

NOMAD

Release Overview NOMAD 7.54

(Interim Update 1103)

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Select Business Solutions

Select Business Solutions provides a number of software products that specialize in reporting and application development for mainframe data sources.

NOMAD 7.54 is Select Business Solutions' latest NOMAD release. It contains several new features to provide additional functionality, plus NOMAD maintenance Version 7.54, for the base NOMAD Version 7.50.

NOMAD® is Select's flagship, fourth generation language (4GL) and data management system used by companies worldwide through a Windows 3270-style interface.

NOMAD Reporter™ is Select's 4GL-based product for reporting-only access to a variety of mainframe data sources.

UltraQuest™ provides a Web-based interface to the mainframe for reporting, as well as for application development and delivery. An integral component of UltraQuest is the UltraQuest 4GL, which is also available in the NOMAD product.

Through many years of experience dealing with mainframe environments and its data, Select provides a comprehensive suite of products to maximize your investment in this platform.

Introduction to This Document

Audience

This document is for all UltraQuest and NOMAD users on the z/OS and z/VM operating systems.

Goals

This document provides an overview of the new features and enhancements introduced with NOMAD Interim Update version 7.54.

A brief description of each new feature and enhancement is presented in this Release Overview. More detailed information is provided in the *NOMAD Documentation Updates Addendum*, Version 7.54, and in the *UltraQuest and NOMAD Reference Manual*¹ or the appropriate supplemental guide.

1. Version 7.54 of the *UltraQuest and NOMAD Reference Manual* and other guides are provided on the *UltraQuest and NOMAD Online Library* CD-ROM.

Installation Enhancements

IU 7.54 Media

As of Version 7.53 and later, Select Business Solutions offers the IU on CD-ROM and via FTP from the Select Business Solutions Web site in addition to on tape cartridge.

Refer to the *NOMAD Interim Update Getting Started* for instructions on preparing the media for installation.

Controlling the Environment

OPTION CREATE_DB_ALLOC Command (*z/OS-only*)

OPTION CREATE_DB_ALLOC is used to specify allocation parameters for a permanent database data set (NOMAD.DB) created by the CREATE, DB2 CURSOR, and TQL CURSOR commands. It allows you to specify these parameters using TSO ALLOCATE syntax, and may be used instead of the \$NOMOPTS CREATES installation option and the values of the &MVSPERMUNIT and &MVSPERMVOL &variables.

OPTION CREATE_DS_ALLOC Command (*z/OS-only*)

OPTION CREATE_DS_ALLOC is used to specify allocation parameters for a permanent sequential data set which contains output created by the CREATE, CREATE...FOR, CREATE XML, WRITE...ON, LIST...ON, and LOAD...REJECT ON commands. It allows you to specify these parameters using TSO ALLOCATE syntax, and may be used instead of the \$NOMOPTS CREATES installation option and the values of the &MVSPERMUNIT and &MVSPERMVOL &variables.

Performing Calculations

DDQUERY Function— New Attributes

The DDQUERY function can be used to determine if a master or segment uses the TRUNCATED parameter.

QUERY Function—New Attributes

The QUERY('CREATE_DB_ALLOC') function returns the current value of the OPTION CREATE_DB_ALLOC command, which is used to specify allocation parameters for a permanent database data set .

The QUERY('CREATE_DS_ALLOC') function returns the current value of the OPTION CREATE_DS_ALLOC command, which is used to specify allocation parameters for a permanent sequential data set.

The QUERY('EXPIRATIONDAYS') function returns number of days until the password to access the 4GL expires.

Building and Using a Database

VM Database Extender Facility: Writable Concatenated Databases (z/VM Only)

The VM Database Extender facility was created to handle very large databases with BTREE masters that exceed the capacity of a CMS minidisk. With this facility, such databases can be split over multiple minidisks, with each file on a separate minidisk handled as a concatenated database extension. Using the VM Database Extender facility with concatenated databases allows the running of existing applications that maintain databases.

The VM Database Extender extends the functionality of a concatenated database:

- the database can be split over multiple minidisks
- 4GL positioning commands and table lookups are allowed
- the database is writable, so it can be updated

VM Database Extender is a CPUID password-enabled add-on to NOMAD that allows positioning within a database and updating a database. Database Extender is supported on the z/VM operating system only. Contact your Select Business Solutions account manager to obtain access to this facility.

VM Database Extender is an enhancement to the 4GL DBCONCAT command.

For more information, refer to the *VM Database Extender Facility Guide* on the *UltraQuest and NOMAD Online Library* CD-ROM.

REDEFINE Statement for Nested Redefinitions

A new syntax for REDEFINE allows the direct mapping of nested REDEFINES clauses in COPYBOOKs. This makes it easier to map COBOL COPYBOOKs as 4GL SCHEMAS. This new syntax is used automatically by the COPYBOOK utility.

TRUNCATED Parameter for VSAM/QSAM

The new TRUNCATED keyword on the MASTER or SEGMENT statement may be used when external data is stored in VSAM or QSAM and the data fields are in fixed locations, but the record length is varying. In other words, some records are missing fields at the end of the record. Specifying TRUNCATED ensures that when a record is accessed that is missing some fields, the missing items have the value *notavailable* instead of their value in the previous record.

Varying Object Not Allowed in Repeating Segment

Behavior Change

A repeating segment cannot contain any of the following varying structures:

- varying array item
- REPEATGROUP that has a varying number of elements
- repeating segment that has a varying number of occurrences

Manipulating and Transferring Data

FILE CLEAR...DELETE (z/OS-only)

A new DELETE parameter on the FILE CLEAR command allows files opened with the CREATE (DISP OLD) parameter to be deleted. This feature is useful for purging data being written to SYSOUT data sets and print destinations.

Remote E-mail and &CODE_PAGE (z/OS-only)

The setting of the system variable &CODE_PAGE now affects how the EBCDIC mail is translated to ASCII during transmission to the remote SMTP server.

Writing Procedures

SLIST QUERY Command—New Attributes

The SLIST QUERY command can be used to determine if a master or segment uses the TRUNCATED parameter.

z/VM Considerations

Access to the 4GL or an Add-on

NOMAD Version 7.54 may be installed with a password that has an expiration date. The number of days until the password expires may be obtained by using the 4GL QUERY function with the 'EXPIRATIONDAYS' argument.

You may control how to warn users or an operator/administrator of a pending expiration date using the following system variables:

- &SYS_TEMP_ALERT controls when the warning message will be displayed. It may be set in an @SYSTEM or PROFILE procedure. Its default value is 30.
- &SYS_TEMP_ALTO may be set to the name of a userid to whom the warning message should be sent. &SYS_TEMP_ALTO may only be assigned a value in a *secure* @SYSTEM profile.
- &SYS_TEMP_ALDST controls whether the warning message is displayed to the interactive NOMAD user, sent to the userid specified in &SYS_TEMP_ALTO, or both. &SYS_TEMP_ALDST may only be assigned a value in a *secure* @SYSTEM profile.

z/OS Considerations

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You may control how to warn users or an operator/administrator of a pending expiration date using the following system variables:

- `&SYS_TEMP_ALERT` controls when the warning message will be displayed. It may be set in an `@SYSTEM`, `NSM RGNPROC`, or `PROFILE` procedure. Its default value is 30.
- `&SYS_TEMP_ALDST` controls whether the warning message is displayed to the interactive `NOMAD` user, displayed on the operator's console, sent to `SYSLOG`, or a combination of these. `&SYS_TEMP_ALDST` may only be assigned a value in a *secure* `@SYSTEM` or `NSM RGNPROC` profile.

Enhancements to the UltraQuest and NOMAD Collection

Tools for Viewing and Manipulating Files

VFLIST: Managing VFILE Contents

Efficiency enhancements and bug fixes have been made to the VFLIST (*Virtual File Support*) tool. VFLIST contains various commands that help you manage small amounts of volatile data in memory during your 4GL session.

VFLIST can be used to do any of the following:

- free up VFILE space
- create and delete files
- edit small files
- save contents of system window
- save contents of history window

For more information on the VFLIST tool, refer to the *UltraQuest and NOMAD Collection Reference Manual*.

COPYBOOK Utility

COPYBOOK Enhancements

The COPYBOOK utility now generates a slightly different syntax for the 4GL SCHEMA when it encounters a COBOL REDEFINES statement. This syntax allows for direct mapping of nested redefinitions.

For more detailed information on behavior changes and enhancements to the COPYBOOK utility, refer to the *NOMAD Documentation Updates Addendum*.

Enhancements to the UltraQuest and NOMAD Interface for IMS (z/OS Only)

The IMSSCHEM utility, which generates NOMAD schemas from IMS PSBs, has been enhanced. There is a new method of generating item, master, and segment names for IMS fields with duplicate names or with names containing invalid characters for NOMAD. With this new method, much of the original name is kept in the generated name, and the complete original name is kept as the EXTNAME and HEADING. This new method is activated by a keyword, NAMECHG, specified on the PSB control card in the IMS interface program control file. For compatibility with existing schemas, the old method is the default if this new keyword is not specified.

Enhancements to the UltraQuest and NOMAD Java Interface (z/OS Only)

Java Interface Requires Java 2 SDK Version 1.5 or Higher

Behavior Change

As of Version 7.54, the UltraQuest and NOMAD Java Interface requires Java 2 at SDK Version 1.5 or higher. This includes Java 5 and Java 6. With this requirement, you should ensure that the LIBPATH parameter of the 4GL JAVASYSTEM command (which may be set in your @SYSTEM profile procedure) points to Java 5 or later libraries, e.g.:

```
JavaSystem Base LibPath
           '/usr/lpp/java/J5.0/bin:'
           '/usr/lpp/java/J5.0/bin/classic:'
```

UltraQuest and NOMAD JDBC Interface (z/OS and z/VM)

With Version 7.54, the UltraQuest and NOMAD JDBC Interface is now available on z/VM, and it has been improved on z/OS.

Introduction to the JDBC Interface

The JDBC Interface uses TCP/IP to communicate with a *Remote Java Server* on a mid-tier or z/OS machine. The Remote Java Server uses the standard Java Database Connectivity (*JDBC*) method to access remote SQL data on a mid-tier server. The JDBC Interface currently provides read-only access via 4GL commands to Microsoft SQL Server tables and Oracle tables. The JDBC Interface enables you to perform the following activities with remote SQL tables and views:

- Use the 4GL LIST and CREATE commands directly against remote SQL tables.
- Combine UltraQuest or NOMAD masters and SQL tables into one set of output data, such as a report or database.
- Query which remote schemas and tables are available to a specific user.

For more information, refer to the *UltraQuest and NOMAD Interface Guide For JDBC*, which is provided on the *UltraQuest and NOMAD Online Library* CD-ROM.

Requirements

To use the JDBC Interface, Java 2 Standard Edition 5.0 (J2SE 5.0) or higher must be installed on the machine on which the Remote Java Server is installed. Also, you must obtain a new CPUID Password (license key).

Remote Java Server

With the release of the Remote Java Server, Select Business Solutions no longer supports the prior method of running a *JDBC Server* running under UNIX System Services with a Java client running in the z/OS NOMAD session. This means that installing the Java Interface is no longer required when using the JDBC Interface.

The Remote Java Server may be installed on a mid-tier platform running Windows, Linux, or UNIX, or, for z/OS sites, on a z/OS machine under UNIX System Services.

Connecting to the Remote Java Server

The location of the Remote Java Server is specified by new HOST and PORT parameters on the JAVASYSTEM CORE command. These values may be queried using QUERY('JAVA_HOST') and QUERY('JAVA_PORT').

Although not necessary, a connection can be established to the Remote Java Server prior to issuing JDBC Interface commands. This command can be useful in verifying that the Remote Java Server is running.

```
javasystem core connect;
```

If a JAVASYSTEM CORE CONNECT command is not issued, the connection to the Remote Java Server is automatically established upon first access of remote SQL data.

- ❖ If your 4GL session or application needs to issue a JAVASYSTEM CORE command to specify the TCP/IP host and port, it must be issued *before* issuing the JAVASYSTEM CORE CONNECT command.

Enhancements to Systematics Interface

Systematics Interface

The UltraQuest and NOMAD Systematics Interface provides the ability to use NOMAD or UltraQuest to access data in the Systematics suite of retail banking applications from Fidelity National Information Services, Inc. It consists of the following two components:

- the Loan Customers product, which provides access to the ALS-SM (*Advanced Lending Solutions*) and RM (*Relationship Management*) master files
- the Deposits and Collections product, which provides access to the IMPACS (*Integrated Monetary Processing Account System*), KO (*Collections*), ST (*Savings Time*), and ST Plan files

Access to FMS (*Financial Management System*) files is provided with either of the above components.

The following new features are described in the latest version of the *UltraQuest and NOMAD Systematics Interface and Install Guide*.

SYMATICS LINKLIB no longer required

The Systematics exit routines are now included in the NOMAD load library. This means that there is no longer the need to have a separate SYMATICS LINKLIB.

This change is backward compatible, and requires no changes on your part. NOMAD will continue to find exit routines in the SYMATICS LINKLIB if it doesn't find them in the NOMAD load library.

