



**Reality**  
V14.0

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**Release Information**

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Northgate Information Solutions UK Limited  
Peoplebuilding 2  
Peoplebuilding Estate  
Maylands Avenue  
Hemel Hempstead  
Herts  
HP2 4NW  
  
Tel: +44 (0)1442 232424  
Fax: +44 (0)1442 256454  
  
[www.northgate-is.com](http://www.northgate-is.com)

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## Introduction

Reality is a software environment that supports multiple 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 V14.0 for UNIX and Windows. Reality V14.0 adds new features and enhanced compatibility with similar database systems. Faults reported since Production Release of Reality V12.0 have been resolved. See [New Features in Reality V14.0](#) (page 11) and [Fault Resolutions](#) (page 20) for more details.

Reality V14.0 is supplied on two CDs. Included on the first CD are:

- 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 – client 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.
- WinSQLM – client software that assists in creating SQL tables based on existing Reality dictionary definitions.
- 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.

The second CD contains the Web Services feature (including the Jetty web server).

**Note:** A third CD is available on request – this contains the Reality GUI Administration tool, which consists of:

- GUI Administration server.
- Client configuration utility.
- Client deployment service.

If you require this feature, contact your Northgate representative.

This version of the software supersedes all previously released versions. Northgate 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 representative or the Northgate web site, [www.northgate-is.com/reality](http://www.northgate-is.com/reality).

## Backwards Compatibility

Northgate strives to make each new version of Reality fully backwards compatible with previous versions. However, fault resolutions 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.

## Related Documents

Reality is supplied with comprehensive on-line documentation for viewing in a web browser. Refer to the *Document Directory* in the on-line documentation for details.

## Packaging

All of the software comprising this release is supplied on the installation CDs, with electronic versions of all documents (including this one).

The first installation CD contains the following components.

| Software                             | Version |
|--------------------------------------|---------|
| PDS History Tool                     | V12.0   |
| Reality                              | V14.0   |
| User Documentation                   | V14.0   |
| UNIX-Connect                         | V1.5    |
| Reality Remote Tape                  | V12.0   |
| PCSNi (client)                       | V2.3.1  |
| JReal (client)                       | V3.2    |
| RealSQL-JDBC Driver (client)         | V1.0.1  |
| RealSQL-ODBC Driver (Windows client) | V2.5.1  |
| RealSQL-ODBC Driver (UNIX client)    | V2.5.1  |
| RealWeb HTML (client)                | V3.0    |
| RealWeb Servlets (client)            | V3.2    |
| WinSQLM (client)                     | V2.0    |

| Software                             | Version |
|--------------------------------------|---------|
| Reality Demonstration                | V12.0   |
| RealWeb Demonstration                | V1.1    |
| WinSNI Configuration Editor (client) | V1.0    |
| RealEdit (client)                    | V1.1.1  |
| Remote Basic ActiveX Control         | V1.0    |
| TCP Bridge                           | V1.0.1  |

The second installation CD contains the following components.

| Software     | Version |
|--------------|---------|
| Web Services | V1.0    |

The third installation CD (available on request) contains the following components.

| Software  | Version |
|---|---------|
| GUI Administration Tools                        | V2.0    |
| Installation Guide for GUI Administration Tools | V2.0    |

## Prerequisites

### Reality on UNIX

- One of the following:
  - SUN SPARC running Solaris 8, 9 or 10.
  - IBM pSeries (RS 6000), running AIX 5.2 or 5.3.
  - PC with Intel Pentium processor or equivalent running Red Hat Linux version 7.2, 9, ES/AS versions 2.1 or 3 (32-bit), ES3 (64-bit) or ES4.
- 128Mb RAM minimum (512Mb recommended), plus 2-6Mb per Reality User. See also [Memory](#) on page 7.
- 500 Mb 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 on the Reality CD).
- Northgate Customisation (a CD is available for SUN – for other operating systems, contact Northgate).

- C compiler (on Solaris, if a C compiler is not available you can install the GNU C Compiler from the Northgate Customisation CD).

### UNIX-Connect

'rosi' UNIX user id with a home directory on a file system with at least 25 Mbytes free.

### Reality on Windows

- PC with Intel Pentium processor or equivalent, 200MHz or faster, running Windows 2000 SP1+ (Professional or Server), Server 2003, XP (Home or Professional), or Vista.

**Note:** Reality is not available for Windows NT, 95, 98, 98 SE or ME.

- 64Mb RAM minimum (128Mb recommended), plus 2-6Mb per Reality User. See also [Memory](#) below.
- 500Mb of available disk space to accommodate setup (actual hard disk used once installed will be between 150Mb and about 350Mb, 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.
- Northgate 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.
- Reality backup and restore is supported on 4mm, 8mm and DLT tape units.
- Using at least a dual processor system is highly recommended.

### 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.

### Foreign Database Support and SQL View

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

### Client Components

#### PCSNI

- Microsoft Windows 2000, XP (Home or Professional), Server 2003 or Vista.
- 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).

### **RealEdit**

- Microsoft Windows 2000, XP (Home or Professional), Server 2003 or Vista.
- Northgate PCSNI software V2.2 Rev C or later.

### **JReal**

Java Run Time Environment (JRE) version 1.2 or above. If this is not available, it can be downloaded from Sun's Java web site (<http://java.sun.com/j2se/>).

### **RealSQL-ODBC Driver**

- Microsoft Windows 2000, XP (Home or Professional), Server 2003 or Vista.
- Northgate PCSNI software V2.2 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 require 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.

### **RealSQL-JDBC Driver**

- Java Run Time Environment (JRE) version 1.2 or above. If this is not available, it can be downloaded from [java.sun.com/j2se/](http://java.sun.com/j2se/).
- If you are connecting to a Reality database on a UNIX host, the host will require UNIX-Connect.

### **WinSQLM**

- Microsoft Windows 2000, XP (Home or Professional), Server 2003 or Vista.
- Northgate PCSNI software V2.2 Rev C or later.
- 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 require UNIX-Connect.

### **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 1.2 or above. If this is not available, it can be downloaded from [java.sun.com/j2se](http://java.sun.com/j2se).
- If you are connecting to a Reality database on a UNIX host, the host will require UNIX-Connect.

### Remote Tape Server

Any UNIX or Windows system that supports Reality.

### 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.

### Remote Basic ActiveX Control

- Microsoft Windows 2000, XP (Home or Professional), Server 2003 or Vista.
- [PCSNI](#) software V2.2 Rev C or later.

### On-line Documentation

The on-line documentation can be installed on a web or file server, or on individual PCs running Windows 2000, XP, Server 2003 or Vista. On Windows systems, it can also be viewed from the Reality CD.

To view the on-line documentation you will require one of the following web browsers:

- Internet Explorer 6.0 or 7.0 (PC only).
- or–
- Mozilla Firefox 2.0 (PC or UNIX).

**Note:** You can also view the on-line documentation on some earlier versions of the above browsers and on some other types of browser. A message will warn you that your browser is not fully supported.

### GUI Administration Tools

#### GUI Administration Server

The GUI Administration server will run on the majority of platforms that support Reality V11.0 and later, subject to the following additional requirements:

#### UNIX and Windows

- Reality V11.0 or later.
- Java V1.4.1\_02 or later. (Versions of the JRE suitable for Windows, Linux and Solaris are supplied on the CD.)
- 256Mb RAM minimum (512Mb recommended), plus 2-6Mb per Reality User.

- 5MB free disk space, plus space for JRE (around 40-50Mb for Java V1.4.1\_02).
- TCP/IP network.

### Windows

- 500MHz or faster processor.
- Windows XP + SP1, Windows 2000 + SP3.

**Note:** The Reality GUI Administration Server is not currently certified on Windows XP SP2, Server 2003 SP1 or Vista, though this is subject to review. For the latest information, refer to the Reality pages on the Northgate portal ([www.northgate-is.com/reality](http://www.northgate-is.com/reality)).

### Client Deployment Service

The Client Deployment Service will run on the majority of platforms that support Reality V11.0 and later, subject to the following additional requirements:

#### UNIX and Windows

- Web server (it is strongly recommended that you use the web server supplied with Reality).
- 128 MB Memory (256Mb recommended).
- Java V1.4.1\_02 or later (versions of the JRE suitable for Windows, Linux and Solaris are supplied on the CD).
- 80MB free disk space (includes around 40-50 MB for JRE).
- TCP/IP network.

### Windows

- 500MHz or faster processor.
- Windows XP + SP1, Windows 2000 + SP3.

**Note:** The Reality Client Deployment Service is not currently certified on Windows XP SP2, Server 2003 SP1 or Vista, though this is subject to review. For the latest information, refer to the Reality pages on the Northgate portal ([www.northgate-is.com/reality](http://www.northgate-is.com/reality)).

### Client Configuration Utility

Java V1.4.1\_02 or later (versions of the JRE suitable for Windows, Linux and Solaris are supplied on the CD).

### GUI Administration Client

Any Windows or Linux platform with Java V1.4.1\_02 or later and for which a web-start component is available. The following is recommended:

#### Linux

- 128Mb RAM minimum (512Mb recommended).
- 5MB free disk space, plus space for JRE (around 40-50Mb for Java V1.4.1\_02)
- Netscape 6 or 7, or Mozilla 1.4 or 1.5 (to display on-line documentation).

**Windows**

- 500MHz or faster processor.
- Windows 2000 SP3+, XP Home Edition SP1+ or XP Professional Edition SP1+.

**Note:** The Reality GUI Administration Client is not currently certified on Windows XP SP2, Server 2003 SP1 or Vista, though this is subject to review. For the latest information, refer to the Reality pages on the Northgate portal ([www.northgate-is.com/reality](http://www.northgate-is.com/reality)).

- 128Mb RAM minimum (256Mb recommended).
- 5MB Free disk space, plus space for JRE (around 40-50Mb for Java V1.4.1\_02)
- Internet Explorer 6.0 or 7.0, or Mozilla Firefox 2.0 (to display on-line documentation).

Suitable versions of Java are supplied on the CD.

## New Features in Reality V14.0

The features below that are marked as optional are chargeable and must be separately enabled with a software key. Contact your Northgate representative to obtain the keys you need.

### Safe and Secure

#### Data Encryption

Reality Data Encryption makes your data more secure and also allows you to control which users can access particular items of data. Each encrypted file has an associated key that is stored in a centrally located file – users are granted access to the file by being given permission to use that key. The encryption key file is itself protected by a database administration key that is only accessible to the users of the database. You can use either the DES:CBC or Triple DES algorithm to encrypt your data.

Encryption is transparent to the users that are granted access to a file – they do not have to manually decrypt an encrypted file before they can use it, but can view, change and delete the file in the normal way.

Data saved to tape can also be encrypted – the majority of save and restore commands do not decrypt encrypted data before saving to tape, and tape devices can be configured to encrypt data before saving.

The DataBasic ENCRYPT and DECRYPT functions have been extended to allow encryption using DES:CBC or the Triple DES, with keys either from the encryption key file or specified explicitly.

#### Disaster Recovery

The Disaster Recovery (DR) feature has been enhanced as follows:

- The transfer of clean logs from the master to the slave is now automated. In normal operation, manual intervention is no longer required.

- The **tlmenu** utility has been enhanced to allow the user to set up a database as a DR slave and to configure the required master database. It also allows manual intervention if required.

## Interoperability

### HTML from English

The HTML from English feature allows you to embed an English report in a web page for display in a browser. You must provide a web page template that includes a marker to show where to embed the data and generate the report using the GENML or SGENML TCL command.

The data is formatted as a table. If required, you can format the column text by using the XT conversion code in the data definition items used when generating the report.

### Remote Basic ActiveX Interface

This feature consists of an ActiveX DLL that can be used from Microsoft Visual Basic or Office VBA to call DataBasic subroutines on a Reality database. The DLL exposes a single object that provides the necessary properties, methods, etc.

### SQL-VIEW

This feature is now available on AIX.

## Performance

### Configurable Frame Size

On previous versions of Reality the frame size was fixed at 1Kb. V12.0 allowed a single exception to this – AIX platforms could use 4Kb frames.

V14.0 extends this by allowing the frame size to be set to 1, 2, 4 or 8Kbytes. A new option to mkdbase allows the frame size to be set when creating or rebuilding a partition database and a new configuration file parameter allows you to set the default frame size for new databases on your host.

Two new utilities are available to help choose a frame size for a particular database and to calculate new modulus for database files:

- The OPTIMUM-FRAME-SIZE TCL command processes file statistics and displays the result of changing the database's frame size. This can be used to help decide the optimum frame size for the database.
- The OPTIMUM-MODULO TCL command calculates the optimum modulo at a specified frame size for one or more files and sets the resizing parameters for those files. The database can then be saved, rebuilt with the new frame size, and then restored, with each file being given the optimum modulo for the new frame size.

A new configuration file parameter allows you to use automatic file sizing as the default for a database. This parameter is set in the master configuration file, so that all new databases are created with automatic file sizing enabled.

The ACCOUNT-RESTORE and M-A-R commands now create automatically sized files if automatic file sizing is selected.

### **MultiStream Account Restore**

The dbsave utility has been enhanced to increase the restore speed and reduce fragmentation of the restored data.

### **Large Clean Logs**

This optional feature increases the maximum size of a clean log from 2 Gigabytes to 200 Gigabytes. However, since the current limit is adequate for most customers, the default value remains unchanged at 1.5 Gigabytes. V14.0 clean logs that are smaller than 2 Gigabytes are fully compatible with Reality V12.0.

### **New Default Database Type (UNIX)**

On UNIX, partition database using standard host files with all the files on the same file system is now the default (that is, the type of database created if there is no entry in the file realfstab and you have not specified which type you require). The filestore database type is now deprecated, but a new option to mkdbase allows you to create a filestore database if required.

### **ANALYZE Command**

A new command, ANALYZE, is provided to display information about processes being executed on a specified port.

### **MultiValue Compatibility**

Reality V14.0 has been further enhanced to improve compatibility with other MultiValue systems. In addition, the following features simplify migration to Reality from other MultiValue systems.

- Port range logon. A range of ports can be defined in the devices file; if the user attempts to log on to the first port in the range, the next available port is assigned.
- User-defined PLid Format – this is an optional feature (enabled by software key) and can only be used when logging on to Reality via a port specified in the devices file using the OPEN keyword.
- TANDEM enhancements:
  - ❑ The BREAK-KEY-ON and BREAK-KEY-OFF TCL commands have been enhanced to allow the BREAK key to be enabled and disabled remotely.
  - ❑ A new BREAK command can break into the program that is running on a specified port.
  - ❑ A new POKE command can execute a single command on a specified port.
  - ❑ A new PEEK command can establish a view-only mode TANDEM session to a specified port. A new option to the TANDEM command provides the same functionality.
- Indexes. These can now be created from dictionary definition items, without first being defined with the DEFINE-INDEX command.

- **POINTER-FILE** – each account can now have its own local pointer file to hold saved lists, instead of using the global pointer file. Using a local file has the following benefits:
  - ❑ The lists will be automatically moved or deleted with the account.
  - ❑ Because the items are local to the account, their names do not include the account name. This means that accounts can be renamed more easily.
  - ❑ Local pointer files imported from accounts saved on other MultiValue systems can be used without modification.

See also [DataBasic compiler enhancements](#),

### Environment Settings

A new tool is available in SSM to make it easier to configure the Reality environment settings (previously set using the SET-OPTION command). This can be used to select settings that emulate different MultiValue systems (such as mvEnterprise, mvBase and D3) and for backwards compatibility with earlier versions of Reality. The chosen settings can be saved and associated with user profiles so that each user is given a suitable profile at log on, or applied when required with a new SET-ENVIRONMENT TCL command.

Environment settings can also be defined with the new DEFINE-ENVIRONMENT command.

The following new environment settings (custom options) are available:

```
$<.FORMAT
2DIGIT.DATE
ALT.MT
BSELECT.NULL
CATALOG.COMP
DEL.FILE.EXEC
EXEC.BASIC.OBJ
INHIB.MLMR
INHIBIT!SYS
LITERAL.MASK
MCT.SQUOTE
MFILL.FORMAT
RPLTERM
```

For details of the effect of these, refer to the Environment Options topic in the Reality On-line Documentation.

### DataBasic

- The DataBasic compiler (the BASIC command) can now be configured to generate an executable (platform-specific) item in the dictionary of the file containing the source item, instead of a deliverable (platform-independent) item in the data section (there are options to generate both). This replaces the previous R option, which generated both deliverable and executable items in the data section.

The new option can be selected in three ways: by including a configuration statement in your source code; by setting a custom option in your Environment (see

above); or by specifying the R option when compiling (as before). A second source code configuration statement allows you to generate both executable and deliverable items.

If you use the new option, it is only necessary to catalog your program once, because the MD entry will already reference the executable generated by the BASIC command. The CATALOG command does not regenerate an executable found in the dictionary unless this is specifically requested.

The new feature is fully backwards compatible with earlier versions of Reality; all commands that access deliverable and/or executable items (RUN, DEBUG, etc.) support both the old and new compiler features.

- The TAB character is now treated as whitespace.
- In an external subroutine module, comments are now allowed before the SUBROUTINE statement.
- A semicolon can now be the first statement on a line.
- A semicolon is now allowed immediately following an EQUATE statement (that is, with no white space before the semicolon).
- The DO keyword is now optional in single line LOOP constructs.
- In GOSUB and GOTO statements, the statement label can now include the terminating colon, if any.
- Format strings: in programs that use any of the MultiValue modes (set with the \$OPTIONS statement), the **M** modifier has no effect (that is, if the *scaling* parameter is omitted, the value is not scaled).
- The STATUS() function (provided for compatibility with MultiValue systems that do not include a **SETTING** clause in their file access statements) can now be used with the MATREADU, READU and READVU statements and the RECORDLOCKED() function as well as the Sequential File Access statements.
- A new predefined constant, @USER, is available to return the account name.
- In programs that use mvEnterprise mode (set with the \$OPTIONS statement), the following are available:
  - ❑ SYSTEM() function. The elements available correspond to those available on the mvEnterprise system.
  - ❑ Pattern matching: Multiple patterns used with the MATCH(ES) operator can be separated by any of the Reality system delimiters – attribute mark (@AM), value mark (@VM) or subvalue mark (@SM or @SVM).
  - ❑ @DAY, @MONTH and @YEAR predefined constants, equivalent to formatting the output of the DATE() function using the 'DD', 'DM' and 'DY' conversion codes.

- ❑ A CLEARINPUT statement that clears the typeahead buffer (a synonym for INPUTCLEAR).
- ❑ A FORMLIST statement (a synonym for SELECT).

## Reality Environment

### Reality Licences

Reality now allows certain system utilities to function without a user licence; instead, they use reserved ports that do not require user licences. This allows critical operations to be carried out when there are no user licences available.

You will now be warned when your user licences are about to expire by means of messages in the daemon log – it is strongly recommended that you configure system alerts so that your administrators will be notified when these warnings are logged. If your user licences should expire, you can extend them for a short period so that your users can continue working while you obtain new ones.

The Licence Special File generated by MAKE-SPECIAL now includes the reserved ports and licence expiry dates. In addition, this information is available in the file REALITY-LICENCE in the SYSMAN account.

### Supported Platforms

Reality V14.0 adds support for AIX 5.3 and Windows Vista.

Support for Solaris 2.6 and 7, and Windows NT Server has been discontinued:

#### Client components

Reality Explorer is no longer available.

Reality client components are no longer supported on Windows NT 4.0.

#### On-line Documentation

The Reality on-line documentation is now supported only on Internet Explorer 6.0 and 7.0, and Firefox 2.0. Netscape, Mozilla and earlier versions of Firefox are no longer supported.

### TCL Stacker Enhancements

The TCL Dot Processor (command stacker) has been enhanced to allow the following:

- Place a command on the stack without executing it.
- Add commands that are embedded in Procs, etc. to the stack.
- Convert commands on the stack to upper case.
- Execute sequences of commands.
- Save and restore command sequences.
- Immediate edit operations.



- Persistent commands (previously used commands are copied to the top of the stack instead of being moved).
- Emulation of the Dot processors provided with other MultiValue systems.
- TCL commands run by a user can be logged for support and audit purposes.

### Excluding Files from Transactions

Files can now be marked for exclusion from transactions by including a new option (**T**) in attribute 1 of the file definition item. For files configured in this way, changes are not rolled back if a transaction is aborted. It is recommended that this code is used for application log files.

### DataBasic Enhancements

- A new function, RECORDLOCKED(), can be used to find out whether a file item is locked.
- A new statement, CLEARDATA, clears the data stack used by the DATA statement.
- A new statement, INPUTCLEAR, clears the typeahead buffer.
- New PAUSE and WAKE statements allow you to suspend a program until reactivated by a program running on another port.
- New functions, RAISE and LOWER, allow you to promote and demote system delimiters in a dynamic array.
- A new COMPARE function compares two strings and returns whether they are identical or, if not, which is the greater. The comparison uses the ASCII values of the characters and the lengths of the strings.
- A new function, SORT, sorts the items in a dynamic array. You can use an ascending or descending ASCII or numeric sort.
- The SYSTEM function has new elements that return information about the running program and the underlying host system.
- If you have code that you want to include in every code module in a data section, you can now create an item to be automatically included without having to use the INCLUDE statement.
- Within DataBasic, the active select list is now accessible as list 0. This allows you to use the SELECT statement to create a new active list and improves compatibility with other MultiValue systems.
- The EQUATE statement now allows you declare a symbol to be equivalent to a single DataBasic statement or intrinsic function. When you compile your program, a pre-processor replaces all occurrences of each symbol with the corresponding value. Any variables referred to in your expression will use run-time values.

**Note:** These features are only available if the new compiler has been selected. See [Restrictions](#).

### Customisation

The NEWAC file (SYSFILES account) now contains a USER data section in which you can place items to be added to an account's master dictionary. You can also specify items to be deleted.

### Aborts and Core Dumps

On UNIX, the default behaviour when a process aborts has been changed to always generate a core dump. This results in more accurate diagnostic information than was previously available, making it easier for Northgate support to analyse and fix problems.

## Restrictions

This section lists the restrictions that were current when Reality V14.0 was released. For the latest information, refer to the Reality pages on the Northgate portal ([www.northgate-is.com/reality](http://www.northgate-is.com/reality)).

### All Versions

- File triggers can currently only be associated with file data sections.
- To avoid possible problems with existing applications, the default compiler used by the BASIC command is that which was supplied with Reality V11.0. This means that the new DataBasic features described in the [New Features](#) section will not be available. If you want to use the new features, you can specify the new compiler using one of the methods described in Using Alternative Compilers.

**Note:** The demonstration database created when you install the demonstration/evaluation version of Reality is configured to use the new compiler.

- Shadow database cannot currently use partition databases constructed from standard host files on different file systems (see Types of Database).

### AIX

The foreign database files feature is not currently available on AIX.

### Linux

The UNIX-Connect Simple File Transfer (SFT) utility is not available on Linux.

### On-line Documentation

On Windows XP SP2, Windows Server 2003 SP1 or Vista, if the documentation is installed on the local file system and you are using Internet Explorer, you will 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**).

### GUI Administration Tool

- The GUI Administration Tool client is only available for Linux and Windows.

- The GUI Administration Tool will not use any licences in this release. However, Northgate reserves the right to change this in future versions of the Reality product.
- The GUI Administration feature is not currently certified on Windows XP SP2, Server 2003 SP1 or Vista, though this is subject to review. For the latest information, refer to the Reality pages on the Northgate portal ([www.northgate-is.com/reality](http://www.northgate-is.com/reality)).

## Fault Resolutions

Reality V14.0 includes resolutions of the following faults:

| Fault Number | Description  |
|--------------|--|
|              | If the documentation is installed on the local file system and you are viewing it in Mozilla Firefox, on returning to your search results after viewing another topic, they will be unformatted and none of the links will work. |
| 049436       | Database name is enclosed in double quotes when viewing MYSQL external table via SQL-VIEW.   |
| 084727       | Creating a DIR-VIEW file is not transaction logged.  |
| 084805       | Saving a file with DY in its MD item is very slow if the file has an index.  |
| 084847       | DataBasic index variables are handled incorrectly.   |
| 084906       | PRESTARTUP and STARTUP Procs are not run by tlmenu<br><b>Check/Reconfigure Databases Prior to Recovery</b> command (Database Recovery menu) when reconfiguring a FailSafe secondary as the primary database.                     |
| 084909       | tlmenu does not display the device path when listing tape devices.   |
| 084910       | tlmenu does not abort if the link fails when attempting to re-establish FailSafe operation.  |
| 084913       | SYS-UPDATE aborts when processing a DataBasic program called U50BB.  |
| 084919       | Core dumps occur during garbage collect.   |
| 084921       | SORT causes core dumps.  |
| 084928       | Port despooler can abort with return stack full.   |
| 084929       | Setting the NumConnections parameter in the database config file has no effect.  |
| 084930       | Trigger code core dumps instead of returning an error.   |
| 084931       | When accessing a dynamic array element from the DataBasic debugger, the output can be corrupted if more than 29998 bytes are present.  |
| 084932       | When Reality spawns a despooler process it may core dump.  |
| 084933       | On Windows, Remote Tape service does not run unless Reality is installed.  |
| 084934       | reality process on UNIX killed by SIGPIPE signal 13 when using remote tape on Windows 2000.  |
| 084936       | CSV-COPY enters debugger if debug enabled.   |
| 084937       | Documentation error: description of ACCOUNT-RESTORE should say that if no parameters are supplied, the first account on the tape is loaded.  |
| 084939       | On Linux, opening a remote file via a Q-pointer can fail.  |
| 084940       | Writing to a file opened in an external subroutine using a named COMMON file variable passed to the subroutine can cause an abort.   |
| 084941       | Cannot stack data to pass to the MIGRATE.ACCOUNT utility.  |
| 084942       | When a Windows user logs off from the console, Reality processes are logged off.   |

| Fault Number | Description   |
|--------------|---|
| 084943       | On Windows, <b>tlmenu</b> aborts when backing up databases if event log is locked by another process.   |
| 084945       | DELETE-ACCOUNT aborts if the account contains a directory view that references a nonexistent host directory.  |
| 084947       | Garbage collect of trigger control blocks can cause a core dump.  |
| 084948       | SQL-VIEW: Oracle reserved words are not quoted.   |
| 084949       | SQL: integer column with a value of zero returns a null string.   |
| 084950       | On Solaris 10, the <code>inetd.conf</code> and <code>services</code> files are no longer used. UNIX-Connect and Remote Tape installation programs must use the correct locations.   |
| 084951       | <b>realbind</b> allows a database with active transaction logging to be moved to a different instance, but rawlog is not moved.   |
| 084954       | <b>rmdbase</b> permits the removal of a database associated with another instance of Reality. Because of this, <b>mkdbase -r</b> will allow a database associated with another instance of Reality to be rebuilt, but this will fail to complete. |
| 084956       | <b>tlmenu</b> should not be allowed to configure a database associated with another instance of Reality.  |
| 084958       | <b>realclone -pu</b> detaches the raw log from an instance if the base version of Reality does not have a raw log.  |
| 084959       | <b>realclone -d</b> does not remove the directory containing the instance.  |
| 084960       | RESET.DESPOOLER clears down DESPOOLER.CONTROL items for active despoolers.  |
| 084965       | <b>tlmenu</b> cannot configure secondary when setting up FailSafe.  |
| 084966       | SQL-VIEW intermittently unable to open files.   |
| 084967       | Core dumps occur when using remote files.   |
| 084970       | If the database name is the same as that of an existing database, <b>mkdbase</b> overwrites the ROUTE-FILE entry for that database.   |
| 084972       | <b>realdd</b> database daemon terminates unexpectedly.  |
| 084973       | Unable to build debug versions of the daemons.  |
| 084974       | Cannot run the <code>cdinstall</code> utility.  |
| 084976       | In a DataBasic R conversion, the trailing “)” in a format mask may be treated as a literal.   |
| 084977       | Core dumps occur during Reality initialisation.   |
| 084979       | Cannot install fixes onto a database that has been associated with an instance of Reality.  |
| 084980       | When using SAVE-IMAGE, LOAD-IMAGE or <b>tlmenu</b> with physical save, clean logs can get out of step.  |
| 084981       | The <code>tlstore</code> process can core dump if an error is detected during index update.   |
| 084982       | When using physical save, <b>tlmenu</b> unnecessarily asks if you want to pause updates and, also unnecessarily, switches clean logs on completion.   |

| Fault Number | Description   |
|--------------|---|
| 084986       | History file error during SYS-UPDATE.   |
| 084987       | DataBasic R or L format string incorrectly strips parentheses from format mask.   |
| 084988       | Extra form feeds and lines generated in print jobs.   |
| 084989       | ISTAT (U of an AFS file gives repeated 100% progress updates.   |
| 084990       | Problems with realdump host command.  |
| 084991       | Invalid system name errors when updating ROUTE-FILE.  |
| 084993       | If the maximum number of item locks is exceeded, the locks are not cleared.   |
| 084994       | Soft GFEs generated when restoring clean logs after enabling AFS on a file.   |
| 084995       | realload should have a 'read header' option to verify which tape or image is being restored.  |
| 084996       | Multi-clean-log dump does not eject the tape on completion.   |
| 085000       | If the printer is turned off while using NPU to port 9100, the process becomes <defunct>.   |
| 085002       | <b>realdbck -a</b> stops after finding first error.   |
| 085004       | Remote Tape is not configured correctly when installed.   |
| 085005       | realclone adds the absolute path of the Reality instance to the <b>installed</b> file instead of the soft link path.                                  |
| 085006       | Transaction logging autoswitch does not work within Reality instances.  |
| 085007       | Unable to restore items longer than 26 tape buffers.  |
| 085008       | Cannot abort a transaction when you have updated a print job inside it.   |
| 085009       | Abort when handling errors from OPENSEQ.  |
| 085011       | NPU despoolers go offline.  |
| 085013       | The \$ character in an "L" or "R" format string is not processed correctly.   |
| 085014       | File size limit option on a tape image does not work.   |
| 085016       | TL-LISTFILES does not show a file created with TL-CREATE-FILE.  |
| 085017       | The operation of the DataBasic functions REM() and MOD() is not as described in the documentation.  |
| 085024       | When DSPMON is performed from a DataBasic program, stacked data is ignored.   |
| 085025       | When saving multiple clean logs with the auto-delete after completion option, if a tape error occurs, the clean logs are deleted without being saved. |
| 085026       | <b>realclone -u</b> cannot update the current instance.   |
| 085027       | FILE-SAVE repeatedly saves the same files.  |
| 085028       | Cannot run the cdinstall utility.   |
| 085030       | The SET-STACK command fails.  |
| 085031       | Error "*** loggerpwsreinit: warning: context 3 still allocated - being released" during logoff.   |

| Fault Number | Description  |
|--------------|--|
| 085033       | <b>tlmenu</b> cannot run remote commands when SYSMAN account has a password.   |
| 085035       | SP-EDIT generates error, "no job file".  |
| 085036       | Cannot start a DSPMON process from the DSPMON monitor screen.  |
| 085042       | AFS-CONTRACT does not work if the account has a password.  |
| 085052       | Problems with item locks and core dumps.   |
| 085053       | The <b>realrt</b> remote tape process runs as root. This can allow a remote tape operation to overwrite any file on the remote system. |
| 085057       | GFEs reported after restoring system using LOAD-IMAGE.   |
| 085061       | Disaster Recovery slave system stopped updating.   |
| 085066       | The NPU process is not closing. Printing cannot continue because the despooler is waiting for the NPU process.                         |
| 085070       | Clearing a DIR-VIEW with CLEAR-FILE does not remove all the items.   |
| 085071       | When performing a save on a FailSafe secondary with updates turned off, the last clean log switch is not updated on the secondary.     |
| 085074       | Disaster Recovery system stopped updating.   |
| 085083       | Incorrect permissions on ODBC driver trace file.   |
| 085093       | ODBC driver uses 100% CPU when issuing commands to the Reality SQL server.   |
| 085096       | FailSafe link fails when the administrator logs out of a secondary on a Windows server.  |
| 085097       | AFS-CONTRACT can exit without returning a reason code.   |
| 085107       | System hanging with no message queue.  |
| 085119       | Updates to a Reality DR slave database stop part way through a clean log. The daemon log reports a corrupt image.                      |
| 085123       | Shadow database not being updated correctly.   |
| 085124       | ACCOUNT-RESTORE (RO reports errors when used following an AFS-SET.   |
| 085125       | SQL-VIEW pointers are not restored if the foreign database is not available.   |
| 085126       | Reality DR slave will not start; <b>realdrc</b> is terminated by signal 11.  |
| 085129       | Message queue for central daemon filling with clean log autoswitch messages.   |
| 085134       | AFS-ENABLE and AFS-EXPAND commands give error "ambiguous account".   |
| 090008       | SQL COUNT() function can return the wrong result.  |
| 090093       | There is no realfstab file template on Windows.  |
| 090098       | LOGTO a nonexistent account can cause an exit to the debugger.   |
| 090106       | Restoring an SQL-VIEW file stops with an error if the target is no longer valid.   |
| 090116       | LIST-ITEM-LOCKS does not list all item locks.  |
| 090125       | Soft GFEs occur when running SAVE with DIR-VIEW and SQL-VIEW.  |

| Fault Number | Description   |
|--------------|---|
| 090126       | Changing block size when reading from a host file using the READBLK statement can result in data being lost.  |
| 090127       | DataBasic: named common variables cannot be referenced if they have been passed to a subroutine.  |
| 090128       | Column not found errors can occur with SQL-VIEW.  |
| 090129       | Timeouts occur after 90 seconds when trying to modify security profiles using GUI Admin.  |
| 090130       | Cannot install Reality on AIX using the GNU compiler.   |
| 090133       | Cannot install Reality on Windows from Remote Desktop or when Fast User Switching is enabled.   |
| 090134       | Unable to start Reality services on a new system.   |
| 090135       | SQL CREATE PROCEDURE statement fails because of insufficient privileges on table.   |
| 090138       | DataBasic profiler can cause processes to crash.  |
| 090139       | FILE-SAVE on a transaction handling database causes the clean log image processor to.   |
| 090140       | install_fix sets incorrect permissions on file build.conf, so that it cannot be updated with correct C compiler.  |
| 090143       | Cannot re-establish FailSafe link and re-synchronise using tlmenu if secondary is stopped.  |
| 090146       | Telnet to Reality on Windows hangs after starting a despooler.  |
| 090147       | Reality start-up and shut-down scripts do not handle an unmounted realman partition correctly.  |
| 090148       | Back-to-back FILE-SAVE/ACCOUNT-RESTORE through a named pipe hangs.  |
| 090150       | The DataBasic VARVAL, VARVALTYPE or VARVALSET statements/functions cause Reality to enter an endless loop if the variable specified is equated to another variable. |
| 090151       | DataBasic: variables with names containing underscores cannot be used in break points.  |
| 090154       | Cannot use .rdbrc file on Windows.  |
| 090157       | On AIX, <b>realdump</b> host command causes a core dump.  |
| 090159       | On AIX 5.3, the <b>realprof</b> host command does not recognise the process id.   |
| 090160       | On-site build fails on AIX.   |
| 090162       | T-DEVICE displays incorrect message when using a path containing spaces.  |
| 090163       | <b>tlmenu</b> does not handle errors correctly when saving multiple clean logs.   |
| 090164       | If the Windows user is a member of many groups, netadmin fails with "not an administrator".   |
| 090166       | PH-STATUS shows the TL-MONITOR TIPH as active when it is not running.   |
| 090176       | In the descriptions of the READV and WRITEV statements in the documentation, the links to the recommendations for efficient use go to the                           |



| Fault Number | Description  |
|--------------|--|
|              | wrong topic.   |
| 090179       | Shutting down Reality DR can result in a core dump.  |
| 090180       | FILE-SAVE generates "File Save End ..." message in daemon log after every account.   |
| 090189       | <b>LIST-GROUP-LOCKS</b> <i>portNum</i> lists group locks for ports other than that specified.  |
| 090191       | NPU despoolers connected to TCP/IP print server running on Windows abort with status, 'No Process, exec of cmd failed'.                  |
| 090194       | DataBasic and English give different results for "RE\$" and "MRE\$" formats.   |
| 090195       | Formatting a negative number less than zero in DataBasic suppresses the leading zero if a precision is specified.                        |
| 090196       | DataBasic format strings do not apply the thousands separator correctly.   |
| 090197       | DataBasic format strings with a credit indicator give unexpected results with positive and negative zero values.                         |
| 090198       | The optional parentheses around a format mask are often displayed.   |
| 090201       | If the MU and ML Editor commands process a null line they abort.   |
| 090213       | Reality DR generates many Transaction Logging log file entries.  |
| 090214       | With no Reality DR key installed, <b>tlmenu</b> does not display the DR configuration menu, but still allows it to be selected.          |
| 090215       | When connecting to a partition database using the Reality Filing Services C API, on disconnecting some allocated memory is not released. |
| 090216       | Reality DR does not correctly detect the secondary system on a Heartbeat system with a dedicated FailSafe LAN.                           |
| 090217       | DataBasic does not release index file control blocks.  |
| 090218       | If an index is assigned to a DataBasic variable, when the variable is examined in the DataBasic debugger an error occurs.                |
| 090219       | When calling the DataBasic READNEXT statement using an index variable, the SETTING statement is ignored.                                 |
| 090220       | When using the DataBasic SELECT statement to create a list from a dynamic array, the result is returned in the SETTING variable.         |
| 090221       | Copying a DataBasic index variable generates a [B14] Bad stack descriptor error.   |
| 090224       | If the <b>reality</b> host command is run with the <b>-t</b> option, the DBSTART Proc does not run.                                      |
| 090228       | Various issues with the XML parser.  |
| 090239       | The <b>realcoldstart</b> script does not run on UNIX.  |
| 090242       | VERIFY-INDEX reports that the index verifies, even if it does not.   |
| 090256       | Unable to reserve ports for specific server connections.   |
| 090262       | Interrupting a DELETE-INDEX corrupts the index so that it cannot be recreated.   |

| Fault Number | Description  |
|--------------|--|
| 090272       | Cannot delete an account containing an INDEX-ITEM special view file.   |
| 090278       | CREATE-INDEX with the (S option sometimes aborts.  |
| 090305       | Windows fix installation utility allows the user to run SYS-UPDATE on selected databases, but does not display the name of each database as it is processed. |
| 090338       | NPU occasionally hangs.  |

## Third Party Products

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-compiler (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).