TASK / *ALL / *LOCATION </pre>

Operands

UNIT = *STD(...) / ***SELECT-TYPE(...)** / ***SELECT-LOCATION** / ***DEVICE-RANGE(...)** /
list-poss(26): <alphanum-name 2..2 with-wild(20)> /
<alphanum-name 4..4 with-wild(20)>

Specifies the hardware units for which information is to be output. The selection is made on the basis of device type, device family or device mnemonic (two or four characters). Mnemonic device names that cannot be generated are handled like nongenerated devices. A maximum of 26 device mnemonics may be specified.

UNIT = *STD

The scope of the information displayed depends on the user's privilege level. Nonprivileged users (privilege STD-PROCESSING) receive information about all devices occupied by their own jobs. The possible scope of the output should be borne in mind. Privileged users receive information for all devices. UNIT=*STD is rejected at operating consoles, since the output may be very extensive.

UNIT = *SELECT-TYPE(...)

Information is output for the devices known to the system that have the specified type and attributes.

TYPE = *ALL / <composed-name 1..8> / <alphanum-name 1..8> / <device>

Information is output for all devices (TYPE=*ALL) or for all devices of the specified type.

In interactive mode, TYPE=? displays the possible type specifications.

The device type and device family are possible values for all devices (see also the device table (device type column or "Family" column) of the „System Installation“ [46] manual)). Volume types can also be specified for tape devices.

Possible values may be found in the device table, device type column, (see device table (device type column) of the „System Installation“ [46] manual). For tape devices, the possible values may be found in the volume types table.

ATTRIBUTE = *ALL / *ATTACHED / *DETACHED / *DETACH-PENDING / *ATTACH-PENDING / *INVALID / *FREE / *DMS / *EXCLUSIVE / *PUBLIC / *SWITCH / *SHARE

Device attribute. The hardware units corresponding to the specified device attribute are selected.

Operand value (device attribute)	Meaning
*ALL	any attribute
	<i>configuration-state</i>
*ATTACHED	attached to the system
*DETACHED	not attached to the system
*DET[ACHED]-P[ENDING]	currently assigned, no longer available thereafter
*ATT[ACHED]-P[ENDING]	currently not available
*INVALID	not available
	<i>device-allocation-state</i>
*FREE	attached to the system
*DMS	occupied by DMS application
*EXCL[USIVE]	exclusively reserved
*PUB[LIC]	occupied by public disk
	<i>pool-attribute</i>
*SWITCH	generated for multiple systems
*SHARE	shareable

UNIT = *SELECT-LOCATION(...)

Information is output for devices that are assigned to the storage locations.

LOCATION =

Denotes the storage locations assigned to the devices.

LOCATION = ALL

Information is output for the devices of all storage locations.

LOCATION = list-poss(10): <structured-name 1..8 with-wild(40)>

Information is output for the devices of the specified storage locations. A maximum of 10 storage locations can be specified.

UNIT = *DEVICE-RANGE(...)

Information is output for a set of devices which exist in the specified range of device codes. Starting with the device designated in the FROM operand, up to 256 devices are determined until the TO operand is reached. The output only includes existing devices; non-existent devices are ignored.

FROM = <alphanum-name 2..2> / <x-text 4..4>

Specifies the mnemonic device code (MN) of the first device.

TO = <alphanum-name 2..2> / <x-text 4..4>

Specifies the mnemonic device code (MN) of the last device.

UNIT = list-poss(26): <alphanum-name 2..2 with-wild(20)> / <alphanum-name 4..4 with-wild(20)>

Specifies by their mnemonic device name one or more devices for which information is output. You can specify up to 26 devices.

INFORMATION = *STD / *SUMMARY / *TASK / *ALL / *LOCATION

Type of information is output. If UNIT = <mn> is specified, only the value *STD is permitted here.

INFORMATION = *STD

Standard information is output.

Output format:

```
MNEM      DEV-TYPE  CONF-STATE  POOL  VSN  DEV-A  PHASE  ACTION
```

INFORMATION = *SUMMARY

A summary of configuration and assignment status, related to device type, is output.

Output format:

```
DEV-TYPE  AVAIL  PRE-/IN-USE  RES-BY-MN  RES-BY-TYPE  ATT  DET  DET-P
```

INFORMATION = *TASK

A summary of the occupying or reserving tasks is generated for the specified type. The nonprivileged user receives information only about assignments for his own task.

Output format:

- a) List of assignments/reservations with device reference

```
MNEM      TYPE      DEV-A      PHASE      MNEM      TYPE      DEV-A...
```

- b) List of assignments/reservations without device reference

```
TYPE      TASKS-WITH-RESERVATIONS
```

INFORMATION = *ALL

Output of *STD, *SUMMARY and *TASK.

INFORMATION = *LOCATION

Outputs the scope of *SUMMARY and *TASK, arranged by storage location. The nonprivileged user receives information only about assignments for his own task.

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Warning: information incomplete
2	0	NKD0030	Warning: INFORMATION parameter changed
	1	NKD0001	Syntax error in the input, correction of the command parameters recovers the error
	1	NKD0013	Syntax error in SH-DEV-STATUS
	32	CMD2009	Error on output to S variable (e.g. subsystem not available)
	64	NKD0002	No information available
	64	NKD0006	Software error in NKDDEVS procedure
	64	NKD0021	No information available for type and attribute
	64	NKD0023	No information available for MN list
	64	NKD0036	No information available for the specified storage locations
	64	NKD0038	No device of specified type is assigned to a storage location
	64	OPS0002	Interrupt (e.g. by K2 key) during S variable generation
4	130	NKD0009	The disk monitor is temporarily not available; the information may be incomplete
8	130	NKD0009	The tape monitor is temporarily not available; the information may be incomplete
12	130	NKD0009	The disk and tape monitors are not available
	130	OPS0001	SDF-P reporting space problems (possible response: FREE-VARIABLE and repeat command)

Notes

- A VSN can appear in two output records at the same time during a remount operation: in the record of the device on which the volume is physically online, and in the record of the device on which the volume is to be mounted.
- Mnemonics or VSNs which cannot be generated are treated as unknown mnemonics or VSNs.
If VSNs are specified which are currently unknown to the system, “empty” records containing only VSN and “NO ACTION” are returned. Only if ‘*’ is specified in the VSN operand will no records be output for unknown VSNs.

Output in S variables

The INFORMATION operand identifies the S variables which are to be created. The following values are possible for INFORMATION: *STD/*SUMMARY/*TASK/*ALL/*LOCATION.

Output information	Name of the S variable	T	Contents	Condition
Mount operation being performed for the volume by the volume monitoring system	var(*LIST).ACTION	S	" *CANCEL *DISMOUNT INOP *MOUNT NO-ACTION *NO-DEV *POS *PREMOUNT *RECOVER REMOUNT SNATCHED *SVL-UPDATE *UNLOCK WP-MISSING	INF=ALL/STD
Number of devices in the “ATTACHED” state (available)	var(*LIST).ATTACH	I	<integer>	INF= LOCATION
Number of available devices	var(*LIST).AVAIL	I	<integer>	INF= LOCATION
Configuration state of the specified device	var(*LIST).CONF-STA	S	" *ATTACH ATTACH- *ATTACH-PEND *DET *DET-PEND *INVALID	INF=ALL/STD

(Part 1 of 4)

SHOW-DEVICE-STATUS

Output information	Name of the S variable	T	Contents	Condition
Number of devices in the "DETACHED" state (unavailable)	var(*LIST).DET	I	<integer>	INF= LOCATION
Number of devices in the "DETACHED-PENDING" state (not shareable after use)	var(*LIST).DET-PEND	I	<integer>	INF= LOCATION
Type of device allocation; if the device is reserved exclusively, the TSN is output	var(*LIST).DEV-ALLOC	S	" *DMS DMS-DRV DMS-PAGING *DRV DRV-PAGING *FREE PAGING PUB-DRV *PUBLIC <tsn>	INF=ALL/STD
Name of the depot	var(*LIST).LOCATION	S	" <location>	INF= LOCATION
Volume monitoring mode	var(*LIST).PHASE	S	" IN-CARTRIDGE *IN-USE INVENTORY *MOUNT OFF-CARTRIDGE *ONLINE *PREMOUNT RAID1-SUB RAID5-SPARE	INF=ALL/STD
Device availability in relation to multiple systems	var(*LIST).POOL-ATTR	S	" *SHARE *SWITCHABLE NO	INF=ALL/STD
Number of devices implicitly reserved by volumes of the relevant phase	var(*LIST).PRE-IN-USE	I	<integer>	INF= LOCATION
Number of devices reserved by SECURE-RESOURCE-ALLOCATION UNIT=<mn>	var(*LIST).RESERVED-BY-MN	I	<integer>	INF= LOCATION
Number of devices needed to handle the requested allocation/reservation	var(*LIST).RESERVED-BY-TYPE	I	<integer>	INF= LOCATION
Location of the reserved volume	var(*LIST).RESERVED.LOCATION	S	" <location>	INF= LOCATION

(Part 2 of 4)

Output information	Name of the S variable	T	Contents	Condition
Device type of the volume reserved by the task	var(*LIST).RESERVED.TYPE	S	" <dev-type>	INF=ALL/ LOCATION/ TASK
Number of tasks reserving a specific device type	var(*LIST).RESERVED.TYPE-RES(*LIST).NUM	I	<integer>	INF=ALL/ LOCATION/ TASK
TSN of the tasks reserving a specific device type	var(*LIST).RESERVED.TYPE-RES(*LIST).TSN	S	" <tsn>	INF=ALL/ LOCATION/ TASK
Total number of devices of the specified type (see SUMM.TYPE) which are in the "ATTACHED" state	var(*LIST).SUMM.ATTACH	I	<integer>	INF=ALL/ SUMMARY
Total number of available devices of the specified type (see SUMM.TYPE)	var(*LIST).SUMM.AVAIL	I	<integer>	INF=ALL/ SUMMARY
Total number of devices of the specified type (see SUMM.TYPE) which are in the "DETACHED" state	var(*LIST).SUMM.DET	I	<integer>	INF=ALL/ SUMMARY
Total number of devices of the specified type (see SUMM.TYPE) which are in the "DETACHED-PENDING" state	var(*LIST).SUMM.DET-PEND	I	<integer>	INF=ALL/ SUMMARY
Total number of devices of the specified type (see SUMM.TYPE) which are implicitly reserved by volumes of the relevant phase	var(*LIST).SUMM.PRE-IN-USE	I	<integer>	INF=ALL/ SUMMARY
Total number of devices of the specified type (see SUMM.TYPE) which have been reserved using SECURE-RESOURCE-ALLOCATION UNIT=<mn>	var(*LIST).SUMM.RESERVED-BY-MN	I	<integer>	INF=ALL/ SUMMARY
Total number of devices of the specified type (see SUMM.TYPE) needed to handle reservation and allocation requests	var(*LIST).SUMM.RESERVED-BY-TYPE	I	<integer>	INF=ALL/ SUMMARY
Volume device type	var(*LIST).SUMM.TYPE	S	" <dev-type>	INF=ALL/ SUMMARY

(Part 3 of 4)

SHOW-DEVICE-STATUS

Output information	Name of the S variable	T	Contents	Condition
Type of device allocation by the task; if the device is reserved exclusively, the TSN is output	var(*LIST).TASK.DEV-ALLOC	S	" *DMS DMS-DRV DMS-PAGING *DRV *DRV-PAGING *FREE PAGING PUB-DRV *PUBLIC <tsn>	INF=ALL/ TASK
Volume monitoring mode used by the task	var(*LIST).TASK.PHASE	S	" IN-CARTRIDGE *IN-USE INVENTORY *MOUNT OFF-CARTRIDGE *ONLINE *PREMOUNT RAID1-SUB RAID5-SPARE	INF=ALL/ TASK
Device type of the volume reserved by the task	var(*LIST).TASK.TYPE	S	" <dev-type>	INF=ALL/ TASK
Device mnemonic of the unit reserved by the task	var(*LIST).TASK.UNIT	S	" <mnemo-name>	INF=ALL/ TASK
Volume device type	var(*LIST).TYPE	S	" <dev-type>	INF=ALL/ STD/ LOCATION
Device unit mnemonic	var(*LIST).UNIT	S	" <mnemo-name>	INF=ALL/STD
Volume serial number	var(*LIST).VOL	S	" <vsrn>	INF=ALL/STD

(Part 4 of 4)

Examples*Output to SYSOUT with INFORMATION=*SUMMARY***/show-dev-sta inf=*summary**

%	DEV-TYPE	AVAIL	PRE-/IN-USE	RES-BY-MN	RES-BY-TYPE	ATT	DET	DET-P
%	CON3027	0	0	0	0	0	2	0
%	CON3027C	1	0	0	0	1	11	0
%	CON38	0	0	0	0	0	1	0
%	CON3803	0	0	0	0	0	1	0
%	STDPRINT	0	0	0	0	0	3	0
%	DSVP1	1	0	0	0	1	0	0
%	CTRL-DEV	0	0	0	0	0	2	0
%	SCD	0	0	0	0	0	2	0
%	FST	0	0	0	0	0	1	0
%	ZAS-DUMP	2	0	0	0	2	4	0
%	ZAS-BCAM	0	4	0	0	4	8	0
%	SKP2	2	0	0	0	2	32	0
%	HNC	4	6	0	0	10	232	0
%	D3438-30	0	0	0	0	0	15	0
%	D34211-4	0	0	0	0	0	79	0
%	D34211-2	0	0	0	0	0	16	0
%	D34211-3	0	0	0	0	0	16	0
%	D3490-30	0	2	0	0	2	0	0
%	D3490-40	0	2	0	0	2	0	0
%	D3435	170	590	0	0	760	3318	0
%	STDDISK	0	0	0	0	0	632	0
%	3590	0	0	0	0	0	4	0
%	3590E	10	0	0	0	10	104	0
%	3591	0	0	0	0	0	8	0
%	3591E	0	0	0	0	0	2	0
%	BM1662	0	0	0	0	0	1	0
%	BM1662FS	0	0	0	0	0	2	0

*Output in S variables with INFORMATION=*SUMMARY*

```
/exec-cmd (show-device-status inf=sum),text-output=*none,struct-output=var
/show-var var,inf=*par(val=*c-lit)
OUT#1.SUMM.TYPE = 'CON3027'
OUT#1.SUMM.AVAIL = 0
OUT#1.SUMM.PRE-IN-USE = 0
OUT#1.SUMM.RESERVED-BY-MN = 0
OUT#1.SUMM.RESERVED-BY-TYPE = 0
OUT#1.SUMM.ATTACH = 0
OUT#1.SUMM.DET = 2
OUT#1.SUMM.DET-PEND = 0
*END-OF-VAR
OUT#2.SUMM.TYPE = 'CON3027C'
OUT#2.SUMM.AVAIL = 1
OUT#2.SUMM.PRE-IN-USE = 0
OUT#2.SUMM.RESERVED-BY-MN = 0
OUT#2.SUMM.RESERVED-BY-TYPE = 0
OUT#2.SUMM.ATTACH = 1
OUT#2.SUMM.DET = 11
OUT#2.SUMM.DET-PEND = 0
.....
.....
```

*Output in S variables with INFORMATION=*TASK*

```
/declare-var var-name=out(type=*structure),multiple-elem=*list
/exec-cmd cmd=(show-device-status inf=task),text-output=*none,structure-
output=out
/show-var out,inf=*par(val=*c-literal)
OUT#1.SUMM.TYPE = 'CON3027'
OUT#1.SUMM.AVAIL = 0
OUT#1.SUMM.PRE-IN-USE = 0
OUT#1.SUMM.RESERVED-BY-MN = 0
OUT#1.SUMM.RESERVED-BY-TYPE = 0
OUT#1.SUMM.ATTACH = 0
OUT#1.SUMM.DET = 2
OUT#1.SUMM.DET-PEND = 0
*END-OF-VAR
OUT#2.SUMM.TYPE = 'CON3027C'
OUT#2.SUMM.AVAIL = 1
OUT#2.SUMM.PRE-IN-USE = 0
OUT#2.SUMM.RESERVED-BY-MN = 0
OUT#2.SUMM.RESERVED-BY-TYPE = 0
OUT#2.SUMM.ATTACH = 1
OUT#2.SUMM.DET = 11
OUT#2.SUMM.DET-PEND = 0
*END-OF-VAR
.....
.....
OUT#26.SUMM.TYPE = 'BM1662'
OUT#26.SUMM.AVAIL = 0
OUT#26.SUMM.PRE-IN-USE = 0
OUT#26.SUMM.RESERVED-BY-MN = 0
OUT#26.SUMM.RESERVED-BY-TYPE = 0
OUT#26.SUMM.ATTACH = 0
OUT#26.SUMM.DET = 1
OUT#26.SUMM.DET-PEND = 0
*END-OF-VAR
OUT#27.SUMM.TYPE = 'BM1662FS'
OUT#27.SUMM.AVAIL = 0
OUT#27.SUMM.PRE-IN-USE = 0
OUT#27.SUMM.RESERVED-BY-MN = 0
OUT#27.SUMM.RESERVED-BY-TYPE = 0
OUT#27.SUMM.ATTACH = 0
OUT#27.SUMM.DET = 2
OUT#27.SUMM.DET-PEND = 0
*END-OF-VAR
```

SHOW-DISK-DEFAULTS

Show default values for DISK parameters

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Device management
Domain:	DEVICE
Privileges:	STD-PROCESSING OPERATING HARDWARE-MAINTENANCE SW-MONITOR-ADMINISTRATION
Routing code:	E

Function

With the SHOW-DISK-DEFAULTS command, users can obtain information on the default values for the assignment of private disks. These values do not apply to private disks requested with USE=SPECIAL.

The following presettings are possible:

- Time of device assignment or release (ASSIGN-TIME)
The following values can be set for ASSIGN-TIME:
 - USER: Default value; the time of assignment or release of the device corresponds to the time the user assigns or releases the private disk.
 - OPERATOR: If the private disk is mounted (online), the assignment is executed immediately. Otherwise, the assignment cannot be made until the disk is placed online.
- Permissible initial job allocation types SHARED or EXCLUSIVE (USER-ALLOCATION)
The following values can be set for USER-ALLOCATION:
 - NO: permits no initial allocations.
 - ALL: permits SHARED and EXCLUSIVE initial allocations.
 - EXCL(usive): permits only EXCLUSIVE initial allocations.
 - SHARE: permits only SHARED initial allocations.
- Monitor of initial job allocations SHARED or EXCLUSIVE
The following values can be set for OPERATOR-CONTROL:
 - NO: monitors no initial allocations.
 - ALL: SHARED and EXCLUSIVE initial allocations must be confirmed by the operator.
 - EXCL(usive): EXCLUSIVE initial allocations must be confirmed by the operator.
 - SHARE: SHARED initial allocations must be confirmed by the operator.

The command supports structured output in S variables (see [“Output in S variables” on page 5-540](#)).

Format

SHOW-DISK-DEFAULTS

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Warning: information incomplete
	1	NKD0001	Syntax error in the input, correction of the command parameters recovers the error
4	1	NKD0001	Syntax error in subprocedure
	32	CMD2009	Error on output to S variable (e.g. subsystem not available)
	64	NKD0002	No information available
	64	NKD0006	Internal error during initialization of the command server
	130	OPS0001	SDF-P reporting space problems (possible response: FREE-VARIABLE and repeat command)

Output format

A header line and a values line are displayed.

Header line:

```
ASSIGN-TIME          USER-ALLOCATION      OPERATOR-CONTROL
```

Values line:

```
<assign-time>      <user-allocation>  <operator-control>
```

The output fields and their meanings are described in [section “Information services of device management: Meanings of the output values of SHOW commands” on page 1-86](#).

SHOW-DISK-DEFAULTS

Example

Example of information displayed

```
/show-disk-def
% ASSIGN-TIME   USER-ALLOCATION  OPERATOR-CONTROL
%      USER           ALL              NO
```

Output in S variables

Output information	Name of the S variable	T	Contents	Condition
Time of device assignment/release	var(*LIST).ASS-TIME	S	" *OPER *USER	
Amount of information for the operator about new disk allocations for tasks	var(*LIST).OPER-CONTR	S	" *ALL *EXCL *NO *SHARE	
Type of disk allocation request the user is allowed to make	var(*LIST).USER-ALLOC	S	" *ALL *EXCL *NO *SHARE	

SHOW-DISK-STATUS

Show information about assignment, DISK parameters and monitoring of disks

Description status:	BS2000 OSD/BC V10.0A
Functional area:	Device management
Domain:	DEVICE
Privileges:	STD-PROCESSING HARDWARE-MAINTENANCE OPERATING SW-MONITOR-ADMINISTRATION
Routing code:	E

Function

The SHOW-DISK-STATUS command provides information relating to the assignment, disk parameters and volume monitoring of the specified disks. The VSN of the disk can also be specified using a wildcard. The information displayed refers to the reserving disk, irrespective of which volume is physically online (in contrast to SHOW-DEVICE-STATUS). Nonprivileged users are shown information only on private disks on which their own jobs have reserved space.

The various output fields and their functions are described in [section “Information services of device management: Meanings of the output values of SHOW commands” on page 1-86](#).

The command supports structured output in S variables (see [“Output in S variables” on page 5-549](#)).

Privileged functions

System support staff are supplied with information for all devices. If they select *TASK or *SYSTEMS with the INFORMATION operand they are shown all the available information.

Format

SHOW-DISK-STATUS
UNIT = *SELECT (...) / *VOLUME (...) / list-poss(26): <alphanum-name 2..2 with-wild(20)> / <alphanum-name 4..4 with-wild(20)> *SELECT (...) ATTRIBUTE = *ALL / *FREE / *EXCLUSIVE / *SHARE / *PUBLIC / *ONLINE / *MOUNTING / *IN-USE / *CANCELLED / *NO-DEVICE / *RECOVER / *DMS / *SPECIAL / *DISMOUNT / *UNLOCK / *SVL-UPDATE / *STD / *NON-STD / *BS1000 *VOLUME (...) VOLUME = list-poss(10): <vsn 1..6> / <alphanum-name 1..6 with-wild(30)> ,INFORMATION = *STD / *PARAMETER / *TASK / *SYSTEMS / *ALL

Operands

UNIT = ***SELECT**(...) / ***VOLUME**(...) /
list-poss(26): <alphanum-name 2..2 with-wild(20)> /
<alphanum-name 4..4 with-wild(20)>

Selection of disks by attributes, volume serial numbers or the mnemonic (two- or four-character) device name of the device on which the disk is mounted. At most 26 mnemonic device names are permitted.

Mnemonic device names that cannot be generated are handled like non-generated devices.

UNIT = ***SELECT**(...)

Selection by attributes.

ATTRIBUTE =

Information is output for the disks with the specified attribute.

ATTRIBUTE = ***ALL**

Information is output for all specified disks.

**ATTRIBUTE = *FREE / *EXCLUSIVE / *SHARE / *PUBLIC / *ONLINE /
 *MOUNTING / *IN-USE / *CANCELLED / *NO-DEVICE / *RECOVER / *DMS /
 *SPECIAL / *DISMOUNT / *UNLOCK / *SVL-UPDATE / *STD / *NON-STD / *BS1000**

Default information is output for all disks with the specified attribute.

Possible specifications:

Operand value (device attribute)	Meaning
*ALL	any attribute
*FREE *EXCL[USIVE] *SHARE	<i>volume-allocation-state</i> free exclusively reserved shareable
*PUB[LIC]	<i>device-allocation-state</i> public
*ONLINE *MOUNTING *IN-USE	<i>volume-phase</i> mounted, but not assigned waiting for operator answer assigned
*CAN[CELED] *NO-DEV[ICE] *REC[OVER] *DISMOUNT *UNLOCK *SVL-UPD[ATE]	<i>action-state</i> permanently locked no device assignment interrupt handling REMOUNT or MOUNT message still pending UNLOCK job being executed system occupancy log being stored
*DMS *SPECIAL	<i>use-mode</i> occupied by DMS application occupied by special application
*STD *N[ON]-STD *BS1000	<i>label-type</i> standard labels nonstandard labels BS1000 labels

UNIT = *VOLUME(...)

Specifies the volume serial numbers of the disks for which information is to be output.

VOLUME = list-poss(10): <vsn 1..6> / <alphanum-name 1..6 with-wild(30)>

Specifies the volume serial numbers (VSN, up to 6 characters) of the disks for which information is to be output.

A maximum of 10 VSNs can be specified.

With certain restrictions, wildcard characters may also be used in the volume serial numbers; an asterisk "*" may be specified in place of any character string. If two or more asterisks are entered, they must be separated in each case by at least one character.

UNIT = list-poss(26): <alphanum-name 2..2> / <alphanum-name 4..4>

Lists up to 10 disks for which information is to be output.

INFORMATION =

Type of information to be displayed. This operand is only evaluated if device names or volume serial numbers (UNIT or VOLUME operand) are used to select the disks. If ATTRIBUTE is specified, only INFORMATION=*STD is possible.

INFORMATION = *STD

For each private disk occupied by the task, a record is displayed with global occupancy and monitoring information (e.g. access by START-PROGRAM to a program on private disk).

INFORMATION = *PARAMETER

Parameters set with the SET-DISK-PARAMETER or SET-DISK-DEFAULTS command are displayed. Parameter values set with SET-DISK-DEFAULTS are marked with "(D)". Output is independent of occupancy by the task.

No information can be requested for public disks with this operand.

INFORMATION = *TASK

*For nonprivileged users, INFORMATION = *STD applies.*

A list of the TSNs that are occupying this disk in DMS usage mode is displayed.

INFORMATION = *SYSTEMS

For nonprivileged users, only the first line for the disks occupied by them is displayed.

A list of systems occupying this disk is displayed.

INFORMATION = *ALL

For nonprivileged users, only STD, PARAMETER and SYSTEMS information is displayed.

Displays all four output records for the specified disks

(*STD, *PARAMETER, *TASK, and the second output line of *SYSTEMS).

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	No error
2	0	NKD0005	Warning: information incomplete
2	0	NKD0030	Warning: INFORMATION parameter changed
	1	NKD0001	Syntax error in the input, correction of the command parameters recovers the error
	1	NKD0013	Syntax error in SHOW-DISK-STATUS
	64	NKD0002	No information available
	64	NKD0005	No information available for MN list
	64	NKD0006	Software error in NKDDISC procedure
	64	NKD0032	No information available for ATTRIBUTE
4	130	NKD0010	The disk monitor is temporarily not available; try again later

Output formats

The output shows a header line followed by one values line for each disk specified. Five display formats are possible, depending on the entry made in the INFORMATION operand.

The meaning of the output columns and possible values are explained in [section "Information services of device management: Meanings of the output values of SHOW commands"](#) on page 1-86.

*1. Standard output record (INFORMATION=*STD)***Header line**

MNEM	VSN	USE	DEV-A	VOL-A	PHASE	ACTION
------	-----	-----	-------	-------	-------	--------

Values

mn	vsn	use mode	device allocation state	volume allocation state	volume phase	action state
----	-----	-------------	-------------------------------	-------------------------------	-----------------	-----------------

Note

The distinction between PAGING and PUBLIC assignments (dynamic paging area modification) also affects information columns DEV-A and VOL-A. The meanings of the possible combinations of values in these two columns are as follows:

DEV-A	VOL-A	Meaning
PUBLIC	PUBLIC	The disk is imported and is not used for PAGING.
PUBLIC	PAGING	The disk is imported and is used for PAGING.
PAGING	PAGING	The disk is used exclusively for PAGING.
PUB-DRV	PAGING	The disk is imported as a DRV volume and is used for PAGING.
DRV-PAG	PAGING	The disk is used for PAGING in DRV mode.
DRV-PAG		The matching second disk of a DRV pair is used for PAGING in DRV mode.
DMS-PAG	SHARE	The disk is used for PAGING and is also shareable for tasks.

*2. Output record for INFORMATION=*PARAMETER*

Header line

ALLOC VSN TYPE SYS-ALLOC ASS-TIME USER-ALLOC OP-CTL ACCESS

Values

<Y/N> vsn device type system allocation mode assign time user allocation type operator access control access mode

*3. Output record for INFORMATION=*TASK*

Header line

MNEM VSN TSN'S

Values

mn vsn tsn,tsn,...

4. Output record for INFORMATION=*SYSTEMS

Heading line 1:

```
MNEM  VSN                TIME-STAMP  SVL-RECORDING-MODE
```

Values

```
mn     *vsn                time-stamp  svl-recording-mode
```

Heading line 2:

```
MNEM  VSN  #PHYS-HALF-PAGES  PAMKEY/FRMT
```

Values

```
mn     *vsn  #php                pamkey/format
```

Heading line 3 (privileged users only):

```
MNEM  VSN  VTOC-SYS                SVL-ALLOC          SYSTEMS
```

Values

```
mn     *vsn  vtoc-sys                system allocation mode  sys-id[,...]
```

where:

format = disk format (2K or 4K)

time stamp = yyyy-mm-dd hh:mm:ss (time of last occupancy of the disk)

vtoc-tsn = designates the task in the user's own system that is locking or wishes to lock the VTOC of the disk, but has not yet successfully completed the SVL I/O operation.

vtoc-sys = System ID of the system that is occupying the VTOC of the disk. In this phase, no VTOC operations by other systems are possible.

Notes

- Nonprivileged users are shown no information for public disks if they specify INFORMATION=*PARAMETER or *ALL. Privileged users are shown no information if they specify INFORMATION=*PARAMETER or *TASK and are shown information only for *STD and *SYSTEMS if they specify INFORMATION=*ALL.
- If more than one disk with the same VSN exists within one system, only one record is displayed if INFORMATION=*PARAMETER or *TASK or *SYSTEMS is specified.
- A VSN may appear in two or more output records: For all devices on which the volumes are also physically available.

- MNs or VSNs which cannot be generated are handled like unknown MNs or VSNs. If VSNs are specified which are not known to the system at present, “empty” records containing only VSN and “NO ACTION” are returned. Only when ‘*’ is specified in the VSN operand are no records output for unknown VSNs.

Examples

*Example 1: Output for private disk with INFORMATION=*PARAMETER*

```
/show-disk-sta *vol(work01),inf=*par
% ALLOC VSN    TYPE    SYS-ALLOC ASS-TIME USER-ALLOC OP-CTL ACCESS
%   Y  WORK01 D3435    SHARE    OPERATOR   SHARE    NO    WRITE
```

*Example 2: Output for private disk with INFORMATION=*SYSTEM*

```
/show-disk-sta *vol(work01),inf=*sys
% MNEM VSN      TIME-STAMP      SVL-RECORDING-MODE
% B156 WORK01  2012-02-27  07:04:09  SRV
```

*Example 3: Output for private disk with INFORMATION=*ALL and device reservation information*

```
/show-disk-sta *vol(work01),inf=*all
% MNEM VSN    USE    DEV-A    VOL-A    PHASE    ACTION
% B156 WORK01 DMS    DMS    SHARE    IN-USE    NO ACTION
% ALLOC VSN    TYPE    SYS-ALLOC ASS-TIME USER-ALLOC OP-CTL ACCESS
%   Y  WORK01 D3435    SHARE    OPERATOR   SHARE    NO    WRITE
% MNEM VSN      TIME-STAMP      SVL-RECORDING-MODE
% B156 WORK01  2012-02-27  07:04:09  SRV
/show-res-alloc
% MNEM TYPE    VSN    VOL-A  TSN  NAME/ID  PHASE    ACTION
% B156 D3435  WORK01  SHARE  3QLJ  ALF      IN-USE    NO ACTION
```

Output in S variables

The INFORMATION operand identifies the S variables which are to be created. The following values are possible for INFORMATION: *STD/*PARAMETER/*TASK/*SYSTEMS/*ALL:

Output information	Name of the S variable	T	Contents	Condition
Read or write access to data on the disk	var(*LIST).ACCESS	S	" WRITE ALL	INF=PAR
Mount operation being performed for the disk from the volume monitoring system	var(*LIST).ACTION	S	" *CANCEL *DISMOUNT INOP *MOUNT NO-ACTION *NO-DEV *PREMOUNT REMOUNT *RECOVER SNATCHED *SVL-UPDATE *UNLOCK WP-MISSING	INF=STD
Disk is allocated	var(*LIST).ALLOC	S	Y N	INF=PAR
Time of device assignment/release If "(D)" is appended, the data has been taken from the disk defaults	var(*LIST).ASS-TIME	S	" *OPER *USER	INF=PAR
Date of last disk allocation	var(*LIST).DATE	S	" <yyyy-mm-dd>	INF=SYS
Type of device allocation	var(*LIST).DEV-ALLOC	S	" *DMS DMS-DRV DMS-PAGING *DRV DRV-PAGING *FREE PAGING PUB-DRV *PUBLIC	INF=STD
A REMOUNT or MOUNT message is pending for the DISMOUNT volume on this device	var(*LIST).DISMOUNT-ACTION	S	" *DISMOUNT	INF=STD
DISMOUNT volume	var(*LIST).DISMOUNT-VOL	S	" <vsn>	INF=STD

(Part 1 of 3)

SHOW-DISK-STATUS

Output information	Name of the S variable	T	Contents	Condition
Mnemonic of the corresponding DRV unit	var(*LIST).DRV-UNIT	S	" <mnemo-name>	INF=TASK
Disk format	var(*LIST).FORM	S	" 2KB 4KB	INF=SYS
Inconsistency indicator in SVL (Standard Volume Lable)	var(*LIST).INCONS	S	YES NO	INF=SYS
Disk capacity in PAM pages (PHP: physical half pages)	var(*LIST).NUM-OF-PHP	S	<number-of-php>	INF=SYS
Amount of information for the operator about new disk allocations for tasks If "(D)" is appended, the data has been taken from the disk defaults	var(*LIST).OPER-CONTR	S	" *ALL *EXCL *NO *SHARE *STD	INF=PAR
Use of the PAM key allowed	var(*LIST).PAM-KEY	S	" NO YES	INF=SYS
Disk monitoring mode	var(*LIST).PHASE	S	" *IN-USE *MOUNT *ONLINE *PREMOUNT RAID1-SUB RAID5-SPARE	INF=STD
Recording mode last used for the disk	var(*LIST).REC-MODE	S	" *DRV *SRV	INF=SYS
Actual disk allocation mode	var(*LIST).SVL-ALLOC	S	" *EXCL *SHARE	INF=SYS
Disk operating mode for the system	var(*LIST).SYS-ALLOC	S	" *ALL *EXCL EXCL(A) *SHARE SHARE(A)	INF=PAR
System ID	var(*LIST).SYSID(*LIST)	S	" <sys-id>	INF=SYS
Time of last allocation	var(*LIST).TIME	S	" <hh:mm:ss>	INF=SYS
TSN of the task	var(*LIST).TSN(*LIST)	S	" <tsn>,<tsn>,...	INF=TASK

(Part 2 of 3)

Output information	Name of the S variable	T	Contents	Condition
Device type of the volume from which the information is retrieved	var(*LIST).TYPE	S	" <dev-type>	INF=PAR
Device unit mnemonic	var(*LIST).UNIT	S	" <mnemo-name>	INF=TASK/ STD/SYS
Usage mode in which the mounted volume is to be operated	var(*LIST).USE	S	" *DMS *SPECIAL *WORK	INF=STD
Type of disk allocation request the user is allowed to make. If "(D)" is appended, the data has been taken from the disk defaults	var(*LIST).USER-ALLOC	S	" *ALL *EXCL *NO *SHARE	INF=PAR
VSN of the private disk	var(*LIST).VOL	S	" <vsn>	
Mounted disk type	var(*LIST).VOL-ALLOC	S	" *CANCEL *EXCL *FREE *PAGING *PUBLIC *SHARE	INF=STD
System ID of the system currently holding the VTOC lock for the disk	var(*LIST).VTOC-SYS	S	" <vtoc-sys>	INF=SYS

(Part 3 of 3)

SHOW-DSSM-INFORMATION

Show information on DSSM

Description status:	DSSM V4.3B
Functional area:	Subsystem management
Domain:	SYSTEM-MANAGEMENT
Privileges:	SUBSYSTEM-MANAGEMENT

Function

The SHOW-DSSM-INFORMATION command outputs information on the Dynamic Subsystem Management (DSSM). The following information is provided for diagnostic purposes:

- DSSM version
- Memory class of the DSSM task (class-4 or class-5 memory)
- Status of DSSM logging
- Path name of the object module library from which DSSM was loaded at the last startup
- Path name of the REP file which was used at the last startup to load DSSM
- Path name of the subsystem catalog which DSSM used to initialize the system

Format

SHOW-DSSM-INFORMATION

Return codes

(SC2)	SC1	Maincode	Meaning
	0	CMD0001	Without errors
	1	ESM0431	Privilege errors

Example

```
/show-dssm-info
```

```
----- FROM PARAMETER FILE -----  
-  
DSSM VERSION           : 043  
CREATION MEMORY CLASS : CL5  
DSSM LOGGING           : OFF  
-----  
                        FILES  
-----  
-  
DSSM LIBRARY           : :SBZ8:$TS0S.SYSLNK.DSSM.043  
DSSM REPFIL           : :SBZ8:$TS0S.SYSREP.DSSM.043  
INITIAL DSSM CATALOG  : :SBZ8:$TS0S.SYS.SSD.CAT.X
```

