

Oracle® Retail Advanced Inventory Planning
Release Notes
Release 12.0

May 2007

Copyright © 2007, Oracle. All rights reserved.

Primary Author: Randy Kapelke

The Programs (which include both the software and documentation) contain proprietary information; they are provided under a license agreement containing restrictions on use and disclosure and are also protected by copyright, patent, and other intellectual and industrial property laws. Reverse engineering, disassembly, or decompilation of the Programs, except to the extent required to obtain interoperability with other independently created software or as specified by law, is prohibited.

The information contained in this document is subject to change without notice. If you find any problems in the documentation, please report them to us in writing. This document is not warranted to be error-free. Except as may be expressly permitted in your license agreement for these Programs, no part of these Programs may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose.

If the Programs are delivered to the United States Government or anyone licensing or using the Programs on behalf of the United States 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, use, duplication, disclosure, modification, and adaptation of the Programs, including documentation and technical data, shall be subject to the licensing restrictions set forth in the applicable Oracle license agreement, and, to the extent applicable, the additional rights set forth in FAR 52.227-19, Commercial Computer Software – Restricted Rights (June 1987). Oracle Corporation, 500 Oracle Parkway, Redwood City, CA 94065

The Programs are not intended for use in any nuclear, aviation, mass transit, medical, or other inherently dangerous applications. It shall be the licensee's responsibility to take all appropriate fail-safe, backup, redundancy and other measures to ensure the safe use of such applications if the Programs are used for such purposes, and we disclaim liability for any damages caused by such use of the Programs.

Oracle, JD Edwards, PeopleSoft, and Siebel are registered trademarks of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

The Programs may provide links to Web sites and access to content, products, and services from third parties. Oracle is not responsible for the availability of, or any content provided on, third-party Web sites. You bear all risks associated with the use of such content. If you choose to purchase any products or services from a third party, the relationship is directly between you and the third party. Oracle is not responsible for: (a) the quality of third-party products or services; or (b) fulfilling any of the terms of the agreement with the third party, including delivery of products or services and warranty obligations related to purchased products or services. Oracle is not responsible for any loss or damage of any sort that you may incur from dealing with any third party.

Preface

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

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

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

Audience

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

- Retail clients who want to understand the contents of this release
- Integrators and implementation staff who have the overall responsibility for implementing Oracle Retail Advanced Inventory Planning (AIP) in their enterprise
- Business analysts who want high-level functional information about this release
- System analysts and system operation personnel who want high-level functional and technical content related to this release

Related Documents

For more information, see the following documents in the Oracle Retail Advanced Inventory Planning Release 12.0 documentation set:

- Advanced Inventory Planning Operations Guide
- Advanced Inventory Planning Data Management Online - Online Help
- Advanced Inventory Planning Data Management Online User Guide
- Advanced Inventory Planning Order Management - Online Help
- Advanced Inventory Planning Order Management User Guide
- Advanced Inventory Planning Data Model Volume 1 Oracle Data Model
- Advanced Inventory Planning Data Model Volume 2 Measure Reference Guide
- Advanced Inventory Planning Installation Guide
- Advanced Inventory Planning Implementation Guide
- Advanced Inventory Planning Administration Guide
- Advanced Inventory Planning Store Replenishment Planning User Guide
- Advanced Inventory Planning Warehouse Replenishment Planning User Guide

Customer Support

<https://metalink.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 re-create
- Exact error message received
- Screen shots of each step you take

Conventions

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

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

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

[A hyperlink appears like this.](#)

Release Notes

Overview — What is AIP?

Oracle Retail Advanced Inventory Planning (AIP) is a suite of modules designed to manage the supply chains of large retailers at the supplier, warehouse, store, and e-commerce levels. The system couples time-phased replenishment and allocation algorithms to produce an actionable receipt plan over time. This plan is based on demand forecasts, replenishment parameters, and inventory availability at the numerous supply points within the supply chain.

The user interacts with the AIP system through a number of modules:

- Store Replenishment Planning (SRP) Workbooks are used to maintain the replenishment characteristics for stores. These workbooks allow the user to analyze system output and perform what-if style analysis when replenishment parameters are changed.
- Warehouse Replenishment Planning (WRP) Workbooks are used to maintain the replenishment characteristics for warehouses. These workbooks allow the user to analyze system output and perform what-if style analysis when replenishment parameters are changed.
- Data management is used to maintain the supply chain and network flow information. Sourcing links, lead times, and other data are managed in this module.
- Using the receipt plan, Order Management formally prepares those orders that need to be fulfilled. This preparation includes the assignment of an order number.

AIP within the Oracle Retail Suite

AIP takes its place as one of several integrated applications within the Oracle Retail Suite. The suite allows a retailer to manage its supply chain from demand forecasting to the generation of orders, which can then be shared with collaborative planning partners.

Viewed at a high level, the process across the Oracle Retail Suites takes the following form:

1. Oracle Retail Demand Forecasting (RDF) provides a forecast of consumer demand. This data is made available to AIP.
2. The AIP batch run produces an actionable receipt plan using replenishment parameters maintained inside AIP. Hierarchy and inventory data are provided by a merchandising system such as Oracle Retail Merchandising System (RMS).
3. The receipt plan is then sent to the Order Management module within AIP, where those orders that need to be fulfilled are formally prepared for execution. This preparation includes the assignment of an order number.
4. Order Management then submits the appropriate orders to the merchandising system, where purchase orders and transfers are communicated to other systems. These orders are returned to AIP in subsequent batch runs as in-transit orders.
5. Sales forecasts and order plans can then be shared at the appropriate level with suppliers by using a collaborative planning, forecasting, and replenishment (CPFR) product, so that trading partners can prepare for the forthcoming orders.

At the core of the AIP batch process are five replenishment subprocesses. These subprocesses perform calculations on a set of loaded static and dynamic data, using replenishment parameters, to produce a replenishment receipt plan for all locations in the supply chain. This gives retailers the ability to project their demand at all levels of the supply chain and to share these projections with their suppliers whenever applicable.

A key design in producing an actionable receipt plan is the inclusion of known inventory constraints. To implement this design, AIP performs the five replenishment subprocesses across all locations in the following order:

1. Replenishment (in the fixed period) generates an unconstrained receipt plan during the constrained period.
2. Shortfall Reconciliation (in the fixed period) modifies the receipt plan, applying inventory shortages.
3. Substitution (in the fixed period) applies product substitutions where possible to address inventory shortages.
4. Stockless (in the fixed period) pushes any remaining excess product from stockless sources.
5. Replenishment (after the fixed period) generates an unconstrained receipt plan after the constrained period.

The resulting receipt plan is exported to the Order Management module, where order numbers are produced and the orders are released to external systems. Following formal order generation, these quantities are fed back into the system, and the plan is updated to account for these orders as expected receipts. This type of planning allows the retailer to identify potential supply chain issues before they arise, so that stock-outs and excess inventory problems can be prevented or reduced.

Note: The volume of the receipt plan produced by AIP is quite large, so user involvement should be kept to a minimum. However, in order to avoid persistent costly supply chain problems, super users must be able to review plans and change parameters quickly to see the effects of their changes. Oracle Retail recommends that these parameters be managed primarily by exceptions in the receipt plan. *Manage by exception* means that not every SKU or warehouse is reviewed or updated on a regular basis. Items with exceptions (alerts) should be reviewed and updated if necessary.

Functional Enhancements

| Number | Business Objective and Feature Description | Affected Applications |
|--------|--|-----------------------|
| 1 | <p>Introduction of new reconciliation method</p> <p>A new reconciliation method was introduced, reconciliation over time. The purpose of this method is to ensure that every store has an opportunity to receive stock from its source between source ordering opportunities. This method differs from the current method that reconciles on a first-come, first-served basis.</p> | SRP |
| 2 | <p>Forecast spreading made configurable</p> <p>The system can now be set up to accept daily forecast, weekly forecast, or both. This enhancement also enables the weekly forecast to be loaded at the sub-class level of the product hierarchy or higher. A second feature of this enhancement is to enable the loading of exception-level percentages for a specific week.</p> | SRP |
| 3 | <p>Filtering workbook builds using ad dates</p> <p>If loaded, advertisements information can be used to filter the products and locations that are parts of ads. This enhancement improves this functionality by pre-populating the dates of ads as part of the workbook creation process. This functionality is only available as part of the SRP Interactive Evaluation workbook.</p> | SRP |
| 4 | <p>Enhanced SRP Administration workbook information</p> <p>The information contained within the SRP Administration workbook is now used for default settings, rather than to initialize parameter settings. The implication of this change is that if there are no values entered at the exception level, the system uses the default settings. This enhancement reduces the amount of user maintenance.</p> | SRP |
| 5 | <p>Utilization of configuration tools to build SRP workbooks</p> <p>In the past, the SRP workbooks were hard-coded. Any changes to the workbooks required development support. The configuration tools enable Services to build or modify the workbooks.</p> | SRP |
| 6 | <p>New rounding methods</p> <p>Because the designation about whether a store is authorized for singles replenishment is controlled within Data Management, a modification was needed in SRP to allow the users to override that designation, if they felt it was needed. This enhancement allows the users to select, as overrides to the singles rounding method, either Order Pack Override or Normal Override as alternative rounding methods.</p> | SRP |
| 7 | <p>Freshness Flag now set at the SKU level</p> <p>In previous releases, the Freshness Flag was a scalar parameter. This parameter did not provide retailers with enough flexibility. The flag is now set at the SKU level.</p> | SRP |
| 8 | <p>Planning horizon</p> <p>In previous AIP releases, the SRP plans were calculated at the daily level, and at certain times at the weekly level. These weekly plans were not portrayed properly in WRP when they were aggregated and time-shifted. All plans are now created at the daily level, removing any concept of weekly planning.</p> | SRP |

| Number | Business Objective and Feature Description | Affected Applications |
|--------|---|-----------------------|
| 9 | <p>Net inventory (NI) calculation</p> <p>Two key updates have been made to the NI calculation. The period over which expected receipts (ER) are aggregated is affected by receipt to available lead time (RALT). This period over which expected spoilage (ES) is aggregated has been shortened by one day, because product is spoiled at the end of the day.</p> | AIP |
| 10 | <p>Expected spoilage</p> <p>There has been a major overhaul of the expected spoilage (ES) calculation so that expected receipts (both expected and planned) and current inventory are both spoiled correctly.</p> | SRP |
| 11 | <p>Pack rounding</p> <p>Rounding logic has been modified so that singles logic is checked before other conditions that would cause another pack to be ordered. The Order Pack rounding method now only orders another pack if the calculated NI position is less than the calculated safety stock (SS). If the singles logic takes no action to add singles or another pack, the pack rounding logic proceeds to check other conditions that could lead to an additional pack being ordered.</p> | SRP |
| 12 | <p>Last available to promise (ATP) day calculation</p> <p>The calculation for the last ATP day in the planning horizon has been modified. This modification allows the batch to search for the next delivery opportunity after the end of the planning horizon, up to a user-specified number of days. As a result, the system should assess demand over the correct period of time when calculating the order on the last ATP day.</p> | AIP |
| 13 | <p>Inventory tracking flag enhancement</p> <p>The inventory tracking flag has been modified to handle both eaches and packs. When set to eaches, the store need in packs is converted to eaches to determine the final need. When the system determines the transfer, it then looks at the location orderable pack size and creates a transfer in a multiple of that pack size. When set to pack, the store need in pack stays in that specific pack, and only inventory in that pack is considered when determining the transfer.</p> | AIP |

Technical and Performance Enhancements

| Number | Enhancement Description |
|--------|--|
| 1 | <p>Component-based architecture</p> <p>The component-based architecture introduced in release 11.4 for warehouse replenishment planning is now the foundation of store replenishment planning. The component architecture yields multiple benefits:</p> <ul style="list-style-type: none"> ▪ The architecture makes it possible for store and warehouse replenishment planning to share components with common behaviors. The resulting code base is smaller and less costly to maintain. Defects associated with a particular aspect of the business logic arise from a single source and need to be fixed once, rather than multiple times. ▪ The components can be combined in a number of ways to produce the results of a variety of computations. This capability is currently used to provide reference values in workbook settings. Such values are often computed during batch operations but never stored. ▪ Differences between warehouse and store planning can be accommodated, without any reduction in the ability to share components with common behaviors. ▪ Components can be replaced to accommodate changes in business practice or retailer requirements. ▪ Components are designed for ease of testing. This release of AIP has a substantial body of automated tests. <p>Note: This technical enhancement for this release is limited to warehouse and store replenishment planning. DM batch does not make use of the technique. The enhancement is currently on the technical roadmap for RPAS data management, but no release date has been set.</p> |
| 2 | <p>Multi-tier defaults</p> <p>AIP 11.4 introduced multi-tier defaults. Multi-tier defaulting enables the retailer to configure parameters at the level at which differences actually manifest themselves. For example, if the differences occur at the subclass level (for example, all SKUs within a subclass are the same), the parameter configuration is set at the subclass level. Not only does this design reduce the maintenance burden on the user (although with some increased complexity), it also substantially reduces the storage requirements. Multi-tier defaulting is now used in both warehouse planning and store planning.</p> |
| 3 | <p>Low-variability defaults</p> <p>This version of AIP introduces a new data representation, low-variability defaults. Low-variability default representation is used when values remain constant for long periods between changes. With low-variability defaults, values are stored only when settings change. This defaulting scheme reduces both user maintenance and storage.</p> |
| 4 | <p>Lazy evaluation</p> <p>Oracle technical architecture specifically designed AIP components to employ a computational technique referred to as <i>lazy evaluation</i>. When using the lazy evaluation technique, AIP defers calculations until the results are actually needed. If the calculation is not needed, it is not performed, and run times are reduced. The reduction in run time stems from the fact that any given calculation could involve dozens of components, hundreds of calculations, and the retrieval of hundreds of values from the database.</p> |
| 5 | <p>Intermediate value storage</p> <p>As a consequence of using the lazy evaluation technique, large numbers of intermediate values are no longer stored. This reduction in I/O not only improves run times, but also has a dramatic impact on the storage requirement of AIP.</p> |

| Number | Enhancement Description |
|--------|---|
| 6 | <p>Storage requirements</p> <p>The value defaulting structure that is now standard for store and warehouse replenishment results in a substantial reduction in storage. The elimination of intermediate value storage, in all but a few cases, also results in substantial storage reduction.</p> |
| 7 | <p>Oracle database performance enhancements</p> <p>Various indexes were changed or added in the Oracle database so that batch performance was enhanced in AIP.</p> |
| 8 | <p>Sun Solaris 9 testing</p> <p>AIP was tested on a Sun server using Solaris 9.</p> |
| 9 | <p>New batch script architecture</p> <p>AIP 12.0 uses the new batch script architecture to improve performance, include parallelism in script execution, and effectively maintain the batch process. The batch script architecture (BSA) provides a robust, enterprise-ready architecture for script processing. BSA is a common-component architecture for shell scripts, and it standardizes the following:</p> <ul style="list-style-type: none"> ▪ Error handling— The API functions <code>_verify_script</code>, <code>_verify_binary</code>, and <code>_verify_log</code> ensure success or report failure of the batch, and also exit the batch, based on the run of a script or binary, or the identification of an error string in the script's log. ▪ Logging— The <code>bsa_logger.sh</code> script contains utility API functions to perform basic information and error logging. At its core are two APIs. The <code>_log_message</code> API performs explicit information and error logging. The <code>_call</code> API performs wrapping of standard out and standard error streams to the log. ▪ Archiving— The archiving framework contains a standardized method for data file archiving, for use by integration scripts. ▪ Parallel process control— The parallel control framework contains a minimal set of components that coordinate parallel processing with the error checking and logging framework of BSA. ▪ Access credential management— Access credentials for all physical computer servers and all logical database servers used by the batch system are isolated to a single file, <code>bsa_cred.config</code>. ▪ File transfer— The API functions <code>_file_transfer_single</code> and <code>_file_transfer_multiple</code> supplant the direct use of FTP in batch code and make transparent the issues of same-server and remote-server file transfers. ▪ SQL query processing— SQL query processing wrapper functions exist to enable streamlined querying capability and the hiding of SQL connection string credentials. |
| 10 | <p>WIP functionality removed for AIP 12.0 release</p> <p>Warehouse Inbound Planning (WIP) is a legacy system that was present in AIP 11.4, but it is decommissioned for the AIP 12.0 release. With the elimination of WIP from AIP 12.0, the <code>HAVE_WIP</code> variable is permanently set to <code>False</code> in the <code>aip_env.sh</code> script.</p> |

Integration Enhancements

| Number | Enhancement Description |
|--------|--|
| 1 | <p>Integration with RMS 11</p> <p>AIP was integrated with RMS 11.x as part of this release.</p> |

Documentation Enhancements

Operations Guide

The new AIP Operations Guide explains the robust, enterprise-ready architecture for shell script information and error logging, log organization, parallel process control, restart control, and dependency checks. This document encompasses the design/standardization model for all scripts, implementation of framework components, and implementation across all existing and new scripts.

Key information provided in the AIP Operations Guide includes the following:

- External/internal integration
- Automated supply chain configuration
- Data flow/file transfer information across integrated AIP solutions
- Elimination of Warehouse Inbound Planning (WIP)

Implementation Guide

The AIP Implementation Guide describes conceptual implementation-related information and post-installation tasks that need to be performed to bring AIP online and ready for production use. The Implementation Guide includes the following:

- System configuration settings for AIP
- Interfaces and data mappings between AIP and other systems

Data Model – Measure Reference Guide

The AIP GA 12.0 Data Model reflects all measures in the AIP domain that affect user functionality. It does not include a list of intermediate measures that are calculated internally in AIP. For each measure listed, its properties are displayed, including the technical measure name and the functional label, to connect the functional designs with the technical implementation. The origin columns show the source of the measure's value (for example, online, loaded, user-entered, calculated). For a particular measure, you can see the workbooks and worksheets in which the measure is displayed and the state of the measure (for example, read/write, a hidden measure by default). The Data Model also shows which measures are composite, low variability, and so on.

Supported Oracle Retail Products

This version of AIP is compatible with the following Oracle Retail Products:

- Oracle Retail Merchandising System (RMS) 11.0.10
- Oracle Retail Data Forecasting (RDF) 12

Note: RDF integration, while supported, requires some customization by the customer.

- Oracle Retail Predictive Application Server (RPAS) 12.0.4
- Oracle Retail Extract Transform Load (RETL) 11.3
- Oracle Retail Integration Bus (RIB) 11.1

Known Issues/Defects

The table below represents known issues discovered during the development of this release of AIP. Oracle Retail recommends that AIP retailers familiarize themselves before they begin implementation.

| No | Known Issues | Functional Impact | Mitigation |
|----|---|---|--|
| 1 | Order History AIP does not capture and store past Order History. | AIP does not capture and store past Order History nor is it able to capture it from an external source via an interface. This issue impacts Supplier Split functionality as indicated below. | Under consideration by Oracle Retail development, but not yet scheduled. |
| 2 | Supplier Splits Meeting targets over a period of time. | The absence of Order History does not allow for meeting specific targets over a period of time using supplier splits. Each individual day is treated as a new day when calculating supplier splits. | Under consideration by Oracle Retail development, but not yet scheduled. |
| 3 | Fixed Purchase Quantity (FPQ) Analysis Worksheet | There are several inconsistencies with measure definitions for the FPQ Analysis worksheet. These inconsistencies do not affect the FPQ batch calculations. The primary impact is on the reporting that is based on based on the FPQ functionality. | In active Oracle Retail development. |
| 4 | FPQ Functionality SKUPack | FPQs are specified at a SKUGroup-Week level. Because there is no supplier dimension to this specification, in situations where there are multiple suppliers for the same SKUGroup, the FPQ functionality is applied to all the suppliers. This design is not ideal and requires careful management by the user. | Under consideration by Oracle Retail development, but not yet scheduled. |

| No | Known Issues | Functional Impact | Mitigation |
|----|--|--|---|
| 5 | FPQ Functionality Vendor to Store | The intent of FPQ is to apply the supply constraint to warehouse destinations only and not to direct store deliveries. However, the system does not prevent the setting up of an FPQ for a supplier which directly supplies a store. In these situations, stores directly supplied by the FPQ supplier always take precedence over the warehouse destinations and are considered accordingly when applying the FPQ constraints. | On AIP roadmap for consideration in future releases. |
| 6 | Supplier Splits Demand Group as opposed to SKUPacks | The Supplier Splits are specified at a Demand Group level in Data Management (DM). The screen implies that the splits would be applied and achieved for a Demand Group; in actuality, the splits are applied and achieved for all SKUPacks within a Demand Group. | Under consideration by Oracle Retail development, but not yet scheduled. |
| 7 | Adding a New Store or New Warehouse post initial setup | <p>Defects exist around adding either a new store or warehouse post-initial setup of AIP. This would be a simulation of a retailer's adding a newly opened store to AIP or adding a warehouse to AIP.</p> <p>Note: Do not attempt to test this scenario until this issue is resolved.</p> <p>The defects that exist have the potential to invalidate the already loaded data. This issue does not impact initial load or any other testing that may occur on AIP 12.0.</p> | This issue is being treated as a priority by Oracle Retail development. See the Release Notes of upcoming patches to determine when this issue is resolved. |

| No | Known Issues | Functional Impact | Mitigation |
|----|---|---|--|
| 8 | WIP measures are still being exported from Online. | This issue causes performance issues related to temp space. | In active Oracle Retail development. Workaround: Prior to executing Cron_Export for the first time the following must occur: On the Online side- Edit the config/export_dm.config file and remove the line that says: 'dm/warehouse_pallet/out.sh' On the RPAS side - Edit the interface/config/meas/uncompressed.config file and remove the lines containing dm1_palfpe and dm1_palwgt |
| 9 | Home Warehouse Assignments do not get created when New Suppliers are introduced. | Home warehouse automation functionality does not work for all Supplier Ship to Attributes in DM On-line. Ramifications include possible Supply Chain Gaps in AIP. | In active Oracle Retail development. Workaround: After New Suppliers are introduced the retailer would need to verify and manually assign the Home Warehouse via the Profile Maintenance tab/Edit Attributes Sub-Tab/Home Warehouse sub-tab. |
| 10 | Failure when publishing purchase orders via the RIB. | On some installations, when a large volume of purchase orders are released via cron_release_store_orders.sh, the PO_MFQUEUE table is not being cleared and an error is generated in the RIB log file. | In active Oracle Retail development. Workaround: Bouncing the WebSphere instance, bouncing the RIBforAIP application in WebSphere, or ending the 'hanging' database transactions initiated by the OrderSenderBean (in RIBforAIP) can resolve this issue. |
| 11 | Singles is not currently accounted for in Shortfall reconciliation. | There is an excess of inventory (which is not available for distribution) getting pushed out during stockless reconciliation. | In active Oracle Retail development. |
| 12 | Rounding does not function properly for specific data (Ideal Receipt Quantity [IRQ] Remainder functionality). | Requires a change to the data setup processes as it relates to the Rounding threshold. | In active Oracle Retail development. Workaround: Specify the parameter value and do not rely on the NA values. |
| 13 | Into warehouse transfer of POs fails if order values are greater than 99,999. | Limits the default settings WRP can use as well as the amount any warehouse can receive in AIP. | In active Oracle Retail development. Workaround: Ensure that WRP settings do not cause any orders above 99,999. |

Warehouse Inbound Planning

Issues exist in previous versions of AIP with Warehouse Inbound Planning (WIP). These issues have **not** been resolved with this release of AIP. The completion of the WIP functionality is on the AIP Roadmap for future consideration.