

# **Oracle® Retail Replenishment Optimization**

Implementation Guide

Release 13.2.1

October 2010

Copyright © 2010, Oracle and/or its affiliates. All rights reserved.

Primary Author: Melissa Artley

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this software or related documentation is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle USA, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

This software is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications which may create a risk of personal injury. If you use this software in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure the safe use of this software. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software in dangerous applications.

Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

This software and documentation may provide access to or information on content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

**Licensing Note:** This media pack includes a Restricted Use license for Oracle Retail Predictive Application Server (RPAS) - Enterprise Engine to support Oracle® Retail Replenishment Optimization 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 software component known as **ACUMATE** developed and licensed by Lucent Technologies Inc. of Murray Hill, New Jersey, to Oracle and imbedded in the Oracle Retail Predictive Application Server - Enterprise Engine, Oracle Retail Category Management, Oracle Retail Item Planning, Oracle Retail Merchandise Financial Planning, Oracle Retail Advanced Inventory Planning, Oracle Retail Demand Forecasting, Oracle Retail Regular Price Optimization, Oracle Retail Size Profile Optimization, Oracle Retail Replenishment Optimization applications.
- (ii) 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.
- (iii) the **SeeBeyond** component developed and licensed by Sun Microsystems, Inc. (Sun) of Santa Clara, California, to Oracle and imbedded in the Oracle Retail Integration Bus application.
- (iv) the **Wavelink** component developed and licensed by Wavelink Corporation (Wavelink) of Kirkland, Washington, to Oracle and imbedded in Oracle Retail Mobile Store Inventory Management.
- (v) the software component known as **Crystal Enterprise Professional and/or Crystal Reports Professional** licensed by SAP and imbedded in Oracle Retail Store Inventory Management.
- (vi) 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.
- (vii) 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.
- (viii) the software component known as **Style Report™** developed and licensed by InetSoft Technology Corp. of Piscataway, New Jersey, to Oracle and imbedded in the Oracle Retail Value Chain Collaboration application.
- (ix) the software component known as **DataBeacon™** developed and licensed by Cognos Incorporated of Ottawa, Ontario, Canada, to Oracle and imbedded in the Oracle Retail Value Chain Collaboration 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.



---

---

# Contents

<b>Send Us Your Comments .....</b>	<b>xv</b>
<b>Preface .....</b>	<b>xvii</b>
Audience .....	xvii
Documentation Accessibility .....	xvii
Related Documents .....	xviii
Customer Support .....	xviii
Review Patch Documentation .....	xviii
Oracle Retail Documentation on the Oracle Technology Network .....	xviii
Conventions .....	xix
 <b>1 Introduction</b>	
<b>Contents of This Guide .....</b>	<b>1-1</b>
<b>RO and the Oracle Retail Enterprise .....</b>	<b>1-2</b>
<b>Business Process Workflows .....</b>	<b>1-3</b>
APC RO Data Load Process .....	1-3
Full Mode Optimization .....	1-3
Full Mode Optimization Process Steps .....	1-4
Refresh Mode Batch Optimization .....	1-5
Refresh Mode Batch Optimization Process Steps .....	1-6
<b>Skills Needed for Implementation .....</b>	<b>1-7</b>
Applications .....	1-7
Technical Concepts .....	1-7
 <b>2 Implementation Considerations</b>	
Historical Data .....	2-1
Domain Partitioning .....	2-1
Formatting .....	2-2
Plug-ins .....	2-2
Patch Considerations .....	2-2
Batch Scheduling .....	2-3
Security .....	2-3
Internationalization .....	2-3

### 3 Build Scripts

<b>Installation Dependencies</b> .....	3-1
Environment Setup .....	3-1
RPAS Installation .....	3-1
RO Installation.....	3-2
Custom Domain Build.....	3-2
<b>Environment Variables</b> .....	3-2
<b>Files Needed to Build the RO RPAS Domain</b> .....	3-3
Standard RPAS Hierarchy Files .....	3-4
Calendar (CLND) Hierarchy File .....	3-4
Product (PROD) Hierarchy File .....	3-5
Location (LOC) Hierarchy File.....	3-6
Warehouse (WHS) Hierarchy File .....	3-7
RO Hierarchy Files.....	3-7
Subgroup Hierarchy File.....	3-8
Store APC Group Hierarchy File .....	3-8
Warehouse APC Group Hierarchy File .....	3-8
Store Scenario Hierarchy File .....	3-9
Warehouse Scenario Hierarchy File .....	3-9
Frontier Data Point Hierarchy File .....	3-10
Break Point Hierarchy File.....	3-10
KEK Hierarchy File.....	3-10
PI Hierarchy File .....	3-11
Required Data Files for Store Optimization.....	3-11
Measures from a Merchandising or Replenishment System for Store Optimization ....	3-11
Measures from a Demand Forecasting Application for Store Optimization .....	3-12
Measures from APC RO for Store Optimization.....	3-12
Required Data Files for Warehouse Optimization.....	3-13
Measures from a Merchandising or Replenishment System for Warehouse Optimization ....	3-13
Measures from a Demand Forecasting Application for Warehouse Optimization .....	3-14
Measures from APC RO for Warehouse Optimization.....	3-14
Required Files for Internal Data.....	3-15
<b>Building the RO RPAS Domain</b> .....	3-16
Batch Designs.....	3-16
Building a Domain.....	3-16
<b>Loading and Extracting Data</b> .....	3-17
Store Optimization.....	3-17
Warehouse Optimization.....	3-17

### 4 Integration

<b>Overview of the Integrated Inventory Planning Suite</b> .....	4-1
Integrated Inventory Planning Suite Data Flow.....	4-2
Data Flow Description.....	4-2
From a Demand Forecasting Application (such as RDF) to APC RO .....	4-2

From a Demand Forecasting Application (such as RDF) to a Replenishment System (such as AIP) 4-2	
From APC RO to RO .....	4-3
From a Replenishment System (such as AIP) to RO.....	4-3
From a Demand Forecasting Application (such as RDF) to RO .....	4-3
From RO to a Replenishment System (such as AIP).....	4-3
<b>Overview of the Analytic Parameter Calculator for Replenishment Optimization (APC RO) and RO Integration .....</b>	<b>4-4</b>
APC RO and RO Data Flow.....	4-4
Data Flow Description.....	4-4
From APC RO to RO .....	4-4
Item/Location/Scenario Level Information .....	4-4
Mean/Variability/Lead Time Grouping Level Information .....	4-5
Mean/Variability Grouping/Scenario Level Information .....	4-5
Scenario Level Information .....	4-6
APC RO Data Load Process.....	4-6
Automatic APC RO Data Loading .....	4-6
APC RO Data Load Process Steps .....	4-7
<b>Integration Configuration .....</b>	<b>4-7</b>
Setting Environment Variables .....	4-8
ro_environment.sh .....	4-8
Setting Default Measure Values.....	4-9
Export to Replenishment System.....	4-9
Integration Scripts .....	4-9
Batch Environment Scripts .....	4-9
Using runBatch .....	4-9
Batch Designs.....	4-10
Script Resource .....	4-10
AIP Import/Export Data Paths .....	4-10
RO Stores Data Mapping .....	4-11
Output Measure Data .....	4-11
Input Measure Data .....	4-11
RO Warehouse Data Mapping .....	4-12
Output Measure Data .....	4-12
Input Measure Data .....	4-12
Batch Logs and Settings .....	4-13
<b>Export to Merchandise System .....</b>	<b>4-14</b>

## 5 Configuration Considerations

Calendar (CLND) Hierarchy .....	5-2
Product (PROD) Hierarchy.....	5-4
Location (LOC) Hierarchy.....	5-6
Warehouse Hierarchy (WHS) .....	5-7
Subgroup Hierarchy File.....	5-7
Store APC Group Hierarchy File.....	5-7
Warehouse APC Group Hierarchy File .....	5-8
Store Scenario Hierarchy File .....	5-8

Warehouse Scenario Hierarchy File.....	5-8
Frontier Data Point Hierarchy File.....	5-8
Break Point Hierarchy File .....	5-9
KEK Hierarchy File .....	5-9
PI Hierarchy File.....	5-9
 <b>6 Configuring the RO Solution</b>	
Configuring the RO Solution .....	6-1
Autogenerating Intersections, Measures, Rules, Workbooks, and Wizards.....	6-2
 <b>7 Batch Processing</b>	
Batch Script Summary .....	7-1
Batch Script Summary Table .....	7-1
Batch Designs .....	7-3
Optimization Batch Script: Master Domain .....	7-3
ro_optbatch_str.ksh .....	7-3
ro_optbatch_wh.ksh .....	7-3
Optimization Batch: Local Domain .....	7-4
ro_optbatch_str_localdomain.ksh .....	7-4
ro_optbatch_wh_localdomain.ksh .....	7-4
Replenishment Batch: Master Domain.....	7-4
ro_replbatch_str.ksh .....	7-4
ro_replbatch_wh.ksh .....	7-4
Replenishment Batch: Local Domain .....	7-5
ro_replbatch_str_localdomain.ksh .....	7-5
ro_replbatch_wh_localdomain.ksh .....	7-5
Report Batch: Master Domain .....	7-5
ro_reportbatch_str.ksh .....	7-5
ro_reportbatch_wh.ksh .....	7-6
Report Batch: Local Domain .....	7-6
ro_reportbatch_str_localdomain.ksh .....	7-6
ro_reportbatch_wh_localdomain.ksh .....	7-6
 <b>8 Internationalization</b>	
Translation .....	8-1



---

---

## List of Figures

1-1	RO and the Oracle Retail Enterprise .....	1-2
1-2	Full Mode Optimization Batch Process Workflow .....	1-4
1-3	Refresh Batch Optimization Process Workflow .....	1-6
4-1	Conceptual Overview .....	4-1
4-2	Integrated Inventory Planning Suite Data Flow .....	4-2
4-3	APC RO and RO Integration .....	4-4
4-4	RO Logs .....	4-13
5-1	CLND hierarchy in the RO configuration .....	5-2
5-2	PROD Hierarchy in the RO Configuration .....	5-4
5-3	LOC Hierarchy in the RO Configuration .....	5-6
6-1	Replenishment Optimization Params Window .....	6-1



---



---

## List of Tables

3-1	Calendar Hierarchy Fields.....	3-4
3-2	Product Hierarchy Fields.....	3-5
3-3	Location Hierarchy Fields.....	3-6
3-4	Warehouse Hierarchy Fields.....	3-7
3-5	Subgroup Hierarchy Fields .....	3-8
3-6	Store APC Group Hierarchy Fields.....	3-8
3-7	Warehouse Group Hierarchy Fields .....	3-8
3-8	Store Scenario Hierarchy Fields.....	3-9
3-9	Warehouse Scenario Hierarchy Fields.....	3-9
3-10	Frontier Data Point Hierarchy Fields.....	3-10
3-11	Break Point Hierarchy Fields .....	3-10
3-12	KEK Hierarchy Fields.....	3-10
3-13	Demand Group Hierarchy Fields .....	3-11
3-14	Measures from a Merchandising or Replenishment System for Store Optimization ...	3-11
3-15	Measures from a Demand Forecasting Application for Store Optimization .....	3-12
3-16	Measures from APC RO for Store Optimization.....	3-12
3-17	Measures from a Merchandising or Replenishment System for Warehouse Optimization ...	3-13
3-18	Measures from a Demand Forecasting Application for Warehouse Optimization .....	3-14
3-19	Measures from APC RO for Warehouse Optimization.....	3-14
3-20	Internal Data Files .....	3-15
3-21	Domain Descriptions.....	3-16
4-1	Item/Location/Scenario Level Data Files.....	4-4
4-2	Mean/Variability/Lead Time Grouping Level Data Files .....	4-5
4-3	Mean/Variability Grouping/Scenario Level Data Files .....	4-5
4-4	Scenario Level Data Files .....	4-6
4-5	Environment Variables .....	4-8
4-6	Integration Scripts.....	4-9
4-7	Output Measure Data.....	4-11
4-8	Input Measure Data .....	4-11
4-9	Output Measure Data.....	4-12
4-10	Input Measure Data .....	4-12
5-1	CLND Hierarchy in the RO Configuration .....	5-2
5-2	PROD Hierarchy in the RO Configuration .....	5-5
5-3	LOC hierarchy in the RO configuration .....	5-6
5-4	Warehouse Hierarchy in the RO Configuration.....	5-7
5-5	Subgroup Hierarchy in the RO Configuration .....	5-7
5-6	Store APC Group Hierarchy in the RO Configuration.....	5-7
5-7	Warehouse APC Group Hierarchy in the RO Configuration.....	5-8
5-8	Store Scenario Hierarchy in the RO Configuration.....	5-8
5-9	WHS Hierarchy in the RO Configuration .....	5-8
5-10	Frontier Data Point Hierarchy in the RO Configuration.....	5-9

5-11	Break Point Hierarchy in the RO Configuration .....	5-9
5-12	KEK Hierarchy in the RO Configuration .....	5-9
5-13	PI Hierarchy in the RO Configuration.....	5-9
6-1	Fields in the Size Opt Params Window .....	6-2
7-1	Directories Used by Batch Scripts.....	7-1
7-2	Batch Script Summary .....	7-2





---

---

## Send Us Your Comments

*Oracle Retail Replenishment Optimization Implementation Guide, 13.2.1*

Oracle welcomes customers' comments and suggestions on the quality and usefulness of this document.

Your feedback is important, and helps us to best meet your needs as a user of our products. For example:

- Are the implementation steps correct and complete?
- Did you understand the context of the procedures?
- Did you find any errors in the information?
- Does the structure of the information help you with your tasks?
- Do you need different information or graphics? If so, where, and in what format?
- Are the examples correct? Do you need more examples?

If you find any errors or have any other suggestions for improvement, then please tell us your name, the name of the company who has licensed our products, the title and part number of the documentation and the chapter, section, and page number (if available).

---

---

**Note:** Before sending us your comments, you might like to check that you have the latest version of the document and if any concerns are already addressed. To do this, access the new Applications Release Online Documentation CD available on My Oracle Support and [www.oracle.com](http://www.oracle.com). It contains the most current Documentation Library plus all documents revised or released recently.

---

---

Send your comments to us using the electronic mail address:

[retail-doc\\_us@oracle.com](mailto:retail-doc_us@oracle.com)

Please give your name, address, electronic mail address, and telephone number (optional).

If you need assistance with Oracle software, then please contact your support representative or Oracle Support Services.

If you require training or instruction in using Oracle software, then please contact your Oracle local office and inquire about our Oracle University offerings. A list of Oracle offices is available on our Web site at [www.oracle.com](http://www.oracle.com).





---

---

# Preface

The *Oracle Retail Replenishment Optimization Implementation Guide* describes post-installation tasks that need to be performed in order to bring Replenishment Optimization online and ready for production use.

## Audience

This Implementation Guide is intended for the Replenishment Optimization application integrators and implementation staff, as well as the retailer's IT personnel. This guide is also intended for business analysts who are looking for information about processes and interfaces to validate the support for business scenarios within Replenishment Optimization and other systems across the enterprise.

## 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.

## Related Documents

For more information, see the following documents in the Oracle Retail Replenishment Optimization 13.2.1 documentation set:

- *Oracle Retail Replenishment Optimization Release Notes*
- *Oracle Retail Replenishment Optimization Installation Guide*

## Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:

<https://support.oracle.com/>

When contacting Customer Support, please provide the following:

- 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

## Review Patch Documentation

When you install the application for the first time, you install either a base release (for example, 13.1) or a later patch release (for example, 13.1.2). If you are installing the base release, additional patch, and bundled hot fix releases, read the documentation for all releases that have occurred since the base release before you begin installation. Documentation for patch and bundled hot fix releases can contain critical information related to the base release, as well as information about code changes since the base release.

## Oracle Retail Documentation on the Oracle Technology Network

Documentation is packaged with each Oracle Retail product release. Oracle Retail product documentation is also available on the following Web site:

[http://www.oracle.com/technology/documentation/oracle\\_retail.html](http://www.oracle.com/technology/documentation/oracle_retail.html)

(Data Model documents are not available through Oracle Technology Network. These documents are packaged with released code, or you can obtain them through My Oracle Support.)

Documentation should be available on this Web site within a month after a product release.

# Conventions

The following text conventions are used in this document:

Convention	Meaning
<b>boldface</b>	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
<code>monospace</code>	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.



---

# Introduction

The primary goal of Replenishment Optimization (RO) is to harness the replenishment methods available in the client's replenishment system. To make best use of the available replenishment capabilities, RO recommends optimized replenishment parameters at the SKU/location level. The recommendations take into account sales volume, volatility, availability of forecast data, seasonality, client business rules and constraints, and financial objectives to determine the optimized values.

RO automatically monitors item/location demand and supply chain variables to determine the optimal inventory for the greatest return. It recommends replenishment settings, either automatically approving the changes or raising alerts; for example, alerting higher impact items. The optimal replenishment settings recommended by Oracle Retail Replenishment Optimization may be used to update Oracle Retail Advanced Inventory Planning (AIP) replenishment parameters or the retailer's legacy replenishment system. For a more detailed overview of the functionality within RO, see the *Oracle Retail Replenishment Optimization User Guide*.

## Contents of This Guide

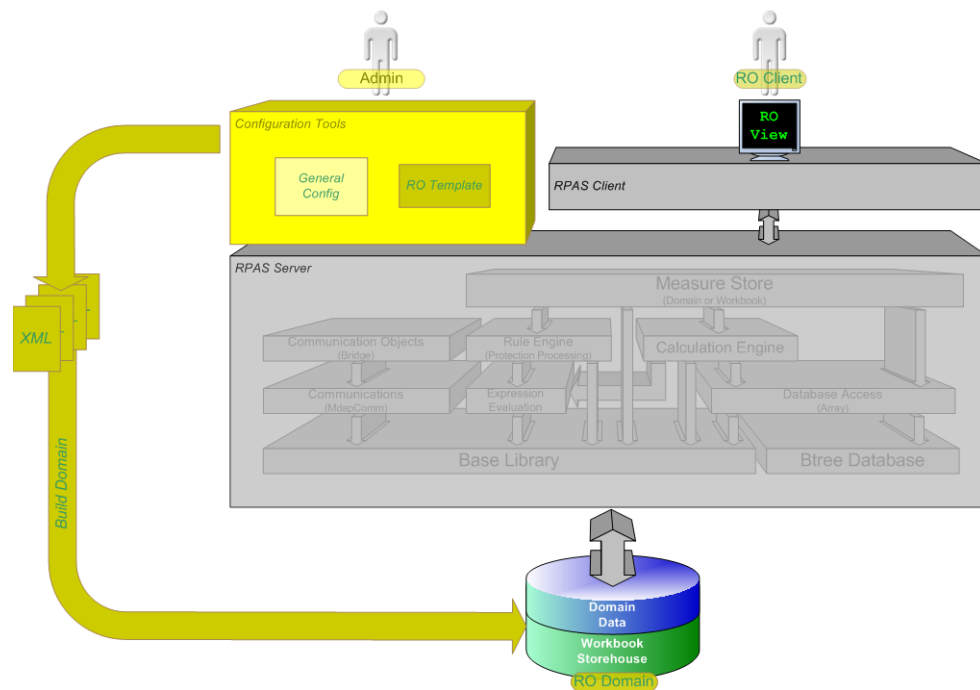
This implementation guide addresses the following topics:

- [Chapter 1, "Introduction"](#): Overview of the RO business workflow and skills needed for implementation.
- [Chapter 2, "Implementation Considerations"](#): Explanation of the factors to take into consideration before performing the implementation.
- [Chapter 3, "Build Scripts"](#): Information on building and patching the RO RPAS domain.
- [Chapter 4, "Integration"](#): Overview of the Integrated Inventory Planning Suite integration, a detailed review of the Analytic Parameter Calculator for Replenishment Optimization (APC RO) integration, and integration configuration.
- [Chapter 5, "Configuration Considerations"](#): Information on the functional changes or enhancements that can be made for RO.
- [Chapter 6, "Configuring the RO Solution"](#): Information on the RO plug-in that is available for automating the steps required for configuration.
- [Chapter 7, "Batch Processing"](#): Explanation of batch scheduling and batch designs.
- [Chapter 8, "Internationalization"](#): Translations provided for RO.

## RO and the Oracle Retail Enterprise

Figure 1–1 shows the architecture of RO and the Oracle Retail Predictive Application Server (RPAS).

**Figure 1–1 RO and the Oracle Retail Enterprise**



This diagram describes the RO template application. In the truest sense, RO and other templates are not applications in the same way that the RPAS client is an application, since end users are not presented a user interface specific to the template. The RO and other templates are the predefined means to view specific types of data in the domain such that the RPAS client user interface is used to read from and write to the domain.

The system administrator responsible for maintaining the RPAS Configuration Tools ensures that the appropriate templates are available. Each template has the following associated information to define its predefined attributes:

- Measures
- Special expressions
- Rules
- Workbook layout

A client requests use of one of the templates by using the Configuration Tools. A number of XML files are then output, which define the domain to be created. These XML files are used to build the specified domain, incorporating all the attributes mentioned above that have been defined specifically.

Once the domain has been created, the end user can access the domain data through the RPAS client.

## Business Process Workflows

This section describes the business process workflows needed to execute and maintain the RO environment.

For additional information about RO batch scripts, refer to [Chapter 7, "Batch Processing"](#).

### APC RO Data Load Process

APC RO provides numerous measure data files to RO. These hierarchy files can be generated using the APC RO measure data files.

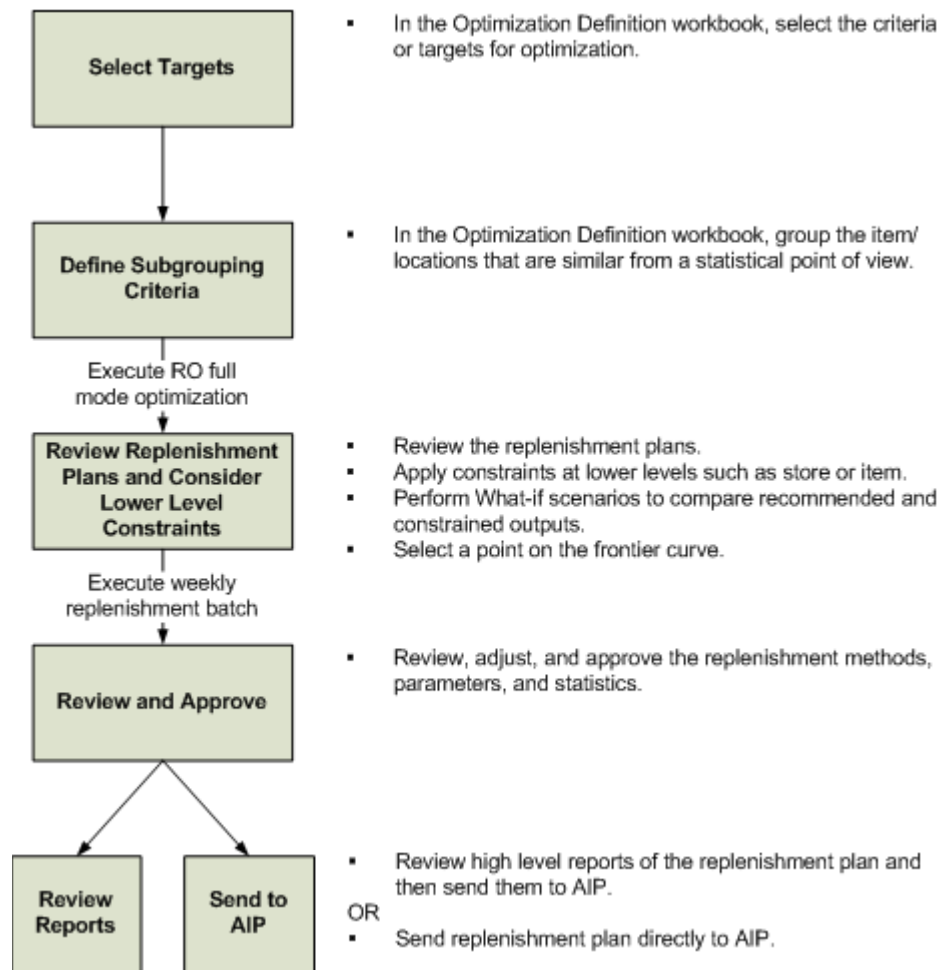
For additional information on the APC RO Data Load process, see "[APC RO Data Load Process](#)" on page 4-6.

### Full Mode Optimization

When RO is first implemented, it is expected that full mode optimization and replenishment are run for every optimization partition.

The full mode optimization can be run quarterly.

[Figure 1–2](#) shows the workflow for the full mode batch of RO.

**Figure 1–2 Full Mode Optimization Batch Process Workflow**

### Full Mode Optimization Process Steps

Following the steps below, perform full mode optimization when RO is first configured or when a major change to the replenishment plan is necessary.

1. Create the Optimization Definition workbook.

Action	Description
A	Set the optimization mode to full mode for everything.
B	Set subgroup criteria.
C	Set optimization parameters.
D	Commit the changes to domain.

2. Run the optimization batch.

For...	Script Name
Store optimization	ro_optbatch_str.ksh
Warehouse optimization	ro_optbatch_wh.ksh



3. Create the Optimization Review workbook. Review the optimization batch results and select the targeted point along the inventory cost trade-off curve. Approve the user-selected replenishment scenarios.
4. Run the replenishment batch process using the approved scenario.

For...	Script Name
Store optimization	ro_replbatch_str.ksh
Warehouse optimization	ro_replbatch_wh.ksh

5. Open the replenishment workbooks, review results from replenishment batch process, and approve the system recommended settings.

---

**Note:** If you do not approve of the results from the system recommended settings, you can input user override, perform what-if analysis, and approve override settings.

---

6. Run the report batch so the results are viewable from ODI.

For...	Script Name
Store optimization	ro_reportbatch_str.ksh
Warehouse optimization	ro_reportbatch_wh.ksh

7. Export to AIP.

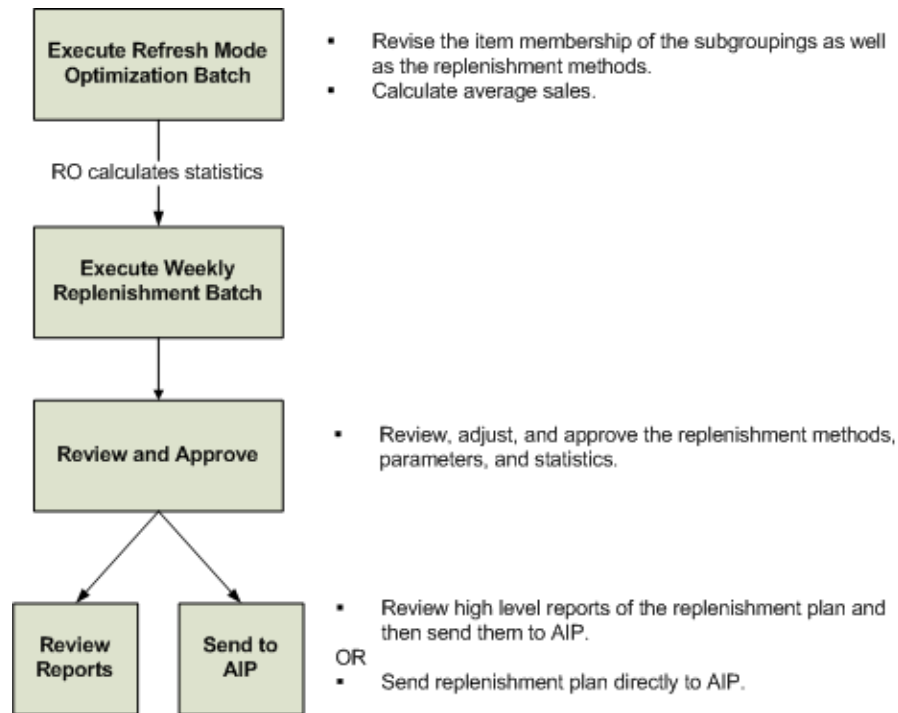
For...	Script Name
Store optimization	ro_export_to_aip.sh
Warehouse optimization	ro_export_to_aip_wh.sh

## Refresh Mode Batch Optimization

Run refresh mode batch optimization to maintain the RO environment.

Refresh mode batch optimization can be run weekly.

Figure 1–3 shows the workflow for the weekly refresh mode batch of RO.

**Figure 1–3 Refresh Batch Optimization Process Workflow**

### Refresh Mode Batch Optimization Process Steps

Following the steps below, perform refresh mode batch optimization to maintain the RO environment.

1. Create an Optimization Definition workbook.

Action	Description
A	Set the optimization mode to refresh mode.
B	Commit the changes to the domain

2. Run the optimization batch.

For...	Script Name
Store optimization	ro_optbatch_str.ksh
Warehouse optimization	ro_optbatch_wh.ksh

3. Run the replenishment batch process using the approved scenario.

For...	Script Name
Store optimization	ro_replbatch_str.ksh
Warehouse optimization	ro_replbatch_wh.ksh

4. Open the replenishment workbooks, review results from replenishment batch process, and approve the system recommended settings.

---

**Note:** If you do not approve of the results from the system recommended settings, you can input user override, perform what-if analysis, and approve override settings.

---

5. Run the report batch so the results are viewable from ODI.

For...	Script Name
Store optimization	ro_reportbatch_str.ksh
Warehouse optimization	ro_reportbatch_wh.ksh

6. Export to AIP.

For...	Script Name
Store optimization	ro_export_to_aip.sh
Warehouse optimization	ro_export_to_aip_wh.sh

## Skills Needed for Implementation

The implementer needs an understanding of the following applications and technical concepts.

### Applications

The implementer should understand the interface requirements of the integrated applications and data sources for the master data, demand, and inventory history. For the Integrated Inventory Planning Suite, the implementer needs this knowledge for the following applications:

- Oracle Retail Analytic Parameter Calculator Replenishment Optimization
- Oracle Retail Advanced Inventory Planning
- Oracle Retail Demand Forecasting

### Technical Concepts

The implementer should understand the following technical concepts:

- UNIX system administration, shell scripts, and job scheduling
- Performance constraints based on the retailer's infrastructure
- Technical architecture for RO
- Retailer's hierarchical (SKU/store/day) data
- RO batch processes
- How to set up an RPAS domain
- RPAS configuration and how to use the RPAS Configuration Tools

- Working of RPAS rule language
- Measures and dimension constructs
- Basic merchandising
- Basic forecasting

---

## Implementation Considerations

The following information needs to be considered before implementing RO:

- [Historical Data](#)
- [Domain Partitioning](#)
- [Formatting](#)
- [Plug-ins](#)
- [Patch Considerations](#)
- [Batch Scheduling](#)
- [Security](#)
- [Internationalization](#)

### Historical Data

It is recommended that you have at least two years of historical sales and inventory data for creating replenishment optimization plans. Less data can be used; but the more data that is available, the more statistical significance can be given to replenishment optimization.

### Domain Partitioning

Partitioning is done to avoid contention for resources. Building a workbook and committing data are two processes that can cause contention.

How data is partitioned has an impact on the business process. The RO domain is defined as a global domain. For performance reasons, a simple domain is not recommended. There should be an even distribution of users across a set of local domains. For example, separate domains for men's merchandise, women's merchandise, and children's merchandise. When a user is committing data in the men's merchandise domain, this will not affect the users in the women's or children's domain because of the use of partitioning.

Consider the following questions when defining the partitioning of the domain:

- How do I partition to meet my business needs?
- How do I partition my users?
- How do I create groups of users to further partition the solution?

Domain partitioning is supported on any dimension of the Product (PROD) hierarchy and any dimension of the Location (LOC) hierarchy if the optimization level is below partition. These hierarchies are standard RPAS hierarchies.

---

**Note:** The partitioning level in the RO configuration is PGRP, which is labeled Group. It is recommended that this not be changed.

---

In the GA configuration, Group is a dimension label. The group dimension is a regular dimension in the product hierarchy, which the customer can rename or delete. One of the major purposes of partitioning in RO is to facilitate the parallelization of the batch process.

## Formatting

Formatting can be done in the configuration or the workbook after the domain is built.

- An implementer can create generic styles for the measures and assign them to measure components or realized measures. For each measure, these styles can be overridden on each workbook template. Formatting can only be changed by using the RPAS Configuration Tools. For more information, see the *Oracle Retail Predictive Application Server Configuration Tools User Guide*.
- Once the domain is built, the implementer can set up worksheet sizes and placements, exception value formatting, gridlines, and other formatting. The implementer instantiates a workbook of the template to set up specific formatting by using the Format menu. The updated format is then saved to the template so that it is available to all users for any newly created workbooks. For information on how to use the Format menu, see the *Oracle Retail Predictive Application Server User Guide*.

## Plug-ins

Plug-ins are application-specific Java code modules that run inside and automate the RPAS Configuration Tools to assist the implementer with specific application configuration. There are rules that an implementer must follow when configuring an application. A plug-in makes such adherence easier by automating parts of the configuration process and validity-checking entries that are made.

An RO plug-in is available for automating the steps required for configuration. For information on the RO plug-in, see [Chapter 6, "Configuring the RO Solution"](#).

## Patch Considerations

With a new release, there are two types of patches that can affect the RO RPAS domain:

- Changes to the code in the RPAS libraries  
The configuration is not affected by this type of patch. For these types of changes, applying the patch is a straightforward process.
- Changes to the configuration  
These types of changes can be more complex. If a retailer has customizations in the configuration, the customizations must be redone on the new configuration before the patch is installed.

## Batch Scheduling

Batch scripts are lists of commands or jobs executed without human intervention. A batch window is the time frame in which the batch process must run. It is the upper limit on how long the batch can take. Batch scripts are used for importing and exporting data and for generating size profiles. The retailer needs to decide the best time for running batch scripts within the available batch window.

The retailer should also determine how often the sales and inventory data needs to be uploaded.

## Security

To define workbook template security, the system administrator grants individual users, or user groups, access to specific workbook templates. Granting access to workbook templates provides users the ability to create, modify, save, and commit workbooks for the assigned workbook templates. Users are typically assigned to groups based on their user application (or solution) role. Users in the same group can be given access to workbook templates that belong to that group alone. Users can be assigned to more than one group and granted workbook template access without belonging to the user group that typically uses a specific workbook template. Workbook access is either denied, read-only, or full access. Read-only access allows a user to create a workbook for the template, but the user can not edit any values or commit the workbook. The read-only workbook can be refreshed.

When users save a workbook, they assign one of three access permissions to the workbook:

- World — Allow any user to open and edit the workbook.
- Group — Allow only those users in their same group to open and edit the workbooks.
- User — Allow no other users to open and edit the workbook.

---

**Note:** A user must have access to the workbook template in order to access the workbook, even if the workbook has world access rights.

---

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

## Internationalization

For more information on translation for RO, see [Chapter 8, "Internationalization"](#).





---

## Build Scripts

This chapter describes the set up that must be done before building the RO RPAS domain and the batch script that must be executed to build the domain.

### Installation Dependencies

RPAS and RO must be installed before setting up and configuring RO.

- For information on installing RPAS, see the *Oracle Retail Predictive Application Server Installation Guide for the Classic Client*.
- For information on installing RO, see the *Oracle Retail Replenishment Optimization Installation Guide*.

### Environment Setup

Before downloading the installation package to the UNIX server, a central directory structure to support the environment needs to be created. This central directory is referred to in this document as `<ro_directory>`. The UNIX user performing the installation needs to set up an environment variable called `RO_HOME` in the user's profile:

```
export RO_HOME=<full path name to RO home>
```

### RPAS Installation

The Java-based RPAS installation programs that are included with the installation package are used to install the server-side RPAS components on UNIX operating systems.

The RPAS installer performs the following functions:

- Installs the RPAS server
- Installs the Configuration Tools on the server
  - On Windows, an InstallShield package is used to install the Configuration Tools.
- Defines the DomainDaemon port

## RO Installation

In addition to the RPAS installer, the installation package also includes the Java-based RPAS installation program for the RO application.

The RO installer performs the following functions:

- Downloads the configuration and batch scripts into the <ro\_directory>/Config and <ro\_directory>/bin directories
- Downloads a set of sample hierarchy and data files into the <ro\_directory>/TestInputNT directory
- Builds a sample domain at one of these locations:

Path	Use
<ro_directory>/domain/RO_CCIO	Store Level RO Domain
<ro_directory>/domain/RO_Warehouse	Warehouse Level RO Domain
<ro_directory>/domain/RO_NTIER	Multi-tier RO Domain

### Custom Domain Build

To do a custom build of a domain:

1. Update the globaldomainconfig.xml file with the correct domain paths.
2. If needed, update the default environment variables in ro\_environment.sh.
3. Execute the buildRO.sh script:

```
./buildRO.sh
```

After the first time buildRO.sh is executed, an error may occur when it tries to remove the old log file because a log file does not yet exist.

## Environment Variables

In addition to the regular RPAS environment variables, including RPAS\_HOME, you need to set up the following environment variables and export them:

- **RPAS\_JAVA\_CLASSPATH**

This is the path to the RO JAVA libraries. It should appear as follows:  
\$RPAS\_HOME/applib/aaiReplenOpt.jar:\$RPAS\_HOME/applib/aaijni.jar

---

**Note:** For Windows platforms, use a semicolon instead of a semicolon in RPAS\_JAVA\_CLASSPATH.

---

- **RIDE\_HOME**

This is the full directory path to where the RPAS Configuration Tools were installed.

- **RO\_HOME**

This is the central directory structure to support the environment.

- **RO\_DOMAIN**

This is the full directory path of your domain.

- **PATH**

Include \$RPAS\_HOME/bin, \$RO\_HOME/bin, and \$RIDE\_HOME/bin in the path.

- **JAVA\_HOME#**

This is the location of the Java directory.

- **LD\_LIBRARY\_PATH**

This is valid for the Oracle Solaris and Linux platforms.

For...	Path
Oracle Solaris	LD_LIBRARY_PATH=\$JAVA_HOME/jre/lib/sparc/client:\$LD_LIBRARY_PATH
Linux	LD_LIBRARY_PATH=\$JAVA_HOME/jre/bin:\$JAVA_HOME/jre/lib/amd64/server:\$LD_LIBRARY_PATH

- **LIBPATH**

This is valid only for the AIX machine.

For...	Path
AIX 5.3	LIBPATH=\$JAVA_HOME/jre/bin:\$JAVA_HOME/jre/bin/j9vm:\$LIBPATH
AIX 6.1	LIBPATH=\$JAVA_HOME/jre/bin:\$JAVA_HOME/jre/bin/classic:\$JAVA_HOME/jre/bin/j9vm:\$LIBPATH

- **SHLIB\_PATH**

This is valid only for HP/UX.

SHLIB\_PATH=\$JAVA\_HOME/jre/lib/IA64W/server:/opt/aCC/lib:\$SHLIB\_PATH

- **PATH**

This is necessary for every platform. But on NT, there no environment variable for the library load path. Instead, the contents related to library path need to be included in PATH

PATH=\$RPAS\_HOME/lib;\$RPAS\_HOME/applib;\$RIDE\_HOME/lib; \$JAVA\_HOME/bin;\$JAVA\_HOME/lib:\$JAVA\_HOME/bin/client:\$PATH

## Files Needed to Build the RO RPAS Domain

Before the domain is built, the following types of files need to be set up:

- Standard RPAS hierarchy files
- RO-specific hierarchy files
- Data files

## Standard RPAS Hierarchy Files

The following hierarchy files are needed:

- [Calendar \(CLND\) Hierarchy File](#)
- [Product \(PROD\) Hierarchy File](#)
- [Location \(LOC\) Hierarchy File](#)
- [Warehouse \(WHS\) Hierarchy File](#)

---

**Note:** As with all standard RPAS hierarchies, these hierarchies are configurable. For information about configuring these hierarchies, see [Chapter 5, "Configuration Considerations"](#).

---

### Calendar (CLND) Hierarchy File

**File name:** clnd.csv.dat

**File format:** comma-separated values file

[Table 3–1](#) describes the fields in the file:

**Table 3–1 Calendar Hierarchy Fields**

Field	Description
DAY	Day ID
DAY label	Day label
WEEK	Week ID
WEEK label	Week label
MNTH	Fiscal Month ID
MNTH label	Fiscal Month label
QRTR	Fiscal Quarter ID
QRTR label	Fiscal Quarter label
SSN	Fiscal half ID
SSN label	Fiscal half label
YEAR	Fiscal Year ID
YEAR label	Fiscal Year label
DOW	Day of the Week ID
DOW label	Day of the Week label
DOS	Day of the Season ID
DOS label	Day of the Season label
WOY	Week of the Year ID
WOY label	Week of the Year label
WOS	Week of the Season ID
WOS label	Week of the Season label

**Example:**

20091230,12/30/2009,W53\_2009,1/1/2010,DEC\_2009,December, FY  
 2009,Q4\_2009,Quarter 4, FY 2009,S4\_2009,Season 4, FY  
 2009,A2009,FY2009,WED,Wednesday,DOS96,DOS 96,WY53,Week  
 53,WS14,WOS 14

**Product (PROD) Hierarchy File**

**File name:** prod.csv.dat

**File format:** comma-separated values file

[Table 3–2](#) describes the fields in the file:

**Table 3–2 Product Hierarchy Fields**

Field	Description
ITEM	SKU ID
ITEM label	SKU label
ITPT	Item Parent ID
ITPT label	Item Parent label
ITGR	Item Group ID
ITGR label	Item Group label
SCLS	Subclass ID
SCLS label	Subclass label
CLSS	Class ID
CLSS label	Class label
DEPT	Department ID
DEPT label	Department label
PGRP	Group ID
PGRP label	Group label
DVSN	Division ID
DVSN label	Division label
SPLR	Supplier ID
SPLR label	Supplier label
PTD1	Parent Diff1 ID
PTD1 label	Parent Diff1 label
GPD1	Grand Parent Diff1 ID
GPD1 label	Grand Parent Diff1 label
SCD1	Subclass Diff1 ID
SCD1 label	Subclass Diff1 label
CLD1	Class Diff1 ID
CLD1 label	Class Diff1 label
DPD1	Department Diff1 ID
DPD1 label	Department Diff1 label

**Table 3–2 (Cont.) Product Hierarchy Fields**

Field	Description
DIF1	Diff1 ID
DIF1 label	Diff1 label

**Example:**

10772144,LIP COLOR- 31RED:31RED:NONE,10772143,LIP COLOR-  
 31RED,10182143,LIP COLOR-  
 31RED,310,STODA,310,STODA,310,STODA,4500,Group 5,1,All  
 Product,543213759,NORDELL,10182143,LIP COLOR- 31RED,10182143,LIP  
 COLOR- 31RED,310,STODA,310,STODA,310,STODA,\_sml,Small

10184464,LIP ROUGE- 01PUCKER:01PUCKER:NONE,10184463,LIP ROUGE-  
 01PUCKER,10182163,LIP ROUGE-  
 01PUCKER,310,STODA,310,STODA,310,STODA,4500,Group 5,1,All  
 Product,553213760,NORDELL,10182163,LIP ROUGE-  
 01PUCKER,10182163,LIP ROUGE-  
 01PUCKER,310,STODA,310,STODA,310,STODA,\_sml,Small

**Location (LOC) Hierarchy File**

**File name:** loc.csv.dat

**File format:** comma-separated values file

Table 3–3 describes the fields in the file:

**Table 3–3 Location Hierarchy Fields**

Field	Description
STR	Store ID
STR label	Store label
DSTR	District ID
DSTR label	District label
REGN	Region ID
REGN label	Region label
AREA	Area ID
AREA label	Area label
CHN	Chain ID
CHN label	Chain label
CMPN	Company ID
CMPN label	Company label
SFMT	Store format ID
SFMT label	Store Format label
STCL	Store class ID
STCL label	Store class label

**Example:**

```
769,store number 769,769,store number 769,3,region number
3,3,region number 3,3,region number 3,200,Company 1,0,0,A,A
771,store number 771,771,store number 771,3,region number
3,3,region number 3,3,region number 3,200,Company 1,0,0,A,A
```

**Warehouse (WHS) Hierarchy File****File name:** whs.csv.dat**File format:** comma-separated values file

Table 3–4 describes the fields in the file:

**Table 3–4 Warehouse Hierarchy Fields**

Field	Description
WRHS	Warehouse ID
WRHS label	Warehouse label
WHGP	Warehouse Group
WHGP label	Warehouse Group label

**Example:**

```
east, east warehouse
west, west warehouse
```

**RO Hierarchy Files**

The following are required hierarchy files needed for RO:

- Subgroup Hierarchy File
- Store APC Group Hierarchy File
- Warehouse APC Group Hierarchy File
- Store Scenario Hierarchy File
- Warehouse Scenario Hierarchy File
- Frontier Data Point Hierarchy File
- Break Point Hierarchy File
- KEK Hierarchy File
- PI Hierarchy File

### Subgroup Hierarchy File

For a description of this hierarchy structure, see [Subgroup Hierarchy File](#) on page 5-7.

**File name:** subg.csv.dat

**File format:** comma-separated values file

[Table 3–5](#) describes the fields in the file:

**Table 3–5 Subgroup Hierarchy Fields**

Field	Description
SGRP	Subgroup ID
SGRP label	Subgroup label

**Example:**

```
48, subgroup 48
```

```
49, subgroup 49
```

### Store APC Group Hierarchy File

This hierarchy file is generated from APC RO data files. For a description of the file generation, see [APC RO Data Load Process](#) on page 4-6.

**File name:** apcg.csv.dat

**File format:** comma-separated values file

[Table 3–6](#) describes the fields in the file:

**Table 3–6 Store APC Group Hierarchy Fields**

Field	Description
AGRP	APC Group ID
AGRP label	APC Group label

**Example:**

```
48, store APC group 48
```

```
49, store APC group 49
```

### Warehouse APC Group Hierarchy File

This hierarchy file is generated from APC RO data files. For a description of the file generation, see [APC RO Data Load Process](#) on page 4-6.

**File name:** wapg.csv.dat

**File format:** comma-separated values file

[Table 3–7](#) describes the fields in the file:

**Table 3–7 Warehouse Group Hierarchy Fields**

Field	Description
WAGP	Warehouse Group ID
WAGP label	Warehouse Group label



**Example:**

```
48, warehouse APC group 48
49, warehouse APC group 49
```

**Store Scenario Hierarchy File**

This hierarchy file is generated from APC RO data files. For a description of the file generation, see [APC RO Data Load Process](#) on page 4-6.

**File name:** scn.csv.dat

**File format:** comma-separated values file

[Table 3–8](#) describes the fields in the file:

**Table 3–8 Store Scenario Hierarchy Fields**

Field	Description
SCNO	Scenario ID
SCNO label	Scenario label

**Example:**

```
48, store scenario 48
49, store scenario 49
```

**Warehouse Scenario Hierarchy File**

This hierarchy file is generated from APC RO data files. For a description of the file generation, see [APC RO Data Load Process](#) on page 4-6.

**File name:** wscn.csv.dat

**File format:** comma-separated values file

[Table 3–9](#) describes the fields in the file:

**Table 3–9 Warehouse Scenario Hierarchy Fields**

Field	Description
WSNO	Warehouse Scenario ID
WSNO label	Warehouse Scenario label

**Example:**

```
48, warehouse scenario 48
49, warehouse scenario 49
```

### Frontier Data Point Hierarchy File

For a description of this hierarchy structure, see [Frontier Data Point Hierarchy File](#) on page 5-8.

**File name:** fcdp.csv.dat

**File format:** comma-separated values file

[Table 3–10](#) describes the fields in the file:

**Table 3–10 Frontier Data Point Hierarchy Fields**

Field	Description
FCPT	Frontier data point ID
FCPT label	Frontier data point label

**Example:**

```
00198,points 00198
```

```
00199,points 00199
```

### Break Point Hierarchy File

For a description of this hierarchy structure, see [Break Point Hierarchy File](#) on page 5-9.

**File name:** brkp.csv.dat

**File format:** comma-separated values file

[Table 3–11](#) describes the fields in the file:

**Table 3–11 Break Point Hierarchy Fields**

Field	Description
BKPT	Break point ID
BKPT label	Break point label

**Example:**

```
08, break point 8
```

```
09, break point 9
```

### KEK Hierarchy File

For a description of this hierarchy structure, see [KEK Hierarchy File](#) on page 5-9.

**File name:** kek.dat

**File format:** comma-separated values file

[Table 3–12](#) describes the fields in the file:

**Table 3–12 KEK Hierarchy Fields**

Field	Description
EW	KEK ID
EW label	KEK label

**Example:**

204,e\_204

**PI Hierarchy File**

For a description of this hierarchy structure, see [PI Hierarchy File](#) on page 5-9.

**File name:** pi.dat

**File format:** comma-separated values file

[Table 3-13](#) describes the fields in the file:

**Table 3-13 Demand Group Hierarchy Fields**

Field	Description
PIK	PI ID
PIK label	PI label

**Example:**

pi098,pi\_98

pi099,pi\_99

**Required Data Files for Store Optimization**

The following data files are required for store optimization:

**Measures from a Merchandising or Replenishment System for Store Optimization**


---

**Note:** All measures are in comma-separated values file format.

---

**Table 3-14 Measures from a Merchandising or Replenishment System for Store Optimization**

Name	Filename	Required/Optional	Example
<b>Item/store/week</b>			
Weekly sales: actual sales at store	actsalsr.csv.ovr	Required	20091231,769,10772144,50.00
Weekly sales: cloned sales at store	clonesalsr.csv.ovr	Optional	20091231,769,10772144,50.00
Weekly on hand inventory	wklyinv_ohusr.csv.ovr	Required	20091231,769,10772144,50.00
Weekly on order inventory	wklyinv_oousr.csv.ovr	Optional	20091231,769,10772144,60.00
Weekly order unit	wklyorderusr.csv.ovr	Optional	20091231,769,10772144,45.00
Weekly lost sales units	wklylostslsusr.csv.ovr	Optional	20091231,769,10772144,10.00
<b>Item/store</b>			
Price	gpricesr.csv.ovr	Required	769,10772144,29.99
Cost	gcostsr.csv.ovr	Required	769,10772144,14.99
Packsize	aipintxitem_str.csv.ovr	Optional	769,10772144,12

**Table 3–14 (Cont.) Measures from a Merchandising or Replenishment System for Store Optimization**

Name	Filename	Required/Optional	Example
PresentationStock	gpresstocksr.csv.ovr	Optional	769,10772144,20
Leadtime	aipintxitem_str.csv.ovr	Required	769,10772144,7
Reviewtime	aipintxitem_str.csv.ovr	Required	769,10772144,7
Rounding threshold	ground_thrshsr.csv.ovr	Optional	769,10772144,5
Space per unit	spaceissr.csv.ovr	Optional	769,10772144,20
Forecast Item Flag	frcstflagsr.csv.ovr	Required	769,10772144,true

### Measures from a Demand Forecasting Application for Store Optimization

**Note:** All measures are in comma-separated values file format.

**Table 3–15 Measures from a Demand Forecasting Application for Store Optimization**

Name	Filename	Required/Optional	Example
<b>Item/store/week</b>			
Weekly forecast	wklyfcstusr.csv.ovr	Required	20091231,769,10772144,50.00
Weekly cumint	wklycumintsr.csv.ovr	Required	20091231,769,10772144,75.00

### Measures from APC RO for Store Optimization

**Table 3–16 Measures from APC RO for Store Optimization**

Name	Filename
<b>Store Scenario</b>	
Replenishment method	rplmthscnsr.csv.ovr, string type
Replenishment parameter 1	rplparm1scnsr.csv.ovr
Replenishment parameter 2	rplparm2scnsr.csv.ovr
Replenishment auxiliary parameter 1	auxparm1scnsr.csv.ovr
Replenishment auxiliary parameter 2	auxparm2scnsr.csv.ovr
Scenario priority	priorityscnsr.csv.ovr
<b>Store APC group</b>	
APC group leadtime lower bound	apcltlbagsr.csv.ovr
APC group leadtime upper bound	apcltubagsr.csv.ovr
APC group mean sales lower bound	apcmeanlbagsr.csv.ovr
APC group mean sales upper bound	apcmeanubagsr.csv.ovr
APC group sales variability lower bound	apcvarlbagsr.csv.ovr
APC group sales variability upper bound	apcvarubagsr.csv.ovr
<b>Store APC group/Store Scenario</b>	
Service level	servlevelgssr.csv.ovr

**Table 3–16 (Cont.) Measures from APC RO for Store Optimization**

Name	Filename
Simulated average demand	simavgdmndgssr.csv.ovr
Week of supply	wosgssr.csv.ovr
Average order frequency	avgordfrgssr.csv.ovr
Average order size	avgordsizgssr.csv.ovr
Wastage	simwastegssr.csv.ovr
Stockouts	stkoutnmgssr.csv.ovr
<b>Item/store/store scenario</b>	
Service level	servlevelisssr.csv.ovr
Simulated average demand	simavgdmndisssr.csv.ovr
Weekly of supply	wosisssr.csv.ovr
Average order frequency	avgordfrqisssr.csv.ovr
Average order size	avgordsizisssr.csv.ovr
Wastage	simwasteisssr.csv.ovr
Stockouts	stkoutnmisssr.csv.ovr

## Required Data Files for Warehouse Optimization

The following data files are required for warehouse optimization:

### Measures from a Merchandising or Replenishment System for Warehouse Optimization

**Note:** All measures are in comma-separated values file format.

**Table 3–17 Measures from a Merchandising or Replenishment System for Warehouse Optimization**

Name	Filename	Required/Optional	Example
<b>Item/warehouse/week</b>			
Weekly sales: actual sales at warehouse	actsalwh.csv.ovr	Required	20091231,12,10772144,500.00
Weekly sales: cloned sales at warehouse	clonesalwh.csv.ovr	Optional	20091231,12,10772144,500.00
Weekly on hand inventory	wklyinv_ohuwh.csv.ovr	Required	20091231,12,10772144,500.00
Weekly on order inventory	wklyinv_oouwh.csv.ovr	Optional	20091231,12,10772144,600.00
Weekly order unit	wklyorderuwh.csv.ovr	Optional	20091231,12,10772144,400.00
Weekly lost sales units	wklylostslsuwh.csv.ovr	Optional	20091231,12,10772144,100.00
<b>Item/warehouse</b>			
Price	gpricewh.csv.ovr	Required	12,10772144,29.99

**Table 3–17 (Cont.) Measures from a Merchandising or Replenishment System for Warehouse Optimization**

Name	Filename	Required/Optional	Example
Cost	gcostwh.csv.ovr	Required	12,10772144,14.99
Packsize	aipintxitem_str.csv.ovr	Optional	12,10772144,12.00
PresentationStock	gpresstockwh.csv.ovr	Optional	12,10772144,0
Leadtime	aipintxitem_str.csv.ovr	Required	12,10772144,7
Reviewtime	aipintxitem_dc.csv.ovr	Required	12,10772144,7
Rounding threshold	ground_thrshwh.csv.ovr	Optional	12,10772144,,5
Space per unit	spaceiswh.csv.ovr	Optional	12,10772144,20
Forecast Item Flag	frcstflagwh.csv.ovr	Required	12,10772144,true

### Measures from a Demand Forecasting Application for Warehouse Optimization

**Note:** All measures are in comma-separated values file format.

**Table 3–18 Measures from a Demand Forecasting Application for Warehouse Optimization**

Name	Filename	Required/Optional	Example
<b>Item/warehouse/week</b>			
Weekly forecast	wklyfcstuw.csv.ovr	Required	20091231,12,10772144,500.00
Weekly cumint	wklycumintwh.csv.ovr	Required	20091231,12,10772144,750.00

### Measures from APC RO for Warehouse Optimization

**Table 3–19 Measures from APC RO for Warehouse Optimization**

Name	Filename
<b>Warehouse Scenario</b>	
Replenishment method	rplmthscnwh.csv.ovr, string type
Replenishment parameter 1	rplparm1scnwh.csv.ovr
Replenishment parameter 2	rplparm2scnwh.csv.ovr
Replenishment auxiliary parameter 1	auxparm1scnwh.csv.ovr
Replenishment auxiliary parameter 2	auxparm2scnwh.csv.ovr
Scenario priority	priorityscnwh.csv.ovr
<b>Warehouse APC group</b>	
APC group leadtime lower bound	apcltlbagwh.csv.ovr
APC group leadtime upper bound	apcltubagwh.csv.ovr
APC group mean sales lower bound	apcmeanlbagwh.csv.ovr
APC group mean sales upper bound	apcmeanubagwh.csv.ovr
APC group sales variability lower bound	apcvarlbagwh.csv.ovr
APC group sales variability upper bound	apcvarubagwh.csv.ovr

**Table 3–19 (Cont.) Measures from APC RO for Warehouse Optimization**

Name	Filename
<b>Warehouse APC group/Warehouse Scenario</b>	
Service level	servlevelgswh.csv.ovr
Simulated average demand	simavgdmndgswh.csv.ovr
Week of supply	wosgswh.csv.ovr
Average order frequency	avgordfrgswh.csv.ovr
Average order size	avgordsizgswh.csv.ovr
Wastage	simwastegswh.csv.ovr
Stockouts	stkoutnmgswh.csv.ovr
<b>Item/warehouse/warehouse scenario</b>	
Service level	servlevelisswh.csv.ovr
Simulated average demand	simavgdmndisswh.csv.ovr
Weekly of supply	wosisswh.csv.ovr
Average order frequency	avgordfrqisswh.csv.ovr
Average order size	avgordsizisswh.csv.ovr
Wastage	simwasteisswh.csv.ovr
Stockouts	stkoutnmisswh.csv.ovr

## Required Files for Internal Data

**Note:** This measure is loaded from a fixed width file. The widths of the two fields are 20, and 20 characters, respectively. The entry should be left-justified.

The following internal data files are required and are included in the GA release:

**Table 3–20 Internal Data Files**

Name	Filename	Required/Optional	Example
<b>KEK</b>			
W value	gw_val.csv.ovr	Required	102, 2.4875
Z value	gz_val.csv.ovr	Required	
<b>PI</b>			
Average sales index	gmean_sls_ind.ovr	Required	pi016, 0.16
Safety stocks	gpi_val.ovr	Required	

## Building the RO RPAS Domain

The script used to build or patch the RO RPAS domain is described in this section. The script is located in the `<ro_directory>/bin` directory.

---

**Note:** To patch a domain, use `buildRO.sh` with the `-p` flag as described in [Table 3–21](#).

---

### Batch Designs

This section contains detailed information on the following build scripts:

- [Building a Domain](#)

#### Building a Domain

##### Script

`buildRO.sh`

##### Usage

`buildRO.sh <options -cdil> <flags -gpt>`

**Table 3–21 Domain Descriptions**

Argument	Valid Values	Description
options	c	Configuration directory Default is <code>&lt;ro_directory&gt;/config</code>
	d	Domain path Default is <code>&lt;ro_directory&gt;/domain</code>
	i	Input directory Default is <code>&lt;ro_directory&gt;/input</code>
	l	Log directory Default is <code>&lt;ro_directory&gt;/logs</code>
flags	g	Set this flag to use debug function libraries.
	p	Set this flag to make a patch build.
	t	Set this flag to make a test build.

#### Notes

- The script uses the Configuration Tools `rpasInstall` utility to build a domain. See the *Oracle Retail Predictive Application Server Administration Guide for the Classic Client* for details on this utility.
- The script also uses the `mace` and `loadmeasure` RPAS utilities. See the *Oracle Retail Predictive Application Server Administration Guide for the Classic Client* for details on these utilities.
- All hierarchy and measure files are placed in `$RO_HOME/input`.



## Loading and Extracting Data

Data is loaded into RO using the standard RPAS approach. See the *Oracle Retail Predictive Application Server Administration Guide for the Classic Client* for details on formatting the load data files and on the utilities that enable administrators to load data into RPAS. For information on integration scripts, see [Chapter 4, "Integration"](#). For information on any other batch scripts, see [Chapter 7, "Batch Processing"](#).

Add each hierarchy or data load. To synchronize the data in the domain, run the four rule groups listed below.

### Store Optimization

- `mace -d $MASTER_RO_DOMAIN -run -group post_gdataloadsr`
- `post_gdataloadsr` need to be run from master domain
- `mace -d $SUB_DOMAIN -run -group post_dataloadSr`
- `post_dataloadSr` need to be run from each sub domain

### Warehouse Optimization

- `mace -d $MASTER_RO_DOMAIN -run -group post_gdataloadWh`
- `post_gdataloadWh` need to be run from master domain
- `mace -d $SUB_DOMAIN -run -group post_dataloadWh`
- `post_dataloadWh` need to be run from each sub domain



This chapter describes the following information:

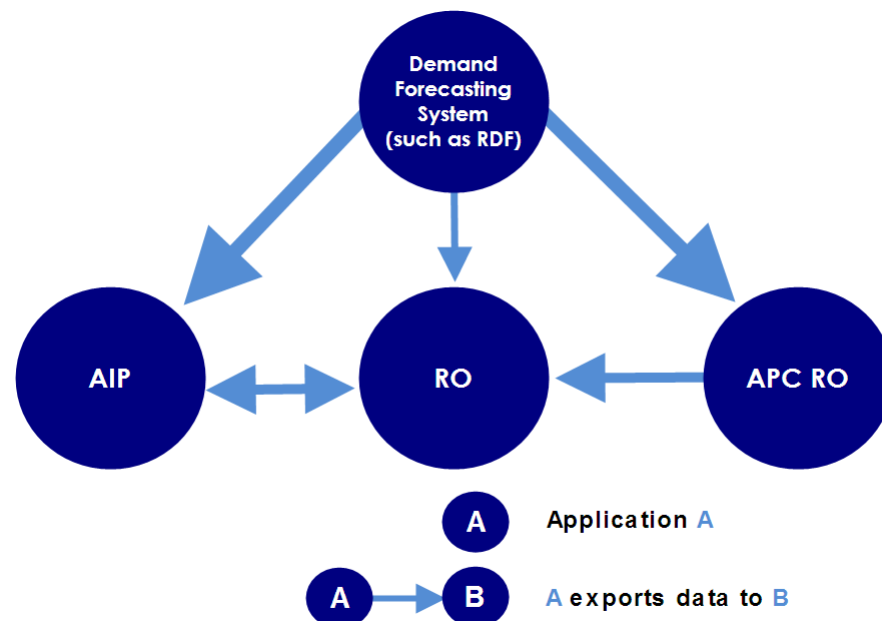
- Overview of the Integrated Inventory Planning Suite
- Overview of the Analytic Parameter Calculator for Replenishment Optimization (APC RO) and RO Integration
- Integration Configuration
- Export to Merchandise System

## Overview of the Integrated Inventory Planning Suite

The Integrated Inventory Planning Suite is the integration of Demand Forecasting (RDF), Advanced Inventory Planning (AIP), Replenishment Optimization (RO), and Analytic Parameter Calculator Replenishment Optimization (APC RO) as a full-suite inventory management solution for retailers.

Figure 4–1 shows the conceptual overview of the integration of these products.

**Figure 4–1** Conceptual Overview



---

**Note:** The integration interface between RDF and AIP is not fully certified.

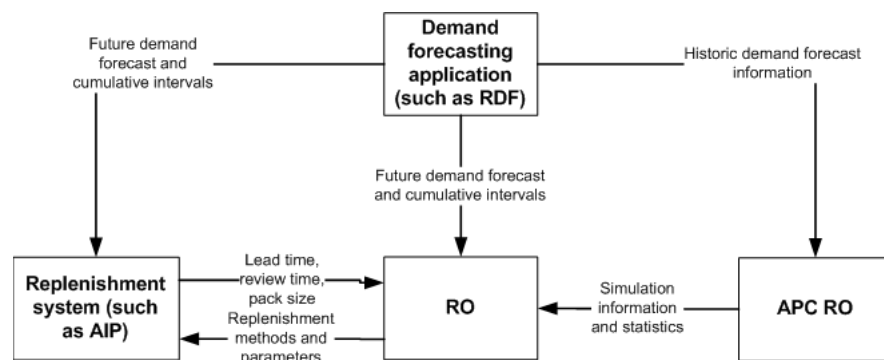
---

This solution supports data sharing among these applications. Note that the data sharing functionality is not dependent on the presence of all these applications. The defined data sharing between any of the applications works for the entire suite as well as for a subset of the applications.

## Integrated Inventory Planning Suite Data Flow

Figure 4–2 shows the integration of the Integrated Inventory Planning Suite applications and the flow of data among those applications. Note that the figure below shows a replenishment system. This can be AIP or any other replenishment system. The demand forecasting application can be RDF or any other forecasting system.

**Figure 4–2 Integrated Inventory Planning Suite Data Flow**




---

**Note:** The integration interface between RDF and AIP is not fully certified.

---

## Data Flow Description

These descriptions explain each of the data flows in Figure 4–2.

### From a Demand Forecasting Application (such as RDF) to APC RO

Sends historic demand forecasts for a forecast horizon for a series of forecast start dates. It sends a separate forecast file for each forecast start date.

### From a Demand Forecasting Application (such as RDF) to a Replenishment System (such as AIP)

- Sends time-phased demand forecasts (starting today and looking forward) at the item/store level.
- Sends the cumulative standard deviation of the forecast. This is needed for the calculation of safety stock.

**From APC RO to RO**

Sends simulation information and statistics:

- Item/location/scenario level information
- Mean/variability/lead time grouping level information
- Mean/variabilitygrouping/lead time/scenario level information
- Scenario level information

**From a Replenishment System (such as AIP) to RO**

- Sends the lead time in flat files. The lead time (or order cycle) pattern generally contains the same lead time on all days that have a lead time; however, the lead time may increase for the weekend. Therefore, the most common lead time is found during the business week.
- Sends the review time in flat files. Review time is the number of days until the next possible receipt. It is a key factor in determining the minimum amount of projected stock that should be available until the next receipt. Because review time can change daily, the minimum available inventory must cover the longest review time in order to avoid stock outs.
- Sends the ordering pack size in flat files. The ordering pack size is the preferred pack size of an item that should be ordered from a source to the destination.

**From a Demand Forecasting Application (such as RDF) to RO**

- Sends time-phased demand forecasts (starting at the current day and looking forward) at the item/store level. This allows the user to understand how the replenishment settings would perform based on that demand.
- Sends the cumulative standard deviation of the forecast. This is needed for the calculation of safety stock.

**From RO to a Replenishment System (such as AIP)**

- Sends the recommended replenishment methods and parameters in flat files based on the schedule that the user sets.
- For AIP specifically, RO performs the necessary transformations needed to convert order-based replenishment parameters to a relevant form before sending it to AIP since AIP is a receipts-based system.

## Overview of the Analytic Parameter Calculator for Replenishment Optimization (APC RO) and RO Integration

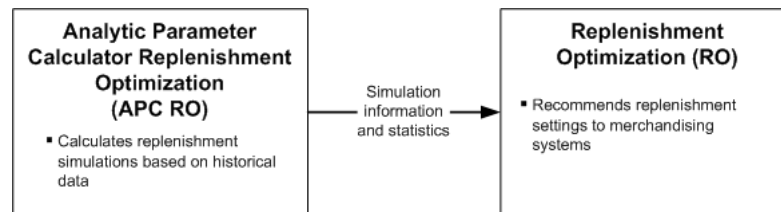
Analytic Parameter Calculator for Replenishment Optimization (APC RO) is an analytical, fact-based application that uses a client's historical sales patterns to perform replenishment simulations and calculate statistics. RO uses the APC RO results to make optimal replenishment recommendations based on specific business goals and retail constraints.

See the APC RO documentation for more information.

### APC RO and RO Data Flow

Figure 4–3 shows the integration of APC RO and RO and the flow of data between them.

**Figure 4–3 APC RO and RO Integration**



### Data Flow Description

These descriptions explain the data flow in Figure 4–3.

---

**Note:** For information on required data files, see [Required Data Files for Store Optimization](#) on page 3-11.

---

#### From APC RO to RO

The following data is imported into RO from APC RO:

- Item/location/scenario level information
- Mean/variability/lead time grouping level information
- Mean/variability grouping/lead time/scenario level information
- Scenario level information

#### Item/Location/Scenario Level Information

**Table 4–1 Item/Location/Scenario Level Data Files**

Name	ETL Name
Store Weeks of Supply Data	wosissr.csv.ovr
Store Service Level Data	servlevelissr.csv.ovr
Store Lead Time Data	gleadtimesr.csv.ovr
Store Simulated Average Demand Data	simavgdmndissr.csv.ovr
Store Average Order Frequency Data	avgordfrqissr.csv.ovr

**Table 4–1 (Cont.) Item/Location/Scenario Level Data Files**

<b>Name</b>	<b>ETL Name</b>
Store Average Order Size Data	avgordsizissr.csv.ovr
Store Number of Stock-outs Data	stkoutnmissr.csv.ovr
Store Average Simulated OUTL Data	simavgoutlissr.csv.ovr
Store Average Simulated OP Data	simavgopissr.csv.ovr
Store Average Wastage Data	simwasteissr.csv.ovr

**Mean/Variability/Lead Time Grouping Level Information****Table 4–2 Mean/Variability/Lead Time Grouping Level Data Files**

<b>Name</b>	<b>ETL Name</b>
Mean Lower Bound Data	apcmeanlbagsr.csv.ovr
Mean Upper Bound Data	apcmeanubagsr.csv.ovr
Variability Lower Bound Data	apcvarlbagsr.csv.ovr
Variability Upper Bound Data	apcvarubagsr.csv.ovr
Lead Time Lower Bound Data	apcltlbagsr.csv.ovr
Lead Time Upper Bound Data	apcltubagsr.csv.ovr

**Mean/Variability Grouping/Scenario Level Information****Table 4–3 Mean/Variability Grouping/Scenario Level Data Files**

<b>Name</b>	<b>ETL Name</b>
Store G/S Weeks of Supply Data	wosgssr.csv.ovr
Store G/S Service Level Data	servlevelgssr.csv.ovr
Store G/S Simulated Average Demand Data	simavgdmndgssr.csv.ovr
Store G/S Average Order Frequency Data	avgordfrqgssr.csv.ovr
Store G/S Average Order Size Data	avgordsizgssr.csv.ovr
Store G/S Number of Stock-outs Data	stkoutnmgssr.csv.ovr
Warehouse G/S WOS Data	whswosgwsr.csv.ovr
Warehouse G/S Simulated Average Issues Data	whssimdmngwsr.csv.ovr
Store G/S Average Simulated OUTL Data	simavgoutlgssr.csv.ovr
Store G.S Average Simulated OP Data	simavgopgssr.csv.ovr
Store G/S Average Wastage Data	simwastegssr.csv.ovr

**Scenario Level Information****Table 4–4 Scenario Level Data Files**

Name	ETL Name
Store Replenishment Method Data	rplmthscnsr.csv.ovr
Store Parameter 1 Data	rplparm1scnsr.csv.ovr
Store Parameter 2 Data	rplparm2scnsr.csv.ovr
Store Auxiliary Parameter 1 Data	auxparm1scnsr.csv.ovr
Store Auxiliary Parameter 2 Data	auxparm2scnsr.csv.ovr

**APC RO Data Load Process**

APC RO provides numerous measure data files to RO. These hierarchy files can be generated using APC RO measure data files.

Perform the APC RO Data Load process when RO is initially configured.

Hierarchy Files	APC RO Measure Data File Name
store replenishment scenario	scn.csv.dat
warehouse replenishment scenario	wscn.csv.dat
store APC-group	apcg.csv.dat
warehouse APC-group	wapg.csv.dat

**Automatic APC RO Data Loading**

To automate the APC RO Data load process, use the script :

```
ro_load_apcro_data.sh
```

This script takes the domain path and output file from APC RO in one of these formats:

- xxx.tar.gz file
- xxx.tar file
- rpas standard .ovr files

The script then extracts the files from archive and performs the steps below in [APC RO Data Load Process Steps](#).

Input Parameters	Description	Use
-d domain_path	Indicates the RO domain path.	Required
-s data_path	Indicates the path location of APC RO data. Data files should be in formats of either: <ul style="list-style-type: none"> <li>■ .gz</li> <li>■ .tar</li> <li>■ rpas standard .ovr</li> </ul>	Required
-P	Indicates whether you want to add <b>-purgeAge 0</b> when performing load hier	Optional



## APC RO Data Load Process Steps

Follow the steps below to implement the APC RO data load process.

There are three scripts under \$RPAS\_HOME/bin necessary to generate RO hierarchy files based on APC RO data:

- gen\_RO\_1d\_hiers\_sr.ksh
- gen\_RO\_1d\_hiers\_wh.ksh
- gen\_1d\_hiers.ksh

The gen\_RO\_1d\_hiers\_sr.ksh generates RO hierarchy files for store. The gen\_RO\_1d\_hiers\_wh.ksh generates RO hierarchy files for warehouse.

1. Run gen\_RO\_1d\_hiers\_sr.ksh and gen\_RO\_1d\_hiers\_wh.ksh from the same directory as the APC RO data files and ensure that these hierarchy files are generated:
  - scn.csv.dat
  - wscn.csv.dat
  - apcg.csv.dat
  - wapg.csv.dat
2. Update these hierarchy files.

---

**Note:** For the hierarchy files below, **-purgeAge 0** is only necessary when the previous positions along the dimension needs to be wiped out. Otherwise, do not use it.

---

Hierarchy Files	File Name
store replenishment scenario	loadHier -d . -load scn -purgeAge 0
warehouse replenishment scenario	loadHier -d . -load wscn -purgeAge 0
store APC-group	loadHier -d . -load apcg -purgeAge 0
warehouse APC-group	loadHier -d . -load wapg -purgeAge 0

3. Load the APC RO measure data files one by one.

**Example:** `loadmeasure -d . -m wosissrr`

## Integration Configuration

The following sections describe the configuration needed for RO:

- [Setting Environment Variables](#)
- [Setting Default Measure Values](#)
- [Integration Scripts](#)
- [Batch Environment Scripts](#)
- [Using runBatch](#)
- [Batch Designs](#)
- [RO Stores Data Mapping](#)

## Setting Environment Variables

After RO is installed, define the environment variables that RO needs to execute.

### **ro\_environment.sh**

The variables displayed in [Table 4–5](#) need to be defined properly.

**Table 4–5 Environment Variables**

Environment Variable	Description
RO_DOMAIN	The location of the RO domain. The default is set to the value set in TEST_RO_DOMAIN.
RO_CONTROL_FILES	The location of control files for this interface. The default is set to \${RO_DOMAIN}/control_files.
RO_TEMP_DIR	This should be a writable path. Use of /tmp is discouraged due to the typical small size of this partition on UNIX machines.
RO_LOG_HOME	The location of log files. The default is set to \${RO_DOMAIN}/logs.
RO_LOG_LEVEL	The default is set to ERROR if \$RPAS_LOG_LEVEL is not specified.
RO_FILE_TYPE	Format of files can be either CSV or TXT. The default is set to CSV.
AIP_INPUT	The location of input files coming from AIP. The default is \${RO_DOMAIN}/interface/aip/input.
AIP_OUTPUT	The location of output files to be sent to AIP. Default is \${RO_DOMAIN}/interface/aip/output.
CLASSPATH	Include the following in CLASSPATH: "\$RPAS_HOME/applib/RO.jar" "\$RPAS_HOME/applib/groovy-all.jar" "\$RPAS_HOME/applib/ant.jar" "\$RPAS_HOME/applib/ant-launcher.jar" "\$RPAS_HOME/applib/aaiReplenOpt.jar" "\$RPAS_HOME/applib/aaijni.jar"

## Setting Default Measure Values

The following measures need to be adjusted to have the correct values based on implementation.

### Export to Replenishment System

This measure specifies which product/location should be considered when extracting data for AIP. By default all product/location data are exported if the measure is not populated.

## Integration Scripts

Integration scripts are used for moving data between applications. [Table 4–6](#) lists the integration scripts for RO.

**Table 4–6 Integration Scripts**

Application	Script	Arguments	Description
RO Stores Implementation	ro_export_to_aip.sh	None	This is the main script that invokes the export process and creates data files to be sent to AIP.
RO Stores Implementation	ro_import_from_aip.sh	None	This is the main script that invokes the load process and loads AIP data into RO.

## Batch Environment Scripts

ro\_environment.sh sets the necessary environment variables for execution of RO integration scripts. It is invoked within the integration scripts listed in the table above. The details of environment variables are listed in the [Setting Environment Variables](#) section.

## Using runBatch

To execute a batch, the integration scripts in RO make a call to the Groovy class runBatch, which parses the xml file <batchStep>.xml.

The following describes the Groovy runBatch.class:

- runBatch is invoked like any other Java class provided that the Groovy jar files have been properly set in the class path.
- runBatch requires two arguments that are paths to a systemVariable.xml, which is located in the RPAS\_HOME. The other XML file contains details of the batch to run. For instance, for RO to export to AIP, use the xml file called exportSteps.xml. For RO import from AIP, use a similar xml file called importSteps.xml.

```
java runBatch $RPAS_HOME/applib/resources/systemVariables.xml $RO_
DOMAIN/interface/aip/< >.xml
```

- <batchStep>.xml should be located at \$RO\_DOMAIN/interface/aip

- <batchStep>.xml follows the format below. Within the batchSteps tags there are repeated batchStep tags that represent the different steps in the batch. Each batchStep has two attributes: name and run. To turn off a specific batchStep, change the run attribute from **true** to **false**.

```
<batchsteps>
  <batchstep>
    <name>Step1</name>
    <run>true</run>
  </batchstep>
  <batchstep>
    <name>Step2</name>
    <run>true</run>
  </batchstep>
</batchsteps>
```

## Batch Designs

The following integration scripts exist for stores and warehouses:

For stores:

- ro\_export\_to\_aip.sh
- ro\_import\_from\_aip.sh

For warehouses:

- ro\_export\_to\_aip\_wh.sh
- ro\_import\_from\_aip\_wh.sh

### Script Resource

The script resource is the same for all the integration scripts listed above.

Path: \$RPAS\_HOME/applib/resources

### AIP Import/Export Data Paths

The import/export data path is the same for all the integration scripts listed above.

Path: \$RO\_DOMAIN/interface/aip

## RO Stores Data Mapping

The mapping data below is for stores only.

### Output Measure Data

The table below displays the measure files that RO sends to AIP.

**Table 4–7 Output Measure Data**

File Name	Data Elements
STR_MINMAX	<ul style="list-style-type: none"> <li>Store Min Stock</li> <li>Store Max Stock</li> <li>Store Replenishment Method</li> </ul>
STR_DYNAMIC	<ul style="list-style-type: none"> <li>Store Service Level</li> <li>Store Inventory Selling Days</li> <li>Store Replenishment Method</li> </ul>
STR_TIMESUPPLY	<ul style="list-style-type: none"> <li>Store Min Time Supply Days</li> <li>Store Max Time Supply Days</li> <li>Store Time Supply Horizon</li> <li>Store Replenishment Method</li> </ul>
STR_HYBRID	<ul style="list-style-type: none"> <li>Store Min Time Supply Days</li> <li>Store Inventory Selling Days</li> <li>Store Replenishment Method</li> </ul>
STR_POISSON	<ul style="list-style-type: none"> <li>Store Service Level</li> <li>Store Inventory Selling Days</li> <li>Store Replenishment Method</li> </ul>
STR_MINSS	Store Min Safety Stock Units
STR_ROUpdate	Replenishment Optimization Update for Stores

### Input Measure Data

The table below displays the measure files AIP creates for RO.

**Table 4–8 Input Measure Data**

File Name	Data Elements
STR_AIP_DATA	<ul style="list-style-type: none"> <li>Lead Time</li> <li>Review Time</li> <li>Pack Size</li> </ul>

## RO Warehouse Data Mapping

The mapping data below is for warehouses only.

### Output Measure Data

The table below displays the measure files that RO sends to AIP.

**Table 4–9 Output Measure Data**

File Name	Data Elements
WH_MINMAX	<ul style="list-style-type: none"> <li>Warehouse Min Stock</li> <li>Warehouse Max Stock</li> <li>Warehouse Replenishment Method</li> </ul>
WH_DYNAMIC	<ul style="list-style-type: none"> <li>Warehouse Service Level</li> <li>Warehouse Inventory Selling Days</li> <li>Warehouse Replenishment Method</li> </ul>
WH_TIMESUPPLY	<ul style="list-style-type: none"> <li>Warehouse Min Time Supply Days</li> <li>Warehouse Max Time Supply Days</li> <li>Warehouse Time Supply Horizon</li> <li>Warehouse Replenishment Method</li> </ul>
WH_HYBRID	<ul style="list-style-type: none"> <li>Warehouse Min Time Supply Days</li> <li>Warehouse Inventory Selling Days</li> <li>Warehouse Replenishment Method</li> </ul>
WH_MINSS	Warehouse Min Safety Stock Units
WH_ROUpdate	Replenishment Optimization Update for Warehouses

### Input Measure Data

The table below displays the measure files AIP creates for RO.

**Table 4–10 Input Measure Data**

File Name	Data Elements
WH_AIP_DATA	<ul style="list-style-type: none"> <li>Lead Time</li> <li>Review Time</li> <li>Pack Size</li> </ul>

## Batch Logs and Settings

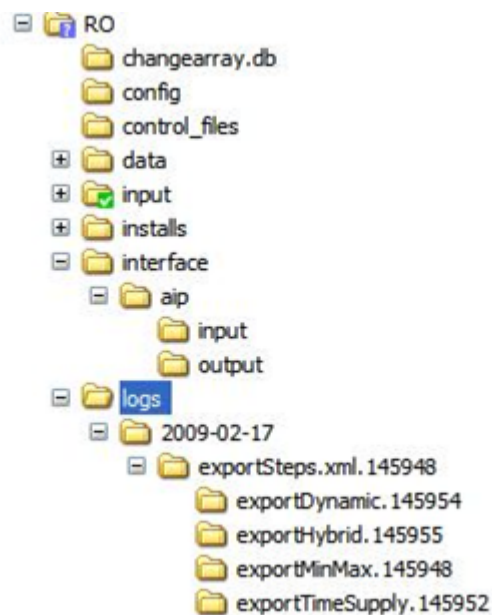
The environment variable RO\_LOG\_LEVEL can be set to one of the following log levels:

- PROFILE
- DEBUG
- INFORMATION
- WARNING
- ERROR

The default is ERROR.

The logs are created in the directory specified in environmental variable RO\_LOG\_HOME. The logs are contained in a directory with today's date.

**Figure 4–4** RO Logs



## Export to Merchandise System

To export to RMS, no special handling is provided.

These measures can be exported with exportMeasure or exportData binaries.

- AppRepMthdSr, approved replenishment method on sku/store
- AppRepMthdWh, approved replenishment method on sku/warehouse
- AppReplPval1Sr, approved replenish parameter 1 on sku/store
- AppReplPval1Wh, approved replenish parameter 1 on sku/warehouse
- AppReplPval2Sr, approved replenish parameter 2 on sku/store
- AppReplPval2Wh, approved replenish parameter 2 on sku/warehouse
- AppAxPval1Sr, approved auxiliary replenish parameter 1 on sku/store
- AppAxPval1Wh, approved auxiliary replenish parameter 1 on sku/warehouse
- AppAxPval2Sr, approved auxiliary replenish parameter 2 on sku/store
- AppAxPval2Wh, approved auxiliary replenish parameter 2 on sku/warehouse
- AppOpuSr, approved order point on sku/store
- AppOpuWh, approved order point on sku/warehouse
- AppOutluSr, approved order up to level on sku/store
- AppOutluWh, approved order up to level on sku/warehouse



---

## Configuration Considerations

This chapter provides information on the configuration changes that can be made for RO. For some retailers, parts of the released version of the RO configuration may fit perfectly. However, it is anticipated that changes are needed to make the RO configuration match the organization of the retailer.

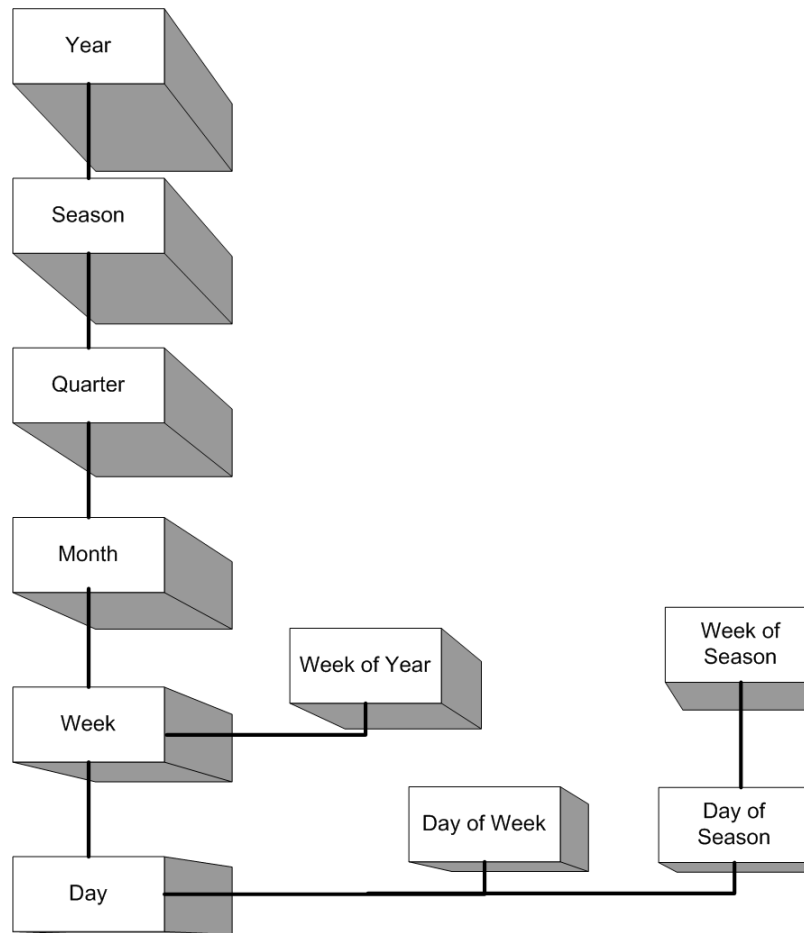
Hierarchies are limited to the determination of hierarchy aspects that pertain directly to dimensions, attributes, and facts. Due to RPAS limitations on intersection, distinct hierarchies must exist for the construction of all intersections to support all facts. No more than one dimension from any hierarchy may exist in a measure intersection.

For information on the configuration changes that can be made, see the following sections:

- [Calendar \(CLND\) Hierarchy](#)
- [Product \(PROD\) Hierarchy](#)
- [Location \(LOC\) Hierarchy](#)
- [Subgroup Hierarchy File](#)
- [Store APC Group Hierarchy File](#)
- [Warehouse Scenario Hierarchy File](#)
- [Store Scenario Hierarchy File](#)
- [Warehouse APC Group Hierarchy File](#)
- [Frontier Data Point Hierarchy File](#)
- [Break Point Hierarchy File](#)
- [KEK Hierarchy File](#)
- [PI Hierarchy File](#)

## Calendar (CLND) Hierarchy

**Figure 5–1 CLND hierarchy in the RO configuration**



**Table 5–1 CLND Hierarchy in the RO Configuration**

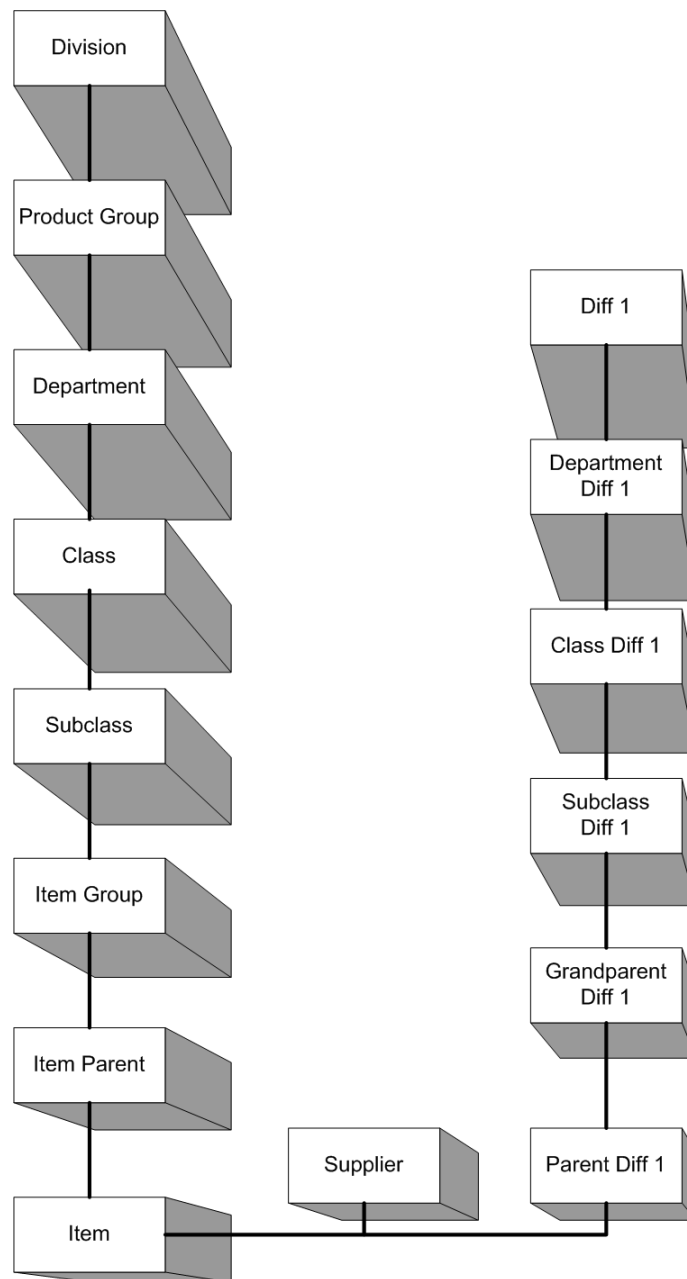
Name	Label	Hierarchy Type	Child
YEAR	Year	Main	SSN
SSN	Half	Main	QRTR
QRTR	Quarter	Main	MNTH
MNTH	Month	Main	WEEK
WEEK	Week	Main	DAY
DAY	Day	Main	None
WOY	Week of Year	Alternate	WEEK
DOW	Day of Week	Alternate	DAY
WOS	Week of Season	Alternate	DOS
DOS	Day of Season	Alternate	DAY

The calendar hierarchy represents time in all RPAS solutions. It is a required hierarchy and must have the DAY dimension. As it relates to RO, the calendar hierarchy is needed to store time-phased measures.

Your implementation can structure the calendar hierarchy in any way that best suits your functional needs. Dimensions other than DAY have been included in RO for the purpose of illustration. They can be modified or removed without requiring changes to any other elements of the configuration. Other dimensions and hierarchy branches can also be added without requiring changes to other elements of the configuration.

## Product (PROD) Hierarchy

**Figure 5–2** *PROD Hierarchy in the RO Configuration*



**Table 5–2 PROD Hierarchy in the RO Configuration**

Name	Label	Hierarchy Type	Child
DVSN	Division	Main	PGRP
PGRP	Group	Main	DEPT
DEPT	Department	Main	CLSS
CLSS	Class	Main	SCLS
SCLS	Subclass	Main	ITGP
ITGP	Grandparent	Main	ITPT
ITPT	Parent	Main	ITEM
ITEM	Item	Main	none
SPLR	Supplier	Alternate	ITEM
DIF1	Diff 1	Alternate	ITEM
DPD1	Dept Diff1	Alternate	DIF1
CLD1	Class Diff1	Alternate	DPD1
SCD1	Subclass Diff1	Alternate	CLD1
GPD1	Grandparent Diff1	Alternate	SCD1
PTD1	Parent Diff1	Alternate	GPD1

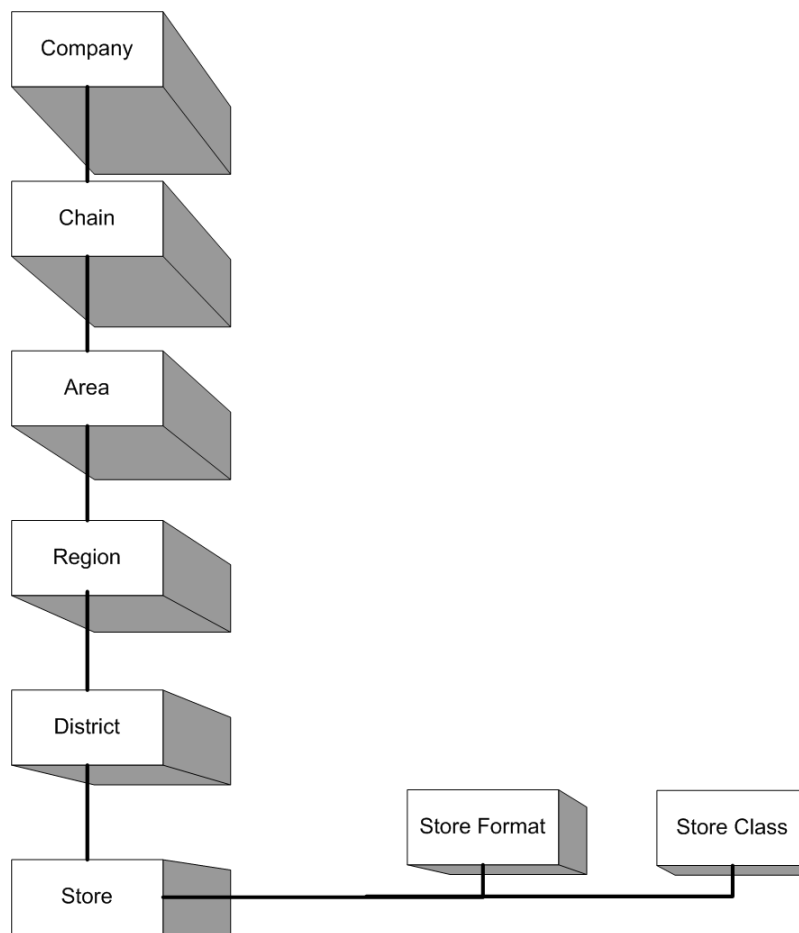
The product hierarchy (also known as the merchandise hierarchy) represents the retailer's merchandise, that is, merchandise that the retailer retails through its retail channels. RO does not enforce any constraints on the structuring of this hierarchy, but the configuration does use a few levels of this hierarchy extensively in workbook wizards, labeled intersections, rules, position queries, and measure values (Single Hier Select measures). Any changes to this hierarchy must be accompanied by changes to all these elements if they employ the particular level that is being modified or removed. Adding levels or branches or changing labels should not require any changes to the configuration.

From the product hierarchy, the configuration employs ITEM and at least one more dimension higher than ITEM. You may choose the higher level dimension. To reduce patching and upgrade efforts, it is recommended that the names of these levels be left unchanged unless absolutely necessary.

ITEM is necessary because it is the level at which the replenishment recommendations are made. The higher level dimension that you choose is necessary because the optimization goals and optimization constraints are made at this level.

## Location (LOC) Hierarchy

**Figure 5–3 LOC Hierarchy in the RO Configuration**



**Table 5–3 LOC hierarchy in the RO configuration**

Name	Label	Hierarchy Type	Child
COMP	Company	Main	CHN
CHN	Chain	Main	AREA
AREA	Area	Main	RGN
RGN	Region	Main	DIST
DIST	District	Main	STR
STR	Store	Main	None
SFMT	Store Format	Alternate	STR
STCL	Store Class	Alternate	STR

The location hierarchy represents the retailer's retail locations and their roll-ups. RO imposes a few constraints on the structure of this hierarchy; but for the most part it is flexible.

From the location hierarchy, the configuration employs the store (STR) dimension and at least one more dimension higher than STR, such as region (RGN).

STR is necessary because it is the level at which the replenishment recommendations are made. The higher level dimension that you choose is necessary because the optimization goals and optimization constraints are made at this higher level.

## Warehouse Hierarchy (WHS)

The warehouse hierarchy represents the retailer's warehouses or distribution centers. RO assumes a flat hierarchy, but additional roll-ups can be configured.

From the location hierarchy, the configuration employs the warehouse (WRHS) dimension. This dimension is necessary because it is the level at which the replenishment recommendations are made. No higher level dimension is necessary.

**Table 5–4 Warehouse Hierarchy in the RO Configuration**

Name	Label	Hierarchy Type	Child
WRHS	Warehouse description	Main	none

## Subgroup Hierarchy File

The subgroup hierarchy represents the subgroups generated in the statistical/breakpoint grouping. The number of subgroups that can be generated must be between 1 and the subgroup dimension length. If you want to increase the number of subgroups beyond that limit, you must prepare a subgroup hierarchy file and load the hierarchy with that new file. This hierarchy contains one dimension: subgroup.

**Table 5–5 Subgroup Hierarchy in the RO Configuration**

Name	Label	Hierarchy Type	Child
SGRP	Subgroup Description	Main	none

## Store APC Group Hierarchy File

The Store APC group hierarchy represents the statistical groups generated by APC RO using a statistical grouping. The Store APC group dimension length should be decided by the APC RO calculation. This hierarchy contains one dimension: APC group.

This hierarchy file is generated from APC RO data files. For a description of the file generation, see ["APC RO Data Load Process"](#) on page 4-6.

**Table 5–6 Store APC Group Hierarchy in the RO Configuration**

Name	Label	Hierarchy Type	Child
AGRP	Grouping Description	Main	none

## Warehouse APC Group Hierarchy File

The warehouse group hierarchy represents the statistical groups generated by APC RO using a statistical grouping. The Warehouse Group dimension length should be decided by the APC RO calculation. This hierarchy contains one dimension: APC group.

This hierarchy file is generated from APC RO data files. For a description of the file generation, see [APC RO Data Load Process](#) on page 4-6.

**Table 5–7 Warehouse APC Group Hierarchy in the RO Configuration**

Name	Label	Hierarchy Type	Child
WAPG	Warehouse APC Group	Main	none

## Store Scenario Hierarchy File

The store scenario hierarchy represents the different replenishment scenarios used in APC RO. The scenario dimension length should be decided in the APC RO setup. This hierarchy contains one dimension: scenario.

This hierarchy file is generated from APC RO data files. For a description of the file generation, see [APC RO Data Load Process](#) on page 4-6.

**Table 5–8 Store Scenario Hierarchy in the RO Configuration**

Name	Label	Hierarchy Type	Child
SCNO	Store Scenario	Main	none

## Warehouse Scenario Hierarchy File

The warehouse scenario hierarchy represents the different replenishment scenarios used in APC RO. The scenario dimension length should be decided in the APC RO setup. This hierarchy contains one dimension: scenario.

This hierarchy file is generated from APC RO data files. For a description of the file generation, see [APC RO Data Load Process](#) on page 4-6.

**Table 5–9 WHS Hierarchy in the RO Configuration**

Name	Label	Hierarchy Type	Child
WSCN	Warehouse Scenario	Main	none

## Frontier Data Point Hierarchy File

The frontier data point hierarchy represents the frontier data point on the Inventory/Service Level Trade-off curve that is generated by optimization. The number of frontier data points in a calculation = (maximum scenario number -1) \* maximum subgroup number. This hierarchy contains one dimension: frontier data points.

The hierarchy file included in GA release should be modified to meet the needs of maximum frontier data point numbers.



**Table 5–10 Frontier Data Point Hierarchy in the RO Configuration**

Name	Label	Hierarchy Type	Child
FCPT	Frontier Point	Main	none

## Break Point Hierarchy File

The break point hierarchy represents the break points used in the user-defined break point grouping. The number of position names in the break point dimension should be larger than the maximum number of groups per grouping factor. This hierarchy contains one dimension: break points.

The hierarchy file included in GA release should be modified to meet the needs of maximum number of breakpoint.

**Table 5–11 Break Point Hierarchy in the RO Configuration**

Name	Label	Hierarchy Type	Child
BKPT	Break Point	Main	none

## KEK Hierarchy File

The KEK hierarchy represents the data points in the w-to-z lookup table used in the dynamic replenishment calculation. The KEK dimension length is decided by the number of entries in the w-to-z lookup table. This hierarchy contains one dimension: KEK.

The hierarchy file in GA release should be used without modification.

**Table 5–12 KEK Hierarchy in the RO Configuration**

Name	Label	Hierarchy Type	Child
EW	Lookup Data Point	Main	none

## PI Hierarchy File

The PI hierarchy represents the data points in the poisson safety stock lookup table used in poisson replenishment calculation. The PI dimension is decided by the number of entries in the lookup table. This hierarchy contains one dimension: PI.

The hierarchy file in the GA release should be used without modification.

**Table 5–13 PI Hierarchy in the RO Configuration**

Name	Label	Hierarchy Type	Child
PIK	Poisson Lookup Data Point	Main	none



---

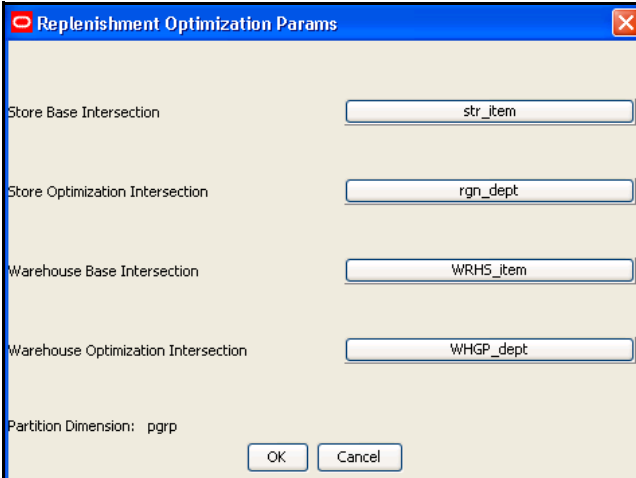
## Configuring the RO Solution

The RO plug-in enables you to specify the intersections for the store and/or warehouse base and optimization levels. Using that data, the plug-in generates the appropriate intersections, measures, rule groups, rules, workbooks, and wizards.

### Configuring the RO Solution

From the RPAS Configuration Tools, select **Automation** from the menu bar, then **RO**, and then **Specify Parameters**. The Replenishment Optimization Params window is displayed, as shown in [Figure 6-1](#).

**Figure 6-1** Replenishment Optimization Params Window



The screenshot shows a window titled "Replenishment Optimization Params" with a blue header bar and a red close button. The window contains four text input fields, each preceded by a label: "Store Base Intersection" with the value "str\_item", "Store Optimization Intersection" with the value "rgn\_dept", "Warehouse Base Intersection" with the value "WRHS\_item", and "Warehouse Optimization Intersection" with the value "WHGP\_dept". At the bottom left, there is a label "Partition Dimension: pgrp". At the bottom right, there are two buttons: "OK" and "Cancel".

Table 6–1 describes the fields in this window.

**Table 6–1 Fields in the Size Opt Params Window**

Name	Description
Title Bar	Title of the window.
Intersection Area	Displays the base and optimization level intersections for stores and warehouses. Click the buttons listed below to open its Select Intersection window.  The data is available from these buttons: <ul style="list-style-type: none"> <li>■ Store Base Intersection</li> <li>■ Store Optimization Intersection</li> <li>■ Warehouse Base Intersection</li> <li>■ Warehouse Optimization Intersection</li> </ul>
Partition Dimension	Displays the partition level.

## Autogenerating Intersections, Measures, Rules, Workbooks, and Wizards

The following is the process to autogenerate the intersections, measures, rules, workbook templates, and wizards that are required by RO to support the configuration entered in the RO plug-in:

In the Replenishment Optimization Params window, click **OK**.

The system automatically generates the following:

- Intersections—All intersections necessary to support the RO solution are created.
- Measures—All measures necessary to support the RO solution are created.
- Rules—All rules and rule groups to support the RO solution are created.
- Workbook Templates—All pre-defined workbook templates to support the RO solution are created.
- Wizards—All necessary wizards to support the RO solution are created.

You may continue to make changes to the RO plug-in configuration, and the autogeneration process may be repeated as often as needed prior to the installation.

---

## Batch Processing

This chapter contains all the scripts that are needed to execute and maintain the RO environment.

Data is loaded into RO using the standard RPAS approach. See the *Oracle Retail Predictive Application Server Administration Guide for the Classic Client* for details on formatting the load data files and on the utilities that enable administrators to load data into RPAS.

---

**Note:** Comma-separated values (CSV) files are recommended to reduce the sizes of load files.

---

### Batch Script Summary

[Table 7–1](#) describes the directories that are used by the batch scripts. These directories are subdirectories of the `<ro_directory>` directory. The `<ro_directory>` is defined by the implementer.

**Table 7–1 Directories Used by Batch Scripts**

Directory Name	Content of the Directory
bin	Batch scripts
config	RO template configuration
domain	Domains
input	Input files for building the domain
logs	Log files from running any of the batch scripts
temp	Temporary files used by the batch scripts

### Batch Script Summary Table

[Table 7–2](#) summarizes the available batch scripts. The batch scripts are located in this directory:

`<ro_directory>/bin`

The following information is included in the tables for each batch script:

- A short description of the script
- The name of the script
- Dependencies on other batch scripts

**Table 7–2 Batch Script Summary**

<b>Script Name</b>	<b>Description</b>	<b>Suggested Frequency</b>	<b>Dependencies</b>
ro_optbatch_str.ksh	Optimization Batch: Master Domain	Periodically	None
ro_optbatch_str_localdomain.ksh	Optimization Batch: Master Domain	Periodically	None
ro_optbatch_wh.ksh	Optimization Batch: Master Domain	Periodically	None
ro_optbatch_wh_localdomain.ksh	Optimization Batch: Master Domain	Periodically	None
ro_replbatch_str.ksh	Optimization Batch: Master Domain	Periodically	None
ro_replbatch_str_localdomain.ksh	Optimization Batch: Master Domain	Periodically	None
ro_replbatch_wh.ksh	Optimization Batch: Master Domain	Periodically	None
ro_replbatch_wh_localdomain.ksh	Optimization Batch: Master Domain	Periodically	None
ro_reportbatch_str.ksh	Optimization Batch: Master Domain	Periodically	None
ro_reportbatch_str_localdomain.ksh	Optimization Batch: Master Domain	Periodically	None
ro_reportbatch_wh.ksh	Optimization Batch: Master Domain	Periodically	None
ro_reportbatch_wh_localdomain.ksh	Optimization Batch: Master Domain	Periodically	None
ro_optbatch_localdomain.sh	Optimization Batch: Local Domain	Periodically	None
ro_replbatch.sh	Replenishment Batch: Master Domain	Periodically	None
ro_replbatch_localdomain.sh	Replenishment Batch: Local Domain	Periodically	None
Backup	Backup	Daily	None

There are two ways to check if a batch completed successfully:

- In the batch log file, check for any errors, exceptions, or failures. If there are none, the batch completed successfully.
- A generation ID is used when a batch runs successfully. If a generation ID is available in the wizard process for the approve workbook, this indicates that the batch ran successfully.

For a detailed description of each script, see [Batch Designs](#).

## Batch Designs

This section contains detailed information on the following batch scripts:

- [Optimization Batch Script: Master Domain](#)
- [Optimization Batch: Local Domain](#)
- [Replenishment Batch: Master Domain](#)
- [Replenishment Batch: Local Domain](#)
- [Report Batch: Master Domain](#)
- [Report Batch: Local Domain](#)

Some of the scripts have a command line argument to set the maximum number of processes that need to be run in parallel. Setting this argument can help speed up the performance of independent tasks on local domains. The default is 1.

### Optimization Batch Script: Master Domain

The optimization batch has two modes: full mode and refresh mode. The optimization batch full mode is run only periodically, either after new simulation results from APC RO are provided or after a dramatic, widespread change in the sales pattern in the domain. The optimization batch generates optimal and constrained service levels versus inventory cost curves when running in full mode. A user can select the targeted service level and decide the system-recommended replenishment settings per item/store combination by using the Optimization Review workbook after a full mode optimization batch is run.

#### **ro\_optbatch\_str.ksh**

ro\_optbatch\_str.ksh should be run from a master domain. It runs store optimization batch. It loops over all local domains.

#### **Script**

ro\_optbatch\_str.sh

#### **Usage**

ro\_optbatch\_str.sh [-d {masterpath}] [-nparallel | -maxprocesses {n}]

#### **ro\_optbatch\_wh.ksh**

ro\_optbatch\_wh.ksh should be run from a master domain. It runs the warehouse optimization batch. It loops over all local domains.

#### **Script**

ro\_optbatch\_wh.ksh

#### **Usage**

ro\_optbatch\_str.sh [-d {masterpath}] [-nparallel | -maxprocesses {n}]

Argument	Description
-d {masterpath}	The master domain path.
-nparallel	Specifies that no-parallel processing should be used.
-maxprocesses	Specifies the maximum number of processes used in the optimization batch.

## Optimization Batch: Local Domain

The optimization batch for local domains also has two modes: full mode and refresh mode. The refresh mode batch should be run after every data load, except when the full mode optimization batch is run. The refresh mode batch updates the system-recommended replenishment settings based on new sales history and previously approved full mode batch result without any user involvement.

### **ro\_optbatch\_str\_localdomain.ksh**

ro\_optbatch\_str\_localdomain.ksh is useful for running the store optimization batch only in a local domain.

#### **Script**

ro\_optbatch\_str\_localdomain.ksh

#### **Usage**

ro\_optbatch\_str\_localdomain.sh [-d {localpath}]

### **ro\_optbatch\_wh\_localdomain.ksh**

ro\_optbatch\_wh\_localdomain.ksh runs the warehouse optimization batch only in a local domain.

#### **Script**

ro\_optbatch\_wh\_localdomain.ksh

#### **Usage**

ro\_optbatch\_str\_localdomain.sh [-d {localpath}]

Argument	Description
-d {localpath}	The local domain path.

## Replenishment Batch: Master Domain

The replenishment batch generates projected inventory, service levels, and lost sales for the next 13 weeks using the system-recommended replenishment parameters and current replenishment parameters. It runs after each optimization batch run (full mode or refresh mode). The results of replenishment batch can be reviewed in the Replenishment Analyst workbook.

### **ro\_replbatch\_str.ksh**

ro\_replbatch\_str.ksh should be run from a master domain. It loops over all local domains.

#### **Script**

ro\_replbatch\_str.ksh

#### **Usage**

ro\_replbatch\_str.sh [-d {masterpath}] [-noperallel | -maxprocesses {n}]

### **ro\_replbatch\_wh.ksh**

ro\_replbatch\_wh.ksh should be run from a master domain. It runs the warehouse replenishment batch.

#### **Script**

ro\_replbatch\_wh.ksh



**Usage**

ro\_replbatch\_str.sh [-d {masterpath}] [-noprogram | -maxprocesses {n}]

Argument	Description
-d {masterpath}	The master domain path.
-noprogram	Specifies that no-parallel processing should be used.
-maxprocesses	Specifies the maximum number of processes used in the optimization batch.

**Replenishment Batch: Local Domain**

The replenishment batch generates projected inventory, service levels, and lost sales for the next 13 weeks using the system-recommended replenishment parameters and current replenishment parameters. It runs after each optimization batch run (full mode or refresh mode). The results of replenishment batch can be reviewed in the Replenishment Analyst workbook.

**ro\_replbatch\_str\_localdomain.ksh**

ro\_replbatch\_str\_localdomain.ksh is used for running the batch from only a local domain.

**Script**

ro\_replbatch\_str\_localdomain.ksh

**Usage**

ro\_replbatch\_str\_localdomain.sh [-d {localpath}]

**ro\_replbatch\_wh\_localdomain.ksh**

ro\_replbatch\_wh\_localdomain.ksh runs the warehouse replenishment batch in a local domain.

**Script**

ro\_replbatch\_wh\_localdomain.ksh

**Usage**

ro\_replbatch\_str\_localdomain.sh [-d {localpath}]

Argument	Description
-d {localpath}	The local domain path.

**Report Batch: Master Domain**

The report batch is run after the replenishment batch to populate the measures used in OBIEE reporting.

**ro\_reportbatch\_str.ksh**

ro\_reportbatch\_str.ksh should be run from a master domain. It runs the store report batch in a local domain.

**Script**

ro\_reportbatch\_str.ksh

**Usage**

ro\_reportbatch\_str.sh [-d {masterpath}] [-noprogram | -maxprocesses {n}]

**ro\_reportbatch\_wh.ksh**

ro\_reportbatch\_wh.ksh should be run from a master domain. It runs the warehouse report batch in a local domain.

**Script**

ro\_reportbatch\_wh.ksh

**Usage**

ro\_reportbatch\_wh.sh [-d {masterpath}] [-noperallel | -maxprocesses {n}]

Argument	Description
-d {masterpath}	The master domain path.
-noperallel	Specifies that no-parallel processing should be used.
-maxprocesses	Specifies the maximum number of processes used in the optimization batch.

**Report Batch: Local Domain**

The report batch is run after the replenishment batch to populate the measures used in OBIEE reporting.

**ro\_reportbatch\_str\_localdomain.ksh**

ro\_reportbatch\_str\_localdomain.ksh runs the store report batch in a local domain.

**Script**

ro\_reportbatch\_str\_localdomain.ksh

**Usage**

ro\_reportbatch\_str\_localdomain.sh [-d {localpath}]

**ro\_reportbatch\_wh\_localdomain.ksh**

ro\_reportbatch\_wh\_localdomain.ksh runs the warehouse report batch in a local domain.

**Script**

ro\_reportbatch\_wh\_localdomain.ksh

**Usage**

ro\_reportbatch\_wh.\_localdomain.sh [-d {localpath}]

Argument	Description
-d {localpath}	The local domain path.

---

# Internationalization

Internationalization is the process of creating software that can be translated more easily. Changes to the code are not specific to any particular market.

Oracle Retail applications have been internationalized to support multiple languages.

## Translation

Translation is the process of interpreting and adapting text from one language into another. Although the code itself is not translated, components of the application that are translated include the following:

- Graphical user interface (GUI)
- Error messages

The following components are not translated:

- Documentation (online help, release notes, installation guide, user guide, operations guide)
- Batch programs and messages
- Log files
- Configuration tools
- Reports
- Demonstration data
- Training materials

The user interface has been translated into the following languages:

- Brazilian Portuguese
- Croatian
- Dutch
- French
- German
- Greek
- Hungarian
- Italian
- Japanese

- Korean
- Polish
- Russian
- Simplified Chinese
- Spanish
- Swedish
- Traditional Chinese
- Turkish

---

---

**Note:** For information about adding languages for the first time or for translation information in general, see the *Oracle Retail Predictive Application Server Administration Guide for the Classic Client*.

---

---