

WRITE-FILE

File	204
Op-Sys	OS/390, VSE/ESA, BS2000/OSD
Statement	PROCESS
Task	This view makes it possible to write data to an operating system file. Support of library systems such as CA-Panvalet, CA-Librarian, LMS is provided. See also WRITE-FILE Programming Notes at the bottom of this view description.

Common Fields for all Operating Systems

Dictionary Field Name	F/L	Mu	DE	Remarks
ERROR-CODE	N3			
ERROR-TEXT	A58			
NODE	N5		D	
NODE-NAME	A16		D	
SYSTEM-MESSAGE-CODE	A10			
DISP	A3		D	
DSNAME	A54		D	Required.
FUNCTION	A8		D	
IDENTIFIER	A8		D	Required for multiple parallel WRITE-FILE calls.
RECORD	A253		D	
RECORD-LENGTH	N5		D	
SEGMENT-LENGTH	N3		D	
SEGMENT-NUMBER	N5		D	
UPDATE-INPLACE	A3		D	

Additional Fields Supported for OS/390

Dictionary Field Name	F/L	Mu	DE	Remarks
BLKSIZE	B2		D	Required for tape datasets with no standard label.
BLOCK-TTR	B3		D	
KEY	A253		D	
LRECL	B2		D	Required for tape datasets with no standard label.
MEMBER	A10		D	
PRODUCT-OPTIONS	A80		D	When PRODUCT=L.
PASSWORD	A8		D	
PRODUCT	A1		D	
RECFM	A2		D	Required for tape datasets with no standard label.
REPLACE	A3		D	
TAPE-UNLOAD	A3		D	
USER-DATA	A120		D	When FUNCTION=CLOSE.
USER-DATA-LENGTH	N3		D	When FUNCTION=CLOSE.
VOLSER	A6		D	Required only if dataset is not cataloged.

Additional Fields Supported for VSE/ESA

Dictionary Field Name	F/L	Mu	DE	Remarks
BLKSIZE	B2		D	
INLINE-DATA	A3		D	
LRECL	B2		D	Required if RECFM=F.
LIBRARY	A8		D	
MEMBER	A10		D	
MEMBER-TYPE	A8		D	
MSHP	A3		D	
RECFM	A2		D	Default is F.
REPLACE	A3		D	
SUB-LIBRARY	A8		D	
VOLSER	A6		D	Required.
VSAM-CATALOG	A8		D	

Additional Fields Supported for BS2000/OSD

Dictionary Field Name	F/L	Mu	DE	Remarks
SYSTEM-CODE	B2			
DUPLICATE-KEY	A3		D	ISAM only.
ELEMENT	A64		D	
ELEMENT-PASSWORD	A8		D	
ELEMENT-RECORD-TYPE	N3		D	
ELEMENT-TYPE	A8		D	
ELEMENT-USER-DATE	A14		D	
ELEMENT-USER-TIME	A8		D	
ELEMENT-VERSION	A24		D	
EXPIRATION-DATE	A5		D	
EXPIRATION-DATX	D		D	
KEY	A253		D	
LMS-RESET-FLAG	A3			
PAD	N2		D	ISAM only.
PASSWORD	A8		D	
PRODUCT	A1		D	
RECORD-NUMBER	N9		D	
TAPE-UNLOAD	A3		D	

Relevant Error Codes

Code	Text	OS/390	VSE/ESA	BS2000/OSD
530	Access denied by Security Facility.			X
531	Password missing or incorrect.			X
551	Member not specified.			X
553	I-O error in directory.	X		
556	File is in use.	X		X
557	File held by linkage editor.	X		
558	No space in directory.	X		
559	Stow error.	X		
560	Segment length greater than 253.	X	X	X
565	Syntax error in dataset name.			X
590	End-of-data reached during UPDATE-INPLACE.	X		X
591	Member not found for UPDATE-INPLACE.	X		
592	Record length error for variable UPDATE-INPLACE.	X		X
673	Access error due to FILETABLE=STATIC.		X	

674	VTOC error reading format-3 labels.		X	
675	:1: not supported.		X	
676	Not first volume of multi-volume file.		X	
678	Member already exists.	X	X	X
692	You are not permitted to access member.			X
697	LIBRARY/SUB-LIBRARY not found.		X	
698	Internal Librarian error.		X	
699	Not enough main storage available.			X
700	Invalid value specified (DSORG/RECFM/TYPE).			X
701	DSNAME missing.			X
722	Requested dataset not found.			X
733	User ID does not exist.			X
737	No more index space for inserting record.			X
799	Entire System Server internal error.			X
854	Permanent I/O error.			X
856	Operator unable to mount volume.			X
860	Member is under MSHP control/bypass.		X	
861	Member contains SYSIPT data.		X	
870	RECORD field not in search buffer.	X	X	X
871	MEMBER not specified.	X	X	
872	Record format not supported.	X	X	X
873	Record length missing.	X	X	X
874	RECORD-LENGTH > LRECL.	X	X	X
875	Position of data field > RECORD-LENGTH.	X	X	X
877	VSAM (SHOWCAT) processing error		X	
881	Error occurred while opening file.			X
882	Error occurred while closing file.			X
883	Dataset is full.	X	X	X
889	Permanent I/O error while writing dataset.	X		X
899	Permanent I/O error while reading dataset.	X		X
901	Dynamic allocation failed.	X	X	
981	Invalid value specified (BLKCTRL/BLKSIZE/LRECL).			X
982	Error during use of ISAM key.			X
983	UPDATE-INPLACE not supported by LMS.			X
985	Access to tape file not allowed.			X
991	Unknown product.	X		X

993	Open error.	X		X
997	File not PDS/Sequential.	X		
998	Member not found.	X	X	X

Field Descriptions

Field Name	Type/Length	Operating System
BLKSIZE	(B2)	OS/390, VSE/ESA

Block size for dataset.

OS/390:	Required only for tape datasets that have no standard label.
----------------	--------------------------------------------------------------

Field Name	Type/Length	Operating System
BLOCK-TTR	(B3)	OS/390

Track value at which to start writing.

Field Name	Type/Length	Operating System
DISP	(A3)	OS/390, VSE/ESA, BS2000/OSD

Disposition of dataset or file. Possible values:

OS/390

Value	Explanation
MOD	Add records to the end of the sequential dataset.
OLD	Overwrite existing dataset.

BS2000/OSD

Value	Explanation
MOD	Add records to the end of the sequential file.
NEW	Create new file.
STR	Only for ISAM files: replace or add records identified by value in KEY.

VSE/ESA ((VSAM (SAM ESDS) only)

Value	Explanation
MOD	Add records at the end of the dataset or file.
NEW	Overwrite existing file contents.
OLD	Same as MOD.

Field Name	Type/Length	Operating System
DSNAME	(A54)	OS/390, VSE/ESA, BS2000/OSD

Fully qualified dataset name. For BS2000/OSD, fully qualified file name. Specify &TEMP.name here to select a temporary dataset or file as specified in the Entire System Server startup parameter module. These temporary datasets / files are freed when you log off (not supported in BS2000/OSD).

Field Name	Type/Length	Operating System
DUPLICATE-KEY	(A3)	BS2000/OSD

For ISAM only:

Value	Explanation
NO	Default. No duplicate keys allowed.
YES	Duplicate keys allowed.

Field Name	Type/Length	Operating System
ELEMENT	(A64)	BS2000/OSD

Name of the LMS element to be written.

Field Name	Type/Length	Operating System
ELEMENT-PASSWORD	(A8)	BS2000/OSD

Password for protected LMS element (LMS V2 or above).

Field Name	Type/Length	Operating System
ELEMENT-RECORD-TYPE	(N3)	BS2000/OSD

Record type (LMS only).

Field Name	Type/Length	Operating System
ELEMENT-TYPE	(A8)	BS2000/OSD

Type of LMS element to be written.
Types C and L are currently not supported.

Field Name	Type/Length	Operating System
ELEMENT-USER-DATE	(A14)	BS2000/OSD

Is written as element information into LMS library. Format: YYYY-MM-DDaaaa, where aaaa can be any 4-character string.

Field Name	Type/Length	Operating System
ELEMENT-USER-TIME	(A8)	BS2000/OSD

Is written as element information into LMS library. Format: HH:MM:SS.

Field Name	Type/Length	Operating System
ELEMENT-VERSION	(A24)	BS2000/OSD

Version of LMS element to be written.

Field Name	Type/Length	Operating System
EXPIRATION-DATE	(A5)	BS2000/OSD

The file's new expiration date in format YYDDDD.

Field Name	Type/Length	Operating System
EXPIRATION-DATX	(D)	BS2000/OSD

Expiration date in Natural format.

Field Name	Type/Length	Operating System
FUNCTION	(A8)	OS/390, VSE/ESA, BS2000/OSD

Function to be performed. Possible options:

Option	Explanation
<blank>	Default. Write a record.
CLOSE	All records have been written. Specify this function for the last WRITE-FILE request.
OPEN	(OS/390) Open a new file. This OPEN can be omitted for simple WRITE-FILE loops, but is recommended for complex, nested WRITE-FILE programs (for example, writing in parallel to several files).

Field Name	Type/Length	Operating System
IDENTIFIER	(A8)	OS/390, VSE/ESA, BS2000/OSD

Required if multiple WRITE-FILE calls are executing in parallel. All requests for the same file must have the same identifier.

Field Name	Type/Length	Operating System
INLINE-DATA	(A3)	VSE/ESA

For cataloged procedures: (see LIBR,DATA=YES). Possible values:

Value	Explanation
NO	Default. Input contains no SYSIPT data.
OFF	SYSIPT flag for existing member switched off before member is saved.
YES	Input contains SYSIPT data.

Field Name	Type/Length	Operating System
KEY	(A253)	OS/390, BS2000/OSD

ISAM/VSAM key.

Field Name	Type/Length	Operating System
LIBRARY	(A8)	VSE/ESA

Name of library.

Field Name	Type/Length	Operating System
LMS-RESET-FLAG	(A3)	BS20000/OSD

If YES is specified in this field with FUNCTION=CLOSE, all previous writes for this LMS element are reset.

Field Name	Type/Length	Operating System
LRECL	(B2)	OS/390, VSE/ESA

Logical record length. Default length is 80.

- OS/390: Required only for tape datasets that have no standard label.
- VSE/ESA: Required if RECFM=F.

Field Name	Type/Length	Operating System
MEMBER	(A10)	OS/390, VSE/ESA

Member name.

Field Name	Type/Length	Operating System
MEMBER-TYPE	(A8)	VSE/ESA

Member type.

Field Name	Type/Length	Operating System
MSHP	(A3)	VSE/ESA

Indicate MSHP bypass required when saving members. Possible values:

Value	Explanation
NO	No MSHP bypass required.
YES	MSHP bypass to be performed.

Field Name	Type/Length	Operating System
PAD	(N2)	BS2000/OSD

Only for ISAM: padding factor (default is 15).

Field Name	Type/Length	Operating System
PASSWORD	(A8)	OS/390, BS2000/OSD

Password for protected dataset or file.

Field Name	Type/Length	Operating System
PRODUCT	(A1)	OS/390, BS2000/OSD

Access method used. Possible options:

Option	Explanation
L	CA-Librarian
M	LMS (BS2000/OSD)
P	CA-Panvalet

Field Name	Type/Length	Operating System
PRODUCT-OPTIONS	(A80)	OS/390

Options for CA-Librarian access method (when PRODUCT=L).

Field Name	Type/Length	Operating System
RECFM	(A2)	OS/390, VSE/ESA

Record format of the dataset.

- OS/390: Required only for tape datasets that have no standard label.
- VSE/ESA: Default is **F**.

Field Name	Type/Length	Operating System
RECORD	(A253)	OS/390, VSE/ESA, BS2000/OSD

Record to be written.

Field Name	Type/Length	Operating System
RECORD-LENGTH	(N5)	OS/390, VSE/ESA, BS2000/OSD

Length of record (used only if record format is variable). Can be omitted in BS2000/OSD.

Field Name	Type/Length	Operating System
RECORD-NUMBER	(N9)	BS2000/OSD

Number of record to be written.

Field Name	Type/Length	Operating System
REPLACE	(A3)	OS/390, VSE/ESA

Possible options:

Option	Explanation
NO	Add module. If it already exists, issue error code.
REP	Replace module. If it does not already exist, issue error code.
YES	Default. Add module, replace module of the same name, if it exists.

Field Name	Type/Length	Operating System
SEGMENT-LENGTH	(N3)	OS/390, VSE/ESA, BS2000/OSD

Length of segment.

Field Name	Type/Length	Operating System
SEGMENT-NUMBER	(N5)	OS/390, VSE/ESA, BS2000/OSD

Number of segment. If SEGMENT-NUMBER=1, a new logical record is started. If SEGMENT-NUMBER > 1, the segment is a continuation.

Field Name	Type/Length	Operating System
SUB-LIBRARY	(A8)	VSE/ESA

Name of sublibrary.

Field Name	Type/Length	Operating System
TAPE-UNLOAD	(A3)	OS/390, BS2000/OSD

Unload TAPE during CLOSE:

- 'YES' - unload tape
- 'NO' - tape is rewound and positioned to beginning of tape (default)

Field Name	Type/Length	Operating System
UPDATE-INPLACE	(A3)	OS/390, VSE/ESA, BS2000/OSD

Valid only for PDS members. It is ignored for PDSE members; these will be always be accessed as if UPDATE-IN-PLACE was set to "NO". Possible options:

Option	Explanation
YES	Perform UPDATE-INPLACE function.

Field Name	Type/Length	Operating System
USER-DATA	(A120)	OS/390

User data for PDS member, for example, save date, size. Relevant when FUNCTION=CLOSE.

Field Name	Type/Length	Operating System
USER-DATA-LENGTH	(N3)	OS/390

Length of data for PDS member. Relevant when FUNCTION=CLOSE.

Field Name	Type/Length	Operating System
VOLSER	(A6)	OS/390, VSE/ESA

Volume serial number (required if dataset is not cataloged).

Field Name	Type/Length	Operating System
VSAM-CATALOG	(A8)	VSE/ESA

Name of the VSAM catalog where the library is kept.

Write-File Programming Notes

WRITE-FILE is an UPDATE view, i.e., data is transmitted from the Natural program (client side) to ESY (server side).

The Entire System Server view WRITE-FILE returns codes and messages which describe whether the requested operation has been executed successfully or not. The DEFINE DATA section of the Natural program should only contain the fields shown below:

160	1	WRITE-FILE VIEW OF WRITE-FILE170	2	ERROR-CODE180	2	ERROR-TEXT190	2	SYSTEM-MESSAGE-CODE200	2	SYSTEM-CODE
-----	---	----------------------------------	---	---------------	---	---------------	---	------------------------	---	-------------

These fields in DEFINE DATA are the fields returned from the WRITE-FILE view in Entire System Server to the calling Natural program. It is not necessary to define any other fields in the DDM; accessing any fields other than those above may lead to unpredictable results.

WRITE-FILE and RELEASE Unused Space

```
PROCESS FILE-ALLOCATE using DSNAME = xxx, RLSE=YES...PROCESS WRITE-FILE using DSNAME = xxx, record = yyyPROCESS WRITE-FILE using DSNAME = xxx, function=close
```

After the last PROCESS statement, unused space will be released; only one FILE-ALLOCATION and WRITE-FILE relationship with RLSE is possible at any one time.