

Natural Version 3.1.3

Release Notes for Mainframes

Manual Order Number: NAT313-008IBB

This document applies to Natural Version 3.1.3 for mainframes 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.

Readers' comments are welcomed. Comments may be addressed to the Documentation Department at the address on the back cover or to the following e-mail address:

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Natural 3.1.3 Release Notes for Mainframes



For further information, you should also read the **Natural Version 2.3.3, Version 2.3.4 and Version 3.1.2 Release Notes for Mainframes** which are delivered with Version 3.1.3 on the current Natural Documentation CD-ROM and in printed form. References contained in the Version 2.3 Release Notes generally refer to the corresponding Version 2.3 manuals which are not included in the Version 3.1.3 documentation set. Some additional links to the corresponding current version documents have also been provided where useful. Formal differences to the current release documentation may exist, for example, Software AG product names (Natural, Adabas, etc.) are written in capital letters.

This document covers the following topics:

- Introduction
- Prerequisites
- Migration Hints
- Documentation
- Maintenance End of Natural Versions
- Shared FUSER System File
- Parameter Module
- New NaturalX System Variable
- CICS 3270 Bridge Support
- Natural Net Data Interface NATNETTO
- NATUNLD and NATLOAD Utilities
- Natural for VSAM Installation Procedure
- Natural Security Support under Natural for VSAM
- Natural Security
- Other Software AG Products
- DRS Printing Facility
- German Error Messages
- Information on Upcoming Releases

Introduction

These Release Notes inform you of the enhancements provided with Version 3.1.3 of Natural.

Natural 3.1.3 contains all ZAPs, INPL updates, early warnings and source changes applied to Natural 3.1.2 as error corrections.

Prerequisites

Operating/Teleprocessing Systems Required

Natural Version 3.1 requires the following versions of the following operating/teleprocessing systems:

Product	Version
BS2000 OSD	2 or above
OS/390	2.4 or above, for NaturalX: OS/390 Version 2.6 (or above) and OS/390 UNIX Services with access to the OS/390 HFS (hierarchical file system)
VSE/ESA	1.4.4 or above
VM/ESA	2.1 or above
Com-plete	5.1.3 or above
CICS/ESA	4.1 or above It may be possible that Natural can be run with older CICS/ESA versions; however, Software AG cannot guarantee this.
CICS/VSE	2.3 or above
IMS/TM	3.1 or above
VM/ESA	2.1 or above
UTM	3.0 or above
TIAM	all versions available with OSD Version 2

Assemblers Required

Natural Version 3.1 requires one of the following assemblers for the assembly of its source modules:

- "HL" assembler (IBM),
- "Assembh" assembler (Siemens).

It may well be possible that the source modules can be assembled with older assembler versions; however, Software AG cannot guarantee this.

Migration Hints

When migrating from an earlier Natural version to Natural for Mainframes Version 3.1.3, you must observe the following hints:

Use of USR* programs

Make sure that the latest USR* programs from the delivered library SYSEXT are used.



If you have copied USR* programs to your FUSER system file, you have to replace them before use.

This is particularly important if you are migrating from Natural Version 2.2.8++, because the USR* programs of this version will not work under Natural Version 3.1.3.

MAXBUFF Restrictions (RPC only)

If you are using the ADALNK transport method to communicate with the EntireX Broker (default on mainframe) the following restrictions for MAXBUFF apply depending on the value specified for ACIVERS:

Value for ACIVERS	Maximum Value for MAXBUFF
ACIVERS=1	31
ACIVERS=2	30 (default value)
ACIVERS>2	30

For those migrating from Natural 2.3 to 3.1:



If MAXBUFF=31 has been used before you must adapt your NATPARM in one of the following two ways:

1. specify ACIVERS=1 and let MAXBUFF untouched
2. specify MAXBUFF=30 and let ACIVERS untouched

The latter is recommended to enable the support of EntireX Security.

For those migrating from Natural 2.2 to 3.1:



The MAXBUFF value (called MAX-BUFF under Natural 2.2) is now specified in KB and no longer in bytes.

If you have used a value for MAX-BUFF between 31K and 32000 and you cannot afford a value of 31K or below you must either use the old NATSRVI startup logic or you must use the TCP/IP stub of EntireX Broker.

Documentation

A completely updated and improved set of documents is distributed with this release. In addition, to remove redundancies, the documents for the following products or product components have been reorganized:

- Natural Security
This product is described in a document that applies to all platforms.
- INPL, SYSTRANS
These utilities are described in documents that apply to all platforms.
- Software AG Editor
The reference part of the editor documentation has been made available online for use in conjunction with various products of the Natural product family.

Maintenance End of Natural Versions

Software AG's maintenance of Natural Versions 2.2.8, 2.3.2 and 2.3.3 for mainframes will end on 30 June 2000.

Software AG's maintenance of Natural Version 2.3.4 will end on 31 December 2000.

Software AG strongly recommends that you migrate to Natural Version 3.1 as soon as possible. If you migrate from Version 2.2, you need not install Version 2.3, but can migrate directly to Version 3.1.

Shared FUSER System File

If you have installed NAT228++ for Natural (INPL ID=NA228A2) and for Natural Security (INPL ID=NE22866), the following should be observed:



Do not apply the update INPL datasets NAT22875 and NE22841, as these are already included in the above-mentioned INPLs.

Parameter Module

NTDB Macro - Entire DB and Entire Transaction Propagator

If the same database is defined with an NTDB macro as Entire DB database (ENTIRE) and as Entire Transaction Propagator database (ETP), you must set the profile parameter ET=ON.

New NaturalX System Variable

To enable the definition of DD name allocations for NaturalX servers, the new NaturalX system variable NATX_DYNALLOC is introduced with Natural Version 3.1.3; see NATX_DYNALLOC (section Installing NaturalX in the NaturalX documentation).

CICS 3270 Bridge Support

The Natural/CICS interface supports the CICS 3270 Bridge, i.e. it can deal with bridge facilities.

A new NCI source module NCIXFATU is delivered which should be installed when using Natural with the CICS 3270 Bridge. This module actually is a CICS XFAINTU Global User Exit (GLUE) whose purpose is to release Natural resources in the case when the bridge facility's keep-time is over and an associated Natural session has not been terminated yet.

The NCIXFATU module must be installed under the name *ncipXFA* (*ncip* being the NCI common prefix as defined with the PREFIX parameter of the NCMPRM macro), and that program must be defined in CICS with EXECKEY(CICS).

Note:

When the CICS 3270 Bridge is used, a Natural session should be started with profile parameter DSC=OFF to force Natural always to send full screens rather than just the delta to the previous screen.

Natural Net Data Interface NATNETTO

The Natural Net Data Driver NATNETTO is a new component and functionality that was added to Natural 3.1.3 to support the EntireX CICS 3270 Bridge and similar client-server solutions in message oriented server environments, i.e. TP monitors.

NATNETTO implements a protocol driver, which allows program-to-program communication with Natural (legacy) applications from client applications, using a net-data protocol. One typical scenario is a desktop client (e.g. built with Natural NT or VBA) accessing a Natural application that runs under a TP monitor such as CICS, IMS/DC or UTM.

"Net data" means, that the protocol neither contains format data like text constants nor any device-dependent control sequences. All data is communicated in printable format. This implies that eventually necessary marshaling and unmarshaling of non-alpha fields has to be done by the clients.

Basically, the protocol consists of two parts:

- A header or control block and a value buffer which contains the raw net data. This part is mandatory.
The header contains control, environment and session information and maintains pointers to the other parts of the data buffer.
The value buffer contains the actual net data which is to be exchanged between client and server.
- In addition, optional variable parts are available: format buffer and/or attribute buffer.
The optional format buffer has an entry with descriptive data for each field in the value buffer.
The attribute buffer consists of one byte with a preset value of 0 for each field in the value buffer.
The client has to switch this value to 1 for each modified field, if the appropriate option is set, thus emulating the setting of mdt bits.

Header, value buffer and attribute buffer are parts of outbound and inbound messages; only the format buffer may occur in the outbound message only. The header maintains a transaction number which has to be mirrored by the client for flow-control purposes. Since legacy applications are mostly designed to be driven from block mode terminals, the protocol supports 3270 like functionality such as PF keys and cursor position.

For further details, refer to Natural Net Data Interface NATNETTO in the Natural Operations for Mainframes documentation.

NATUNLD and NATLOAD Utilities

Since Natural Version 2.3.1 has been introduced, the utilities NATUNLD and NATLOAD are no longer contained in the library SYSTEM, but are contained in a new library of their own, SYSUNLD.

Natural for VSAM Installation Procedure

If you are using VSAM system files, you must apply the special-purpose zaps NV44007 and NV44008 to the module NVSNUC before relinking all Natural nuclei.

Natural Security Support under Natural for VSAM

Natural Security is now supported under Natural for VSAM. For this purpose, a new module NVSFSEC is provided.

Natural Security

Utility Profiles

Functional security for the SYSRPC utility has not yet been implemented for the mainframe platforms. It is available only with Natural for Windows, UNIX and OpenVMS.

Interface Subprograms for Retrieval

Interface subprograms for the display of library and user profiles are available, along with sample programs, from the menu of interface subprograms. These subprograms are NSCDA* and NSCDU.

Other Software AG Products

To use the following Software AG products in conjunction with Natural Version 3.1, the following product versions (or above) are required:

Product	Version
Adabas	6.2.1
Adabas Online Services	6.2.1
Adabas SQL Server	1.3.3
Adabas Stored Procedures And Triggers	6.2.2
Adabas Text Retrieval System	2.1.4
Com-plete	5.1.3 or above For Com-plete Version 5.1.3, the ZAPs CP51413 and CP51414 must be applied.
Con-form	3.2.3 or above
Con-nect	3.2.3 or above
Entire Broker stub	5.1.1 For support of ACI Version 4, Entire Broker stub Version 5.2.1 is required.
Entire Event Management	2.1.2
Entire Network	5.3.1 with ZAP WX53052 and above (This product is required if you are using Natural Security in a heterogeneous environment.)
Entire Operations	3.1.1 Update 4
Entire Output Management	1.4.1 Update 1

Product	Version
Entire Review Natural Monitor	3.5.4
Entire System Server	2.1.4
Entire System Server Interface	The Entire System Server Interface (ESX) is no longer a separate product but part of Natural (and included on the Natural installation tape). See also Entire System Server Interface in the Natural 2.3.4 Release Notes for Mainframes.
Entire Transaction Propagator	1.4.1
EntireX DCOM	5.2.1 Patch Level 4 (required for NaturalX only)
Natural Advanced Facilities	2.3.5
Natural CICS Interface	2.3.5
Natural CMS Interface	3.1.3
Natural Connection	3.1.3
Natural Construct	4.3.1
Natural Document Management	1.6.3
Natural for DB2	3.1.3
Natural for DL/I	2.3.5
Natural for SQL/DS	3.1.3
Natural for VSAM	2.4.5
Natural IMS/TM interface	2.3.5
Natural ISPF	2.4.2

Product	Version
Natural Optimizer Compiler	2.3.5
Natural Security for Mainframes	3.1.3
Natural TIAM interface	3.1.3
Natural TSO interface	3.1.3
Natural UTM interface	3.1.3
NaturalX	3.1.3
Predict	3.4.2
Predict Application Control	2.1.4
Predict Case	2.5.2
Super Natural	3.2.1

DRS Printing Facility

Software AG introduces Levi, Ray & Shoup, Inc. (LRS) as an Authorized Partner for Natural Printing Solutions. With the new release, Natural provides an interface to the LRS Enterprise Print Management family of products. This interface enables you to route the Natural print output to the LRS Dynamic Report System (DRS).

For more details, see also the LRS homepage at <http://www.lrs.com/epm/drs.htm>.

German Error Messages

The German Natural error messages and warnings were updated with the release of Natural Version 3.1.3.

Information on Upcoming Releases

With Natural Version 3.1.4, it is planned to release the new version 3.6.1 of Entire Review Natural Monitor. As a prerequisite, Natural Version 3.1.4 must have been installed.

The following advance information should be noted:

- Discontinued Delivery of Assembler Macros of Type E
- Discontinued Support of Obsolete CICS Versions

With the next major release of Natural (not with Version 3.1.4), it is planned to introduce the following:

- ENDING AT Clause in READ or HISTOGRAM Statements
- Discontinued Support of Applications Cataloged with Natural Version 2.2

Discontinued Delivery of Assembler Macros of Type E

With Natural CICS Interface Version 2.3.6, Natural for DL/I Version 2.3.6, Natural for VSAM Version 2.4.6 and Entire Review Natural Monitor Version 3.6.1, delivery of assembler macros of type E will be discontinued for VSE installations.

Discontinued Support of Obsolete CICS Versions

With Natural CICS Interface Version 2.3.6, CICS/ESA Version 4.1 or above (for OS/390) and CICS/VSE Version 2.3 or above (for VSE) will be a prerequisite.

ENDING AT Clause in READ or HISTOGRAM Statements

Internally, to determine the end of the range to be read, Natural reads one value beyond the ENDING AT value if an ENDING AT clause is specified for a READ or HISTOGRAM statement. This last record is in fact not the last record within the ENDING AT range, but the first record beyond that range (except if there is no further value after the ENDING AT value). THRU is a synonym of ENDING AT.

The next major release version of Natural will avoid reading beyond the specified end value. Only applications that access the last record read intentionally will be affected.

Example:

```
READ EMPLOYEES-VIEW BY NAME
  STARTING FROM †MEIERÿ
  ENDING AT †MEYERÿ
DISPLAY NAME
END-READ
DISPLAY EMPLOYEES-VIEW.NAME /* will display †MEYERÿ only if it is
                             /* the last record in the file
                             /* otherwise, the displayed value will be the
                             /* first value greater than †MEYERÿ
```

To enable the user to choose between the old and the new behaviour, the keyword THRU will enforce that the loop is left with the last record within the specified value range, while ENDING AT will ensure that the value beyond the ENDING AT value is still read. This feature will apply only to Natural objects that are compiled with the new Natural version.

For compatibility reasons, a new option may be specified with the COMPOPT utility to enforce the old behaviour even with the THRU clause. As an alternative, you can change the THRU into an ENDING AT clause.

Discontinued Support of Applications Cataloged with Natural Version 2.2

With the next major release of Natural, applications that were cataloged with NATURAL Version 2.2 can be executed without any conversion procedure being required, and without your having to make any adjustments to the programs except of the ones mentioned above.

However, a future version of Natural may require that all such applications are recataloged to be executed with that version.

Software AG strongly recommends that existing applications be recataloged with Natural Version 3.1 to take advantage of improved runtime handling for such objects.