

Natural Version 5.1.1 Release Notes for UNIX and OpenVMS

These Release Notes describe in summary form the enhancements and new features that are provided with Natural Version 5.1.1 for UNIX and OpenVMS.

In addition to providing the enhancements and new features described below, Natural Version 5.1.1 consolidates all error corrections, modifications and enhancements provided with previous releases of Natural.

These Release Notes cover the following topics:

- General Information
 - New Features
 - Changes and Enhancements
 - Removed Functionality
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General Information

This section covers the following topics:

- Installation
- Migrating Applications to Version 5.1
- Upcoming Natural Releases
- Support of Previous Natural Versions
- Known Issues
- Documentation

Installation

License Key File Handling (UNIX Only)

A path to a valid license key file is required during installation of Natural. The license key file is an XML file which is usually supplied on diskette with Natural. Alternatively, you can obtain a license key file from Software AG via your local distributor. The license key file will be delivered either by E-mail or on diskette as required.

Migrating Applications to Version 5.1

Natural applications generated with Natural 4 or Natural 3 can be executed with Natural 5 without cataloging the applications. However, to make use of any new features and improvements, such as portable Generated Programs, recataloging with Natural 5.1.1 is required.

Upcoming Natural Releases

NaturalX

DCOM in Natural for UNIX will not be developed in future versions of Natural and will not be available as of the next Natural version. The support of Natural classes used locally in applications will continue.

Large and Dynamic Alpha/Binary Formats in Natural RPC

The support of large alpha/binary and dynamic alpha/binary formats in Natural RPC will be realized in a future version of Natural RPC.

NATLOAD, NATUNLD and SYSTRANS

The utilities NATLOAD, NATUNLD and SYSTRANS will be discontinued with the next Natural release.

Handling for Database Access Loops with Regard to the Adabas Multifetch Feature

Natural for UNIX/OpenVMS makes use of the Adabas Multifetch feature for database access commands L1, L2, L3 and L9. This default configuration can be disabled for specific combinations of Adabas DBID, file number and command code.

In a future release of Natural, this handling for database access loops will be subject to change.

Support of Previous Natural Versions

Natural for UNIX and OpenVMS Version 3.1.1 is no longer supported.

Known Issues

Size Limitations Natural RPC Variables

Until the support of large alpha/binary and dynamic alpha/binary formats is realized, the limitations of 253 for Format A and 126 for Format B are still in effect.

Documentation

A revised set of Natural documentation is provided with this release of Natural Version 5.1.1 for UNIX/OpenVMS. All enhancements and new features described in these Release Notes are documented in the Natural Version 5.1.1 documentation set.

The documentation is provided in HTML format for online access using a Web browser and also in PDF format for viewing/printing using Adobe Acrobat.

In addition to the extensive hyperlinks available for online access and navigation, a powerful online search facility is provided.

For an overview of the Natural 5.1.1 documentation set, see the Documentation Main Menu.

New Features

This section covers the following topics:

- XML Toolkit
- Portable Generated Programs - GPs
- Entire System Server Interface
- Portable Work File Format available in the SYSOBJH, NATUNLD and NATLOAD Utilities
- New Parameters
- New Statements
- New User Exits

XML Toolkit

The XML Toolkit enables developers to process XML documents within Natural. The toolkit includes a wizard which generates Natural source code that provides the following features:

- Mapping Natural data definitions to DTDs;
- Serializing a Natural data structure and assigning its contents to an XML file;
- Mapping DTDs to Natural data definitions;
- Parsing an XML file and assigning its contents to a Natural data structure.

The contents of the samples directory SYSEXXT will be moved to the following directory in a future version:

FNAT/SYSEXXT/RES

For further information, see the XML Toolkit documentation.

Portable Generated Programs - GPs

GPs which are cataloged with Natural Version 5 are now portable across any Natural-supported UNIX, OpenVMS and Windows platform. This means that GPs which are cataloged with Natural Version 5 are now executable with Natural Version 5 on these platforms without recompilation. This feature simplifies the deployment of applications across open systems (UNIX, OpenVMS and Windows) platforms.

Natural applications generated with Natural Version 4 or Natural Version 3 can be executed with Natural Version 5 without cataloging the applications again (upward compatibility). In this case, the portable GP functionality is not available. To make use of the portable GP and other improvements, cataloging with Natural Version 5 is required.

Command processor GPs are not portable. The portable GP feature is not available for mainframe platforms. This means that Natural GPs which are generated on mainframe computers are not executable on UNIX, OpenVMS and Windows platforms without recompilation and vice versa.

For further information, see the section Portable Natural Generated Programs in the Programming Guide.

Entire System Server Interface

With Natural Version 5.1.1 for UNIX/OpenVMS, it is now possible to access Entire System Server (ESY) on the mainframe via the Entire System Server Interface (ESX). Entire System Server is a Software AG product that makes mainframe operating system information and system services available to the user, whether it be an application developer, systems programmer, or computer operator. Entire System Server provides a logical view of the operating system in much the same way as a database management system such as Adabas.

For demonstration purposes, an example application SYSNPE is available with Natural Version 5.1.1. SYSNPE contains sample Natural programs to illustrate the usage of operating system resources for the supported mainframe platforms OS/390, VSE/ESA and BS2000/OSD.

For further information on Entire System Server functionality, see the Entire System Server Overview in your mainframe documentation, the section Installing Natural Version 5.1.1 for UNIX or Installing Natural Version 5.1.1 for OpenVMS, the section PROCESS in the Natural Statements documentation and the section ESXDB in the reference documentation for parameters.

Portable Work-File Format available in the SYSOBJH, NATUNLD and NATLOAD Utilities

You can now specify the work-file type portable in the SYSOBJH, NATUNLD and NATLOAD utilities using the WORKFILETYPE (WFTYPE) parameter. You must specify WORKFILETYPE PORTABLE if you want to transfer cataloged objects between different platforms.

For further information on the WORKFILETYPE parameter in SYSOBJH, see the topic Option Setting in the section Direct and PROCEDURE Workplan Syntax under Commands - Overview in the SYSOBJH documentation.

For further information on the WORKFILETYPE parameter in NATUNLD and NATLOAD, see the sections NATUNLD Direct Command Syntax and NATLOAD Direct Command Syntax respectively.

New Parameters

ECPMOD Available in NATPARM

The profile parameter ECPMOD - Entire Connection Protocol Mode is now supported by the NATPARM utility. The default value has been changed to ON.

EDTRB

The EDTRB (Editor Ring Buffer) parameter is used to determine whether the ring buffer of the program editor is to be used or not. The following settings are available:

ON	When you open a new editing session in the program editor, the old session is stored to the buffer pool. When you leave the session with CANCEL or EXIT, the session is freed from the buffer pool.
OFF	When you open a new editing session in the program editor, the new session replaces the present session. If the AUTOSAVE parameter is activated, the contents of the session are saved to FUSER.

With Natural for UNIX/OpenVMS Version 4.1, all editor sessions except the current one were stored to the ring buffer.

For further information, see the section Multiple Editor Sessions under Program Editor in the User’s Guide and the section EDTRB in your reference documentation for parameters.

ENDIAN

The ENDIAN parameter is used to increase the execution performance of portable GPs. The ENDIAN parameter determines the endian mode in which a portable GP is generated during compilation. There are three possible settings of the parameter:

DEFAULT	The endian mode of the machine on which the GP is generated.
BIG	Big endian mode: the high-order byte of the number is stored in memory at the lowest address, and the low-order byte at the highest address (the big end comes first).
LITTLE	Little endian mode: the low-order byte of the number is stored in memory at the lowest address, and the high-order byte at the highest address (the little end comes first).

For further information, see the section Portable Natural Generated Programs in the Programming Guide and the section ENDIAN in your reference documentation for parameters.

ESXDB

The ESXDB parameter specifies the database ID used for Entire System Server’s DDMs. The parameter can be modified at the following location:

Edit/Product Configuration/Entire System Server

For further information, see the section ESXDB in your reference documentation for parameters.

NOPROX

Specifies local domain(s), which shall be addressed directly, not via the proxy. The NOPROX parameter is used in the REQUEST DOCUMENT statement.

PROX

Specifies the URL of the (intranet) proxy server via which all requests have to be routed (optional). The PROX parameter is used in the REQUEST DOCUMENT statement.

PROXPORT

Specifies the port number of the proxy, if any is set. The PROXPORT parameter is used in the REQUEST DOCUMENT statement.

New Natural Statements

REQUEST DOCUMENT

The REQUEST DOCUMENT statement gives you the means to access a document which is located in an external system/or an external HTTP server. See the section REQUEST DOCUMENT in your Natural Statements documentation.

PROCESS

The PROCESS statement is used in conjunction with Entire System Server (mainframe only) via the Entire System Server Interface. See the section PROCESS in your Natural Statements documentation and the section Getting Started in the Entire System Server User's Guide (part of your mainframe documentation).

New User Exits

NATRPC01

You can now use the new user exit NATRPC01 (described in the Natural Remote Procedure Call documentation) instead of using error transactions. Natural RPC does not offer the use of error transactions on the server side. Although it is possible to define an error transaction, control will never be passed in the event of an error.

USR2032N

With the new user exit USR2032N, Natural provides the same functionality as an EntireX client. The commit option is set for the next CLOSE CONVERSATION statement which means that an implicit END TRANSACTION is issued on the server side when the conversation is closed.

This enables you to write an application on the server without using explicit END TRANSACTION statements, this application being callable from a Natural client as well as from an EntireX client.

The user exit has to be called before the next CLOSE CONVERSATION statement is executed.

Changes and Enhancements

This section covers the following topics:

- General Enhancements
- Parameter Enhancements
- Statement Enhancements
- Natural Web Interface

General Enhancements

Steplibs

*STEPLIB is only considered as a steplib when the user is in a FUSER library. The location of the library given as LSTEP is derived from its name. Apart from the library SYSTEM, libraries SYSxxx are assumed to be in FNAT and other libraries are assumed to be in FUSER.

Parameter Enhancements

ECPMOD

The profile parameter ECPMOD - Entire Connection Protocol Mode is now supported by the NATPARM utility. The default value has been changed to ON.

USIZE

The USIZE minimum and default size has been changed from 1 MB to 10 MB. You can leave the USIZE parameter set to 1MB, but the next time you change the setting in any way, Natural will only accept 10MB as a minimum value. If USIZE is set to zero, memory capacity is unrestricted.

Statement Enhancements

CALL

The maximum number of parameters which can be used in the CALL statement has been raised from 40 to 128.

Natural Web Interface

HTML to Natural Conversion Program - HTML2NAT

The conversion program HTML2NAT has been integrated into Natural and is no longer a stand-alone program. The HTML to Natural utility can now be accessed via the new program HTML2NAT in the Natural library SYSWEB. This means that you do not have to import the generated programs into Natural as they are saved and stowed directly in a Natural library.

Now, not only the <Natural> </Natural> Tags can be used, but also ASP-like script commands which are differentiated from text by the <% and %> delimiters.

For further information, see the Natural Web Interface documentation.

Renamed Programs in Library SYSWEB

Programs starting with NAT-* in the library SYSWEB have been renamed to WEB-* for improved consistency.

Now the only elements in the library SYSWEB starting with NAT-* are subprograms which can be called from the Internet.

All elements in the library SYSWEB starting with WEB-* are online utilities which are called from the command line.

The contents of the samples directory SYSWEB will be moved to the following directory in a future version:

FNAT/SYSWEB/RES

Removed Functionality

This section provides an overview of functionality no longer supported with Natural Version 5.1.1. and covers the following topics:

- Natural RPC Support of CSCI
- Natural RPC Support of CSCPATT Parameter
- Support of Entire DB Stopped

Natural RPC Support of CSCI for UNIX

As announced, CSCI is no longer supported with this version of Natural RPC for UNIX.

Note: CSCI is still supported under OpenVMS.

Natural RPC Support of CSCPATT Parameter for UNIX

As the CSCI transport protocol is no longer supported by Natural for UNIX, the CSCPATT profile parameter will be rejected. The value CSCI will be rejected if it is specified as transport protocol for the DFS, RDS or TRANSP parameters.

Note: CSCI is still supported under OpenVMS.

Support of Entire DB

Entire DB for UNIX and OpenVMS is no longer supported.