Reality v15.1

Release Information

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Document control

Software Version	Document Status	Document Revision	Issue Date	Reason for Change
v15.1	Published	v0.1	05/08/2015	Final draft

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Section 1: Introduction

Reality is a software environment that supports multiple MultiValue SQL-enabled databases on a single host and includes a range of powerful utilities for building, managing and accessing the databases.

The release information in this document applies to Reality V15.1 for UNIX and Windows. Reality V15.1 adds new features and enhanced compatibility with similar database systems. Faults reported since the production release of Reality V14.0 have been resolved. See New Features in Reality V15.1 (page 12) and Fault Resolutions (page 15) for more details.

Reality V15.1 is supplied as a downloadable ISO/DVD image file that contains:

- The Reality database software
- User documentation
- UNIX-Connect: Networking software that provides communications between Reality databases and between Reality and host system environments
- Reality Remote Tape: Server software that allows a Reality host to use tape units on remote systems
- PCSNI: Client software that allows communication between a PC and a Reality database
- JReal: Client software that provides the Java programmer with the ability to run Remote Basic subroutines and to write custom servlets to access a Reality database via RealWeb
- RealWeb: Software that provides a web developer with DataBasic experience with access to data held in a Reality database
- RealSQL-JDBC Driver: Client software that provides a standard API for Java applications, applets and servlets using SQL to access data
- RealSQL-ODBC Driver: Client software that allows PC applications to access data using SQL
- RealEdit: A Reality editor that runs on Windows PCs
- Remote Basic ActiveX Control: A DLL that can be used in PC programs written in Visual Basic to run Remote Basic subroutines on a Reality database
- Reality and RealWeb demonstration software. A second ISO/DVD image file contains the Web Services feature (including the Jetty web server). This can be downloaded from the Reality website by selecting **Support > Downloads > System Components**

1.1 Retirement notice

This version of the software supersedes all previously released versions. NEC policy is to withdraw support for previous versions six months after a new release. The relevant date for this software can be obtained from your Northgate Public Services representative or the Reality website.

1.2 Backwards compatibility

NEC attempts to make each new version of Reality fully backwards compatible with previous versions. However, fault resolutions and new features can, in some cases, result in changes to menus and prompts displayed by host and TCL utilities. Scripts

which automate such utilities may therefore need to be reworked after upgrading or installing updates.

1.3 Deliverables

All the software comprising this release is supplied on two downloadable ISO/DVD image files, with electronic versions of all documents (including this one).

1.4 Reality ISO/DVD image file

- PDS history tool
- Reality
- User documettation
- UNIX-Connect
- Reality remote Tape
- PCSNI (client)
- JReal (client)
- RealSQL-JDBC Driver (client)
- RealSQL-ODBC Driver (Windows client)
- RealSQL-ODBC Driver (UNIX client)
- RealWeb HTML
- RealWeb Servlets
- Reality Demonstration
- RealWeb Demonstration
- WinSNI Configuration Editor (client)
- RealEdit (client)
- Remote Basic ActiveX Control
- TCP Bridge

1.5 Web services ISO/DVD image file

Reality web services - incoming (outgoing web services are supplied in the Reality delivery).

1.6 Reality website

Visit the NEC Reality website for:

- Product information
- Latest Updates
- Latest Documentation: Reality is supplied with comprehensive Online Documentation for viewing in a web browser. Refer to the Document Directory in the online documentation for details.

Note

The documentation is subject to change, and it is essential that you have the latest version. You should regularly access this from the Reality website. We are constantly trying to improve the Reality documentation, so please send us your comments. Every topic in the documentation includes a comment on this topic link to provide feedback.

- Enquiries

Section 2: Prerequisites

2.1 Reality on UNIX

- One of the following: SUN SPARC running Solaris 11 or 10 (64-bit only). IBM pSeries (RS 6000), running AIX 7 or 6 (64-bit only). PC with Intel Pentium processor or equivalent running one of the following versions of Linux: Red Hat version 9, ES/AS versions 2.1 or 3 (32-bit), Red Hat ES 6 or 5 commercial release (64-bit), CentOS 6 or 5 open software (64-bit)
- 128Mb RAM minimum (512Mb recommended), plus 2-6Mb per Reality User. See also Memory (page 9)
- 1 GB of available space to accommodate setup (actual hard disk used once installed will be between 220Mb and about 350Mb, depending on the system components installed, plus space for databases
- Korn shell
- Perl - this is normally supplied with the operating system
- UNIX-Connect for networking (supplied in the Reality ISO/DVD image file)
- NEC Customisation (a download is available for SUN; for other operating systems, contact Northgate Public Services)
- C compiler (on Solaris, if a C compiler is not available you can install the GNU C Compiler from the NEC Customisation download)

2.2 UNIX-Connect

Rosi UNIX user id with a home directory on a file system with at least 25 Mbytes free.
EAG non-functional v6.

2.3 Reality on windows

- PC with Intel x86-64 processor or equivalent, 1GHz or faster, running Windows 8, 7 or XP, Server 2012, 2008 or 2003 (32-bit or 64-bit).

Note

Reality is not available for Windows NT, 95, 98, 98 SE, ME or Vista.

- The minimum memory as required for the base windows release, plus 2-6Mb per Reality User. See also memory (page 9).
- Up to 1.5Gb of available disk space to accommodate setup (actual hard disk used once installed will be between 150Mb and about 350Mb for 32-bit and up to 500MB for 64-bit deliveries, depending on the system components installed, plus space for databases). It is recommended that Reality is installed on an NTFS partition.
- The Reality database can be loaded on to a Primary Domain Controller, Backup Domain Controller, stand-alone member server or WorkStation Reality backup and restore is supported on 4mm, 8mm and DLT/LTO tape units.
- Using at least a dual processor system is highly recommended for more than a small user count in order to run on recent Windows releases.
- NEC can take no responsibility for the processor and memory requirements of other applications running on a Windows server. Ideally, Reality should be loaded on a dedicated server.

- NEC recommend Microsoft's **A Guide to Assessing Windows Server Licensing** and their prevailing licensing policy is used to determine what is required for end user deployment.

2.4 Memory

Reality memory usage is difficult to predict, but as a rough sizing guide use 128Mb for the system and then 2Mb to 6Mb per user, depending on type of user and application. Performance problems are generally caused by lack of memory. If the server is not dedicated to Reality, then other application memory requirements must be added to this.

2.5 Foreign database support and SQL view

These features require a working ODBC installation, with appropriate ODBC driver(s), on the Reality system.

2.6 External components

2.6.1 PCSNI

- PC with Intel Pentium processor or equivalent, 200MHz or faster, running Windows 7 or 8, XP (Home or Professional), Server 2003 (Professional or Server), Server 2008 (32-bit or 64-bit)
- A LAN card
- TCP/IP networking
- A way of resolving host name and IP addresses (for example, a hosts file or a domain name service)

2.6.2 Real edit

- PC with Intel Pentium processor or equivalent, 200MHz or faster, running Windows 7 or 8, XP (Home or Professional), Server 2003 (Professional or Server), Server 2008 (32-bit or 64-bit)
- NEC PCSNI software V2.3.1 Rev C or later

2.6.3 JReal

Java Run Time Environment (JRE) version 1.4.1_02 or above. If this is not available, it can be downloaded from Sun's Java web site (http://java.sun.com/j2se/).

2.6.4 RealSQL-ODBC driver

- PC with Intel Pentium processor or equivalent, 200MHz or faster, running Windows 7 or 8, XP (Home or Professional), Server 2003 (Professional or Server), Server 2008 (32-bit or 64-bit).
- NEC PCSNI software V2.3.1 Rev C or later.
- Any ODBC Level 1 or 2 compliant application.
- A Winsock compliant TCP/IP transport stack for TCP/IP connections.
- If you are connecting to a Reality database on a UNIX host, the host will need UNIX-Connect.
- The PC applications and transport stacks use large amounts of memory. It is therefore essential that PCs running this package are configured for the optimum

use of memory; otherwise, it is possible that GPFs and other memory type errors will occur.

2.6.5 RealSQL-JDBC driver

- Java Run Time Environment (JRE) version 1.4.1_02 or above. If this is not available, it can be downloaded from java.sun.com/j2se.
- If you are connecting to a Reality database on a UNIX host, the host will need UNIX-Connect.

2.6.6 RealWeb

- A web server with support for Java servlets. (This can be on the same system as the Reality database or on another system.) On web servers that do not support servlets, plug-ins can be used to add servlet support.
- Java Run Time Environment (JRE) version 1.4.1_02 or above. If this is not available, it can be downloaded from java.sun.com/j2se.
- If you are connecting to a Reality database on a UNIX host, the host will need UNIX-Connect.

2.6.7 Remote tape server

Any UNIX or Windows system that supports Reality.

Note

Reality Database product does not have to be loaded onto the Server with the tape devices, only the Remote Tape Server component.

2.6.8 Reality web services

A web server with support for Java servlets (Jetty is supplied). This can be on the same system as the Reality database or on another system. On web servers that do not support servlets, plug-ins can be used to add servlet support.

Note

Reality Web Services have been tested on Jetty 5.1.4 and Tomcat 5.0.

Java Runtime Environment (JRE) or Java Development Kit (JDK), version 1.4.1_02 or later. For Jetty, you can use either for Tomcat you must use a JDK.

2.6.9 Remote basic activeX control

- PC with Intel Pentium processor or equivalent, running Windows 7 or 8, XP (Home or Professional), Server 2003 (Professional or Server), Server 2008 (32-bit or 64-bit).
- PCSNI - client software that allows communication between a PC and a Reality database. (Page 5) software V2.3.1 Rev C or later.

2.6.10 Online documentation

The online documentation is intended to be installed on a web server. If necessary, it can also be installed on file server, or on individual PCs running Windows or Linux. It can also be viewed from the Reality ISO/DVD image file.

The online documentation is compatible with most contemporary web browsers. The following are suitable. However, be aware that browsers can change over time as to what they allow access to, in terms of local/remote drives and/or websites, so browser settings may need to be checked. If a particular browser prevents access, please try another browser:

- Internet Explorer
- Mozilla Firefox
- Safari
- Google Chrome

Section 3: New features in Reality v15.1

Reality v15.1 contains a number of new features since the release of V15.0, including key features of DataBasic Objects (for Java only in this release), DataBasic Exception Handler and a new command, MOUNT-IMAGE, for mounting a physical back-up of a database.

Some of the new features have come from the user feedback that we receive during the life of a release, so please continue to use the Comment on this topic links at the top of each topic in the Online Documentation, or visit the NEC Reality website, in order to help us to improve your Reality.

3.1 DataBasic objects

DataBasic objects enable DataBasic programmers to access features written in object-oriented languages such as Java. (Currently only Java is supported, but other object-oriented languages could be added in future releases.)

The DataBasic debugger can interrogate and display the DataBasic variables containing DataBasic Objects during the development of new application interfaces.

3.2 DataBasic exception handler

The exception handler can be used with general Application DataBasic errors within external user functions, subroutines, code structures and the new DataBasic Objects.

3.3 Mounting a physical back-up of a database

It is now possible to mount a physical of a live database backup using the new MOUNT-IMAGE command for general access to files. This can be used with a SEL-RESTORE for recovery of data and even for access to a whole read only database that users can log into.

3.4 DataBasic

- Remove statement now has more efficient options for all users and is now MV compatible.
- Base 64 is now a new method 6 in Encrypt and Decrypt functions and is also available to English as the B64 conversion code.
- Perform using SYS of platform commands and capturing the output has been significant performance improvements.
- Squote and Dquote can now use binary data.
- Global Reality System () numbering is available using the new REAL.SYSTEM() function in any selected MultiValue runtime environment.
- Enhancements to the DataBasic debugger, including new commands (some of which are licensed separately).

3.5 Other enhancements

- Floppy tape data files now have definable size disk segments so you can split data over multiple files.

- English BSELECT/SELECT are now compatible with MultiValue variants
- Key System files are now automatically sized to reduce support overheads.

Section 4: Restrictions

This section lists the restrictions that were current when Reality V15.1 was released. For the latest information, refer to the NEC Reality website.

4.1 All versions

- File triggers can currently only be associated with file data sections.
- Shadow database cannot currently use partition databases constructed from standard host files on different file systems (see Types of Database).

4.2 Online documentation

If the documentation is installed on the local file system and you are using Internet Explorer, you may receive a number of security warnings regarding active content. These can be avoided by installing the documentation on a web server (recommended), or by selecting the Allow active content to run in files on My Computer option (you can find this in Tools/Internet Options..., on the Advanced tab under Security).

Section 5: Final resolutions

Reality V15.1 includes resolutions of the following faults:

Fault number	Description
85634	System Despoolers keep failing with error 72
85641	DataBasic system (89) over telnet_lbs cause memory corruption coredump
85644	NPU printing hangs
85645	$OPTIONS exec.obj causes external basic subroutines to consume excess memory and run slow
85652	TANDEM is failing with [2004] port is not responding
85654	The Database ID in the rawlog can change if the Database directory is on a zfs filesystem as st_dev number changes on REBOOT
85655	Killreal can cause Solaris 11 services to be terminated causing loss of network access to system
85657	Command line for realdump limited to 200 bytes
85662	Mkdbase -p 50000x40 can create default size database via menu version
85663	Default database isn't set until session manager stopped and started
85665	AIX platform realprof–t fails to run
85670	File saved in V14.x index errors when restored into 15.0
85671	Program issuing a list on ILOCKTAB runs out of memory

85677	ICOUNT of a null string is not returning any items
90271	STR and CRT Functions handle strings with segment marks incorrectly
90968	System files such as USERS should use auto file sizing
90951	TL-SET-LOG-STATUS must ensure that /SYSFILES/REK is not set logged
90982	DataBasic write should not create a binary item when no binary data is present
90985	config does not reflect NUMCONNECTIONS being 1024 (still reads 128)
90986	Remote database connections on linux are very slow
90999	Optmised Reality coredumps in PEFORM on linux 64 bit
91001	AFS files do not expand after file-save
91007	TL-SET-LOG-STATUS fails on encrypted file
91036	Partially created index can cause core dumps
91039	Unable to clear an index limit. For example, LIMIT.INDEX in DataBasic
91044	DBUPDATE gave pdshist open failed
91046	Restart of a Database which has had space added to it via mkdbase-a results in error page map failed
91049	Cannot redirect output of rdb, debugger

91050	Disconnecting a stale com session can fail with sigsegv signal (11)
91052	DataBasic perform SYS CAPTURING can be inordinately slower than when not capturing.
91053	DataBasic SQUOTE and DQUOTE do not handle binary strings
91061	Leading VM not put in by T/Tabulate option in DataBasic XML extraction
91062	SQL-VIEW failing on multiple items
91069	Realdrc can core dump if used incorrectly
91072	Realevent fails to send notification emails

Section 6: Third-party artefacts

The following third-party products are used within Reality:

- GNUmalloc (GNU Software Foundation)
- Zlib compression library (GNU Software Foundation).
- DES Encryption library (Eric Young - eay@cryptsoft.com).

The following third-party products may be included with Reality (depending on the operating system and the features selected):

- Perl scripting environment (GNU Software Foundation)
- Gzip compression software (GNU Software Foundation)
- GNU C-complier (GNU Software Foundation)
- Gdb Debugger (GNU Software Foundation)
- Adobe Acrobat document reader (Adobe Systems Inc.)
- TomCat web server (Apache Software Foundation).
- Jetty web server (Mort Bay Consulting).


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