Oracle® Retail Predictive Application Server

Release Notes
Release 12.1

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Oracle® Retail Predictive Application Server Release Notes, Release 12.1

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Preface

A Release Notes document can include some or all of the following sections, depending upon the release:

- Overview of the release
- Functional, technical, integration, and/or performance enhancements
- Assumptions
- Fixed and/or known issues/defects

Because of their brevity, Release Notes do not include chapters, appendices, or a table of contents.

Audience

Release Notes are a critical communication link between Oracle Retail and its retailer clients. There are four audiences in general for whom a Release Notes document is written:

- Retail clients who wish to understand the contents of this release.
- Integrators and implementation staff who have the overall responsibility for implementing Oracle Retail Predictive Application Server (RPAS) into their enterprise.
- Business analysts who are looking for high-level functional information about this release.
- System analysts and system operation personnel who are looking for high-level functional and technical content related to this release.

Related Documents

For more information, see the following documents in the Oracle Retail Predictive Application Server Release 12.1 documentation set:

- Oracle Retail Predictive Application Server Installation Guide
- Oracle Retail Predictive Application Server Administration Guide
- Oracle Retail Predictive Application Server Configuration Tools User Guide
- Oracle Retail Predictive Application Server Configuration Tools Online Help
- Oracle Retail Predictive Application Server User Guide
- Oracle Retail Predictive Application Server Online Help
- Oracle Retail Curve Configuration Guide
- Oracle Retail Curve User Guide
- Oracle Retail Grade Configuration Guide
- Oracle Retail Grade User Guide

Customer Support

- https://metalink.oracle.com

When contacting Customer Support, please provide:

- Product version and program/module name.
- Functional and technical description of the problem (include business impact).
- Detailed step-by-step instructions to recreate.
- Exact error message received.
- Screen shots of each step you take.

Conventions

Navigate: This is a navigate statement. It tells you how to get to the start of the procedure and ends with a screen shot of the starting point and the statement "the Window Name window opens."

> **Note:** This is a note. It is used to call out information that is important, but not necessarily part of the procedure.

```
This is a code sample
    It is used to display examples of code
```

A hyperlink appears like this.

Release Notes

Overview

The primary objectives of the RPAS 12.1 release include the following:

- Removing third party dependencies in the RPAS data persistence layer
  - Removing the 2GB array size limit that exists today in pre-12.1 versions of RPAS.
  - Providing a domain upgrade utility to upgrade from the prior (Acumate-based) versions to the current version.
- Adding an RPAS Reporter Tool by means of a JDBC/ODBC driver
  - Allowing access to the underlying data and meta-data arrays for support purposes.
  - Supporting more robust reporting functionality through JDBC/ODBC connectivity with Oracle Business Intelligence Enterprise Edition, Crystal Reports, and XML Publisher.
- Adding functionality for Dynamic Position Maintenance
- Adding functionality for Dimension Splitting
- Releasing RPAS 12.1 on the following Operating Systems: HP-UX 11iR2 (11.23) on Itanium Chipset and AIX 5.3
  - Providing continued support for the prototyping of RPAS environments on Windows.

Enhancements

Removal of Third-Party Dependencies in the Data Persistence Layer

The previous 2GB array size limit within RPAS was a restriction caused by a third party dependency in the data persistence layer (Acumate). With this release, this dependency has been removed. The new data persistence layer is known as the **Oracle Retail Embedded Database (OREDB).**

The 2GB array hard limit would cause the system to fail if accidentally exceeded. This situation could arise because of unexpected changes in product numbers or sparsity rates. The removal of this 2GB hard limit was achieved in part through the use 64 bit I/O (as opposed to the previous 32 bit I/O). Although arrays may now exceed 2GB, Oracle Retail recommends that the performance and contention needs of the application and the end users be considered as part of the domain sizing process that occurs with the implementation.

Changes to the data persistence layer were also made at a level that provided minimal risk and impact to existing applications and retailers wishing to upgrade to this version. To support the customer upgrade from RPAS 11.0, RPAS 11.1 and RPAS 11.2/RPAS 12.0, a new utility is now provided to convert data from the Acumate format to the new OREDB format. **convertDomain** is a one-time-use utility that is initialized at the beginning of the upgrade process.

The following assumptions apply to the convertDomain utility:

- Conversion utility only processes domain data. Workbook data will not be converted or upgraded.
- Any solution that can be upgraded to RPAS 12.0 can also be upgraded to RPAS 12.1. There are limitations based on application-specific issues and non-supported customer configuration changes. However, in general RDF 11.1 and RDF 12.0 can be upgraded to 12.1 and planning configurations starting with 11.0.4 are upgradeable.
- Utilities do not support the upgrade of simple domain environments to global domain environments.
- RPAS cannot guarantee the upgradeability of custom code.
- MSPL (Acumate) code is no longer supported.

> **Note:** See the *RPAS Administration Guide* for more information on the upgrade of domains to RPAS 12.1.

RPAS Reporter Tool

The purpose of the RPAS Reporter tool is to provide an SQL interface to the RPAS multidimensional data store (OREDB). This capability addresses both committed and workbook data. This tool presents OREDB as a relational database to ODBC and JDBC client applications. The RPAS Reporter tool was designed to connect OREDB to ODBC 3.51 or JDBC 2.0 compatible applications. Connectivity has been verified thus far against the following applications: Oracle Business Insights Enterprise Edition, Interactive SQL (ISQL) Utility, and SQLDeveloper/JDeveloper. Oracle Retail will attempt to complete additional verification/certification in future patch releases.

The RPAS Reporter tool enables system users to read measure data for stored measures in an RPAS domain.

- Connection to local domains is not supported. Access to local domain data will be possible through queries in global domains.
- The tool does not provide support for Forced Non-HBI (FNHBI) and non-materialized measures.
- The tool reports only external position names in both dimension tables and 'fact' tables. Internal position names will not be reported.
- Limited support is provided for conditional queries on measure data.
- The tool is not intended to replace the exportData utility, which is used for high-speed data export to ASCII files.

> **Note:** See the *RPAS Administration Guide* for more information on the RPAS Reporter tool.

Dynamic Position Maintenance

Dynamic Position Maintenance (DPM) enables users to dynamically add or remove positions to a non-calendar dimension while working in a workbook. These user-defined positions are updated in both the domain and workbook hierarchies. Positions added by the user are referred to as 'informal' positions as opposed to the positions added during the hierarchy load process, referred to as 'formal' positions. If/when the informal position is to be made formal, the position's name (label is not necessary for the update to occur) must first be updated to reflect the correct position name that will be loaded during the hierarchy load process. Prior to the hierarchy load, an administrative utility is run against the environment to change the status of a position from informal to formal (see the *RPAS Administration Guide* for more information on the **updateDpmPositionStatus** utility). This process enables the loading and purging of that position through the hierarchy load process and disables further DPM activities on the position.

The following limitations for DPM exist:

- Access to the DPM menus and dimensions that DPM functionality is determined in the solution and workbook configuration.
- The DPM functionality is not supported for maintaining calendar dimensions. The implications of adding new periods to an existing workbook or domain are not trivial, since the rolling nature of calculations for measures such as stock would mean that the data for those measures, and other measures that depend on them would be inconsistent.
- In a global domain environment, the DPM process cannot be used for maintaining positions at or above the partition level. For example, if a global domain is partitioned by 'department' that rolls up to 'division', users are not able to use DPM functionality to add informal departments or divisions.
- In a global domain environment, the DPM process cannot be initiated from workbooks in the master domain.

> **Note:** See the *RPAS Administration Guide, RPAS Configuration Tools User Guide* and *RPAS User Guide* for more information on Dynamic Position Maintenance.

Dimension Splitting

The RPAS Dimension Splitting features allow users to set up, view, and manipulate data using dynamic, ad-hoc attribute hierarchies (Dynamic Attributes). This is achieved by building dynamic hierarchies where attribute values become positions within a dimension. Once a dynamic hierarchy is created, all grid-type features such as editing, locking, protection processing, and so on, are fully functional.

Once a workbook is saved with a dimension split, the split is retained for the lifetime of the workbook. The user also has the ability to apply saved splits in new workbooks, eliminating the need to redefine the split. The following is a summary of use cases that Dimension Splitting supports:

- At any step in the workflow, the user splits a single dimension in a single hierarchy using the Dimension Splitting Dialog. Only one dimension can be split in any hierarchy, though dimensions in many hierarchies may be split at a given point in time. This is achieved through multiple invocations of the Dimension Splitting Dialog, once for each hierarchy whose dimension is being split.
- The user is able to specify a split definition by picking one or more (a maximum of four) attributes from a list of all splitting attributes for a given dimension. Once such a split is defined, but not necessarily saved or catalogued, the user is able to exercise the split computation and view it.
- The user is able to save a split definition to the domain catalogue without viewing it.
- The user is able to view, modify and delete an existing (saved/catalogued in the domain) split definition.
- The user is able to modify an existing split definition and save it as a new split definition in the domain.
- The user is able to save a split definition to the domain catalogue after viewing the split.

> **Note:** See the *RPAS User Guide* for more information on Dimension Splitting and Dynamic Attributes.

Hierarchy Indirection (Labeled Intersections)

New functionality has been added to the RPAS Configuration Tools to support the addition, removal and modification of labeled hierarchy intersections. A labeled intersection defines the dimensionality at which data is defined. Once a labeled intersection is added, the configuration administrator has the ability to perform the following:

- Define or update the Base Intersection of major or minor measure component using the labeled intersection.
- Define or update the Load Intersection of a measure using the labeled intersection.
- Define or update the Base Intersection of a worksheet using the labeled intersection.

When the definition of an existing labeled intersection is modified, the base intersections of measures and worksheets, and the load intersections of measures that are currently assigned the labeled intersection are automatically updated. There is no action required by the configuration administrator.

> **Note:** See the *RPAS Configuration Tools User Guide* for more information on Labeled Intersections.

Primary Platform Support for HP-UX 11iR2 (11.23) on Itanium Chipset and AIX 5.3

In an effort to provide lower costs for both Oracle Retail product development as well as retailers, platform support will be consolidated to reduce complexity, lower training costs, and increase overall manageability.

For each operating system supported, Oracle Retail must configure the platforms and perform testing, both of which are costly. Based on industry trends, recent sales, and vendor support, Oracle Retail has chosen to support **AIX 5.3** and **HP-UX 11iR2 (11.23) on Itanium chipset** for the current release of RPAS 12.1. These choices represent the broadest existing and future customer bases. We remain committed to industry standards. Every effort will be made to ensure that the Oracle Retail applications minimize the use of proprietary extensions and the greatest degree of compatibility is maintained. However, realizing the need to balance openness with performance, some compromises will be made.

Customers may choose to use other operating systems. However, they will not be certified by Oracle Retail and may be at risk of encountering issues. Applications running on uncertified platforms will still be supported. However, reported issues that cannot be duplicated on a certified platform will result in no resolution taken by Oracle.

Although the RPAS 12.1 release package includes RPAS Server support for Windows NT/2000/XP, the RPAS Server is no longer certified for customer production environments on Windows. However, Oracle Retail recognizes the benefit to implementation timelines through the prototyping RPAS solutions on Windows, thus RPAS Server support is provided on a limited basis for non-production uses. As with previous releases, Windows NT/2000/XP support and certification continues only for the RPAS Client and RPAS Configuration Tools.

moveDomain utility

The **moveDomain** utility provides the flexibility to move elements of global domains such as individual local domains and the master domain to pre-specified locations based on a given XML configuration file. The utility automatically updates RPAS metadata to reflect the modified directory paths in local and master domains. This utility also ensures that the **globalDomainConfig.xml** is updated as domains are moved.

The XML configuration being used is simple and designed to fit the required task. It contains fields for the locations of the source master domain and destination master domain as well as source and destination fields for each of the sub-domains that need to be moved.

Note: See the *RPAS Administration Guide* for more information on moveDomain.

Modified and Deprecated Functionality

Hypersparse Settings

In RPAS 12.1, database and domain hypersparse settings are set 'on the fly' based on the size of the dimension space of an array. As a result the **changeDomainSparseness** utility and **Hypersparse configuration setting** in the RPAS Configuration Tool have been removed.

domainInfo Utility

The **–sparsity** option has been removed from the **domainInfo** utility due the removal of administrator control of sparsity settings.

createdb and listdb utilities

The command line utilities, **createdb** and **listdb**, have been modified. createdb has been changed to no longer support the **–hypersparse** option. The **-dbpath** parameter has been renamed to **–db** to match the -db parameter used for the lisbdb utility. For both utilities the -db parameter is now optional and is only required before any switches that might be provided. For both utilities, any number of databases may be specified on the command line after the command or the optional -db parameter.

The listdb utility includes additional switches to control the amount of output for each database. As well, this utility has been changed to output information that remains valid after the other API changes. listdb will no longer output if the array of a database is hypersparse. The additional switches are **-row**, **-pageUsage**, and **-standardOptions**. The -row switch changes how the information is displayed from a table format to a row format. The -pageUsage switch, which can only be used with the -row switch, provides page usage information for each array in the database. The -standardOptions switch limits the information output for each array to the standard options of that array; otherwise, all options are outputted.

reconfigGlobalDomainPartitions and loadHier Utilities

The **-forceInputRollups** argument has been added to the **reconfigGlobalDomainPartitions** and **loadHier** utilities. There was a desire on the part of retailers to enforce new hierarchy roll-up changes such that they dominate existing hierarchy roll-ups in case they conflicted with the roll-ups specified in the input file. On occasions, retailers would like to load a hierarchy file that reclassifies one or more upper level positions while removing one or more discontinued base-level positions that roll-up to the reclassified position. Based on the old behavior of loadHier, all the child positions needed to be included in the hierarchy input file in order to move the parent position. Retailers were encountering a multi-parent issue when **checkParents** runs because the old implementation of RPAS Hierarchy Load Process simply complained about multi-parent scenarios and did not discriminate between the existing hierarchy in the domain and the roll-up information coming from the input file. Retailers are able to trigger this optional correction process by specifying –forceInputRollups when using the loadHier or reconfigGlobalDomainPartitions utilities.

loadMeasure Utility

When using the **loadMeasure** utility the optional argument **-defrag** can be used to defragment the domain at the end of measure loading process to reduce the physical size of the domain. This is achieved by copying the existing data files into files with fully populated BTree pages.

loadHier and reshapeArrays Utilities

The **-forceNAConsistency** argument has been added to the **loadHier** and **reshapeArrays** utilities. The RPAS Calculation Engine calculates the optimum NA Value for each measure array to increase storage efficiency if such a measure is included in calculations. As a result of this operation, there are instances when measure arrays result in different NA Values than the original measure's NA Value registered by the user. When the number of positions in measure array is increased through loadHier, the user might be expecting that the newly added positions in the measure get the same value as the navalue with which they are registered. However, until now RPAS was not accounting for a navalue change for the array and all newly added positions were getting the value that was the same as the navalue of the array. Retailers are now able to trigger this optional correction process by specifying –forceNAConsistency, an optional argument on the loadHier or reshapeArrays command-line. When it is specified, loadHier and reshapeArrays enforces the measure's NA value to be the cell value for newly added positions to the measure array when the measure array's NA value is different than measure's NA value.

exportData

The **-useLoadFormat** argument has been added to the **exportData** utility. This argument enables the use of the format of the measure as specified within its measure property in the domain. The level at which the data is stored in the domain will be used.

correctPopCounts

The **correctPopCounts** utility has been removed due to the removal of administrator control over pop counts. Pop counts are now managed inside the RPAS data store (OREDB).

extendCalendar and genRpasClnd Utilities

The **extendCalendar** and **genRpasClnd** utilities have been removed due to the removal of the Acumate-based calendar generator.

RPAS Integration

Summary of RPAS 12.1 to Oracle Retail Solutions 12.0 Integration

The strategy for the extraction of foundation data from RMS is for the extract programs (RMSE) to provide flat files in a generic format. For each solution that uses this data, transformation scripts are used to reformat the data as needed to produce a file suitable for loading into the application. For the instances of data coming from RPAS to non-RPAS applications, extract programs are specific to the application in need of the data. Other scripting languages are then used (Perl or AWK) to perform additional data formatting.

The following summarizes the interfaces verified with RPAS 12.1:

- RMS 11.0/12.0 to RDF 12.1 and Merchandise Financial Planning 12.1 transformation programs
  - Merchandise Hierarchy
  - Organization Hierarchy
  - Calendar Hierarchy
  - Store Close Dates
  - Store Open Dates
  - Daily Sales and Issues
  - Weekly Sales and Issues
  - Out of Stock Indicator
- RDF 12.1 to RMS 11.0/12.0 extract programs
  - Approved Forecasts and Standard Deviations (Cumulative Intervals)
- Grade (RPAS 12.1) to RMS 11.0/12.0 extract programs
  - Store Grades
- Curve (RPAS 12.1) to RMS 11.0/12.0 extract programs
  - Differentiator Profiles
- Merchandise Financial Planning 12.1 to RMS 11.0/12.0 extract programs
  - Receipt Plan
- Merchandise Financial Planning 12.1 to Price 4.5 extract programs
  - Markdown Budget
- Merchandise Financial Planning 12.1 to RDW 12.0 extract programs
  - Current Plan
  - Original Plan

> **Note:** See the *RMS Operations Guide* for specifics on the usage of the RMS ETL programs and the *RPAS Administration Guide* for more information on the RPAS ETL programs.

Assumptions

MSPL (Acumate code) Removal

For upgrading customers and new implementations, RPAS assumes there is no MSPL (Acumate) code in the environment. With the new implementation of OREDB, MSPL code is no longer valid within RPAS.

Known Issues/Defects

Outstanding Issue	Expected Resolution
Although OBIEE connectivity has been verified using the RPAS Reporter tool on Windows, the UNIX verification could not be completed.	Resolution is a top priority for the RPAS development team. Timing for the resolution is TBD.
6032211: The Reporter tool provides limited query support for the "where" clause. The driver needs to expand the where clause into lists of OR'ed condition list.	The issue is in active development for a patch to follow RPAS 12.1.1. See the RPAS Administration Guide for more information on this limitation.
6047572: The RPAS Reporter tool is not returning all workbook values using a join query.	Resolved for the RPAS 12.1.1 patch
5714684: Incorrect user privileges are being assigned to workbooks by the Reporter tool. This is occurring because the server is not currently set by default to fork a new process for each new incoming connection.	Resolved for the RPAS 12.1.1 patch
6042230: Encountered an issue with the Reporter Tool that prevents the query of labels-only in a fact table.	Resolved for the RPAS 12.1.1 patch
6041814: Encountered issues with Dimension Splitting when a split is saved in a worksheet then the split is deleted from a duplicate worksheet created by the user.	Resolved for the RPAS 12.1.1 patch
6004194: Moving a split dimension from the z-axis to the x or y-axis then unsplitting the dimension causes the positions along the unsplit dimension to display as a drop-down list.	Resolved for the 12.1.1 patch
6048081: Encountered workbook issues in instances when a saved split is defined based on a dimension that includes an informal position, then the informal position is deleted. If the split is added to a new workbook, the user encounters several error messages.	Resolved for the RPAS 12.1.1 patch
6032214: Failure of dimension splitting can lead to logical dimensions to not be properly saved in the workbook. As a result, when a saved workbook is reopened under these conditions, the workbook fails.	Resolved for the RPAS 12.1.1 patch

Outstanding Issue	Expected Resolution
6011154: In the RPAS client, the Update button (selected from the Tool bar) is causing worksheets that have dimension splits to format back to the original view at the time when the dimension split was originally applied.	Resolved for the RPAS 12.1.1 patch
6019478: The DPM dialog in the RPAS client prevents the user from assigning an integer as the first character in the name of a position.	Resolved for the RPAS 12.1.1 patch
6009123: Retailers upgrading their current solution and also modifying their configuration to take advantage of DPM functionality must use the dimensionMgr utility to update the buffer low and high % for the DPM enabled dimensions if these settings were not previously in the configuration. The Configuration Tools currently provides limited support for patching dimension property changes into an existing environment.	This is a low priority issue given the workaround must only be completed one time at the time of the configuration upgrade.
6019386: copyDomain using –partitionPositions is copying all subdomains rather than the partition positions specified by the administrator.	Resolved for the RPAS 12.1.1 patch
6058937: The copyDomain utility is not properly converting UNIX domains to NT.	Resolved for the 12.1.1 patch
6042085: The moveDomain utility is displaying an invalid error message at the end of the log file. Although the domain(s) may be moved correctly based on the provided xmlConfigFile, an error message similar to the following will be displayed: Updating domain 'DomainName' history moveDomain caught Exception: DomainManagerException: The domain path (pathToTheSubDomain) does not exist. If this error is encountered, please verify first that the domain(s) have been moved to the correct location(s).	Resolved for the RPAS 12.1.1 patch
5965541: The Hierarchy Maintenance Template is allowing non-user defined dimensions to be selected when access rights are being assigned to these dimensions in Security Administration. Hierarchy Maintenance should only support user-defined dimensions.	Resolved for the 12.1.1 patch
6032455: Hierarchies are displayed incorrectly in the RPAS client when a workbook is saved, then saved again using “Save As” and the workbook is re-opened.	Resolved for the RPAS 12.1.1 patch
6044966: Workbooks are failing in some instances when data that includes valid values as well as Ambig values (?) is sorted.	Resolved for the RPAS 12.1.1 patch
6017187: Changing measure formats in the client, and then saving the format to the group, causes format changes to display incorrectly when workbooks are built with the new measure formats.	Resolved for the RPAS 12.1.1 patch
5734843: Incorrect aggregate values are being populated for measures using calc rules containing Math functions.	Resolved for the RPAS 12.1.1 patch

Outstanding Issue	Expected Resolution
6022021: Date Type measures with no NA value are displaying incorrectly in the RPAS client when the user sets no value to the cell.	Resolved for the 12.1.1 patch
6032246: Measure labels are displaying incorrectly for the Russian translation pack.	Resolved for the RPAS 12.1.1 patch
6029790: RPAS web-deployment using Websphere is currently not supported.	Resolved for the RPAS 12.1.1 patch