Oracle® Retail Predictive Application Server

Release Notes

Release 16.0

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October 2017

The Oracle Retail Predictive Solutions are a set of products used for generating forecasts, developing trading plans, and analyzing customer behavior. These products use predictive technology to examine historical data and to predict future behavior. The Oracle Retail Predictive Solutions run from a common platform called the Oracle Retail Predictive Application Server (RPAS) that includes features such as:

- Multidimensional databases

- Hierarchical data (product, time, and business location hierarchies)

- Aggregation and spreading of data

- Workbooks and worksheets for displaying and manipulating data

- Wizards for creating and formatting workbooks and worksheets

- Menus, quick menus, and toolbars

- Exception management and user-friendly alerts

Hardware and Software Requirements

See the *Oracle Retail Predictive Application Server Installation Guide* for hardware and software requirements.

Cygwin

Cygwin is required if the RPAS Server is to be installed on Windows operating systems. You can find more information about downloading this product at http://www.cygwin.com.

For installation guidance, see the following note on My Oracle Support (https://support.oracle.com):

Cygwin Setup Guide for RPAS (Doc ID 1333398.1)
This document details necessary options you should select when installing Cygwin to make it function properly with RPAS.

Upgrade Notes

When upgrading RPAS, note the following issues:

Patching Domains

When applying any RPAS server upgrade, you should also run a configuration patch over the domains that are upgraded. There are times where the configuration resources have been updated and the domain must be patched to reflect those changes. An example of this situation is presented in bug 9680094.

Chart Formats

Bugs 9297192 and 9837542 describe problems with uninitialized chart formats saved with saved formats. This leads to potential issues such as unavailable legends to intermittent crashing. It also prevents chart formats from being inherited from a higher level saved format. These issues have been fixed for uninitialized chart formats created in the future, but the solution does not resolve issues with preexisting saved formats.

Because the RPAS Classic Client uses a third-party chart control, it cannot be determined which chart formats have been initialized and which ones are invalid. The only solution is to determine if the window is in grid or chart mode.

A saved format schema update has been introduced that erases any chart formats for all windows in grid mode. This is a one-time update, and once completed, the user does not need to save the windows in chart mode again.

To keep a template with saved styles containing chart formats, perform the following steps:

> **Note:** These instructions are required if you are upgrading from a version of RPAS prior to 13.2. If you are upgrading from 13.2, these instructions do not apply.

1. Before upgrading, create or open a workbook for that template.

2. Navigate to the windows with chart formatting you want to preserve.

3. Toggle the window to chart mode.

4. Save the formats to the level (user, group, or template) in which you want the chart formats.

5. After upgrading, create a new workbook for that template.

6. Optional: Toggle the windows back to grid mode.

7. Save the formats as described in Step 4.

For more information about the patching process, see the *Oracle Retail Predictive Application Server Installation Guide*, *Oracle Retail Predictive Application Server Administration Guide for the Classic Client*, and *Oracle Retail Predictive Application Server Administration Guide for the Fusion Client*.

Default bitSizes

The rule, expr, meas, wb, and wbq dimensions come with a default bitSize. Their bitSizes should not be increased after a new domain is built. When the domain is upgraded and/or patched, these dimensions were found to get fragmented and eventually hit the threshold level for the available address space. The user gets a message to reindex them. There is no need to increase the bitSize for these dimensions and only defragging is sufficient to bring the address space back to the required level.

The following commands must be run on the domain after it is upgraded and/or patched if the message to reindex appears on any of these dimensions:

```
reindexDomain -d <dompath> -dimSpec rule -force
```

or

```
reindexDomain -d <dompath> -dimSpec expr  -force
```

or

```
reindexDomain -d <dompath> -dimSpec meas -force
```

or

```
reindexDomain -d <dompath> -dimSpec wb -force
```

or

```
reindexDomain -d <dompath> -dimSpec wbq -force
```

or

```
reindexDomain -d <dompath> -dimSpec rule,expr,meas,wb,wbq -force
```

Functional Enhancements

The functional enhancements described below are included in this release:

New Look and Feel for Fusion Client

Fusion Client has a new look and feel. It uses the new skin, which is tailored to support tablets.

For more information, see the following document available on My Oracle Support:

Oracle Retail Predictive Application Server Using RPAS with Mobile Devices White Paper (Doc ID 2202687.1)

Group Level Access Rights

When a non-administrative user was added to a user group, the workbook template rights and measure rights of the user were set to "Denied" by default. As a result, access rights to workbook templates and measures had to be set manually for each user. In 16.0, this functionality is modified. Default access rights can now be set at the user group level and a newly added user can inherit the access rights defined for the user's user group.

For more information, see the *Oracle Retail Predictive Application Server Administration Guide for the Fusion Client*.

Measure Search by Measure Properties

Users are now able to search for measures having specific measure property values. A new command "-find" is added to the printMeasure utility that will take up to five measure property names and property values as arguments.

printMeasure -d domain {-wb wbName} -find -<propertyName> "<searchString>" -<propertyName> "<searchString>"

When multiple properties are given, the result should match all property values. It takes the AND operator on all properties. Search strings are enclosed in double quotes, can have one or more search term separated by vertical bars, and can have wildcard (*) characters. For example:

printMeasure -d domain -find -defagg "total|max|repl" -baseint "str_*|day_dvsn" -db "" -fnhbi "true"

For more information, see the *Oracle Retail Predictive Application Server Administration Guide for the Fusion Client*.

Export Measures without Specifying Intersections

Previously, when using the exportMeasure utility, users had to specify the intersection at which a measure had to be exported. In 16.0, users are able to export measures without specifying the intersection. In this case, the utility finds the base intersection of each measure and exports the measure values at the base intersections.

For more information, see the *Oracle Retail Predictive Application Server Administration Guide for the Fusion Client*.

Addition of DeleteWorkbook to RPAS Test Driver

RPAS Test Driver (RTD) library (rtd.dll) is provided for performance testing of RPAS Server. This dll enables a user to create, open, alter, save, commit, and refresh workbooks by sending commands directly to the RPAS server through an XML structure. In 16.0, functionality is added to enable the user to delete workbooks using rtd.dll.

For more information, see the *Oracle Retail Predictive Application Server Administration Guide for the Classic Client*.

HSA: Audit Timestamp Column in RDM Fact Tables

In Hybrid Storage Architecture (HSA), some measures can be configured to be stored in an Oracle Database, that is, the RPAS Data Mart (RDM). The measures which are configured to be stored in the Oracle Database are called facts. The facts at the same intersection are grouped in a logical or business group. A fact table corresponds to the fact group and has columns for position IDs of the facts' base intersection dimensions and the facts belonging to the fact group.

For auditing and reporting purposes, an optional feature of an auditing column per fact table is provided. The fact groups or tables for which auditing is desired, a new configuration item of 'Fact Group Auditing' can be checked. This will result in an extra timestamp column of LAST_UPDATED in those selected fact tables. This column captures the timestamp when the row of the table gets inserted or updated using workbook commit or RPAS utilities such as loadFactData, transferFactData, or mace. This column can eventually help users to identify which record was used last and can

be used to order or query data accordingly. The property can be set/unset using Configuration Tools while building or patching RDM.

Configuration Tools has a new tab called "Fact Group." "Fact Group Auditing" can be set for each Fact Group. A true value of "Fact Group Auditing" for a fact group results in an extra column of LAST_UPDATED in the corresponding fact table. By default, the auditing property is set to false and if it is left unchanged, the corresponding tables will not have the LAST_UPDATED column.

For more information, see the *Oracle Retail Predictive Application Server Configuration Tools User Guide* and *Oracle Retail Predictive Application Server Administration Guide for the Fusion Client*.

Technical Enhancements

The technical enhancements described below are included in this release:

Batch Script Architecture

Oracle Retail Batch Script Architecture (BSA) is a standard scripting framework used by many RPAS-based applications. As such, BSA is now packaged with RPAS instead of separately. BSA documentation is now included in the Predictive Application Server documentation set. The RPAS Release Notes now include content for BSA.

BSA documentation for releases 15.0 and earlier will continue to be available in the Batch Script Architecture Documentation Library on the Oracle Technology Network.

RPAS Mobility

In addition to Apple Safari Mobile Browser for the iPad tablet, Fusion Client is now certified on Samsung Galaxy (10") for the Android/Chrome browser. No Flash player is needed to run features such as Dynamic Position Maintenance and Consumer Decision Trees as these are rendered in HTML5 on mobile devices.

No additional configuration or software is required, just an upgrade of the RPAS Platform. This capability is exclusive to the RPAS Fusion Client.

For more information, see the following document available on My Oracle Support:

Oracle Retail Predictive Application Server Using RPAS with Mobile Devices White Paper (Doc ID 2202687.1)

Noteworthy Defect Fixes

The following noteworthy defect fixes are included in RPAS 16.0:

Affected Component	Fixed Issue/Defect	Defect Number
Classic Client	When there were collapsed positions in the right-hand pane of a wizard and some other position was selected to be removed, the collapsed positions were also getting removed even thought they were not selected for removal. This is fixed.	22473511

Affected Component	Fixed Issue/Defect	Defect Number
Classic Client	Whenever a user tried to build the Auto Workbook Maintenance workbook in the Classic Client, it sometimes crashed after selecting an owner for the workbook. The format of the stored selections changed recently, and the new and old formats are just different enough to cause a problem. Going forward, both formats can be read, but will only be written in the new.	22927358
Classic Client	In Classic Client, holding the control button and dragging the cursor across another aggregated column caused the client to crash. This did not happen with unaggregated columns or control-clicking. This is fixed.	24516630
Classic Client	When multiple dimensions were stacked on an axis, and the user clicked on the header for the outermost dimension without selecting an inner one, pasting values sometimes started one cell off from where the user expected. This behavior is corrected.	24615855
Config Tools	An error in the rule validation system used by the Configuration Tools was resulting in rules that contained the resize or resizeProfile functions being marked as invalid when they were, in fact, valid. This error is corrected.	22730126
Config Tools	A bug prevented the Configuration Tools from opening some existing configurations. The bug is fixed.	22897782
Config Tools	A change to the way in which focus traversal keys are supported in the Measure Tool resulted in a condition where it was not possible to enter a string longer than a single character in the Measure Tables, if the cell being edited was navigated to using key presses and not the mouse. Upon typing a second keystroke, the second character would replace the first instead of being appended to it. This is addressed.	22957888
Config Tools	If the configuration language property is set to "English" (with quotes) instead of English, the left and right labels in the standard wizard will not show. This is fixed by the code ignoring the quotes.	22958773
Config Tools, Plugins	There was an error in the plug-in interface with the Configuration Tools that would, for example, prevent the addition of an attribute to Oracle Retail Demand Forecasting (RDF). This is corrected so that users are able to add attributes.	22061931
Config Tools, rpasConfigMgr	Running RPAS Config Manager with a base config and two modified configs used to result in a Java error, particularly when the base config had duplicate entries in measure profiles. This is fixed.	22301131
Configuration, Functions	The rounddown function was giving results that were slightly off in some cases. The function is modified to give the expected results in these cases.	23221169
Domain Utilities, dimensionRegistry	When two positions had the same name, dimensionRegistry's modifyPhysical option modified the names of both the positions when the name was being changed for only one of them. This is addressed by preventing two or more positions from having the same name.	22679237

Affected Component	Fixed Issue/Defect	Defect Number
Domain Utilities, exportMeasure	When the precision (0.01) option was used for a measure while exporting it, incorrect values of the measure were getting exported. Any measure value greater than 21474836.47 was getting exported as 21474836.47. This is corrected.	22607254
Domain Utilities, printMeasure	For a domain upgraded from RPAS version 13.4.3 to RPAS version 14.1.2, the printMeasure utility when used with the -allPopulatedCells option failed for measure r_msglabel. This occurred because the base intersection for this measure had changed between these two RPAS versions. This is fixed.	22349002
Domain Utilities, upgradeDomain	upgradeDomain used to fail if a user name had an uppercase letter in it. This is corrected by using the user ID instead of the user name since user IDs are always in lower case.	23042812
HSA	For measures having date and time, the time part was not getting preserved in the database. The data type of such measures is changed from timestamp to date type so that the hour, minute, and seconds values (but not milliseconds) are preserved.	22362788
HSA, Aggregation	Shared measures (those that live in the RDM) in a workbook were not updated at aggregate levels when the Refresh button was pushed. This is fixed.	22652949
HSA, Commit	On a domain with a Hybrid Storage Architecture (HSA) enabled (only), it was not possible to commit a measure where the base intersection contained a dimension belonging to an alternate hierarchy. This is fixed.	22156460
HSA, patchRDM	Renaming a fact group using patchRDM and then attempting to build a workbook that contained a measure from the renamed factgroup failed. The utility is updated to make sure the renamed tables are accessible for workbook builds.	22782507
HSA, patchRDM	RDM Utilities could have been run on an older version of RDM even when the RPAS version was a newer one. In other words, RDM Utilities could have been run without upgradeRDM being run. This is resolved by adding a check for the version of RPAS code.	23120968
HSA, patchRDM	When a fact group had a single fact, and its fact group name was changed, patchRDM updated the fact table name but not the associated index's name. The code is changed to rename the index along with everything else.	23179215
HSA, patchRDM	Adding a new shared measure to a new group caused patchRDM to fail in some cases. The observed case was with a measure that had an intersection that was a single dimension in the product hierarchy, and that dimension was below the partition dimension. This case is now detected and handled appropriately.	23239830
HSA, patchRDM	The utility patchRDM was failing when a fact group above the partition level was renamed. This occurred because even though the table was not partitioned, patchRDM was creating the index in parallel. The code is updated so that the parallel clause is only used for a partitioned table.	24470412

Affected Component	Fixed Issue/Defect	Defect Number
HSA Utilities, loadDimData	The utility loadDimData was failing when the DB parameter SQL92_SECURITY was set to TRUE. This basically means that a user must also have SELECT authority on an object if executing an UPDATE or DELETE which has a WHERE clause. This is resolved by granting the SELECT privilege on the dimension translation table in addition to INSERT, UPDATE, and DELETE privileges. Users experiencing this problem should re-execute the grantPrivileges.sql file to resolve the issue.	22745998
HSA Utilities, loadDimData	The utility loadDimData was incorrectly reporting successful execution when attempting to load missing files. This is corrected.	22972647
HSA Utilities, loadDimData	The utility loadDimData stopped working after running upgradeRDM to upgrade the environment from 14.1 to 14.2 or later. The cause of the problem has been identified and corrected.	23335843
HSA Utilities, loadDimData	The scenario of loading some calendar data, removing some positions (by loading another file with purge age 0), and then loading a third file to replace the purged positions is something that could happen to any retailer. However, the utility loadDimData did not handle this scenario well, warning of duplicate key issues. The way loadDimData tracks the positions is changed to correctly load the new data.	23561470, 24488607
HSA Utilities, loadDimData	The utility loadDimData could fail when the delete rule was set to something other than "CASCADE" for foreign keys in fact tables. Note that the Oracle default setting is "CASCADE," so this would not apply unless changed. In any event, this would cause the job to fail. To guard against this, instead of deleting, the status of the affected records is set to "deleted." Then, rdmMgr -purgeDeletedData will actually remove the records.	24501854
HSA Utilities, loadFactData	loadFactData for shared measures gave errors when running in an HSA environment with RDM partitioning. This occurred because the factload user did not have the desired quota on data_mart tablespace and vice-versa. This is fixed.	22560952
HSA Utilities, rdmPartitionManager	The rdmPartitionManager utility generated a very large redo and undo log while running on exceptionally large domains. This could possibly cause problems when the log size approached the available disk size. To address this concern, the single update and commit is broken into smaller updates with individual commits.	23087937
HSA Utilities, transferFactData	The Transfer Fact Data utility was occasionally becoming deadlocked when running with many (10 or more) parallel processes. The statement execution is changed to run the commands one after another, rather than in parallel, preventing deadlocks.	22297147
HSA Utilities, upgradeRDM	Data used in some materialized views was not getting refreshed as designed. So, materialized views are replaced with regular views. Additionally, view creation privileges is altered accordingly.	22157520

Affected Component	Fixed Issue/Defect	Defect Number
HSA Utilities, upgradeRDM	The utility upgradeRDM was not working as expected. When using the utility to upgrade a version 14 domain to version 15 or later, the process generated an error and the upgrade was not performed. The reason for this problem was identified and fixed. Using upgradeRDM should now correctly upgrade domains.	23720977
Measure Analysis	A server utility (upgradeDomain) was overwriting translated measure labels with incorrect information. This manifested in the Measure Analysis workbook wizard showing measure names in the wizard rather than measure labels (for example, "CMWPGMRp" instead of "Plan Gross Margin %"). This only happened when building the Measure Analysis workbook on a global domain. Local domains were unaffected.	23551657
ODBC Client	The ODBC client installer on Windows was missing a configuration file, causing an error while trying to set up the ODBC Client. This missing file is added to the installer.	24470049
RMS RETL Integration	Late in version 13, the ability to translate the calendar file generated by Oracle Retail Merchandising System (RMS) into a local language was introduced. However, not all languages were supported. This feature now supports all of the languages supported by Oracle Retail.	24687329
RPAS Security Administration	In Security Administration, Dimension Modification Rights, some of the levels for User and Meta could show as blank. This occurred because the code was only looking at translation info for these entries. Now, if no entry for a level is found in translations, it shows a default value.	24606356
RPAS Server	When using Commit ASAP, one of the filters available for viewing the queue was not working correctly. When enabling the "All Users" option, all pending commits were displayed. Disabling this option should show just the pending commits associated with that user, but instead was showing nothing. This filter behavior is corrected.	24663771
RPAS Server	During batch processing, occasionally the processing would quit with an "Invalid database access" error. This occurred when RPAS would attempt to clear an array in read-only mode. RPAS no longer attempts to do this.	24671545
RPAS Server	The enable_MLDM domain property is exposed to assist customers/SIs to quickly evaluate and disable/enable the Multilevel Display feature, which may be expensive from a performance perspective. The default setting is false.	27011549
RPAS Server, Calc Engine	Workbook calculation generated incorrect values if an LHS measure was involved with different level modifiers. It is fixed.	22385877
RPAS Server, Calc Engine	Very rarely, a custom menu caused a calc engine error that disconnected the client from the server. The only known instance of this was in AP, in the Shopping List Workbook, in the Set your Assortment Strategy worksheet, when executing the Seed from Adj Ly custom menu. The underlying issue was identified and fixed.	23731802

Affected Component	Fixed Issue/Defect	Defect Number
RPAS Server, Hierarchies	When adding hierarchy positions, the positions were sorted. This is acceptable in most cases, but there are cases where this is not the desired behavior. (For example, creating a copy of the calendar hierarchy. The calendar hierarchy has an implicit ordering, which meant that you could have days of the week in order. But in the copied hierarchy, the positions were stored in alphabetical order: Friday, Monday, Saturday, and so on). The ordering while adding behavior is removed and positions are stored in the order loaded (meaning that your calendar copy can have the order Monday, Tuesday, Wednesday, and so on).	24293332
RPAS Server, Hybrid Storage Architecture	In a domain that is using Hybrid Storage Architecture with the log level set to debug, committing a scalar measure to RDM caused an error. This behavior is updated to properly handle committing scalar measures.	23099880
RPAS Server, Hybrid Storage Architecture	In a domain that is using Hybrid Storage Architecture, if a workbook has a pre-range mask that is allowing less than approximately 5% of the total positions on a hierarchy to be included in a workbook, refreshing that workbook causes an error. Due to some assumptions about what the fetch should be returning in that case, RPAS was returning more records than actually needed. The refresh process is updated to return the proper record set.	22320245
RPAS Server, Mace	If an expression contains the ignore keyword, the left-hand side measure is HBI, and mace runs this expression on a local domain, it does not evaluate the left-hand side value correctly. This is related to the fixes for defects 6612537 and 21906081. This is corrected.	22234230
RPAS Server, Mace	When a domain was integrated with RDM, mace was no longer processing rule groups in that domain. This is fixed.	23098789
RPAS Server, Security Admin	In the Security Admin workbooks, when a user's group was changed, and the "inherit group default rights" option was in force, it was expected that the user's rights would change to match those of the new group. This was not the case. The code is updated so that the user actually does inherit the rights of the new group.	23196723
RPAS Server, User Maintenance	User Manager was failing when attempting to update user information when using the -importXml option. This was due to valid information in the file being incorrectly parsed. This is fixed.	24292928
RPAS Server, Workbooks	The Workbook Limit Per Group/Template setting in the Security Administration Workbook was not limiting the number of workbooks that users belonging to a specified group could create. This is now handled.	22571079
RPAS Server, Workbooks	Right-clicking on any measure should bring up a window that shows the calculation (if any) that is used to determine the value of that measure. Even though that information was present, a glitch was preventing it from being shown. The glitch is removed.	23700018
RPAS Server, Workbooks	When running a custom menu, sometimes some prior state information used in a calculation was not updated properly. So then, for example, an expected proportional spread would look like it was spreading evenly, because the prior values used to proportionally spread were not there. This issue is fixed.	23740465

Affected Component	Fixed Issue/Defect	Defect Number
RPAS Server, Workbooks	Some expressions were taking an abnormally long time to execute. This caused the cells to lock, and resulted in wasted time for the user. Ongoing performance improvements to the calc engine have lessened the response times and the idle time for the user.	23761565
RPAS Server, Workbooks	Saving a workbook at the group level was using the default group name rather than the specified group name. This resulted in users not being able to see all of the workbooks they should have access to when the workbooks were saved at the group level. This is corrected.	23762426
RPAS Server, Workbooks	Trying to create Dynamic Position Maintenance (DPM) positions on the partition dimension was causing errors. The existing code did not account for creating DPM positions at this level. The code is revised to properly handle this situation.	24353540
RPAS Server, Workbooks	When spreading using the Period Start method, the data spreading was not working as desired. For example, suppose a user spread a measure from week/sku/storecluster to week/sku/store, the spread type was Period Start, and the store cluster had two stores. The user would expect that the measure data would spread to both stores. This was not the case; the data would only spread to the first store. The spreading behavior is modified to the first destination cell only for CLND dimension, and then replicated for the other dimensions.	24393421
RPAS Server, Workbooks	Due to how RPAS stores transient data, building a workbook, deleting it, and then rebuilding it all without logging off made some of the data in the rebuilt workbook look like it had not been calculated. In fact, it had not, because RPAS was not updating the information about the workbook in this case, because RPAS thought the workbook was already calculated. This is fixed by always resetting that stored data; the resulting rebuilt workbook will calculate as expected.	24488083
RPAS Server, Workbooks	In RDF, adding a dynamic hierarchy to the Forecast Approval workbook caused an error in the workbook. This was due to one of the routines that manages the dimensions storing a piece of information in an old format. The format has been updated.	24674380
RPAS Test Driver	When foundation.fcf contained multiple domain names, RTD_LOGON used to work only for the first domain mentioned in foundation.fcf and failed for other domains. This is fixed.	22473542
RPAS Utilities, RPAS Configuration Manager	Users attempting to merge changes to a configuration using the rpasconfigmgr utility would sometimes see an exception, halting their progress. This happened in configurations that had a step in the taskflow that had no assigned worksheets. The utility now detects the presence of this condition and handles it without requiring any assigned worksheets.	24599865
RPAS Utilities, RPAS Configuration Manager	Users were unable to run the RPAS Configuration Manager on Linux systems. This occurred because the classpath constructed for the utility was incorrect for Linux systems. The classpath built for Linux and Unix has been corrected. Users should now be able to launch the application and perform merge actions.	24599907

Affected Component	Fixed Issue/Defect	Defect Number
RPAS Utilities, Workbook Batch	A workbook set up to build through the Workbook Batch utility would fail when the products it was supposed to use were not present in the local domain it would be created in. This could happen, for example, by loading a new product hierarchy file that contained a new position at the partition level. RPAS now detects when the structure of the local domains changes, and clears the Workbook Batch build queue for those changed local domains.	24559122
Server Utilities, convertDomain	The convertDomain utility was introducing errors into the domain structure, causing other utilities, such as reindexDomain, to fail. This was happening in one spot in the code, where an array's listed size was different from its actual size. This error is corrected.	23095161
Server Utilities, exportMeasure	When using one particular option (-outDir) on the exportMeasure utility, running it in parallel caused an error. This was due to an error in the name of the parallel tasks. This issue is fixed.	23296772
Server Utilities, exportMeasure	The utility exportMeasure can now export data from a scalar measure by using the option "-intx scalar."	24509334
Server Utilities, exportMeasure	The exportMeasure utility was not actually exporting measure data when using the export from workbook (-wb) option. This is corrected.	24606978
Server Utilities, HSA Utilities	For a shared measure, attempting to merge data from the Global Temporary Table (GTT) into the corresponding fact table, the data should actually be loaded into the fact table and deleted from the GTT. Instead, data was being deleted from the GTT but not copied into the fact table. This occurred because the error table was being dropped before the merge process, causing the data in GTT to be truncated. This is fixed.	21980476
Server Utilities, HSA Utilities	The command that creates the wallet in the prepareRDM.ksh script does not work correctly on IBM's AIX operating system (due to slight differences between different vendors' UNIX and shell implementations). The command is amended to conform to AIX.	22761830
Server Utilities, HSA Utilities	The performance of the command "rdmMgr -purgeDeletedData" was very slow, due to there being no indices on the foreign keys. Now, when executing this command, rdmMgr creates the necessary indices, purges the data, and then drops the indices, resulting in much better performance.	24318161
Server Utilities, HSA Utilities	When child records are present, the command "rdmMgr -purgeDeletedData" causes a code error (which it should not do), does not allow the deletion of records (which it should do), and provides an unhelpful error message (which could be improved). The behavior is updated to no longer cause the code error, still prevent the deletion, and improve the error message.	24620402
Server Utilities, loadHier	The utility loadHier was failing when several conditions were present: the new product hierarchy file caused the removal of positions, the positions removed were enough to completely remove a local domain, and the domain was using HSA. This was due to the timing of refreshing caches used during the process. The cache refresh strategy is shifted to prevent this occurrence.	23002040

Affected Component	Fixed Issue/Defect	Defect Number
Server Utilities, loadHier	Running the loadHier utility with the -defaultDomain parameter set to a path that was an existing local domain, but that domain was not part of the local domain list, removed all existing local domains. Now, the code validates that the domain specified in the -defaultDomain parameter is in the current local domain list and already exists. Otherwise, the utility will not run.	23095420
Server Utilities, loadMeasure	When working with large load files, between managing how the information in the load file should be routed for each local domain and waiting for locks on local domains, loadMeasure could get in a state where it could not proceed and consequently failed. This was more pronounced on systems with less capacity. This behavior is changed so that now it will not wait for a locked domain to free; it will just move on to the next one and check back later.	22248527
Server Utilities, loadMeasure	In 15.0, the loadMeasure utility was improved to increase performance. Part of the change was that it was no longer necessary (in fact, we no longer allowed for) having individual load files for each local domain. This impacted some customer's established batch operations. loadMeasure again will handle data files in the local domains.	23703151
Server Utilities, optimizeDomain	The server utility optimizeDomain was failing when running in parallel in several local domains. The portion of the code that was causing the problem has been updated so that it no longer will fail in this situation.	24699893
Server Utilities, reconfigGlobalDomainPartitions	When the Reconfigure Domain utility (reconfigGlobalDomainPartitions) created a new sub-domain, it was not creating the accompanying Commit ASAP Queue. This meant that trying to commit a workbook built on that new sub-domain would fail. The Reconfigure Domain utility now creates the queue, and workbooks can be committed normally on the newly created domain.	24598210
Server Utilities, regMeasure	The utility regMeasure was allowing registration of measures with an absolute path to the measure's database. This was causing problems for other utilities, such as copyDomain. This is changed so that regMeasure converts absolute paths to relative paths.	23060309
Server Utilities, RPAC	In the automated test utility RPAC, assertions involving date values were incorrectly failing. This occurred because RPAC was always comparing both date and time values, even if one of the values lacked a date or a time value. It now compares based on the supplied format, for example, for a value in %Y%m%d format, only the date component is subject to comparison.	23113789
Server Utilities, RPAC	In the automated test utility RPAC, some commit expressions (for example, A.master=if(B, ignore, A) where A is an HBI measure in local domain) were failing. The reason for this was found and the problem fixed.	23599986
Server Utilities, rpasInstall	Attempting to register measures with empty label fields (for example, as part of a domain build) was generating errors. The code is updated to work properly when a measure has an empty label field.	23021281

Affected Component	Fixed Issue/Defect	Defect Number
Wizards	A wizard could show incorrect data for selections when the user started in one local domain, made some selections, then backed out and went through the wizard pages in a different local domain. The reason for this was that the pre-range mask for the wizard varies by local domain, but is only loaded when the wizard is first started. Now, whenever the user changes the local domain while still in the wizard, the pre-range mask is updated appropriately.	24391030
Fusion Client, ADF	While creating a new workbook through Fusion Client, selecting a large number of positions within a step in the select wizard, the number for "Rows Selected" was displayed incorrectly. This issue is fixed.	19149826
Fusion Client, Alert Management	The exceptions seen in Fusion Client on clicking Manage Alerts from the View Menu are fixed.	22980250
Fusion Client, Alert Management	Alert Manager errors out for a user when the user has partial security access in the domain. The issue is fixed.	23097999
Fusion Client, Alerts	In Fusion Client, Batch alerts are independent of the positions selected in the wizard, and the alert hit count displayed is for that alert measure in the domain. The issue is fixed.	24490976
Fusion Client, Alerts	An updated appropriate error message, "The window doesn't have intersection [<alert_intersection>] to display the alert hits for the alert:<alertname>" is now displayed on clicking alert navigation after hiding an alert intersection in the workbook.	24527408
Fusion Client, Charts	Fusion Client is enhanced so that the zoom is available for the scattered chart type. Scrolling is available to see the zoomed graph.	22779840
Fusion Client, Charts	An issue with the bubble chart in Fusion Client when there were no values in the workbook is fixed.	23087769
Fusion Client, Dimension Popup	The issues seen around Find in the Show and Hide tab of the Dim popup even after doing the Add are fixed.	22608444
Fusion Client, Dynamic Attribute	Fusion Client behavior is fixed so that an unhandled exception is not shown when editing a newly created dynamic attribute.	24664081
Fusion Client, Dynamic Position Maintenance	The issue seen in visible and sort attributes after a DPM was created is resolved.	23753499
Fusion Client, Edit, Revert Cell, Undo	The issue where edited cells were not getting italicized after scrolling is fixed.	24471233
Fusion Client, Edit, Revert Cell, Undo	In Fusion Client, read-only measures were turning editable for manipulation, on editing the related measure. The issue is fixed. Manipulated values are correctly reflected after calculation.	24595918
Fusion Client, Export	The background color format issue for the exported excel in Fusion Client is corrected.	22863505
Fusion Client, Export	When huge data was exported into excel, the excel file did not open. This is fixed.	22472658, 24596171

Affected Component	Fixed Issue/Defect	Defect Number
Fusion Client, Export	Issues seen with the excel exported in the landscape format are resolved.	24603592
Fusion Client, Fill Clear	When the measure's base intersection was lower than the worksheet's base intersection, the spread was disabled. This issue is resolved.	24689083
Fusion Client, Formatting	The hanging of the Fusion Client workbook when the styles configured were incorrect is fixed.	22323776
Fusion Client, Grid display	On resizing a row that has multiple dimensions on its y-axis, some of the visible rows were hidden. This was seen when the user repeatedly resized the row to decrease the height of the row. The issue is fixed.	24331307
Fusion Client, Installer	The behavior for the edited values is fixed, which now remains in the cell when the "Create New Attribute" dialog is opened and then cancelling the "Define New Attributes" popup window is clicked.	22578032
Fusion Client, Level Splitting	The Unhandled Exception seen during creation of level splits is fixed.	23120515
Fusion Client, Level Splitting	The user was not able to apply the split from the select split dialog after changing filter by option. The issue is fixed.	23539072
Fusion Client, Measure Profile	The user got an Arithmetic Exception/ by zero on opening a workbook, where some formatting /style was saved for the user but missing in the domain. The issue is fixed and, when the measures in the profile do not match with the available measures, measures are successfully take from the available list.	22578013, 22699042
Fusion Client, Measure Profile	Errors occurred when changing the measure profile to the default profile. The issue is fixed so the profile can be changed and no error occurs.	24509423, 24674370
Fusion Client, Miscellaneous	When a find operation was performed on the Select product list in a workbook wizard and the collapse all below was selected, it was observed that the wizard went blank. The issue is resolved.	24327096
Fusion Client, Miscellaneous	Fusion Client was not being displayed per the browser language selected, even after exporting Language (that is, export LANG=es_ES.UTF-8) before restarting WebLogic. This issue is fixed.	24407233
Fusion Client, Mobile	The Fusion Client user interface is fixed so that the desktop does not look like the tablet. Only desktop specific options are displayed in the context menu when the column is selected.	22465573
Fusion Client, Mobile	Fusion Client is enhanced for iPad, such that multiple tile selection works fine with the checkbox being available.	22614002
Fusion Client, Mobile	The image label and text are fixed so they are displayed properly in the default size of the detail pop up dialog.	23052217
Fusion Client, Online Admin Tools	The Online Admin Tool is fixed so that the options of the selected task are listed in the next pane of the wizard after clicking Next from the task selection in Fusion Client.	23040466
Fusion Client, Online Help	The appearance of the online help files in Internet Explorer 11 is corrected as in the other browsers Chrome and Firefox.	23046184
Fusion Client, Performance	Fusion Client is enhanced to improve the performance of the position filtering functionality.	24611562

Affected Component	Fixed Issue/Defect	Defect Number
Fusion Client, Pivot Table	Fusion Client was unable to recover when a measure in an inserted JSON string of measure data was not updated. Additional safeguards on the insertion of a measure so that the measure data and base measure map JSON strings are updated.	22588886
Fusion Client, Protection Processing	The extended measures stayed editable when the base measure was edited. This is fixed.	24331076
Fusion Client, Security	Fusion Client is enhanced to use the SHA-2 algorithm to sign the certificates.	24663986
Fusion Client, Show Hide Measure Positions	In the Show and Hide dialog, the search order was incorrect for the measures, when there were hidden measures involved. This issue is fixed.	23738868
Fusion Client, Single Hierarchy Select	The issue where the NA Value was shown for picklist measures when the workbook was loaded or refreshed is fixed.	23030056
Fusion Client, Single Hierarchy Select	The SHS search is fixed and works fine on Internet Explorer 11.	23701134
Fusion Client, Tiled View	Protected cells were editable in the tiled view. Fusion Client is enhanced so that measure-based protection processing works fine on the tiled view.	22460809
Fusion Client, User Login	The behavior where one user got a locked exception even if one of the configured solutions had the user locked is corrected.	23021491
Fusion Client, Wizard	The Fusion Client issue where all the items were not visible in the select wizard after clicking on Remove All is resolved.	20157358
Fusion Client, Workbook	The Null Pointer exception thrown in Fusion Client when the configuration was incorrect is fixed.	22812677
Fusion Client, Workbook	On opening a worksheet, if all the levels in the worksheet were at a hidden level while they were expected, an Illegal Argument Exception was seen. This issue is resolved.	23495224
Fusion Client, Workbook Calculate	Fusion Client is enhanced so that the operator precedence is honored during calculations.	23734077
Fusion Client, Workbook Save	Fusion Client regular expression handling is enhanced as it was not considering language specific characters. On changing the browser language to Spanish and saving the workbook in Fusion Client with the Spanish accent character, the workbook is saved successfully without any error.	22460747
Fusion Client, Worksheet PQD	Fusion Client is fixed so that the Automatic PQD based worksheet filtering is triggered by the custom menu.	22645797

Known Issues

The following table contains known issues that have been identified for the current release:

Affected Component	Known Issue/Defect	Defect Number
Fusion Client, Alert Workbook	On the Manage Alerts screen, trying to expand an alert by clicking the expand icon keeps the icon blinking with no response.	24706524
Fusion Client, Charts	On a scatter chart, when clicking the zoom icon and selecting zoom horizontally on the x-axis, it zooms in. However, when clicking zoom-in again, the label on the x-axis disappears and user cannot read any label value on the x-axis in the chart.	24786687
Fusion Client, Cut Copy and Paste	On the iPad, Copy does not copy the cell content from the clipboard since the iOS API for execute copy is not yet available.	23312273
Fusion Client, Dimension Popup	In the Product Dimension Popup dialog, in the Sort Attributes section, click the Expand SKU button icon either in the Available Attributes or Sort Attributes after moving all attributes to each section. The Expand SKU button keeps blinking and gets stuck. No operation happens.	24740864
Fusion Client, Edit, Revert Cell, Undo	When a cell is edited in the pivot table, a modified value is entered, and the "Escape Key" is pressed, the edited value gets cleared and cell value goes back to "0.0".	24688762
Fusion Client, Find	When clicking the Find Previous button in the Find Dialog box on the pivot table, instead of throwing a warning message mentioning no matches were found, the workbook loops through the first occurrence of the search results again.	24706898
Fusion Client, Mobile	iOS users are not able to build or open workbooks from the Safari browser on Apple iOS 9.3.2 with Fusion Client due to SSL restrictions.	25153532
Fusion Client, Workbook Commit	On committing a workbook that has a measure using a LOV component, the committed value is not displayed. Instead, it shows blank though the value is committed to the domain correctly.	24970582
Fusion Client, Workbook Open	Open Workbook is not selecting a workbook when the specific name is given in the Find text box.	24398893

Related Documentation

For more information, see the following documents in the Oracle Retail Predictive Application Server 16.0 documentation set:

- *Oracle Retail Predictive Application Server Installation Guide*
- *Oracle Retail Predictive Application Server Administration Guide for the Classic Client*
- *Oracle Retail Predictive Application Server Administration Guide for the Fusion Client*
- *Oracle Retail Predictive Application Server and Applications Security Guide*
- *Oracle Retail Predictive Application Server Batch Script Architecture Implementation Guide*
- *Oracle Retail Predictive Application Server User Guide for the Classic Client*
- *Oracle Retail Predictive Application Server User Guide for the Fusion Client*
- *Oracle Retail Predictive Application Server Configuration Tools User Guide*

Supplemental Documentation at My Oracle Support

The following document is available through My Oracle Support. Access My Oracle Support at the following URL:

https://support.oracle.com

Cygwin Setup Guide for RPAS (Doc ID 1333398.1)

This document details necessary options you should select when installing Cygwin to make it function properly with RPAS.

Oracle Retail Predictive Application Server 16.0 Cumulative Fixed Issues (Doc ID 2202682.1)

This document details the fixed issues and defects for all RPAS patch releases prior to and including the current release for the 16.0 code line.

Supplemental Training

The following documents are available through My Oracle Support. Access My Oracle Support at the following URL:

https://support.oracle.com

Transfer of Information (TOI) Material (Doc ID 732026.1)

For applicable products, online training is available to Oracle supported customers. These online courses provide release-specific product knowledge that enables your functional and technical teams to plan, implement and/or upgrade and support Oracle Retail applications effectively and efficiently.

Previous Releases

For information on previous Oracle Retail Predictive Application Server release enhancements and additional information, refer to the release notes and documentation that accompany the previous releases.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.