

Oracle® Retail Demand Forecasting

Release Notes

Release 13.4.1

May 2013

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.

In addition, RPAS 13.3 and later releases have 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 must upgrade to key RPAS versions and complete the upgrade process as described in the chapter, "Patch Installation" in the *Oracle Retail Demand Forecasting Installation Guide* before upgrading to a 13.4.1 RDF domain.

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

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. Prior to Release 13.1.2, 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 previous example, the classes would be named Clss10_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) 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 [Upgrade Process for Class and Subclass Naming](#). 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 using 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:
 - The `updateschemafiles.ksh` script updates the dimension field length of schema files to the length as available in the domain.
 - The `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, the 13.3 Release of Oracle Retail Predictive Application Server (RPAS) has undergone a major change to simplify hierarchy administration. Full details of these changes are outlined in the 13.3 *Oracle Retail Predictive Application Server Release Notes*. Due to these changes, configuration updates have been made to RDF, and you will need to perform additional steps to upgrade your RDF domain, such as setting dimension sizes. The upgrade to RPAS 13.3 or later for this application includes a conversion process in addition to the normal upgrade process. Details are provided in the chapter, “Patch Installation”, in the *Oracle Retail Demand Forecasting Installation Guide*.

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

Fixed Issues/Defects

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

Defect Number	Product	Fixed Issue/Defect
7631009	RDF	The moving average window override measure accepts negative integers. This issue has been resolved by preventing any value less than 1 to be an override.
12733883	RDF	Unable to build the Forecast Administration and Forecast Maintenance workbooks using padded .ovr files.
14678681	RDF	When running certain invalid scenario, the forecast generation fails. This issue has been resolved by displaying a more informative error message.
15850492	RDF	The output arrays of the PromoSelfLiftExpr special expression are cleared in both incremental and full mode and produces incorrect results.
15979964	RDF	The RDF to APC-RPO integration script has performance issues and misses a common GA measure.
16022908	RDF	The Cross Promotional Effects Module (CPEM) does not produce correct results when some promotion variables are not populated during the entire selected historical period.
16172594	Curve	The profile generation is slow when the periods selected do not amount to a multiple of seven days.
16383894	RDF	The Product (PROR) hierarchy requirement logic in RDF 13.4 needs to be corrected. The documentation has been updated to specify that the PROR hierarchy is not optional when configuring RDF 13.4.
16465494	Grade	In the Store Clustering workbook, an UnrecoverableExpressionLibraryError occurs when changing the Strategy picklist value on the Getting Started tab.

Defect Number	Product	Fixed Issue/Defect
16528924	RDF	Prior to RDF 13.4.1, the configuration name had to be <i>RDF</i> . This has been resolved, by allowing the configuration to be called something other than <i>RDF</i> .
16686268	RDF	When a promotion has no activity in the past and its type is either <i>Override Future Only</i> or <i>Override All</i> , it does not apply the override lift in the forecast horizon.
16686272	RDF	The causal higher functionality does not perform when a promotion is not active in the sales history. This has been addressed by applying the causal higher functionality no matter of the past activity of the promotion. The RDF User Guides were updated to reflect the fix.
16262659 16217657 16216993 16216971 16213052	RDF	Several scripts were not working correctly dues to the transition to the Batch Script Architecture, or other reasons.

Known Issues

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

Known Issue/Defect	Defect Number
In Grade, the Generate Cluster workbook is not performing as designed. An error message appears when attempting to generate a cluster.	Not Applicable

Related Documentation

For more information, see the following documents in the Oracle Retail Demand Forecasting 13.4.1 documentation set:

- *Oracle Retail Demand Forecasting Configuration Guide*
- *Oracle Retail Demand Forecasting Installation Guide*
- *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

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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