Entire Operations

	Version 4.1.1	Utilities

software AG

This document applies to Entire Operations Version 4.1.1 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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Utility Documentation - Overview

This documentation covers the following topics:

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Invoking the Import/Export Utility	Deals with the prerequisites, describes how to access the Import/Export Utility online and outlines the menu options.
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Objects	Lists abbreviations, reserved keywords, import file defaults, common field names and sub-objects.
Object Descriptions	Describes the miscellaneous objects and provides an example.
Example	Provides the exported E60-FLOW network as an example.
Export to Entire Operations Viewer (v1.x.x only)	To be used to export to Entire Operations Viewer (version 1.x.x) only. (Later Entire Operations Viewer versions use "standard" Entire Operations export files as input.)

Import / Export Utility - Introduction

Import / Export Utility - Introduction

The Import/Export Utility can be used for various purposes:

- Migration between different Natural Operations / Entire Operations versions.
- Mass updates
- Migration from other production control products or from user applications

 **Warning:**
Do not use this utility to migrate to a different platform.

The Import / Export Utility **cannot** be used to migrate Entire Operations objects from one platform to a different one, because field formats are incompatible.

Entire Operations uses different sets of internal fields for the supported platforms OS/390, BS2000/OSD, VSE/ESA, UNIX and Windows. As a result, the external format is incompatible from one platform to another. If you edit the external format to achieve transportability to a different platform, you do this **at your own risk!** It would therefore be advisable to contact Entire Operations support at Software AG for assistance.

What is the Import/Export Utility?

This section covers the following topics:

- Explanation and Example
- Export File Format

Explanation and Example

The Import/Export Utility is an application that can:

- transform the records from the Entire Operations (NOP) database into an external format, or
- analyse an external format and transform it into the Adabas format.

The following is an example representation of Entire Operations objects within the database.

Job	Job-Type	Execution-Node	...
JOB-1	MAC	148	...
JOB-2	JOB	31	...

The same Entire Operations objects transformed into the external format would be as follows:

```
OBJECT=JOB
JOB=JOB-1
JOB-TYPE=MAC
EXECUTION-NODE=148
...
END-OBJECT
OBJECT=JOB
JOB=JOB-2
JOB-TYPE=JOB
EXECUTION-NODE=31
...
END-OBJECT
```

Export File Format

The export file format conforms to the following specifications:

- A "plain" file format:
  - Natural: Natural Source format
  - UNIX, Windows: ASCII text files
- The maximum record size does not exceed 240 (limited by Natural).
- Accessibility of the above file types by Entire System Server and/or Entire Connection.
- Simple external representation of all data types.
- The export file format does not contain any non-printable character or field in internal format because of EBCDIC - ASCII conversion.
- Keywords do not consist of any internal abbreviations (e.g. Adabas short names), since they may change from one version to another.
- PC or UNIX import and export.

Invoking the Import/Export Utility

This section covers the following topics:

- Prerequisites
- Accessing the Import/Export Utility Online
- Menu Options

Prerequisites

The name of the library depends on the NOP version: for NOP13x it is SYSNOPIE (export only), for NOP142 or above, it is SYSEOR. Make certain that the SYSNOPIE library is located in the FNAT of the system file for your NOP13x or NOP141 version. If necessary, use the SYSMAIN utility to locate it there.

Accessing the Import/Export Utility Online

To invoke the Import/Export Utility online

- Select the option Import/Export from the Entire Operations Main Menu.

  For batch use, see the subsection Using the Import / Export Utility in Batch Mode.

  The Import/Export Main Menu appears:

```
20.11.01       *** Entire Operations Import/Export Utility ***       17:18:09
                                   Main Menu                 Userid GHH
--------------------------------------------------------------------------------
Option ==> >


           1  Import Objects
           2  Export Objects
           3  Export whole environment
           4  Export to EOR Viewer (v1.x.x only)









Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                  End
```

  You can select one of the options by entering the desired option number in the Option field and pressing Enter.

Menu Options

- **Import Objects**
  Enables you to import definitions from a file which contains data which meet the syntax of the external format (see also the subsection Syntax) to your EOR (NOP) database. See Importing Objects.
- **Export Objects**
  Exports selected EOR (NOP) definitions from your database to a file. See Exporting Objects.
- **Export Whole Environment**
  Exports all definition of Jobs, Networks, Nodes, a.s.o. from the EOR (NOP) database to a file. See Exporting the Whole Environment.
- **Export to EOR Viewer (v1.x.x only)**
  Exports a selected network to Entire Operations Viewer (version 1.x.x). (Later Entire Operations Viewer versions use "standard" Entire Operations export files as input.). You must have Entire Connection and the Entire Operations Viewer to use this feature.
  See Export to the Entire Operations Viewer (v1.x.x only) for a description of how to invoke this feature. For more detailed information, see the **Entire Operations Viewer online help**.

Importing Objects

This section covers the following topics:

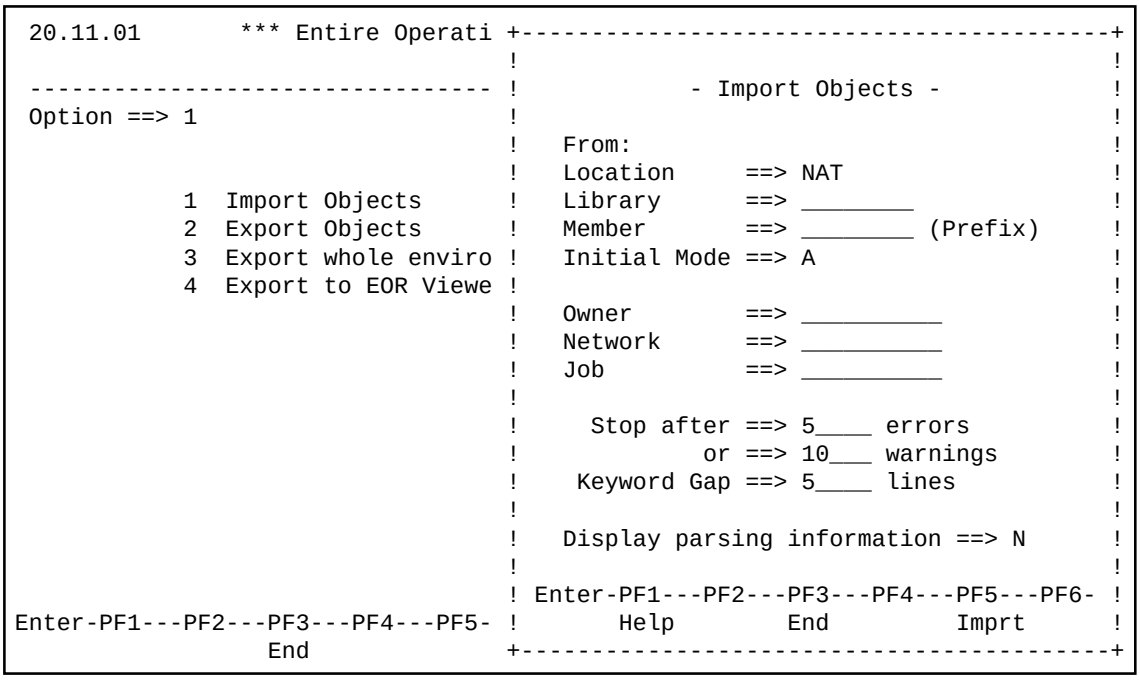
- Invoking the Import Objects Window
- Field Descriptions: Import Objects
- Error Handling during Import
- Error Severity
- Causes of Errors
- Import Information
- Additional Remarks

Invoking the Import Objects Window

To import objects

1. Enter **1** in the Option field of the Import/Export Main Menu.

   The Import Objects window opens:



   The values you enter in this window determine the conditions for the importing process.

Field Descriptions: Import Objects

Field	Description	
Location	The location of the file which should be imported. Possible values:	
	NAT	Import from Natural text member. See also fields Library and Member.
	PC	Import from a PC file. Entire Connection must be installed and the desired PC file must be assigned to work file 7.
	WRK	Import from work file. Work file 1 is used.
Library	**Only for Location NAT**. Enter the name of the library, where the Natural members reside. Leave this field blank, if the location is not NAT.	
Member	**Only for Location NAT**. Enter the prefix of the Natural member you want to import. Leave this field blank, if the location is not NAT.	
Initial Mode	Enter the mode which should be used as default mode when starting the import process. The mode can change during import, if the file contains mode commands. Possible values:	
	C	**Check** the file.
	A	**Add** the definitions from the file to the NOP database.
	U	**Update** the definitions in the database with the definitions within the file.
	D	**Delete** the object specified in the file from the database.
Owner Network Job	These fields can be used to define a range of objects to be imported from the import file.	
	Notes:	
	1. If you use a wildcard *, no selection is made, but a range is specified. For example, enter TEST* to specify the range TEST through TESTZZZZZZ. 2. A selection on a lower level is accepted only if exactly one object is selected on the higher level (i.e. if you have not already used a wildcard). 3. Selections cannot be verified against the target data base, since they usually do not exist there. If nothing can be imported, check your selections. 4. The selection is valid for all objects in the import file which contain **Owner**, **Network** and **Job** within their key fields.	
Stop after ... errors	Enter number of errors which can occur before terminating the import process. Valid range is **1** through **99999**. Default is **5**.	
or ... warnings	Enter number of warnings which can occur before terminating the import process. Valid range is **1** through **99999**. Default is **10**.	
Keyword Gap	Enter the number of lines, within which the next keyword is expected.	
Display parsing information	If you enter **Y** here, a window appears during the import process, which informs you about the current object type, name of object, parsed keyword, value, format, length and line. If you enter **N**, the window displays, simply: **Please wait**. The import process is much faster with **N**.	

All values entered are checked for their validity. If a Natural member is specified as import file, file existence is also checked.

2. Press PF3 (End) to cancel the import.
3. Press PF5 (Imprt) to perform the import.

Error Handling during Import

If at least one error occurs within the object, the whole object is rejected. Errors and warnings are counted for single objects during the import. If the error or warning limit is reached, the whole import is cancelled.

Whenever an object is rejected, it is saved with prefix ERR- and an ascending number (ERR-0001, ERR-0002, ...). These members contain the rejected object and the errors which caused the rejection. The error text is written directly above the line which contains the error.

Note:
You have to specify a NAT library name for storing these members. Otherwise, errors are only protocolled in the job log.

In addition, a header is written to the member informing you about the:

- Number of errors or warnings in this object;
- User who started the import;
- Date and time when the object was rejected.

You can edit these error members manually and reimport them again.

Error Severity

There are 3 levels of error severity:

- **Warnings**
  Warnings are displayed, but do not cause the rejection of the object.
- **Errors**
  Errors cause rejection of the object but do not cause termination of the import. Import continues with the next object within the file, if the error/warning limit has not been reached.
- **Fatal errors**
  Fatal errors are serious problems which cannot be ignored and cause immediate termination of the import. A fatal error occurs, for example, when it is impossible for the parser to continue at a new point.

Causes of Errors

- Syntax Errors
- Logical Errors

If errors or warnings occur during import, some of the possible causes could be, for example:

Syntax Errors

- A value has invalid format.
- A character in a numeric field.
- A keyword was invalid or non existing.
- The value of a field exceeds valid length.
- A non-existing object type was specified.

These errors should not occur when importing an **unchanged** exported member.
If you **edit** the exported member online or **create** a new member manually, these errors could occur.

Logical Errors

- Value has correct syntax but does not meet the requirements of Entire Operations.
- A Job type is specified, which is not allowed in Entire Operations.
- The field has a special range (e.g. only **Y** or **N**).
- Adding an object to Entire Operations which already exists.
- Deleting a non-existing object.

Import Information

During the import, a window opens which informs you about the imported objects.

This window displays number, name and type of the imported object, the mode which was used for this object, the amount of lines the object had, the time needed to import the object, the status (accepted or failed), name of error member (if the object was rejected).

Additionally the total elapsed time, total number of lines, total number of errors/warnings occurred is shown in the window. This window shows only least information about the last ten processed objects. The screen scrolls automatically forward.

Do not press a key while the import is running. When the import is finished, a message appears which informs you whether or not the import ended successfully.

The import ended successfully, if all objects were processed and the error/warning limit was not exceeded. If this was not the case, the import was cancelled due to too many errors or warnings.

Additional Remarks

- For end-of-job checks ADD and UPDATE mode are the same. Only when an end-of-job check with same data already exists is a warning issued.
- When updating periodic groups or multiple fields, all fields which build the periodic identifier of the new group are compared with all entries of the group in the database. If no entry with same identifier exists, the new group is added, otherwise the existing group is modified.
- No value field should contain any keyword followed by an equal sign (<**keyword**>=) or a periodic group identifier. This would cause an error because the parser would assume that the value is a keyword. For example:

  ```
  OBJECT=JOB-MASTER
  JOB=NETWORK=
  ....
  ```

  would cause an error because NETWORK is a keyword.

- The parser also detects, if a field occurred more than once within a periodic group. For example:

  ```
  ...
  PG
  PGFIELD-XY=ONCE   PG-FIELD-XY=TWICE
  ```


would cause an error because periodic group field PGFIELD-XY occurred twice.

- The fields MOD-USER and MOD-TIME are always accepted but replaced with MOD-USER = IMPORT and MOD-TIME =<time when import was performed>.
- The keyword MODE can occur anywhere in the file.
- The keyword OBJECT must be immediately followed by an equal sign = and the name of the object type.
- No record within the file should exceed 240 bytes.
- Numeric values are accepted with up to 2 decimals. Using more digits is no error. For example:

```
....
NUM=1234.5678
....
```

returns 1234.56 for field NUM.

- For all periodic groups or multiple fields the array limits of SYSEOR must be respected.
- If a network is to be imported with MODE=ADD and the owner of this network is not yet included in the GRANT field, he/she is automatically added to the authorized persons.
- The parser always registers, if a keyword, which does not belong to a multiple field or periodic group, occurred more than once within the object. If so, it is an error.
- Deleting networks or jobs might take a while because deletion is performed by the Entire Operations Monitor.
- If you are importing JCL without specifying a member name, a new member name is generated. The name has the prefix JCL- and a unique number as suffix (e.g.: JCL-0011). (Import mode DELETE for object type JCL is not currently implemented.)
- During the import process every attempt to import an object is logged in the SYSEOR-Log. This can be analyzed with the Entire Operations online system.

Warning:
You should use the import function with care. It can delete definitions from or add definitions to your database.

Export Objects

This section covers the following topics:

- Invoking the Export Objects Screen
- Field Description: Export Objects Window
- Key Fields of the Objects
- Using Wildcards
- During Export

Invoking the Export Objects Screen

To export objects

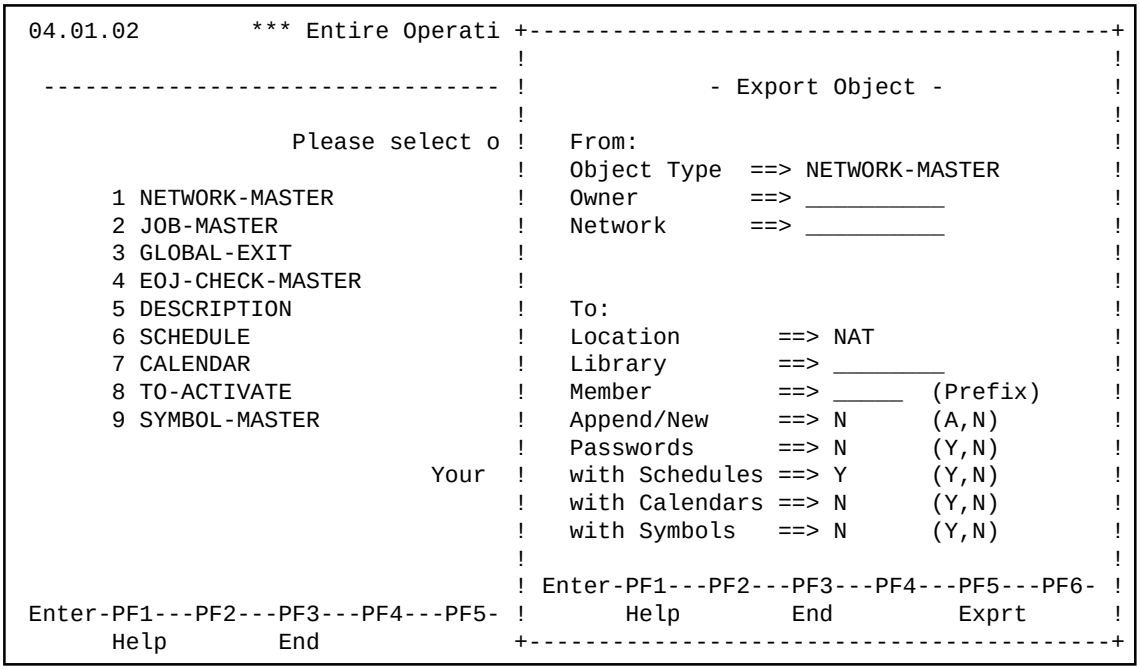
1. Enter **2** in the Option field of the Import/Export Main Menu.

   The Export Objects screen appears:

```
04.01.02       *** Entire Operations Import/Export Utility ***       14:58:40
                                 Export Objects                Userid SN
 ------------------------------------------------------------------------------

                   Please select object type to be exported:

      1 NETWORK-MASTER                  10 MAILBOX-DEFINITION
      2 JOB-MASTER                      11 MAILBOX-ENTRY
      3 GLOBAL-EXIT                     12 NODE-DEFINITION
      4 EOJ-CHECK-MASTER                13 RESOURCE-DEFINITION
      5 DESCRIPTION                     14 USER-DEFINITION
      6 SCHEDULE                        15 DEFAULTS
      7 CALENDAR                        16 OWNER
      8 TO-ACTIVATE                     17 CONDITION-ACTIVE
      9 SYMBOL-MASTER                   18 RESOURCE-PREREQ

                             Your Selection ===> __



Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        End
```

2. Select the desired object type by entering the appropriate number in the field after **Your Selection ===>**.
3. Press Enter.

   The Export Objects window opens on the right:



Field Description: Export Objects Window

Field	Description		
From:			
Object type	An output field that displays the object type specified in the previous screen.		
...	The remaining From fields differ according to the object type selected. For further information, see the subsection Key Fields of the Objects.		
To:			
Location	The location of the file to be created. Enter one of the following values:		
	NAT	Export to Natural text member. See also fields Library and Member.	
	PC	Export to a PC file. Entire Connection must be installed and the desired PC file must be assigned to work file 7.	
	WRK	Export to Natural work file. Work file 1 has to be defined.	
		Notes:	1. The work file format must be the same as for Natural INPL utility. 2. The work file will be written using variable record format.
Library	**Only for Location NAT**. Enter the name of the library, where the Natural member should be created. Leave this field blank, if the Location is not NAT.		
Member	**Only for Location NAT**. Enter the prefix (max. 5 digits) of the Natural member you want to create or append to. Entering the prefix PREF creates the members (PREF--001, PREF--002, PREF--003, ...) and so on, depending on the amount of data. Leave this field blank, if Location is not NAT.		

Field	Description	
Append/New	**Only for Location NAT**. Enter one of the following values:	
	A	Append the objects to be exported to an already existing member. A member with the specified prefix must exist.
	N	Create new members. No member with given prefix should exist in the library.
Export Passwords	Only for object types which contain passwords (e.g. password of a protected data set). Enter one of the following values:	
	Y	Export passwords.
	N	Do not export passwords.
with Schedules	If you also export the schedules the imported networks will get the same schedule definitions as the exported networks. (They can be modified after the import.) Enter one of the following values (Default: **Y**):	
	Y	Export schedules.
	N	Do not export schedules.
with Calendars	If you export object(s) with calendars all referenced calendars will be exported after objects, each calendar once. Enter one of the following values (Default: **N**):	
	Y	Export calendars.
	N	Do not export calendars.
with Symbols	If you export object(s) with symbols all referenced symbol tables will be exported after objects, each symbol table once. Enter one of the following values (Default: **N**):	
	Y	Export symbols.
	N	Do not export symbols.

The following fields depend on the object type you have selected before.

Usually they build the super descriptor for the object type.

Key Fields of the Objects

These fields are required for any object and have to be filled in for exporting. If you are going to import from a source location which was previously written by an export process of Entire Operations, these fields have been filled in correctly.

Object Type	Key Field 1	Key Field 2	Key Field 3	Remarks
OWNER	Owner			This exports all objects which belong to a specific owner.
NETWORK-MASTER	Owner	Network		The Export functions 'Network' and 'Job' will now export Symbol Tables and Calendars defined in respective objects. These additional objects will follow existing export data in the output file. Each Symbol Table or Calendar will be exported only once.
JOB-MASTER	Owner	Network	Job	The Export functions 'Network' and 'Job' will now export Symbol Tables and Calendars defined in respective objects. These additional objects will follow existing export data in the output file. Each Symbol Table or Calendar will be exported only once.
JCL-MASTER	Owner	Network	Job	
EOJ-CHECK-MASTER	Owner	Network	Job	
DESCRIPTION	Owner	Network	Job	'-' for Networks
SCHEDULE	Owner	Schedule		Schedule= Network
CALENDAR	Owner	Calendar		
TO-ACTIVATE	Owner	Network	Job	Job is optional.
SYMBOL-MASTER	Owner	Symbol table		
MAILBOX-DEFINITION	Mailbox			
MAILBOX-ENTRY	Mailbox			
NODE-DEFINITION	Node			
RESOURCE-DEFINITION	Resource			
RESOURCE-PREREQ	Owner	Network	Job	
USER-DEFINITION	Userid			
DEFAULTS	Library			
CONDITION-ACTIVE	Owner	Network	Condition	The export will be performed for all active runs of the condition.
GLOBAL-EXIT				All global exits will be exported.

Using Wildcards

Depending on the object type you have selected, you have to fill in the key fields (see above).

For the fields Owner, Network and Job, if you are using the export function in **online mode**: you can enter * in one of these fields and press Enter to open a window from which you can select an object from a supplied list.

For all other fields in **online** mode and for all fields in **batch** mode:

You can use an asterisk * as wildcard to delimit the range of objects to be exported. For example, if you enter WILD* in the Job field of the object type JOB-MASTER and press Enter, the jobs WILD, WILDxxxx, WILD-1, and so on are exported. If you enter * in all selection fields, all objects of this object type are exported.

For some object types some descriptors are optional. If you do not wish to use an optional field, enter a hyphen (-) to ignore it. For example: a job or a network can have a DESCRIPTION.

To export the DESCRIPTION of a network only

1. Enter Owner and Network name and enter a hyphen (-) for Job name.

   All values entered are checked for their validity.

2. Press PF3 to cancel the export.
3. Press PF5 to perform the export.

   Note:
   All objects that are related to the selected objects (see the subsection Hierarchical Order of Objects) are also exported.

During Export

During the export, a window opens which informs you about the currently exported object.

This window displays name and type of the exported object, the number of lines the object has and the total number of lines written during the export run.

Do not press a key while the export is running. When it is finished, a message appears on the screen which informs you about the way the export ended. This information is also written to the export member, so that you can check whether or not all specified objects were written. For some reasons, the export process could terminate abnormally. This could happen, for example, if you attempt to write more than **999** members.

Exporting the Whole Environment

This section covers the following topics:

- Invoking the Export Whole Environment Window
- Field Descriptions

Invoking the Export Whole Environment Window

To export the whole environment

- Enter **3** in the Option field of the Import/Export Main Menu.

  The Export Whole Environment window opens:

```
 20.11.01       *** Entire Operations Import/Export Utility ***       16:39:25
                                  Main Menu                 Userid GHH
 ------------------------------------------------------------------------------
 Option ==> 3


            1  Import Objects
            2  Export Objects
            3  Export wh +-----------------------------------------+
                         !                                         !
                         !       - Export whole environment -      !
                         !                                         !
                         !   To:                                   !
                         !   Location       ==> NAT                !
                         !   Library        ==> ________           !
                         !   Member         ==> _____  (Prefix)    !
                         !   Append/New     ==> N      (A,N)       !
                         !   Passwords      ==> N      (Y,N)       !
                         !   with Schedules ==> Y      (Y,N)       !
                         ! Enter-PF1---PF2---PF3---PF4---PF5---PF6- !
                         !       Help        End         Exprt     !
 Enter-PF1---PF2---PF3--- +-----------------------------------------+1--PF12---
                   End
```

Field Descriptions

See the subsection Field Descriptions: Export Objects. The **To** fields are the same. The **From** fields are omitted.

If your Entire Operations system contains a large amount of data, you should invoke the Export Whole Environment function in batch mode. For more information, see the subsection Using the Import / Export Utility in Batch Mode.

Retry Import for Erroneous Objects

With this function you can reimport objects which were rejected during a previous import attempt. The rejected objects reside in the SYSEOR library and have the prefix ERR- followed by an ascending number.

Before using this function you should edit these members and remove the errors or warnings which occurred during the last run. Note that you have to specify the desired mode in the first line of the first error member. (This function is not implemented yet).

Using the Import / Export Utility in Batch Mode

This section covers the following topics:

- Required JCL Specifications
- Export of Selected Objects
- Export of All Objects
- Import
- Natural Batch Condition Codes

Required JCL Specifications

For mass import or export, you should use the Import/Export Utility in batch mode. To do this, your JCL should conform to the following specifications:

Required Natural parameters

ESIZE=64 to avoid storage overflow errors
FDIC and LFILE with the values of your current Entire Operations version.

Notes:

1. Use LFILE 216 for both your Natural Operations system file (export only) and your Entire Operations system file 1 (import and export).
2. LFILE 131 is used for the SAT log file.

LOGON:

```
LOGON <SYSEOR>
```

Whenever a parameter is not required (e.g. no library, if Location is WRK), enter a hyphen (-) for this parameter.

During import or export information about the process is written to SYSOUT. When the Import / Export Utility terminates, it writes a last message to SYSOUT, to inform you that the function ended successfully.

Export of Selected Objects

```
IE-EX--P <OBJECT TYPE> <LOCATION> <LIBRARY> <MEMBER> <APPEND/NEW><EXPORT PASSWORDS> <EXPORT SCHEDULES> <EXPORT CALENDARS> <EXPORT SYMBOLS>
<KEY FIELD 1> <KEY FIELD 2><KEY FIELD 3> <KEY FIELD 4>
```


Field	Format	Description	
OBJECT-TYPE	A20	A valid object type (see list in the subsection Export Objects).	
LOCATION	A3	The location of the file that should be created.	
		NAT	Export to Natural text member. See also fields LIBRARY and MEMBER.
		WRK	Export to work file. Work file 1 has to be defined.
		Notes:	1. The work file format must be the same as for Natural INPL utility. 2. The location PC is not available in batch mode, since it requires Entire Connection as transport medium.
LIBRARY	A8	**Only for Location NAT**. Enter the name of the library, where the Natural member should be created. Leave this field blank if the location is not NAT.	
MEMBER	A8	**Only for Location NAT**. Enter the prefix (max. 5 digits) of the Natural member you want to create or append to. Entering the prefix PREF creates the members PREF--001, PREF--002, PREF--003, ...), depending on the amount of data. Leave this field blank if the location is not NAT.	
APPEND/NEW	A1	**A**	Append to existing output file. This output file must be defined with OP=EXTEND in the /FILE statement (for BS2000/OSD) or the DD statement (for OS/390).
		N	Create new output file.
EXPORT PASSWORDS	A1	**Y**	Export passwords.
		N	Do not export passwords.
EXPORT SCHEDULES	A1	**Y**	Export schedules.
		N	Do not export Schedules.
EXPORT CALENDARS	A1	**Y**	Export calendars which are used in the network.
		N	Do not export calendars.
EXPORT SYMBOLS	A1	**Y**	Export symbol tables which are used in the network.
		N	Do not export symbol tables.
KEY FIELD 1 KEY FIELD 2 KEY FIELD 3 KEY FIELD 4	A20	Required key fields, specific to objects (see Key Fields of the Objects).	

Example

This example deals with the export of network E60-FLOW of owner EXAMPLE to Work File 1 including schedules, calendars, and symbol tables.

```
IE-EX--P NETWORK-MASTER WRK - - N N Y Y Y EXAMPLE E60-FLOW
```


Export of All Objects

```
IE-EXA-P <LOCATION> <LIBRARY> <MEMBER-PREFIX> <APPEND/NEW> <EXPORT PASSWORDS>
<EXPORT SCHEDULES> <EXPORT CALENDARS> <EXPORT SYMBOLS>
```

All parameters are described above in the subsection Export of Selected Objects.

Example

This example deals with the Export of the whole environment to Natural library PROD members starting with EXP--001. Schedules, calendars, and symbol tables will be exported with the networks.

```
EX-ALL-P NAT PROD EXP N Y Y Y Y
```

Import

- IE-IM--P
- Example 1
- Example 2

IE-IM--P

```
IE-IM--P <LOCATION> <LIBRARY> <MEMBER> <INITIAL MODE> <ERROR LIMIT> <WARNING LIMIT>
[<OWNER> <NETWORK> <JOB>]
```


Field	Format	Description	
LOCATION	A3	The location of the import file. Possible values:	
		NAT	Import from Natural text member. See also fields LIBRARY and MEMBER.
		WRK	Import from work file. Work File 1 must be assigned.
		Note:	The location PC is not available in batch mode, since it requires Entire Connection as transport medium.
LIBRARY	A8	**Only for Location NAT**. Enter the name of the library, where the Natural member(s) is/are located. Leave this field blank, if the location is not NAT.	
MEMBER	A8	**Only for Location NAT**. Enter the prefix of the Natural members you want to read. Leave this field blank, if the location is not NAT.	
INITIAL MODE	A1	**A**	Add
		C	Check
		D	Delete
		U	Update
ERROR LIMIT	I4	The number of errors, after which the import is interrupted.	
WARNING LIMIT	I4	The number of warnings, after which the import is interrupted.	
To select a range of objects for import, you can add the parameters OWNER, NETWORK and JOB. Wildcards * are allowed. See **Notes** under Field Descriptions: Import Objects.			
OWNER	A10	Owner selection for import.	
NETWORK	A10	Network selection for import.	
JOB	A10	Job selection for import.	

Example 1

Import from Work File 1, check only; any number of errors and warnings.

```
IE-IM--P WRK - - C 99999 99999
```

Example 2

Import from NAT; Add Object; Owner EXAMPLE, Network E01* only.

```
IE-IM--P NAT - - A 99999 99999 EXAMPLE E01*  *
```

Natural Batch Condition Codes

Depending on warnings and / or errors during a batch import or export, the Natural batch execution will return one of the following **condition codes**:

Code	Description	0	Import / Export ended OK.			
4	Warnings were issued.		8	At least one error occurred.		
16	A fatal error occurred (e.g., a parameter error).					

Syntax

This section covers the following topics:

- General Information
- Formats
- Multiple Fields
- Periodic Groups
- Object Descriptions
- Comments

General Information

Each EOR (NOP) logical record is represented by one entry in external format. The entry is enclosed in OBJECT=<Object-type> and END-OBJECT keywords.

Example:

```
OBJECT=NETWORK-MASTER
...
END-OBJECT
```

encloses a network master definition.

after END-OBJECT a comment is written which repeats, similar to the Natural programming syntax, object type, object name and the lines that were written:

```
END-OBJECT /* JOB-MASTER JOB-XY 48 lines
```

Each field is represented by keyword and value.

Examples:

```
OWNER=EXAMPLE
SH-DESC=This is an example
EST=141030
```

A keyword must be immediately followed by an equal sign (=). Everything after the 'equal' sign until the next keyword is assumed to belong to the field. The equal sign (=) should not appear in the value itself, but is accepted anyway.

- Several keywords and fields may appear on one line.
- The sequence of fields within a record is meaningless.
- For numeric fields, a decimal point (.) and comma (,) are accepted as decimal separators during import.

Formats

A	alpha	unchanged (sometimes in apostrophes)
N,I,P	numeric	ECDIC/ASCII digits. Natural Edit Mask using e.g. ZZZZ9.99 must be a valid input for the Natural VAL function .maximum 2 decimal digits.
D	date	YYYYMMDD
T	time	HHIISS (Hours 0-24) (Natural type T, only time used)
DT	date and time	YYYYMMDDHHIISS (Hours 0-24) (Natural type T, complete timestamp)
L	logical value	In the database represented by A1 containing Y or N. As external value: Y, N, yes, no, true, false in lower or upper case.

Multiple Fields

Keywords, which correspond to multiple fields, may appear several times in the external format record.

Example:

```
EX-DATE=20011120 EX-DATE=20011220
```

Periodic Groups

Periodic group fields must follow each other for one entity.

A **group identifier** must precede a group entry.

Example:

```
IN-CONDITION COND=COND1 COND-REF=RUN COND-EXIST=Y
IN-CONDITION COND=COND2 COND-REF=DAT COND-EXIST=N
```

defines 2 subsequent input conditions.

On input, the internal group counter is incremented if the group identifier appears.

For groups and multiple fields, it is possible that other fields are defined between them, since the import processing will keep track of the highest used index.

Object Descriptions

Prose is imported and exported as OBJECT-TYPE=DESCRIPTION.

Prose texts beginning with T=. Lines longer than 70 are split.

Prose description records should be contiguous.

Comments

Lines starting with an asterisk * are treated as comments.

Furthermore, line comments can be appended or inserted starting and ending with (/*) (if inserted).

The comment start (/*) is accepted only at line begin, or if it follows at least one blank.

Import Function

This section covers the following topics:

- Common Restrictions
- Object = NETWORK-MASTER
- Object = TO-ACTIVATE
- Object = CALENDAR
- Object = SCHEDULE

Common Restrictions

The following is checked during an import function to the Entire Operations system file:

- If the object already exists in the target, it may be rejected, depending on the import mode.
- Key fields are required in any case.
- Required fields are necessary for ADD.
- Only complete objects are imported.
- All required fields must be supplied.
- For multiple fields and periodic groups, SYSEOR-wide array limits must not be exceeded.
- Invalid representations of numbers, date and time fields, etc. are rejected. This causes the **whole** object to be rejected.
- Objects with invalid keywords are rejected.
- Set the global parameter DEC.CHARACTER (DC) to '**.**' in your Natural environment.

Object = NETWORK-MASTER

Networks which have the owner SYSTEM cannot be imported.

Defaults with a library name starting with DM or with an equal sign (=) are not accepted during import.

Object = TO-ACTIVATE

Planned activations before or at the current date are rejected. This prevents unwanted activations.

Object = CALENDAR

Empty calendars are added for the current year.

Object = SCHEDULE

The current date. The date the Import function runs is entered as an explicit exclusion date in the network schedule. This prevents unwanted activations.

Hierarchical Order of Objects

This section covers the following topics:

- Hierarchical Order of Objects Table
- Network/Job Diagram

Hierarchical Order of Objects Table

Object	Abbreviation	Hierarchical Owner
NETWORK-MASTER	(NWM)	none
JOB-MASTER	(JBM)	NETWORK-MASTER
JCL-MASTER	(JCM)	JOB-MASTER
EOJ-CHECK-MASTER	(EOJ)	JOB-MASTER
DESCRIPTION	(DSC)	NETWORK-MASTER or JOB-MASTER or EOJ-CHECK-MASTER
SCHEDULE	(SCD)	NETWORK-MASTER (for SYSEOR14 x), later: none
CALENDAR	(CAL)	none
TO-ACTIVATE	(TOA)	NETWORK-MASTER
SYMBOL-MASTER	(SYM)	none
MAILBOX-DEFINITION	(MXD)	none
MAILBOX-ENTRY	(MXE)	none
NODE-DEFINITION	(NOD)	none
RESOURCE-DEFINITION	(RSD)	none
USER-DEFINITION	(USD)	none
DEFAULTS	(DEF)	none
CONDITION-ACTIVE	(COA)	none

- **Export**
  All objects in a hierarchical order below the object selected for export are also exported.

  For example: the export of an object JOB-MASTER results in additional export of all dependent objects: JCL-MASTER, EOJ-CHECK-MASTER, and DESCRIPTION.

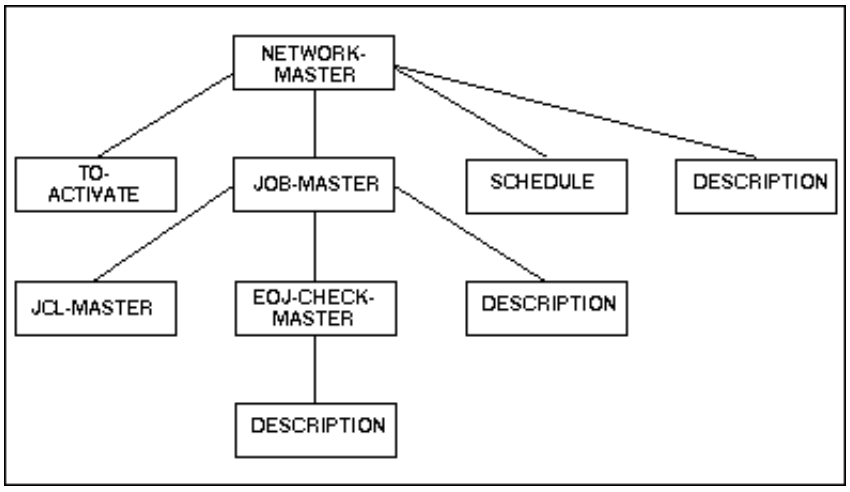
- **Import**
  Some objects can be added **only**, if their hierarchical owner already exists in the target system file. The dependencies are listed in the subsection Object Descriptions.

  If the hierarchical owner is missing, all attempts to load dependent objects will fail.

For example: an object JOB-MASTER can be added only if the owning NETWORK-MASTER already exists. This is because objects without a hierarchical owner cannot be accessed any more in the Entire Operations online system.

- **Standalone Objects**
  Exporting and importing DEFAULTS, CALENDAR, SYMBOL-MASTER, MAILBOX- DEFINITION, MAILBOX-ENTRY, NODE-DEFINITION, RESOURCE-DEFINITION, USER-DEFINITION and CONDITON-ACTIVE does not involve any other object. No hierarchical structure must be considered.

Network/Job Diagram



Objects

This section covers the following topics:

- Abbreviations
- Reserved Keywords
- Import File Defaults
- Common Field Names
- Sub-Objects

Abbreviations

The following abbreviations are used in the descriptions of the Entire Operations objects:

Value	Description
+	Required fields.
D	Contains date only.
DT	Contains date and time.
K	Key fields required for identification.
M	Multiple field.
PG	Periodic group identifier.
PI	Part of periodic group.
T	Contains time only.

Reserved Keywords

Reserved keywords can appear in all objects:

Keyword	Description	
OBJECT	Beginning of an object.	
END-OBJECT	End of an object.	
MODE	Processing mode (within or outside of object). Possible values:	
	ADD	Addition of an object (default).
	CHECK	Syntax check of input file only.
	DELETE	Deletion of an object.
	UPDATE	Modification of an object.
<keyword>= DEFAULT	Sets a value to the defined default (not yet implemented).	

Import File Defaults

(optional)

- **OBJECT=FILE-DEFAULTS**
  OWNER=...
  NETWORK=...
  MODE=...
  EXECUTION-NODE=...
  JCL-NODE=...
  JCL-NAT-LIB=...
  ...
- **<keyword>=DEFAULT** - resets to the default setting.
- Options are valid until the next modification in sequential order.
- May appear several times in one file.
- The import file defaults are valid for one complete import file, **unless** something different is specified for a single object.

Common Field Names

The following names can be used in compound names:

Field	Format	Explanation
DBENV	A10	Database environment (for future use)
OWNER	A10	A10
NETWORK	A10	
JOB	A10	
RUN	P13	Run number
JOB-ID	A10	Job identifier
SCHEDULE	A10	
CALENDAR	A10	
USER	A16	
SYMBOL-TABLE	A10	
SYMBOL	A20	
CONDITION	A20	
COND-REFERENCE	A08	Condition reference
MAILBOX	A10	
NODE	N03 or N05	
EXITLIB	A08	User exit (user routine) library
USEREXIT	A08	User exit (user routine) name

Sub-Objects

- Modification Info
- Msg-Receiver
- BS2000/OSD Job Variable Definition

These sub-objects are referenced in the description of several objects.

Just include them there with the following syntax:

Modification Info

Field	Format	Description
MOD-USER	A08	
MOD-TIME	T (DT)	
CREATION-TIME	T (DT)	

If not otherwise specified, the modification info is part of every object.

Msg-Receiver

	Field		Format	Description
	MSG-RECEIVER	PG		Max. occurrence = 8
PI	MSG-RCV-TYPE		A01	**U** = User
PI	MSG-RCV-NAME		A10	
	MSG-RCV-PROCESSOR		A10	
	MSG-RCV-NODE		common	

Adding single entries is allowed. Superdescriptor is unique.

BS2000/OSD Job Variable Definition

	Field	Format	Description
xx-	JV-NAME	A54	
xx-	JV-PASSWORD	A08	Hexadecimal printable.
xx-	JV-SUB-POSITION	N03	
xx-	JV-SUB-LENGTH	N03	
xx-	JV-SUB-FORMAT	A01	
xx-	JV-COMPARE-OP	A02	Comparison operator.
xx-	JV-COMP-VALUE	A100	

Object Descriptions

This section covers the following topics:

OBJECT=NETWORK-MASTER

	Field		Format	Description
K	OWNER		common	
K	NETWORK		common	
	SHDESC		A50	Short description.
	LAST-RUN		P13	
	LAST-SUBMIT-RUN		P13	
	LAST-ACT		T (DT)	
	LAST-SCH-XT		T (DT)	Last schedule extract.
	EXTRACTED-UNTIL		T (DT)	Extracted until.
+	DEF-EX-NODE		common	Default execution node.
+	DEF-JCL-NODE		common	Default JCL node.
	DEF-FILE		A54	
	DEF-VOLSER		A06	
	DEF-FILE-PSWD		A08	Default file password.
	DEF-JCL-LOCATION		A03	Special value range.
	DEF-SUBMIT-USERID		A20	Default submit userid.
	DEF-SUMBIT-GROUP		A20	Default submit group.
	DEF-SUBMIT-PSWD		A16	Default submit password.
	DEF-BS2000-USERID		A08	
	DEF-SUBMIT-JOB-CLASS		A08	
	DEF-SYSOUT-CATID		A04	
	DEF-SYSOUT-USERID		A08	
	DEF-ACCOUNT-NO		A08	
	DEF-SYMBOL-TABLE		A10	
	DEF-JCL-USERID		A20	Default JCL userid.
	DEF-JCL-GROUP		A20	Default JCL group.
	DEF-R3-DESTINATION		A32	
	DEF-R3-CLIENT		A03	
	DEF-ESC-ACT		A01	Default escape character for replacements at activation time.
	DEF-ESC-SUB		A01	Default escape character for replacements at submission time.
	DEF-ESC-TABLE		A10	Table containing the default escape characters for various operating systems. Please do not modify manually.

	SYMTAB-ACTIVATION-MOD		A01	**X** after extraction (default) **A** during activation
	WAIT-FOR-NEXT		P05	
	NUMBER-OF-ACT		P03	Number of activations.
	ACT-TIMES	M	T	Activation times. Max. occurrence = **10**. Adding single entries is allowed.
	EARLIEST-START		T	
	LATEST-START		T	
	LATEST-DAYS-LATER		N03	
	DEADLINE		T	
	DEADLINE-DAYS-LATER		N03	
*	Include <Msg-Receiver>			See Msg-Receiver.
	EXPL-DATE	PG		Max. occurrence = **28**
PI	EXPL-DAY		D	Explicit schedule date.
	EXPL-FLAG		A01	- Exclude. **A** After holiday. **B** Before holiday. Adding single entries is allowed. Superdescriptor is unique.
	HIST-DAY	M	D	History day. Adding single entries is allowed. Max. occurrence = **99**
	GRANT	PG		Max. occurrence = **30**
PI	GRANT-TYPE		A01	**O** = owner, **U** = user
PI	GRANT-NAME		A10	who got the grant
	GRANT-FLAGS		A06	Adding single entries is allowed. Superdescriptor is unique.
	SYMBOL-PROMPT-EXITLIB		common	
	SYMBOL-PROMPT-USEREXIT		common	
	SYMBOL-PROMPT-IN-BG		A01	
	SYMBOL-NOT-FOUND-EXIT-LIBRARY		common	
	SYMBOL-NOT-FOUND-EXIT-MEMBER		common	
	SCHEDULE-RANGE	PG		
PI	SR-OWNER		A10	
PI	SR-SCHEDULE		A10	
PI	SR-BEGIN		DT	
PI	SR-END		DT	
*	Include <Modification-Info>			See Modification Info.

OBJECT=JOB-MASTER

	Field		Format	Description
K	OWNER		common	
K	NETWORK		common	
K	JOB		common	
	SHDESC		A30	Short description.
	IN-COND-DEF	PG		Max. occurrence = 20
PI	IN-CONDITION		common	
	IN-REFERENCE		A08	
*	**Attributes**			
	IN-EXCLUSIVE		A01	Logic
	IN-DESTRUCTIVE		A01	Logic
*	**Input Condition Schedule Dependency**			
	IN-SD-NEGATE		A01	
	IN-SD-USAGE		A01	
	IN-SD-TEST-SET		A02	
	IN-SD-POSITION		N03	*+nnn* = from period begin. *-nnn* = from period end.
*	**End Input Condition Schedule Dependency**			
	IN-EXIST		A01	Logic
*	Input Condition Specials. Only **one** of the following input condition specials is allowed per condition, since there is a redefinition.			
*	<**Type A: File Dependency**>			
	IN-FILE		A54	
	IN-FILE-MEMBER		A10	IN-FILE must be defined
*	<**Type B: BS2000/OSD User Switch**>			
	IN-USW-USERID		A08	
	IN-USW-SWITCH		N02	Range is 0 through 31.
*	<**Type C: include BS2000/OSD Job Variable**>			See BS2000/OSD Job Variable Definition.
*	<**Type D: External Input Condition**>			
	IN-OWNER		common	
	IN-NETWORK		common	
*	<**Type E: Multiple Suffixes**>			
	IN-SUFFIX-SYMBOL-TABLE		common	
	IN-SUFFIX-SYMBOL		common	
	IN-SUFFIX-JOB-ST		A01	Logic

*	<**Type F: Mailbox**>			
	IN-MAILBOX-TYPE		A01	
	IN-MAILBOX		common	
	IN-MAILBOX-SENT		A01	Logic probably for active only.
*	<**Type G: User Exit**>			
	IN-EXITLIB		common	
	IN-USEREXIT		common	Adding single entries is allowed. Superdescriptor is unique.
*	<**Type H: Symbol Value**>			
	IN-SY-SYMBOL		A20	
	IN-SY-SYMBOL-TABLE		A10	
*	**End input condition specials**			
*	**Activation Schedule Dependency**			
	ACT-SD-NEGATE		A01	
	ACT-SD-USAGE		A01	
	ACT-SD-TEST-SET		A02	
	ACT-SD-POSITION		N03	*+nnn* = from period begin. *-nnn* = from period end.
*	**End Activation Schedule Dependency**			
	RESOURCES	PG		Max. occurrence = 20.
PI	RES-NAME		A20	
	RES-REQUIRED		P05	Adding single entries is allowed. Superdescriptor is unique.
+	JOB-TYPE		A03	
	SPECIAL-TYPE		A01	**R** Recovery job. **S** Stops an STC.
	RESTARTABLE		A01	Logic
	ESC-ACTIVATION		A01	
	ESC-SUBMIT		A01	
	SYMBOL-TABLE		common	
	MPA-SUFFIX-SYMBOL		common	(like symbol)
	JCL-LOCATION		A03	
	JCL-NODE		common	
	JCL-FILE		A54	
	JCL-MEMBER		A64	
	JCL-MEMBER-TYPE		A08	
	JCL-MEMBER-VERSION		A24	
	JCL-VOLSER		A06	

	JCL-VSE-LIBRARY		A08	
	JCL-VSE-SUBLIB		A08	
	JCL-VSE-VSAM-CATALOG		A08	
	JCL-FILE-PASSWORD		A08	
	SYSOUT-CATID		A04	
	SYSOUT-USERID		A08	
	SYSOUT-NODE		N03	
	JCL-USERID		A20	
	JCL-GROUP		A20	
+	EXECUTION-NODE		common	
	SUBMIT-USERID		A20	
	SUBMIT-GROUP		A20	
	SUBMIT-PASSWORD		A16	
	SUBMIT-JOB-CLASS		A08	
	EARLIEST-START		T	
	LATEST-START		T	
	LATEST-DAYS-AFTER		N03	
	DEADLINE		T	
	DEADLINE-DAYS-AFTER		N03	
	CYCLIC-INTERVAL		T	Relative time.
	Include <Msg-Receiver>			
	ESTIMATED-ELAPSED-TIME		T	Relative time.
	ELAPSED-TIME	M	T	Relative time. Max. occurrence = 20. Adding single entries is allowed.
	TAPES		N03	
	LOG-SM	PG		Max. occurrence = 10.
PI	LOG-SM-MESSAGE		A07	
	LOG-SM-SELECT	M	A40	Max. occurrence = 10. Adding single entries is allowed. Superdescriptor is unique.
	LOG-SO		A01	Log ysout Logic.
	LOG-SO-SELECT	PG		Max. occurrence = 1.
PI	LOG-SO-TYPE		A02	
	LOG-SO-DATASET	M	N03	Max. occurrence = 10. Adding single entries is allowed. Superdescriptor is unique.
	LOG-JCL		A01	Log JCL Logic.

	LOG-SYSLST		A01	Log SYSLST Logic.
	BS2000-USERID		A08	
	BS2000-ACCOUNT		A08	
	BS2000-MONJV		A54	
	BS2000-MONJV-PASSWORD		A08	Hexadecimal printable.
	BS2000-SYSOUT-SHARE		A01	Logic
	SUB-NETWORK-OWNER		A10	
	SUB-NETWORK		A10	
	SUBNET-ACT-MODE		A01	Sub-network activation mode.
	IN-ACTMODE		A01	
	R3-DESTINATION		A32	
	R3-CLIENT		A03	
	R3-JOB-NAME		A32	
	R3-USERID		A08	
	R3-PASSWD		A32	
	DAT-TARGET-LOCATION		A03	Job type DAT: target location.
	DAT-TARGET-FILE		A54	Job type DAT: target file.
	DAT-TARGET-MEMBER		A64	Job type DAT: target member.
	DAT-TARGET-MEMBER-TYPE		A08	Job type DAT: target member type.
	DAT-TARGET-VSE-LIBRARY		A08	Job type DAT: VSE library.
	DAT-TARGET-VSE-SUBLIB		A08	Job type DAT: VSE sublib.
	DAT-TARGET-VSE-VSAMCAT		A08	Job type DAT: VSE VSAMCAT.
	DAT-TARGET-OVERWRITE		A01	Job type DAT: allow overwrite of target file. Logic.
	SNF-EXIT-LIBRARY		common	Symbol not found exit: exit library.
	SNF-EXIT-MEMBER		common	Symbol not found exit: exit member.
*	**Include <Modification-Info>**			See Modification-Info.

OBJECT=JCL-MASTER

- Currently for import only.
- JCL can be located in different locations.
- Should be imported only into Natural first.

	Field		Format	Description
K	OWNER		common	
K	NETWORK		common	
K	JOB		common	
	TARGET-LOCATION		A03	(currently NAT only)
	JCL-NODE		common	
+	LIBRARY		A08	for NAT
	MEMBER		A08	for NAT
	T	M	A78	JCL Text Line Adding single entries is not allowed. Max. occurrence = **1**

OBJECT=EOJ-CHECK-MASTER

This subsection covers the following topics:

- OBJECT=EOJ-CHECK-MASTER
- EOJ-Action: Entire Output Management

OBJECT=EOJ-CHECK-MASTER

	Field		Format	Description
K	OWNER		common	
K	NETWORK		common	
K	JOB		common	
	EVENT-NAME		A30	
	CODE		A04	
	VALUE		A05	
	OP		A02	
	OK		A02	Values: OK, NO.
	FIND-IN	M	A08	Max. occurrence = 10. Adding single entries is allowed.
	ACTION-FILE		A54	
	SPOOL-CLASS-AFTER		A01	
	SYSOUT-ACTION		A01	
	OUT-CONDITION-P	PG		Max. occurrence = 20.
PI	OUT-CONDITION		common	
	OUT-COND-REFERENCE		common	
	OUT-COND-DELETE-ADD		A01	**A** = Add, **D** = Delete.
*	**BS2000/OSD Job Variable Check**			
	EJC-JOB-VARIABLE		A54	
	EJC-JV-SUB-POSITION		N03	
	EJC-JV-SUB-LENGTH		N03	
	EJC-JV-SUB-FORMAT		A01	
	EJC-JV-COMP-OP		A02	
	EJC-JV-VALUE		A100	
*	**EOJ-Action: Activation**			
	ACT-OWNER		common	
	ACT-NETWORK		common	
	ACT-JOB		common	

	ACT-EXITLIB		common	
	ACT-USEREXIT		common	
*	**EOJ-Action: Set Symbol**			
	EJA-SYMBOL-OWNER		common	
	EJA-SYMBOL-TABLE		common	
	EJA-SYMBOL		common	
	EJA-SYMBOL-SUB-POSITION		N03	Set symbol: substring position.
	EJA-SYMBOL-SUB-LENGTH		N03	Set symbol: substring length.
	EJA-SYMBOL-SUB-FORMAT		A01	Set symbol: substring format.
	EJA-SYMBOL-VALUE		A100	Set symbol: value.
*	**EOJ-Action: Recovery**			
	RCV-OWNER		common	
	RCV-NETWORK		common	
	RCV-JOB		common	
	RCV-LIMIT		N02	
	RCV-RESCHEDULE		A03	
	RCV-WAIT-TIME		N03	
	RCV-SAME-RUN		YN01	Logic.
	RCV-SYMBOL-OWNER		A10	
	RCV-SYMBOL-TABLE		A10	
*	**EOJ-Action: Message Sending**			
	MSG		A42	
*	**Include <Msg-Receiver>**	PG	common	See Msg-Receiver.
*	**EOJ-Check: BS2000/OSD Specials**			
	BS2000-USERID		A08	
	BS2000-PASSWORD		A08	Contains printable hex value.
	USER-SWITCH		N02	
	ACCEPT-NOT-OK		A01	Logic
*	**EOJ-Action: BS2000/OSD Job Variable Setting**			
	EJA-JOB-VARIABLE		A54	
	EJA-JV-SUB-POSITION		N03	
	EJA-JV-SUB-LENGTH		N03	
	EJA-JV-SUB-FORMAT		A01	
	EJA-JV-VALUE		A100	
*	EOJ-Action: Entire Output Management			
	EJA-NOM-ACTION	PG		Max. occurrence = **10**

PI	EJA-NOM-SOURCE-TYPE		A04	
PI	EJA-NOM-SPOOL-FILE-TYPE		A02	These parameters describe a SPOOL file for OS/390 and VSE/ESA operating systems.
PI	EJA-NOM-SPOOL-FILE-NUMBER		N05	
PI	EJA-NOM-SPOOL-PROCNAME		A08	
PI	EJA-NOM-SPOOL-STEPNAME		A08	
PI	EJA-NOM-SPOOL-DDNAME		A08	
PI	EJA-NOM-FILE-NAME		A54	These parameters describe a sequential file for BS2000/OSD, OS/390 and VSE/ESA operating systems.
	EJA-NOM-FILE-CCTYPE		A04	
PI	EJA-NOM-FILE-VOLSER		A06	
PI	EJA-NOM-FILE-RECFM		A02	
PI	EJA-NOM-FILE-LRECL		N05	
PI	EJA-NOM-FILE-BLKSIZE		N05	
*	**Include <Modification-Info>**			See Modification-Info.

EOJ-Action: Entire Output Management

- SPOOL Files
- Sequential Files

The identification of SPOOL files and sequential files to be sent to Entire Output Management functions as described in the following tables:

SPOOL Files

File	Source Type	File Type	File No.	PROCNAME	STEPNAME	DDNAME
OS/390	JES 2, JES 3	X	X			
	JES 2, JES 3			X	X	X
VSE/ESA	POWR	X				
	POWR			X	X	X

Sequential Files

File	Source Type	File Name	Volser	RECFM	LRECL	BLKSIZE
BS2000/OSD	SEQB	X				
OS/390	SEQM	X				
VSE/ESA	SEQV	X	X	X	X	X

X means ’must exist’.

OBJECT=DESCRIPTION

	Field		Format	Description
+	TYPE		<NETWORK, JOB, EVENT>	
K	OWNER		common	
K	NETWORK		common	
K	JOB		common	(For TYPE=NETWORK, this is not a key field.)
T		M	A80	Description text line. Max. occurrence = 1000.
*	**Include <Modification-Info>**			See Modification-Info.

OBJECT=SCHEDULE

	Field		Format	Description
K	OWNER		common	
K	SCHEDULE		common	Same as network name.
	CALENDAR		common	
	M-MONTH	M	N02	Month for monthly dates. Adding single entries is allowed.
	M-DATE	PG		Max. occurrence = **31**.
PI	M-DAY		A02	Just day of month.
	M-FLAG		A01	**A** After holiday. **B** Before holiday. **W** Workday of month. **V** Workday of month, counted from end of month. Adding single entries is allowed. Superdescriptor is unique.
	W-MONTH	M	N02	Month for weekly dates. Adding single entries is allowed. Max. occurrence = **12**
	W-DATE	PG		Max. occurrence = **7**.
PI	W-DAY		N02	**1** = Monday, **2** = Tuesday, etc.
	W-FLAG		A01	**A** After holiday. **B** Before holiday. **W** Workday of week. **V** Workday of week, counted from end of week.
	EXPL-DATE	PG		Max. occurrence = **28**.
PI	EXPL-DAY		D	Explicit schedule date.
	EXPL-FLAG		A01	**-** Exclude. **A** After holiday. **B** Before holiday. Adding single entries is allowed. Superdescriptor is unique.
*	**Include <Modification-Info>**			See Modification-Info.

OBJECT=CALENDAR

	Field		Format	Description
K	OWNER		common	
K	CALENDAR		common	
	HDAY	M	D	(Holiday/Workday). Adding single entries is allowed. Max. occurrence = **99**
	WDAY	M	D	Dates must be grouped in year tables. Adding single entries is allowed. Max. occurrence = **99**
	PERIODIC	PG		Not yet implemented. Max. occurrence = **99**
	P-START-DATE		D	Start of validity range.
	P-END-DATE		D	End of validity range.
	P-PERIOD		A01	**Y**=year, **M**=month, **W**=week
	P-POSITION	M	N03	*+nnn* = from period begin. *-nnn* = from period end. Adding single entries is allowed. No superdescriptor. All entries are used in conjunction (logical OR). Max. occurrence = **1**
	YEAR-DEFINED	M	N04	This field is written for each year the calendar is defined for, even if the calendar is empty for that year. Max. occurrence = **20**
	SHDESC		A70	Short description
*	**Include <Modification-Info>**			See Modification-Info.

OBJECT=TO-ACTIVATE

	Field	Format	Description	
K	OWNER	common		
K	NETWORK	common		
	JOB	common	Not defined: network activation. Enter a hyphen '-' here.	
	RUN	common	For MODE=ADD: If the run number already exists in target, a new one is to be used, and a warning message must be issued. If not specified, a new run number must be used too.	
+	AT	DT		
	SYMBOL-MOD-BKGR	A01	Logic	
	SYMBOL-TABLE	common		
	ORIGIN	A01	**A**	by API
			E	by EOJ action
			M	manual activation
			R	recovery
			S	by schedule extraction
			U	by API, as sub-network
	EARLIEST-OFFSET	P13	In 1/10 sec.	
	PLAN-EARLIEST-START	T (DT)		
*	**Include <Modification-Info>**		See Modification-Info.	

OBJECT=SYMBOL-MASTER

	Field		Format	Description
K	OWNER		common	
K	SYMBOL-TABLE		common	
K	SYMBOL		common	
	TYPE		A01	
	LENGTH		N02	
	VALUE		A80	
	MULT-VALUE	M	A40	Max. occurrence = **60**. VALUE and MULT-VALUE are mutually exclusive. Adding single entries is allowed.
	PROMPT		A01	
	PT	M	A70	Prompt Text Max. occurrence = **5**. Adding single entries is not allowed.
	USEREXIT		common	
	EXITLIB		common	
	CV-FROM		A10	
	CV-TO		A10	
	UPDATE-MODE		A01	
*	**Include <Modification-Info>**			See Modification-Info.

OBJECT=MAILBOX-DEFINITION

	Field		Format	Description
K	MAILBOX		common	
	DESCRIPTION		A70	
*	**Include <Modification-Info>**			See Modification-Info.

OBJECT=MAILBOX-ENTRY

	Field	Format	Description
K	MAILBOX	common	
K	RECEIVER-TYPE	A01	A, U, G, O, N or C
K	NEXT-ACTION-TIME	DT	
	MESSAGE-CODE	N04	
	MESSAGE	A70	
	STATUS	N04	
	SENDER	A08	
	SEND-TIME	DT	
	MESSAGE-TYPE	A03	To be analyzed.
	READ-TIME	DT	
	READ-COUNT	P05	
	REPLY	A70	
	OWNER	common	
	NETWORK	common	
	JOB	common	
	RUN	common	
	ACTIVATION-TIME	DT	
	EARLIEST-START	DT	
	JOB-ID	common	
	CONDITION	common	
	COND-REFERENCE	common	
	SYMBOL	common	
	SYMBOL-TABLE	common	
*	**Include <Modification-Info>**		See Modification-Info.

OBJECT=NODE-DEFINITION

	Field	Format	Description
K	NODE	common	
+	NAME	A16	
	TIME-DIFFERENCE	T	Expl.: 12:00 = 0 h, 16:00 +4 h, 04:00 = - 8h
	OPERATING-SYSTEM	A08	
	VALID	A01	Logic.
	WAIT-AFTER-ERROR	T	Relative time.
	PRINT-COMMAND	A64	UNIX print command.
	DEF-USERID	A20	
	DEF-GROUP	A20	
	VSE-SYSID	N03	
	MESSAGE-COMMAND	A70	
	MAIL-DESTINATION	A08	
	MAIL-SYSOUT-CLASS	A01	
	SUBMIT-SEC-USER-TYPE	A01	Submit security user type.
*	**Include <Modification-Info>**		See Modification-Info.

OBJECT=RESOURCE-DEFINITION

	Field	Format	Description
K	RESOURCE	A20	
+	TYPE	A01	
	QUANTITY	P07.2	
	INITIAL-QUANTITY	P07.2	
	EXIT-LIBRARY	A08	For resource master determination exit.
	EXIT-MEMBER	A08	For resource master determination exit.
	EXIT-TYPE	A01	Logic.
	EXIT-CALL-TIME	DT	
	EXIT-CALL-INTERVAL	N10	
	EXIT-CALL-STATUS	N08	
	EXIT-PARAMETER	A36	
*	**Include <Modification-Info>**		See Modification-Info.

OBJECT=USER-DEFINITION

	Field		Format	Description
K	USERID		A08	
	PASSWORD		A08	
	LANGUAGE		N03	
+	MAIN-OWNER		A10	
	OWNER	M	A10	An unlimited number of owners may be defined for a user. Adding single entries is allowed.
	MAILBOX	PG		Max. occurrence = **10**.
PI	MAILBOX-TYPE		A01	
PI	MAILBOX-NAME		A10	Adding single entries is allowed. Superdescriptor is unique.
+	PROF-TYPE		A01	
	PROF-USERS		A01	
	PROF-RESOURCES		A01	
	PROF-NODES		A01	
	PROF-DEFAULTS		A01	
	PROF-MAILBOX-DEFINITION		A01	
	PROF-MONITOR		A01	Logic (Prof-Startup/ Prof-Shutdown)
	PROF-NETWORKS		A01	
	PROF-JOB-MASTER		A01	(Prof-Jobs)
	PROF-IN		A01	
	PROF-OUT		A01	
	PROF-JCL-MASTER		A01	(Prof-JCLs)
	PROF-PROSE-MASTER		A01	(Prof-Prose)
	PROF-SYMBOLS		A01	
	PROF-JOB-ACTIVE		A01	(Prof-Ajobs)
	PROF-AIN		A01	
	PROF-AOUT		A01	
	PROF-JCL-ACTIVE		A01	(Prof-AJCLs)
	PROF-PROSE-ACTIVE		A01	(Prod-Aprose)
	PROF-COND-ACTIVE		A01	(Prof-Acond)
	PROF-REP1		A01	Logic (obsolete)
	PROF-REP2		A01	Logic (obsolete)
	PROF-REP3		A01	Logic (obsolete)

	PROF-REP4		A01	Logic (obsolete)
	PROF-REP5		A01	Logic (obsolete)
	PROF-REP6		A01	Logic (obsolete)
	PROF-REP7		A01	Logic (obsolete)
	PROF-REP8		A01	Logic (obsolete)
	PROF-LOG		A01	Logic
	PROF-CALENDARS		A01	
	PROF-ACTIVATION		A01	Logic
	PROF-RESUBMIT		A01	Logic
	PROF-HOLD-RELEASE		A01	Logic
	PROF-JCL-GENERATE		A01	Logic (Prof-Gen.JCL)
	PROF-SYSOUT		A01	Logic
	PROF-GLOB-COND		A01	
	PROF-JOB-CANCEL		A01	Logic (Prof-Canjob)
	PROF-MAILBOX-READ		A01	Logic
	PROF-NETWORK-ACCESS		A01	
	PROF-NETWORK-ACTIVATION		A01	Logic
	PROF-SYMBOL-PRINT		YN01	Logic
	PROF-SYSTEM-OTHER		YN01	Logic
	PROF-XREF		YN01	Logic
	PROF-IMPORT-EXPORT		YN01	Logic
	PROF-PROSE-MASTER		A01	
	PROF-EDITOR-AUTOSAVE		YN01	Logic
	PROF-EXIT-DIRECTORY		A01	Logic
	PROF-SPECIAL-FUNCTIONS		A01	Logic
	PROF-MAIL-SORT-ORDER		A01	
	PROF-R3		A01	Logic
	PROF-REP-SEL-WILDCARD		A01	Logic
	PROF-SYM-LIST-LONG		A01	Logic
	PROF-LAST-RUN-MODE		A01	
	EDITOR-LINE-LIMIT		N07	
	SELECT-NETWORK-LIST		A10	
*	**Include <Modification-Info>**			See Modification-Info.
+	LOGON	PG		
	LOGON-NODE		A16	
	LOGON-USERID		A20	

	LOGON-GROUP		A20	

OBJECT=DEFAULTS

	Field		Format	Description
K	LIBRARY		A08	
	MONITOR-MODULE		A08	
	DATE-FORMAT		A01	
	MONITOR-USERID		A08	
	MONITOR-WAIT-TIME		N08	In seconds.
	MONITOR-EXEC-TYPE		A01	
	MONITOR-SUBTASK-USER		A16	
	MONITOR-TASK-PREFIX		A03	
	SAT-DBID		N03	
	SAT-FNR		N03	
	SAT-LIBRARY		A08	
	BS2000-MON-JCL		A54	
	BS2000-MON-JCL-MEMBER		A64	
	BS2000-MON-JCL-VERSION		A24	
	DEFAULT-NODE		N03	’NATPROC-Node’
	MONITOR-NODE		N03	
	JCL-HEADER		A01	Logic
	JCL-SYMBOL-LOG		A01	Logic
	ACTIVE-JOB-AGE		N04	
	ACTIVE-NETWORK-AGE		N04	
	CONDITION-AGE		N04	
	LOGGING-AGE		N04	
	LONG-LOG-AGE		N04	
	LATEST-START-AFTER		P13	In 1/10 sec.
	DEADLINE-AFTER		P13	In 1/10 sec.
	EXTRACTION-BEFORE-DAYS		P05	
	PREVIOUS-DATE-END-TIME		T	
	ACTIVATION-BEFORE		N03	In min.
	LOGON-SCREEN		A01	Logic
	LOGOFF-RETURN		A01	Logic
	CALENDAR-DISPLAY		A01	
	SYMBOL-UPDATE-MASTER		A01	Logic
	ESCAPE-ACTIVATION		A01	

	ESCAPE-SUBMIT		A01	
	SYSTEMFILE-2-DBID		N05	’Data-2-DBID’
	SYSTEMFILE-2-FNR		N05	’Data-2-FNR’
	LANGUAGE		N03	
	USER-APPLICATION		A08	
	USER-MENU-LINE		A50	
	SUBMIT-SEC-USER-TYPE		A01	
	SUBMIT-EXIT-TYPE		A01	
	SUBMIT-USEREXIT		common	
	ACTIVATION-JCL-USEREXIT		common	
	OS-DEF-MSGCLASS		A08	
	OS-DEF-MSGLEVEL		A08	
	OS-DEF-CODE-VALUE		A04	
	OS-DEF-USER-VALUE		A04	
	OS-SPOOL-CLASS		A01	
	SPOOL-CLASS-AFTER		A01	
	MVS-ACCEPT-TERM-CC		A01	Logic
	BS2000-ACCOUNT		A08	
	BS2000-JOB-CLASS		A01	
	BS2000-SYSOUT-SHARE		A01	Logic
	BS2000-COLLECT-SYSLST		A01	Logic
	BS2000-MONJV-KILL		A01	Logic
	VSE-MEMBER-TYPE		A08	
	AUTO-CLEANUP		A01	Logic
	AUTO-CLEANUP-TIME		T	
	USE-SCHEDULE-TIME		A01	Logic
	MONITOR-NODE-TYPE		A01	
	ESC-TABLE		A10	
	SYMBOL-USEREXIT		A08	
	EXITCODE-MAX-UNIX		A08	
	EXITCODE-MAX-WNT		A08	
	BS2000-SEVERITY		A04	
	FILE-PASSWORD-AT-EDIT		A01	
	BS2000-MSG-NOT-OK		A07	
	USERID-DEFINITION		A01	
	NOM-SYSOUT-COPY		YN01	

	MESSAGE-CODES	PG		Max. occurrence = 10.
PI	MESSAGE-CODE		A10	
	MESSAGE-SEVERITY		A04	
	MESSAGE-OPSYS		A08	Adding single entries is not allowed. Superdescriptor is unique.
	RUN-MAXIMUM		N05	Run number maximum (limit)
	SYSOUT-MAX-LINES		N10	
	SUBNET-ACT-MODE		A01	Sub-network activation mode.
	LOG-ACTIVE-JCL-MOD		A01	Log modifications of active JCL. Logic
PG	DEF-MSG-RECEIVER			Max. occurrence = **8**
PI	DEF-MSG-RCV-NAME		A08	
PI	DEF-MSG-RCV-TYPE		A01	
PI	DEF-MSG-RCV-PROCESSOR		A10	
PI	DEF-MSG-RCV-NODE		N03	
	DEF-MSG-PROFILE		A20	
	DEF-MSG-SYMBOL-OWNER		common	
	DEF-MSG-SYMBOL-TABLE		common	
*	**Include <Modification-Info>**			See Modification-Info.

Example: E60-FLOW Network

Example: E60-FLOW Network

In the Sample Network section you will find an example of how the network E60-FLOW appears in external format after it has been exported.

OBJECT=CONDITION-ACTIVE

	Field	Format	Description	
K	OWNER	common		
K	NETWORK	common		
K	RUN	common		
K	CONDITION	common		
	STATE	N04	**0** **1** **2** **3**	free in use exclusive exclusive, then destroy
	ACTIVATION-TIME	DT	Activation date and time of the active job network. This time stamp is used for time range comparisons.	

OBJECT=GLOBAL-EXIT

	Field	Format	Description
K	TYPE	A08	
	LIBRARY	common	
	MEMBER	common	
	SUBMIT-EXIT-TYPE	A01	
*	**Include <Modification-Info>**		See Modification-Info.

OBJECT=RESOURCE-PREREQ

	Field	Format	Description
K	DBENV	common	Database environment (for future use).
K	OWNER	common	
K	NETWORK	common	
K	JOB	common	
	RESOURCE	A20	
	QUANTITY	P07.2	
	DEALLOCATION	A01	
	DEALLOCATE-NOT-OK	YN01	Logic
*	**Include <Modification-Info>**		See Modification-Info.

Export to Entire Operations Viewer

(version 1.x.x only, file format *.eov)

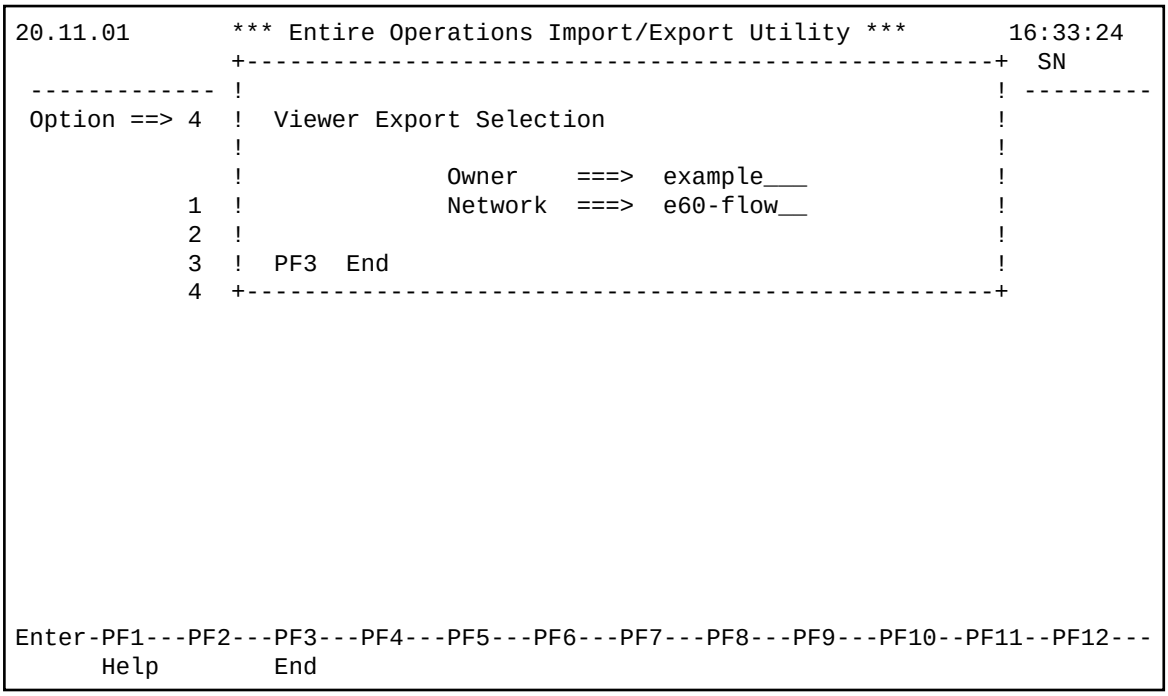
Entire Operations Viewer versions later than v1.x.x use "standard" Entire Operations export files as input.

This section covers the following topics:

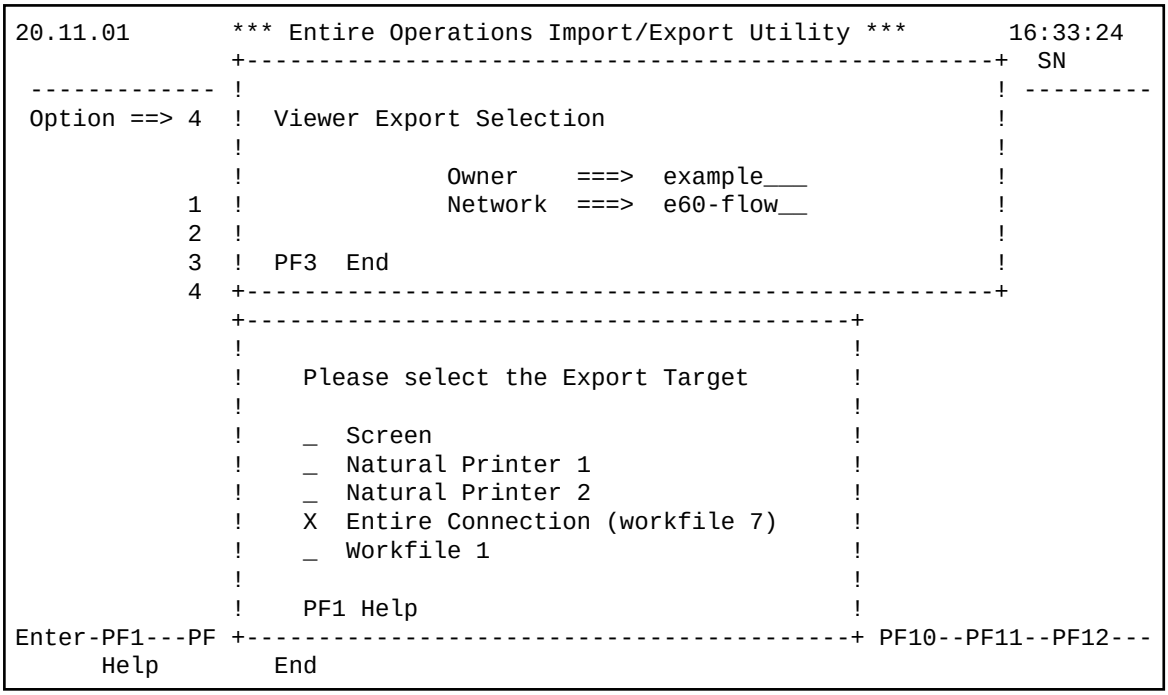
- Export Procedure
- Export Targets

Export Procedure

If you select ’Export to EOR Viewer’ (*.eov only) in the Import / Export Main Menu, you must select first the objects to be exported:



If you want to return, use PF3. Otherwise press Enter to continue to the next screen:



Export Targets

If you have selected a network, you will be prompted for an export target:

Screen	To display the export file format online.
Natural Printer 1, 2	You must define one of these printers before you use this option.
Entire Connection (workfile 7)	You can export directly to a PC file with this option. **Note:** If you use Entire Operations Viewer v1.x.x, the PC file must be named "*.eov".
Natural Workfile 1	You must define a workfile before you can use this option.

For more detailed information, see the **Entire Operations Viewer online help**.

