Release Information for Natural Version 6.3.3

This chapter covers the following topics:

- New Features
- Changes and Enhancements
- Known Incompatibilities
- Natural Remote Procedure Call (RPC)
- Natural Security
- Notice of Future Changes

New Features

Adabas 6 (Open Systems) and Adabas 8 (Mainframe) Support

With Natural Version 6.3.3, a new database driver (ADA2) is delivered for testing purposes. This database driver supports large objects and LA fields of Adabas 6 (Open Systems) and Adabas 8 (mainframe). This database driver is not yet intended for a production environment since the complete Adabas functionality is not yet supported.

Currently, large objects in MU and PE fields are not supported.

By default, the "old" database driver ADA is used. This ensures that your Natural applications run as usual; there is no difference to previous Natural versions. Only when you define the database type ADA2 in the Configuration Utility, the new database driver will be used.

Read-Only Buffer Pool

It is now possible to define a special buffer pool that only allows read access. For a read-only buffer pool, it is also possible to define an alternate buffer pool. See *Read-Only Buffer Pool* in the *Operations* documentation.

Parameters

The following new Natural profile parameters are provided in this version:

Profile Parameter	Description
BPID2	Specifies the name (ID) of an additional read/write buffer pool to which Natural can attach/detach during execution.
SRVWAIT	Specifies the number of seconds the server is to wait for an RPC client request.

Application Programming Interfaces

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

API	Description
USR4209N	Return short name of subroutine.
USR4210N	Base64 conversion of alphanumeric and binary bytes.

Changes and Enhancements

Configuration Utility

Database Management System Assignments

It is now possible to specify the database type ADA2. This database type supports alphanumeric objects (Adabas LA option) and large object database fields (LOBs), which are dynamically defined inside a view, and view sizes greater than 64KB. It can be used for Adabas as of version 6 on Open Systems and Adabas as of version 8 on mainframes. See *DBMS Assignments* in the *Configuration Utility* documentation.

Buffer Pool Assignments

It is now possible to define a read-only buffer pool and an alternate buffer pool for the read-only buffer pool. See *Buffer Pool Assignments* in the *Configuration Utility* documentation.

Remote Procedure Call

The new profile parameter SRVWAIT can be specified. See *RPC (Server)* in the *Configuration Utility* documentation.

Parameters

ACIVERS

The EntireX ACI Version 9 is now supported by ACIVERS. Therefore, the maximum value has been increased from 8 to 9. See also the corresponding information in the section *Natural Remote Procedure Call (RPC)* below.

STEPLIB

The profile parameter LSTEP has been renamed to STEPLIB. The information which was previously provided for the STEPLIB parameter is now available under *Additional Steplib Assignments* in the *Configuration Utility* documentation.

System Commands

CATALL

The system command CATALL can now also be used to check, save or stow objects. By default, the source-code lines of sources that were saved or stowed are now automatically renumbered.

When Natural Security is active, it is now checked whether the selected action (catalog, check, save or stow) is allowed under Natural Security. When it is not allowed, an occur occurs.

Natural Web I/O Interface Client

The Natural Web I/O Interface client can now be installed on JBoss Application Server 4.0.5. See *Installing the Natural Web I/O Interface Client on JBoss Application Server* in the *Natural Web I/O Interface* documentation.

It is now possible to define the screen resolution for the output window in the configuration file for the session (attributes rows and columns of the screen element). In this file, it is also possible now to define the platform on which user ID and password are to be authenticated (attribute type of the session element) and whether the input field for the user ID is in upper-case mode (attribute ucase of the user element). Furthermore, it is now possible to specify the version of the Natural Web I/O Interface protocol that is to be used (attribute protocol of the session element); the latest Natural versions automatically use the appropriate protocol version. For older Natural versions, it is required to define the appropriate protocol version in the configuration file. See *Overview of Configuration File Elements* in the *Natural Web I/O Interface* documentation.

Application Programming Interfaces

The application programming interface USR6203N (available with the utility SYSEXT) has been enhanced. It can now be used to add and delete resources.

Error Messages Corresponding to Adabas Response Codes

The Natural error messages that correspond to Adabas response codes have been completely revised with Natural Version 6.3.3.

Natural displays subcodes or other information from Additions fields if they are provided by Adabas.

Known Incompatibilities

This section provides additional information that you should be aware of after having installed Natural.

SQL Databases

When working in structured mode, the format/length of a variable must now be the same for both DDMs and views. With previous versions, it was possible, for example, to define a variable as dynamic in the DDM and with a fixed length in the view. This is no longer possible. When a variable is defined as

dynamic in the DDM, it must now also be defined as dynamic in the view.

If you want to retain the previous behavior, you can add a corresponding entry with a fixed length to the DDM (however, this is not recommended).

Usage of Database Field Short Names

In previous versions, a database field short name was not rejected during compilation if the parameter `DBSHORT=ON` and the `DEFINE DATA LOCAL` statement were specified. This problem was corrected with Natural Version 6.3.3 PL 1. The syntax error NAT0981 is now returned. For further information, see the enhanced description of the `DBSHORT` parameter.

Natural Remote Procedure Call (RPC)

With Natural Version 6.3.3 an enhanced Natural Remote Procedure Call (RPC) Version 6.3.1 is delivered that replaces the existing Natural RPC Version 6.2.3.

As of Natural RPC Version 6.3.1, the following enhancements are available:

Wait Time of RPC Server

The new parameter `SRVWAIT` is used to specify the number of seconds the server is to wait for an RPC client request.

ACIVERS Profile Parameter Enhanced

The EntireX ACI Version 9 is now supported by `ACIVERS`. This allows you to enable the EntireX Broker stub to send additional environmental information about client and server to the EntireX Broker, or to use the Integrated Authentication Framework (IAF).

Support of Integrated Authentication Framework (IAF) on Server Side

If Natural Security is installed on the Natural RPC server side and if the EntireX Broker uses IAF for authentication, the Natural RPC server can optionally be configured to use an IAF token for client authentification instead of the Natural Security logon data. The IAF token is provided by the EntireX Broker and contains the user ID that the client has used to log on to the EntireX Broker. As a consequence, after a successful authentication the Natural user ID `*USER` is always identical to the client user ID used by the EntireX Broker. It is no longer possible to use a user ID within Natural that is different from the client user ID used by the Entirex Broker.

To use this feature, the Natural RPC server and IAF must be configured in Natural Security. See the section *Protecting Natural RPC Servers and Services* in the *Natural Security* documentation for details.

No changes are required on the client side.

Natural Security

The following enhancements are provided with Natural Security Version 6.3.3.

- Administrator Services
- Utility Profiles
- Natural RPC Server Profiles

Administrator Services

The following enhancements are provided in Administrator Services:

- Set *APPLIC-NAME Always to Library Name
- Logon/Countersign Errors

Set *APPLIC-NAME Always to Library Name

With previous versions, the Natural system variable `*APPLIC-NAME` either contained the name of the library to which the user was logged on, or, if the user was logged on via a special link, the special-link name.

With this version, a new general option Set *APPLIC-NAME always to library name is available. It can be set so that `*APPLIC-NAME` always contains the library name, regardless of whether the user is logged on via a special link or not.

Logon/Countersign Errors

The functions for the handling of logon/countersign error records have been enhanced. They allow you to selectively handle logon errors which occurred in conjunction with Natural RPC service requests and Natural Web I/O service requests. To do so, you specify the following in the **Start Value** field on the **Logon/Countersign Errors Menu**:

- RPCSRVRQ - for logon errors in conjunction with Natural RPC service requests.
- NWOSRVRQ - for logon errors in conjunction with Natural Web I/O service requests.

Utility Profiles

Search Order for Applicable Profile

When a user invokes a utility function and Natural Security searches for appropriate utility profile to be applied, the search sequence, by default, includes user-library-specific and user-specific utility profiles of all groups in which the user is contained. With the new session option *GROUP Only, which can be set in a utility's default profile, you can restrict the search to utility profiles of the current group (as determined by the current value of the Natural system variable `*GROUP`) and exclude the utility profiles of other groups from the search sequence. See the section *Which Utility Profile Applies?* in the Natural Security documentation for details.

SYSOBJH - Object Handler

A new **Additional Option** named Utilities option is available in the default utility profile of the Object Handler (`SYSOBJH` utility). With it, you can make the Utilities option in library profiles apply to `SYSOBJH`.

Natural RPC Server Profiles

Single-Library RPC Servers

For Natural RPC servers which provide services performed by subprograms contained in a single library, a new option **Logon Mode** is available. It can be specified in the security profiles of Natural RPC servers to improve performance.

Setting the option to "S" (Static Mode) has the following effects:

- The library on the server is set at the start of the server session, and will remain unchanged until the end of the server session.
- The server will process only service requests for this library. Service requests for any other library will be rejected.
- If the library is unprotected (People-protected = N), the user's authorization to access the library is not checked. If the library is protected (People-protected=Y), the user's authorization to access the library is checked.
- After a successful check, the user's conditions of use of the library are determined by the library profile. Even if a special link exists between the user and the library, any settings in the special link profile will be ignored.

See the section *Validation of an RPC Service Request* in the Natural Security documentation for details.

Support of Integrated Authentication Framework

As of this version, Natural Security supports Natural RPC servers which use an Integrated Authentication Framework (IAF) server for token validation. See also *Support of Integrated Authentication Framework (IAF) on Server Side* in the RPC section of these Release Notes.

See the section *IAF Support* in the Natural Security documentation for details.

Notice of Future Changes

The following changes are planned for future versions of Natural.

Versioning Software

If you want to use third-party versioning software together with Natural, it is no longer required that you write your own interface. Therefore, `NATNCVC` will no longer be supported.

It is recommended that you use Local Versioning which is available with Natural Studio when you are working in a remote UNIX environment using SPoD. Using Local Versioning, you can use the source control system Concurrent Versions System (CVS) or Subversion (SVN) from within your Natural environment. To use this functionality, you must have the Subversion or CVS client part (*svn.exe* or *cvs.exe*) installed on your PC and you must have access to a Subversion or CVS repository server which has been installed locally or on a server. When you search the internet, you can find these Subversion or CVS components on several download sites. For detailed information on Local Versioning, see *Natural Studio Extensions* which is part of the Natural for Windows documentation.

Natural Web I/O Interface Daemon

The following environment variables will no longer be supported:

- NWO_PF_MSG_LINES_NATIVE_FORMAT
- NWO_BORDERS
- NWO_PFKEYS

It is recommended that you do not use these environment variables any longer. In a later version, equivalent functionality is planned for the client side.