



Core Highways Release Notes

v4.1.0.0

Table of Contents

1 Document Control	3
1.1 Author	3
1.2 Document Summary	3
1.3 Document History.....	3
1.4 Reference documents	3
1.5 Distribution	3
1.6 Quality Assurance	3
2 Introduction	4
3 New and Changed Functionality	5
3.1 Locator saved queries	5
3.2 Locator sub-select tool	6
3.3 Locator Variable size map canvas	7
3.4 Bulk Network Update	8
3.5 Network Selection in Spatial manager	8
3.6 Split	9
3.7 Exclusivity of road group membership	11
3.8 Context efficiency.....	11
3.9 HIG1832 Enhancement.....	11
3.10 Contiguous Assets	12
3.11 Asset Locations.....	12
3.12 Engineering Dynamic Segmentation	13
3.13 Auto-creation/auto-inclusion settings.	13
3.14 Ordering on form nm0110 (Groups of sections)	14
3.15 Spatial Manager Reclassify.....	14
3.16 SDE temporary data tables	14
3.17 Documents associated with foreign-table assets	14
3.18 Clearing job to remove transient table data.....	15
4 Log No. Summary.....	16
5 Known Issues.....	20
5.1 Task 0108567 Network Groupings Integrity	20
5.2 Task 0108565 Locator Un-Pin.....	20
5.3 ECDM Log 720290 Errors with effective date on CSV loader	20
5.4 ECDM Log 723068 Locator Measure Tool Fails With Errors.....	20
5.5 ECDM Log 722085 Error creating a defect on asset.....	21
5.6 Task 0108516 Error in GRI200	21
5.7 ECDM Log 719171 Unable to edit location text field	21
5.8 ECDM Log 714261 Error modifying colours in STP4400	21

1 Document Control

1.1 Author

Rob Coupe, Technical Architect

1.2 Document Summary

This document provides a description of the changes in this release and information about how these changes may impact on an Exor installation.

1.3 Document History

Document History			
Revision	Date	By	Description
1.0	15 October 2009	R Coupe	First Edition
1.1	27 October 2009	R Coupe	Added known issues
1.2	27 October 2009	R Coupe	Updated versions and added to source control

1.4 Reference documents

None

1.5 Distribution

Exor Customers, Partners and Staff

1.6 Quality Assurance

Document Details	
File	Prepared By
Core Release Notes v4.1.0.0.doc	Rob Coupe
Document Name	Reviewed By
Core Highways Release Notes	
Version	Approved for issue by
1.2	
Date of Issue	Support Manager

2 Introduction

This document highlights the key changes to the exor Core Highways database following the release of **Core Highways v4.1.0.0**. It is specifically targeted at users and system administrators of the exor systems. Changes in the core database functionality have the potential to have wide impact across all exor applications and it is important that these changes are understood. However, many of the functions of **exor Core Highways** are extremely technical in nature and this document is aimed at those with some degree of technical knowledge and not at end users.

It is not intended to be a full system description but a guide to indicate what changes have been made, why they have been made and the potential failings if this upgrade is not applied.

This release is available both as an install and as an upgrade from any of the releases 4.0.5.2, 4.0.5.3 and 4.0.5.4. of exor Core Highways. The release is also compatible with any of the recent minor fixes that are available from the download site. As such the document aims to describe the changes in all releases and patches since release 4.0.5.2.

After reading through this document, should you have any need for training or consultancy then please contact your **exor** account manager. If these changes are considered important for your current release and this is incompatible with this patch release then please contact **exor support**.

This patch is intended to be used in conjunction with current releases of Spatial Manager and supports recent extensions to the Exor Map Services inside each version of the exor mapviewer jar (this file comes in two versions for compatibility with versions 10.1.2 and 10.1.3 mapviewer server).

There are a number of enhancements in this release of **exor Core Highways** as well as further reliability and performance improvements.

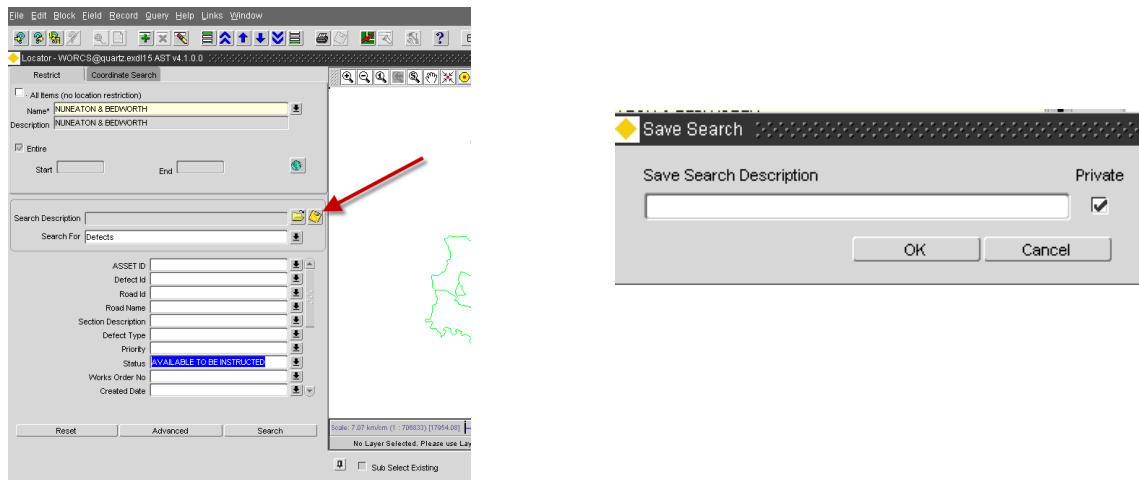
3 New and Changed Functionality

The main thrust of the work for releases 4.0.5.3 and 4.0.5.4 of exor Core Highways was in the improvement in reliability of general network and asset management modules and especially in the area of validation and the posting of warnings in relation to asset locations. In some cases, the system has moved back to its original design with repairs being made to the use of asset and location flags that may have been misinterpreted in past releases. In particular changes to the hierarchical assets have resulted in a more reliable foundation for specific asset classes such as those used in Traffic Manager. The same momentum has been applied to fixes in the 4.1.0.0 release with a great many issues having been fixed in this release. However, other enhancements have been added in an attempt to make the software easier and more intuitive.

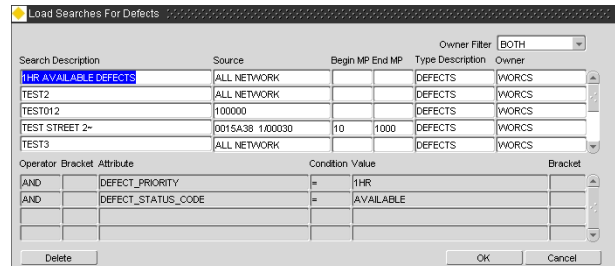
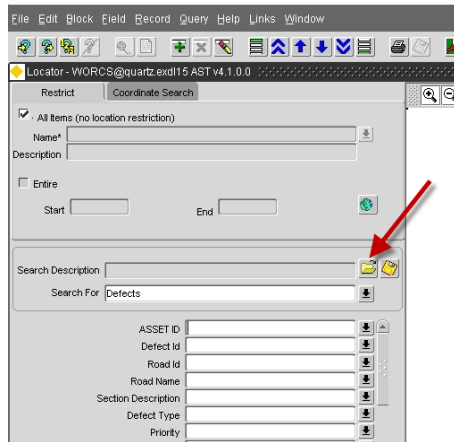
Many issues arising out of the stand-alone engineering dynamic segmentation tools have been fixed especially those on the server which relate to asset locations spanning multiple datums and asset type attributes having multiple values over the datums in a route or merge section.

3.1 Locator saved queries

Locator has been enhanced in several ways. The first is to allow the query to be saved. This feature allows users and/or administrators to construct specific queries for their business purposes and save them for future use. This is achieved through the save query button on the form canvas as shown. The user may save the query using the pop-up screen. The saved query may be saved and flagged for public use or may be kept for private use.

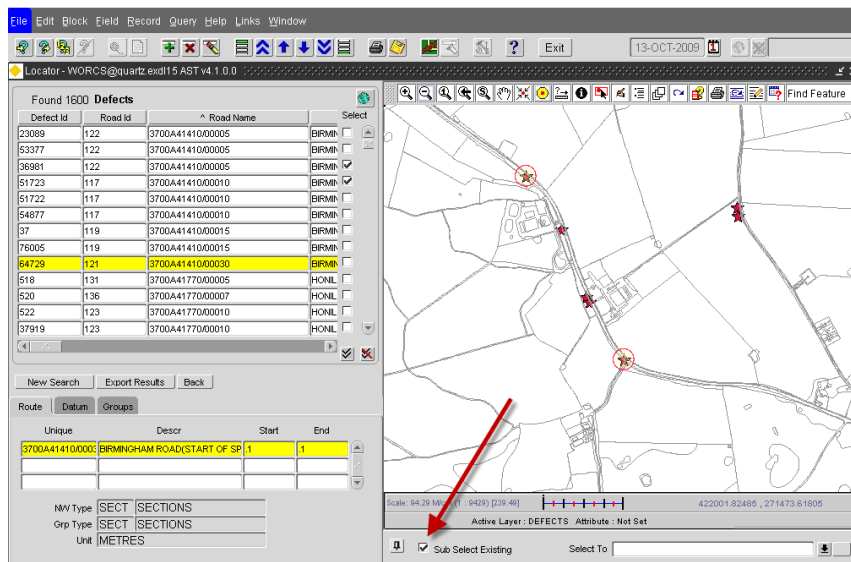


Private and public saved queries may be retrieved through the use of the open button adjacent to the save button as shown. This will prompt the user to choose the required query through the resulting pop-up. Users may also delete queries from within this module.

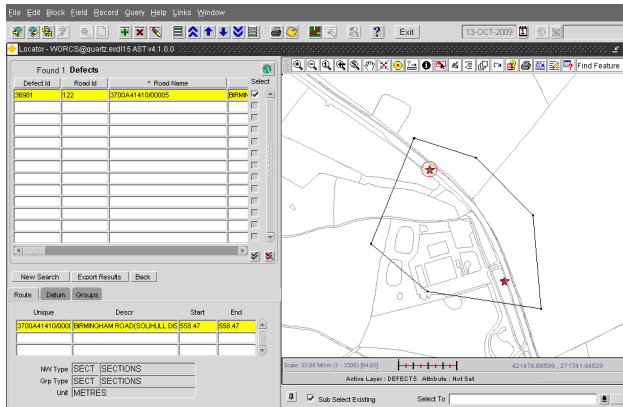


3.2 Locator sub-select tool

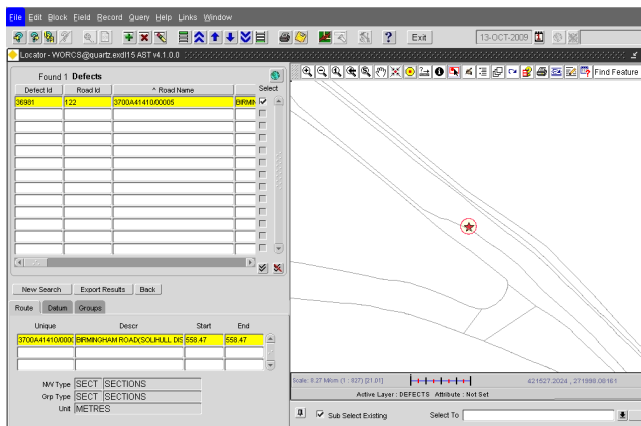
Secondly, a query executed through the form may be used in conjunction with a spatial query – thus forcing the spatial query to operate a sub-set selection method. In previous versions, the locator form would allow the user to restrict the set of objects via an attribute query and then select a set of records before zooming to the selected features on the map. The selected features would be highlighted. The user may then select features using the selection tools within the map but the context of the original search/sub-select would be lost. In the new release, the user may elect to preserve the specific query by using the tick-box as shown. When ticked, the context of the selected features is preserved and the map selection tools will operate on the original sub-set.



The screen shows a set of defects selected through an attribute query. The sub-select button is highlighted. When ticked, the selection of features by polygon will form the intersection of both queries and will not over-ride the original query as in previous releases. The screenshot below shows the selection of two defects via a polygon, one of which formed part of the result set of the original selection.

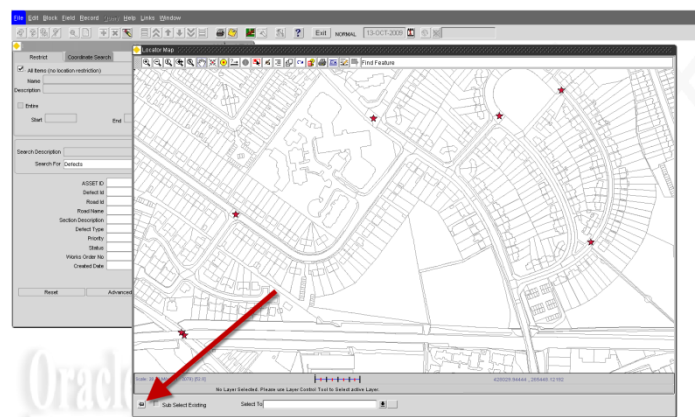
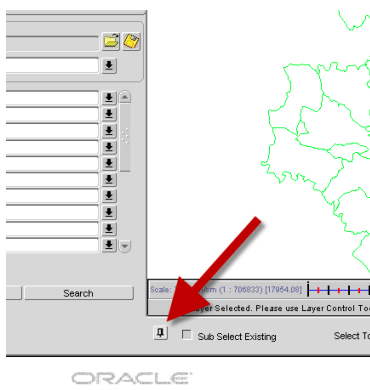


The result is that a single feature is picked. This results in the selected feature being centralised and shown in the left hand array of data.



3.3 Locator Variable size map canvas

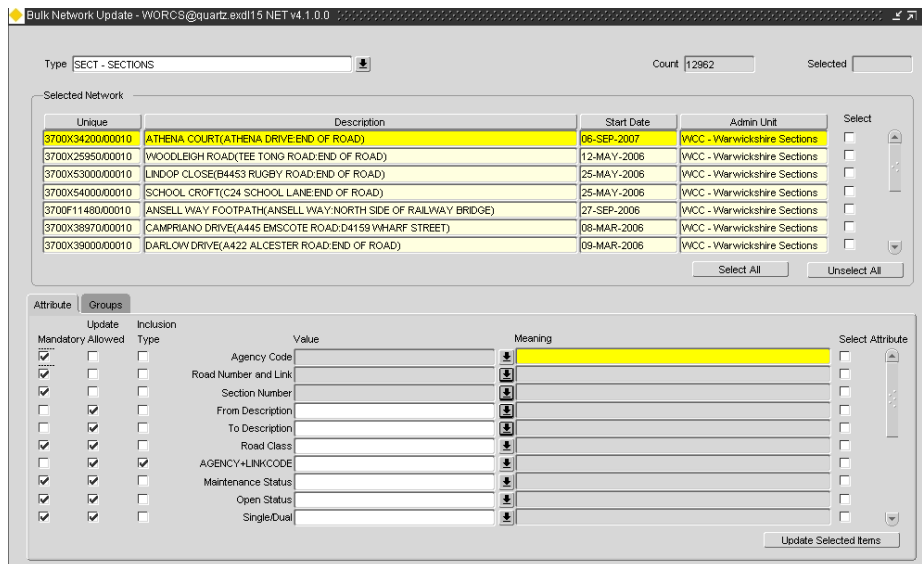
The locator map may be unpinned from the forms module and extended in size. There are limits to the minimum size. On start-up the locator form and map canvas are included in a single window. The map window may be unpinned by using the button shown below.



This results in an unpinned window that may be re-sized. The map may be pinned back to the form at any stage.

3.4 Bulk Network Update

A new Bulk Network Update module has been included in both Spatial Manager and forms. The forms version is illustrated below.



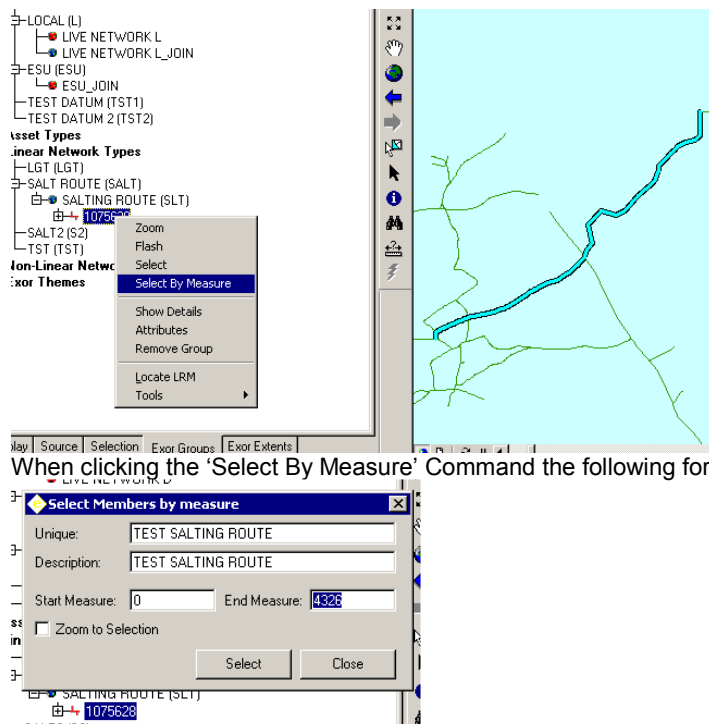
Unique	Description	Start Date	Admin Unit	Select
3700X3420000010	ATHENA COURT(ATHENA DRIVE END OF ROAD)	06-SEP-2007	WCC - Warwickshire Sections	<input type="checkbox"/>
3700X2595000010	WOODLEIGH ROAD(TEE TONG ROAD END OF ROAD)	12-MAY-2006	WCC - Warwickshire Sections	<input type="checkbox"/>
3700X5300000010	LINDOP CLOSE(B4453 RUGBY ROAD END OF ROAD)	25-MAY-2006	WCC - Warwickshire Sections	<input type="checkbox"/>
3700X5400000010	SCHOOL CROFT(C24 SCHOOL LANE END OF ROAD)	25-MAY-2006	WCC - Warwickshire Sections	<input type="checkbox"/>
3700F1148000010	ANSELL WAY FOOTPATH(ANSELL WAY NORTH SIDE OF RAILWAY BRIDGE)	27-SEP-2006	WCC - Warwickshire Sections	<input type="checkbox"/>
3700X3897000010	CAMPRIANO DRIVE(A445 EMSCOTE ROAD:D4159 VILHAF STREET)	08-MAR-2006	WCC - Warwickshire Sections	<input type="checkbox"/>
3700X3900000010	DARLOW DRIVE(A422 ALCESTER ROAD END OF ROAD)	09-MAR-2006	WCC - Warwickshire Sections	<input type="checkbox"/>

Update	Mandatory	Inclusion	Type	Value	Meaning	Select Attribute
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Agency Code		<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Road Number and Link		<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Section Number		<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		From Description		<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		To Description		<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Road Class		<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		AGENCY+LINKCODE		<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Maintenance Status		<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Open Status		<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Single/Dual		<input type="checkbox"/>

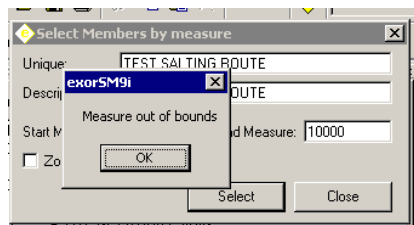
The module allows the user to pick a number of network objects of the defined type and to perform a bulk update of the attributes.

3.5 Network Selection in Spatial manager

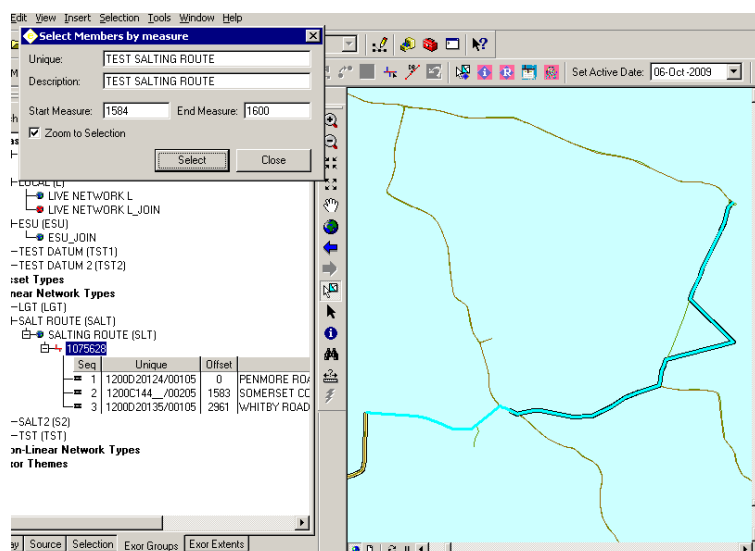
The command is available through the popup menu of added route items.



The form displays the unique and description values as also the minimum and maximum measures of the route. The user can set any value between these two limits. If the user enters a value out of these bounds the following message will popup and the focus will return to the form after closing the message box.

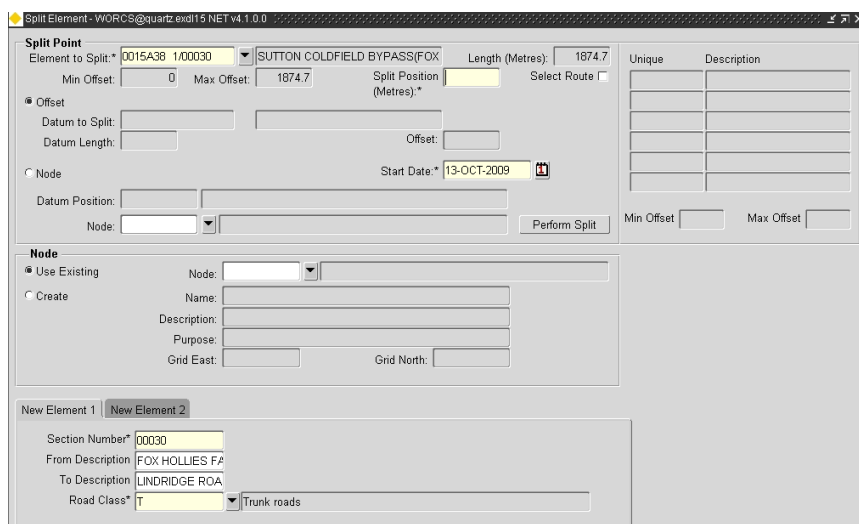


If all conditions are met SM will select all datums that are in measure range and if 'Zoom to Selection' option is set, the map will automatically zoom to the selected features.

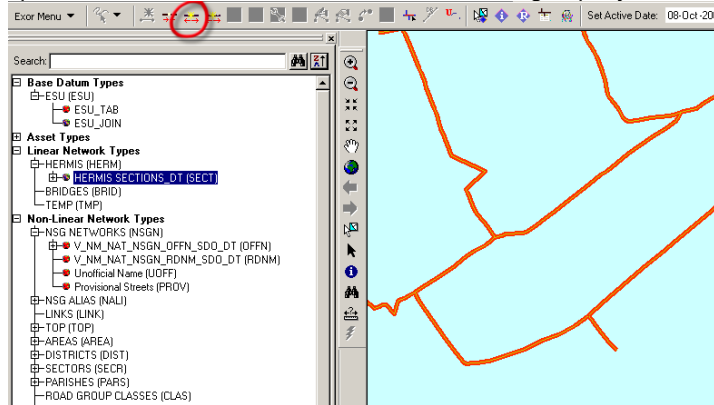


3.6 Split

The split module inside forms and Spatial manager has been extended to allow use of a split position expressed as an offset relative to a route. This does not necessarily indicate that the route itself should be split, this is optional depending on the structure of the route and whether the tick box is set. The layout of the screen has been changed to reflect this option.



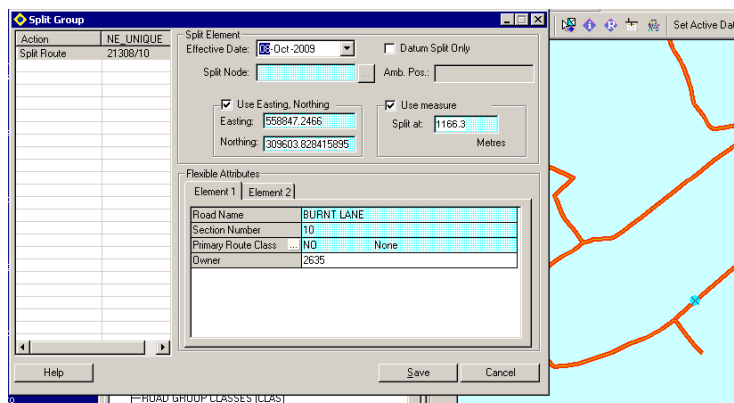
In Spatial manager, the user may elect to split a datum via direct selection or through the selection of a member at a route measure. Also, under some circumstances, the route itself may also be split. To perform a split, at the route level, the user has to select the group layer and then click the split button:



When this command is called SM changes the operation mode to 'create new feature' allowing the user to create a point item located on a feature of the selected layer.

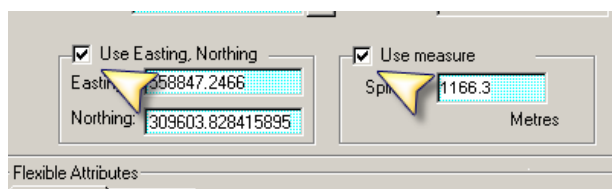
If no valid feature is found on the specified tolerance then sm will pop-up a message.

When the click location matches a valid feature then SM will pop-up the following form:



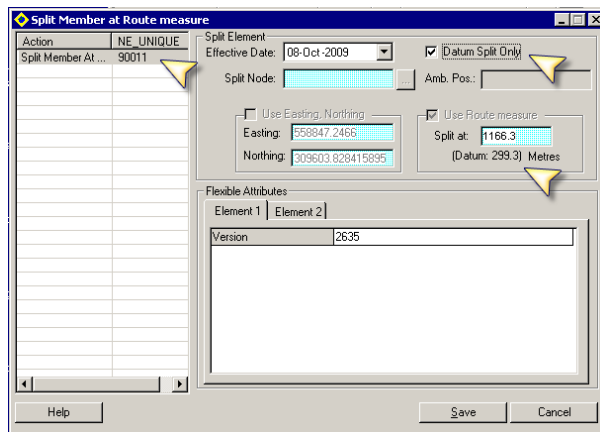
The list on the left side of the form enumerates the actions that will be executed (only one at a time for split operation).

During standard use of the form the user can change the values of each entry according to the needs of the change. Two check boxes allow the user to control the location of the new node.

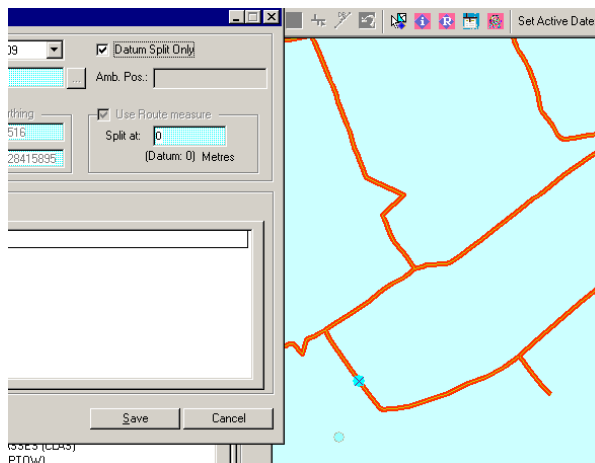


When checked SM will use the values entered or calculated. When unchecked SM will automatically adjust the values to reflect the actual location or measure (at least one option must be selected).

To split a member using the route measure without any impact on the route itself, the user must check the "Datum Split only".



When this option is set the split operation will apply only to the underlying datum. The form will change to reflect the datum's attributes and part of the functionality will be disabled (user cannot define the point coordinates and cannot toggle between use of point/measure split location). The action is set to Split Member At Route's measure and the displayed ne_unique is that of the underlying datum. The split measure on datum is also displayed to provide a better feedback to the user. Finally the Flexible Attributes grid allows the user to set any additional option required.



3.7 Exclusivity of road group membership

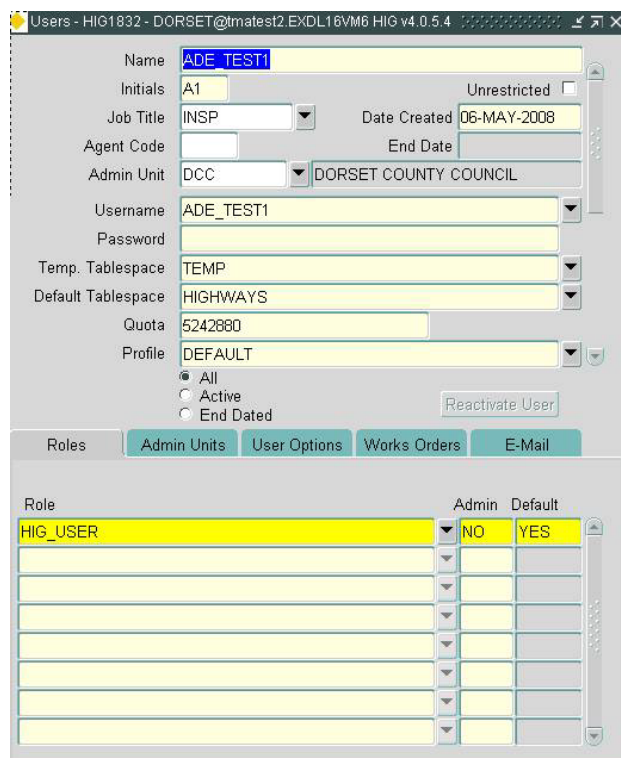
Road groups may be configured to be exclusive in the sense that no part of any member of a group may exist in another group of the same type. This has been part of the product for a long time. In previous releases, if such a result should occur the system would prevent the operation. A system option is now available to indicate that the allocation of part of the network into an exclusive group type should result in success even if existing, conflicting memberships should be end-dated. The option is GRPXCLOVWR, the default value is set to N indicating that the system will behave as in previous releases.

3.8 Context efficiency

The new release includes a new schema which has been created as the basis for a more efficient method of holding context variables. This is the EXOR_CORE schema. It owns packages, the number of which depends on the products installed. Use of this method of context variables is far more efficient than methods that require access to tables such as nm3context. The creation of this schema is a manual process and is documented in the installation and upgrade guide.

3.9 HIG1832 Enhancement

An enhancement has been added to the module hig1832 – Maintain Users. The module can now be used to re-activate end-dated accounts. The data in the hig1832 was being date-tracked and date-based restrictions were applied. Thus, if a user account was end-dated, the hig1832 module would not display the record unless an appropriate effective date was set. This made it difficult to review end-dated and locked accounts. In the new version, the module can be used to query active and inactive accounts. When used to query inactive accounts, the module may then be used to re-activate the Oracle account that relates to the highways user.



Role	Admin	Default
HIG_USER	NO	YES

The radio-group at the base of the user details and above the roles tab is used to modify the basic query on the data by allowing the query to have no restriction (All), only those users that are current and active or those that are end-dated.

When an end-dated user record is displayed, the Reactivate User button is enabled to allow the Oracle account to be unlocked.

3.10 Contiguous Assets

The system has changed to more accurately advise of gaps within a contiguous asset during the location or end-dating process. Changes include the provision of warnings if, after location of the asset, there are remaining gaps relative to the network object that is used as the target reference. The original software produced a warning if there were gaps on any datum used in the location of the asset – hence warnings were suppressed when an asset was located over the whole of a singular datum, yet a warning would be given if an asset location did not result in complete coverage of a datum, even when the process was merely replacing an existing coverage. End-dating of an asset location will also result in warnings if the asset type is flagged as contiguous.

3.11 Asset Locations

The system has many flags to indicate the behaviour of the asset location. The location may be flagged as mandatory and warnings will be posted if an asset is committed with no location. However, the asset type may be flagged as “end-location-only” and this was being mis-interpreted within the system. This setting of this flag indicates that the asset should remain when network operations result in the removal (end-date) of its location. This flag was being mis-interpreted to result in an end-dated asset when the asset location was end-dated.

Hierarchical assets have also had problems in previous releases and subordinate assets flagged as sharing exact locations with parents (relationship = ‘AT’) have been found to be out of step. The issues that caused this problem have been fixed but the subordinate asset locations may be out of step. Scripts exist in the admin/utl

folder to identify and repair subordinate asset locations. See files `verify_child_location.sql` and `upd_incorrect_child_loc_with_at_rel.sql`

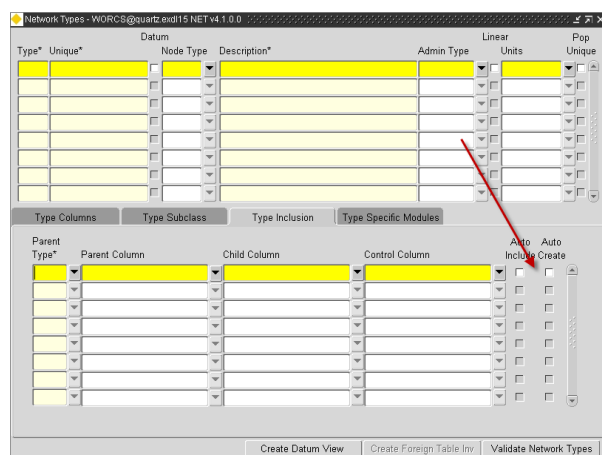
3.12 Engineering Dynamic Segmentation

The stand-alone engineering dynamic segmentation software and API has been improved to produce correct results. There were issues in the original software whereby the datum order with a route was made incorrect when datums had a reversed direction relative to the cardinal direction of the route or merge section. There were some other issues which related to the order with which events were processed and these had impact mainly in the resultant median and first/last value functions.

Spatial Manager has been enhanced to allow a user to select/pick the network between two route measures through the use of the measure rather than the feature selection tools.

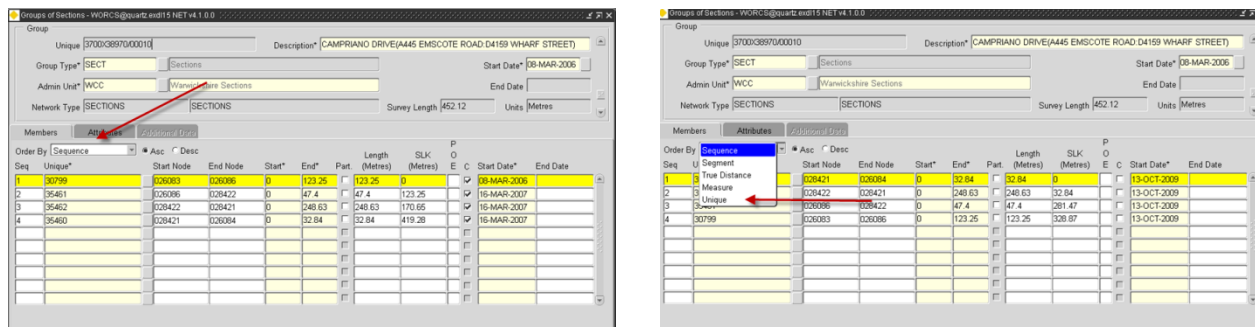
3.13 Auto-creation/auto-inclusion settings.

The network types modules have been corrected through the re-instatement of the missing Auto-inclusion/Auto-Create fields



3.14 Ordering on form nm0110 (Groups of sections)

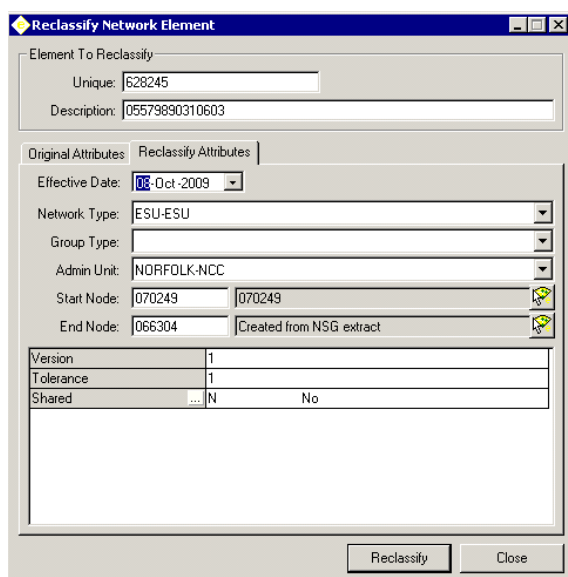
The groups of sections form (nm0110) form second block shows the member of groups. It has an ordering function to allow the user to order the members according to their preference. The unique key of the member had not been included in the list and this has now been added.



Seq	Unique*	Start Node	End Node	Start*	End*	Part	Length (Metres)	SLK (Metres)	P	O	E	C	Start Date*	End Date
1	30799	026083	026096	0	123.25	F	123.25	0					18-MAR-2006	
2	35461	026086	026422	0	47.4	F	47.4	123.25					15-MAR-2007	
3	35462	026422	026421	0	248.63	F	248.63	170.65					15-MAR-2007	
4	35460	026421	026084	0	32.84	F	32.84	419.28					15-MAR-2007	

3.15 Spatial Manager Reclassify

The reclassify tool within Spatial Manager has been improved with several fixes having been made. The screen is made more consistent with that of the same function in Oracle Forms. See below.



Element To Reclassify:

Unique: 628245

Description: 05579890310603

Original Attributes | Reclassify Attributes

Effective Date: 08-Oct-2009

Network Type: ESU-ESU

Group Type:

Admin Unit: NORFOLK-NCC

Start Node: 070249

End Node: 066304 Created from NSG extract

Version	1
Tolerance	1
Shared	No

Reclassify Close

3.16 SDE temporary data tables

Upgrades to ESRI SDE often result in changes to the structure of tables used to hold transient data. These tables are held in each user schema and an SDE upgrade on an instance may leave these tables out of step with that expected by the ESRI code. A script (drop_sde_logfile_tabs.sql) is available in the admin/utl folder of this release to rectify this problem.

3.17 Documents associated with foreign-table assets

In previous releases, the system would fail to recognise any association between a foreign table asset and a document through the document manager gateway. Forms such as assets on a route and maintain assets which

display foreign table data now recognise the associated documents and allow access to the documents through the button on the toolbar.

3.18 Clearing job to remove transient table data

On install and upgrade, a script is executed (nm3jobs.sql) which utilises a new package (nm3data) to configures jobs to clear transient data from tables GIS_DATA_OBJECTS, and NM_GAZ_QUERY_ITEM_LIST and NM_DEBUG. If locks cannot be established the scheduler will retry. The use of a generic scheduler front-end is being considered for future releases.

4 Log No. Summary

This chapter summarises all Software Bugs and Changes that have been made in this release. These changes are derived from the following sources:

Customer raised issues
Internal testing
Minor enhancements.

Please note that this is not a full list of the issues that may be cleared as a result of this release. The list of numbers relate to the ECDM log number.

ECDM#	Issue Description
717677	Error end-dating assets with subordinate hierarchical items
713421	Hierarchical asset problem (same as 717677)
718043	Failure on derived asset
718052	Failure on derived assets
695750	The route rescale function did not round the starting measure to be consistent with the route units format mask. This has been addressed within forms and Spatial manager.
696872	Restrict max value on asset data
716475	Unique admin unit codes - same as 715234 - Admin Units were being made available in the LOV for Asset Types that are not used for that Admin Unit. This resulted in duplicates appearing. Fix already applied in later version.
717363	Hierarchical asset relocation problem. Hierarchical assets configured to have a shared location are re-located correctly.
717798	Delete global assets – no data in list. Duplicate of 718014 - Selecting the “select all items (no restriction)” tick box did not result in any records being returned. The SQL used has been amended to not require a specific item.
717967	Forms failures on validation
716387	Locate by intersection. Nodes on route failure in sql was coded incorrectly.
696122	Hierarchical asset relocation problem. As 717363. Hierarchical assets configured to have a shared location are re-located correctly.
697651	Hierarchical assets - Exclusivity of child asset not maintained when adding asset through Inventory Items form.
718614	Split not working. This was a customer specific configuration problem.
714839	SM LRM Tool M side Error. This is corrected by re-generating the route shapes where corrections are made to the measures on the route shape vertices.
696419	Execute a merge query after the entry of the query specification was unavailable due to the button remaining inactive. This was fixed through corrections to the assessment of the module role after the form name had changed.
716315	Engineering dynamic segmentation function pop-list not in alpha order.
716317	Engineering Dynamic Segmentation function returned values are not rounded. This was due to the attribute in question not being defined as having a number of decimal places. The code now defaults all numeric function values to be returned with zero decimal places when the attribute decimal places is undefined.
702634	Directory separator problem on user configuration.
718691	Failure of merge query to split at discontinuity of attributes of route as a foreign table
697246	Assets on route. Double-clicking on the graphic representing a foreign table asset failed to navigate to the item in the tabulated data blocks.T
716392	nm0110 - numeric value error
717947	NM0510 Failure displaying new FW data - FRM-40735 key-exeqry trigger raised unhandled exception ORA-306500. Use of level outside of a connect-by clause
700920	Possible differences in the allocation of a default value on the ITA_EXCLUSIVE column due to differences in behaviour of older upgrades and install scripts is addressed.
710576	After end dating asset domains, data was unavailable in asset forms. The post-query will now alert the user to the fact that the attribute data is rendered invalid by domain data having bene end-dated.
717221	Themes wizard fails to configure an xy driven asset layer

716980	Show map function has been included in assets on a route
716385	Nm0510 location tab - auto-query is executed on blocks
719041	Failure to register correct SDE column registry data caused rounding on shapefile extracts for Mapcapture. Users should re-register the sde metadata if rounding occurs on numeric attributes.
696419	The run button was unavailable on merge query setup form. This was due to a dependency on metadata relating to an old module.
698292	Extract of merge query results with attribute domain code meanings forced an invalid number error.
699245	Groups of groups module allowed duplicate member groups.
702388	Validation of asset attributes in number format.
703436	Using fastpath or run button to call a form that is started in Enter Query mode resulted in error FRM-41361: Cannot navigate out of current form in Enter-Query mode. This is now fixed.
706627	Traffic Manager dbms_job frequency improvements.
709394	Oracle 10g Connect-by changes forces a FRM-40735 error in Asset Items form. Likely fixed in 4053.
709697	Merge now works with linear groups where the start and end nodes are not populated against the group
710317	Traffic Manager statistics publishing process resulted in "Virtual column not allowed"
711399	When using NM0410 to enter details of asset attributes with a number format, the length field was automatically populated with the maximum field length for that column. However you could overtype with a greater value and the record could be saved. The issue has been corrected such that the data can be validated correctly during entry.
711775	Objects assigned to the 10g recycle bin are now excluded from the compile_schema script and from the grant of objects via role definitions.
712662	Use of bind variables to force a complex additional query (&A or :A) has been removed from Oracle Forms 10. It be re-enabled through using the forms option FORMS_RESTRICT_ENTER_QUERY – to enable it either comment out the explicit setting of the value to TRUE or recode to explicitly set this value to FALSE.
713423	Asset display in AOR was showing incorrect location data when used on routes with datums running in a reversed direction relative to the route cardinal direction.
713745	Ordering of the roles within the users form has been added.
714298	Same as 703436 – execution of forms that open in enter-query mode.
714541	Stand-alone engineering dynamic segmentation now excludes null from the calculation process subject to setting of a system option EDSNULLEXC
715177	Use of an XY driven asset foreign table view would fail to relocate when the view was a non-key-preserved join view.
715378	NET-0389: Invalid defined for attribute resulted from querying asset data with end-dated domain values in NM0510.
715704	NM3Layer tool failed due to failure of view creation when multiple "AND" clauses.
716120	Contiguous asset data.
716221	Engineering Dynamic segmentation failures.
716317	Engineering Dynamic segmentation failure to round data when the attribute definition has no decimal places.
716318	This log states that the Engineering Dynamic segmentation shows incorrect results compared to version 3.0.8.2. However, the fault was traced to an element of randomness in an order-by clause. This is now fixed.
716375	Contiguous asset warnings.
716385	Customer expected results in NM0510 form to be displayed and thought that assets were not located. In fact the module needed an explicit execute query to see the results. An automatic query has now been coded.
716574	NM1100 Gazetteer gave error messages advising that too many values exist
717051	Failure to merge two network elements with associated data on the same date.
717266	Exclusive contiguous asset types resulted in erroneous warnings of a gap when none present.
717750	GIS0011 has been improved with more fields that can be used as a basis for a query.
718285	SM shared reshape failed to select the node and cross hairs did not appear.
718920	Length of numeric field validation and rounding. Asset data is now validated in a consistent format to Oracle internal validation. Rounding may occur if the number of decimal places entered are greater than the number format allows. Numbers that are too large are invalidated.
719045	In previous releases, the Oracle spatial projection WKTEXT was erroneously used inside the

	registration of an ESRI Spatial Reference. All new layers will attempt to inherit and match an existing ESRI projection and if none are available, the system will register the sde spatial reference as UNKNOWN when used in conjunction with ArcGIS 9.1. If used with SDE 9.2, an attempt is made to match the Oracle SRID to a set of pre-populated Esri spatial references. Again, if none exist, then the spatial reference will be registered as UNKNOWN.
719219	GIS0010 has been cleaned-up in relation to the editable properties of NTH_SEQUENCE_NAME and in the registration of themes that relate to tables and dependent views.
719329	Contiguous asset improvements.
719375	The system has been improved to allow a password to contain special characters such as ~
719379	Correction to prevent an invalid FRM-40657 error in NM0510 when end dating the location.
719384	Correction to the use of the end-location-only flag. The system would end-date a location and if the flag was set, the asset would be end-dated too. Now, the asset is not end-dated. Warnings may be given if the asset location is mandatory and/or the asset type is flagged as contiguous.
719404	NM0510 has been tidied up in relation to warnings about whether a commit should be performed on enter-query and exiting the form.
719446	General improvement to Group of Sections module when used for creating groups with associated data.
719472	GIS0020 and MAI_SDO_UTIL has been changed to correctly structure the defects themes metadata.
719614	NM7051 – merge sections are displayed relative to the routes used in the connectivity of each homogeneous chunk.
719781	GIS0020 allows access to error logs created when a theme is dynamically segmented.
718641	Accounts that are locked due to failures in the password entry mean that the account status is out of step with the end date of the user record. Currently, the user of the form must end-date and un-end-date the user record to re-activate the account. A button now exists to unclose active highways user accounts that are locked.
718846 719098	To address these issues, a new attribute has been used to indicate if an asset attribute is inspectable – this is useful to prevent download of asset attributes onto DCD. Early releases of downloads to DCD prevented download when an attribute sequence number was set to 99 or greater. Since 4.1.0.0, the sequence number is made independent of DCD extract methods. The new column is ITA_INSPECTABLE and is defaulted to 'Y' so the onus is on the administrator to prevent its use.
719121	Corrected by upgrade to index structure after divergence of unique key on nm_element_history table led to failure in rescaling a route. The upgrade from a 4040 install was found to be at fault whereas customers upgrading from an earlier release had the correct structure.
719353, 720154, 720398, 721089, 721477, 721766, 721939	The trigger to force data into a group spatial layer through update-on-edit = I (Immediate) fires after the datum has been entered into the group. When the group member is being created by autoinclusion, the trigger fires prior to the existence of the datum shape so a null shape is attempted to be created in the layer. This is corrected by prevention of the insert of the null shape and by refreshing the spatial layers after the insert of the element shape.
720465	Delete global assets failed to delete data unless accessed via a network restriction
720587	XSP data in strip map of assets on a route (nm0560) had no fixed order. This was changed to order by the xsp sequence number.
720598	Nm0510 failed to request confirmation of a commit when using enter-query
721136	Errors on elements with NE_DESCR more than 80 chars. A full impact assessment and correction was made where necessary.
722177	Trim trailing spaces from domain meanings
722774	The reverse route button fails in the toolbar of the nm0110 groups of sections module, due to the reliance on old code that prevents the operation if there is a spatial representation of the route.
703295	Failure in nm3ddl.REBUILD_ALL_SEQUENCES caused by extraneous sequence associations in the metadata table HIG_SEQUENCE_ASSOCIATIONS
712111	Reclassify failed when called for a second time in Spatial Manager. This was compounded by SM not reporting errors correctly.

716050 721802 721838 721839	Creation and handling of distance breaks. Distance breaks were able to be left hanging with no active relationship to the route through the members table. This has been prevented. Also distance breaks were able to be created outside of the context of a route and this has also been prevented. Scripts are available to remove any dangling distance breaks. These pose no threat to any integrity but should be identified and closed.
717467	Locate Asset button on nm0590 (Maintain Assets) did not become active until Attributes have been filled out and you click back over in the left side of the screen in Asset Type.
717652	Recent changes left disparities in the length of the options HOV_VALUE column. This has been uniformly increased to 2000 characters.
718793 721524	Assets on a route form nm0560 had problems executing on more than one route resulting in error ora-40502: ORACLE error unable to read list of values when scrolling through attributes.
718835	Server code changed to register more consistent theme label column when called from gis0200 form.
720232	Problems creating distance breaks from Spatial Manager.
721284	Rolling the calendar back and trying to display an asset using nm0560 (assets on a route) causes FRM-41830:List of Values Contains No Entries.
721654	Assets on a route (nm0560) report gave a units error when executed on a non-linear group after specific units had been associated with a non-linear group through external means. This problem could not be replicated after configuration of data through exor standard modules. The upgrade script will remove any erroneous units coded against non-linear network data. The module has been extended to allow execution on non-linear groups by using datum units. Care should be taken in using the module in this mode as ordering of data may not be as consistent as when using a linear ordered route.
721926	Extraneous update on base table inside SM causes problems with unique key.
722000	SM causes error from date-tracking integrity due to passing of incorrect date.
722005	Wrong or misleading commit/save message in nodes form (nm0101).
722009	Problems in execution of merge query caused by erroneously date-tracked view of admin units. A user allocated privileges on an admin unit on a specific date should have the privileges to see assets of that admin unit even at dates prior to the user start date. This has been corrected through changes to the view NM_USER_AUS.
722011	Failure during audit of character column data.

5 Known Issues

There follows a list of some of the known issues in the release 4.1.0.0. This list is by no means exhaustive but these issues have been included in the release notes because of one of the following reasons.

- They are currently under investigation
- They issue relates to a bug fix or enhancement that was thought to be fixed or completed but has failed in some aspect of its functionality in recent testing
- They have been fixed in a fix or patch for an earlier release but completed too late for inclusion in the 4.1.0.0 release.

Where appropriate a fix may be highlighted to inform the user as to whether it is compatible with release 4.1.0.0.

The issues have origins in both customer support logs or from internal testing. Those originating from customer support logs are prefixed with an ECDM Log number, others with an Exor internal Task Identifier. Some or all of these fixes will be rolled into a patch release version 4.1.0.1 to be issued at the earliest opportunity.

5.1 Task 0108567 Network Groupings Integrity

The Network Type groupings table (NM_NT_GROUPINGS) should only allow a relationship between a Group Type and a Datum Network Type. The form (NM0004) allows any Network type and LOV data makes this data difficult to configure. There is no restriction from the server either allowing faulty data to be created. Incorrect data can then lead to further violations and strange results.

5.2 Task 0108565 Locator Un-Pin

When you unpin Locator and drag the left hand edge of the map to expand it, it will expand, but re-centre thus potentially leading to its disappearance off the right hand edge of the screen.

5.3 ECDM Log 720290 Errors with effective date on CSV loader

This issue is documented as having its roots in difficulties in the measures when locating an asset at an early effective date using the CSV loader. However, it also relates to difficulties resulting in an error suggesting an Invalid Admin Unit. This is caused by an attempt to locate an asset at an early effective date on a network extent over which an asset has been located recently and where the recent asset has an admin unit that post-dates the asset being loaded. The code in NM3AUSEC package body has been restructured. The fix has been made available as release 4.0.5.4 Fix 29 which supplies version 2.3 of the package body. This fix is compatible with 4.1.0.0.

5.4 ECDM Log 723068 Locator Measure Tool Fails With Errors

This log relates to three issues of which two are the same problem.

The first failure is in the attempt to use the LRM Route Offset tool in Locator. The problem is worth noting because it has occurred on other sites. The problem is mainly due to a server-based cursor failing when a theme-label is invalid. Use the SDO and themes checker procedures highlighted in previous release notes to validate this data and make the appropriate changes using the themes form. The 4.1.0.0 release will register data differently to avoid this error.

The remaining two failures on this log relate to the area and length tools within Locator. These are aimed at giving the area or length of spatial data digitised into the Locator map. In cases where the units of the map were in feet, the server code could fail resulting in an error code of -1 which was mis-interpreted as the actual length. Similar failings resulted in the area calculation returning an error 'Your polygon area query failed. Please enter the polygon again'. This has been re-coded and will return the correct values in Metres. It is realised that this may not be ideal for customers who have map and network measure units that are not Metres. This is under consideration and will need a minor change to convert the data and remove the hard-code unit text in the Locator map.

The fix was made in version 1.5 and 1.3 of the nm3sdo_geom package body and header. It was made available in NM4.0.5.4 Fix 27. This fix is compatible with release 4.1.0.0.

5.5 ECDM Log 722085 Error creating a defect on asset

This issue was due to the calculation of the centroid of a multi-part polygon to be used as the co-ordinates of a defect. The code was failing when the data was mistaken as having user-defined parts. This code has been corrected in version 2.22.1.2 of nm3sdo package body. It is not compatible with release 4.1.0.0.

5.6 Task 0108516 Error in GRI200

In recent months a review of database changes has been conducted with a view to ensure that all upgrades from earlier releases are consistent with the database structure during the fresh install of 4.1.0.0. In particular those resulting in extensions to field sizes have been reviewed and modules have been tested with full data values. This has been seen to cause some value errors in some modules, one of which is GRI0200. The GRI0200 module will use dynamic SQL inside validation and LOV functions to deliver data into description fields which are restricted to 100 characters even though the metadata indicates that a column of a size greater than 100 characters be used. The GRI0200 form has been modified to truncate data where appropriate.

5.7 ECDM Log 719171 Unable to edit location text field

This log was raised by customers using the NSG add on to Spatial Manager. The NSG specific screen in SM to edit associated data such as Special Designations was failing to allow the user to update the location text. This bug has been fixed but recent tests have shown that the start and end XY co-ordinates are still not enterable.

5.8 ECDM Log 714261 Error modifying colours in STP4400

Testing of the Structural Projects product with the core highways version 4.1.0.0 led to two issues being identified. The first issue relates to a forms error of "FRM-41391 Cannot find visual attribute: invalid ID". This can be resolved by setting the Visual Attribute in Asset Domain screen (NM0301) .

The second issue arises when a user attempts to set the colour of a layer in the STP layers module. An error of "ORA-20009 module hig1811 does not exist" may occur. This is due to the missing module metadata for the colour palette module HIG1811. Future releases will make this metadata available and release 4.1.0.1 will include the script to install it. If this problem exists then the metadata may be created using the following extract of SQL. Note that the module is being assigned to the HIG_USER role which must be available on your site. Please ensure that your Oracle license allows use of SLQ*Plus, if in doubt use the Module and Module Roles forms to input this data.

```
INSERT INTO hig_modules
SELECT 'HIG1811','Fill Patterns','hig1811','FMX',NULL,'N','N','HIG','FORM'
FROM dual
WHERE NOT EXISTS
(SELECT 1 FROM hig_modules
WHERE hmo_module = 'HIG1811');

INSERT INTO hig_module_roles
SELECT 'HIG1811', 'HIG_USER', 'NORMAL'
FROM dual
WHERE NOT EXISTS
(SELECT 1 FROM hig_module_roles
WHERE hmr_module = 'HIG1811'
AND hmr_mode = 'NORMAL');
```