Core Highways Release Notes v4.6.0.0

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Asset Management Solutions

Contents

1 Document Control

1.1 Author

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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 installation.

1.3 Document History

Document History			
Revision	Date	By	Description
1.0	17th September 2012	Rob Coupe	First Draft
1.1	18th September 2012	Rob Coupe	Addition of test failures and minor changes
1.2	21st September 2012	Rob Coupe	Correction to spelling mistake

1.4 Reference documents

- Oracle Windows Bundle Patchset 20 – see Oracle support documented under issue "ORA-20001: Invalid Input Values For Pname after applying Windows 11.2.0.2 Bundle Patch 20 or CPU Patch [ID 1483702.1]".
- Document [ID 1268383.1] -   Slow Performance when using SDO_RELATE/SDO_FILTER.

1.5 Distribution

Bentley/Exor Customers, Partners and Colleagues

1.6 Quality Assurance

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2 Introduction

This document highlights the key changes to the exor Core Highways database following the release of **Core Highways v4.6.0.0.** 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 necessarily 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 as an upgrade from release 4.5.0.0. of **exor Core Highways**.

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

This release is, in the main a bug-fix release and a technology change in that it has been adapted to be used on the Oracle forms 11 release 2. This has minor differences over and above the version 11.1 platform supported in the previous release. It remains certified against Oracle 11.2.0.2 RDBMS and on windows platforms, it is certified with patchset 20. Attention is drawn to documentation on the Oracle support website "ORA-20001: Invalid Input Values For Pname after applying Windows 11.2.0.2 Bundle Patch 20 or CPU Patch [ID 1483702.1]". After the application of this patchset, further configuration is required. See also section 5 where information relating to this issue is further explained.

At the time of writing, the certification of the ESRI components for support of Spatial Manager and MapCapture Interface is unknown although unit testing of the core server was tested to some degree against an ESRI configuration which remains unchanged from previous releases.

At the time of writing, the version of the MapViewer applet is also unknown.

The issues that have been attended to are a result of internal testing, customer raised issues and internally driven enhancements and improvements. Where the change has been made as a result of an existing ECDM log or Bentley Support Ticket raised by a customer, the table of fixes makes reference to the relevant ECDM log or Bentley help ticket ID number. The latter tend to be much larger numbers, generally prefixed by 800.

3 Subordinate User Spatial Views

The initial release set of upgrade scripts for release 4500 had some minor problems which were addressed in 4500 fix 20. I tis critical that the later versions of the upgrade scripts issued in this patch set are used, preferably to perform the upgrade or as a repair in cases where the original upgrade scripts were used. As in release 4500, the subordinate user spatial views are only required for subordinate users using the MapCapture Interface or ESRI command line functions such as SDE2SHP.

4 Developer 11 Changes

The 4.6.0.0 release is based on a different technology stack to that of previous releases. It is built using Oracle Developer version 11.2 and uses the WebLogic Application server. Some changes have been made to the WebUtil bundle within this environment. So, although there is a close degree of compatibility between forms built for use with releases 4500 and 4600 the differences are sufficient to cause problems. Hence a full upgrade of forms and reports based modules is needed.

5 Oracle 11.2.0.2

Attention is drawn to a minor problem in the case of the application of the Windows Patchset in Bundle 20. At the time of writing, the upgrade notes for this bundle are incomplete. Further action is required else software failure will result. Left unattended, failures in the generation of statistics on objects may fail. In the case of statistics in the generation of spatial layers, this is interpreted as a privilege/permission problem.

The failure is due to an incomplete readme in the Oracle patchset 20 (64 and 32 bit) and is documented under issue "ORA-20001: Invalid Input Values For Pname after applying Windows 11.2.0.2 Bundle Patch 20 or CPU Patch [ID 1483702.1]".

The corrective measure is to execute the execstat.sql script in the rdbms\admin folder as the Oracle SYS/SYSDBA account.

Also, please continue to ensure that statistics are disassociated from spatial objects as described in the 4500 release notes.
as advised in the note issued by Oracle - Document [ID 1268383.1] -   Slow Performance when using SDO_RELATE/SDO_FILTER. This note advises that the statistics on spatial tables and indexes are disassociated from the processes that use these indexes – namely spatial filters. The following adjustments are recommended in this note.

```
connect /as sysdba
alter session set current_schema=MDSYS;
DISASSOCIATE STATISTICS FROM INDEXTYPES spatial_index FORCE;
DISASSOCIATE STATISTICS FROM PACKAGES sdo_3gl FORCE;
DISASSOCIATE STATISTICS FROM PACKAGES prvt_idx FORCE;
```

6 Fixes, Enhancements and Changes at 4.6.0.0

The following are a list of internal task identifiers with associated ECDM fault logs/Bentley help ticket numbers (where appropriate) that have led to changes in the 4.6.0.0 release.

Internal Task ID	Issue	Support Log(s)
0110244	MapViewer now allows the user to re-order layers by moving them up or down the list.	722477 728035

Internal Task ID	Issue	Support Log(s)
0111008	Forms running in READONLY mode prevent the opening of other modules.	8001075194
0110406	In this release Navigator also displays an asset hierarchy and its history.	
0111157	The original code processed the updates of end-dates on shapes for all records on a specific datum. This resulted in an update to set the end-date which affected records that had been previously end-dated. The same process was responsible under some circumstances of re-setting the end-date to be null on more reocrds that it should have done. The code now targets the specific member records, the update of which, the process is geared to respond.	8001100659
0111199	GIS0020 will now create themes based on Inventory/Route types that do not have views created. Previously this could result in errors/warnings being raised.	
0111528	End-dating of inventory locations would allow completion despite locations in existence after the date of closure. This was due to the check being based on the locations of the inventory at the date at which the user wished to close it. A better checking process is now included and an exception was raised if the locations cannot be closed.	8001172067 8001288133
0111532	Ensure the IIT_PRIMARY_KEY column is validated based on the Mandatory flag if defined as a flexible inventory attribute.	8001187536
0111534	Reclassifying a group with secondary AD data could fail with date-related problems	8001178316
0111541	Due to failings in the call to the reshape-route, the server code has little chance of keeping the dates and shapes of routes in-sync with member data. This fix makes the rather sweeping fix to ensure that the route shapes over time are the same as those that would be generated if the layer was refreshed. Namely, an aggregated route shape would exist for each distinct date-range.	8001192315
0111817	Some subordinate user metadata in the mdsys.sdo_geom_metadata_table would be retained after a layer had been dropped. This is now corrected.	
0111836	Complexities arising from testing and loading locations of child assets with an inherited location during the loading of data from MapCapture load files have been simplified. The code will now ignore any child locations in cases where the child asset type has an AT relation to the parent and where the parent location exists. Other areas of code will ensure that the child asset location is inherited from its parent.	8001298259
0111843	Hierarchies of with a relation of AT driven by point XY data are now kept in sync when the parent XY is changed.	8001300676
0111849	Server code has changed to prevent the end-date of asset locations where the chosen date is earlier than other locations for the same asset. This has been coded in the API used inside the forms modules but has also been coded inside the API used in many CSV loader implementations. It is code din both areas to avoid server header changes which have impact on the forms modules. Forms have been coded with an exception handler such that the server exception is trapped a more meaningful and formatted error message is displayed.	8001288133
0111850	The generation of a spatial layer representing assets dynamically segmented from inventory location data now results in a theme which defaults the UPDATE_ON_EDIT flag to I for Immediate. Foreign table data will remain unaffected and will be generated with the flag set to N indicating asset spatial data will remain unchanged.	8001298116

Internal Task ID	Issue	Support Log(s)
0111865	The reports have SQL which makes use of the LEVEL pseudo column within a query block that doesn't have a connect by. At some stage, the rules governing the use of the pseudo-column have changed. Earlier tasks relating to this ticket are handled by pointing the user to settings within the Oracle server to ensure compatibility with previous database methods. See 0111866 and 0111660 which recommend the following: alter system set "_allow_level_without_connect_by"=true scope=both; See Oracle Metalink note: Use _allow_level_without_connect_by to Revert Back to 9i Hierarchical Query Behavior [ID 271939.1] At 4.6, the reports will be modified to remove the dependency on this option.	8001300575 8001440003
0111896	Locator maintains two distinct maps one that is pinned to the locator form window and one that is unpinned. Previous versions failed to synchronize the active theme from the unpinned map with the context sensitive List of Modules.	8001139145
0111912	Depending on upgrade path, the MV_HIGHLIGHT table may still have a persistent unique index. The script to be executed in the upgrade will ensure all systems are configured the same. having a unique index will prevent some asset shapes from being highlighted in the MapViewer map applet.	
0112004	Some customers have measures on the vertices of datum element shapes that are not monotonically increasing. This is a situation in which an Oracle problem results in the split operation producing shapes with ordinates that include (0,0). This change works around the problem. Alternatively, ensure all datum vertices have unique and increasing measure	
0112005	Changes to the doc-bundle loader are such that even if a record contains a reference to data through a gateway-synonym, the loader will load the appropriate gateway in the DOC_ASSOCS table. Hence it is important that the metadata has a set of unique synonyms pointing to a set of unique gateways with no replication of entities as both gateways and synonyms. The DDL script will modify metadata and will make an attempt to correct reference data known to be a problem. Since this data can be user-defined, there may be issues with the script and if the fix DDL script fails then support should be contacted to help them clean some of the gateway metadata up. Even if the uniqueness of synonyms and gateways across other entities is not guaranteed, the script should repair those that relate to NM_INV_ITEMS and NM_INV_ITEMS_ALL. Existing documents will be made to associate to a single gateway so documents will be available from all modules that relate to either gateway or synonym.	729536 8001079483
0112009	Searches that are configured and saved in Locator are built from meaningful attribute names but when the saved searches are reviewed, the attributes are shown in their specific table/attribute name which is often meaningless to the user. The saved searches are now shown with meaningful attribute names in the same way as when the search is being built.	
0112067	Asset attributes can no longer be updated without the appropriate privileges.	
0112068	Asset attributes can no longer be updated without the appropriate privileges.	
0112071	Resolved issue where selected network is not highlighted when the user clicks on the network to raise a defect or enquiry.	8001232210 8001235570 8001339460 8001373269

Internal Task ID	Issue	Support Log(s)
0112078	The doc-bundle-loader would create documents with a date-issued value with a corrupted century due to an inadequate date conversion. This problem could arise through the use of the default values in the argument to the API but is also caused from the direct call to the API in the doc-bundle-loader package body. The problem is corrected both in the default values in the base API inside the doc-bundle-loader package.	8001408214
0112079	Server code is modified to perform a check to ensure that the user has the defined theme-roles before execution of spatial edits. Failure to grant the theme role prior to the edit will result in a server failure as shown below: ORA-20000: NET-0339: You do not have permission to update this record ORA-06512: at "<SCHEMA>.HIG", line 1464 ORA-06512: at line 2 This should be trapped inside client operations.	
0112081	When creating asset views with the INVVIEWSLK option set, the system creates a view which delivers route-based measures on each asset member location. The end SLK values were corrupted due to a faulty decode statement which missed commas. These have been corrected.	8001401894
0112097	Route shapes are generated as multi-part geometries and are split at points of discontinuity of connectivity or discontinuity of measure. Multi-part geometries should be generated with an SDO_GTYPE of 3306. The fix will repair existing route shapes and will replace server code such that newly generated route shapes are built as 3306 where they are multi-part.	8001410496
0112112	Changes have been made to the registration process of the SDE metadata to make an attempt to re-use existing SRIDs. Problems in the case of an exception handler meant that if more than one appropriate SRID was available, too-many-rows was raised and was being handled in the same way as no data found - leading to extraneous SRIDs. Also, where the Oracle SDO SRID was null and base SDE metadata existed with a projection (in the SRTEXT of the ESRI SRID) code existed with cursors which joined on the SDO SRID without an NVL - leading to no-data-found and further registrations.	8001292184
0112114	Using this fix allows the loading of hierarchies of assets to complete when using the CSV loader. Flags that were currently set only during the batch loading are now configured inside the nm3mapcapture_ins_inv.ins_inv procedure so that subordinate metadata is properly handled.	8001314953
0112115	The asset location relative to a circular route is faulty when is located across the initial and end nodes of the route but does not completely cover the route. The resultant asset location is identical to the result when the user has created an exclusive asset along the whole circular route - from start to end, then replaced it with a new asset internally within the measures of the route. The two fragments at each end of the circular route were failing to be displayed as two fragments. This was due to a faulty order-by clause which failed to pin down the order - hence the problem did not always arise and is very difficult to replicate.	8001049753
0112119	Any Non-primary AD data on a group would cause the reclassify to fail due to date logic checks. The ad link record was not being set with an appropriate start date causing an error RA-20000: NET-0011: Start date is out of range of parent.: - NM_NW_AD_LINK_ALL.NAD_NE_ID 01-JAN-2011 >	8001187136

Internal Task ID	Issue	Support Log(s)
0112120	Spatial triggers generated on foreign table spatial representations were coded with a SRID derived from the original layer. If a system user refreshed the SRID, the triggers would need to be regenerated. The triggers are now able to take a change to a tables srid value into account without regeneration of the triggers. Existing triggers will need to be refreshed for this to take effect. Care should be exercised in this respect in case any customer specific logic has been added to the triggers.	
0112123	Surveyed Length is now calculated as the Max SLK.	8001423232
0112168	GRI modules fail with an error whilst attempting to populate report-tags. an error is raised ORA-20001: Unknown Error Message: hways-150 ORA-06512: at "ATLAS.HIGGRI", line 436. due to a failure in what should be a context-driven cursor. This is now repaired.	
0112190	LRM tool on the MapViewer applet in locator uses server code which incorrectly translates measures to the route units despite the snapping being made directly to a route shape. Unit translation has been removed from the server code but there remains a 2DP rounding from within the applet. This will not be appropriate for some customer data. See also known problems below.	8001446309

7 Known Problems at 4.6.0.0

7.1 MapViewer

As mentioned in the previous sections, the version of MapViewer applet in the spatially enabled forms has yet to be determined. Some failures exist across all platforms though and those known to exist at the time of writing have been documented below.

Internal Task ID	Issue	Support Log(s)
0112190	The LRM tool used in MapViewer uses a spatial server function which converts units incorrectly and the applet performs a rounding to 2-DP. This can result in zero values for measures if route systems are in a different unit system to the datums.	8001446309

7.2 Asset Hierarchies

Several fixes have been put in place to improve the administration of hierarchical assets. However, some problems remain especially in the inheritance of subordinate asset locations when the hierarchy is defined with an AT relation and the subordinate asset is flagged as exclusive. The server code will raise an error during the addition of the second child asset in the hierarchy as the exclusivity rules are breached. This may not be an error since the child asset may only be exclusive within a specific attribute band or within a specific XSP. Ideally, the software should allow users to manipulate the hierarchy and have the exclusivity rules govern the location and date-ranges of child assets particularly those with an AT relation.

7.3 Merge Query

The release notes of 4.4.0.0 contain a list of several known issues in relation to merge query, engineering dynamic segmentation and derived assets. Other than the list of fixes inside the previous chapter, these issues remain in release 4.5.0.0 and in 4.6.0.0.

7.4 Spatial Manager

The targeted issues for the release of Spatial Manager to be made available with the 4.6.0.0 release were not available at the time of writing this release note. Further information will be made available through the approved method.

7.5 Other Issues

Other issues are being dealt with on the basis of a priority list which is allocated by support and product management. This list is in a state of flux. Also, many fixes are being checked as part of the QA process and as such cannot be confirmed as fixed at the time of writing. This makes any list of known issues slightly unreliable. An attempt has been made to list the issues that have arisen during the system test process.

Internal Task ID	Issue	Support Log(s)
0111551	NM0410 - Cannot create Additional Data Asset types. A constraint violation arises and is not handled correctly. The failure is due to an attempt to create an associated asset type (linked directly to the network) as a point item type.	N/A
0111690	Issue adding Roles to a user account. An error is raised when the users form is used to enter a role if the HIG_USRE role is not present in the multi-row block. Workaround by always entering new roles after performing an open-query on the roles block. Ensure HIG_USER is listed in the block, creating it if necessary.	N/A
0111835	Errors may arise in subordinate users entering data in the holidays form on systems which also have TMA installed. Ensure TMA is at the 4.6 release level. TMA specific triggers on the holidays table can fail if not at the appropriate level.	N/A
0112226 0112233	The system allows users to reset a password containing the @ character. This throws an error when attempting to log into the system. Most illegal characters are prevented from being used during the setting of the password but some minor discrepancies arise between the two forms that allow the setting of the password. For example the error message "The character '£' cannot be used in a password." will be thrown from when testing for special characters in form HIG1833. The form HIG1832 merely raises the fact that the password is invalid with no other directives.	N/A