



# NATURAL

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**Natural**  
Release Notes  
Version 3.1.6 for Mainframes



This document applies to Natural Version 3.1.6 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.

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# Natural 3.1.6 Release Notes for Mainframes - Overview

These Release Notes inform you of the enhancements provided with Version 3.1.6 of Natural. This version contains all ZAPs, INPL updates, early warnings and source changes applied to Natural 3.1.5 as error corrections.

For background information, you should also read the Natural Version 2.3.3, 2.3.4, 3.1.2, 3.1.3, 3.1.4 and 3.1.5 Release Notes for Mainframes which are available with Version 3.1.6 on the current Natural Documentation CD-ROM (in the folder RN-Archive) and on ServLine24: <http://servline24.softwareag.com>.

The following topics are covered:

## General Information

- Introduction
- Prerequisites
- Migration
- Documentation
- End of Maintenance of Natural Versions
- Natural and Other Software AG Products
- DRS Printing Facility
- Information on Upcoming Releases

## Changes, Enhancements, New Features

- Version Check at Session Initialization Refined
- Version Check for Module NATCONFIG Introduced
- Natural Remote Procedure Call
- Determination of Window Size Corrected
- Macro NTRPC and Profile Parameter RPC Enhanced
- Changes to the Natural Load Library
- Delivery of Assembler Macros of Type E Discontinued

## Add-On Products Concerned

- Natural SAF Security New
- Natural RPC Version 5.1.1 New
- Other Natural Add-on Products

# Natural 3.1.6 Release Notes - General Information

This document covers the following topics:

- Introduction
  - Prerequisites
  - Migration
  - Documentation
  - End of Maintenance of Natural Versions
  - Natural and Other Software AG Products
  - DRS Printing Facility
  - Information on Upcoming Releases
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## Introduction

These Release Notes inform you of the enhancements provided with Version 3.1.6 of Natural.

Natural 3.1.6 contains all ZAPs, INPL updates, early warnings and source changes applied to Natural 3.1.5 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, 3 or 4
OS/390	2.8, 2.9 or 2.10  Natural for VSAM Version 3.1.6 requires that the corresponding DFSMS Version be installed, minimum requirement is DFSMS Version 1.5.
z/OS	1.1, 1.2 or 1.3 (Natural Version 3.1.6 supports z/OS to the same extent as it supports OS/390; new features of z/OS will be supported only as of Natural Version 4.1)
VSE/ESA	2.5 or 2.6  To use a global buffer pool, VSE/ESA Version 2.5 or above with the ESA/390 Subsystem Storage Protection Feature must be installed.  Natural for VSAM Version 3.1.6 requires that the corresponding VSE/VSAM Version be installed.
VM/ESA	2.4
z/VM	3.1, 4.1, 4.2 or 4.3 (Natural Version 3.1.6 supports z/VM to the same extent as it supports VM/ESA; new features of z/VM will be supported only as of Natural Version 4.1)
Com-plete	5.1.3, 6.1.1 or 6.2.1
CICS/ESA	4.1, CICS TS 1.2, 1.3, 2.1 or 2.2
CICS/VSE	2.3, CICS TS 1.1 or 1.1.1
IMS/TM	6, 7
UTM	4 or 5
TIAM	All versions available with OSD Version 2, 3 or 4.

Software AG provides Natural support for the operating/teleprocessing system versions supported by their respective manufacturers. Generally, when an operating/teleprocessing system provider stops supporting a version of an operating system, Software AG will stop supporting that operating system version.

Although it may be technically possible to run a new version of Natural on an old operating/teleprocessing system, Software AG can not continue to support operating/teleprocessing system versions that are no longer supported by the system's provider.

## 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 assemblers; however, Software AG cannot guarantee this.

## Migration

When migrating from an earlier Natural version to Natural for Mainframes Version 3.1.6, you must observe the following:

### 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.

### 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 leave MAXBUFF untouched
2. specify MAXBUFF=30 and leave ACIVERS untouched

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

## Documentation

- An updated set of documents is distributed with this release.
- The Natural for DB2 documentation has been provided with several examples for the use of stored procedures.

## Error Messages

To enable the viewing and printing of error message explanations when no active Natural Version 3.1 nucleus is available, an updated version of the English Natural error messages in the range of NAT0001 to NAT9999 has been included in the Messages and Codes documentation. Library-specific messages and messages relating to other Software AG products are not included.

The German Natural error messages and warnings were updated with the release of Natural Version 3.1.6 and are available online within Natural.

## End of Maintenance of Natural Versions

The maintenance for Natural Version 3.1.4 for Mainframes ends 6 months after the release of Natural Version 3.1.6. Extensions of the maintenance for Natural Version 3.1.3 and 3.1.4, if any, will be published via ServLine24 (<http://servline24.softwareag.com>).

Software AG strongly recommends that you migrate to Natural Version 3.1.6 as soon as possible.

## Natural and 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	Prod. Code	Version
Adabas	ADA	7.1.2 (Version 7.1.2 is supported to the same extent as it supports Version 6.2; new features of Adabas Version 7.1.2 will be supported only as of Natural Version 4.1)
Adabas Online System	AOS	7.1.2
Adabas SQL Server	ESQ	1.4.3
Adabas Review	REV	4.2.1
Adabas Text Retrieval	TRS	2.1.4
Com-plete	COM	5.1.3
Con-form	CMF	3.3.1
Con-nect	CNT	3.3.1
EntireX Broker Stub	EXX	5.3.2, 6.1.1 Version-compatibility with EntireX Broker is required.  If Secure Socket Layer (SSL) is to be used with Natural RPC Version 5.1.1, EntireX Broker Stub Version 6.1 is required.  If location transparency is to be used with Natural RPC Version 5.1.1, EntireX Broker Stub Version 6.2 is required.
Entire Event Management	NCL	2.1.2

Product	Prod. Code	Version
Entire Net-Work	WCP	5.6.1 (This product is required if you are using Natural Security in a heterogeneous environment.)
Entire Operations	NOP	3.2.1
Entire Output Management	NOM	2.1.1
Entire System Server	NPR	3.1.1
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 Installing the Entire System Server Interface in the Natural Installation Guide for Mainframes.
Entire Transaction Propagator	ETP	1.4.1
EntireX DCOM	EXX	5.3.2, 6.1.1 (required for NaturalX only)
Natural Advanced Facilities	NAF	2.3.7
Natural CICS Interface	NCI	2.3.7
Natural Connection	NTC	3.1.6
Natural Construct	CST	4.3.1
Natural Development Server	NDV	1.1.3
Natural Document Management	NDM	1.6.3
Natural for DB2	NDB	3.1.6 (this version supports DB2 V5R1; V6R1 and V7R1 are supported to the same extent as with V5R1; new features of DB2 V6R1 and V7R1 will be supported only as of Natural for DB2 Version 4.1)
Natural for DL/I	NDL	2.3.7
Natural for SQL/DS	NSQ	3.1.6
Natural for VSAM	NVS	3.1.6
Natural IMS/TM interface	NII	2.3.7
Natural ISPF	ISP	2.4.5

Product	Prod. Code	Version
Natural Optimizer Compiler	NOC	2.3.7, 3.1.5 Beta Version
Natural Remote Procedure Call	---	5.1.1 With Natural Version 3.1.6, the Natural Remote Procedure Call is a separate subcomponent of Natural. The old RPC version that is an integral part of Natural is still delivered with Natural Version 3.1.6; the old and the new RPC versions are available in parallel; you must enable the new version explicitly to make it become effective, the old version is the default.
Natural Security for Mainframes	NSC	3.1.6
Natural TIAM interface	NRT	3.1.6
Natural TSO interface	NTI	3.1.6
Natural UTM interface	NUT	3.1.6
Natural VM/CMS Interface	NCM	3.1.6
NaturalX	NXX	3.1.4
Predict	PRD	4.1.2 (Version 4.2.1 if both the Natural Development Server and Predict are to be installed)
Predict Application Control	PAC	2.2.2
Predict Case	PCA	2.5.2
Review Natural Monitor	RNM	3.6.3
Super Natural	NSN	3.3.3

Although it may be technically possible to run versions of other Software AG products older than the ones listed above in conjunction with a new version of Natural, Software AG can not continue to support such combinations.

## DRS Printing Facility

Software AG introduces Levi, Ray & Shoup, Inc. (LRS) as an Authorized Partner for Natural Printing Solutions. 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 further details, see also the LRS homepage at <http://www.lrs.com/epm/drs.htm>.

## Information on Upcoming Releases

With the next major release of Natural (Version 4.1), 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
- Delivery of SYSPC Utility Discontinued
- Functionality of Natural for SQL/DS Integrated into Natural for DB2
- Size Reduction of Objects Cataloged with Natural Optimizer Compiler

### ENDING AT Clause in READ or HISTOGRAM Statements

In previous Release Notes, a change notice concerning a planned change in the semantics of the THRU keyword in Natural Version 4.1 was included. This change will not be implemented. The semantics of the THRU keyword will remain unchanged.

### Discontinued Support of Applications Cataloged with Natural Version 2.2

With the next major release of Natural (Version 4.1), applications cataloged with Natural Version 2.2 can be executed without any conversion procedure being required. Any adjustments to the programs necessary will be mentioned in the Natural Version 4.1 Release Notes for Mainframes.



However, the next major release of Natural after Version 4.1 will require that all such applications be recataloged before execution with that version.

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

### Delivery of SYSPC Utility Discontinued

With the next major release of Natural (Version 4.1), the delivery of the SYSPC utility will be discontinued. Software AG recommends that existing applications using the SYSPC utility be modified so that they can be used with the utility SYSTRANS, NATLOAD or NATUNLD instead. With Entire Connection Version 4.2.1, new transfer tasks are provided that no longer require the SYSPC utility.

### Functionality of Natural for SQL/DS Integrated into Natural for DB2

With the next major release of Natural (Version 4.1), the delivery of the product Natural for SQL/DS (NSQ) will be integrated into the product Natural for DB2 (NDB). After that, the product Natural for SQL/DS will no longer be available.

### Size Reduction of Objects Cataloged with Natural Optimizer Compiler

With the next major release of Natural for Mainframes (Version 4.1), it is planned to reduce the size of objects that are cataloged with Natural Optimizer Compiler. This will reduce the space requirements for your FUSER file. The buffer pool requirements will not be affected.

To benefit from this enhancement, it will be necessary that you recatalog your programming objects with Natural Version 4.1 for Mainframes.

# Natural 3.1.6 Release Notes - Changes, Enhancements, New Features

This document covers the following topics:

- Version Check at Session Initialization Refined
  - Version Check for Module NATCONFIG Introduced
  - Length Calculation for Edit Masks with Leading Filler Character Corrected
  - Natural Remote Procedure Call
  - Determination of Window Size Corrected
  - Macro NTRPC and Profile Parameter RPC Enhanced
  - Changes to the Natural Load Library
  - Delivery of Assembler Macros of Type E Discontinued
- 

## Version Check at Session Initialization Refined

With Natural Version 3.1.5, the check for matching versions of the Natural nucleus and the FNAT system file has been refined. To prevent unpredictable errors during session execution, any attempt to start a Natural Version 3.1 nucleus with a Natural Version 2.3 FNAT system file will be rejected.

## Version Check for Module NATCONFIG Introduced

With Natural Version 3.1.5, a check for matching versions of the Natural nucleus and module NATCONFIG has been introduced. To prevent unpredictable errors during session execution, any attempt to start a Natural Version 3.1.5 (or above) nucleus with a NATCONFIG module from a previous system maintenance (SM) release will be rejected.

**Note:** If you adapted an existing NATCONFIG module for your own purposes, you cannot continue using that module. Transfer your changes to the new NATCONFIG source before you assemble and link NATCONFIG as described in the corresponding installation description.

## Length Calculation for Edit Masks with Leading Filler Character Corrected

With Natural Version 3.1.5, leading filler characters specified in edit masks for numeric operands are no longer counted as being part of the edit mask. This may reduce the output length of numeric fields with an associated edit mask so that following output in the same line is shifted one position to the left. To apply the correction to an existing object, it must be cataloged with Natural Version 3.1.5 or above.

**Example:**

```
P(P3) = -12
DISPLAY P (EM=-*ZZZ)Output before Natural Version 3.1.5:
  P
  ----
  -12
Output with Natural Version 3.1.5 or above:
  P
  ----
  -12
```

## Natural Remote Procedure Call

### Separate RPC Add-On Product

As of Natural Version 3.1.6 for Mainframes, Natural RPC will be a separate subcomponent of Natural. For the enhancements that are provided with Natural RPC Version 5.1.1, refer to Natural RPC Version 5.1.1 in these Release Notes and to the corresponding sections in the Natural Remote Procedure Call documentation. Currently, the old and the new Natural RPC versions are both available.

**Note:**

The default installation of Natural Version 3.1.6 will use the old Natural RPC version.

For details on installing the new Natural RPC version with Natural Version 3.1.6, see RPC Installation on Mainframe Platforms.

It is not possible to use the new Natural RPC version with Natural Version 3.1.5 or below.

### Support of CSCPATT Parameter Discontinued

As the CSCI transport protocol is no longer supported, the CSCPATT parameter of the NTRPC macro will be rejected with Natural Version 3.1.6. The CSCPATT subparameter of the RPC profile parameter will be ignored.

The value CSCI will be rejected if specified as transport protocol for the DFS, RDS or TRANSP parameters of the NTRPC macro or for the DFS, RDS or TRANSP subparameters of the RPC profile parameter.

## Determination of Window Size Corrected

According to the Natural Statements Manual, the size of a window defined by means of the DEFINE WINDOW SIZE AUTO statement is determined by the window data, and not by the size of the window title. With previous versions of Natural for Mainframes, the size of the window was determined by the size of the window title.

With Natural Version 3.1.6, this has been corrected to make Natural for Mainframes compliant with Natural on Open Systems. Now the window title is truncated if its size exceeds the size of the window. The size of windows that have been defined using the SIZE AUTO clause may also be reduced.

## Macro NTRPC and Profile Parameter RPC Enhanced

The maximum length of the values that may be specified for the following keyword parameters of the NTRPC macro for static specification, or the subparameters with the same name of the profile parameter RPC has been extended from 8 to 192 characters:

- SRVNAME (Name of RPC Server) subparameter,
- SRVNODE (Name of Node) subparameter,
- server name and server node name for the DFS (RPC Default Server Address) subparameter,
- server name and server node name for the RDS (Define Remote Directory Servers) subparameter.

The range of valid values for the ACIVERS subparameter has been extended to 1-6.

## Changes to the Natural Load Library

With Natural Version 3.1.6, the following changes have been made to the Natural load library:

- The module PRDXR34 has been renamed to PRDXREF.
- The module SPENUC has been added to support the upcoming Natural Construct Spectrum Version 4.4.1.

## **Delivery of Assembler Macros of Type E Discontinued**

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 has been discontinued for VSE installations.

# Natural SAF Security

Together with Version 3.1.6 of Natural and Natural Security, Version 3.1.6 of Natural SAF Security is available. Natural SAF Security is a new add-on product to Natural Security. Version 3.1.6 is the first generally available version of this new product.

This section covers the following Natural SAF Security topics:

- Summary of Features
  - What is Natural SAF Security?
  - Supported Operating Systems
  - Documentation
  - End of Support for Natural SAF Gateway Version 1.1.1
- 

## Summary of Features

Natural SAF Security provides the following features:

- maintenance of user profiles in a single SAF-compliant security system,
- protection of Natural libraries in combination with Natural Security library profiles,
- protection of Natural system files against unauthorized use,
- protection of Natural RPC services,
- protection of user-defined resources.

## What is Natural SAF Security?

Natural SAF Security allows you to protect your Natural applications and control the access to Natural sessions using resources defined in an external security system. With Natural SAF Security, you can protect your Natural sessions by combining security definitions made in Natural Security and in the external security system.

This external security system must be an SAF-compliant security system. At present, Natural SAF Security 3.1.6 supports the following external security systems:

- RACF,
- CA-ACF2,
- CA Top Secret.

With Natural SAF Security, it is no longer necessary to define security profiles for individual users in Natural Security. Instead, existing user definitions made in the external security system can be used.

When you use Natural SAF Security, you need not define users both in Natural Security and in an external security system; it is sufficient to define them in the external security system. You only need to define user **groups** in Natural Security. When Natural SAF Security is active and a user logs on to Natural, the user authorization checks will be done using the user ID and user password from the external security system.

The group ID from the external security system is passed to Natural Security, and will be used for further security checks, particularly concerning the use of Natural libraries and utilities. Although library protection via an external security system is possible, the Natural Security library security profiles provide more sophisticated and more adequate mechanisms for protecting Natural libraries.

In addition, the protection of Natural can be made environment-specific. A Natural environment is determined by the combination of the system files FNAT, FUSER, FSEC and FDIC. You can define a profile for each system-file combination and control users' access to it. Thus it is possible to fully separate the protection of a

Natural development environment from that of a Natural production environment.

Moreover, Natural SAF Security allows you to protect user-defined resources which are defined in the external security system against unauthorized use.

Natural SAF Security also provides Natural RPC protection: With Natural Security, certain RPC options can be set in library profiles, thus making the use of Natural RPC functions dependent on the library from which they are invoked. Natural SAF Security, on the other hand, allows you to protect Natural RPC services (that is, Natural subprograms invoked remote via Natural RPC) as such against unauthorized use. Please note, however, that this RPC-related protection requires Version 5.1.1 of Natural RPC.

The generation of end of transaction IDs (ETIDs) can also be controlled via Natural SAF Security.

## Supported Operating Systems

Natural SAF Security 3.1.6 is only available with Natural on the OS/390 operating system.

## Documentation

Natural SAF Security is fully documented in the Natural SAF Security documentation.

## End of Support for Natural SAF Gateway Version 1.1.1

The support for Natural SAF Gateway Version 1.1.1 will be discontinued at the end of the first quarter of 2003.

# Natural RPC Version 5.1.1

As of Natural Version 3.1.6 for Mainframes, the Natural Remote Procedure Call is available as a separate subcomponent of Natural. This measure will enable the Natural development team to provide new Natural RPC versions independent of new Natural versions for the various platforms supported. Currently, the old and the new Natural RPC versions are both available.

**Note:**

The default installation of Natural Version 3.1.6 will use the old Natural RPC version.

For details on installing the new Natural RPC with Natural Version 3.1.6, see *RPC Installation on Mainframe Platforms*.

It is not possible to use the new Natural RPC version with Natural Version 3.1.5 or below.

This section describes the product features, changes and enhancements introduced with Natural RPC Version 5.1.1. The following topics are covered:

**New Features:**

- Maximum Length for Node and Server Names Increased to 32 Characters
- Support of the EntireX Broker ACI V6
- Support of SSL for the TCP/IP Communication
- Support of EntireX Location Transparency
- New User Exit USR2035N
- Prerequisites

**SYSRPC Utility Enhancements and Modifications:**

- Support of Long Node and Server Names
- Support of EntireX Location Transparency
- Add Properties for Old Remote Directory and the Transport Protocol to Local Directory

**Changed Features:**

- Implicit END TRANSACTION in a Conversation
- Release of Adabas Retain Sets
- Enhancements to User Exits
- Enhancements to Status Functions

**Natural RPC Installation:**

- Installation of New Natural RPC
  - RPCSIZE Considerations
- 

## New Features

### Maximum Length for Node and Server Names Increased to 32 Characters

With Natural RPC Version 5.1.1, the maximum length for node and server name has been increased to 32 characters to be compliant with the EntireX Broker ACI. This enhancement allows you to specify a fully qualified TCP/IP node name and makes the etc/hosts and etc/services definitions obsolete.

Neither the interface nor the internal structure of the local directory NATCLTGS has been changed. See also Support Long Node and Server Names below.

## Support of the EntireX Broker ACI V6

The Natural RPC profile parameter ACIVERS has been enhanced to enable you to specify Version 6.

The specification of ACI Version 6 is strongly recommended if you are using the TCP/IP stub EXAAPSC (CICS only). In this case, Natural will use the TERMINATE option for the LOGOFF from the EntireX Broker.

## Support of SSL for the TCP/IP Communication

Secure Socket Layer (SSL) support for the TCP/IP communication to the EntireX Broker has been introduced. To enable the EntireX Broker to recognize that the TCP/IP communication should use SSL, you have to use one of the following methods:

- Append the string :SSL to the node name.
- Prefix the node name with the string //SSL:

To use SSL, an SSL parameter string must be passed to the EntireX Broker on the very first call.

For more details about SSL and the SSL parameter string, see the EntireX documentation.

### Note:

The SMARTS-based EntireX broker stub EXAAPSB or EXAAPSC must be used for this feature.

## Support of EntireX Location Transparency

With EntireX, location transparency is possible. Instead of using the physical node name and the physical server name, a server can be addressed by a logical name. The logical name is mapped to the physical node and server names using directory services.

To take advantage of location transparency, the Natural RPC has been enabled to accept a logical name wherever only a physical node and a physical server name could be specified before. The logical name is passed to the EntireX Broker before it is used the first time.

The maximum length of a logical name is 192 characters. To avoid new Natural profile parameters, a logical name is specified in the server name and node name part of the already existing parameters. There are two kinds of logical names:

- **Logical node names**  
With a logical node name, you specify a logical name for a node only in conjunction with a physical server name.
- **Logical services**  
With a logical service, you specify a logical name for both the node and the server. To define a logical service, the node name has to be set to \*, and the server name contains the logical service name.

The following components refer to node and server names:

- The keyword parameters SRVNODE, SRVNAME, DFS and RDS of the NTRPC macro for static specification, or the subparameters with the same name of the profile parameter RPC.
- Service maintenance of the SYSRPC utility
- Service directory (NATCLTGS)
- User exits USR2007N, USR2071N
- Service programs RPCERR, RPCINFO

The new information about logical service names is stored in the local directory NATCLTGS without changing its interface or its internal structure. All information is stored as attribute/ value pairs and the logical service names are just added under a new attribute.

The interface to the user application programming interfaces (user exits) USR2007N and USR20071N has not been changed. To be able to retrieve or specify long logical service names, the respective PDA fields have been defined with the VALUE RESULT option and their length has been increased.

**Note:**

The SMARTS-based EntireX broker stub EXAAPSB or EXAAPSC must be used for this feature. In addition a directory service is required.

## New User Exit USR2035N

For the support of the Secure Socket Layer (SSL) communication, the new user exit USR2035N is provided to set the required SSL parameter string.

## Prerequisites

- SMARTS-based EntireX Broker stubs EXAAPSB/EXAAPSC (including SMARTS) if you want to use SSL and/or location transparency.
- Directory services if you want to use location transparency.

# SYSRPC Utility Enhancements and Modifications

With Natural RPC Version 5.1.1, the following changes and enhancements have been made to the Natural SYSRPC utility:

- Support of Long Node and Server Names
- Support of EntireX Location Transparency
- Add Properties for Old Remote Directory and the Transport Protocol to Local Directory

A short description of these changes and enhancements is given below. For more details, refer to the SYSRPC utility documentation.

## Support of Long Node and Server Names

To be compliant with the EntireX Broker, the Service Directory Maintenance function enables you to specify node and server names of up to 32 characters. For compatibility reasons, a new editing functionality of the Service Directory Maintenance is provided in addition to the existing one. The new editing functionality will only be used if the new Natural RPC is activated. Otherwise, the old editing functionality will still be used.

## Support of EntireX Location Transparency

To support the EntireX Location Transparency, the Service Directory Maintenance function enables you to specify logical node names and logical services of up to 192 characters. For compatibility reasons, this support is only available if the new Natural RPC is activated.

## Add Properties for Old Remote Directory and the Transport Protocol to Local Directory

The RDS specific properties "expiration time" and "unique directory identifier" are integrated into the local directory using appropriate tags.

The property "transport protocol" has also been added, which makes the Natural profile parameter ACIPATT obsolete. For compatibility reasons, ACIPATT is still supported, but ignored.

## Changed Features

- Implicit END TRANSACTION in a Conversation
- Release of Adabas Retain Sets
- Enhancements to User Exits
- Enhancements to Status Functions

### Implicit END TRANSACTION in a Conversation

If ETEOP=ON has been set on the Natural RPC server side, an implicit END TRANSACTION statement is issued at the end of the execution of each remote subprogram. This may lead to inconsistent data in the database if a conversation is established which should be rolled back as part of the database transaction when the modifications are already committed.

With Natural RPC Version 5.1.1, the ETEOP setting has no effect on the conversation. An implicit END TRANSACTION is still executed after execution of the last remote CALLNAT of a conversation.

Non-conversational CALLNATs are not affected.

### Release of Adabas Retain Sets

At the end of a non-conversation CALLNAT and at the end of a conversation, a RELEASE SETS is issued to release all Adabas retain sets. This ensures that the next request which may be for a different client will not see the data.

### Enhancements to User Exits

To support long node and server names, the user exits USR2007N and USR2071N have been enhanced to accept and return node and server names having a length of up to 192 characters. Existing callers who are using 8-character-long names will still work and need not be adapted.

### Enhancements to Status Functions

To support long node and server names, the RPCERR program and the RPCINFO subprogram have been enhanced.

- RPCERR shows the up to 32 character long physical node and server names. The display window has been adapted accordingly. For compatibility reasons the long names will only be shown if the new RPC is activated for this session. Otherwise, the short names will still be shown.
- RPCINFO returns the up to 32 character long physical node and server names. Existing callers which use 8 character long names will still work and need not be adapted. For compatibility reasons, the RPCINFOL local data area still uses 8-character-long node and server names.

## Natural RPC Installation

## Installation of New Natural RPC

The new Natural RPC can be activated using one of the following methods:

- **Static Approach**  
Link NATRPC51 instead of NATRPC to your Natural nucleus.
- **Dynamic Approach**  
Specify:

```
RCA=NATGWRPC RCALIAS=(NATGWRPC,NATRPC51)
```

This will dynamically load the new Natural RPC runtime module NATRPC51.

**Note Concerning CICS:**

A PPT entry has to be defined to enable the loading of NATRPC51.

## RPCSIZE Considerations

The new Natural RPC requires about 1 KB more working storage in the (client and server) settings of the RPCSIZE profile parameter which determines the size of the buffer used by the Natural RPC. On the server side, additional 2 KB (approximately) are required per 100 CALLNAT parameters passed to the server.

Depending on your environment, you may have to increase the RPCSIZE accordingly.

# Other Natural Add-on Products

With Natural Version 3.1.6, new versions of several add-on products are also provided. As no additional information concerning these products is available, new release notes for these products are not provided.

The following products are concerned:

Product	Prod. Code	Version	Comment
Natural Connection	NTC	3.1.6	These versions contain <ul style="list-style-type: none"> <li>● all ZAPs,</li> <li>● INPL updates,</li> <li>● early warnings and</li> <li>● source changes</li> </ul> applied to their respective predecessor version as error corrections.
Natural Development Server	NDV	1.1.3	
Natural for DB2	NDB	3.1.6	
Natural for SQL/DS	NSQ	3.1.6	
Natural for VSAM	NVS	3.1.6	
Natural ISPF	ISP	2.4.5	
Natural Security for Mainframes	NSC	3.1.6	
Natural TIAM Interface	NRT	3.1.6	
Natural TSO Interface	NTI	3.1.6	
Natural UTM Interface	NUT	3.1.6	
Natural VM/CMS Interface	NCM	3.1.6	
Review Natural Monitor	RNM	3.6.3	
Super Natural	NSN	3.3.3	