

Natural

Release Notes for Natural Version 8.4 for UNIX

Version 8.4.1

October 2021

This document applies to Natural Version 8.4.1 and 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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1 Release Notes for Natural Version 8.4 for UNIX

These Release Notes summarize the new features, changes and enhancements that are provided with Natural Version 8.4. The following topics are covered:

Release Information for Natural Version 8.4.1

For information on the supported operating system platforms and other requirements for the current version of Natural, see *System Requirements* in the *Installation* documentation.

2 About this Documentation

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Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
Monospace font	Identifies service names and locations in the format <i>folder.subfolder.service</i> , APIs, Java classes, methods, properties.
<i>Italic</i>	Identifies: Variables for which you must supply values specific to your own situation or environment. New terms the first time they occur in the text. References to other documentation sources.
Monospace font	Identifies: Text you must type in. Messages displayed by the system. Program code.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the symbol.
[]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

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Data Protection

Software AG products provide functionality with respect to processing of personal data according to the EU General Data Protection Regulation (GDPR). Where applicable, appropriate steps are documented in the respective administration documentation.

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Release Information for Natural Version 8.4.1

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Installation

System Requirements

The system requirements for the current version of Natural are now listed in the *Installation* documentation.

Please also refer to the system requirements for specific information concerning Oracle Solaris 11.3.

Compilers Used to Build Natural

With Natural for UNIX Version 8.4.1, different compiler versions were used to build and test Natural. For detailed information, see *Compilers Used to Build Natural* in the *Installation* documentation.

Migrating Applications to Version 8.4

Applications that were created with Natural for UNIX Version 3.1 and above can be executed with Version 8.4.

New Features

Statements

The following statements are now available:

Statement	Description
READLOB	The READLOB statement is used on a single record, where the defined LOB field (Large Object field) is read in fixed length segments during the loop processing.
UPDATELOB	The UPDATELOB statement is used to update a data segment of a LOB field (Large Object field) in a database record.

Natural Code Coverage

With Natural Version 8.4.1, the code coverage functionality has been introduced. It is now possible to exactly examine the statements of a Natural application that have been executed during a specific run and that have not been executed. Tests can now be improved so that they raise the number of touched statements of a Natural application when executed.

Natural code coverage requires that the Natural sources are cataloged with the subparameter setting `COVERAGE=ON` of the new `GPGEN` profile parameter. Refer to the Natural profile parameter `GPGEN` for further details.

Natural code coverage is activated with the new `COVERAGE` profile parameter. Refer to the Natural profile parameter `COVERAGE` for further details.

The coverage data is written to an *NCVF* (Natural code coverage file) resource file you can analyze with *NaturalONE* or with the *Natural Profiler* utility. For more information, see the *NaturalONE* documentation or the *Natural Profiler* documentation.

Application Programming Interfaces

The utility `SYSEXT` provides the following new application programming interfaces (API):

API	Description
USR1052N	This API offers two new optional parameters offering that the output of the executed command for the operating system (from <code>STDOUT</code>) is returned to the calling program.
USR1069N	This API offers a new optional parameter offering that the physical printer name is processed with a length of 256 bytes instead of 80 bytes.
USR8401N	This new API reads or writes the dynamic parts (:1;:2; ...) of a Natural system or user-defined error message.

Profile Parameters

The following parameters are now available:

Parameter	Description
ADAPRM	This Natural profile parameter is used to pass Natural session data to Adabas Review within the seventh Adabas buffer.
COVERAGE	This Natural profile parameter is used to perform a code coverage of a Natural session.
GPGEN	This Natural profile parameter is used to generate specific profiling, code coverage and debugging information which is currently only generated if the corresponding Natural object was compiled with <code>SYMGEN=ON</code> . With the introduction of <code>GPGEN</code> , it is no longer required and not recommended to use the <code>SYMGEN</code> profile parameter.

Parameter	Description
MAXPREC	This Natural profile parameter is used to control Natural's compiler. It determines the maximum number of digits after the decimal point that the Natural compiler generates for results of arithmetic operations.
RI	This Natural profile parameter specifies whether ISNs (internal sequence numbers) for records which were read and placed in hold status but were not updated are to be retained in hold status.
YD	This Natural profile parameter is used to adjust the current machine date (as read by using the internal machine time) by adding/subtracting a number of years to/from it.

Object Handler

The Object Handler provides the new **Store values in profile** option to directly store the values (such as library name, DBID, FNR) specified on a **Change Workplan Library** screen as `Workplan-Library` parameter setting in the Object Handler profile. For more information, see *Change the Workplan Library* in the section *Object Handler*.

Changes and Enhancements

FIND Statement

The syntax of the `FIND` statement has been enhanced so that it is now possible to use the `SHARED HOLD` and `SKIP RECORDS` clause. Refer to `FIND` in the *Statements* documentation for further details.

MOVE ALL Statement

The syntax of the `MOVE ALL` statement has been enhanced so that it is now possible to use the `SUBSTRING` clause. Refer to `MOVE ALL` in the *Statements* documentation for further details.

READ Statement

The syntax of the `READ` statement has been enhanced so that it is now possible to use the `SHARED HOLD` and `SKIP RECORDS` clause. Refer to `READ` in the *Statements* documentation for further details.

READ WORK FILE Statement

The syntax of the `READ WORK FILE` statement has been enhanced so that it is now possible to use the `ADJUST` clause. Refer to `READ WORK FILE` in the *Statements* documentation for further details.

REINPUT Statement

As already documented in a previous Natural version, the `WITH TEXT` and the `MARK` option can now be used to specify control variables as field attributes. Refer to `REINPUT` in the *Statements* documentation for further details.

SEPARATE Statement

It is now possible to define an array as the source operand (*operand1*) to be separated.

The syntax of the `SEPARATE` statement has been enhanced so that you can now use the `STARTING FROM POSITION` option and the `REMAINDER POSITION` clause. Refer to `SEPARATE` in the *Statements* documentation for further details.

WRITE WORK FILE Statement

As already documented in a previous Natural version, it is now possible to specify system variables as the fields in *operand1* that are to be written to the work file. Refer to `WRITE WORK FILE` in the *Statements* documentation for further details.

Natural Configuration Utility

A new category **Tools** has been added in the **NATPARM** group of the Natural Configuration Utility. Refer to *Overview of Profile Parameters* in the *Configuration Utility* documentation for details.

Profiler Utility

Code coverage of Natural applications

In batch mode, the Profiler utility now provides options to evaluate code coverage information of Natural applications. For more information, see *Code Coverage of Natural Applications* in the section *Natural Profiler* of the *Tools and Utilities* documentation.

SYSERR Utility

The SYSERR utility is now case-sensitive and no longer translates the input from lower to upper case by default. See also *Adding Messages* and *Modifying Messages* in the section *SYSERR Utility*.

SYSEXV Utility

The SYSEXV utility now lists Natural versions and categories, so that example programs from any Natural version can be started from the menu. Refer to *SYSEXV Utility* in the *Tools and Utilities* documentation for details.

Natural Development Server

Natural Development Server is now released with the same version number as Natural for UNIX.

Natural RPC (Remote Procedure Call)

Natural RPC (Remote Procedure Call) is available as a separate subcomponent of Natural. It has its own version number. This measure takes into account that Natural RPC is a cross-platform component and makes it possible to provide new Natural RPC versions independent of new Natural versions for the various platforms supported.

With Natural Version 8.4.1, an enhanced Natural RPC Version 8.4.1 is delivered. This version contains error corrections. New functionality is not provided.

- [Automatic Character Conversion](#)

Automatic Character Conversion

webMethods EntireX Broker has a reworked mechanism for character conversion. This mechanism detects incorrect configurations such as RPC communication without configured character conversion. In these cases, the configuration defined in the EntireX Broker attribute file is not used and a warning message is written to the EntireX Broker log file. Adapt your EntireX Broker attribute file to avoid the message.

For details, see the section *Broker's Mechanism for Choosing the Character Conversion Approach* in *Introduction to Internationalization* in the *webMethods EntireX* documentation.

The mechanism is active if the version of the RPC server component is the following (or above):

- EntireX RPC Server (z/OS CICS, z/OS Batch, z/OS IMS, Micro Focus, C, .NET) 9.10
- EntireX RPC Server (Java, CICS ECI, IMS Connect, XML/SOAP, RPC-ACI, IBM MQ) 9.9

- EntireX Adapter 9.9
- Natural RPC Server (Natural Version 8.2.7 for Mainframes, Natural Version 8.4.1 for UNIX, Natural Version 8.4.1 for Windows)

Natural Security

The following enhancements are provided with Natural Security Version 8.4.1:

- [Logon Records](#)
- [Logon Error Records](#)
- [Maintenance Log Records](#)
- [Application Programming Interfaces](#)

Logon Records

The **Logon Records Menu** provides a new selection criterion, **FUSER DBID/FNR**. It allows you to list only logon records of logons to a specific FUSER system file.

Logon Error Records

The **Logon/Countersign Errors Menu** provides a new selection criterion, **FUSER DBID/FNR**. It allows you to list only records of logon errors which occurred in conjunction with logon attempts to a specific FUSER system file.

Maintenance Log Records

The **Maintenance Log Records** functions **List Administrator Services Maintenance Logs** and **List Security Profile Maintenance Logs** provide a new selection criterion, **Modifier**. It allows you to list only the modifications performed by a specific administrator.

Application Programming Interfaces

The new application programming interface NSCONE allows you to display the Natural Server view and Eclipse Navigator view options and actions allowed/disallowed for a specific library and user.

Documentation

Parameters ETPDB and ETPSIZE no longer documented

Since the Entire Transaction Propagator is no longer supported with this version of Natural, the corresponding parameters `ETPDB` and `ETPSIZE` have been removed from the documentation.

Removed Features

The features to be removed which have been announced in the Release Notes for Version 8.3 are no longer available with Version 8.4:

Entire Transaction Propagator

Entire Transaction Propagator is no longer supported with this version of Natural. As a consequence, the parameters `ETPDB` and `ETPSIZE` have been removed as well.

Natural Configuration Utility

The following parameters are deprecated. Therefore, they have been removed from the user interface of the Natural Configuration Utility. For compatibility reasons, these parameters may still be referenced as dynamic parameters when starting Natural.

Parameter	Description
ACIVERS	Define API Version for Use with EntireX Broker ACI
RDACTIVE	Activate Remote Debugger
RDNODE	Remote Debugger Node Name
RDPORT	Remote Debugger Port
SYMGEN	Generate Symbol Table



Notes:

1. For the Remote Debugging parameters `RDACTIVE`, `RDNODE` and `RDPORT`, Export and Import is still supported. See *Working with the Natural Configuration Utility in the Configuration Utility documentation*.
2. The parameter `SYMGEN` has been replaced by the parameter `GPGEN` with subparameter `DEBUGGER`.