

# Direct Commands and CALLNAT Interface

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## Executing SYSTRANS in Direct Command Mode

In direct command mode, SYSTRANS functions are invoked by the command TRANSCMD (provided in the library SYSTEM) using the following syntax:

```
TRANSCMD function object parameters options
```

Multiple direct command strings can be specified with TRANSCMD. The individual parts of a SYSTRANS command string are defined by keywords. The corresponding values can be entered in upper or lower case. The sequence of parameters and options is variable, since individual values are identified by keywords, and not all keywords must be specified (see Available Keywords and Functions).

### Example 1:

If TRANSCMD is issued from the Natural command line (or via the Natural stack), and all keywords and corresponding values directly follow the command name in the same input line, the keywords and values must be separated either by blanks or by the input delimiter (defined by the Natural profile parameter ID).

Example for issuing TRANSCMD from the Natural command line or via the Natural stack (assuming ID=','):

```
TRANSCMD LOAD NAT-OBJECT LIBRARY mylib NAME pgm*
```

or:

```
TRANSCMD LOAD ,NAT-OBJECT ,LIBRARY ,mylib ,NAME ,pgm*
```

Example for issuing TRANSCMD via the Natural stack from within a Natural program (assuming ID=','):

```
STACK TOP COMMAND 'TRANSCMD LOAD ,NAT-OBJECT ,LIBRARY ,mylib ,NAME ,pgm*'  
END
```

**Example 2:**

If TRANSCMD is issued in batch mode (or via the Natural stack), and keywords and corresponding values do not directly follow the command name in the same line, the keywords and values must be separated by the input delimiter character (defined by the Natural profile parameter ID).

Example for issuing TRANSCMD via the Natural stack from within a Natural program (assuming ID=','):

```
STACK TOP DATA 'LOAD,DDM,LIBRARY,mylib,NAME,dm*'
STACK TOP DATA 'LOAD,NAT-OBJECT,LIBRARY,mylib,NAME,pgm*'
STACK TOP COMMAND 'TRANSCMD'
END
```

Example for issuing TRANSCMD in mainframe batch mode (assuming ID=','):

```
TRANSCMD
LOAD,NAT-OBJECT,LIBRARY,mylib,NAME,pgm*
LOAD,DDM,LIBRARY,mylib,NAME,dm*
```

## Executing SYSTRANS from within an Application

To invoke functions of SYSTRANS from within a Natural application, the Natural subprogram TRANSIF is provided in the library SYSTEM. Since only one SYSTRANS function can be executed at a time, subsequent calls to TRANSIF are necessary if several commands are to be processed, for example, when unloading.

The required SYSTRANS command syntax is as follows:

*function object parameters options*

The individual parts of a SYSTRANS command are defined by keywords. The keywords and corresponding values must be separated by blanks. Values can be entered in upper or lower case. The sequence of parameters (see Parameters below) and options (see Options below) is variable, since individual values are identified by keywords, and not all keywords must be specified.

The parameter data used in TRANSIF are described in the following table:

Parameter	Format/Length	Explanation
Command_Line_1	A253	First part of the command string
Command_Line_2	A253	Second part of the command string
Command_Line_3	A253	Third part of the command string
Command_Line_4	A253	Fourth part of the command string
Command_Line_5	A253	Fifth part of the command string
First-Call	L	Must be <b>true</b> for the first call of an UNLOAD command
P-NUMBERS		Returns the number of processed objects
Num_COPY	N5	Copycode
Num_CP	N5	Command processors
Num_DDM	N5	DDMs
Num_ERR	N5	Error messages
Num_FDT	N5	FDTs
Num_GLOB	N5	GDAs
Num_HELP	N5	Help routines
Num_LOC	N5	LDAs
Num_MAP	N5	Maps
Num_NAT_OBJ	N5	Total number of Natural objects
Num_PAR	N5	PDAs
Num_PRED_RLS	N5	Rules
Num_PROG	N5	Programs
Num_SUBP	N5	Subprograms
Num_SUBR	N5	Subroutines
Num_TEXT	N5	Text
Num_TOT	N5	Total number of objects

Parameter	Format/Length	Explanation
Num_CLASS	N5	Classes
Num_Dialog	N5	Dialogs
Return_Message	A253	Returned message text; always filled.
Return_Code	I4	Return code. The following codes are possible:  0 No warning or error occurred. -4870 Error in command; see Cmd_Return_Code. any other negative values are Natural errors.  Any other values are error messages issued by SYSTRANS.
Cmd_Return_Code	I4	Return code from command analysis:  0 No warning or error occurred 1 No SYSTRANS command 2 Command too long 3 Invalid function 4 Invalid object 5 Invalid entry in command 6 Value too long 7 Invalid value (see message) 8 UNLOAD was not followed by END 9 Options in secondary UNLOAD 10 Function rejected by user exit
EXTENSIONS	(A1/1:V)	For future use.

An example of how to call TRANSIF can be found in the program DOCIF in library SYSTRANS.

## Available Keywords and Functions

The following tables include all available keywords and values for the execution of SYSTRANS functions in direct command mode, that is, by using the direct command TRANSCMD or by using the Natural subprogram TRANSIF.

Depending on the specified function (see Functions below), keywords are either mandatory or optional. In the latter case, they are included in brackets [ ]. Keywords separated by a "|" character represent alternatives.

An underlined portion of a keyword represents an alternative for the complete keyword. For example, you can specify EX instead of EXECUTE, or U instead of UNLOAD.

All default values correspond to those described in the corresponding sections of the SYSTRANS interactive usage; see also the sections Unload Function and Load, Scan and Restart Load Functions. They determine the value used if no keyword and value are specified. Keywords that do not have a default value are mandatory.

### Functions

The following functions can be specified:

[ <u>EX</u> ECUTE]	keyword (can be omitted)
<u>U</u> NLOAD   <u>L</u> OAD   <u>S</u> CAN   <u>R</u> ESTART	mandatory values
[END]	keyword

The function block must be specified as the first parameter block of the command string.

If the UNLOAD function is specified, also the keyword END must be specified as last function of the block in order to write the end record to the work file (except if only one UNLOAD command is specified and the ENDREC option is set to Y; see also Options below). With any other function, END can be omitted in online mode.

### Objects

The following objects can be specified:

[OBJECT]	keyword (can be omitted)
<u>N</u> AT-OBJECT   <u>M</u> AP   <u>D</u> DM   <u>F</u> DT   <u>E</u> RROR-MSG   <u>A</u> LL   <u>C</u> OMMAND-PROCESSOR	values

The object block must be specified immediately after the function block, except for the function RESTART. Valid values depend on the specified function.

All values (except ALL) are valid for the functions: UNLOAD, LOAD and SCAN. The value ALL is valid for the functions LOAD and SCAN only.

### Parameters

The following parameters can be specified:

[WHERE]	Can be used to introduce the parameters block to make the command string more readable.
FROM   FROM-LIBRARY	Source library when unloading Natural objects, maps, DDMs or user messages.
[NAME]	Object name when unloading, loading or scanning Natural objects, maps or DDMs.
[TYPE]	Object type when unloading, loading or scanning Natural objects; message type ( <u>S</u> YSTEM   <u>U</u> SER) when unloading, loading or scanning error messages.
[TO-LIBRARY]	Target library when unloading Natural objects, maps, DDMs or user messages.
[INCORPORATE]	Specifies whether to incorporate rules when unloading maps.
[UNLOAD-RULES]	Specifies whether to unload rules when unloading maps.
[RULE-LOAD]	Specifies whether to load rules when unloading maps.
FDBID	Source database ID when unloading FDTs.
FFNR	Source file number when unloading FDTs.
[TDBID]	Target database ID when unloading, loading or scanning FDTs.
[TFNR]	Target file number when unloading, loading or scanning FDTs.
[PASSWORD]	Password to be specified when unloading FDTs.
[CIPHER]	Cipher code to be specified when unloading FDTs.
[FNUMBER]	Start value when unloading, loading or scanning error messages.
[TNUMBER]	End value when unloading, loading or scanning error messages.
[LANGUAGE]	Message language when unloading, loading or scanning error messages.
[LIBRARY   <u>L</u> IB]	Library when loading or scanning Natural objects, maps, DDMs or user messages.
[NEW-LIBRARY   NEW-LIB]	New library when loading Natural objects, maps, DDMs or user messages.

The parameters block is mandatory with the UNLOAD function (except if the option WORK-FILE-INPUT is set to Y in the options block; see Options below). It can be omitted with the LOAD and SCAN functions, and it is not used with the RESTART and END functions. Valid keywords and possible values depend on the specified function.

## Options

The following options can be specified:

[WITH]
[CONVERSION]
[USER-TABLE]
[SUBSTITUTE-REFERENCE]
[REPORT]
[LINE-NUMBERS]
[WORK-FILE-INPUT]
[WF-NAME]
[SPECIAL-CONVERSION]
[TRANSLATE-TO-UPPER]
[SAVE-RESTART-INFO]
[USE-NTC-WORK-FILE]
[REPLACE]
[ENDREC]

SPECIAL-CONVERSION only applies to the Load function and is the equivalent of User-Defined Conversion Table = F (Force) in CUI environments, and Use ASCII-ASCII Conversion Table in GUI environments.

The options block is optional and can be introduced by the keyword WITH to make the command string more readable. Valid keywords and possible values depend on the specified function and correspond to the SYSTRANS General Options for the individual functions as described in the sections Unload Function and Load, Scan and Restart Load Functions.

When using the UNLOAD function, options are evaluated during the first call only and must not be changed during subsequent calls.

If WORK-FILE-INPUT is set to Y when unloading, only one call to unload objects will be issued, and the "\*E" end record will be written to the work file after all UNLOAD commands are executed from Work File 2. Additional UNLOAD commands delete the contents of Work File 1 and overwrite the data.

If REPORT is set to Y, the report to be displayed will be written to Work File 4, which is overwritten with each call of TRANSIF or TRANSCMD. Work file 4 should therefore not be used for other purposes by your application.

If you want to create a report for subsequent calls, you have to call TRANSIF from within a Natural program that opens Work File 4, for example, with: IF FALSE WRITE WORK 4 RECORD.