

Changes and Enhancements

This chapter covers the following topics:

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Utilities

FTOUCH

You can now define that line numbers are not written to the source code in the file system. See *FTOUCH Utility* in the *Tools and Utilities* documentation.

In the Natural main menu, a minus (-) character after the library name indicates that in this library the line numbers are suppressed in the source code.

INPL

The INPL utility now automatically recognizes the type of the load file. It is no longer necessary to specify the correct load file type. See *INPL Utility* in the *Tools and Utilities* documentation.

SYSRPC

See *Natural Remote Procedure Call (RPC)* later in these *Release Notes*.

Parameters

LSTEP

The default value assigned to the profile parameter LSTEP has been changed from "STEP" to "SYSTEM". Therefore, you have to take precautions if you create new parameter files and your applications use these newly created parameter files and depend on objects located in the library STEP (the former default value). The modification of the default value implies an alteration in the default library search order (steplib). Therefore, your applications might not run properly or might produce unexpected results.

When you are using old parameter files in which the value "STEP" is defined for the profile parameter LSTEP, your existing applications which depend on objects located in library STEP will still run properly.

If your applications do not expect objects to be located in library STEP on FUSER or if library STEP on FUSER is empty, your applications will run properly after the default value change of LSTEP. The performance is increased since the library search order decreased in size. You are encouraged to modify LSTEP in your current installation to the proposed new default value in order to take advantage of the above mentioned performance increase.

LT

The range of possible values for the profile and session parameter LT has been changed from 0 - 99999999 to 0 - 2147483647.

NCFVERS

The new value "3" is now available for the profile parameter NCFVERS. This value indicates that a format file of Entire Connection Protocol Version 3 is written, which is created by Natural Version 6.3. The default value of the NCFVERS parameter has changed from "2" to "3".

Statements

DECIDE ON

The SUBSTRING option can now be used as *operand1* and *operand2* in the DECIDE ON statement. It allows you to check only a certain part of an alphanumeric, Unicode or binary field.

FOR

An arithmetic expression can now be used as *operand2*, *operand3* and *operand4* in the FOR statement.

System Variables

*SERVER-TYPE

The new value "WEBIO" of the *SERVER-TYPE variable indicates that Natural has been started as a Natural Web I/O Interface server.

Web Technology

Natural Web Interface

The Natural Web Interface now also supports Apache Version 2.2.x HTTP servers. For further information, see *Supported HTTP Servers* and *Natural Web Server Extensions for MOD* in the *Web Technology* documentation.

Using the Web Interface on a remote machine without EntireX technology is now possible via the PAL interface as used for the SPoD server.

The server extension program initializes a communication directly to the PAL server instead of, for example, using RPC. Because all Web Interface programs are subroutines, and it is not possible to run a subroutine directly using PAL, a generic stub is necessary. This stub handles steplib setting, parameter transfer and CALLNAT of the subprogram.

For further information, see *Communication Using PAL Techniques and Functionality in the Web Technology* documentation.

Miscellaneous

Buffer Pool

The SHUTDOWN command of the NATBPMON utility has been enhanced to quickly shut down a buffer pool. It is now possible to specify the FORCE option with an optional parameter. If `NATBPMON SHUTDOWN FORCE grace-period` is executed with super user rights, the terminate signal SIGTERM is sent to all active Natural sessions. After the expiry of the seconds defined with the *grace-period* parameter, the IPC resources held by the buffer pool are removed from the system. This command only has effect if executed with super user rights; without these rights, NATBPMON will reject its execution. See *NATBPMON Commands* in the *Operations* documentation.

Printing

When you print an object, the database ID and file number are now included on the printout.

NCF Format Files

The content of the NCF format files which are created for the work file type Entire Connection has changed. Now the information fields that were empty before are also filled with the work file processing information. The content of the information field **File name** has changed; the file name and path are now included in the information field. Since Unicode is now supported for NCD files, a new information field is available in the NCF file, containing code page information.

Tracing the SPoD Protocol

The environment variable `SET PALTRACE=nbr` has been dropped. If you want to trace the Pal, you have to use `NCTR_TRACE` for this purpose. The prerequisite is a Natural version which has been optimized for tracing or a debug version. The file *NCTR.cfg* has to be adapted accordingly.

External Editor

The ability to use an external editor like "vi" within a Natural session has been reestablished. However, the use of such an external editor is not recommended as code page conflicts may arise. These conflicts can - but not necessarily must - deteriorate your source code.