Oracle® Retail Demand Forecasting

Release Notes

Release 13.3

January 2012

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.

All Oracle Retail Grade and Oracle Retail Curve documentation is included with the RDF documentation. The packaging and delivery of Curve and Grade remains the same.

Note: Because RDF, Curve, and Grade use the Oracle Retail Predictive Application Server (RPAS) platform, Oracle Retail recommends that you review the *Oracle Retail Predictive Application Server Release Notes* for fixed and known issues that may affect RDF, Curve, and Grade. In addition, RPAS 13.3 has significant technical enhancements related to hierarchy management (such as integer indexing) that have an effect on the configuration and maintenance of RDF, Curve, and Grade. You should closely review enhancements listed in the *Oracle Retail Predictive Application Server Release Notes*.

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.

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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

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 for Class and Subclass Naming

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 for Field Lengths

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 Note

While not directly related to RDF, Curve, or Grade, the Oracle Retail Predictive Application Server (RPAS) has undergone a major change to simplify hierarchy administration. Full details of these changes are outlined in the *Oracle Retail Predictive Application Server Release Notes*. Due to these changes, configuration updates have been made to RDF, Curve, and Grade, and you will need to perform additional steps to upgrade your RDF, Curve, and Grade domains, such as setting dimension sizes. The upgrade to RPAS 13.3 for this application includes a conversion process in addition to the normal upgrade process. See the details provided in the "Upgrade Process" chapter of the *Oracle Retail Demand Forecasting Installation Guide* and the "Upgrading and Patching Domains" section of the *Oracle Retail Predictive Application Server Administration Guide for the Classic Client* or the *Oracle Retail Predictive Application Server Administration Guide for the Fusion Client*.

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 13.3 includes the following functional enhancements.

Manual Script Generates Forecast Based on Sample Set of Item/Locations

Based on a sample set created in Analytic Parameter Calculator for Replenishment Optimization (APC-RO), RDF was enhanced to perform the following:

- Create rolling forecasts for the item/locations included in the sample.
- Export the forecasts and cumulative intervals as a flat file to be consumed by APC-RO.

This greatly reduces the size of forecast data passing from RDF to APC-RO in addition to automating the generation and export processes.

For more information, see the *Oracle Retail Analytic Parameter Calculator for Replenishment Optimization Implementation Guide*.

Ability to Add Additional Source Levels in the Configuration and Patch Them into an Existing RDF Environment

The business of a retailer can change with time, due to different sales and seasonality patterns, and also product and location reclassifications. To better capture the effect of such changes, it may be necessary to use additional source levels for forecasting. In this release we introduce the ability to add new source levels in the configuration tools and patch them in an existing RDF environment.

For more information, see the *Oracle Retail Demand Forecasting Configuration Guide*

Fixed Issues/Defects

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

Defect Number	Product	Fixed Issue/Defect
13351182	RDF	In the Forecast Maintenance workbook, Final Level Parameters worksheet, the Default Source Level measure only displays numeric values, not the actual source level label. This issue has been corrected.
13336408	RDF	The script that exports data from RDF to APC RPO does not generate any forecast if the apvp11 measure is empty. This issue has been corrected.
13064837	RDF	Users running ManageFNHBI observed log messages marked as *errors*. However, the return code from ManageFNHBI was 0 (zero), indicating success. This issue has been corrected, by converting the error messages into warnings, since they are not errors.
12927665	RDF	Error occurs when refreshing the Forecast Approval workbook. This issue has been corrected.
12774918	RDF	The ExportData -precision option is not working properly. This issue has been corrected.
11809028	RDF	In the process of building the Forecast Approval process, when the user checks the synchronize check box in the two-tree wizard and scrolls up and down, an unexpected error is thrown and the application completely closes. This issue has been corrected.
11668918	RDF	Seasonal Regression around a peak in sales is not working as expected. This issue has been corrected.
12927203	RDF	When attempting to create an RDF configuration, with no previous RDF configuration present, the RDF configuration tools plug-in fails. Users are not able to create an RDF configuration from scratch. This issue has been corrected.
9963579	RDF	The Causal Parameters worksheet is built although the Promote solution is not included, and there is no Causal forecasting method selected for any level. This issue has been corrected, and the worksheet is not built anymore.

Known Issues

The following table contains known issues for the current release.

Defect Number	Known Issue/Defect
12732394	When using the installer in text mode and installing the Fusion Client configuration, *stdout* may be hidden during the installation progress output phase after reaching the [sshexec] step. The installer appears to hang for a period of time, but returns to prompt upon completion. To see the full output of the installation process, view the Install log. The graphical user interface (GUI) mode is not affected.

Related Documentation

For more information, see the following documents in the Oracle Retail Demand Forecasting 13.3 documentation set:

- *Oracle Retail Demand Forecasting Configuration Guide*
- *Oracle Retail Demand Forecasting Implementation Guide*
- *Oracle Retail Demand Forecasting Installation Guide*
- *Oracle Retail Demand Forecasting Online Help for the RPAS Fusion Client*
- *Oracle Retail Demand Forecasting User Guide for the RPAS Classic Client*
- *Oracle Retail Demand Forecasting User Guide for the RPAS Fusion Client*
- Oracle Retail Predictive Application Server documentation

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

Oracle Retail Demand Forecasting 13.3 Cumulative Fixed Issues (Note ID 1391815.1)

This document details the fixed issues and defects for all RDF, Curve, and Grade patch releases prior to and including the current release.

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.

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Value-Added Reseller (VAR) Language

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