Oracle® Retail Demand Forecasting

Release Notes

Release 13.2.3

August 2011

Oracle Retail Demand Forecasting Overview

Oracle Retail Demand Forecasting (RDF) is a statistical and promotional forecasting solution. It uses state-of-the-art modeling techniques to produce high quality forecasts with minimal human intervention. Forecasts produced by the Demand Forecasting system enhance the retailer's supply chain planning, allocation, and replenishment processes, enabling a profitable and customer-oriented approach to predicting and meeting product demand.

Beginning with the 13.2.3 release, all Oracle Retail Grade and Oracle Retail Curve documentation is incorporated into the RDF documentation. No changes were made to the code, and the packaging and delivery of Curve and Grade remains the same.

Grade Overview

Grade is a clustering tool that provides insight into how various parts of a retailer's operations can be grouped together. Typically, a retailer may cluster stores over item sales to create logical groupings of stores based upon sales of particular products. This provides increased visibility to where products are selling, and it allows the retailer to make more accurate decisions in merchandising. Beyond this traditional use of clusters, Grade is flexible enough to cluster any business measure based on products, locations, time, promotions, customers, or any hierarchy configured in the solution.

Key Grade functionality includes:

- Two methods of creating Grades/Clusters:

- Breakpoints: the sorting of data points into groups based on user-defined indexes

- Clustering, or the BaNG Algorithm: the optimization of data points into clusters based on the user-defined number of clusters

- Group By capabilities: support the segmentation of clusters for more detailed and focused cluster generation

- Clustering statistics: provide insight into the relationship of members within a cluster and how all clusters relate to one another

- Cluster What-if: allows user changes to members assigned to clusters and the review of recalculated clustering statistics

ORACLE®

Regardless of the method employed to create clusters, Grade is designed to support the decision-making process necessary to create effective and actionable groupings of data.

Curve Overview

Curve is an optional automated predictive solution that can generate ratio arrays from historical data at user-specified intersections. The profiles generated by Curve can be used for various purposes; for example, they can be used to convert the organization level assortment plans into base level weekly sales forecasts and to generate seasonal forecasts, daily forecasts, or new product forecasts using lifecycle profiles.

Important Steps to Address RMS/RPAS/RDF Integration

This section describes important steps to address the RMS/RPAS/RDF integration.

Change of Class and Subclass Naming

Oracle Retail Merchandising System (RMS) sends hierarchy files to Oracle Retail Demand Forecasting (RDF). RMS ensures that a class is unique to only its department and a subclass is unique to only its own class. In other words, Dept10 and Dept. 20 both can contain Class 100. However, within RPAS, unless class names are unique across the domain, it results in a multi-parent problem. Until this release, RDF tried to ensure uniqueness by concatenation of positions as follows:

- RDF Class = RMS Dept + RMS Class

- RDF Subclass = RMS Dept + RMS Class + RMS Subclass

However, this can result in a multi-parent problem. For example:

RMS Department	RMS Class	RPAS/RDF Class
10	110	10110
101	10	10110

In this scenario, Clss10110 rolls into both Dept10 and Dept101. This is not acceptable in any RPAS application.

Resolution

Position names are made unique by adding an underscore. In the example above, the classes would be named Clss 10_110 and Clss101_10. However, when these position names are corrected and new hierarchy files are created, the existing class/subclass name no longer exists. Therefore, if the upgrade process is not specifically followed, any data that was stored at the class or subclass level (such as Clss10110 above) is erased.

> **Important:** Failure to follow these upgrade instructions could result in data loss.

The following upgrade process needs to be followed only by the customers who:

- Use standard integration between RMS and RPAS based applications (other than AIP).

- Have stored data at class or subclass levels.

- Upgrade from a version prior to 13.0.4.18 to 13.0.4.18 or later. Those customers must apply the process described below. In the future, customers already on 13.0.4.18 or later do not need to use this process again.

Upgrade Process

1. Point the environment variable RPAS_HOME to the new RPAS_HOME.

2. Run the script $RPAS_HOME/rfx/src/rmse_rpas_merchhier.ksh to generate the rmse_rpas_merchhier.dat file. This is how the new position names are generated.

3. Run repos.ksh with the –a n flag to produce the position rename file and run renamePositions **without** applying the changes. Examine the log file PRODrename.log for errors.

4. When ready, run the repos.ksh script without the –a y flag to apply the changes.

Change of Position Label Widths

Fields lengths for RDF hierarchies were increased to accept wider labels from RMS. These new field lengths are currently not patchable directly in any RPAS domain. Therefore, the following upgrade process must be followed:

Upgrade Process

All customers applying 13.0.4.18 and earlier should perform the following steps every time a new hot fix is applied.

1. Export the following environment variables in the environment before running the upgrade scripts.

    - UPGRADE_HOME: This variable should point to the path of upgrade scripts where environment.ksh, updateschemafiles.ksh, updatetoolsconfiguration.ksh, and other configuration files are present.

    - RDF_DOMAIN_PATH: The path of RDF domain which you are going to patch. The dimension field length of this RDF domain is taken and applied to the configuration and schema files.

    - RDF_SCHEMA_DIR: The RETL RDF schema files directory. This must be the latest release directory, which you use for patching. It points to the SCHEMA files location in the release, which you use for patching the RDF domain.

    - TOOLS_CONFIG_DIR: The Configuration Tools XML files directory. It points to the directory where the hierarchy.xml file is present. It must be the latest release directory which you use for patching.

    - UPGRADE_BACKUP_DIR: A backup of SCHEMA and hierarchy.xml files is kept in this directory.

2. Set up the following upgrade scripts:

- updateschemafiles.ksh script updates the dimension field length of schema files to the length as available in the domain.

- updatetoolsconfiguration.ksh script updates the dimension field length of configuration files to the length as available in the domain.

3. Change the directory to UpgradeScripts directory.

   ```
   $ cd UpgradeScripts
   ```

4. Run updatetoolsconfiguration.ksh. This updates the hierarchy.xml file.

   ```
   $ ./ updatetoolsconfiguration.ksh
   ```

5. Run updateschemafiles.ksh. This updates the RETL RDF schema files.

   ```
   $ ./ updateschemafiles.ksh
   ```

> **Note:** For added visibility for retailers, these instructions are included in both the *Oracle Retail Demand Forecasting Release Notes* and the *Oracle Retail Demand Forecasting Installation Guide*. For more information, see the *Oracle Retail Demand Forecasting Installation Guide.*

Upgrade Notice

For users with a generally available RDF configuration, a patch installation will not create the additional forecast levels that were introduced in RDF Release 13.2.2.4. You must perform a full installation of RDF to include these changes. Refer to the *Oracle Retail Demand Forecasting Installation Guide* for full installation instructions.

Hardware and Software Requirements

See the *Oracle Retail Demand Forecasting Installation Guide* for information about the following:

- Hardware and software requirements

- Oracle Retail application software compatibility information

Functional Enhancements

RDF 13.2.3 includes the following functional enhancements.

RDF on the RPAS Fusion Client

With the introduction of the Oracle Retail Predictive Application Server (RPAS) Fusion Client, customers have a choice to use RDF with either the RPAS Fusion Client or the RPAS Classic Client.

For details on the features of the RPAS Fusion Client, see the 13.2.3 *Oracle Retail Predictive Application Server User Guide for the Fusion Client*. RDF has been preconfigured to contain a default taskflow.

When using the Fusion Client for RDF, the users can utilize the new taskflow feature to understand and follow the RDF business process. This taskflow shows the overall business process and allows the users to understand the tasks they must complete in order to finish the business process.

Name	Description
Activity	High level business process or solution. An activity provides visibility to the full business process, supports application navigation, and drives end user activities. Tasks and steps are assigned to an activity to further describe the business flow.
Task	The second level of an activity flow. A task is associated with a single RPAS workbook template. Steps are assigned to a task.
Step	The lowest level of an activity flow. A step is associated with an RPAS worksheet or set of worksheets to achieve a specific action.

The set up of the taskflow is accomplished within the RPAS Configuration Tools. Workbook information is mapped to activities, tasks, and steps. For additional details on this process, see the taskflow section of the Configuration Manager chapter of the *Oracle Retail Predictive Application Server Configuration Tools User Guide*.

New Forecast Method to Assemble Forecast Components

RDF has a new forecasting method available that does not calculate any forecast, but puts together forecast components to generate the forecast.

The components, which include baseline, promotion effects and regular price effects, are pre-calculated in batch or overridden in RDF workbooks.

The method is recommended only for the final forecasting levels.

Causal Forecasting Run that Only Calculates Promotional Effects

RDF is enhanced with the option for causal to only calculate promotional effects or lifts, or both, as opposed to calculating lifts and generating the promotional forecast during the same run.

This feature is valuable for RDF Causal implementations where the external baseline is considered.

Documentation Enhancements

RDF 13.2.3 includes the following documentation enhancements.

Oracle RDF User Guides and Online Help

Oracle RDF User Guide for the Fusion Client

The *Oracle Retail Demand Forecasting User Guide for the Fusion Client* describes demand forecasting processes on the Oracle Retail Predictive Application Server (RPAS) Fusion Client. This guide now includes the content from the *Oracle Retail Curve User Guide* and the *Oracle Retail Grade User Guide*.

Unlike the RPAS Windows-based Classic Client, the Fusion Client includes a taskflow feature that provides a robust workflow capability to make each forecasting activity easier to track and maintain.

Combining the RDF, Promote, Curve, and Grade processes into a single user guide better reflects the new RDF taskflow on the RPAS Fusion Client.

Oracle RDF User Guide for the Classic Client

The *Oracle Retail Demand Forecasting User Guide for the Classic Client* describes demand forecasting processes on the Oracle Retail Predictive Application Server (RPAS) Classic Client.

This guide now includes the content from the *Oracle Retail Curve User Guide* and the *Oracle Retail Grade User Guide*.

Oracle RDF User Guide - Online Help

The Oracle Retail Demand Forecasting User Guide - Online Help provides context-sensitive help in an HTML format for demand forecasting processes on the Oracle Retail Predictive Application Server (RPAS) Fusion Client.

> **Note:** For more information about the RPAS Fusion Client, see the 13.2.3 Oracle Retail Predictive Application Server documentation set.

Product Support Considerations

Documentation for the Oracle Retail products, Curve and Grade, has been incorporated into the RDF documentation suite. For product support and logged defects with Curve or Grade, continue to use the same product identifiers for Curve or Grade as listed in the following table.

Oracle Retail Product	Product Identifier
Oracle Retail Demand Forecasting (RDF)	1800
Oracle Retail Curve	1793
Oracle Retail Grade	1805

Fixed Issues/Defects

The following table contains issues that have been fixed for the current release.

Defect Number	Product	Fixed Issue/Defect
11064359	RDF	Unable to build the Cloning Adjustment Parameters workbook. This issue has been corrected.
11667849	RDF	Error in the cloning plug-in code results in error when building the Cloning Adjustment Parameters workbook This issue has been corrected.
11668918	RDF	Seasonal regression may generate zero forecasts in the forecast horizon. This issue has been corrected.
11669050	RDF	The source level forecast appears to trend too low and sometimes trends too high for SKU/Stores with similar sales history. This issue has been corrected.
11775271	RDF	The script, `rdft.ksh`, aborts due to absent *reject* files. This issue has been corrected.
11794777	RDF	Several rdft scripts complete with errors due to absent `sort.dat` files. This issue has been corrected.
11809866	RDF	The valid range for the *Regular Price Decaying Factor* measure is zero (0) to one (1). This range restriction was not being enforced by RDF. This issue has been corrected.
11851038	RDF	Errors are in the script rename, `RETLFiles.ksh`, that is located in: $RPAS_HOME/scripts/integration/rfx/etc This issue has been corrected.
11879295	RDF	The Forecast Data Source measure exists in two worksheets in the Forecast Administration workbook: Final Level Parameters worksheet and Final and Source Level Parameters worksheet. This issue has been corrected, by removing the measure from the Final Level Parameters worksheet
11931209	Curve	In the workbook, Profile Approval, the process is not updating the Approval Profile metric after manually approving the changes. This issue has been corrected.
11933437	RDF	Interactive forecasting fails when selecting any source level. This issue has been corrected.

Defect Number	Product	Fixed Issue/Defect
12335640	RDF	When a forecast is generated and logging is enabled, there is a chart that shows the forecast results after the procedure call. That chart is incorrectly spacing with zeros instead of space. This issue has been corrected by replacing the zeroes with spaces.
12649490	Curve	Curve batch fails after patching to Release 13.1.2.42. This issue has been corrected.

Related Documentation

For more information, see the following documents in the Oracle Retail Demand Forecasting 13.2.3 documentation set:

- *Oracle Retail Demand Forecasting Configuration Guide*

- *Oracle Retail Demand Forecasting Implementation Guide*

- *Oracle Retail Demand Forecasting Installation Guide*

- *Oracle Retail Demand Forecasting Release Notes*

- *Oracle Retail Demand Forecasting User Guide for the RPAS Classic Client*

- *Oracle Retail Demand Forecasting User Guide for the RPAS Fusion Client*

- *Oracle Retail Demand Forecasting User Guide Online Help for the RPAS Fusion Client*

- Oracle Retail Predictive Application Server documentation

Previous Releases

For additional information on previous Oracle Retail Demand Forecasting release enhancements and additional information, refer to the release notes and documentation that accompany the previous release.

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible to all users, including users that are disabled. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Accessibility standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For more information, visit the Oracle Accessibility Program Web site at http://www.oracle.com/accessibility/.

Accessibility of Code Examples in Documentation

Screen readers may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, some screen readers may not always read a line of text that consists solely of a bracket or brace.

Accessibility of Links to External Web Sites in Documentation

This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/support/contact.html or visit http://www.oracle.com/accessibility/support.html if you are hearing impaired.

Oracle® Retail Demand Forecasting Release Notes, Release 13.2.3

Licensing Note: This media pack includes a Restricted Use license for Oracle Retail Predictive Application Server (RPAS) - Enterprise Engine to support Oracle® Retail Demand Forecasting only.

Value-Added Reseller (VAR) Language

Oracle Retail VAR Applications

The following restrictions and provisions only apply to the programs referred to in this section and licensed to you. You acknowledge that the programs may contain third party software (VAR applications) licensed to Oracle. Depending upon your product and its version number, the VAR applications may include:

(i) the **MicroStrategy** Components developed and licensed by MicroStrategy Services Corporation (MicroStrategy) of McLean, Virginia to Oracle and imbedded in the MicroStrategy for Oracle Retail Data Warehouse and MicroStrategy for Oracle Retail Planning & Optimization applications.

(ii) the **Wavelink** component developed and licensed by Wavelink Corporation (Wavelink) of Kirkland, Washington, to Oracle and imbedded in Oracle Retail Mobile Store Inventory Management.

(iii) the software component known as **Access Via™** licensed by Access Via of Seattle, Washington, and imbedded in Oracle Retail Signs and Oracle Retail Labels and Tags.

(iv) the software component known as **Adobe Flex™** licensed by Adobe Systems Incorporated of San Jose, California, and imbedded in Oracle Retail Promotion Planning & Optimization application.

You acknowledge and confirm that Oracle grants you use of only the object code of the VAR Applications. Oracle will not deliver source code to the VAR Applications to you. Notwithstanding any other term or condition of the agreement and this ordering document, you shall not cause or permit alteration of any VAR Applications. For purposes of this section, "alteration" refers to all alterations, translations, upgrades, enhancements, customizations or modifications of all or any portion of the VAR Applications including all reconfigurations, reassembly or reverse assembly, re-engineering or reverse engineering and recompilations or reverse compilations of the VAR Applications or any derivatives of the VAR Applications. You acknowledge that it shall be a breach of the agreement to utilize the relationship, and/or confidential information of the VAR Applications for purposes of competitive discovery.

The VAR Applications contain trade secrets of Oracle and Oracle's licensors and Customer shall not attempt, cause, or permit the alteration, decompilation, reverse engineering, disassembly or other reduction of the VAR Applications to a human perceivable form. Oracle reserves the right to replace, with functional equivalent software, any of the VAR Applications in future releases of the applicable program.