Oracle® Retail Advanced Inventory Planning

Warehouse Replenishment Planning User Guide
Release 13.1.2

March 2010

ORACLE

Oracle® Advanced Inventory Planning Warehouse Replenishment Planning User Guide, Release 13.1.2

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Preface

The Oracle Retail Advanced Inventory Planning Warehouse Replenishment Planning User Guide describes the application's user interface and how to navigate through it.

Audience

This document is intended for the users and administrators of Oracle Retail Advanced Inventory Planning. This may include merchandisers, buyers, and business analysts.

Related Documents

For more information, see the following documents in the Oracle Retail Advanced Inventory Planning Release 13.1.2 documentation set:

- *Oracle Retail Advanced Inventory Planning Release Notes*
- *Oracle Retail Advanced Inventory Planning Installation Guide*
- *Oracle Retail Advanced Inventory Planning Data Management Online Help*
- *Oracle Retail Advanced Inventory Planning Data Management Online User Guide*
- *Oracle Retail Advanced Inventory Planning Order Management Online Help*
- *Oracle Retail Advanced Inventory Planning Store Replenishment Planning User Guide*
- *Oracle Retail Advanced Inventory Planning Implementation Guide*
- *Oracle Retail Advanced Inventory Planning Operations Guide and Administration Guide*
- *Oracle Retail Advanced Inventory Planning Data Model Volume 1 Oracle Database Data Model*
- *Oracle Retail Advanced Inventory Planning Data Model Volume 2 Measure Reference Guide*

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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 re-create
- 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 and 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

(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.

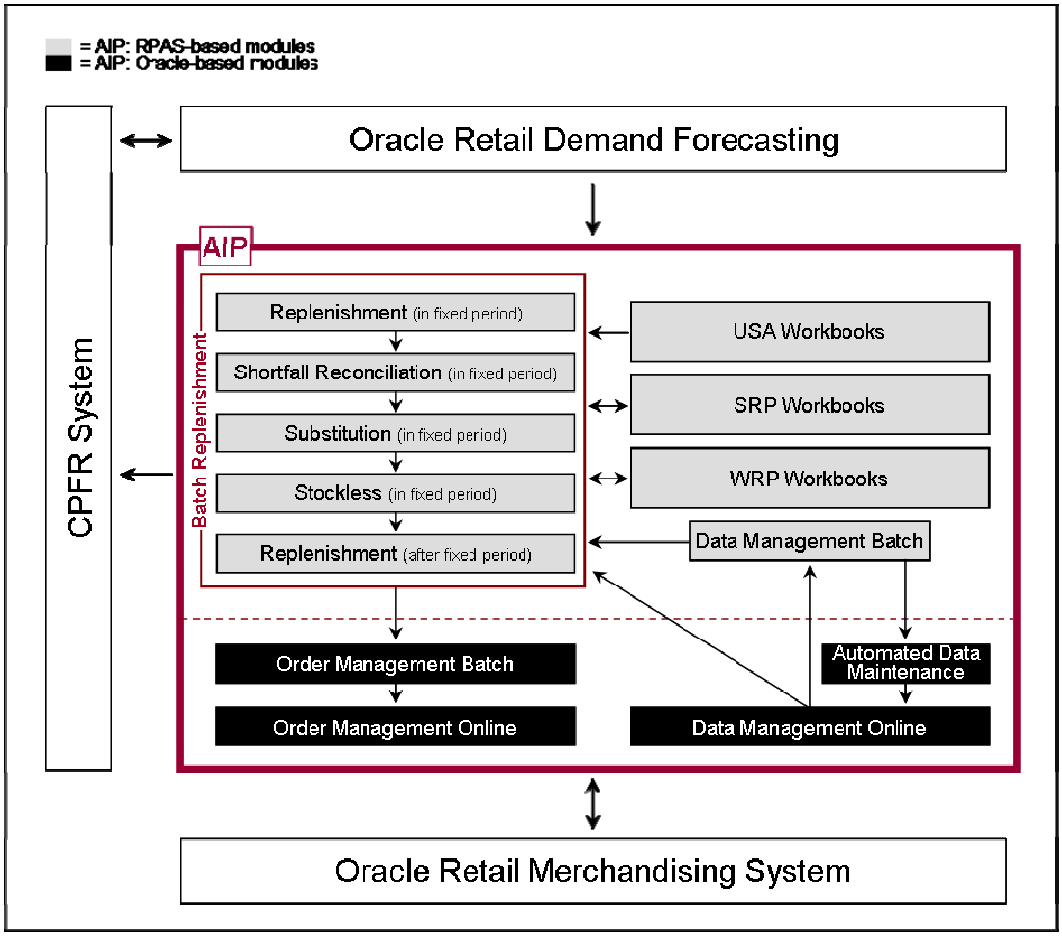
Conventions

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."

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

1
Introduction

Oracle Retail Advanced Inventory Planning (AIP) is a suite of modules that are designed to manage the supply chain needs of large retailers. These supply chain needs range from interaction with their suppliers through various layers of warehouses down to individual stores and e-commerce sites. It couples time-phased replenishment and allocation algorithms to produce an actionable receipt plan over time. This is based on demand forecasts, replenishment parameters, and inventory availability at the numerous supply points within the supply chain.



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 through to the generation of orders, which can then be shared with collaborative planning partners.

The larger process across the Oracle Retail Suites takes the following form:

1. Oracle Retail Demand Forecasting (ORDF) provides a forecast of consumer demand. This 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 is provided by a merchandising system such as ORMS.
3. The receipt plan is then sent to the Order Management module within AIP where those orders that need to be processed are formally-prepared for execution. This 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 on-orders orders.
5. Sales forecasts and order plans can then be shared at the appropriate level with suppliers by using a CPFR product so that trading partners can prepare for the forthcoming orders.

At the core of the AIP batch process are five replenishment sub-processes. These sub-processes 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 functionality differs from many existing replenishment solutions because it yields an actionable plan across time. 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 it is appropriate.

Key to producing an actionable receipt plan is the inclusion of known inventory constraints. This is achieved by performing the five replenishment sub-processes across all locations in the following order:

1. The Replenishment module generates an unconstrained receipt plan for the part of the planning horizon over which constraints will subsequently be applied. This part of the planning horizon is called the Fixed Period.
2. The Shortfall Reconciliation module applies inventory limitations over the fixed period, modifying the receipt plan where necessary.
3. The Substitution module attempts to use product substitutes to satisfy any shortage created by Shortfall Reconciliation within the fixed period.
4. The Stockless module increases orders within the fixed period where necessary to ensure that no warehouse is left with inventory of a stockless product and contractual obligations to order specific quantities of products from vendors are honored.
5. Finally, the Replenishment module is run for a second time for the remaining part of the Planning Horizon after the fixed period.

The resulting receipt plan is then exported to the Order Management module where Order Numbers are produced and the orders 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 problems before they arise so that stock-outs and excess inventory problems can be prevented or reduced.

The volume of the receipt plan produced by AIP is very large, so a minimum of user involvement is desired, but it must also be possible for super-users to change parameters and to see the effects of their changes quickly in order to avoid persistent costly supply chain problems. The system intends that these parameters are managed principally by exception. Manage by exception means that not every SKU or warehouse is reviewed and/or updated on a regular basis. Items with exceptions – alerts- are reviewed and updated if necessary.

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. This includes sourcing links and lead-times.
- Order Management (OM) gives the user visibility of order forecasts and previously-executed orders. It permits a range of modifications to previously executed, but not yet received, purchase orders.

Architectural Notes

The batch replenishment and workbook modules within the AIP Solution run from a common platform, which is called the Oracle Retail Predictive Application Server (RPAS). RPAS is a foundation that includes features, such as:

- Multidimensional databases
- Product, time, and business location hierarchies
- Aggregation and spreading of data
- Workbooks and worksheets for displaying and manipulating forecast data
- Wizards for creating and formatting workbooks and worksheets
- Menus, quick menus, and toolbars for working with forecast and sales data
- Exception management and user-friendly alerts

See the *RPAS User Guide* for more details.

RPAS User Interface Basics

Workbooks

A workbook is an easily viewed, easily manipulated multidimensional framework that is used to perform specific business functions, such as generating replenishment receipt plans and reviewing parameters. To present data, a workbook can contain any number of multidimensional spreadsheets, called worksheets, as well as graphical charts and related reports. These components work together to facilitate viewing and analysis of business functions.

Data in a workbook can be viewed at lower levels of detail or higher levels of aggregation. Different views are obtained by changing the path and/or level of data rollup. Data in a workbook can also be manipulated at any hierarchical level. If you modify data at an aggregate level, these changes are distributed down to the lower levels. The reverse is also true – if you modify data at a lower level in the hierarchy, the aggregates of the data reflect those changes.

Worksheets

Worksheets are multidimensional spreadsheets that are used to display workbook-specific information. Workbooks can include one or many worksheets. Worksheets can present data in the form of numbers in a grid, or these numeric data values can easily be converted to a graphical chart.

You can display the information in a worksheet in a variety of formats; which are generally by rotating, pivoting, and changing the data rollup. These processes are explained in detail in the *Oracle Retail Predictive Application Server (RPAS) Online Help*, which is available from the Help menu in WRP or the accompanying print version of the *RPAS User Guide*. You can easily change the presentation style of data in a worksheet. When data sets are moved around, their positions change. Data can be viewed at a very high level of detail, or data values can be quickly aggregated and viewed at summary levels. Furthermore, worksheets and parts of worksheets can easily be changed into charts, which facilitate the graphical viewing and analysis of data.

Wizards

When new workbooks are created, assistance in defining the nature of the information displayed is provided in the form of wizards. Wizards are pre-defined steps that walk the user through the data selections necessary to use/build each workbook. Wizards are also available to prompt the user for information regarding the definition of alerts and user account management.

Business Process Overview

How WRP Fits into the AIP Product

While the WRP workbooks allow the user to interact with the AIP replenishment system from a warehouse perspective, WRP does not exist in its own right as a batch process.

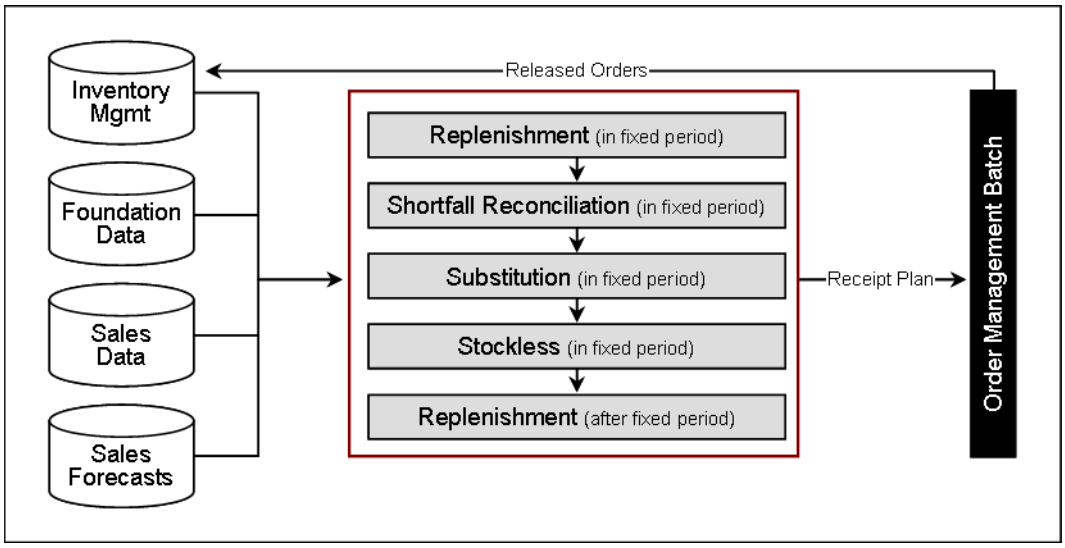
Instead, the actual process of producing a warehouse replenishment plan is accomplished by the running of the five batch replenishment modules.

These five modules, actually just four because the Replenishment module is run twice, are process oriented – rather than being location specific. Instead of each module being focused on just stores or just warehouses, each one is performed for all appropriate nodes in the network.

When strung together, these batch modules produce a constrained receipt plan for all locations in the network. WRP simply provides a warehouse-oriented mechanism for interacting with the receipt plan.

Replenishment System Process

AIP supports a basic business process for creating and releasing replenishment plans for all locations in the network. This process combines batch and interactive online activities. Refer to the diagram below:



Business Process Workflow

Step 1 – Load and Maintain Data

To generate a constrained replenishment plan for any location, four main types of data must first be loaded into the RPAS database:

- Basic hierarchy and attribute information.
- Forecast Store Sales.
- Inventory information, including on-hand and in-transit information that has previously been created by AIP.
- Supply chain definition data including release and placement schedules, and sourcing links

Step 2 – Perform Replenishment (in the fixed period)

Replenishment is run for the fixed period. The fixed period refers to the first part of the Planning Horizon in which inventory limitations apply. Replenishment is a destination-centric process. It addresses every node in the supply chain, starting with stores and progressing onto warehouses, identifying the unconstrained orders required within the fixed period for every SKU-pack/destination combination.

The orders for each SKU pack/destination combination are calculated over the fixed period using the latest inventory position, on-orders and in-transit information. Forecast sales represent demand on a store. For a warehouse however, the demand stream is determined by aggregating the orders of the stores served by the warehouse. These store orders are the ones created by this process step. This means that replenishment for stores is performed before replenishment for warehouses.

For each destination, the available information is used to make projections of future inventory positions for each delivery opportunity. If the projection for a delivery opportunity falls below boundaries dictated by the replenishment method, then an order is required. Each order is then subject to rounding.

The resulting orders represent the unconstrained receipt plan within the fixed period.

Step 3 – Perform Shortfall Reconciliation (in the fixed period)

Shortfall reconciliation takes the unconstrained receipt plan and applies inventory limitations. This process is source-centric and therefore works from top to bottom through the nodes in the supply chain network.

Shortfall Reconciliation compares the demands upon a source (aggregated destination orders) with the projected available inventory at the source. Availability is only projected for warehouses and vendors with Fixed Purchase Quantity agreements and therefore, Shortfall Reconciliation is only performed for these sources.

Where there is sufficient availability to meet demand, no changes are made to the orders. Where the availability at a source is less than the aggregated demand, Shortfall Reconciliation makes use of a user-maintained matrix to determine how destination priority should be used when sharing inventory. Watershed algorithms are used to share inventory in an attempt to give destinations of the same priority an equal chance of meeting the demand placed upon them.

The resulting orders at this point represent a constrained receipt plan for the fixed period. This plan needs to be further modified to account for more constraints.

Step 4 –Perform Substitution (in the fixed period)

The aim of Substitution is to attempt to satisfy shortages at a warehouse using supplies of a suitable substitute. Substitution is a source-centric activity that is only performed at warehouses in an attempt to ensure a store's need is fully met. No attempt is made to perform substitution for warehouse orders that is shorted due to insufficient inventory.

Substitution examines those situations at a warehouse where the unconstrained receipt plan in step 2 across stores is now less than the constrained receipt plan in step 3. The difference between the two represents a shortage. It then uses any spare inventory of a substitute to meet that need. Spare inventory is that which is not required to meet unconstrained demand. If there is insufficient supply of the substitute then the priority matrix and waterfall algorithms are again used to distribute what inventory there is.

If having used one substitute, a shortfall on the original demand still exists, the process can be repeated multiple times until either no shortage exists or all available substitutes are exhausted.

The resulting orders now represent a constrained receipt plan, some of which are orders of substitutes SKUs.

Step 5 – Perform Stockless (for the fixed period)

Stockless functionality identifies those situations where there is excess stock at a Source that needs to be consumed by the destinations served by the source. Stockless is a source-centric process and works for vendors with SPQs and warehouses with stockless products.

Stockless identifies excess stock at sources. Excess stock is defined as any remaining inventory of a stockless product at a warehouse not consumed by demand, or any residual inventory at a Vendor that the retailer is contractually committed to the order.

Stockless attempts to increase orders from the source to absorb the excess. The priority matrix, watershed and fairshare algorithms are used to ensure that destinations are fairly dealt with.

The resulting orders represent the final constrained receipt plan for the fixed period. The orders in the fixed periodare not changed any further within the current batch run.

Step 6 – Perform Replenishment (after the fixed period)

Once the constrained receipt plan has been determined for the fixed period, the projected inventory position at the end of the fixed period can be calculated. This inventory position is then used as the basis for a second run of the Replenishment module, but this time focusing on the remaining planning horizon after the fixed period.

Given that no inventory constraints are applied after the fixed period, running Replenishment after the fixed period is all that is required to produce a receipt plan for this period of time.

When concatenated, the constrained receipt plan from the fixed period and the receipt plan from the post fixed period form what is referred to as the constrained receipt plan for the planning horizon (although as already mentioned no constraints were applied to the post fixed period).

It is this receipt plan that can be viewed from a store perspective within SRP and a warehouse perspective within WRP.

Step 7 – Export Orders to Order Management (after the fixed period)

Once a constrained receipt plan has been produced, a subset of the orders is then sent to the Oracle Platform for processing by Order Management. This subset contains the following:

- All into store and into warehouse orders sourced from Vendors (Purchase Orders) across the entire planning horizon.
- All into warehouse orders sourced from other warehouses (Transfers) across the entire planning horizon.
- All into store orders sourced from warehouses (Transfers) with release dates that need to be shipped today.

Step 8 – Order Management Execution of Orders

Of the subset of orders exported to Order Management, those with a release date of today are given appropriate orders numbers. The Order Numbers are allotted based upon an implementation-time mask that determines how orders (both Transfers and Purchase Orders) should be grouped together.

Those orders that have been allotted numbers are then executed (released) to the merchandising system for subsequent communication to other systems including EDI.

The Order Management interface gives the user access to those orders that have already been released. Those purchase orders that have not been received may be updated. Those forecast Purchase Orders that have not yet been released because they ship at a later date may be executed early.

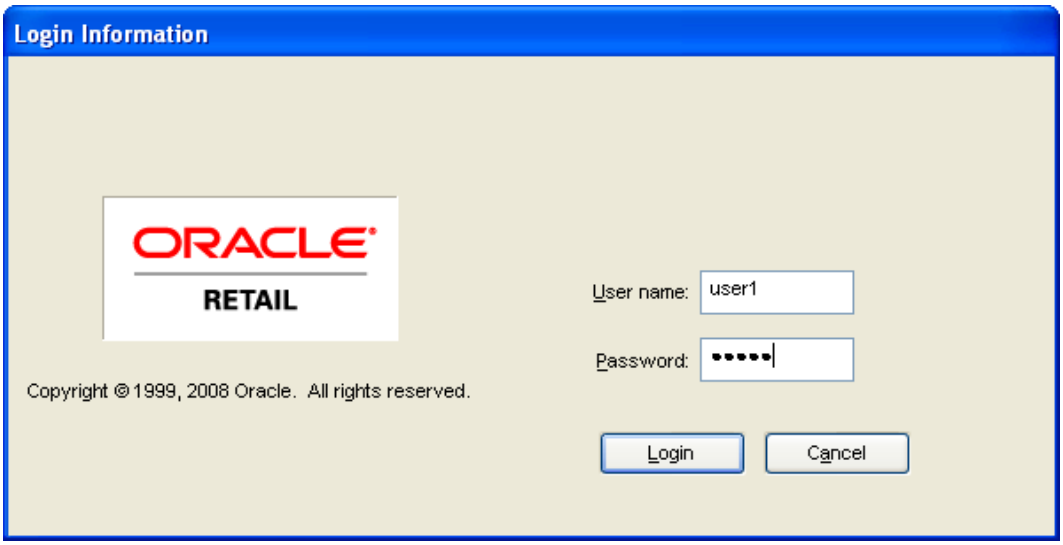
2

Navigation in WRP

This chapter provides a brief description of how to get started using SRP.

Logging into WRP

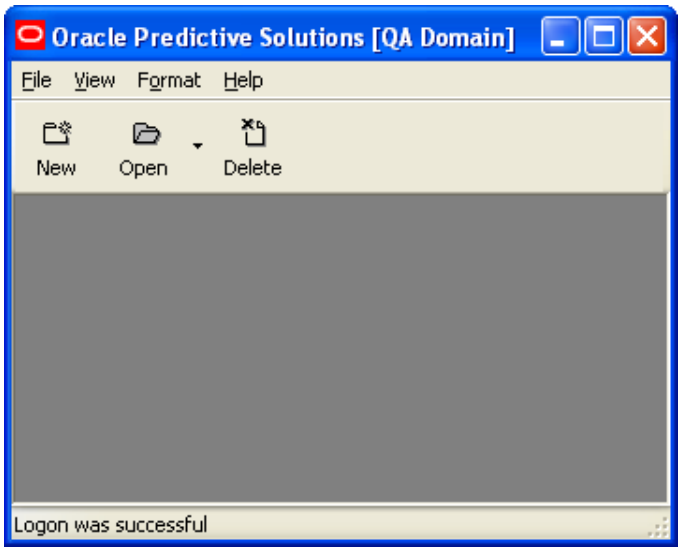
1. From the Windows Start menu, select **Programs – Oracle Predictive Solutions – Oracle Predictive Solutions**. The Login Information dialog box appears.



Login Information Dialog

2. Enter your User Name and your Password in their respective fields.
3. Click **Login**.

   After you successfully log in as a WRP user, a window is displayed with the following menu bar and toolbar.



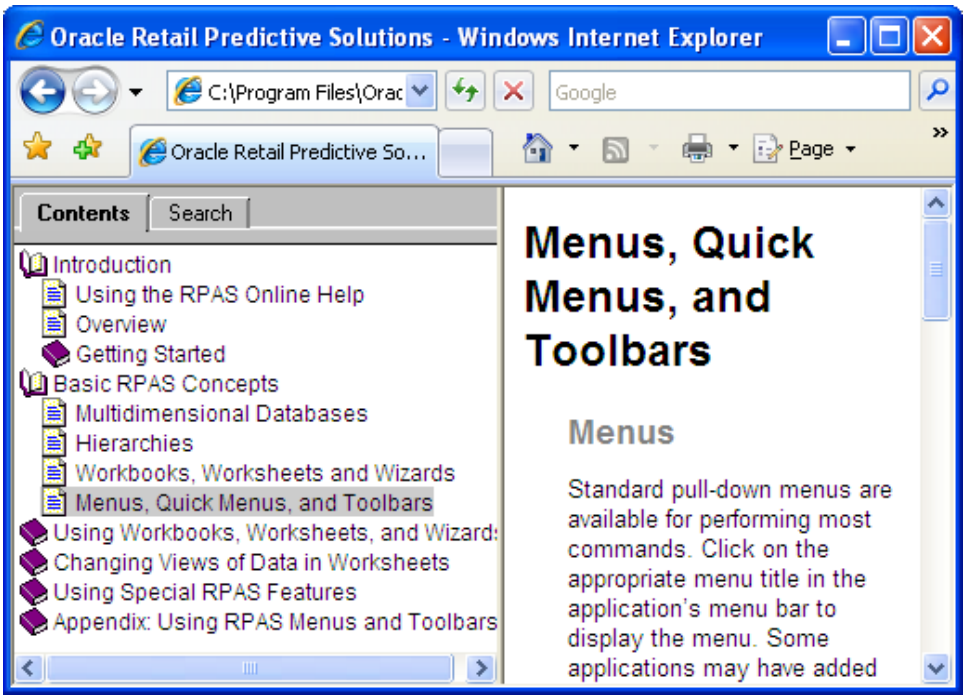
Oracle Predictive Solutions [AIP 12] Main Menu and Toolbar – No Workbooks Open

Accessing Help

The Oracle Retail Predictive Solutions Help provides information that is common to the use of all Retail Predictive Solutions products. It includes general topics; such as Basic RPAS Concepts, Using Workbooks, Worksheets, and Wizards, Changing Views of Data in Worksheets, and Using Special RPAS Features. Material in online Help is replicated in the *RPAS User Guide* for offline access. Information that is specific to WRP is provided in this user guide as outlined in the table of contents.

To become familiar with workbooks and worksheets, different data views, and other general topics, open the Help and review the topics that are available. For example, for details on all of the menu options and toolbar buttons, follow this procedure:

1. From the main menu, select Help – Contents (or press F1). Your Web browser opens and displays the Help window.
2. Within the Help window, select **Basic RPAS Concepts – Menus, Quick Menus, and Toolbars**. Select an applicable topic.



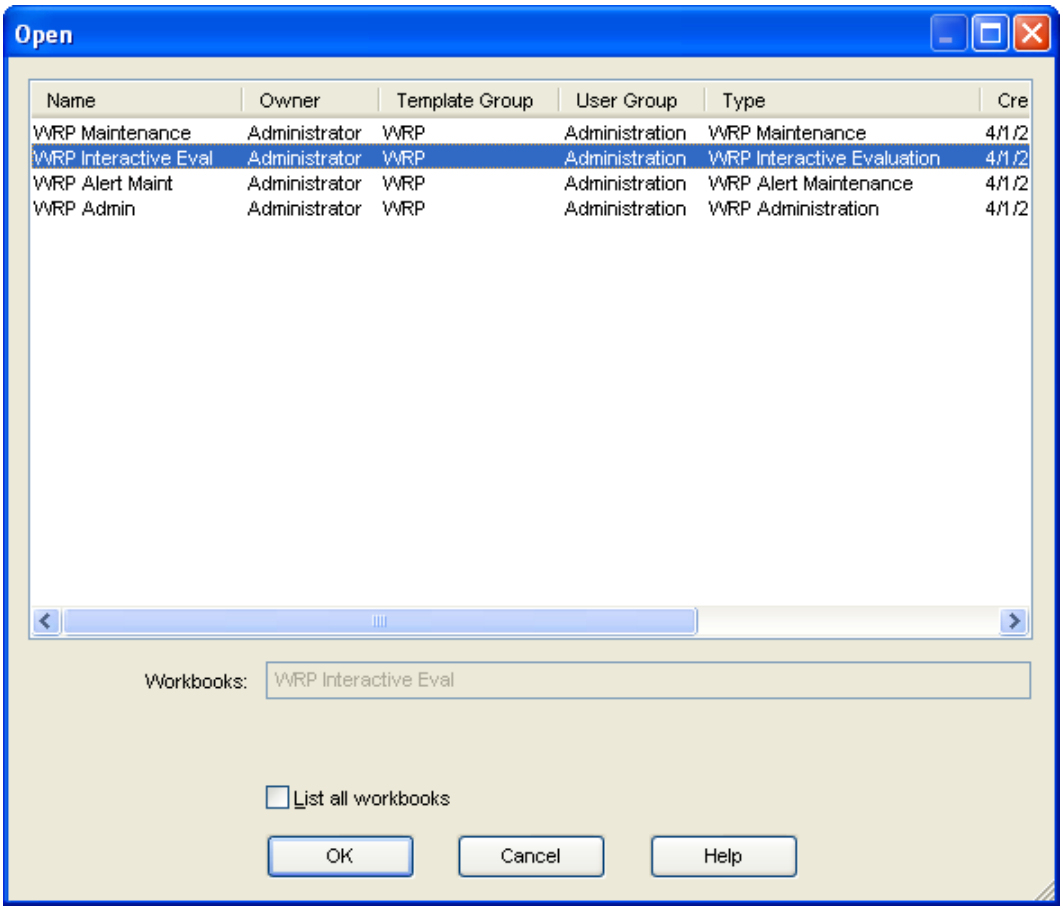
Help Contents – Menu, Quick Menus, and Toolbars Topics

Opening an Existing Workbook

If WRP workbooks have already been created, a list of the workbooks that are available to the user can be displayed and selected.

1. From the File menu, select **Open** or click Open.

   The Open window appears. This window provides lists of all workbooks that were previously created.



Open Workbooks Window

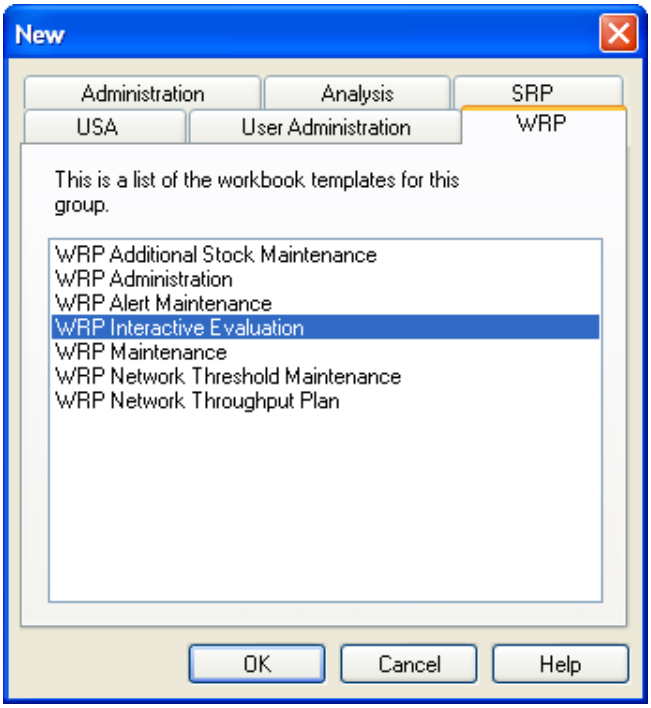
2. Select a workbook to read or edit.
3. Click **OK**. The selected workbook is opened. The last visible window when the workbook was saved is displayed. Use the next or previous arrows to navigate through the workbook windows.

Creating a New Workbook

Choose New from the File menu, or click **New**. This launches wizards to provide a step-by-step method for creating new workbooks.

> **Note:** This procedure outlines the basic steps for creating a new workbook. For detailed information about building specific WRP workbooks, see the chapter on Workbook and Worksheet Descriptions..

1. From the main menu, select **File – New**, or click **New**. The New dialog box appears



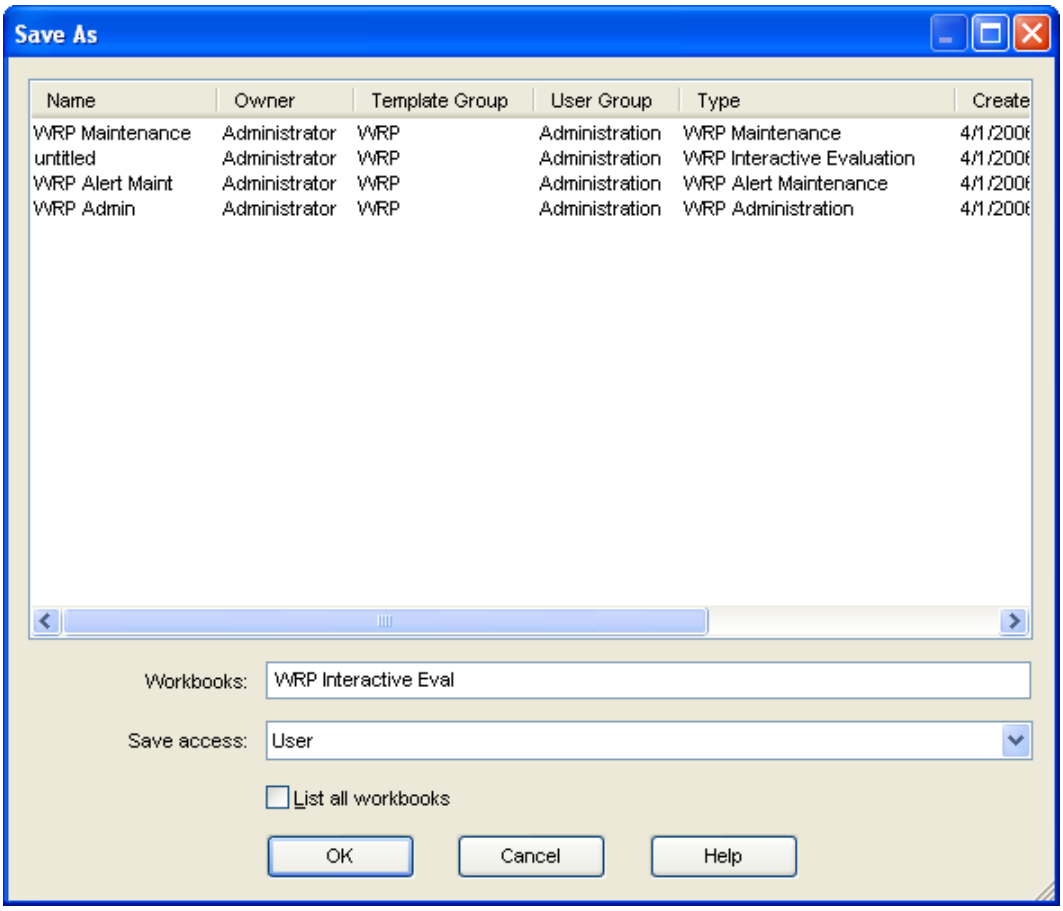
New Dialog Box for Creating Workbooks

2. Click the **WRP** tab. This tab contains workbook templates for each workbook type.
3. Click on the workbook template for the workbook type that you want to build.
4. Click **OK**.
5. Follow the wizard instructions to create the workbook.

Saving a Workbook

A newly created workbook can be saved at any point in the planning process and opened later to complete the planning process or edit previous steps. This action also allows flexibility to continuously revise plans as new information comes in.

1. From the File menu, select **Save**. The Save As dialog appears.



Save As Dialog for Workbooks

The column fields in the list box describe existing workbooks:

- Name – Name of workbook
- Owner – Name of owner
- Template Group – WRP
- User Group – Work group of the plan originator
- Type – Type of workbook
- Created – Date of origination
- Modified – Date of last update
- Access – User (originator), world or group access

The Save As window displays previously saved workbooks. The first field is blank. When a name is entered for this workbook, it is displayed in the list of workbook that can be viewed or edited. This workbook name is displayed on the title line when the workbook is open for further build or editing procedures.

2. Enter an identifying name in the top Workbooks field.

3. In the Save Access As section, select User, World, or Group. If Group is selected, other users within your group are allowed to view or edit this workbook. If User is selected, only the plan originator is allowed to view or edit this workbook. If World is selected, any user is allowed to view or edit this workbook.
4. If you want all workbooks from your group to be displayed for viewing or editing, select the **List All Workbooks** check box. If this check box is cleared, only the workbooks that were created by you as the Owner are displayed.
5. Click **OK**. The parameters of this workbook are saved and the workbook structure is available for continued planning or for access at another time.

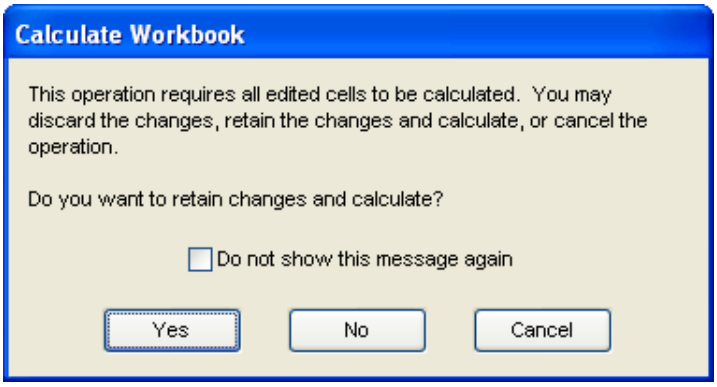
Saving Options

The following table displays the options that are available on the File menu.

Option	Description
Save	This option allows you to save all information in the workbook including the current layout of worksheets within the steps. This option has the same result as if you select File – Save, or if you click the Save button on this toolbar. The Save button updates the stored information if the current workbook was previously saved. If the workbook was not previously saved, the Save button produces the Save As dialog where you specify a workbook name. The Save button does not commit changes to the master database.
Commit Now	This option commits the current state of data in your workbook to the master database. This option has the same result as if you had selected File – Commit Now. If changes were made in the workbook since the last save, you are asked whether or not you want to save the workbook before committing your data.
Save and Commit Now	This option saves the workbook and immediately commits the data to the master database. Workbook information may be available for other users.
Save and Commit Later	This option immediately saves the workbook. At a later time, the workbook is committed to the master database during a batch process when system utilization is minimized.

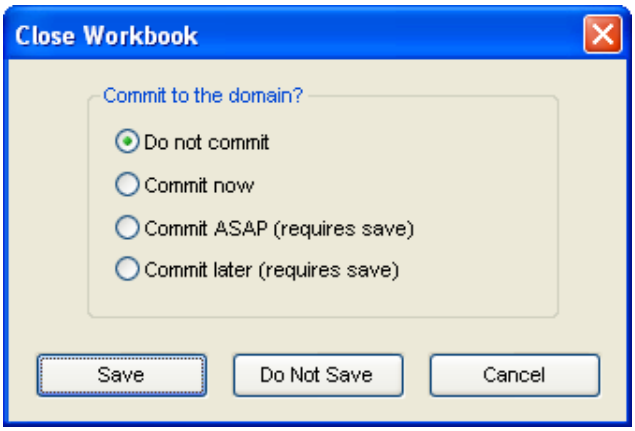
Closing a Workbook

1. From the File menu, select **Close**.
2. If changes were made to the workbook without selecting **Calculate**, the Calculate Workbook dialog box appears.



Calculate Workbook Dialog

3. Click **Yes** to retain changes and calculate, or click **No** to ignore (discard) the changes. If **Yes** is selected, the Close Workbook dialog box appears.



Close Workbook Dialog

4. Choose the commit type if desired and click **Save**, **Don't Save** (discard the changes) or **Cancel** to abort the process.

Deleting a Workbook

Select **Delete** from the File menu, or click Delete to display a window that lists all of the plans and reports that were previously created. You can select a workbook for deletion.

1. From the File menu, select **Delete**, or click the **Delete** button on the toolbar. The Delete window, which shows a list of workbooks, is displayed.
2. Select the title of the workbook that you want to delete. The workbook title is highlighted.
3. Click **OK**. A dialog window prompts you to confirm your decision.
4. Click **OK** to delete the workbook, or click **Cancel** to abort the process.

Logging Off of WRP

Follow this procedure to log off of the system and immediately exit Oracle Predictive Solutions.

1. From the File menu, select **Exit**.
2. If changes were made to an open workbook, the same procedures are followed for closing a workbook without calculating.

Follow this procedure to log off of the system and to leave the Login dialog open for another user or for use with another Oracle Retail planning product.

1. From File menu, select **Logoff**.
2. If changes were made to an open workbook, the same procedures are followed for closing a workbook without calculating.

What's Next

Once you are familiar with the procedures in this chapter, you can explore the other features and functions of WRP as described in the remaining chapters of this user guide.

3

Workbook and Worksheet Descriptions

This chapter describes the standard workbooks, worksheets, and associated measures that are used within WRP.

Global Domains

The WRP solution is always implemented on global domains. Global domains provide you with the ability to build, review, save, and commit workbooks in a master domain with data from multiple local domains.

Low Variability Measures

AIP employs the concept of low variability for several high-density measures. Low Variability measures are those which are time-phased by day and tend to change very little over time. Because there is little change, the same value is often repeated for several days. AIP takes advantage of this redundancy, by storing only changed values in low variability measures.

AIP also allows maintenance of replenishment parameters at various level of the product hierarchy to provide the user with the capability of creating settings, using overrides only for exceptions.

The user can maintain these parameters at three levels in the hierarchy:

- Global parameters are the highest default level used in determining the effective value of the measure. In other words, the parameter values at the global level is only used if no lower level (default or exception) parameters exist.
- Default Parameters are the second and middle default level used in determining the effective value of the measure. In other words, the parameter values at the default level are only used if no lower level (exception) parameters exist. Parameter values at the Sub-class/Store Format level are used over global defaults.
- Exception parameters are the lowest level used in determining the effective value of the measure. In other words, exception parameters are used over global and default level parameters.
- The default parameters allow the user to enter parameters that affects many SKUs. Defaults can be used to set up basic replenishment parameters to meet the objectives of the business, with exceptions used for override values. Many of the exception level parameters are also time-phased by day or week, allowing the user to change parameters prior to the actual date the change is effective.

At the exception level, when data is entered on a specific date, that date becomes an effective date for that measure. Once a value is entered on a date, the value remains in effect until the value is changed to another valid value, or a special value is entered. The special values are introduced for low variability measures to allow the user to enter an exception value only on the date it becomes effective, remove the exception value to set the parameter back to the default value, and to indicate the parameter has no upper boundary.

The special values are described in the table below.

Value	Description
-1 (Use Previous)	Indicates the measure uses the value from the previous day (i.e., the value remains the same as the prior day)
-2 (Use Default)	Indicates the measure is set to its original default value from the global or default level
-3 (Unbounded)	Indicates the measure is unbounded

Expanded measures show logical results of the multi-tiered defaults and low variability measures that are used in calculations.

The following example shows the results of a user entering data at the exception level.

Example: Max Time Supply Days has a global default value of 14 and no value at the default level.

Date	11/27	11/28	11/29	11/30	12/01	12/02
User Entered Value (exception level)		7			-2	
Expanded Results	14	7	7	7	14	14

The following example shows the results of an unbounded measure (Maximum Stock) with global, default and exception data. For this example, assume the global and default values change on the date indicated in the table below.

Date	11/27	11/28	11/29	11/30	12/01	12/02	12/03
Global	800	800	800	800	800	800	-3
Default	500	500	500	500	-3	-2	-1
Exception	-3	-1	-1	-2	-1	-1	-1
Expanded Results	∞	∞	∞	500	∞	800	∞

Based on this example:

- On 11/27, the user enters **-3** at the exception level, indicating that there is no upper limit for Maximum Stock.
- On 11/28 and 11/29, nothing is entered at the exception level. The default value of **-1** indicates the previous value is used, resulting in Maximum Stock remaining unbounded.
- On 11/30, the user enters **-2** at the exception level, indicating the default value is used, resulting in Maximum Stock of 500 (default level).
- On 12/01, nothing is entered at the exception level. The default value of **-1** indicates the previous value (default level) is used. The default level has changed to **-3**, resulting in Maximum Stock being unbounded.
- On 12/02, nothing is entered at the exception level. The default value of **-1** indicates the previous value is used. The default level has changed to **-2**, indicating the global default value is used, resulting in Maximum Stock of 800 (global level).
- On 12/03, nothing is entered at the exception level. The default value of **-1** indicates the previous value (global level) is used. The global default level has changed to **-3**, resulting in Maximum Stock being unbounded.

WRP Administration Workbook

The WRP Administration workbook is used to manage department and Sub-class level default values. These are used to populate measures for WRP when no exception level parameter exists or when a new department or SKU group is added to the hierarchy. The values here determine the specific details that are needed to generate a replenishment plan. This workbook contains the following tabs and worksheets:

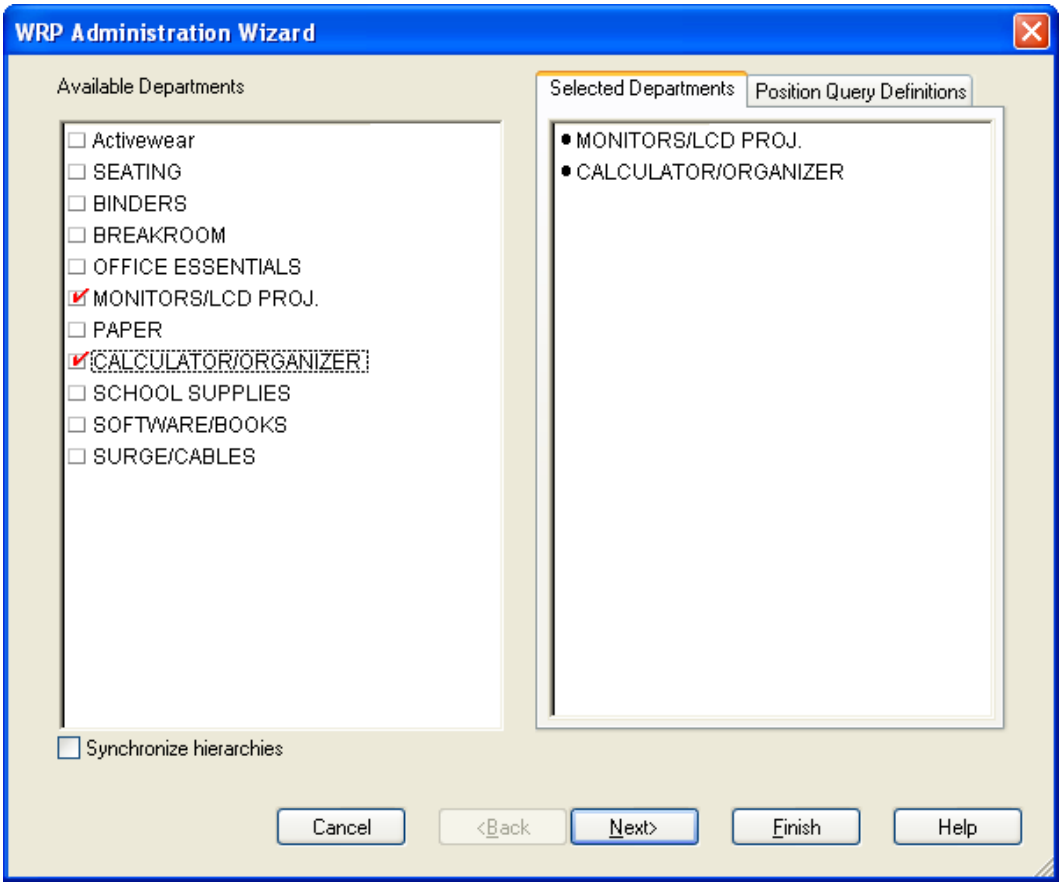
- A WRP Global Parameters (Dept) Tab containing
  - A WRP Global Parameters worksheet at the Dept level
- A WRP Default Parameters (Sub-class/Destination/Day) Tab containing
  - A WRP Default Parameters worksheet at the Sub-class/Destination/Day level
- A WRP Default Parameters (Sub-class/Destination/Week) Tab containing
  - A WRP Default Parameters worksheet at the Sub-class/Destination/Week level
- A WRP Default Parameters (Sub-class/Destination) Tab containing
  - A WRP Default Parameters worksheet at the Sub-class/Destination level

Note: Unless otherwise stated, all measures in this workbook are writeable.

WRP Administration Wizard

Available Departments

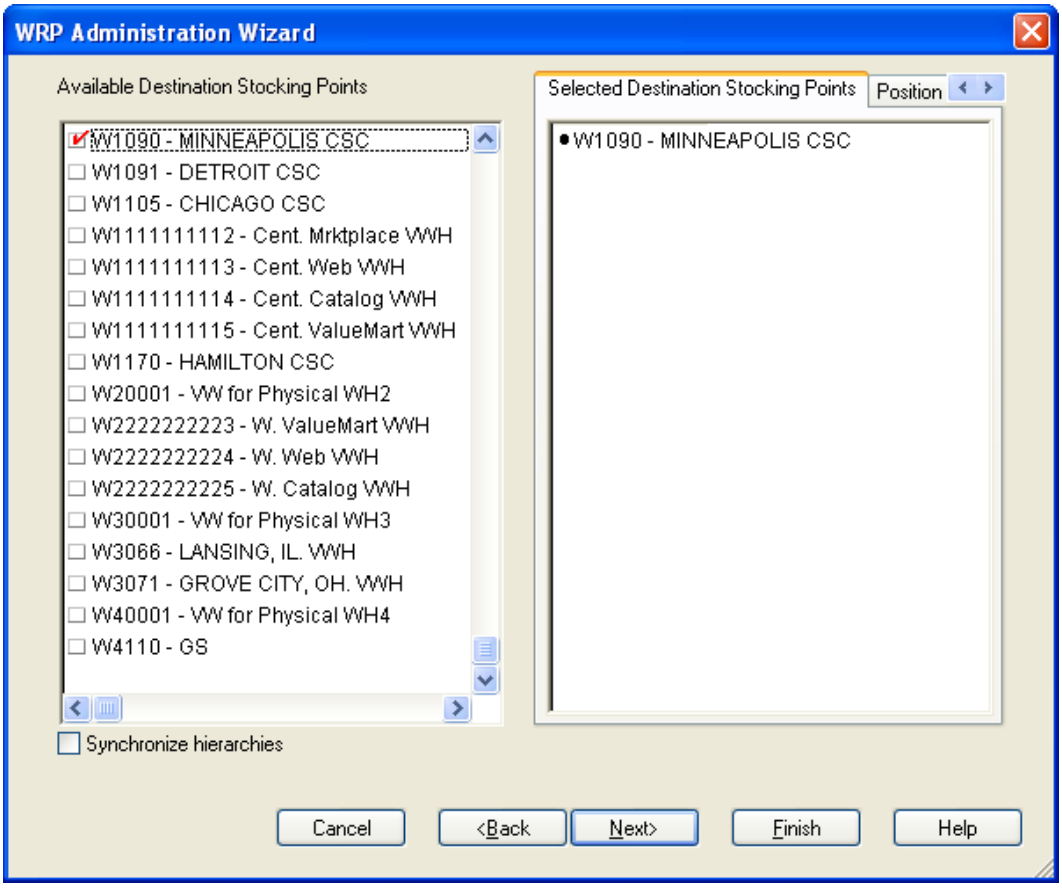
This dialog box enables the user to select Departments from a list of all available Departments in the AIP domain. The Selected Departments list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Departments. Standard RPAS functionality is available for this particular wizard page.



WRP Administration Wizard – Available Departments

Available Destination Stocking Points

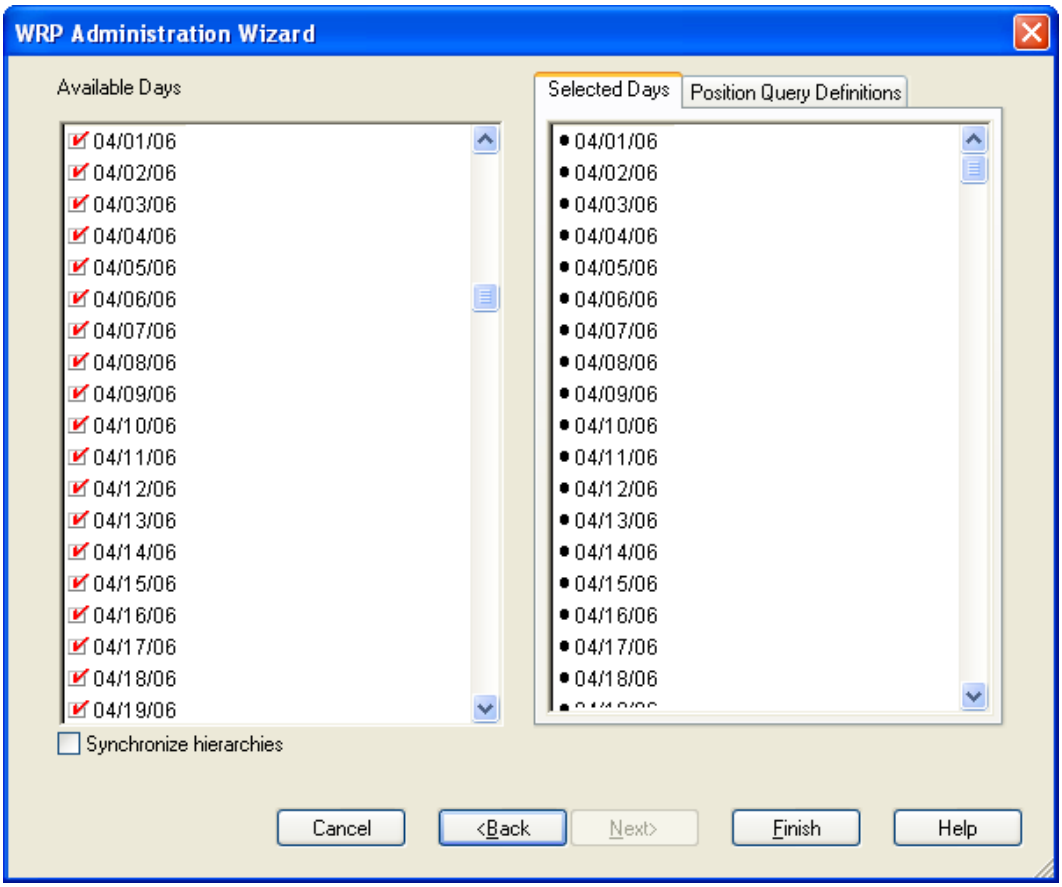
This dialog box enables the user to select Destination Stocking Points from a list of all available Destination Stock Points in the AIP domain. The Selected Destination Stocking Points list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Destination Stocking Points. Standard RPAS functionality is available for this particular wizard page.



WRP Administration Wizard – Available Destination Stocking Points

Available Days

This dialog box enables the user to select Days from a list of all available Days in the AIP domain. The Selected Available Days list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Days. Please note if all days in the scheduled horizon are not selected, workbook calculations may display different values from batch. Standard RPAS functionality is available for this particular wizard page.



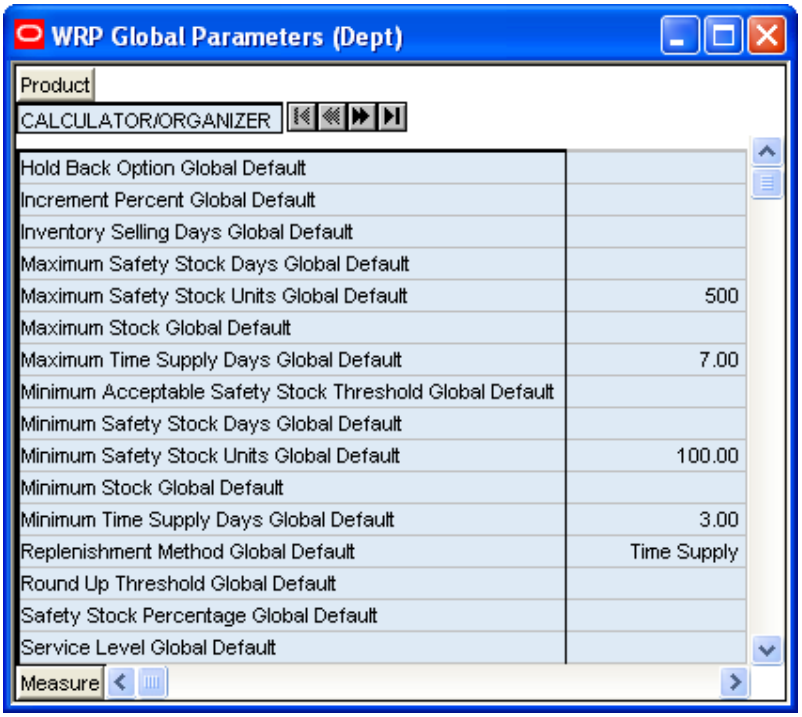
WRP Administration Wizard – Available Days

When the user selects **Finish**, the workbook is built using the selections made by the user.

WRP Global Parameters (Dept) Tab

WRP Global Parameters (Dept) Worksheet

The WRP Global Parameters (Dept) worksheet contains the global department level default values for parameters used in the generation of warehouse replenishment plans.



WRP Global Parameters (Dept) Worksheet

The following measures are displayed automatically when using the default template:

Measure Label	Explanation
Hold Back Option Global Default	The Hold Back Option indicates whether the hold back quantity should be considered when the batch determines if an order should be generated. Valid values are **Do Not Reserve Holdback Quantity** or **Reserve Holdback Quantity**. Reserve Holdback Quantity means that any user-specified Hold Back quantity should be deducted from the On Hand (Net Inventory) position. Do Not Reserve Holdback Quantity means that the On Hand (Net Inventory) calculation ignores any Hold Back quantity specified by the user.
Increment Percent Global Default	The Increment Percent acts as a multiplier for minimum and maximum stock that is designed to handle temporary fluctuation in demand for items using Min/Max Replenishment Method. An increment percentage factor can be used to temporarily increase or decrease targeted stocking levels without altering the established MIN and MAX values. Any positive number, including zero, is valid. Example: To use 120% of the Min and Max Stock, the user would enter a value of 1.2.

Measure Label	Explanation
Inventory Selling Days Global Default	The number of days used to sum the forecasted demand for Dynamic and Hybrid replenishment method calculations. Inventory selling days can be used to ensure a minimum number of days of supply are included in the order. Any positive number is valid. Example: To account for 3 days of demand, the user should enter 3.
Maximum Safety Stock Days Global Default	The Maximum Safety Stock Days parameter is used to specify the maximum number of days of cover to be kept on hand as safety stock. If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary uses the larger of demand over max safety stock days and max safety stock units. Any positive integer, including zero, is valid. Example: To ensure the maximum safety stock contains at least 14 days of supply, 14 would be entered in Max Safety Stock Days. If Max Safety Stock Units is greater than 14 days of supply, max units would be used as the maximum safety stock, otherwise maximum safety stock would be the number of units required to cover 14 days of demand.
Maximum Safety Stock Units Global Default	The Maximum Safety Stock Units parameter is used to specify the maximum amount of inventory (in units) to be kept on hand as safety stock. If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary uses the larger of demand over max safety stock days and max safety stock units. Any positive number, including zero, is valid. Example: To ensure the maximum safety stock contains at least 14 days of supply, 14 would be entered in Max Safety Stock Days. If Max Safety Stock Units is greater than 14 days of supply, max units would be used as the maximum safety stock, otherwise maximum safety stock would be the number of units required to cover 14 days of demand.
Maximum Stock Global Default	Maximum Stock is only used in the Min/Max Replenishment Method. It represents the maximum stock level in units that are desired on hand to satisfy demand. The receipt plan quantity is calculated to bring Net Inventory up to the specified Maximum Stock level. Any positive number, including zero, is valid.
Maximum Time Supply Days Global Default	Maximum Time Supply Days is only used in the Time Supply Replenishment Method. It represents the maximum stock level in terms of a number of days cover that are desired on hand to satisfy demand. The receipt plan quantity is calculated to bring Net Inventory up to Maximum Time Supply Days of cover. Any positive integer, including zero, is valid. Example: To ensure an order brings the inventory level up to 14 days of supply, 14 would be entered in Max Time Supply Days.
Minimum Acceptable Safety Stock Threshold Global Default	This parameter indicates the percentage of safety stock that must be protected when rounding the Ideal Receipt Quantity (IRQ) to an order multiple. The IRQ cannot be rounded down if doing so results in less than the specified percentage of safety stock being ordered. Any positive number, including zero, is valid. Example: To protect 40% of safety stock, the user would enter a value of 0.4.

Measure Label	Explanation
Minimum Safety Stock Days Global Default	The Minimum Safety Stock Days parameter is used to specify the minimum number of days of cover to be kept on hand as safety stock. If the user enters both Min Safety Stock Days and Min Safety Stock Units, the minimum safety stock boundary uses the larger of demand over min safety stock days and min safety stock units. Any positive integer, including zero, is valid. Example: To ensure the minimum safety stock contains at least 7 days of supply, 7 would be entered in Min Safety Stock Days. If Min Safety Stock Units is greater than 7 days of supply, min units would be used as the minimum safety stock, otherwise minimum safety stock would be the number of units required to cover 7 days of demand.
Minimum Safety Stock Units Global Default	The Minimum Safety Stock Units parameter is used to specify the minimum amount of inventory to be kept on hand as safety stock. If the user enters both Min Safety Stock Days and Min Safety Stock Units, the minimum safety stock boundary uses the larger of demand over min safety stock days and min safety stock units. Any positive number, including zero, is valid. Example: To ensure the minimum safety stock contains at least 7 days of supply, 7 would be entered in Min Safety Stock Days. If Min Safety Stock Units is greater than 7 days of supply, min units would be used as the minimum safety stock, otherwise minimum safety stock would be the number of units required to cover 7 days of demand.
Minimum Stock Global Default	Minimum Stock is only used in the Min/Max Replenishment Method. It represents the minimum stock level in units that are desired on hand to satisfy demand. Min Stock is used in determining the inventory level at which a replenishment is triggered. Any positive number, including zero, is valid.
Minimum Time Supply Days Global Default	Minimum Time Supply Days is only used in the Time Supply Replenishment Method. It represents minimum stock level in terms of number of days cover that that are desired on hand to satisfy demand. Min Time Supply Days of cover is used in both safety stock and receipt point calculations.
Replenishment Method Global Default	The choice of Replenishment Method determines the type of calculations that is used in generating a warehouse replenishment plan. The user selects the Replenishment Method from the following picklist options: ▪ Min/Max ▪ Time Supply ▪ Dynamic ▪ Hybrid ▪ No Replenishment ▪ Sales Week Range ▪ Factor AWS ▪ Loaded SS Dynamic ▪ Factor ARS The default method is No Replenishment.

Measure Label	Explanation
Round Up Threshold Global Default	The Rounding Threshold represents the percentage of the last order multiple above which the Ideal Replenishment Quantity is rounded up and below which it is rounded down. Valid values are 0 through 1. Example: If a user wants to round up when the remaining part of the IRQ is more than 25 percent of an order multiple, they would enter .25 in Rounding Threshold.
Safety Stock Percentage Global Default	The Safety Stock Percentage Global Default measure is reserved for future use.
Service Level Global Default	Service Level is used in the safety stock calculations for the Dynamic replenishment method. It is defined as the percentage of unit demand that should be met by inventory. Valid values are 0 through 1. Example: If a user wants to carry enough safety stock to maintain a 90% customer service level, the user would enter .90.
SPQ Commitment Type Global Default	The SPQ Commitment Type is used whenever a Supplier Purchase Quantity (SPQ) has been entered for a SKU. The commitment type indicates how the SPQ should be interpreted. The options are **Fixed** or **Capped**. Fixed indicates that the user-specified SPQ quantity may not be exceeded, but it must be ordered in its entirety, regardless of whether there is demand for it. Capped indicates that the user-specified SPQ quantity may not be exceeded, but it need not be ordered if it is not required.
Statistical Variance Threshold Global Default	The variance threshold is used to determine whether statistical variance should be updated. If the calculated value is above the threshold, then it is not used to update variance.
Statistical Variance Upper Boundary Global Default	WRP calculates variance as a percent of forecast demand. The variance (represented as a percentage) is not permitted to exceed this threshold.
Time Supply Horizon Global Default	The Time Supply Horizon parameter is only used in the Time Supply Replenishment method. If a time supply horizon is specified, the rate of sale is used instead of the actual forecast when calculating demand over the time supply days for inventory target level calculations. Any positive integer is valid. Example: To calculate a Rate of Sale (ROS) over a one week period, enter a value of 7 in Time Supply Horizon. The (ROS) is then calculated by summing the forecasted sales over the 7 days and dividing that number by 7.
Warehouse ARS Factor Global Default	Used only in the ARS (Average Rate of Sale) Replenishment Method, this factor is multiplied by the ARS to determine target stock levels. Any positive value is valid. Example: To multiple the ARS by a factor of 2, the user should enter a value of 2.

Measure Label	Explanation
Warehouse AWS Factor Global Default	Used only in the AWS (Average Weekly Sales) Replenishment Method, this factor is multiplied by the AWS to produce target stock levels. Any positive value is valid. Example: To multiple the ARS by a factor of 2, the user should enter a value of 2.
Warehouse End Date Range Global Default	This End date dictates the end of the time period used to establish demand in the Sales Week Range and Factor AWS Replenishment methods. A pop-up calendar can be used to select the desired end date. Any date prior to the current day is valid.
Warehouse Maximum Global Default	This represents the Maximum Safety Stock boundary for the Loaded Safety Stock, Sales Week Range, Factor ARS and Factor AWS Replenishment methods. Any positive value is valid. Example: To set a maximum safety stock boundary of 6 units, the user would enter 6.
Warehouse Minimum Global Default	This represents the Minimum Safety Stock Boundary for the Loaded Safety Stock, Sales Week Range, Factor ARS and Factor AWS Replenishment methods. Any positive value, including zero, is valid. Example: To set a minimum safety stock boundary of 2 units, the user would enter 2.
Warehouse Start Date Range Global Default	This Start date dictates the beginning of the time period used to establish demand in the Sales Week Range and Factor AWS Replenishment methods. A pop-up calendar can be used to select the desired start date. Any date prior to the current day is valid.

Hidden Workbook Measures

The following measures are hidden when using the default template. They can be displayed and maintained by using the Insert measure function of RPAS.

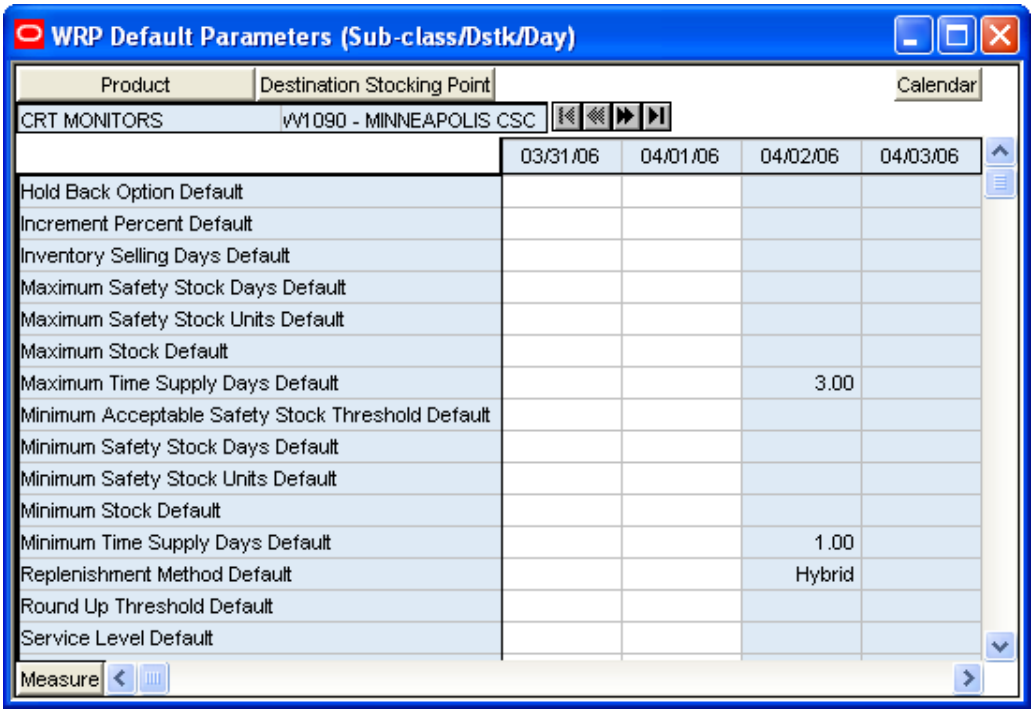
Measure Label	Explanation
Supplier Compliance Safety Stock Global Default	This represents a number of additional days of stock beyond the Review Time or Inventory Selling Days that should be carried to account for poor Supplier Delivery Performance. Any positive value, including zero, is valid. Example: To carry 2 additional days of inventory to account for poor Supplier delivery performance, enter 2.

Measure Label	Explanation
Warehouse Roll Weeks Global Default	This parameter specifically relates to the interpretation of the date range specified by the user to establish demand in the Sales Week Range and Factor AWS Replenishment methods. If the parameter is set to false, then the date range specified by the user remains static and does not change as the replenishment process progresses through the planning horizon. If the parameter is set to true, then the date range is migrated forward a week for each new week encountered in the planning horizon. Valid values are zero (0) for false and one (1) for true.

WRP Default Parameters (Sub-class/Destination/Day) Tab

WRP Default Parameters (Sub-class/Destination/Day) Worksheet

The WRP Default Parameters (Sub-class/Destination/Day) worksheet contains default parameters used in the generation of warehouse replenishment plans.



WRP Default Parameters (Sub-class/Destination/Day) Worksheet

The following measures are displayed automatically when using the default template:

Measure Label	Explanation
Hold Back Option Default	The Hold Back Option indicates whether the hold back quantity should be considered when the batch determines if an order should be generated. Valid values are **Do Not Reserve Holdback Quantity** or **Reserve Holdback Quantity**. Reserve Holdback Quantity means that any user-specified Hold Back quantity should be deducted from the On Hand (Net Inventory) position. Do Not Reserve Holdback Quantity means that the On Hand (Net Inventory) calculation ignores any Hold Back quantity specified by the user.
Increment Percent Default	The Increment Percent acts as a multiplier for minimum and maximum stock that is designed to handle temporary fluctuation in demand for items using Min/Max Replenishment Method. An increment percentage factor can be used to temporarily increase or decrease targeted stocking levels without altering the established MIN and MAX values. Any positive number, including zero, is valid. Example: To use 120% of the Min and Max Stock, the user would enter a value of 1.2.
Inventory Selling Days Default	The number of days used to sum the forecasted demand for Dynamic and Hybrid replenishment method calculations. Inventory selling days can be used to ensure a minimum number of days of supply are included in the order. Any positive number is valid. Example: To account for 3 days of demand, the user should enter 3.
Maximum Safety Stock Days Default	The Maximum Safety Stock Days parameter is used to specify the maximum number of days of cover to be kept on hand as safety stock. If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary uses the larger of demand over max safety stock days and max safety stock units. Any positive integer, including zero, is valid. Example: To ensure the maximum safety stock contains at least 14 days of supply, 14 would be entered in Max Safety Stock Days. If Max Safety Stock Units is greater than 14 days of supply, max units would be used as the maximum safety stock, otherwise maximum safety stock would be the number of units required to cover 14 days of demand.
Maximum Safety Stock Units Default	The Maximum Safety Stock Units parameter is used to specify the maximum amount of inventory (in units) to be kept on hand as safety stock. If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary uses the larger of demand over max safety stock days and max safety stock units. Any positive number, including zero, is valid. Example: To ensure the maximum safety stock contains at least 14 days of supply, 14 would be entered in Max Safety Stock Days. If Max Safety Stock Units is greater than 14 days of supply, max units would be used as the maximum safety stock, otherwise maximum safety stock would be the number of units required to cover 14 days of demand.

Measure Label	Explanation
Maximum Stock Default	Maximum Stock is only used in the Min/Max Replenishment Method. It represents the maximum stock level in units that are desired on hand to satisfy demand. The receipt plan quantity is calculated to bring Net Inventory up to the specified Maximum Stock level. Any positive number, including zero, is valid.
Maximum Time Supply Days Default	Maximum Time Supply Days is only used in the Time Supply Replenishment Method. It represents the maximum stock level in terms of a number of days cover that are desired on hand to satisfy demand. The receipt plan quantity is calculated to bring Net Inventory up to Maximum Time Supply Days of cover. Any positive integer, including zero, is valid. Example: To ensure an order brings the inventory level up to 14 days of supply, 14 would be entered in Max Time Supply Days.
Minimum Acceptable Safety Stock Threshold Default	This parameter indicates the percentage of safety stock that must be protected when rounding the Ideal Receipt Quantity (IRQ) to an order multiple. The IRQ cannot be rounded down if doing so results in less than the specified percentage of safety stock being ordered. Any positive number, including zero, is valid. Example: To protect 40% of safety stock, the user would enter a value of 0.4.
Minimum Safety Stock Days Default	The Minimum Safety Stock Days parameter is used to specify the minimum number of days of cover to be kept on hand as safety stock. If the user enters both Min Safety Stock Days and Min Safety Stock Units, the minimum safety stock boundary uses the larger of demand over min safety stock days and min safety stock units. Any positive integer, including zero, is valid. Example: To ensure the minimum safety stock contains at least 7 days of supply, 7 would be entered in Min Safety Stock Days. If Min Safety Stock Units is greater than 7 days of supply, min units would be used as the minimum safety stock, otherwise minimum safety stock would be the number of units required to cover 7 days of demand.
Minimum Safety Stock Units Default	The Minimum Safety Stock Units parameter is used to specify the minimum amount of inventory to be kept on hand as safety stock. If the user enters both Min Safety Stock Days and Min Safety Stock Units, the minimum safety stock boundary uses the larger of demand over min safety stock days and min safety stock units. Any positive number, including zero, is valid. Example: To ensure the minimum safety stock contains at least 7 days of supply, 7 would be entered in Min Safety Stock Days. If Min Safety Stock Units is greater than 7 days of supply, min units would be used as the minimum safety stock, otherwise minimum safety stock would be the number of units required to cover 7 days of demand.
Minimum Stock Default	Minimum Stock is only used in the Min/Max Replenishment Method. It represents the minimum stock level in units that are desired on hand to satisfy demand. Min Stock is used in determining the inventory level at which a replenishment is triggered. Any positive number, including zero, is valid.

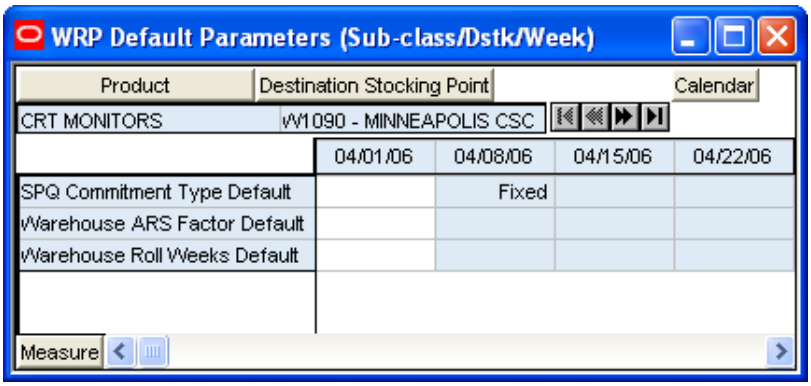
Measure Label	Explanation
Minimum Time Supply Days Default	Minimum Time Supply Days is only used in the Time Supply Replenishment Method. It represents minimum stock level in terms of number of days cover that that are desired on hand to satisfy demand. Min Time Supply Days of cover is used in both safety stock and receipt point calculations.
Replenishment Method Default	The choice of Replenishment Method determines the type of calculations that is used in generating a warehouse replenishment plan. The user selects the Replenishment Method from the following picklist options: ▪ Min/Max ▪ Time Supply ▪ Dynamic ▪ Hybrid ▪ No Replenishment ▪ Sales Week Range ▪ Factor AWS ▪ Loaded SS Dynamic ▪ Factor ARS The default method is No Replenishment.
Round Up Threshold Default	The Rounding Threshold represents the percentage of the last order multiple above which the Ideal Replenishment Quantity is rounded up and below which it is rounded down. Valid values are 0 through 1. Example: If a user wants to round up when the remaining part of the IRQ is more than 25 percent of an order multiple, they would enter .25 in Rounding Threshold.
Service Level Default	Service Level is used in the safety stock calculations for the Dynamic replenishment method. It is defined as the percentage of unit demand that should be met by inventory. Valid values are 0 through 1. Example: If a user wants to carry enough safety stock to maintain a 90% customer service level, the user would enter .90.
Statistical Variance Threshold Default	The variance threshold is used to determine whether statistical variance should be updated. If the calculated value is above the threshold, then it is not used to update variance.
Statistical Variance Upper Boundary Default	WRP calculates variance as a percent of forecast demand. The variance (represented as a percentage) is not permitted to exceed this threshold.
Time Supply Horizon Default	The Time Supply Horizon parameter is only used in the Time Supply Replenishment method. If a time supply horizon is specified, the rate of sale is used instead of the actual forecast when calculating demand over the time supply days for inventory target level calculations. Any positive integer is valid. Example: To calculate a Rate of Sale (ROS) over a one week period, enter a value of 7 in Time Supply Horizon. The (ROS) is then calculated by summing the forecasted sales over the 7 days and dividing that number by 7.

Measure Label	Explanation
Warehouse AWS Factor Default	Used only in the AWS (Average Weekly Sales) Replenishment Method, this factor is multiplied by the AWS to produce target stock levels. Any positive value is valid. Example: To multiple the ARS by a factor of 2, the user should enter a value of 2.
Warehouse Maximum Default	This represents the Maximum Safety Stock boundary for the Loaded Safety Stock, Sales Week Range, Factor ARS and Factor AWS Replenishment methods. Any positive value is valid. Example: To set a maximum safety stock boundary of 6 units, the user would enter 6.
Warehouse Minimum Default	This represents the Minimum Safety Stock Boundary for the Loaded Safety Stock, Sales Week Range, Factor ARS and Factor AWS Replenishment methods. Any positive value, including zero, is valid. Example: To set a minimum safety stock boundary of 2 units, the user would enter 2.

WRP Default Parameters (Sub-class/Destination/Week) Tab

WRP Default Parameters (Sub-class/Destination/Week) Worksheet

The WRP Default Parameters (Sub-class/Destination/Week) worksheet contains default parameters used in the generation of warehouse replenishment plans.



WRP Default Parameters (Sub-class/Destination/Week) Worksheet

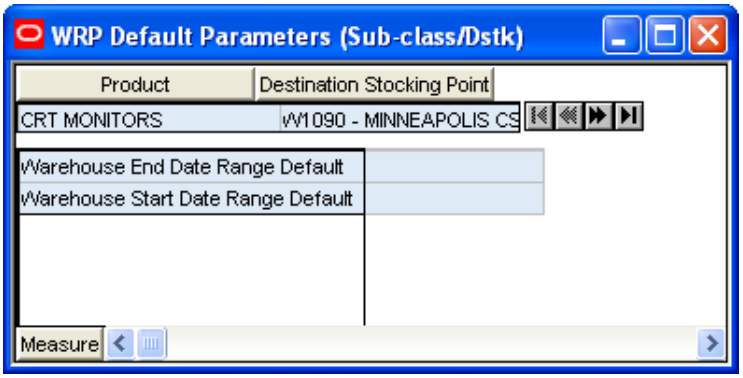
The following measures are displayed automatically when using the default template.

Measure Label	Explanation
SPQ Commitment Type Default	The SPQ Commitment Type is used whenever a Supplier Purchase Quantity (SPQ) has been entered for a SKU. The commitment type indicates how the SPQ should be interpreted. The options are **Fixed** or **Capped**. Fixed indicates that the user-specified SPQ quantity may not be exceeded, but it must be ordered in its entirety, regardless of whether there is demand for it. Capped indicates that the user-specified SPQ quantity may not be exceeded, but it need not be ordered if it is not required.
Warehouse ARS Factor Default	Used only in the ARS (Average Rate of Sale) Replenishment Method, this factor is multiplied by the ARS to determine target stock levels. Any positive value is valid. Example: To multiple the ARS by a factor of 2, the user should enter a value of 2.
Warehouse Roll Weeks Default	This parameter specifically relates to the interpretation of the date range specified by the user to establish demand in the Sales Week Range and Factor AWS Replenishment methods. If the parameter is set to false, then the date range specified by the user remains static and does not change as the replenishment process progresses through the planning horizon. If the parameter is set to true, then the date range is migrated forward a week for each new week encountered in the planning horizon. Valid values are zero (0) for false and one (1) for true.

WRP Default Parameters (Sub-class/Destination) Tab

WRP Default Parameters (Sub-class/Destination) Worksheet

The WRP Default Parameters (Sub-class/Destination) worksheet contains default parameters used in the generation of warehouse replenishment plans.



WRP Default Parameters (Sub-class/Destination) Worksheet

The following measures are displayed automatically when using the default template.

Measure Label	Explanation
Warehouse End Date Range Default	This End date dictates the end of the time period used to establish demand in the Sales Week Range and Factor AWS Replenishment methods. A pop-up calendar can be used to select the desired end date. Any date prior to the current day is valid.
Warehouse Start Date Range Default	This Start date dictates the beginning of the time period used to establish demand in the Sales Week Range and Factor AWS Replenishment methods. A pop-up calendar can be used to select the desired start date. Any date prior to the current day is valid.

Hidden Workbook Measures

The following measures are hidden when using the default template. They can be displayed and maintained by using the Insert measure function of RPAS.

Measure Label	Explanation
Supplier Compliance Safety Stock Default	This represents a number of additional days of stock beyond the Review Time or Inventory Selling Days that should be carried to account for poor Supplier Delivery Performance. Any positive value, including zero, is valid. Example: To carry 2 additional days of inventory to account for poor Supplier delivery performance, enter 2.

WRP Maintenance Workbook

The WRP Maintenance workbook is used to manage exception level parameters used in the Warehouse Replenishment Process. These exceptions are used to override default parameters. This workbook contains the following tabs and worksheets:

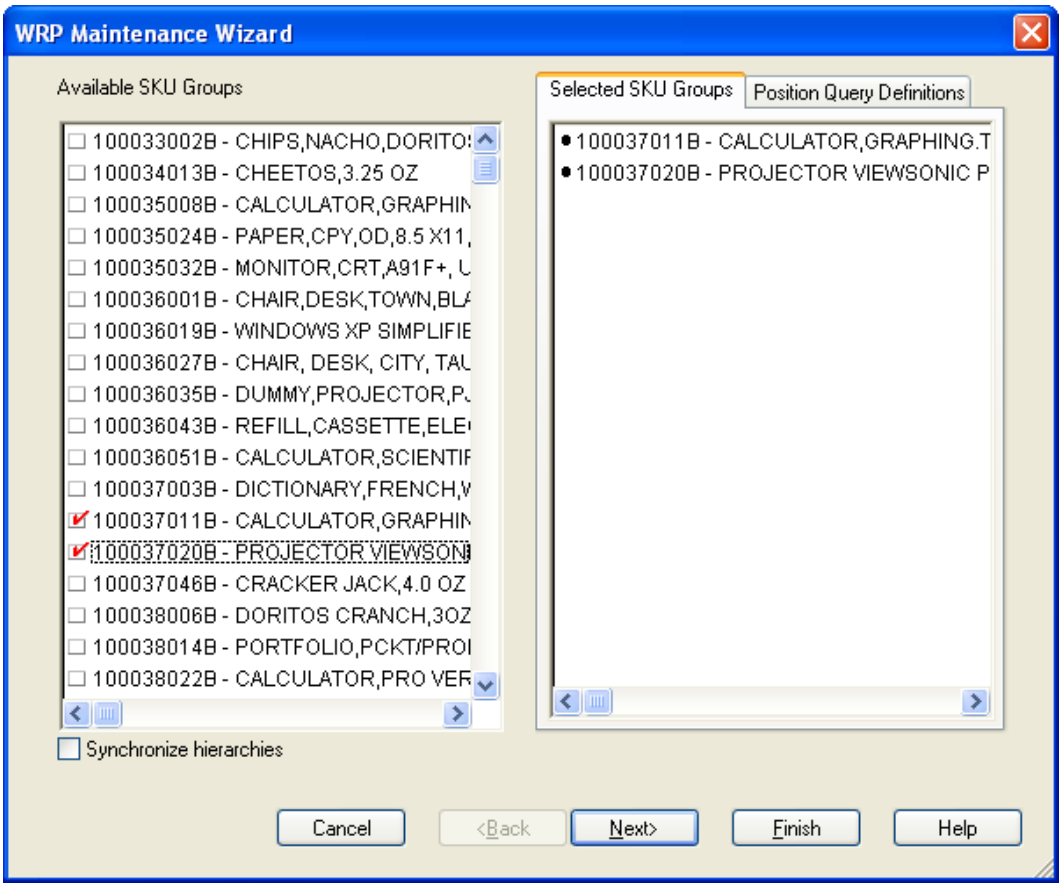
- A WRP Exception Parameters (SKU/Destination/Day) Tab containing
  - A WRP Exception Parameters worksheet at the SKU/Destination/Day level
- A WRP Exception Parameters (SKU/Destination) Tab containing
  - A WRP Exception Parameters worksheet at the SKU/Destination level
- A WRP Exception Parameters (SKU/Destination/Week) Tab containing
  - A WRP Exception Parameters worksheet at the SKU/Destination/Week level
- A WRP Exception Parameters (SKPS/Destination) Tab containing
  - A WRP Exception Parameters worksheet at the SKPS/Destination level
- A WRP Exception Parameters (SKU/Destination/Source/Day) Tab containing
  - A WRP Exception Parameters worksheet at the SKU/Destination/Source/Day level

Note: Unless otherwise stated, all measures in this workbook are writeable.

WRP Maintenance Wizard

Available SKU Groups

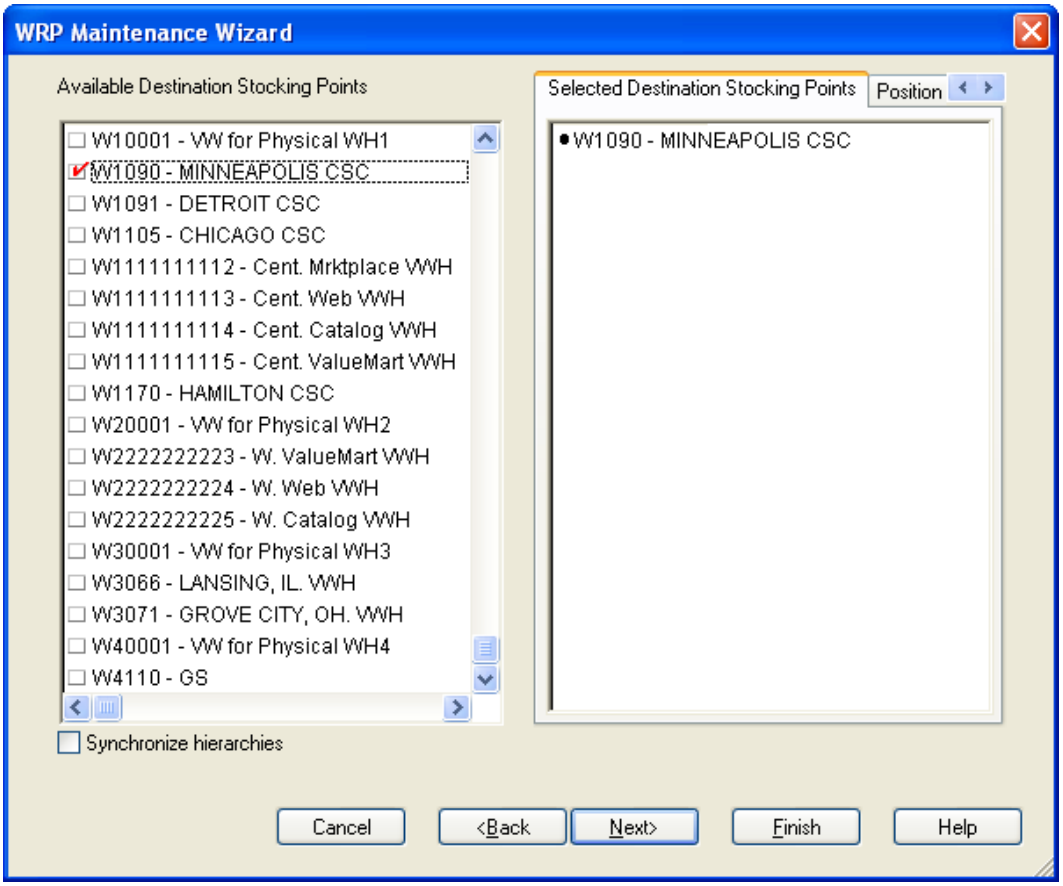
This dialog box enables the user to select SKU Groups from a list of all available SKU Groups in the AIP domain. The Selected SKU Groups list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available SKU Groups. Standard RPAS functionality is available for this particular wizard page.



WRP Maintenance Wizard – Available SKU Groups

Available Destination Stocking Points

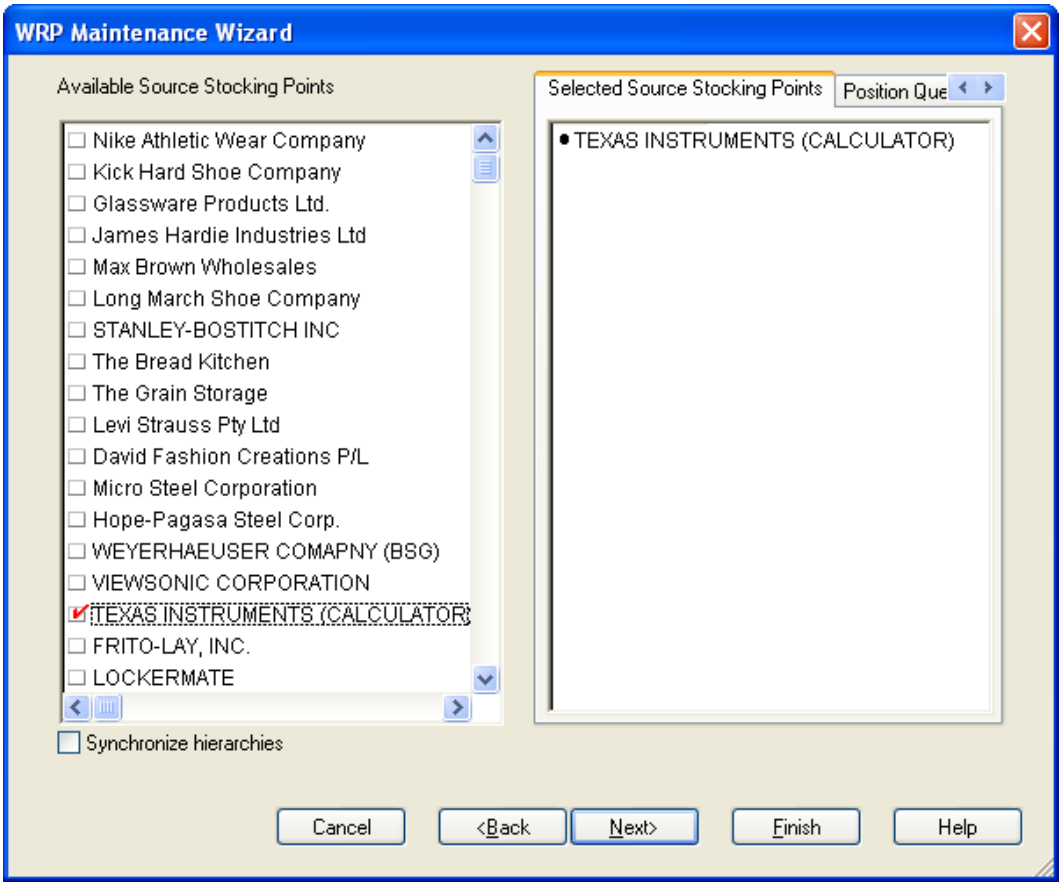
This dialog box enables the user to select Destination Stocking Points from a list of all available Destination Stock Points in the AIP domain. The Selected Destination Stocking Points list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Destination Stocking Points. Standard RPAS functionality is available for this particular wizard page.



WRP Maintenance Wizard – Available Destination Stocking Points

Available Source Stocking Points

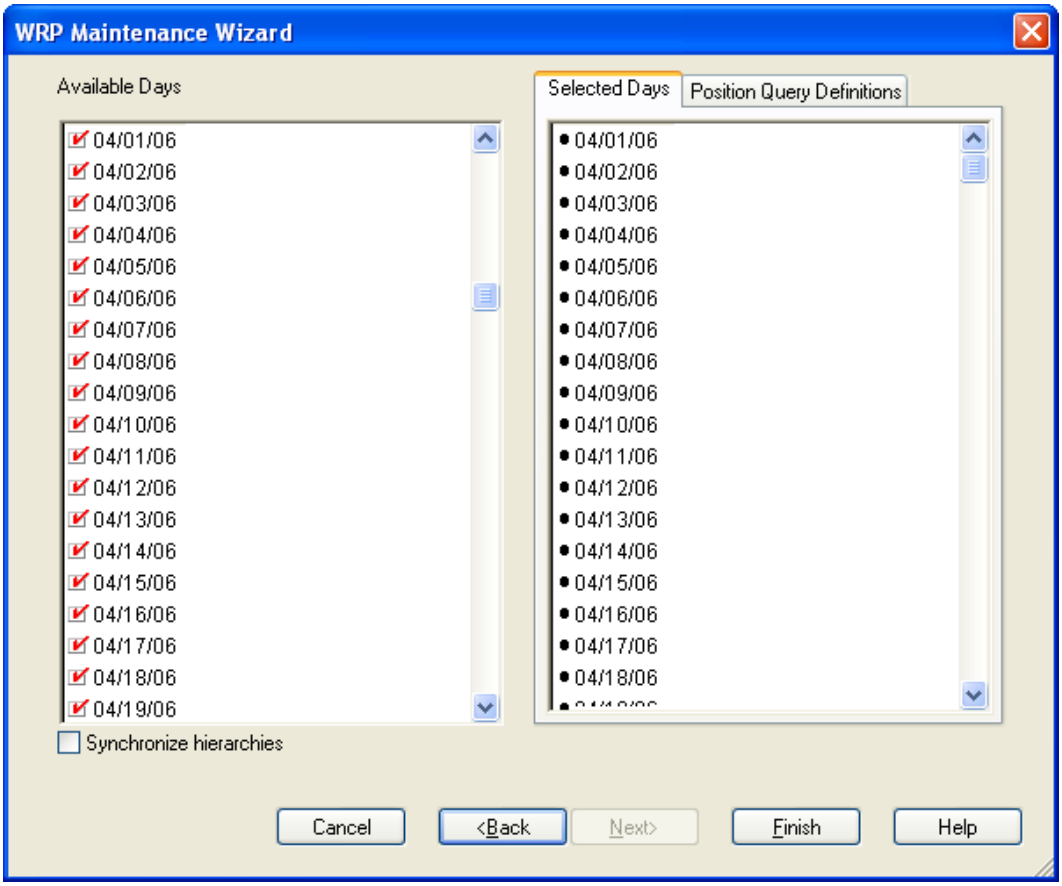
This dialog box enables the user to select Source Stocking Points from a list of all available Source Stocking Points in the AIP domain. The Selected Source Stocking Points list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Source Stocking Points. Standard RPAS functionality is available for this particular wizard page.



WRP Maintenance Wizard – Available Source Stocking Points

Available Days

This dialog box enables the user to select Days from a list of all available Days in the AIP domain. The Selected Available Days list is pre-populated with any previous user selections. Amendments are made by selecting or deselecting Available Days. Standard RPAS functionality is available for this particular wizard page.



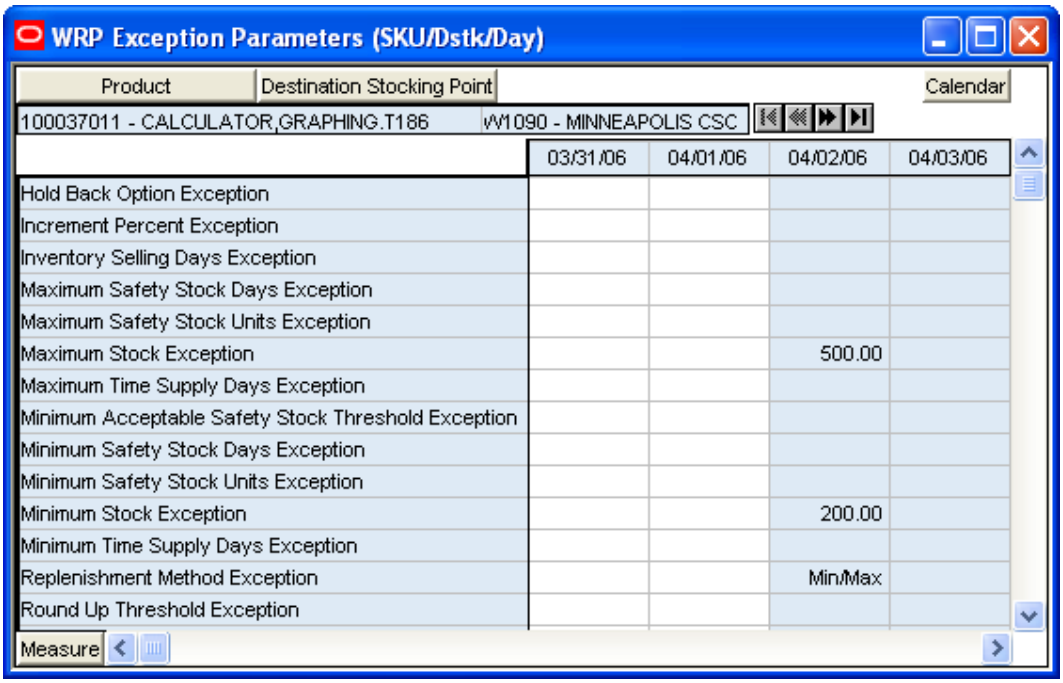
WRP Maintenance Wizard – Available Days

When the user selects **Finish**, the workbook is built using the selections made by the user.

WRP Exception Parameters (SKU/Destination/Day) Tab

WRP Exception Parameters (SKU/Destination/Day) Worksheet

The WRP Exception Parameters worksheet permits maintenance of replenishment-related exceptions at the SKU/Destination/Day level.



WRP Exception Parameters (SKU/Destination/Day) Worksheet

The following measures are displayed automatically when using the default template.

Measure Label	Explanation
Hold Back Option Exception	The Hold Back Option indicates whether the hold back quantity should be considered when the batch determines if an order should be generated. Valid values are **Include in OH** or **Exclude from OH**. Include in OH means that any user-specified Hold Back quantity should be deducted from the On Hand (Net Inventory) position. Exclude from OH means that the On Hand (Net Inventory) calculation ignores any Hold Back quantity specified by the user.
Increment Percent Exception	The Increment Percent acts as a multiplier for minimum and maximum stock that is designed to handle temporary fluctuation in demand for items using Min/Max Replenishment Method. An increment percentage factor can be used to temporarily increase or decrease targeted stocking levels without altering the established MIN and MAX values. Any positive number, including zero, is valid. Example: To use 120% of the Min and Max Stock, the user would enter a value of 1.2.

Measure Label	Explanation
Inventory Selling Days Exception	The number of days used to sum the forecasted demand for Dynamic and Hybrid replenishment method calculations. Inventory selling days can be used to ensure a minimum number of days of supply are included in the order. Any positive value is valid. To account for 3 days of demand, the user should enter 3.
Maximum Safety Stock Days Exception	The Maximum Safety Stock Days parameter is used to specify the maximum number of days of cover to be kept on hand as safety stock. If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary uses the larger of demand over max safety stock days and max safety stock units. Any positive integer, including zero, is valid. Example: To ensure the maximum safety stock contains at least 14 days of supply, 14 would be entered in Max Safety Stock Days. If Max Safety Stock Units is greater than 14 days of supply, max units would be used as the maximum safety stock, otherwise maximum safety stock would be the number of units required to cover 14 days of demand.
Maximum Safety Stock Units Exception	The Maximum Safety Stock Units parameter is used to specify the maximum amount of inventory (in units) to be kept on hand as safety stock. If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary uses the larger of demand over max safety stock days and max safety stock units. Any positive number, including zero, is valid. Example: To ensure the maximum safety stock contains at least 14 days of supply, 14 would be entered in Max Safety Stock Days. If Max Safety Stock Units is greater than 14 days of supply, max units would be used as the maximum safety stock, otherwise maximum safety stock would be the number of units required to cover 14 days of demand.
Maximum Stock Exception	Maximum Stock is only used in the Min/Max Replenishment Method. It represents the maximum stock level in units that are desired on hand to satisfy demand. The receipt plan quantity is calculated to bring Net Inventory up to the specified Maximum Stock level. Any positive number, including zero, is valid. Maximum Time Supply Days is only used in the Time Supply Replenishment Method. It represents the maximum stock level in terms of a number of days cover that are desired on hand to satisfy demand. The receipt plan quantity is calculated to bring Net Inventory up to Maximum Time Supply Days of cover. Any positive integer, including zero, is valid. Example: To ensure an order brings the inventory level up to 14 days of supply, 14 would be entered in Max Time Supply Days.
Maximum Time Supply Days Exception	Maximum Time Supply Days is only used in the Time Supply Replenishment Method. It represents the maximum stock level in terms of a number of days cover that are desired on hand to satisfy demand. The receipt plan quantity is calculated to bring Net Inventory up to Maximum Time Supply Days of cover. Any positive integer, including zero, is valid. Example: To ensure an order brings the inventory level up to 14 days of supply, 14 would be entered in Max Time Supply Days.

Measure Label	Explanation
Minimum Acceptable Safety Stock Threshold Exception	This parameter indicates the percentage of safety stock that must be protected when rounding the Ideal Receipt Quantity (IRQ) to an order multiple. The IRQ cannot be rounded down if doing so results in less than the specified percentage of safety stock being ordered. Any positive number, including zero, is valid. Example: To protect 40% of safety stock, the user would enter a value of 0.4.
Minimum Safety Stock Days Exception	The Minimum Safety Stock Days parameter is used to specify the minimum number of days of cover to be kept on hand as safety stock. If the user enters both Min Safety Stock Days and Min Safety Stock Units, the minimum safety stock boundary uses the larger of demand over min safety stock days and min safety stock units. Any positive integer, including zero, is valid. Example: To ensure the minimum safety stock contains at least 7 days of supply, 7 would be entered in Min Safety Stock Days. If Min Safety Stock Units is greater than 7 days of supply, min units would be used as the minimum safety stock, otherwise minimum safety stock would be the number of units required to cover 7 days of demand.
Minimum Safety Stock Units Exception	The Minimum Safety Stock Units parameter is used to specify the minimum amount of inventory to be kept on hand as safety stock. If the user enters both Min Safety Stock Days and Min Safety Stock Units, the minimum safety stock boundary uses the larger of demand over min safety stock days and min safety stock units. Any positive number, including zero, is valid. Example: To ensure the minimum safety stock contains at least 7 days of supply, 7 would be entered in Min Safety Stock Days. If Min Safety Stock Units is greater than 7 days of supply, min units would be used as the minimum safety stock, otherwise minimum safety stock would be the number of units required to cover 7 days of demand.
Minimum Stock Exception	Minimum Stock is only used in the Min/Max Replenishment Method. It represents the minimum stock level in units that are desired on hand to satisfy demand. Min Stock is used in determining the inventory level at which a replenishment is triggered. Any positive number, including zero, is valid.
Minimum Time Supply Days Exception	Minimum Time Supply Days is only used in the Time Supply Replenishment Method. It represents minimum stock level in terms of number of days cover that that are desired on hand to satisfy demand. Min Time Supply Days of cover is used in both safety stock and receipt point calculations.

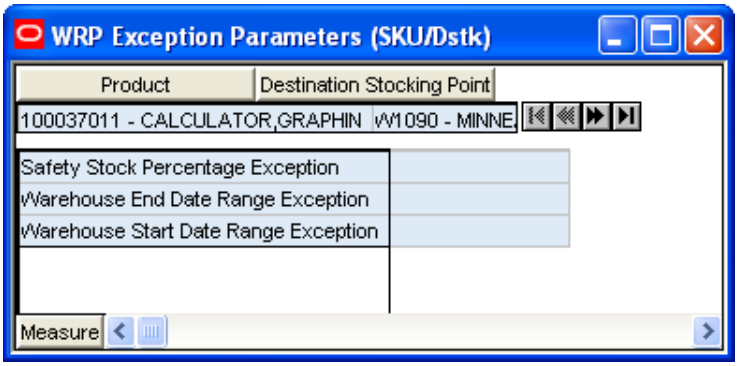
Measure Label	Explanation
Replenishment Method Exception	The choice of Replenishment Method determines the type of calculations that are used in generating a warehouse replenishment plan. The user selects the Replenishment Method from the following picklist options: ▪ Min/Max ▪ Time Supply ▪ Dynamic ▪ Hybrid ▪ No Replenishment ▪ Sales Week Range ▪ Factor AWS ▪ Loaded SS Dynamic ▪ Factor ARS The default method is No Replenishment.
Round Up Threshold Exception	The Rounding Threshold represents the percentage of the last order multiple above which the Ideal Replenishment Quantity is rounded up and below which it is rounded down. Valid values are 0 through 1. Example: If a user wants to round up when the remaining part of the IRQ is more than 25 percent of an order multiple, they would enter .25 in Rounding Threshold.
Service Level Exception	Service Level is used in the safety stock calculations for the Dynamic replenishment method. It is defined as the percentage of unit demand that should be met by inventory. Valid values are 0 through 1. Example: If a user wants to carry enough safety stock to maintain a 90% customer service level, the user would enter .90.
Statistical Variance Threshold Exception	The variance threshold is used to determine whether statistical variance should be updated. If the calculated value is above the threshold, then it is not be used to update variance.
Statistical Variance Upper Boundary Exception	WRP calculates variance as a percent of forecast demand. The variance (represented as a percentage) is not permitted to exceed this threshold.
Time Supply Horizon Exception	The Time Supply Horizon parameter is only used in the Time Supply Replenishment method. If a time supply horizon is specified, the rate of sale is used instead of the actual forecast when calculating demand over the time supply days for inventory target level calculations. Any positive integer is valid. Example: To calculate a Rate of Sale (ROS) over a one week period, enter a value of 7 in Time Supply Horizon. The (ROS) is then calculated by summing the forecasted sales over the 7 days and dividing that number by 7.
Warehouse AWS Factor Exception	Used only in the AWS (Average Weekly Sales) Replenishment Method, this factor is multiplied by the AWS to produce target stock levels. Any positive value is valid. Example: To multiple the ARS by a factor of 2, the user should enter a value of 2.

Measure Label	Explanation
Warehouse Maximum Exception	This represents the Maximum Safety Stock boundary for the Loaded Safety Stock, Sales Week Range, Factor ARS and Factor AWS Replenishment methods. Any positive value is valid. Example: To set a maximum safety stock boundary of 6 units, the user would enter 6.
Warehouse Minimum Exception	This represents the Minimum Safety Stock Boundary for the Loaded Safety Stock, Sales Week Range, Factor ARS and Factor AWS Replenishment methods. Any positive value, including zero, is valid. Example: To set a minimum safety stock boundary of 2 units, the user would enter 2.

WRP Exception Parameters (SKU/Destination) Tab

WRP Exception Parameters (SKU/Destination) Worksheet

The WRP Exception Parameters worksheet permits maintenance of replenishment-related exceptions at the SKU/Destination level.



WRP Exception Parameters (SKU/Destination) Worksheet

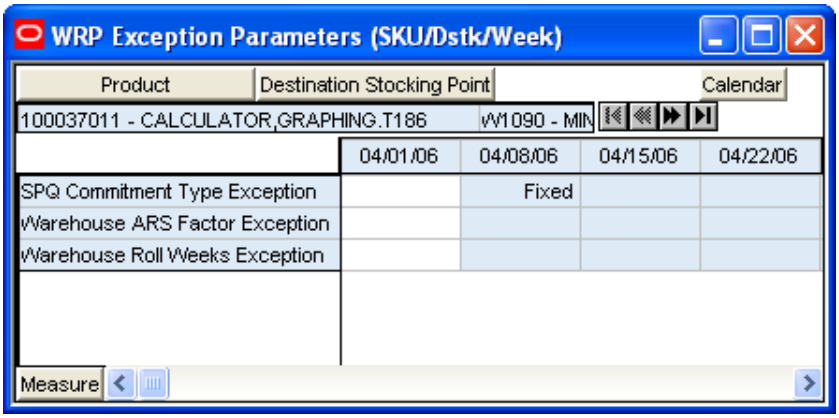
The following measures are displayed automatically when using the default template.

Measure Label	Explanation
Safety Stock Percentage Exception	This measure is not used in AIP Release 12.0.
Warehouse End Date Range Exception	This End date dictates the end of the time period used to establish demand in the Sales Week Range and Factor AWS Replenishment methods. A pop-up calendar can be used to select the desired end date. Any date prior to the current day is valid.
Warehouse Start Date Range Exception	This Start date dictates the beginning of the time period used to establish demand in the Sales Week Range and Factor AWS Replenishment methods. A pop-up calendar can be used to select the desired start date. Any date prior to the current day is valid.

WRP Exception Parameters (SKU/Destination/Week) Tab

WRP Exception Parameters (SKU/Destination/Week) Worksheet

The WRP Exception Parameters worksheet permits maintenance of replenishment-related exceptions at the SKU/Destination/Week level.



WRP Exception Parameters (SKU/Destination/Week) Worksheet

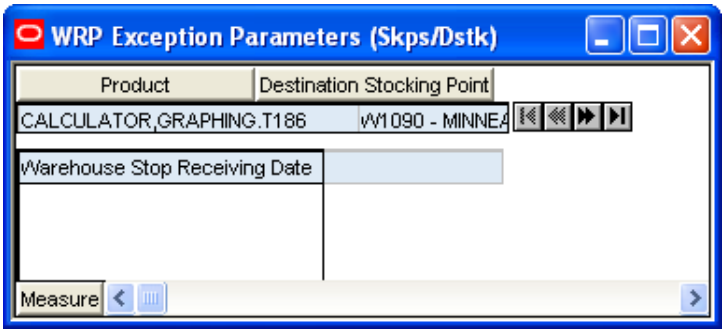
The following measures are displayed automatically when using the default template.

Measure Label	Explanation
SPQ Commitment Type Exception	The SPQ Commitment Type is used whenever a Supplier Purchase Quantity (SPQ) has been entered for a SKU. The commitment type indicates how the SPQ should be interpreted. The options are **Fixed** or **Capped**. Fixed indicates that the user-specified SPQ quantity may not be exceeded, but it must be ordered in its entirety, regardless of whether there is demand for it. Capped indicates that the user-specified SPQ quantity may not be exceeded, but it need not be ordered if it is not required.
Warehouse ARS Factor Exception	Used only in the ARS (Average Rate of Sale) Replenishment Method, this factor is multiplied by the ARS to determine target stock levels. Any positive value is valid. Example: To multiple the ARS by a factor of 2, the user should enter a value of 2.
Warehouse Roll Weeks Exception	This parameter specifically relates to the interpretation of the date range specified by the user to establish demand in the Sales Week Range and Factor AWS Replenishment methods. If the parameter is set to false, then the date range specified by the user remains static and does not change as the replenishment process progresses through the planning horizon. If the parameter is set to true, then the date range is migrated forward a week for each new week encountered in the planning horizon. Valid values are zero for false and one for true.

WRP Exception Parameters (SKPS/Destination) Tab

WRP Exception Parameters (SKPS/Destination) Worksheet

The WRP Exception Parameters worksheet permits maintenance of replenishment-related exceptions at the SKPS/Destination level.



WRP Exception Parameters (SKPS/Destination) Worksheet

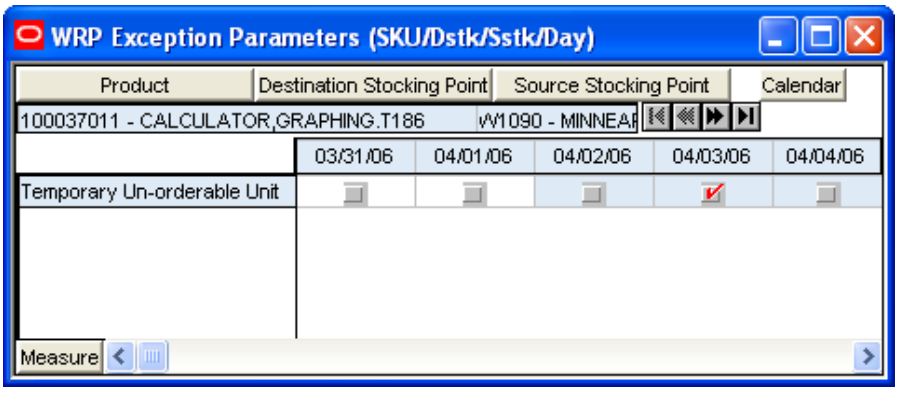
The following measures are displayed automatically when using the default template.

Measure Label	Explanation
Warehouse Stop Receiving Date	If specified, this indicates the date on and after which no receipts can take place at the warehouse. The receipt plan is zero on and after this date. A pop-up calendar can be used to select the desired date. Any date after today is valid.

WRP Exception Parameters (SKU/Destination/Source/Day) Tab

WRP Exception Parameters (SKU/Destination/Source/Day) Worksheet

The WRP Exception Parameters worksheet permits maintenance of replenishment-related exceptions at the SKU/Destination/Source/Day level.



WRP Exception Parameters (SKU/Destination/Source/Day) Worksheet

The following measures are displayed automatically when using the default template.

Measure Label	Explanation
Temporarily Un-orderable Unit	Temporary Un-orderable is a checkbox used to indicate that a SKU is temporarily unavailable on a specific day form a Source for delivery into the destination. If the checkbox is checked, then no receipt is planned from the source into the destination for the SKU on the day in question.

WRP Additional Stock Maintenance Workbook

The WRP Additional Stock Maintenance Workbook consists of a single wizard that is used to perform all maintenance to additional stock.

This section addresses the business flows that you take to review and maintain parameters in this workbook. It also details the measures that are included in this workbook.

Business Process

1. Log on to the proper Domain and navigate to the WRP Additional Stock Maintenance workbook.
2. Complete the WRP Additional Stock Maintenance Wizard selections. The wizard allows you to select update of baseline and contingency stocks.
3. After you complete the wizard selections, the additional safety stock quantities are calculated.

Baseline and Contingency Stock Levels

Baseline and contingency stock can be set at four different levels for all warehouses, or just specific ones. The levels are as follows:

1. Profile – baseline or contingency stock is applied to all SKUs within the selected profile.
2. Department – baseline or contingency stock is applied to all SKUs within the selected department.
3. Department within profile – baseline or contingency stock is applied only to SKUs within the selected department AND profile.
4. SKU group – baseline or contingency stock is applied to a specific SKU group. This level overrides all other levels.

The levels above may intersect, and therefore a SKU Group maybe impacted by multiple baseline and contingency entries.

For baseline stock, where there are multiple entries impacting the same SKU group, the baseline stock for the SKU group is the sum of all baseline stock entries applied to the SKU group. The exception is where baseline stock is set up at the SKU group (override) level. In this instance, the SKU Group level entry is used as the baseline stock. This overrides all other baseline stock entries applied to the SKU group. The override does not get added to the other baseline entries. It replaces them regardless of whether it is larger, smaller, or set to zero.

For contingency stock, if a SKU group belongs to multiple levels, the contingency stock for a SKU group is the largest of all contingency stock entries that apply to the SKU group. If contingency stock is set up at the SKU group (override) level, that entry is used as the contingency stock. This overrides all other contingency stock entries that are applied to the SKU group. The override is not compared to the other contingency entries. It replaces them regardless of whether it is larger, smaller, or set to zero.

At any time, the user may manually update baseline or contingency stocks in the Interactive Evaluation Workbook. Any manual updates are treated as overrides to the calculated baseline and contingency stocks.

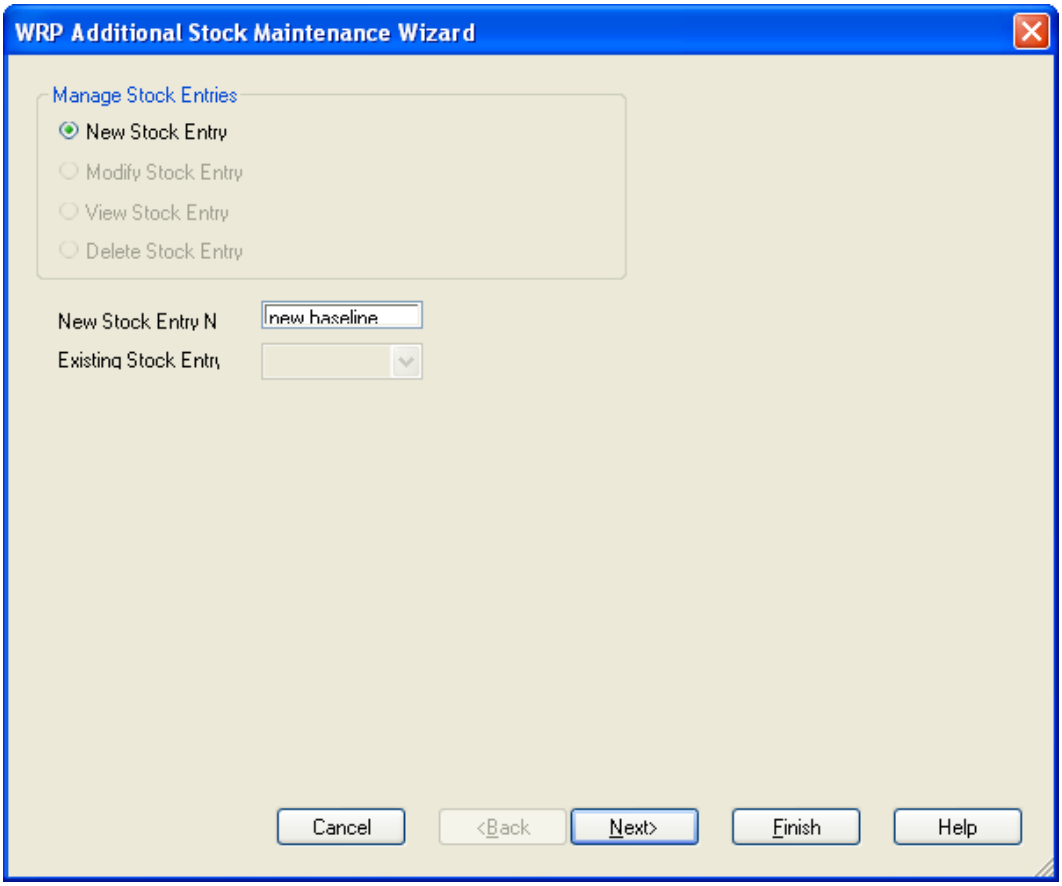
Additional Stock Maintenance Wizard

The WRP Additional Stock Wizard gives the user the ability to add or maintain a baseline or contingency entry expressed as a number of days forward cover, an absolute quantity in units or cases, or as a baseline or contingency percent.

The following screen flow reflects the user process flow to be taken to maintain Additional Stock levels.

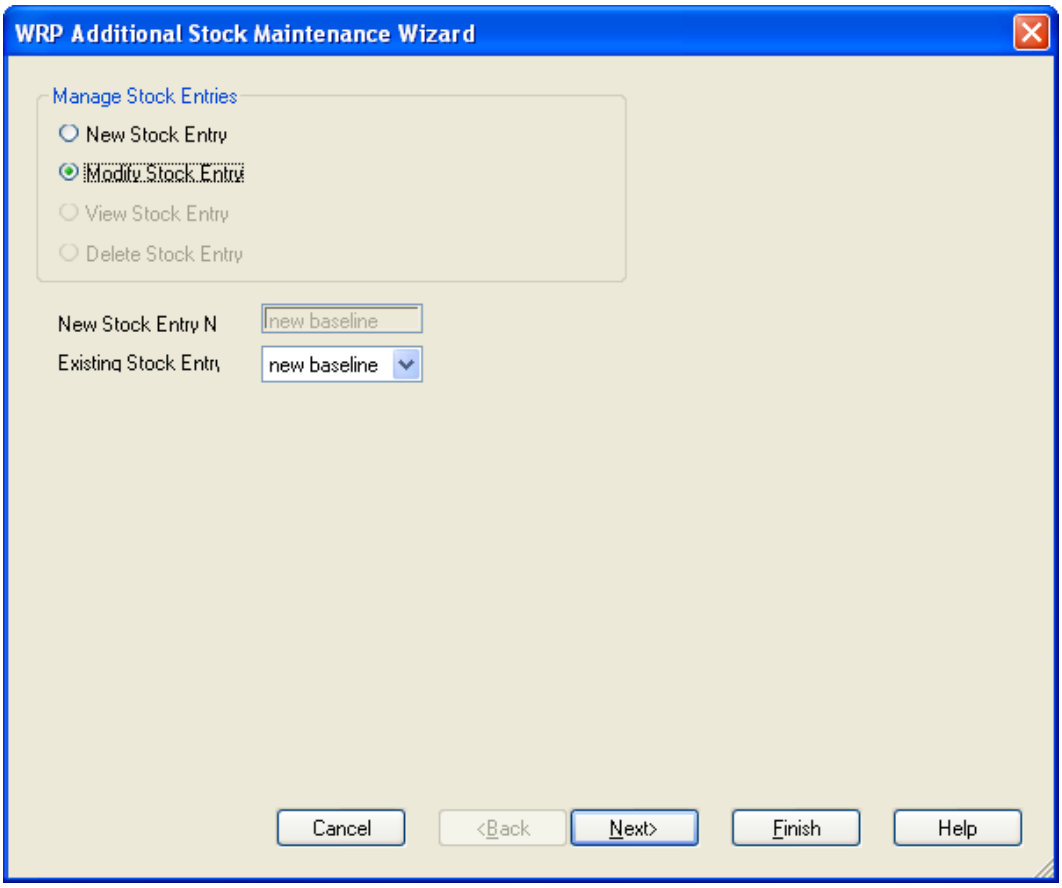
1. As soon as the user selects the Additional Stock Workbook, the wizard immediately appears. The initial screen (shown below) provides the user with the option to create or modify a stock entry through the wizard calculation.

   If new is selected, the user enters the BCS entry name for the new stock entry.



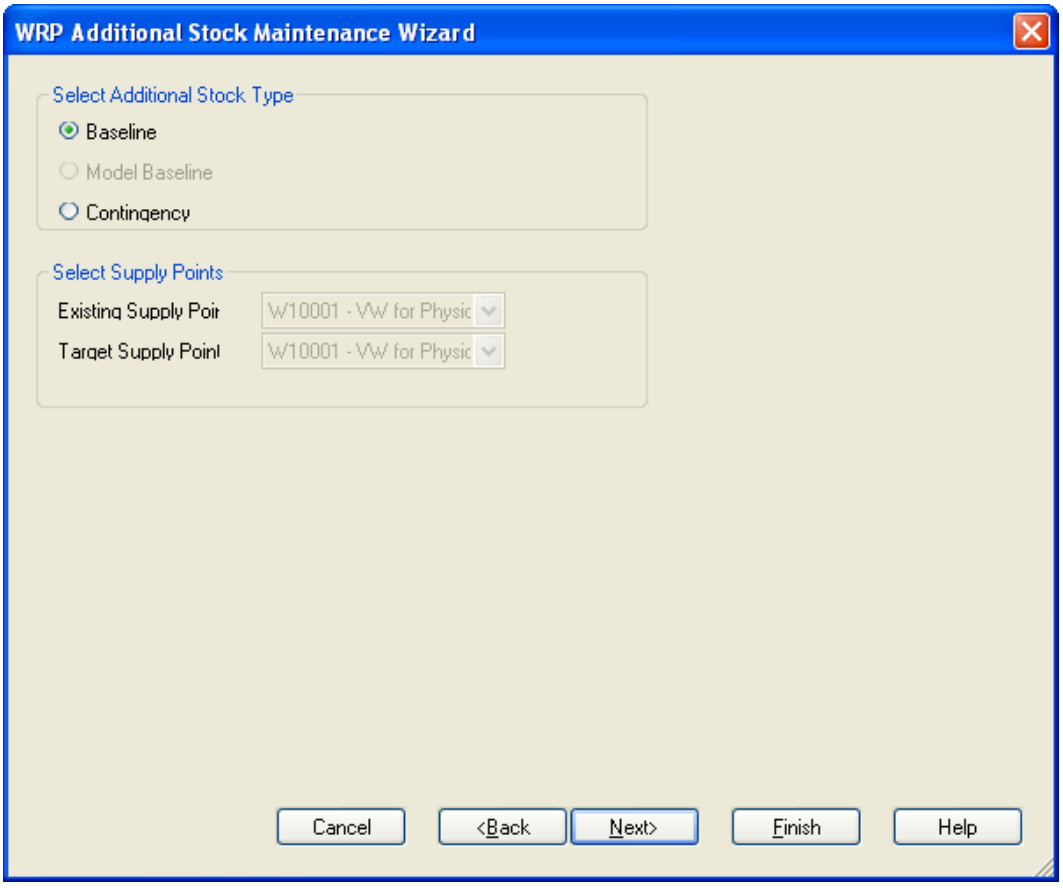
WRP Additional Stock Maintenance Wizard – Manage Stock Entries

If **Modify** is selected, the user then selects the BCS entry to be modified from a drop down list of BSC entries.



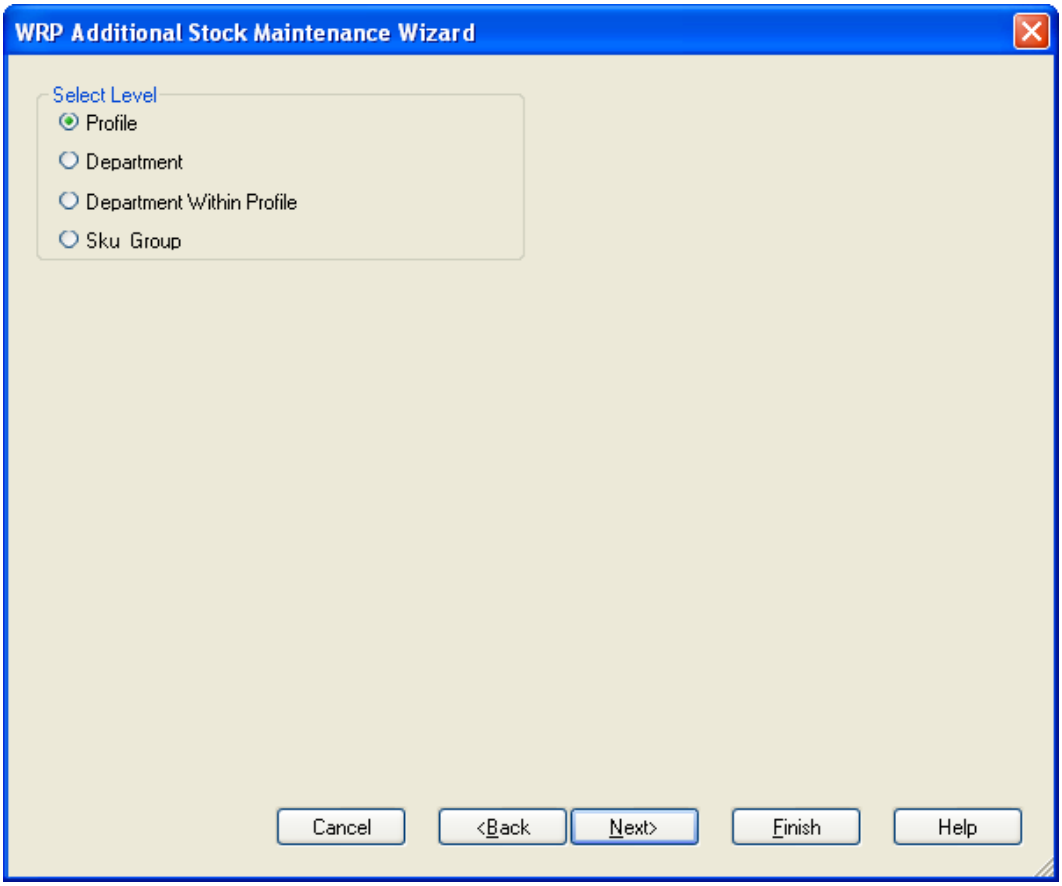
WRP Additional Stock Maintenance Wizard – Manage Stock Entries

2. Next the user selects the stock type, baseline or contingency.



WRP Additional Stock Maintenance Wizard – Select Additional Stock Type

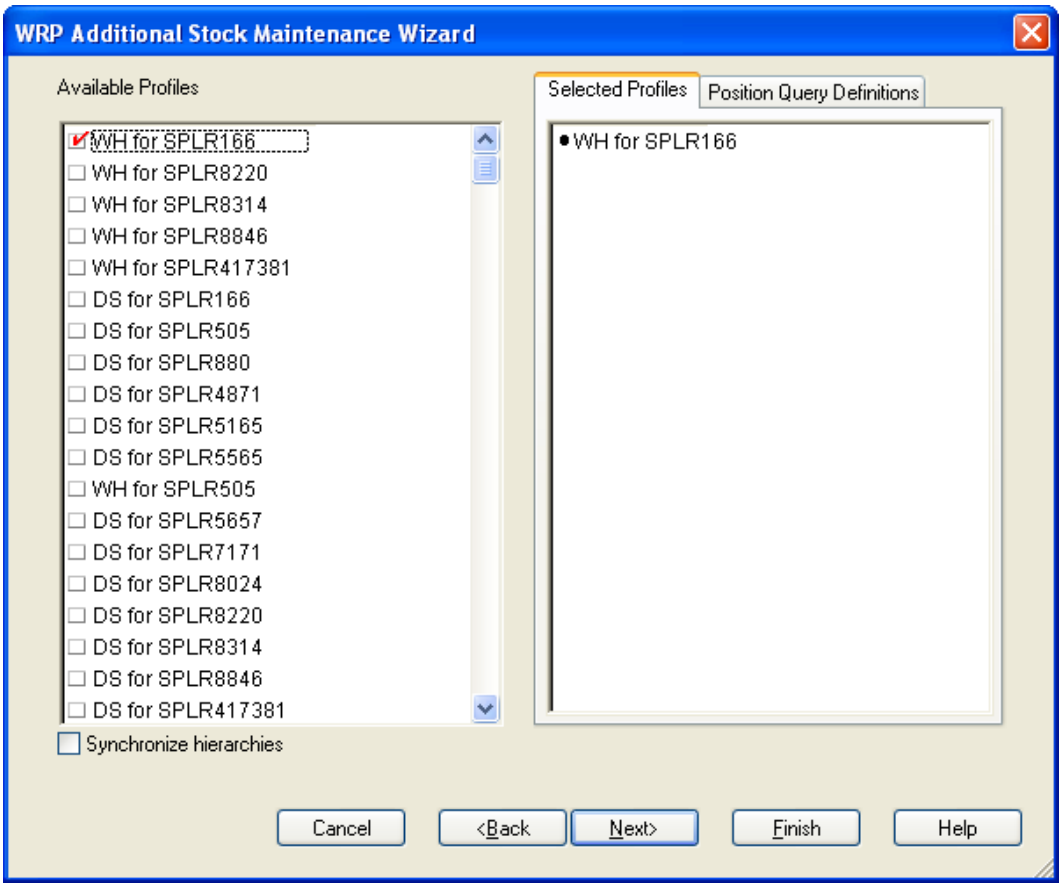
3. Next the user selects the specific level - Profile(s), Department(s), Department(s) w/in Profile, or SKU Group(s).



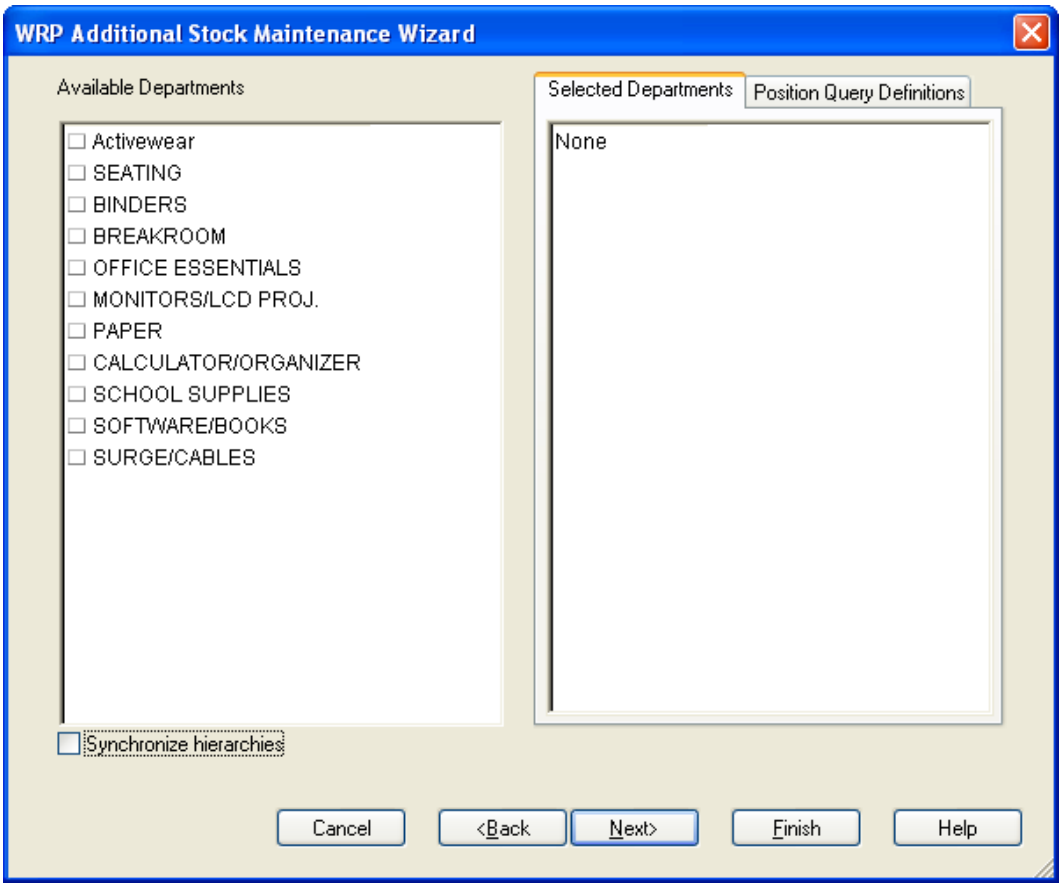
WRP Additional Stock Maintenance Wizard – Select Level

4. Once a specific level is selected, the user must make selections for each of the elements that make up the chosen level. A different screen exists for each element.

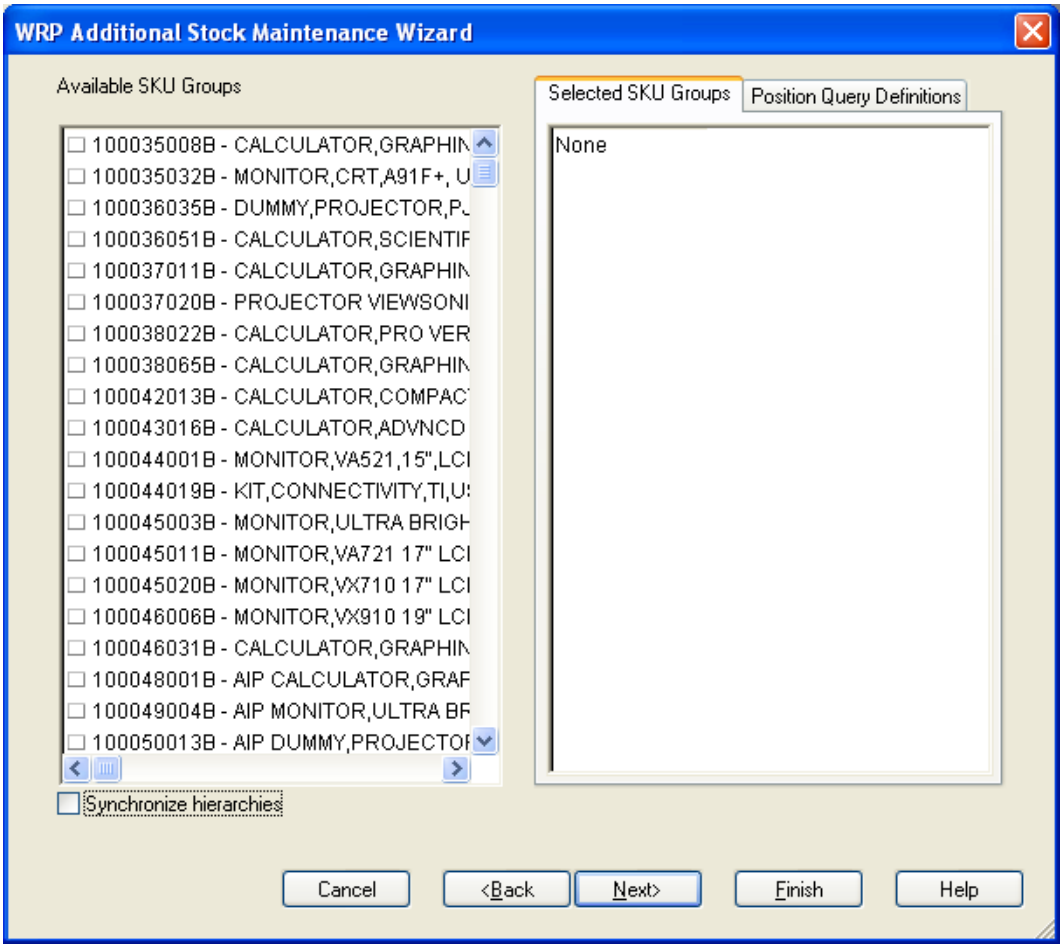
   For Department Within Profile, the Available Profiles screen displays followed by the Available Departments screen.



WRP Additional Stock Maintenance Wizard – Available Profiles

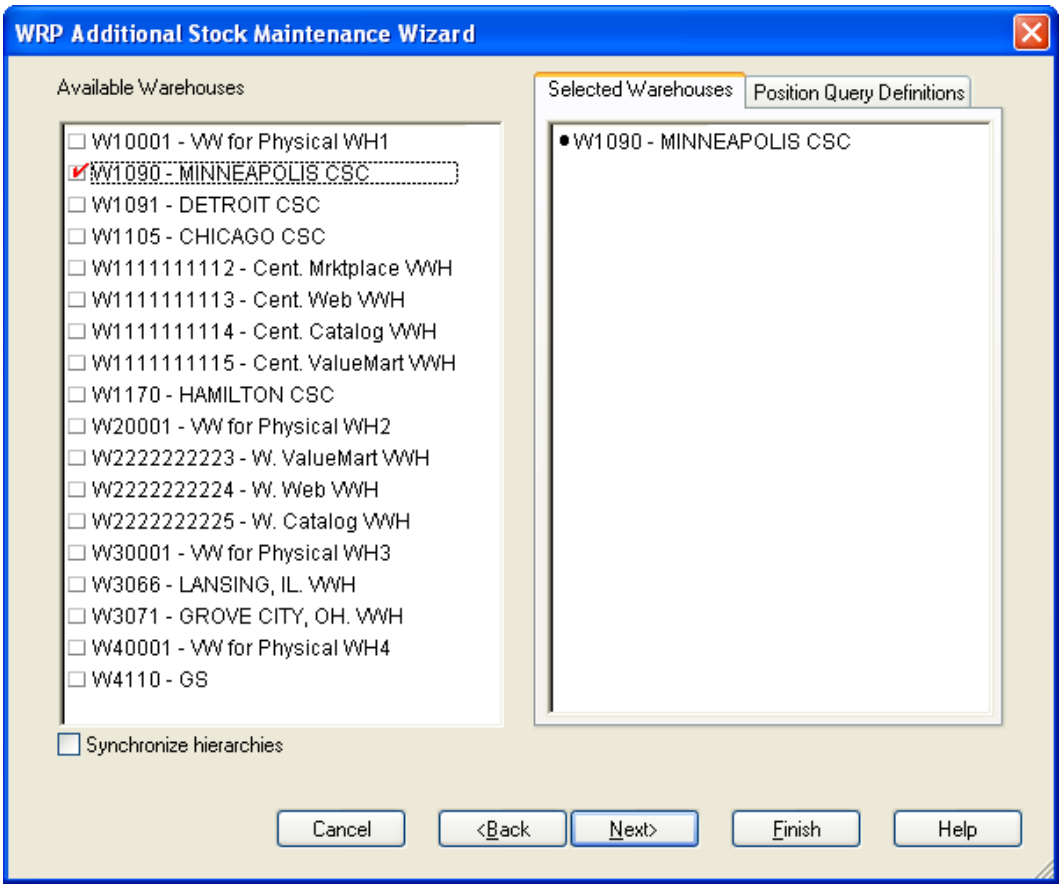


WRP Additional Stock Maintenance Wizard – Available Departments



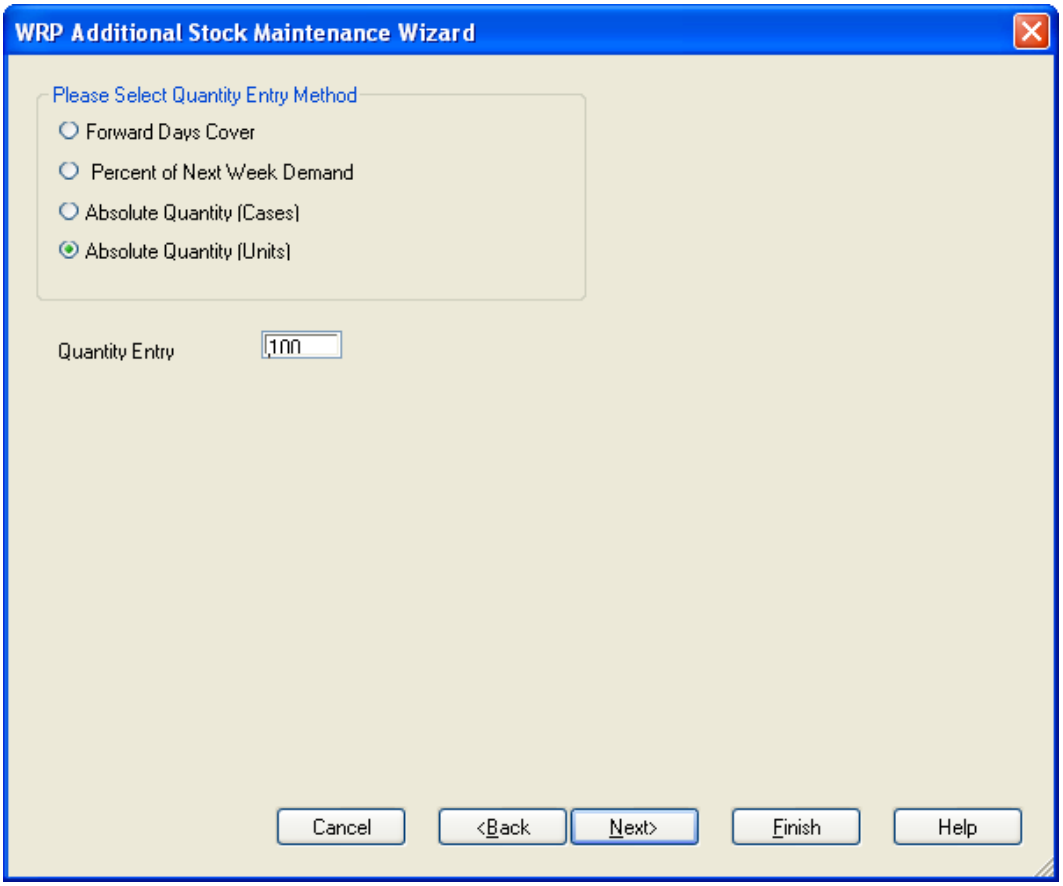
WRP Additional Stock Maintenance Wizard – Available SKU Groups

5. A filtered list of available warehouses is generated based on the prior selected level. The user may select all warehouses or make warehouse selections from the list to which the additional stock quantity is applied.



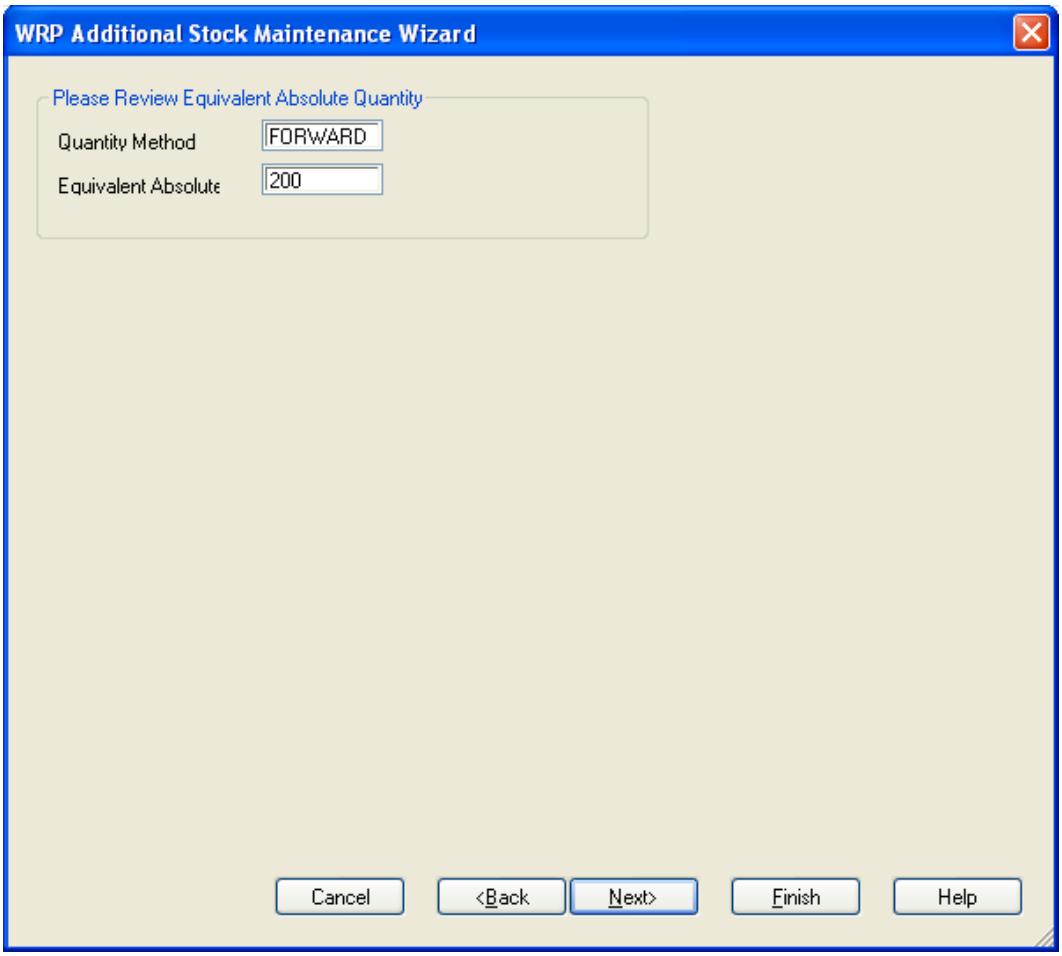
WRP Additional Stock Maintenance Wizard – Available Warehouses

6. The user now has the opportunity to add a baseline or contingency stock entry in units, in cases, as a number of days forward cover, or as a baseline or contingency percent. The ability to add baseline or contingency in an absolute number of units or cases applies to the SKU group level setting only.



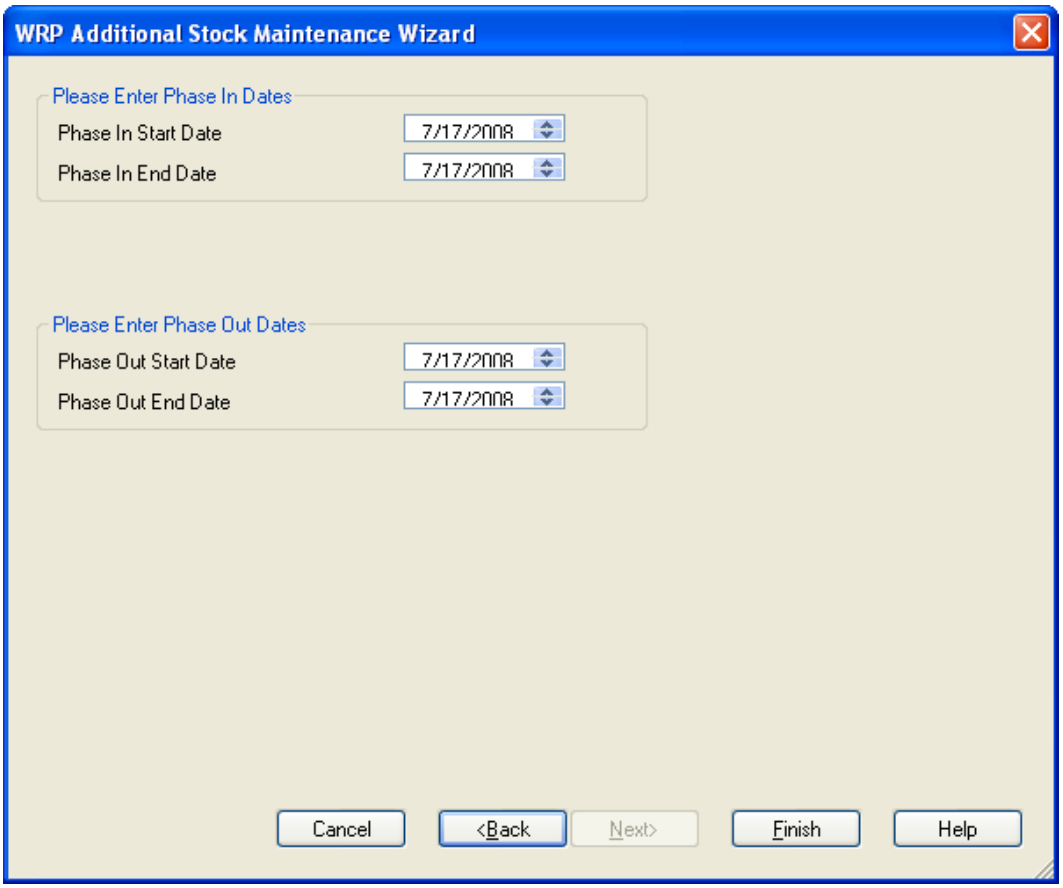
WRP Additional Stock Maintenance Wizard – Select Quantity Entry Method

7. When user selects BCS stock entry as a number of days forward cover, or as percent, the following screen displays the absolute quantity calculated based on the selected method.



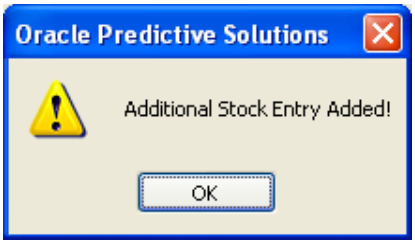
WRP Additional Stock Maintenance Wizard – Review Equivalent Absolute Quantity

8. Four dates are required to determine how to Phase In Additional Stock and how to eventually Phase Out Additional Stock. The user selects Phase In start and end dates along with Phase Out start and end dates from the appropriate drop down list.



WRP Additional Stock Maintenance Wizard – Phase In End Date and Phase Out Date

9. Select **Finish** to complete the process and exit the wizard.



WRP Alert Maintenance Workbook

The WRP Alert Maintenance workbook is used to manage default and exception level parameters relating to warehouse alerts. This workbook contains the following tabs and worksheets:

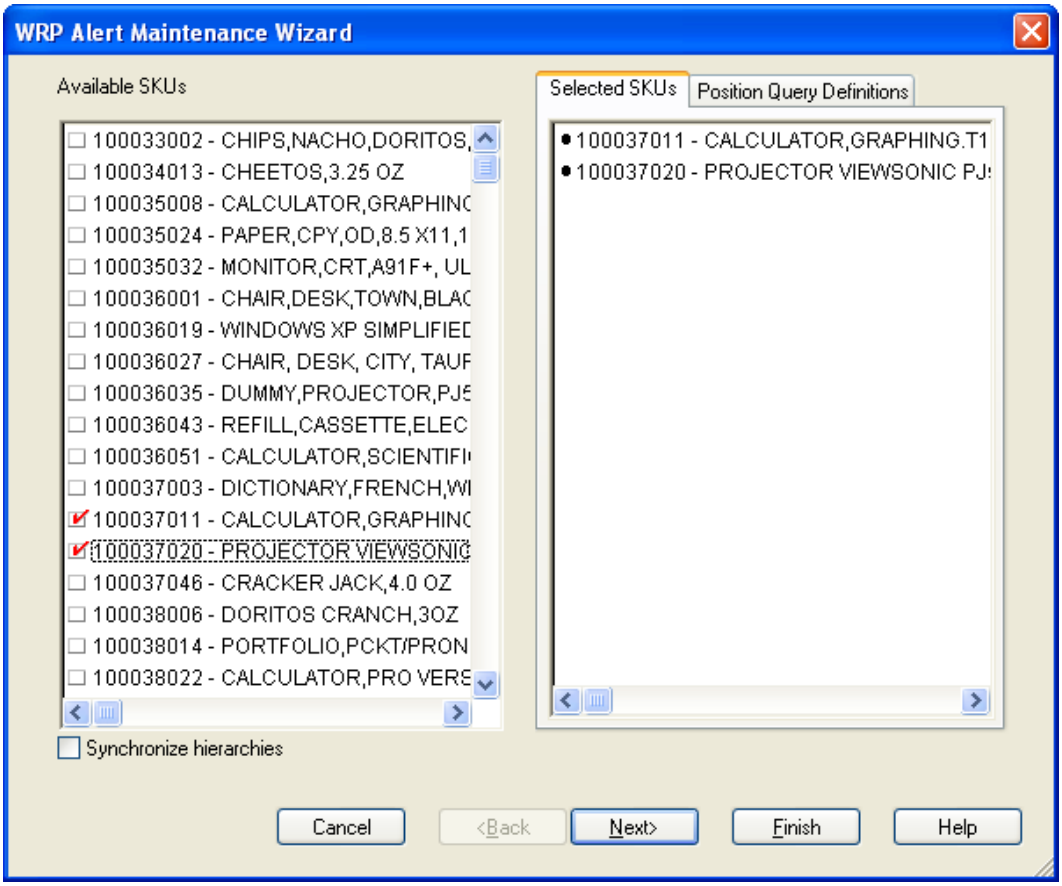
- WRP Alert Exception (SKU/Destination) Tab containing
  - A WRP Alert Exception worksheet at the SKU/Destination level
- WRP Alert Default (Sub-class) Tab containing
  - A WRP Alert Default worksheet at the Sub-class level
- WRP Alert Global Default (Dept) Tab containing
  - A WRP Alert Global Default worksheet at the Dept level
- Run Masks Tab containing
  - A Alert Day Masks (DOW) worksheet
- Alert Masks Tab containing
  - An Alert Masks (SKU Group/DStk/Day) worksheet
  - An Alert Masks (SKU Group/Dstk) worksheet

Note: Unless otherwise stated, all measures in this workbook are writeable.

Alert Maintenance Wizard

Available SKUs

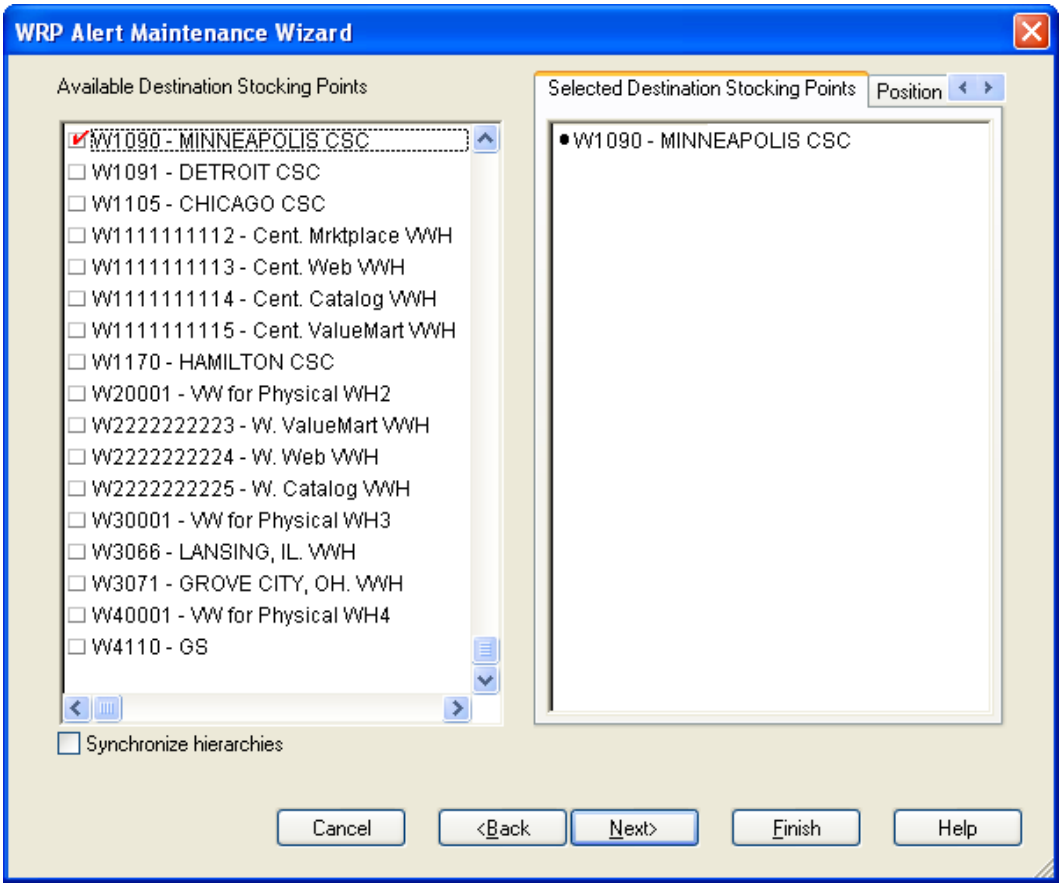
This dialog box enables the user to select SKUs from a list of all available SKUs in the AIP domain. The Selected SKUs list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available SKUs. Standard RPAS functionality is available for this particular wizard page.



WRP Alert Maintenance Wizard – Available SKUs

Available Destination Stocking Points

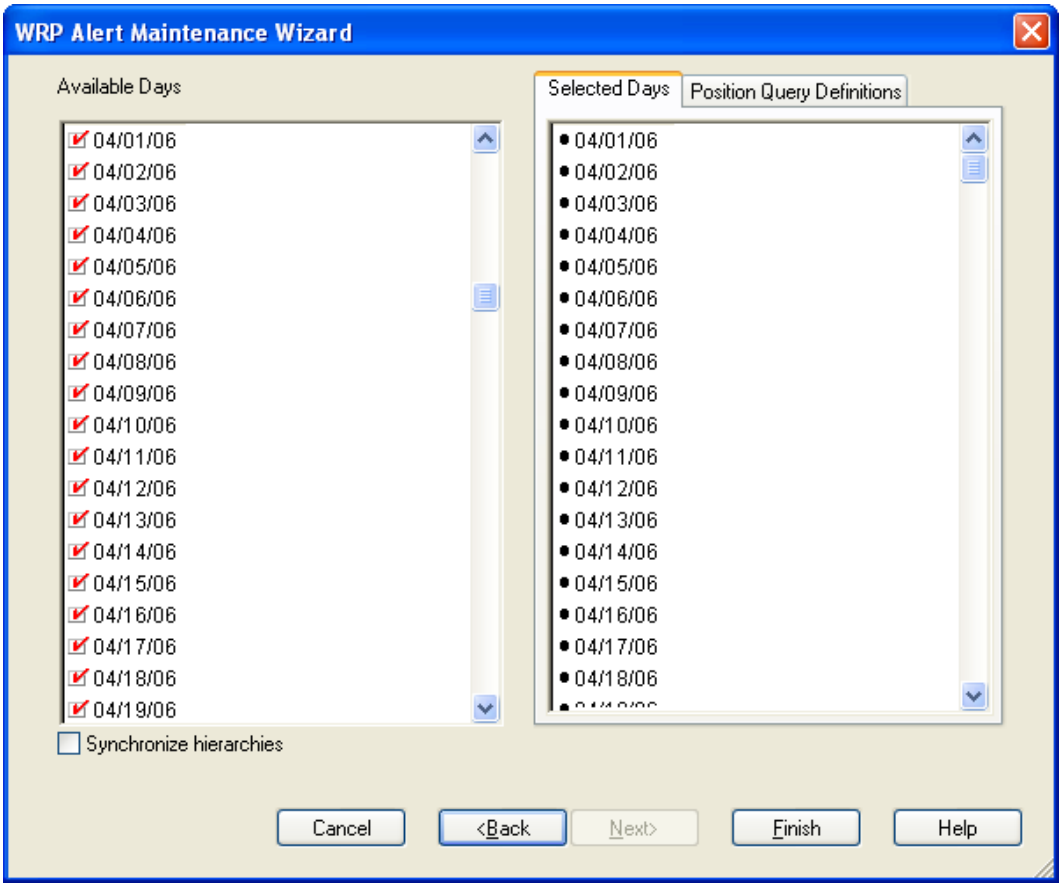
This dialog box enables the user to select Destination Stocking Points from a list of all available Destination Stock Points in the AIP domain. The Selected Destination Stocking Points list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Destination Stocking Points. Standard RPAS functionality is available for this particular wizard page.



WRP Alert Maintenance Wizard – Available Destination Stocking Points

Available Days

This dialog box enables the user to select Days from a list of all available Days in the AIP domain. The Selected Days list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Days. Standard RPAS functionality is available for this particular wizard page.



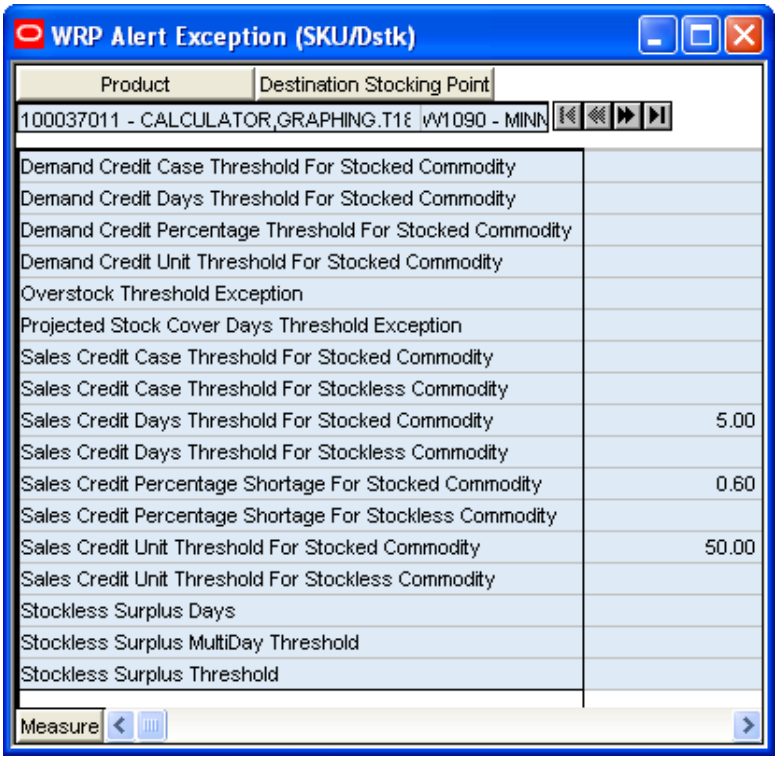
WRP Alert Maintenance Wizard – Available Days

When the user selects **Finish**, the workbook is built using the selections made by the user.

WRP Alert Exception (SKU/Destination) Tab

WRP Alert Exception (SKU/Destination) Worksheet

The WRP Exception Parameters worksheet permits maintenance of Alert Exception parameters at the SKU /Destination/Day level.



WRP Alert Exception (SKU/Destination) Worksheet

The following measures are displayed automatically when using the default template.

Measure Label	Description
Demand Credit Case Threshold For Stocked Commodity	Threshold in cases for alerting Demand Credits for stocked commodity. This quantity must be exceeded, as must the percentage demand credit threshold for a demand credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 cases, above which alerts are generated, they would enter 10.
Demand Credit Days Threshold For Stocked Commodity	Threshold in days for alerting Demand Credits for a stocked commodity based on a number of consecutive days of demand credits. Any positive value, including zero, is valid. Example: If the user wants alerts to be raised when there are more than 3 days of demand credits, they would enter 3.
Demand Credit Percentage Threshold For Stocked Commodity	Threshold as a percentage of demand for alerting Demand Credits for a stocked commodity. This percentage must be exceeded, as must the demand credit case threshold for a demand credit alert to be raised. Any value between zero and one is valid. Example: If the user wants alerts for all Demand Credits representing more than 60% of demand, they would enter .6.
Demand Credit Unit Threshold For Stocked Commodity	Threshold in units for alerting Demand Credits for a stocked commodity. This quantity must be exceeded for a demand credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 units, above which alerts are generated, they would enter 10.
Overstock Threshold Exception	Threshold in Units for generating overstock alert. This quantity must be exceeded for an overstock alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 100 units, above which overstock alerts are generated, they would enter 100.
Projected Stock Cover Days Threshold Exception	Threshold in number of days cover for generating overstock alert. An overstock alert occurs when the number of days stock cover exceeds the stock cover days threshold. Any positive value, including zero, is valid. Example: If the user wants to overstock alerts when there is more than 10 days stock in the warehouse, they would enter 10.
Sales Credit Case Threshold For Stocked Commodity	Threshold in cases for alerting Sales Credits for a stocked commodity. This quantity must be exceeded, as must the percentage sales credit for a sales credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 cases, above which alerts are generated, they would enter 10.
Sales Credit Case Threshold For Stockless Commodity	Threshold in cases for alerting Sales Credits for a stockless commodity. This quantity must be exceeded, as must the percentage sales credit for a sales credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 cases, above which alerts are generated, they would enter 10.

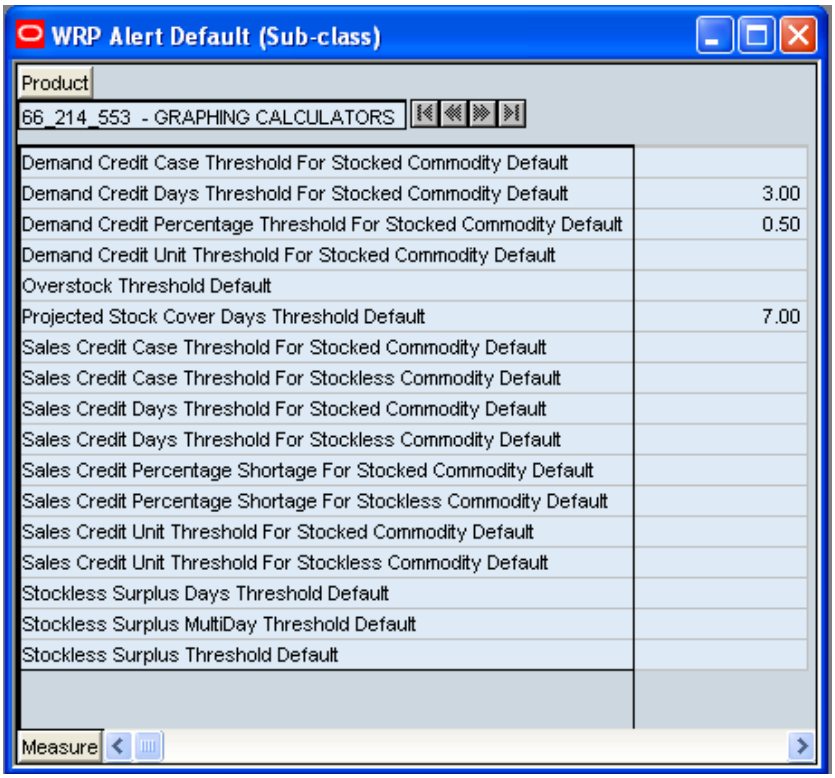
Measure Label	Description
Sales Credit Days Threshold For Stocked Commodity	Threshold in days for alerting Sales Credits for a stocked commodity based on a number of consecutive days of sales credits. Any positive value, including zero, is valid. Example: If the user wants alerts to be raised when there are more than 3 days of sales credits, they would enter 3.
Sales Credit Days Threshold For Stockless Commodity	Threshold in days for alerting Sales Credits for a stockless commodity based on a number of consecutive days of sales credits. Any positive value, including zero, is valid. Example: If the user wants alerts to be raised when there are more than 3 days of sales credits, they would enter 3.
Sales Credit Percentage Shortage For Stocked Commodity	Threshold as a percentage of Sales for alerting Sales Credits for a stocked commodity. This percentage must be exceeded, as must the Sales credit case threshold for a sales credit alert to be raised. Any value between zero and one is valid. Example: If the user wants alerts for all Sales Credits representing more than 60% of Sales, they would enter .6.
Sales Credit Percentage Shortage For Stockless Commodity	Threshold as a percentage of Sales for alerting Sales Credits for a stockless commodity. This percentage must be exceeded, as must the Sales credit case threshold for a sales credit alert to be raised. Any value between zero and one is valid. Example: If the user wants alerts for all Sales Credits representing more than 60% of Sales, they would enter .6.
Sales Credit Unit Threshold For Stocked Commodity	Threshold in units for alerting Sales Credits for a stocked commodity. This quantity must be exceeded, as must the percentage sales credit for a sales credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 units, above which alerts are generated, they would enter 10.
Sales Credit Unit Threshold For Stockless Commodity	Threshold in units for alerting Sales Credits for a stockless commodity. This quantity must be exceeded, as must the percentage sales credit for a sales credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 units, above which alerts are generated, they would enter 10.
Stockless Surplus Days of Demand Threshold	This measure represents a number of days of demand to be summed and is used as part of the criteria for raising a stockless surplus alert. A stockless surplus alert notifies the user that excessive orders exist at this warehouse based on warehouse demand. If the sum of demand over the Stockless Surplus Days of Demand Threshold is less than or equal to the demand credit surplus, one of the criteria to raise a stockless surplus has been met. The Stockless Surplus Days of Demand Threshold is used in both the Stockless Surplus Alert for a Single Day and the Stockless Surplus Alert for Multiple Days. Any positive value, including zero, is valid. Example: If the user wants to sum the demand for 5 days, they would enter 5.

Measure Label	Description
Stockless Surplus Multi Day Threshold	This measure represents a threshold in days for triggering a Stockless Surplus Alert for Multiple Days. This number of days that meet the criteria for a stockless surplus alert must exceed Stockless Surplus Multi Day Threshold as one of the criteria to raise the Stockless Surplus Alert for Multiple Days. A stockless surplus alert notifies the user that excessive orders exist at this warehouse based on warehouse demand. Any positive value, including zero, is valid. Example: If the user wants to raise a Stockless Surplus Alert for Multiple Days when there are more than 3 days stockless surplus alerts, they would enter 3.
Stockless Surplus Threshold	This threshold represents the number of units a demand credit must exceed as part of the criteria for raising a stockless surplus alert. A stockless surplus alert notifies the user that excessive orders exist at this warehouse based on warehouse demand. The Stockless Surplus Threshold is used in both the Stockless Surplus Alert for a Single Day and the Stockless Surplus Alert for Multiple Days. Any positive value, including zero, is valid. Example: If the user wants to raise a Stockless Surplus Alert if the demand credit is greater than 100 units, they would enter 5.

WRP Alert Default (Sub-class) Tab

WRP Alert Default (Sub-class) Worksheet

The WRP Default Parameters worksheet permits maintenance of alert-related defaults at the Sub-class level.



WRP Alert Default (Sub-class) Worksheet

The following measures are displayed automatically when using the default template.

Measure Label	Description
Demand Credit Case Threshold For Stocked Commodity Default	Threshold in cases for alerting Demand Credits for stocked commodity. This quantity must be exceeded, as must the percentage demand credit threshold for a demand credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 cases, above which alerts are generated, they would enter 10.
Demand Credit Days Threshold For Stocked Commodity Default	Threshold in days for alerting Demand Credits for a stocked commodity based on a number of consecutive days of demand credits. Any positive value, including zero, is valid. Example: If the user wants alerts to be raised when there are more than 3 days of demand credits, they would enter 3.

Measure Label	Description
Demand Credit Percentage Threshold For Stocked Commodity Default	Threshold as a percentage of demand for alerting Demand Credits for a stocked commodity. This percentage must be exceeded, as must the demand credit case threshold for a demand credit alert to be raised. Any value between zero and one is valid. Example: If the user wants alerts for all Demand Credits representing more than 60% of demand, they would enter .6.
Demand Credit Unit Threshold For Stocked Commodity Default	Threshold in units for alerting Demand Credits for a stocked commodity. This quantity must be exceeded for a demand credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 units, above which alerts are generated, they would enter 10.
Overstock Threshold Default	Threshold in Units for generating overstock alert. This quantity must be exceeded for an overstock alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 100 units, above which overstock alerts are generated, they would enter 100.
Projected Stock Cover Days Threshold Default	Threshold in number of days cover for generating overstock alert. An overstock alert occurs when the number of days stock cover exceeds the stock cover days threshold. Any positive value, including zero, is valid. Example: If the user wants to overstock alerts when there is more than 10 days stock in the warehouse, they would enter 10.
Sales Credit Case Threshold For Stocked Commodity Default	Threshold in cases for alerting Sales Credits for a stocked commodity. This quantity must be exceeded, as must the percentage sales credit for a sales credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 cases, above which alerts are generated, they would enter 10.
Sales Credit Case Threshold For Stockless Commodity Default	Threshold in cases for alerting Sales Credits for a stockless commodity. This quantity must be exceeded, as must the percentage sales credit for a sales credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 cases, above which alerts are generated, they would enter 10.
Sales Credit Days Threshold For Stocked Commodity Default	Threshold in days for alerting Sales Credits for a stocked commodity based on a number of consecutive days of sales credits. Any positive value, including zero, is valid. Example: If the user wants alerts to be raised when there are more than 3 days of sales credits, they would enter 3.
Sales Credit Days Threshold For Stockless Commodity Default	Threshold in days for alerting Sales Credits for a stockless commodity based on a number of consecutive days of sales credits. Any positive value, including zero, is valid. Example: If the user wants alerts to be raised when there are more than 3 days of sales credits, they would enter 3.

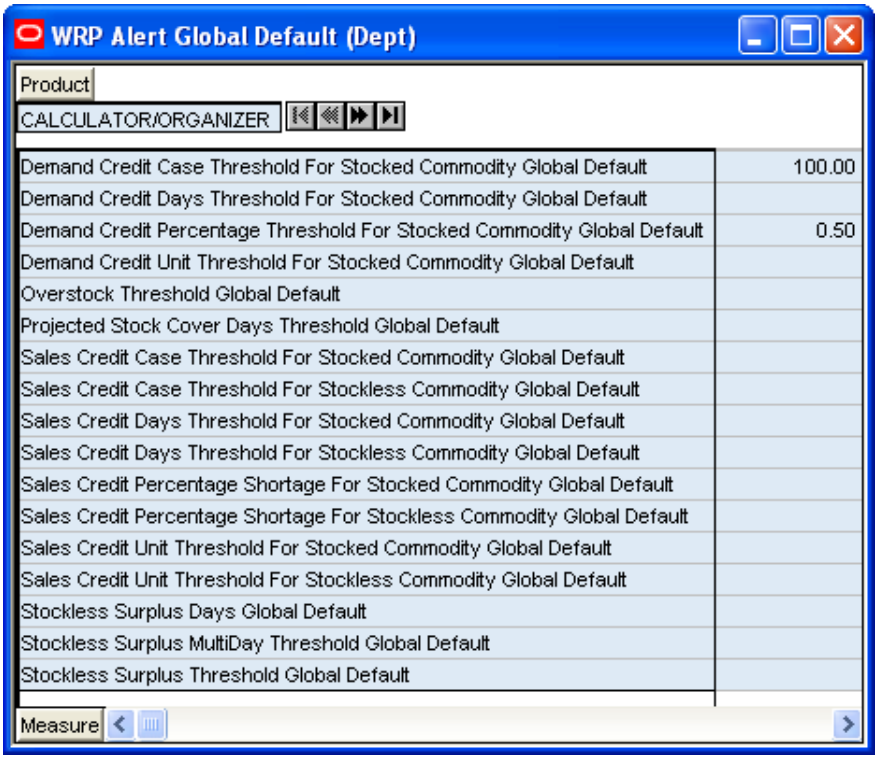
Measure Label	Description
Sales Credit Percentage Shortage For Stocked Commodity Default	Threshold as a percentage of Sales for alerting Sales Credits for a stocked commodity. This percentage must be exceeded, as must the Sales credit case threshold for a sales credit alert to be raised. Any value between zero and one is valid. Example: If the user wants alerts for all Sales Credits representing more than 60% of Sales, they would enter .6.
Sales Credit Percentage Shortage For Stockless Commodity Default	Threshold as a percentage of Sales for alerting Sales Credits for a stockless commodity. This percentage must be exceeded, as must the Sales credit case threshold for a sales credit alert to be raised. Any value between zero and one is valid. Example: If the user wants alerts for all Sales Credits representing more than 60% of Sales, they would enter .6.
Sales Credit Unit Threshold For Stocked Commodity Default	Threshold in units for alerting Sales Credits for a stocked commodity. This quantity must be exceeded, as must the percentage sales credit for a sales credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 units, above which alerts are generated, they would enter 10.
Sales Credit Unit Threshold For Stockless Commodity Default	Threshold in units for alerting Sales Credits for a stockless commodity. This quantity must be exceeded, as must the percentage sales credit for a sales credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 units, above which alerts are generated, they would enter 10.
Stockless Surplus Days of Demand Threshold Default	This measure represents a number of days of demand to be summed and is used as part of the criteria for raising a stockless surplus alert. A stockless surplus alert notifies the user that excessive orders exist at this warehouse based on warehouse demand. If the sum of demand over the Stockless Surplus Days of Demand Threshold is less than or equal to the demand credit surplus, one of the criteria to raise a stockless surplus has been met. The Stockless Surplus Days of Demand Threshold is used in both the Stockless Surplus Alert for a Single Day and the Stockless Surplus Alert for Multiple Days. Any positive value, including zero, is valid. Example: If the user wants to sum the demand for 5 days, they would enter 5.
Stockless Surplus MultiDay Threshold Default	This measure represents a threshold in days for triggering a Stockless Surplus Alert for Multiple Days. This number of days that meet the criteria for a stockless surplus alert must exceed Stockless Surplus Multi Day Threshold as one of the criteria to raise the Stockless Surplus Alert for Multiple Days. A stockless surplus alert notifies the user that excessive orders exist at this warehouse based on warehouse demand. Any positive value, including zero, is valid. Example: If the user wants to raise a Stockless Surplus Alert for Multiple Days when there are more than 3 days stockless surplus alerts, they would enter 3.

Measure Label	Description
Stockless Surplus Threshold Default	This threshold represents the number of units a demand credit must exceed as part of the criteria for raising a stockless surplus alert. A stockless surplus alert notifies the user that excessive orders exist at this warehouse based on warehouse demand. The Stockless Surplus Threshold is used in both the Stockless Surplus Alert for a Single Day and the Stockless Surplus Alert for Multiple Days. Any positive value, including zero, is valid. Example: If the user wants to raise a Stockless Surplus Alert if the demand credit is greater than 100 units, they would enter 5.

WRP Alert Global Default (Dept) Tab

WRP Alert Global Default (Dept) Worksheet

The WRP Alert Global Default Parameters worksheet permits maintenance of alert-related global default parameters at the Dept level.



WRP Alert Global Default (Dept) Worksheet

The following measures are displayed automatically when using the default template.

Measure Label	Description
Demand Credit Case Threshold For Stocked Commodity Global Default	Threshold in cases for alerting Demand Credits for stocked commodity. This quantity must be exceeded, as must the percentage demand credit threshold for a demand credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 cases, above which alerts are generated, they would enter 10.
Demand Credit Days Threshold For Stocked Commodity Global Default	Threshold in days for alerting Demand Credits for a stocked commodity based on a number of consecutive days of demand credits. Any positive value, including zero, is valid. Example: If the user wants alerts to be raised when there are more than 3 days of demand credits, they would enter 3.
Demand Credit Percentage Threshold For Stocked Commodity Global Default	Threshold as a percentage of demand for alerting Demand Credits for a stocked commodity. This percentage must be exceeded, as must the demand credit case threshold for a demand credit alert to be raised. Any value between zero and one is valid. Example: If the user wants alerts for all Demand Credits representing more than 60% of demand, they would enter .6.
Demand Credit Unit Threshold For Stocked Commodity Global Default	Threshold in units for alerting Demand Credits for a stocked commodity. This quantity must be exceeded for a demand credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 units, above which alerts are generated, they would enter 10.
Overstock Threshold Global Default	Threshold in Units for generating overstock alert. This quantity must be exceeded for an overstock alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 100 units, above which overstock alerts are generated, they would enter 100.
Projected Stock Cover Days Threshold Global Default	Threshold in number of days cover for generating overstock alert. An overstock alert occurs when the number of days stock cover exceeds the stock cover days threshold. Any positive value, including zero, is valid. Example: If the user wants to overstock alerts when there is more than 10 days stock in the warehouse, they would enter 10.
Sales Credit Case Threshold For Stocked Commodity Global Default	Threshold in cases for alerting Sales Credits for a stocked commodity. This quantity must be exceeded, as must the percentage sales credit for a sales credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 cases, above which alerts are generated, they would enter 10.
Sales Credit Case Threshold For Stockless Commodity Global Default	Threshold in cases for alerting Sales Credits for a stockless commodity. This quantity must be exceeded, as must the percentage sales credit for a sales credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 cases, above which alerts are generated, they would enter 10.

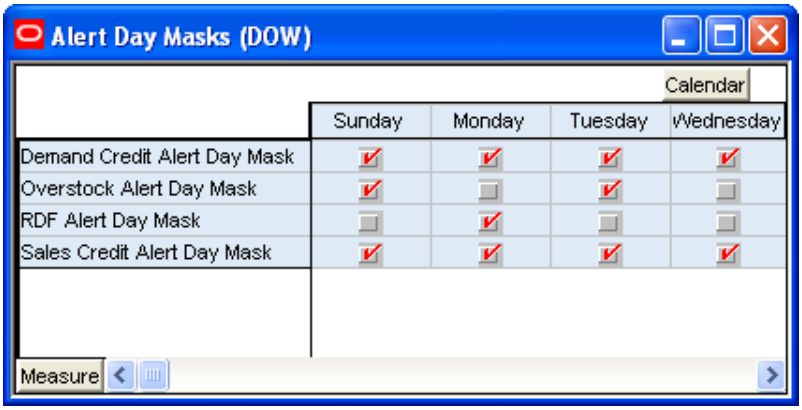
Measure Label	Description
Sales Credit Days Threshold For Stocked Commodity Global Default	Threshold in days for alerting Sales Credits for a stocked commodity based on a number of consecutive days of sales credits. Any positive value, including zero, is valid. Example: If the user wants alerts to be raised when there are more than 3 days of sales credits, they would enter 3.
Sales Credit Days Threshold For Stockless Commodity Global Default	Threshold in days for alerting Sales Credits for a stockless commodity based on a number of consecutive days of sales credits. Any positive value, including zero, is valid. Example: If the user wants alerts to be raised when there are more than 3 days of sales credits, they would enter 3.
Sales Credit Percentage Shortage For Stocked Commodity Global Default	Threshold as a percentage of Sales for alerting Sales Credits for a stocked commodity. This percentage must be exceeded, as must the Sales credit case threshold for a sales credit alert to be raised. Any value between zero and one is valid. Example: If the user wants alerts for all Sales Credits representing more than 60% of Sales, they would enter .6.
Sales Credit Percentage Shortage For Stockless Commodity Global Default	Threshold as a percentage of Sales for alerting Sales Credits for a stockless commodity. This percentage must be exceeded, as must the Sales credit case threshold for a sales credit alert to be raised. Any value between zero and one is valid. Example: If the user wants alerts for all Sales Credits representing more than 60% of Sales, they would enter .6.
Sales Credit Unit Threshold For Stocked Commodity Global Default	Threshold in units for alerting Sales Credits for a stocked commodity. This quantity must be exceeded, as must the percentage sales credit for a sales credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 units, above which alerts are generated, they would enter 10.
Sales Credit Unit Threshold For Stockless Commodity Global Default	Threshold in units for alerting Sales Credits for a stockless commodity. This quantity must be exceeded, as must the percentage sales credit for a sales credit alert to be raised. Any positive value, including zero, is valid. Example: If the user wants to set a threshold of 10 units, above which alerts are generated, they would enter 10.
Stockless Surplus Days of Demand Threshold Global Default	This measure represents a number of days of demand to be summed and is used as part of the criteria for raising a stockless surplus alert. A stockless surplus alert notifies the user that excessive orders exist at this warehouse based on warehouse demand. If the sum of demand over the Stockless Surplus Days of Demand Threshold is less than or equal to the demand credit surplus, one of the criteria to raise a stockless surplus has been met. The Stockless Surplus Days of Demand Threshold is used in both the Stockless Surplus Alert for a Single Day and the Stockless Surplus Alert for Multiple Days. Any positive value, including zero, is valid. Example: If the user wants to sum the demand for 5 days, they would enter 5.

Measure Label	Description
Stockless Surplus MultiDay Threshold Global Default	This measure represents a threshold in days for triggering a Stockless Surplus Alert for Multiple Days. This number of days that meet the criteria for a stockless surplus alert must exceed Stockless Surplus Multi Day Threshold as one of the criteria to raise the Stockless Surplus Alert for Multiple Days. A stockless surplus alert notifies the user that excessive orders exist at this warehouse based on warehouse demand. Any positive value, including zero, is valid. Example: If the user wants to raise a Stockless Surplus Alert for Multiple Days when there are more than 3 days stockless surplus alerts, they would enter 3.
Stockless Surplus Threshold Global Default	This threshold represents the number of units a demand credit must exceed as part of the criteria for raising a stockless surplus alert. A stockless surplus alert notifies the user that excessive orders exist at this warehouse based on warehouse demand. The Stockless Surplus Threshold is used in both the Stockless Surplus Alert for a Single Day and the Stockless Surplus Alert for Multiple Days. Any positive value, including zero, is valid. Example: If the user wants to raise a Stockless Surplus Alert if the demand credit is greater than 100 units, they would enter 5.

Run Masks Tab

Alert Day Masks (DOW) Worksheet

The WRP Run Mask worksheet permits maintenance of alert masks by Day of Week. By deselecting a day of week for a given alert mask, the user prevents the generation of that alert for that day of week for a SKU/Destination. The Alert Day-of-Week Mask together with the Alert Mask determines whether an alert can be triggered.



Alert Day Masks (DOW) Worksheet

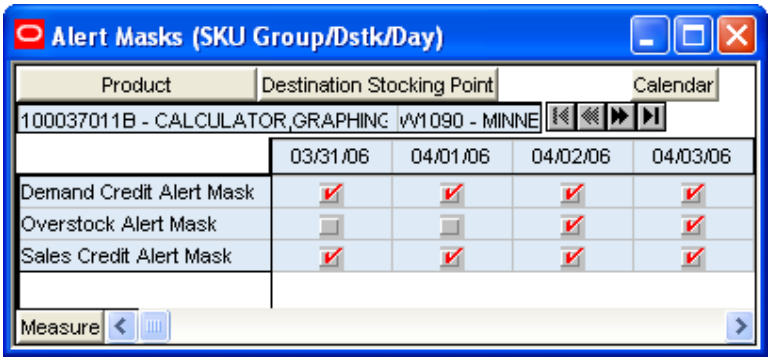
The following alert masks are displayed automatically when using the default template.

- Demand Credit Alert Day Mask
- Overstock Alert Day Mask
- RDF Alert Day Mask
- Sales Credit Alert Day Mask

Alert Masks Tab

Alert Masks (SKU Group/Dstk/Day) Worksheet

The Alert Masks Worksheet contains masks for WRP alerts that allow the user to turn off the alert, or keep WRP from generating that alert.



Alert Masks (SKU Group/Dstk/Day) Worksheet

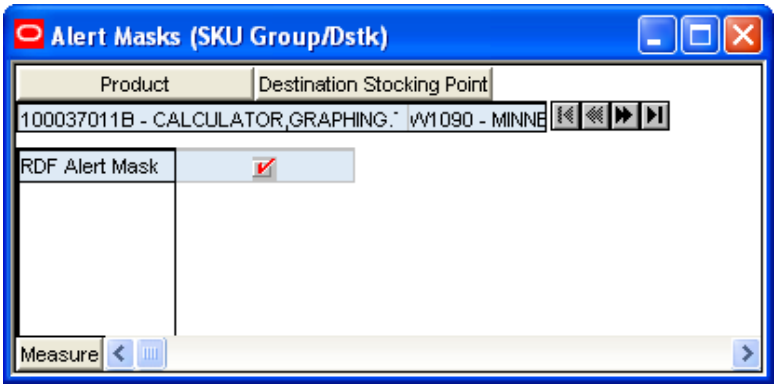
The WRP Alert Masks worksheet contains the following writeable measures at the SKU Group/Dstk/Day level. The WRP user can deselect a box to stop that alert from being run. The Alert Mask together with the Alert Day-of-Week Mask determines whether an alert can be triggered.

The following measures are displayed automatically when using the default template.

- Demand Credit Alert Mask
- Overstock Alert Mask
- Sales Credit Alert Mask

Alert Masks (SKU Group/Dstk) Worksheet

The Alert Masks Worksheet contains masks for WRP alerts that allow the user to turn off the alert, or keep WRP from generating that alert.



Alert Masks (SKU Group/Dstk) Worksheet

The WRP Alert Masks worksheet contains the following writeable measure at the SKU Group/Dstk level. The WRP user can deselect a box to stop that alert from being run.

The following measure is displayed automatically when using the default template.

- RDF Alert Mask

WRP Interactive Evaluation Workbook

The WRP Interactive Evaluation workbook enables users to perform What-if analysis on the warehouse replenishment plan by changing various warehouse-related replenishment parameters. After making changes to the parameters, the user has the option to recalculate the replenishment portion of the warehouse receipt plan (unconstrained) or the replenishment and reconciliation portions (encompassing Shortfall Reconciliation, SPQ and Stockless push) of the warehouse receipt plan (constrained).

This workbook contains the following tabs and worksheets:

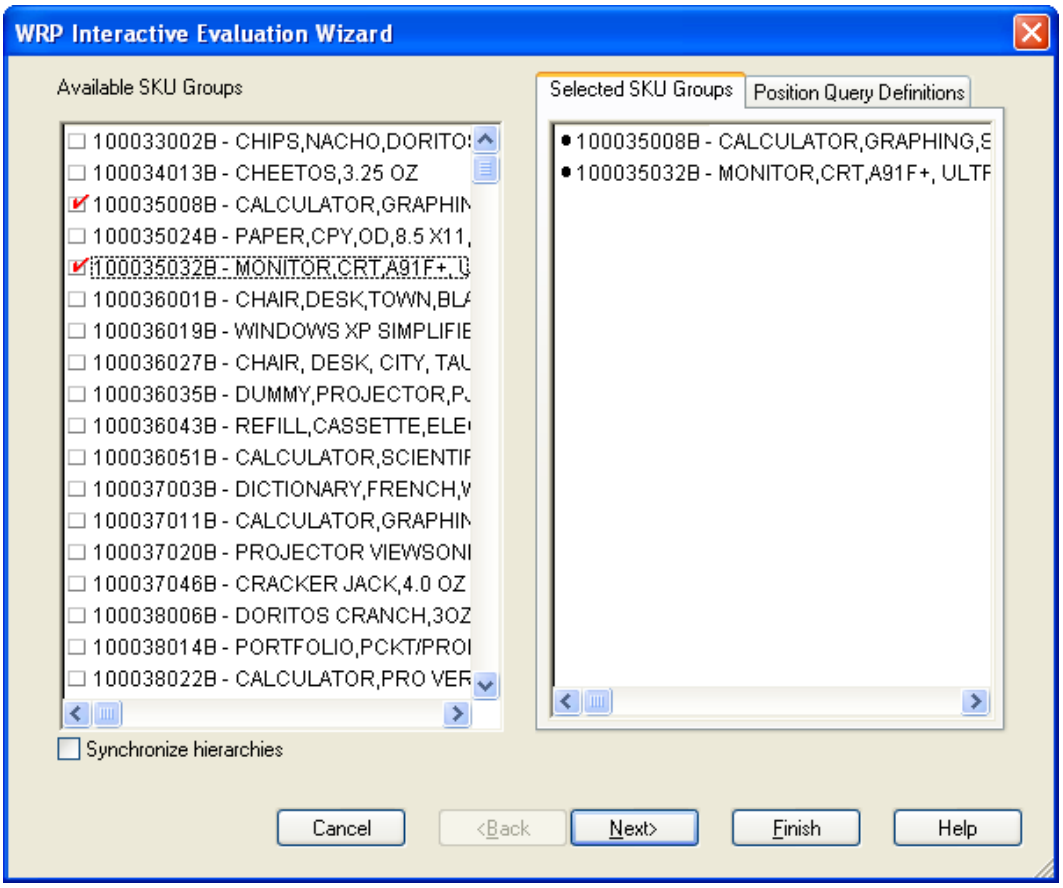
- A WRP Replenishment Plan Tab containing
  - A WRP Receipt Plan by SKU Group worksheet
  - A WRP Receipt Plan by SKU Pack Size worksheet
  - A WRP Replenishment Parameters by SKU Group worksheet
  - A WRP Replenishment Parameters by Week by SKU Group worksheet
  - A WRP Temporarily Un-orderable worksheet
  - A WRP Historical Supplier Orders worksheet
  - A WRP Replenishment Parameters by Warehouse worksheet
- A WRP Exception Summary Tab containing
  - A Credit Details worksheet
  - A SKU Group Credit Totals worksheet
  - A Warehouse Credit Totals worksheet
  - A Source Credit Totals worksheet
  - A Credit Summary worksheet
  - An In-transit Details worksheet
- A WRP Overstock Alert Summary Tab containing:
  - A Promotional SKU View worksheet
  - An Overstock Details worksheet
- A Company Level Inventory Analysis Tab
  - A Company Level Inventory Analysis worksheet
- A WRP SPQ Analysis Tab
  - An SPQ Analysis worksheet

> **Note:** All measures in this workbook are writeable unless otherwise stated.

WRP Interactive Evaluation Wizard

Available SKU Groups

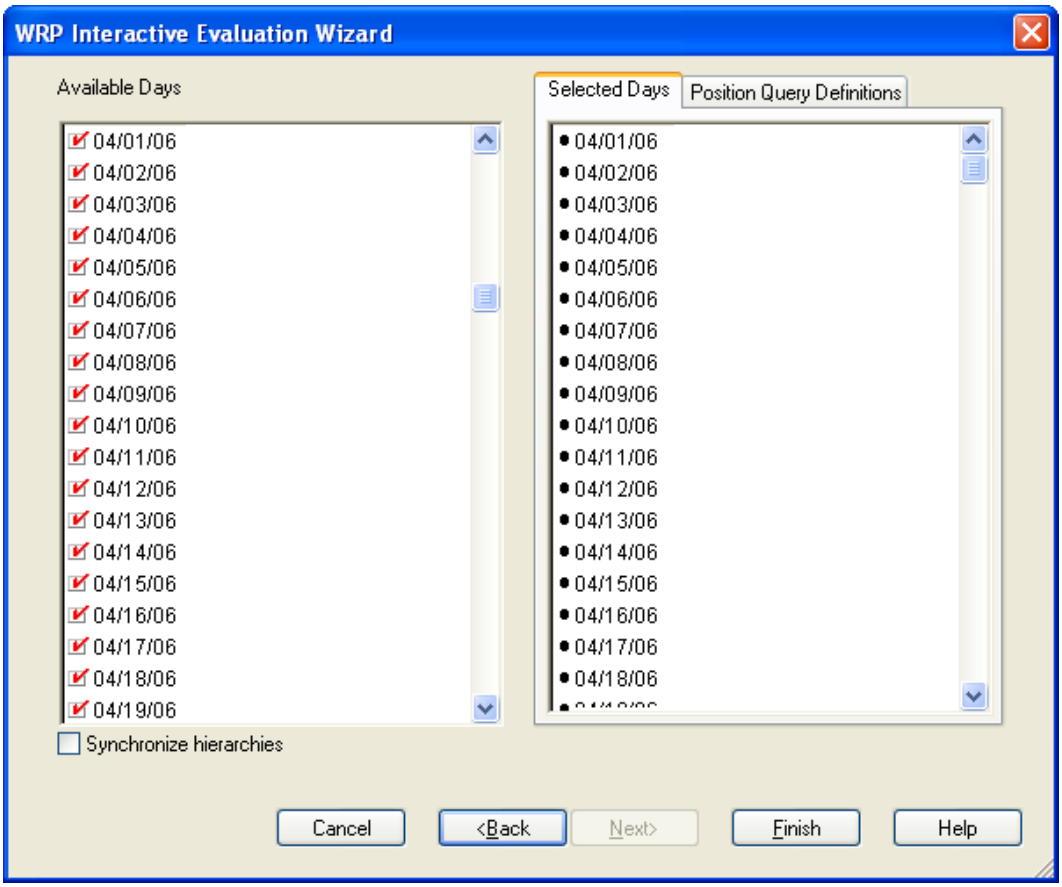
This dialog box enables the user to select SKU Groups from a list of all available SKU Groups in the AIP domain. The Selected SKU Groups list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available SKU Groups. Standard RPAS functionality is available for this particular wizard page.



WRP Interactive Evaluation Wizard – Available SKU Groups

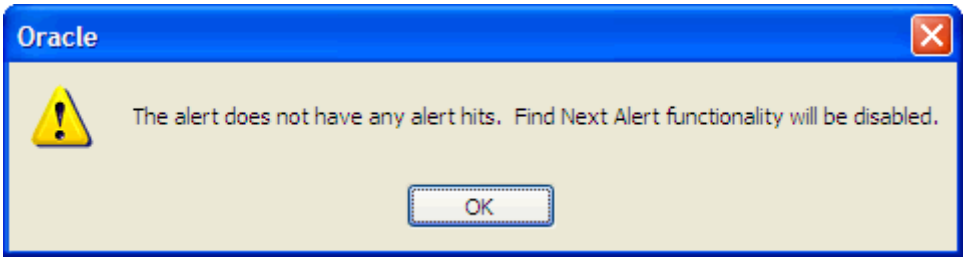
Available Days

This dialog box enables the user to select Days from a list of all available Days in the AIP domain. The Selected Days list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Days. Please note if all days in the scheduled horizon are not selected, workbook calculations may display different values from batch. Standard RPAS functionality is available for this particular wizard page.



WRP Interactive Evaluation Wizard – Available Days

If there are no alert hits after the user clicks **Finish** from the last wizard page, the user is notified there are no alert hits and the Find Next Alert functionality is disabled:



When the user selects **Finish**, the workbook is built using the SKU groups and days selected. It also builds in the entire stocking point network including suppliers and stores that are ranged to the selected products and days. This is necessary in order to perform what-if analysis for the n-tier supply chain. All Stores are hidden in the workbook. Suppliers are also hidden in the destination stocking point hierarchy.

In order to utilize the what-if functionality in this workbook, the user may enter different parameter variables into any writeable measures in the WRP Replenishment Summary worksheet and click the **Calculate** button in the toolbar. The newly calculated allocation boundaries (Safety Stock, Receipt Point and Receive Up To Level) values are visible. If the user is pleased with the revised boundaries, the new values can be committed to the database and is used in the next batch run.

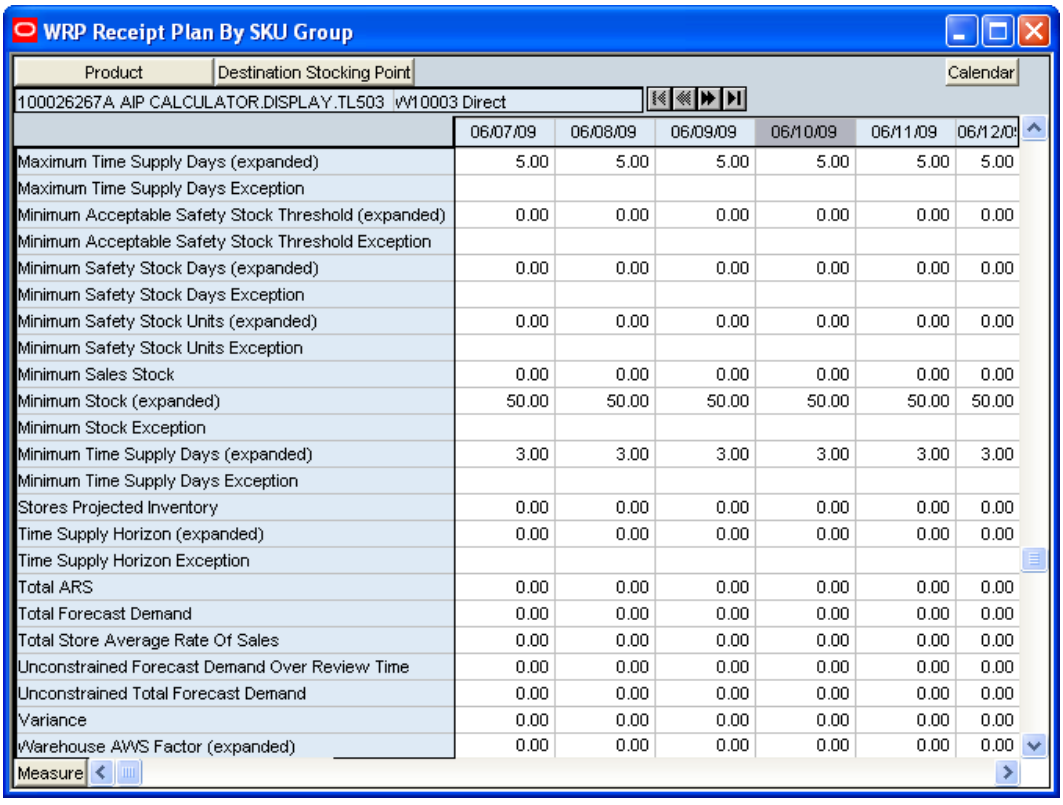
There is a Run WRP menu option that allows the user to choose whether to run the plan in an Unconstrained or Constrained mode. What If - Unconstrained performs replenishment over the planning horizon and display the newly calculated unconstrained Receipt Plan. What If - Constrained performs both replenishment (over the planning horizon) and shortfall reconciliation (over the fixed period) and display the newly calculated constrained Receipt Plan. No Substitution, Stockless or SPQ reconciliation takes place.

Note: Unless otherwise stated, all measures are writeable for days after today unless otherwise stated. Historical values are never writeable.

WRP Replenishment Plan Tab

WRP Receipt Plan by SKU Group Worksheet

The WRP Receipt Plan by SKU Group worksheet displays the WRP receipt plan and calculation parameters at the SKU Group/Warehouse/day level.



WRP Receipt Plan By SKU Group

Product | Destination Stocking Point | Calendar

100026267A AIP CALCULATOR.DISPLAY.TL503 | W10003 Direct

	06/07/09	06/08/09	06/09/09	06/10/09	06/11/09	06/12/09
Maximum Time Supply Days (expanded)	5.00	5.00	5.00	5.00	5.00	5.00
Maximum Time Supply Days Exception						
Minimum Acceptable Safety Stock Threshold (expanded)	0.00	0.00	0.00	0.00	0.00	0.00
Minimum Acceptable Safety Stock Threshold Exception						
Minimum Safety Stock Days (expanded)	0.00	0.00	0.00	0.00	0.00	0.00
Minimum Safety Stock Days Exception						
Minimum Safety Stock Units (expanded)	0.00	0.00	0.00	0.00	0.00	0.00
Minimum Safety Stock Units Exception						
Minimum Sales Stock	0.00	0.00	0.00	0.00	0.00	0.00
Minimum Stock (expanded)	50.00	50.00	50.00	50.00	50.00	50.00
Minimum Stock Exception						
Minimum Time Supply Days (expanded)	3.00	3.00	3.00	3.00	3.00	3.00
Minimum Time Supply Days Exception						
Stores Projected Inventory	0.00	0.00	0.00	0.00	0.00	0.00
Time Supply Horizon (expanded)	0.00	0.00	0.00	0.00	0.00	0.00
Time Supply Horizon Exception						
Total ARS	0.00	0.00	0.00	0.00	0.00	0.00
Total Forecast Demand	0.00	0.00	0.00	0.00	0.00	0.00
Total Store Average Rate Of Sales	0.00	0.00	0.00	0.00	0.00	0.00
Unconstrained Forecast Demand Over Review Time	0.00	0.00	0.00	0.00	0.00	0.00
Unconstrained Total Forecast Demand	0.00	0.00	0.00	0.00	0.00	0.00
Variance	0.00	0.00	0.00	0.00	0.00	0.00
Warehouse AWS Factor (expanded)	0.00	0.00	0.00	0.00	0.00	0.00

Measure

WRP Receipt Plan by SKU Group Worksheet

The following measures are displayed automatically when using the default template:

Measure Label	Description
Available To Plan Receipt	Boolean that indicates the days on which a warehouse may plan a receipt. This is a read-only measure and remains unchanged regardless of which other parameters are changed in the work book.
Baseline Safety Stock %	Percent of that days demand that is used for baseline safety stock. (Read only)
Baseline Safety Stock % Override	The Baseline Safety Stock % Override measure allows the user to override the Baseline Safety Stock % input in the Additional Stock Maintenance Workbook. Any positive number, including zero, is valid. Example: To use 120% of that days demand that as baseline safety stock, the user would enter an Override Percent of 1.2.
Baseline Safety Stock (Units)	Baseline safety stock in units calculated from the baseline safety stock percent. (Read only)
Baseline Safety Stock (Units) Override	The Baseline Safety Stock (Units) Override measure allows the user to override the Baseline Safety Stock (Units) input in the Additional Stock Maintenance Workbook. Any positive number, including zero, is valid.
Closing Week Inventory	When the workbook is built, it is crossed out until the User rolls up the calendar hierarchy to the week level. Provides the User with a read-only projection of inventory at the close of business each Saturday night. This is based upon the projected inventory position of the following Sunday.
Contingency Safety Stock %	Percent of that days demand that is used for contingency safety stock.
Contingency Safety Stock % Override	The Contingency Safety Stock % Override measure allows the user to override the Contingency Safety Stock % input in the Additional Stock Maintenance Workbook. Any positive number, including zero, is valid. Example: To use 120% of that days demand that as contingency safety stock, the user would enter an Override Percent of 1.2.
Contingency Safety Stock (Units)	Baseline safety stock in units calculated from the contingency safety stock percent. (Read only)
Demand Forecast	Read-only measure that displays forecasted demand aggregated to the stocking point level.
Demand Forecast History	Demand Forecast History represents the forecast for the current day, calculated in the prior batch run. Demand Forecast History is used for contingency purposes, if for any reason current forecast data is not available. (Read only)
Expected Receipts	Read-only measure displaying the sum of On-orders, in-transits and placement quantities.

Measure Label	Description
Forecast Demand Over Review Time	Read-only measure that displays the demand summed over the review time. If the review time is zero, then the displayed value is zero. This value may change if the stop receiving date is updated.
Forecasted Receipts	Read-only measure which represents the final constrained receipt plan calculated in the most recent batch run. The receipts include any impacts due to Supplier and Container Scaling.
Forecasted Receipts - Pre-Scaling	Read-only measure which contains the constrained receipt plan, calculated in the most recent batch run, prior to applying Supplier and Container Scaling Constraints.
Forecasted Receipts - What If	Read-only measure that initially displays the constrained receipt plan (CRP) calculated in the most recent AIP Batch run. If any changes are made to WRP parameters and the user selects **What If – Unconstrained** or **What If – Constrained** from the **What If** option on the menu bar, this measure is updated with the newly calculated CRP for the SKU/Warehouse. What-if does not consider supplier and container scaling constraints.
Hold Back Option	Read-only measure which indicates whether the hold back quantity should be considered when the batch determines if an order should be generated. Valid values are **Reserve Holdback Quantity** or **Do Not Reserve Holdback Quantity**. Reserve Holdback Quantity means that any user-specified Hold Back quantity should be deducted from the On Hand (Net Inventory) position. Do Not Reserve Holdback Quantity tOH means that the On Hand (Net Inventory) calculation ignores any Hold Back quantity specified by the user.
Hold Back Quantity	Read-only measure that represents a quantity of inventory to be held in reserve in the warehouse. The value current domain value is displayed and never changes based on user input in the workbook.
Increment Percent (expanded)	The expanded read-only version of the Increment Percent measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Increment Percent Exception	The Increment Percent acts as a multiplier for minimum and maximum stock that is designed to handle temporary fluctuation in demand for items using Min/Max Replenishment Method. An increment percentage factor can be used to temporarily increase or decrease targeted stocking levels without altering the established MIN and MAX values. Any positive number, including zero, is valid. Example: To use 120% of the Min and Max Stock, the user would enter a value of 1.2.
Inventory Selling Days (expanded)	The expanded read-only version of the Inventory Selling Days measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.

Measure Label	Description
Inventory Selling Days Exception	The number of days used to sum the forecasted demand for Dynamic and Hybrid replenishment method calculations. Inventory selling days can be used to ensure a minimum number of days of supply are included in the order. Any positive number is valid. Example: To account for 3 days of demand, the user should enter 3.
Loaded Safety Stock History	A read-only historical view of loaded safety stock. The value current domain value is displayed and never changes based on user input in the workbook.
Maximum Safety Stock Days (expanded)	The expanded read-only version of the Maximum Safety Stock Days measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Maximum Safety Stock Days Exception	The Maximum Safety Stock Days parameter is used to specify the maximum number of days of cover to be kept on hand as safety stock. If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary uses the larger of demand over max safety stock days and max safety stock units. Any positive integer, including zero, is valid. Example: To ensure the maximum safety stock contains at least 14 days of supply, 14 would be entered in Max Safety Stock Days. If Max Safety Stock Units is greater than 14 days of supply, max units would be used as the maximum safety stock, otherwise maximum safety stock would be the number of units required to cover 14 days of demand.
Maximum Safety Stock Units (expanded)	The expanded read-only version of the Maximum Safety Stock Units measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Maximum Safety Stock Units Exception	The Maximum Safety Stock Units parameter is used to specify the maximum amount of inventory (in units) to be kept on hand as safety stock. If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary uses the larger of demand over max safety stock days and max safety stock units. Any positive number, including zero, is valid. Example: To ensure the maximum safety stock contains at least 14 days of supply, 14 would be entered in Max Safety Stock Days. If Max Safety Stock Units is greater than 14 days of supply, max units would be used as the maximum safety stock, otherwise maximum safety stock would be the number of units required to cover 14 days of demand.
Maximum Stock (expanded)	The expanded read-only version of the Maximum Safety measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.

Measure Label	Description
Maximum Stock Exception	Maximum Stock is only used in the Min/Max Replenishment Method. It represents the maximum stock level in units that are desired on hand to satisfy demand. The receipt plan quantity is calculated to bring Net Inventory up to the specified Maximum Stock level. Any positive number, including zero, is valid. Example: To set a maximum stock of 20 units, the user should enter 20.
Maximum Time Supply Days (expanded)	The expanded read-only version of the Maximum Time Supply Days measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Maximum Time Supply Days Exception	Maximum Time Supply Days is only used in the Time Supply Replenishment Method. It represents the maximum stock level in terms of a number of days cover that are desired on hand to satisfy demand. The receipt plan quantity is calculated to bring Net Inventory up to Maximum Time Supply Days of cover. Any positive integer, including zero, is valid. Example: To ensure an order brings the inventory level up to 14 days of supply, 14 would be entered in Max Time Supply Days.
Minimum Acceptable Safety Stock Threshold (expanded)	The expanded read-only version of the Acceptable Safety Stock Threshold measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Minimum Acceptable Safety Stock Threshold Exception	This parameter indicates the percentage of safety stock that must be protected when rounding the Ideal Receipt Quantity (IRQ) to an order multiple. The IRQ cannot be rounded down if doing so results in less than the specified percentage of safety stock being ordered. Any positive number, including zero, is valid. Example: To protect 40% of safety stock, the user would enter a value of 0.4.
Minimum Safety Stock Days (expanded)	The expanded read-only version of the Minimum Safety Stock Days measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Minimum Safety Stock Days Exception	The Minimum Safety Stock Days parameter is used to specify the minimum number of days of cover to be kept on hand as safety stock. If the user enters both Min Safety Stock Days and Min Safety Stock Units, the minimum safety stock boundary uses the larger of demand over min safety stock days and min safety stock units. Any positive integer, including zero, is valid. Example: To ensure the minimum safety stock contains at least 7 days of supply, 7 would be entered in Min Safety Stock Days. If Min Safety Stock Units is greater than 7 days of supply, min units would be used as the minimum safety stock, otherwise minimum safety stock would be the number of units required to cover 7 days of demand.
Minimum Safety Stock Units (expanded)	The expanded read-only version of the Minimum Safety Stock Units measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.

Measure Label	Description
Minimum Safety Stock Units Exception	The Minimum Safety Stock Units parameter is used to specify the minimum amount of inventory to be kept on hand as safety stock. If the user enters both Min Safety Stock Days and Min Safety Stock Units, the minimum safety stock boundary uses the larger of demand over min safety stock days and min safety stock units. Any positive number, including zero, is valid. Example: To ensure the minimum safety stock contains at least 7 days of supply, 7 would be entered in Min Safety Stock Days. If Min Safety Stock Units is greater than 7 days of supply, min units would be used as the minimum safety stock, otherwise minimum safety stock would be the number of units required to cover 7 days of demand.
Minimum Stock (expanded)	The expanded read-only version of the Minimum Stock measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Minimum Stock Exception	Minimum Stock is only used in the Min/Max Replenishment Method. It represents the minimum stock level in units that are desired on hand to satisfy demand. Min Stock is used in determining the inventory level at which a replenishment is triggered. Any positive number, including zero, is valid. Example: To set a minimum stock of 5 units, the user should enter 5.
Minimum Time Supply Days (expanded)	The expanded read-only version of the Minimum Time Supply Days measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Minimum Time Supply Days Exception	Minimum Time Supply Days is only used in the Time Supply Replenishment Method. It represents minimum stock level in terms of number of days cover that that are desired on hand to satisfy demand. Min Time Supply Days of cover is used in both safety stock and receipt point calculations. Any positive number, including zero, is valid Example: To set a minimum stock level of 5 days, the user should enter 5.
Numeric Actively Replenished	Read-only measure that indicates the total number of active stores source from this warehouse for this SKU/day.
Original Total Planned Receipts	Read-only measure that represents the original un-reconciled total planned receipts.
Original Total Planned Receipts - What If	Read-only measure that initially displays the un-reconciled, un-scaled total planned receipts (URP) calculated in the most recent AIP Batch run. If any changes are made to WRP parameters and the user selects **What If – Unconstrained** or **What If – Constrained** from the **What If** option on the menu bar, this measure is updated with the newly calculated URP for the SKU/Warehouse.
Projected Days Of Supply On Hand At Stores (at Stocking Point)	Read-only measure that displays a projection of the number of days of inventory on hand at stores that are supplied by the current warehouse. This number is determined by taking the summed projected inventory of the stores and dividing it by the summed average rate of sale. The calculated value changes based on the calculation of Stores Projected Inventory.

Measure Label	Description
Projected Inventory	The Projected Inventory (PI) is calculated in batch and represents a projection of the opening inventory position for any day in the planning horizon at a specific warehouse. None of that day's activities (either receipts or demand) are reflected in PI, and so it is often referred to as a beginning of day position. PI on a given day is calculated as the PI of the previous day plus the net impact of all forecasted demand and expected and planned receipts on the previous day. The planned receipts include scaled purchase orders. This read-only measure displays the PI calculated in the most recent AIP Batch run.
Projected Inventory – Pre-Scaling	The Projected Inventory (PI) is calculated in batch and represents a projection of the opening inventory position for any day in the planning horizon at a specific warehouse. None of that day's activities (either receipts or demand) are reflected in PI, and so it is often referred to as a beginning of day position. PI on a given day is calculated as the PI of the previous day plus the net impact of all forecasted demand and expected and planned receipts on the previous day. The planned receipts are pre-scaling receipt quantities. This read-only measure displays the pre-scaling PI calculated in the most recent AIP Batch run.
Projected Inventory - What If	Read-only measure that initially displays the Projected Inventory (PI) calculated in the most recent AIP Batch run. If any changes are made to WRP parameters and the user selects **What If – Unconstrained** or **What If – Constrained** from the **What If** option on the menu bar, this measure is updated with the newly calculated PI for the SKU/Warehouse. What-if does not consider supplier and container scaling constraints.
Receipt Point	The warehouse Receipt Point (RP) represents the inventory level below which an order should be triggered. Its calculation depends upon the selected Replenishment Method. The Receipt Point is only calculated on Available to Plan receipt days. This read-only measure displays the RP calculated in the most recent AIP Batch run.
Receipt Point - What If	Read-only measure that initially displays the Receipt Point (RP) calculated in the previous AIP Batch run. If any changes are made to WRP parameters and the user selects **What If – Unconstrained** or **What If – Constrained** from the **What If** option on the menu bar, this measure is updated with the newly calculated RP for the SKU/Warehouse.
Receive Up To Level	The warehouse Receive Up To Level (RUTL) represents the target inventory level when an order is generated. Its calculation depends upon the selected Replenishment Method. RUTL is only calculated on Available to Plan receipt days.
Receive Up To Level - What If	Read-only measure that initially displays the Receive Up To Level calculated in the most recent AIP Batch run. If any changes are made to WRP parameters and the user selects **What If – Unconstrained** or **What If – Constrained** from the **What If** option on the menu bar, this measure is updated with the newly calculated RUTL for the SKU/Warehouse.

Measure Label	Description
Reconciliation Adjustment	A read-only measure indicating the difference between the Constrained Receipt Plan and the Unconstrained Receipt Plan.
Reconciliation Adjustment - What If	Read-only measure that initially displays the Reconciliation Adjustment calculated in the previous AIP Batch run. If any changes are made to WRP parameters and the user selects **What If – Constrained** from the **What If** option on the menu bar, this measure is updated with the newly calculated Reconciliation Adjustment for the SKU/Warehouse. If the user selects **What If – Unconstrained**, this measure should be set to zero.
Replenishment Method (expanded)	The expanded read-only version of the Replenishment Method measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Replenishment Method Exception	The choice of Replenishment Method determines the type of calculations that is used in generating a warehouse replenishment plan. The user selects the Replenishment Method from the following picklist options: ▪ Min/Max ▪ Time Supply ▪ Dynamic ▪ Hybrid ▪ No Replenishment ▪ Sales Week Range ▪ Factor AWS ▪ Loaded SS Dynamic ▪ Factor ARS
Review Time	This read-only measure is only populated for days that are available to plan. It indicates the number of days between the point that a delivery on the current ATP days can be used to satisfy demand and the point at which a delivery on the next ATP day becomes available to meet demand. This period of time identifies the number of days that are the exclusive responsibility of the current ATP day.
Round Up Threshold (expanded)	The expanded read-only version of the Round Up Threshold measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Round Up Threshold Exception	The Rounding Threshold represents the percentage of the last order multiple above which the Ideal Replenishment Quantity is rounded up and below which it is rounded down. Valid values are 0 through 1. Example: If a user wants to round up when the remaining part of the IRQ is more than 25 percent of an order multiple, they would enter .25 in Rounding Threshold

Measure Label	Description
Safety Stock	Safety Stock (SS) is inventory held at a location to mitigate the risks of stock outs caused by variability in forecasted demand. The calculated to determine Safety stock is dependent upon the selected Replenishment Method. All replenishment methods allow the safety stock to be bound by minimum and maximum values. Store Safety Stock is only calculated on Available to Plan receipt days and is read-only.
Safety Stock - What If	Read-only measure that initially displays the Safety Stock calculated in the previous AIP Batch run. If any changes are made to WRP parameters and the user selects **What If – Unconstrained** or **What If – Constrained** from the **What If** option on the menu bar, this measure is updated with the newly calculated SS for the SKU/Warehouse.
Service Level (expanded)	The expanded read-only version of the Service Level measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Service Level Exception	Service Level is used in the safety stock calculations for the Dynamic replenishment method. It is defined as the percentage of unit demand that should be met by inventory. Valid values are 0 through 1. Example: If a user wants to carry enough safety stock to maintain a 90% customer service level, the user would enter .90.
Source Order Multiple	Read-only measure that displays the order multiple used when placing orders on the source. This measure can not be impacted through changes made by the user in the work book.
Statistical Variance Threshold (expanded)	The expanded read-only version of the Statistical Variance Threshold measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Statistical Variance Threshold Exception	The variance threshold is used to determine whether statistical variance should be updated. If the calculated value is above the threshold, then it is not be used to update variance.
Statistical Variance Upper Boundary (expanded)	The expanded read-only version of the Statistical Variance Upper Boundary measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Statistical Variance Upper Boundary Exception	WRP calculates variance as a percent of forecast demand. The variance (represented as a percentage) is not permitted to exceed this threshold.
Stores Projected Inventory	Represents the read-only summation of projected inventory of all stores sourced from the warehouse. This value changes due to parameter changes made by the user.
Time Supply Horizon (expanded)	The expanded read-only version of the Time Supply Horizon measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.

Measure Label	Description
Time Supply Horizon Exception	The Time Supply Horizon parameter is only used in the Time Supply Replenishment method. If a time supply horizon is specified, the rate of sale is used instead of the actual forecast when calculating demand over the time supply days for inventory target level calculations. Any positive integer is valid. Example: To calculate a Rate of Sale (ROS) over a one week period, enter a value of 7 in Time Supply Horizon. The (ROS) is then calculated by summing the forecasted sales over the 7 days and dividing that number by 7.
Total ARS	A read-only summation of Average Rate of Sale (ARS) for stores source from this warehouse plus Warehouse Independent ARS.
Total Store Average Rate Of Sales	A read-only summation of Average Rate of Sale (ARS) for stores source from this warehouse
Variance	A read-only measure indicating the calculated forecast error.
Warehouse AWS Factor (expanded)	The expanded read-only version of the Warehouse AWS Factor measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Warehouse AWS Factor Exception	Used only in the AWS (Average Weekly Sales) Replenishment Method, this factor is multiplied by the AWS to produce target stock levels. Any positive value is valid. Example: To multiple the ARS by a factor of 2, the user should enter a value of 2.
Warehouse Maximum (expanded)	The expanded read-only version of the Warehouse Maximum measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Warehouse Maximum Exception	This represents the Maximum Safety Stock boundary for the Loaded Safety Stock, Sales Week Range, Factor ARS and Factor AWS Replenishment methods. Any positive value is valid. Example: To set a maximum safety stock boundary of 6 units, the user would enter 6.
Warehouse Minimum (expanded)	The expanded read-only version of the Warehouse Minimum measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
Warehouse Minimum Exception	This represents the Minimum Safety Stock Boundary for the Loaded Safety Stock, Sales Week Range, Factor ARS and Factor AWS Replenishment methods. Any positive value, including zero, is valid. Example: To set a minimum safety stock boundary of 2 units, the user would enter 2.

Measure Label	Description
Warehouse Net Inventory	Warehouse Net Inventory (NI) is calculated in batch and is a prediction of the inventory position at the end of review time. It represents what inventory is available to meet demand over the period. The NI calculation is based on the Projected Inventory position, which includes scaled receipts, at the beginning of the period. It then considers the impact of expected receipts and expected spoilage (ER & ES) over the review time. Warehouse Net Inventory is only calculated on Available to Plan receipt days, and is compared to the Receipt Point Boundary in order to establish if a receipt is required. **Important**: While it is possible to rollup Net Inventory across the time dimension, it is not recommended. Aggregation over time does not produce a meaningful result since the calculation of Net Inventory involves the summation of data over review times which do not correlate with positions in the calendar hierarchy.
Warehouse Net Inventory – Pre-scaling	Warehouse Net Inventory (NI) is calculated in batch and is a prediction of the inventory position, before the affects of scaling, at the end of review time. It represents what inventory is available to meet demand over the period. The NI calculation is based on the Pre-Scaling Projected Inventory position at the beginning of the period, then considering the impact of expected receipts and expected spoilage (ER & ES) over the review time. Warehouse Net Inventory is only calculated on Available to Plan receipt days, and is compared to the Receipt Point Boundary in order to establish if a receipt is required. **Important**: While it is possible to rollup Net Inventory across the time dimension, it is not recommended. Aggregation over time does not produce a meaningful result since the calculation of Net Inventory involves the summation of data over review times which do not correlate with positions in the calendar hierarchy.
Warehouse Net Inventory - What If	Read-only measure that initially displays the Warehouse Net Inventory calculated in the most reccent AIP Batch run. If any changes are made to WRP parameters and the user selects **What If – Unconstrained** or **What If – Constrained** from the **What If** option on the menu bar, this measure is updated with the newly calculated NI for the SKU/Warehouse. What-if does not consider supplier and container scaling constraints. **Important**: While it is possible to rollup Net Inventory across the time dimension, it is not recommended. Aggregation over time does not produce a meaningful result since the calculation of Net Inventory involves the summation of data over review times which do not correlate with positions in the calendar hierarchy.
Warehouse Receipt to Availability Lead Time	This read-only measure indicates the number of days between the receipt of a delivery into a warehouse and the point the received inventory becomes available to meet demand.
WH Independent ARS	A read-only measure indicating the externally loaded Average Rate of Sale (ARS) assigned to the warehouse. This is independent of any ARS summed from the store level.

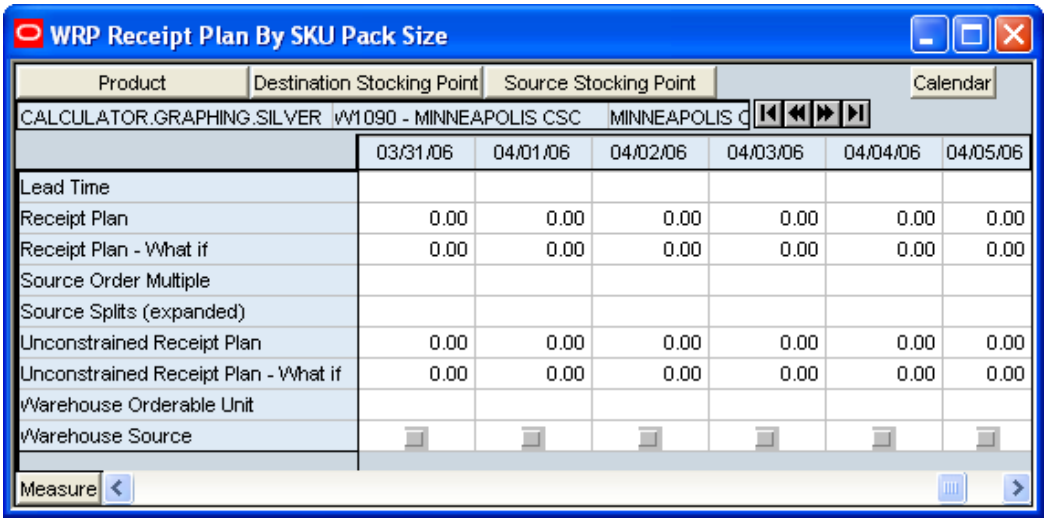
Hidden Workbook Measures

The following measures are hidden when using the default template. They can be displayed and maintained by using the Insert measure function of RPAS.

Measure Label	Description
Warehouse Capped Demand	Warehouse Capped Demand is displayed at the SKU Group level and is calculated by aggregating the Warehouse Capped Demand at SKU Pack/dstk/day level for all SKU-packs in a SKU Group.
Warehouse Capped PI	Warehouse Capped PI is calculated using the standard PI equation: $PIt = Max (PIt\text{-}1 + ERt\text{-}1 – Dmdt\text{-}1 + PRt\text{-}1 – ESt\text{-}1 – COt\text{-}1, 0)$ Where Dmd_t = Capped Demand (demand based on CRPs into the destinations) for any day t PR_t = Planned Receipts (Receipt Plan) at the warehouse for any day t Both Dmd_t and PR_t would represent aggregate values at the SKUGroup level for all SKUPacks belonging to that SKU Group.
Warehouse Capped PI – What If	Warehouse Capped PI – What If is a read-only measure that represents the projected inventory using the demand adjusted by SKU caps at the store. If any changes are made to WRP parameters and the user selects What If - Unconstrained or What If - Constrained from the What If option on the menu bar, this measure is updated with the newly calculated Capped PI for the SKU/Warehouse.
Warehouse Demand(Capped) Difference	Warehouse Demand (Capped) Difference is equal to Warehouse Non-Capped Demand @SKUG/dstk/day – Warehouse Demand SKUG/dstk/day.
Warehouse Residual Qty (Stockless)	Warehouse Residual Qty is equal to any excess stock that was left at the end of day for which there were no locations available to receive excess stock, either because of inventory capping, because there are no ATP days, or for any other reason. After stockless processing for the day, this quantity can be calculated as follows: $ResidualQty(t) = Max(PI(t) + ER(t) + CRP(t) – Dmd(t), 0)$ *(essentially the PI calculation for day t+1)*
Supplier Compliance Safety Stock Uplift	Supplier Compliance Safety Stock Uplift represents the amount in units of additional that should be carried to account for poor Supplier Delivery Performance. (Read only)

WRP Receipt Plan by SKU Pack Size Worksheet

The WRP Receipt Plan by SKU Pack Size worksheet displays the WRP receipt plan and calculation parameters at the SKU Pack Size/destination/source/day level.



WRP Receipt Plan by SKU Pack Size Worksheet

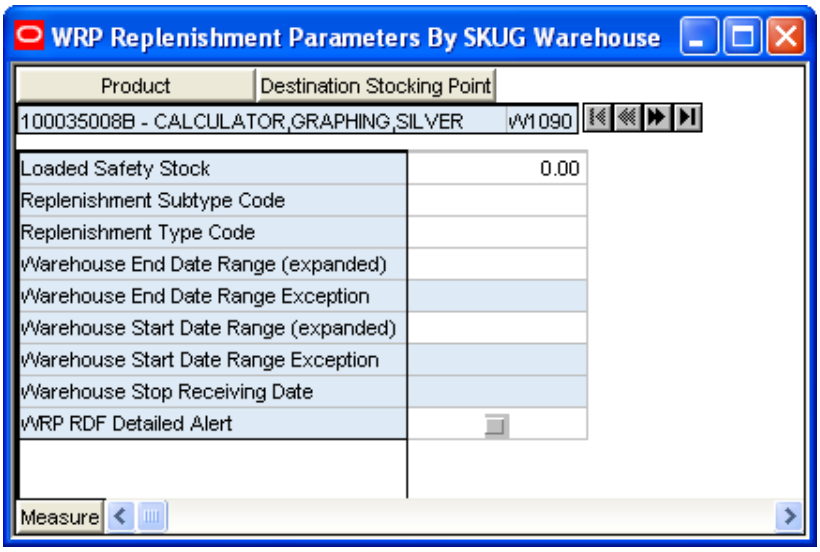
The following measures are displayed automatically when using the default template:

Measure Label	Description
Lead Time	This measure is the final lead time calculated based on multiple inputs in DM Online. This measure can not be impacted through changes made by the user in the work book. (Read only)
Receipt Plan	This read-only measure represents the receipt plan. This plan is constrained (by the shortfall reconciliation process) through the fixed period and then unconstrained for the remainder of the planning horizon.
Receipt Plan - What If	Read-only measure that initially displays the Receipt Plan calculated in the previous AIP Batch run. If any changes are made to WRP parameters and the user selects **What If – Unconstrained** or **What If – Constrained** from the **What If** option on the menu bar, this measure is updated with the newly calculated Receipt Plan for the SKU pack-size/Warehouse.
Source Order Multiple	Read-only measure that displays the order multiple used when placing orders on the source. This measure can not be impacted through changes made by the user in the work book.
Source Splits (expanded)	Read-only measure that displays the target percentage of the warehouses need for the SKU pack size that should be satisfied by the source.
Unconstrained Receipt Plan	This read-only measure represents the receipt plan, unconstrained throughout the entire planning horizon.

Measure Label	Description
Unconstrained Receipt Plan - What If	Read-only measure that initially displays the Unconstrained Receipt Plan calculated in the previous AIP Batch run. If any changes are made to WRP parameters and the user selects **What If – Unconstrained** or **What If – Constrained** from the **What If** option on the menu bar, this measure is updated with the newly calculated Unconstrained Receipt Plan for the SKU pack-size/Warehouse.
Warehouse Orderable Unit	This read-only measure displays the SKU Pack Size that should be used when ordered from the source into the destination on that day.
Warehouse Source	This read-only Boolean measure indicates whether the source can deliver the SKU pack size into the destination on that day.

WRP Replenishment Parameters by SKU Group Warehouse Worksheet

The WRP Replenishment Parameters by SKU Group Warehouse worksheet displays WRP replenishment parameters at the SKU Group/Warehouse level.



WRP Replenishment Parameters by SKU Group Warehouse Worksheet

The following measures are displayed automatically when using the default template.

Measure Label	Description
Loaded Safety Stock	A read-only historical view of loaded safety stock. The value current domain value is displayed and never changes based on user input in the workbook.
Replenishment Subtype Code	A read-only measure loaded from an external system containing user defined replenishment sub-type codes.
Replenishment Type Code	A read-only measure loaded from an external system containing user defined replenishment type codes.
Warehouse End Date Range Exception	This End date dictates the end of the time period used to establish demand in the Sales Week Range and Factor AWS Replenishment methods. A pop-up calendar can be used to select the desired end date. Any date prior to the current day is valid.

Measure Label	Description
Warehouse End Date Range (expanded)	The expanded read-only version of the Warehouse End Date measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination) levels.
Warehouse Start Date Range Exception	This Start date dictates the beginning of the time period used to establish demand in the Sales Week Range and Factor AWS Replenishment methods. A pop-up calendar can be used to select the desired start date. Any date prior to the current day is valid.
Warehouse Start Date Range (expanded)	The expanded read-only version of the Warehouse Start Date measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination) levels.
Warehouse Stop Receiving Date	If specified, this indicates the date on and after which no receipts can take place at the warehouse. The receipt plan is zero on and after this date. A pop-up calendar can be used to select the desired date. Any date after today is valid.
WRP RDF Detailed Alert	A read-only measure indicating an RDF alert exists for this SKU-pack size on this warehouse/day.

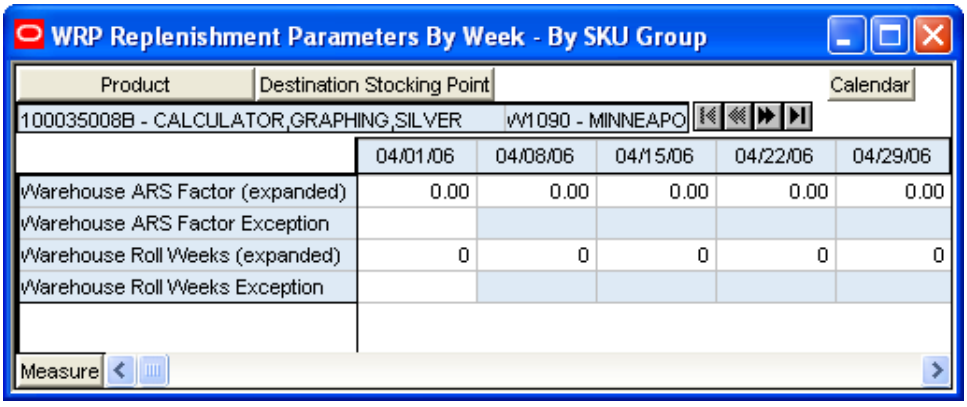
Hidden Workbook Measures

The following measures are hidden when using the default template. They can be displayed and maintained by using the Insert measure function of RPAS.

Measure Label	Description
Supplier Compliance Safety Stock Exception	This represents a number of additional days of stock beyond the Review Time or Inventory Selling Days that should be carried to account for poor Supplier Delivery Performance. Any positive value, including zero, is valid. Example: To carry 2 additional days of inventory to account for poor Supplier delivery performance, enter 2.
Supplier Compliance Safety Stock (expanded)	The expanded read-only version of the Warehouse End Date measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination) levels.
Re-planned URP - What if	This read-only measure represents the receipt plan, unconstrained throughout the entire planning horizon.

WRP Replenishment Parameters By Week By SKU Group Worksheet

The WRP Receipt Parameters By Week By SKU Group worksheet displays WRP replenishment parameters at the SKU Group/Warehouse/week level.



WRP Replenishment Parameters By Week By SKU Group Worksheet

The following measures are displayed automatically when using the default template:

Measure Label	Description
Warehouse ARS Factor Exception	Used only in the AWS (Average Weekly Sales) Replenishment Method, this factor is multiplied by the AWS to produce target stock levels. Any positive value is valid. Example: To multiple the ARS by a factor of 2, the user should enter a value of 2.
Warehouse ARS Factor (expanded)	The expanded read-only version of the ARS Factor measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination/Week) and exception (SKU/Destination/Week) levels.
Warehouse Roll Weeks Exception	This parameter specifically relates to the interpretation of the date range specified by the user to establish demand in the Sales Week Range and Factor AWS Replenishment methods. If the parameter is set to false, then the date range specified by the user remains static and does not change as the replenishment process progresses through the planning horizon. If the parameter is set to true, then the date range is migrated forward a week for each new week encountered in the planning horizon. Valid values are zero for false and one for true.
Warehouse Roll Weeks (expanded)	The expanded read-only version of the Warehouse Roll Weeks measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination/Week) and exception (SKU/Destination/Week) levels.

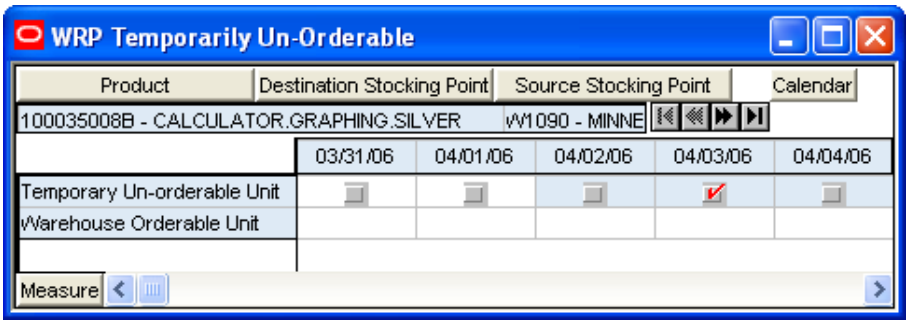
Hidden Workbook Measures

The following measures are hidden when using the default template. They can be displayed and maintained by using the Insert measure function of RPAS.

Measure Label	Description
Historical Weekly Sales	The read-only Historical Weekly Sales represents the sum of historical warehouse sales for a given SKU group at a given warehouse during the corresponding week. This measure is used in the Sales Week Range and the Factor AWS replenishment methods.

WRP Temporarily Un-Orderable Worksheet

The WRP Temporarily Un-orderable worksheet displays WRP replenishment parameters at the SKU Group/Destination/Source/day level.



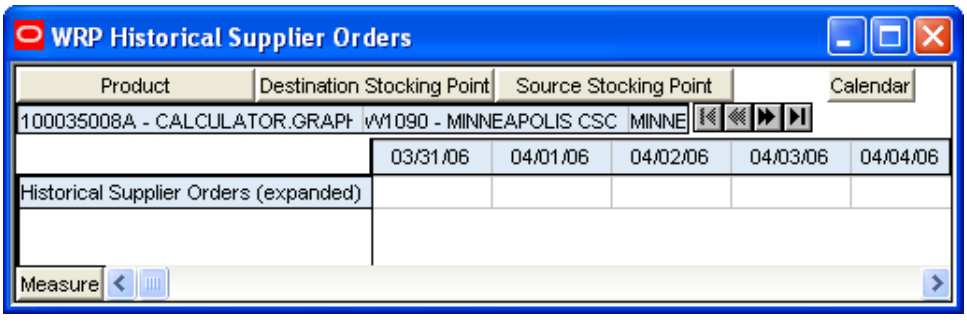
WRP Temporarily Un-Orderable Worksheet

The following measures are displayed automatically when using the default template:

Measure Label	Description
Temporary Un-orderable Unit	A Boolean measure indicating whether the orderable unit is unavailable from the source on that day. The user should set this to true if the orderable unit is not available form the source on the day.
Warehouse Orderable Unit	This read-only measure displays the SKU Pack Size that should be used when ordered from the source into the destination on that day.

WRP Historical Supplier Orders Worksheet

The WRP Historical Supplier Orders Worksheet shows Historical Supplier Orders at the SKU pack size/destination/source level.



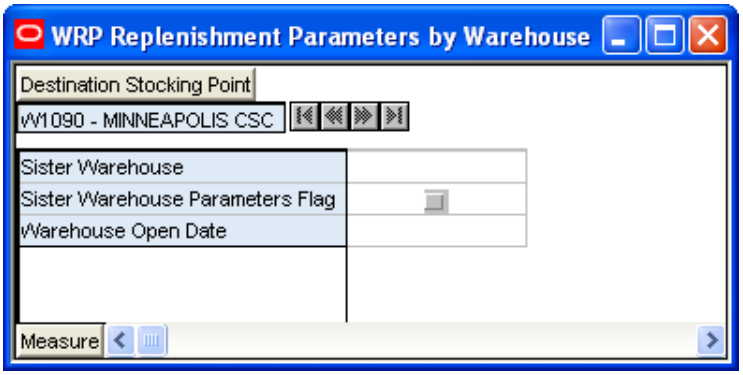
WRP Historical Supplier Orders Worksheet

The following measures are displayed automatically when using the default template.

Measure Label	Description
Historical Supplier Orders (expanded)	This read-only measure displays the historical supplier orders loaded from an external system.

WRP Replenishment Parameters by Warehouse Worksheet

The WRP Replenishment Parameters by Warehouse Worksheet displays information pertaining to Sister Warehouse functionality. This worksheet is at the destination level.



WRP Replenishment Parameters by Warehouse Worksheet

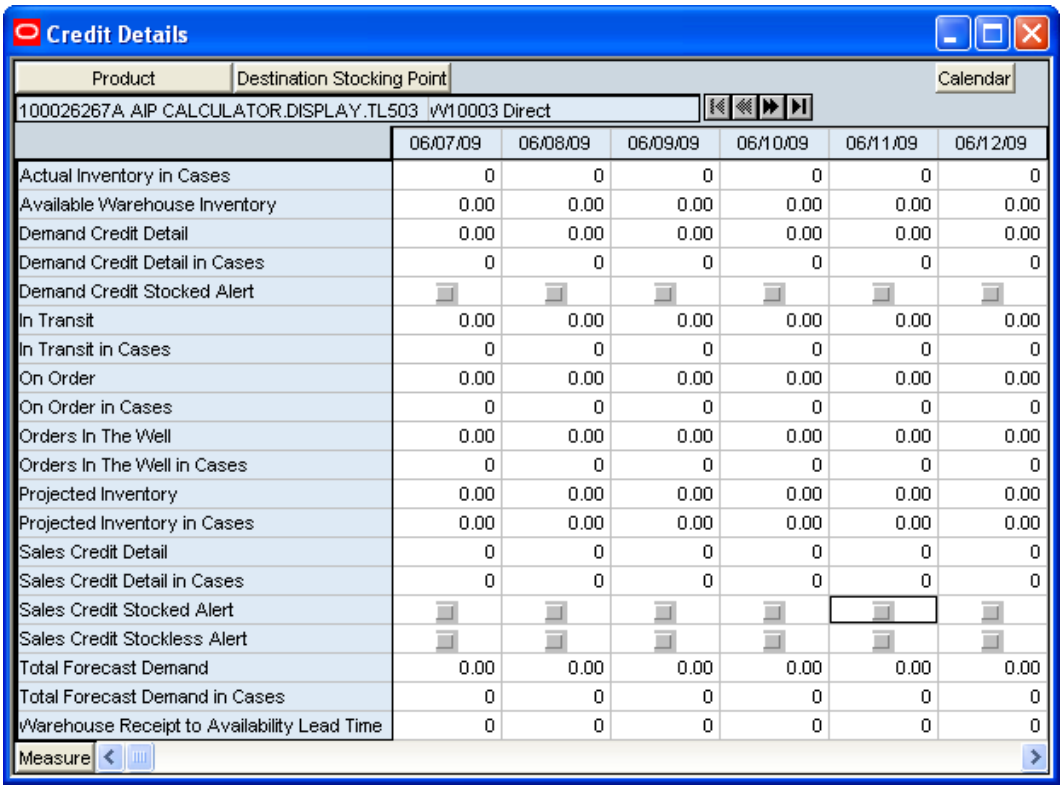
The following measures are displayed automatically when using the default template. All measures are read only.

Measure Label	Description
Sister Warehouse	Defines a sister-warehouse association. Replenishment parameters and sales history is copied from this location. This relationship is maintained in RMS.
Sister Warehouse Parameters Flag	This flag indicates that all replenishment parameters have been copied from the sister warehouse to this location.
Warehouse Open Date	Warehouse Independent ARS from the sister warehouse is copied to the new warehouse from the copy date until the new warehouse reaches its opening date. All other parameters are copied from the sister warehouse to the new warehouse beginning from the open date onward.

WRP Exception Summary Tab

WRP Credit Details Worksheet

The WRP Credit Totals Worksheet provides credit detail information at the SKU Group/destination/day level.



	06/07/09	06/08/09	06/09/09	06/10/09	06/11/09	06/12/09
Actual Inventory in Cases	0	0	0	0	0	0
Available Warehouse Inventory	0.00	0.00	0.00	0.00	0.00	0.00
Demand Credit Detail	0.00	0.00	0.00	0.00	0.00	0.00
Demand Credit Detail in Cases	0	0	0	0	0	0
Demand Credit Stocked Alert						
In Transit	0.00	0.00	0.00	0.00	0.00	0.00
In Transit in Cases	0	0	0	0	0	0
On Order	0.00	0.00	0.00	0.00	0.00	0.00
On Order in Cases	0	0	0	0	0	0
Orders In The Well	0.00	0.00	0.00	0.00	0.00	0.00
Orders In The Well in Cases	0	0	0	0	0	0
Projected Inventory	0.00	0.00	0.00	0.00	0.00	0.00
Projected Inventory in Cases	0.00	0.00	0.00	0.00	0.00	0.00
Sales Credit Detail	0	0	0	0	0	0
Sales Credit Detail in Cases	0	0	0	0	0	0
Sales Credit Stocked Alert						
Sales Credit Stockless Alert						
Total Forecast Demand	0.00	0.00	0.00	0.00	0.00	0.00
Total Forecast Demand in Cases	0	0	0	0	0	0
Warehouse Receipt to Availability Lead Time	0	0	0	0	0	0

Credit Details Worksheet

The following measures are displayed automatically when using the default template:

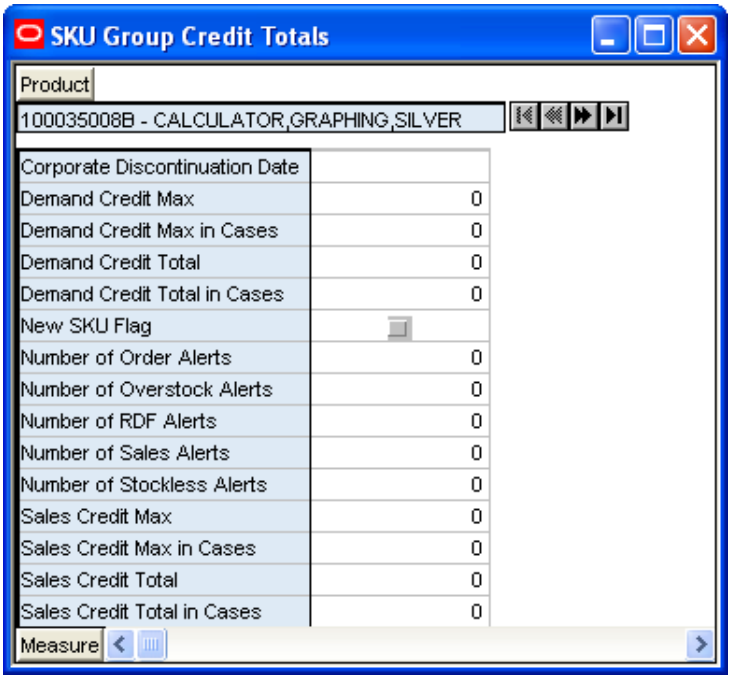
Measure Label	Description
Actual Inventory in Cases	Read-only view of inventory at the warehouse; including on order, in transit, transfers in the well, and allocations in the well. Displayed in cases.
Available Warehouse Inventory	Read-only view of inventory at the warehouse; including on order, in transit, transfers in the well, and allocations in the well. Displayed in units.
Demand Credit Detail	Demand credit is the amount the inventory was short of demand. It is calculated as the shortage between the projected actual warehouse inventory and total forecasted warehouse demand for the day. This is a read only measure and is displayed in units.
Demand Credit Detail in Cases	Demand credit is the amount the inventory was short of demand. It is calculated as the shortage between the projected actual warehouse inventory and total forecasted warehouse demand for the day. This is a read only measure and is displayed in cases.

Measure Label	Description
Demand Credit Stocked Alert	A demand credit stocked alert notifies the user that a stock shortage exists at this warehouse based on forecasted demand. The Demand Credit Stocked Alert for a Single Day for a Stocked SKU indicates that that the demand credit exceeds the demand credit threshold AND the demand credit percentage exceeds the demand credit percentage on a given day for a stocked item. This is a read only measure.
In Transit	This is a read-only view of in-transits in units. In transits are considered orders into the destination stocking point that have left the source stocking point. In transits are included in expected receipts in the projected inventory calculation.
In Transit in Cases	This is a read-only view of in-transits in cases. In transits are considered orders into the destination stocking point that have left the source stocking point. In transits are included in expected receipts in the projected inventory calculation.
On Order	This is a read-only view of on orders in units. These are open orders that are currently being processed for delivery to warehouses. On orders are included in expected receipts in the projected inventory calculation.
On Order in Cases	This is a read-only view of on orders in cases. These are open orders that are currently being processed for delivery to warehouses. On orders are included in expected receipts in the projected inventory calculation.
Transfers in the Well	This is a read-only view of transfers in the well in units. It represents a total quantity of inventory required to satisfy transfers that have already been released by AIP to the warehouse but not yet picked.
Transfers in the Well in Cases	Transfers in the Well converted to Cases.
Allocations in the Well	This is a read-only view of all allocations in the well in units. It represents planned inventory movement out of the warehouse that will consume inventory and therefore is subtracted from the future inventory assessments.
Allocations in the Well in Cases	Allocations in the Well converted to Cases.
Projected Inventory	This is a read-only view of projected inventory in units. Projected Inventory (PI) is calculated in batch and represents a projection of the opening inventory position for any day in the planning horizon at a specific warehouse. None of that day's activities (either receipts or demand) are reflected in PI, and so it is often referred to as a beginning of day position. PI on a given day is calculated as the PI of the previous day plus the net impact of all forecasted demand and expected and planned receipts on the previous day.
Projected Inventory in Cases	This is a read-only view of projected inventory in cases. Projected Inventory (PI) is calculated in batch and represents a projection of the opening inventory position for any day in the planning horizon at a specific warehouse. None of that day's activities (either receipts or demand) are reflected in PI, and so it is often referred to as a beginning of day position. PI on a given day is calculated as the PI of the previous day plus the net impact of all forecasted demand and expected and planned receipts on the previous day.

Measure Label	Description
Sales Credit Detail	Sales credit is the amount the inventory was short of sales in units. It is calculated as the shortage between the projected warehouse inventory and total forecasted store sales of the day. This read-only measure is calculated each day from today to the end of the fixed period.
Sales Credit Detail in Cases	Sales credit is the amount the inventory was short of sales in cases. It is calculated as the shortage between the projected warehouse inventory and total forecasted store sales of the day. This read-only measure is calculated each day from today to the end of the fixed period.
Sales Credit Stocked Alert	A sales credit stocked alert notifies the user that a stock shortage exists at this warehouse based on forecasted store orders. The Sales Credit Stocked Alert for a Single Day for a Stocked SKU is read-only and indicates that the sales credit exceeds the sales credit threshold and the sales credit percentage exceeds the sales credit percentage on a given day for a stocked item.
Sales Credit Stockless Alert	A sales credit stockless alert notifies the user that a stock shortage exists at this warehouse based on forecasted store orders. The Sales Credit Stockless Alert for a Single Day for a Stockless SKU is read-only and indicates that the sales credit exceeds the sales credit threshold and the sales credit percentage exceeds the sales credit percentage on a given day for a stockless item. This read only measure is disabled until the work book is rolled up to SKU Group/Destination level.
Stockless Surplus Alert for a Single Day	A stockless surplus alert for a single day is generated for stockless products when the Demand Credit exceeds the Demand Credit Unit Threshold and the demand over the Stockless Surplus Days Threshold is greater than zero. This is a read-only measure.
Total Forecast Demand	Read-only measure that displays forecasted demand in units aggregated to the stocking point level.
Total Forecast Demand in Cases	Read-only measure that displays forecasted demand in cases aggregated to the stocking point level.
Warehouse Receipt to Availability Lead Time	This read-only measure indicates the number of days between the receipt of a delivery into a warehouse and the point the received inventory becomes available to meet demand.

SKU Group Credit Totals Worksheet

The SKU Group Credit Totals Worksheet displays alert information at the SKU Group/destination level.



SKU Group Credit Totals Worksheet

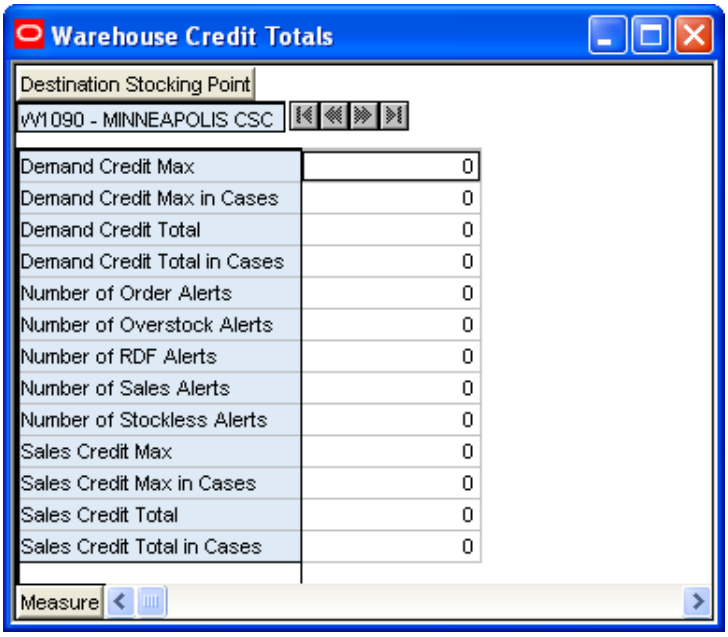
The following measures are displayed automatically when using the default template. All measures are read only.

Measure Label	Description
Corporate Discontinuation Date	A read-only display of the corporate discontinuation date, if one has been specified.
Demand Credit Max	Largest demand credit across all days for a SKU-pack size in units. Read-only.
Demand Credit Max in Cases	Largest demand credit across all days for a SKU-pack size in cases. Read-only.
Demand Credit Total	A read-only summation of all demand credits at the warehouse in units.
Demand Credit Total in Cases	A read-only summation of all demand credits at the warehouse in cases.
New SKU Flag	A read-only measure indicating if the SKU has new SKU status.
Number of Order Alerts	A read-only total of the number of SKU Group demand credit alerts triggered at a warehouse.
Number of Overstock Alerts	A read-only total of the number of SKU Group overstock alerts triggered at a warehouse.
Number of RDF Alerts	A read-only total of the number of SKU Group RDF alerts triggered at a warehouse.
Number of Sales Alerts	A read-only total of the number of SKU Group sales alerts triggered at a warehouse.
Number of Stockless Alerts	A read-only total of the number of SKU Group stockless alerts triggered at a warehouse.
Sales Credit Max	Largest sales credit across all days for a SKU group in a warehouse in units. Read-only.
Sales Credit Max in Cases	Largest sales credit across all days for a SKU group in a warehouse in cases. Read-only.

Measure Label	Description
Sales Credit Total	A read-only summation of all sales credits at the warehouse in units.
Sales Credit Total in Cases	A read-only summation of all sales credits at the warehouse in cases.

WRP Warehouse Credit Totals Worksheet

The WRP Warehouse Credit Totals Worksheet provides credit total information at the destination level.



Warehouse Credit Totals Worksheet

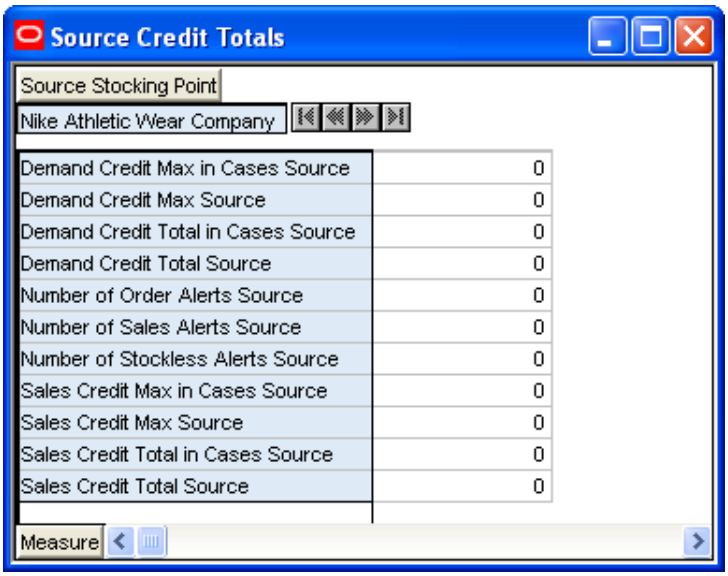
The following measures are displayed automatically when using the default template:

Measure Label	Description
Demand Credit Max	Largest demand credit across all days for a SKU-pack size in units. Read-only.
Demand Credit Max in Cases	Largest demand credit across all days for a SKU-pack size in cases. Read-only.
Demand Credit Total	A read-only summation of all demand credits at the warehouse in units.
Demand Credit Total in Cases	A read-only summation of all demand credits at the warehouse in cases.
Number of Order Alerts	A read-only total of the number of SKU Group demand credit alerts triggered at a warehouse.
Number of Overstock Alerts	A read-only total of the number of SKU Group overstock alerts triggered at a warehouse.
Number of RDF Alerts	A read-only total of the number of SKU Group RDF alerts triggered at a warehouse.
Number of Sales Alerts	A read-only total of the number of SKU Group sales alerts triggered at a warehouse.
Number of Stockless Alerts	A read-only total of the number of SKU Group stockless alerts triggered at a warehouse.

Measure Label	Description
Sales Credit Max	Largest sales credit across all days for a SKU group in a warehouse in units. Read-only.
Sales Credit Max in Cases	Largest sales credit across all days for a SKU group in a warehouse in cases. Read-only.
Sales Credit Total	A read-only summation of all sales credits at the warehouse in units.
Sales Credit Total in Cases	A read-only summation of all sales credits at the warehouse in cases.

WRP Source Credit Totals Worksheet

The WRP Source Credit Totals Worksheet provides credit information at the source warehouse level.



Source Credit Totals Worksheet

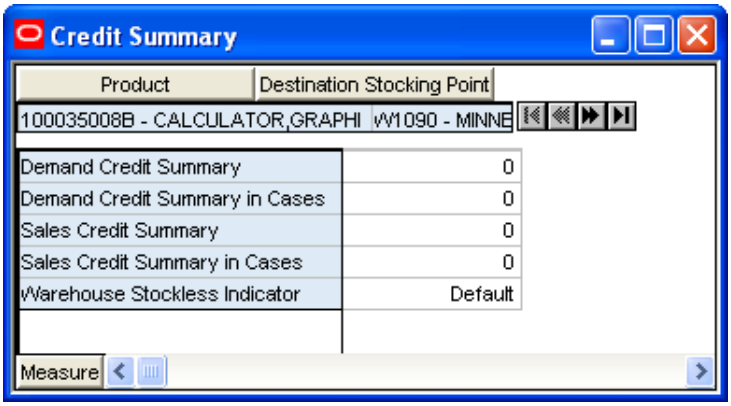
The following measures are displayed automatically when using the default template:

Measure Label	Description
Demand Credit Max Source	Read-only measure showing the largest demand credit across all days for a SKU-pack size for a source in units.
Demand Credit Max in Cases Source	Read-only measure showing the largest demand credit across all days for a SKU-pack size for a source in cases.
Demand Credit Total Source	A read-only summation of all SKU pack size demand credits at the source in units.
Demand Credit Total in Cases Source	A read-only summation of all SKU pack size demand credits at the source in cases.
Number of Order Alerts Source	A read-only total of the number of SKU pack size demand credit alerts triggered at a source.
Number of Sales Alerts Source	A read-only total of the number of SKU pack size sales alerts triggered at a source.
Number of Stockless Alerts Source	A read-only total of the number of SKU pack size stockless alerts triggered at a source.

Measure Label	Description
Sales Credit Max Source	Largest sales credit across all days for a SKU pack size at the source in units. Read-only.
Sales Credit Max in Cases Source	Largest sales credit across all days for a SKU pack size at the source in cases. Read-only.
Sales Credit Total Source	A read-only summation of all sales credits at the source in units.
Sales Credit Total in Cases Source	A read-only summation of all sales credits at the source in cases.

WRP Credit Summary Worksheet

The WRP Credit Summary Worksheet provides credit summary information at the SKU Group/Destination level.



WRP Credit Summary Worksheet

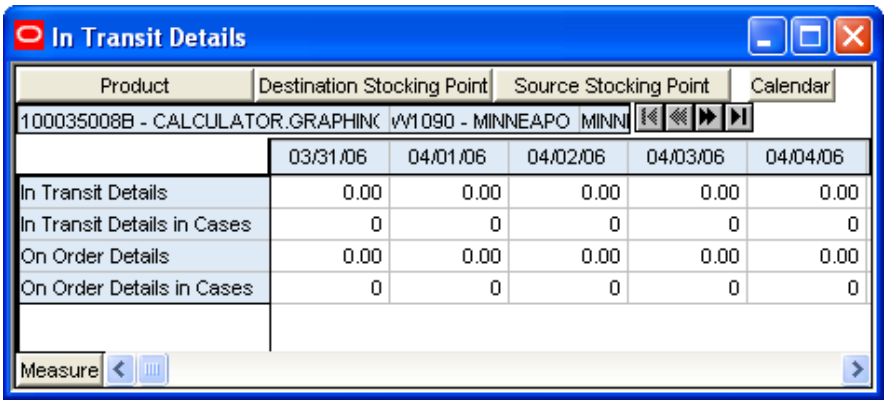
The following measures are displayed automatically when using the default template:

Measure Label	Description
Demand Credit Multi-Day Stocked Alert	A demand credit alert notifies the user that a stock shortage exists at this warehouse based on forecasted demand. The demand credit multi-day stocked alert indicates that the number of consecutive days with a demand credit exceeds the demand credit days threshold for this item. This is a read-only measure.
Demand Credit Summary	A read only summation in units of demand credits for a given SKU group/warehouse.
Demand Credit Summary Alert	A demand credit alert notifies the user that a stock shortage exists at this warehouse based on forecasted demand. It is triggered when either Demand Credit for a Single Day for a Stocked SKU is flagged or Demand Credit for Multiple Days for a Stocked SKU Group is flagged. This read-only measure.
Demand Credit Summary in Cases	A read only summation in cases of demand credits for a given SKU group/warehouse.
Sales Credit Multi-Day Stocked Alert	A Sales credit alert notifies the user that a stock shortage exists at this warehouse based on forecasted store sales. The sales credit multi-day stocked alert indicates that the number of consecutive days with a sales credit exceeds the sales credit days threshold for this item. This is a read-only measure.

Measure Label	Description
Sales Credit Multi-Day Stockless Alert	A Sales credit alert notifies the user that a stock shortage exists at this warehouse based on forecasted store sales. The sales credit multi-day stockless alert indicates that the number of consecutive days with a sales credit exceeds the sales credit days threshold for this item. This is a read-only measure.
Sales Credit Summary	A read only summation in units of sales credits for a given SKU group/warehouse.
Sales Credit Summary Alert	A sales credit alert notifies the user that a stock shortage exists at this warehouse based on forecasted store sales. It is triggered when either Sales Credit for a Single Day for a Stocked or Stockless SKU is flagged or Sales Credit for Multiple Days for a Stocked or Stockless SKU Group is flagged. This is a read-only measure.
Sales Credit Summary in Cases	A read only summation in cases of sales credits for a given SKU group/warehouse.
Stockless Surplus Alert for Multiple Days	A stockless surplus alert notifies the user that excessive orders exist at this warehouse based on warehouse demand. If a product is stockless, the Stockless Surplus Alert for Multiple Days triggerswhen the demand credit exceeds the Stockless Surplus Threshold and the demand credit also exceeds the number of days demand specified by the Stockless Surplus Multi-day Threshold. This is a read-only measure.
Warehouse Stockless Indicator	A read only measure indicating whether the SKU Group is stockless at the warehouse.

WRP In Transit Details Worksheet

The WRP In Transit Worksheet provides in-transit detail information at the SKU Group/Destination/Source/Day level.



WRP In Transit Details

The following measures are displayed automatically when using the default template:

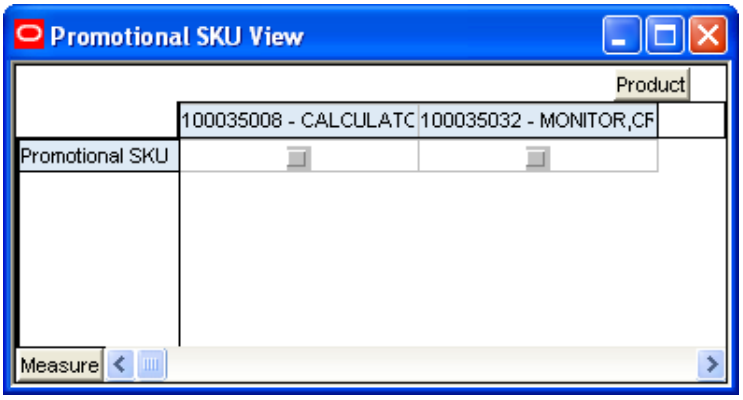
Measure Label	Description
In Transit Details	A read-only view of in transit orders in units aggregated to SKU group for a specific destination/source.
In Transit Details in Cases	A read-only view of in transit orders in cases aggregated to SKU group for a specific destination/source.

Measure Label	Description
On Order Details	A read-only view of open orders in units aggregated to SKU group for a specific destination/source.
On Order Details in Cases	A read-only view of open orders in cases aggregated to SKU group for a specific destination/source.

WRP Overstock Alert Summary Tab

WRP Promotional SKU View Worksheet

The WRP Promotional SKU View Worksheet aids the user in identifying Promotional SKUs at the SKU Group/Warehouse level.



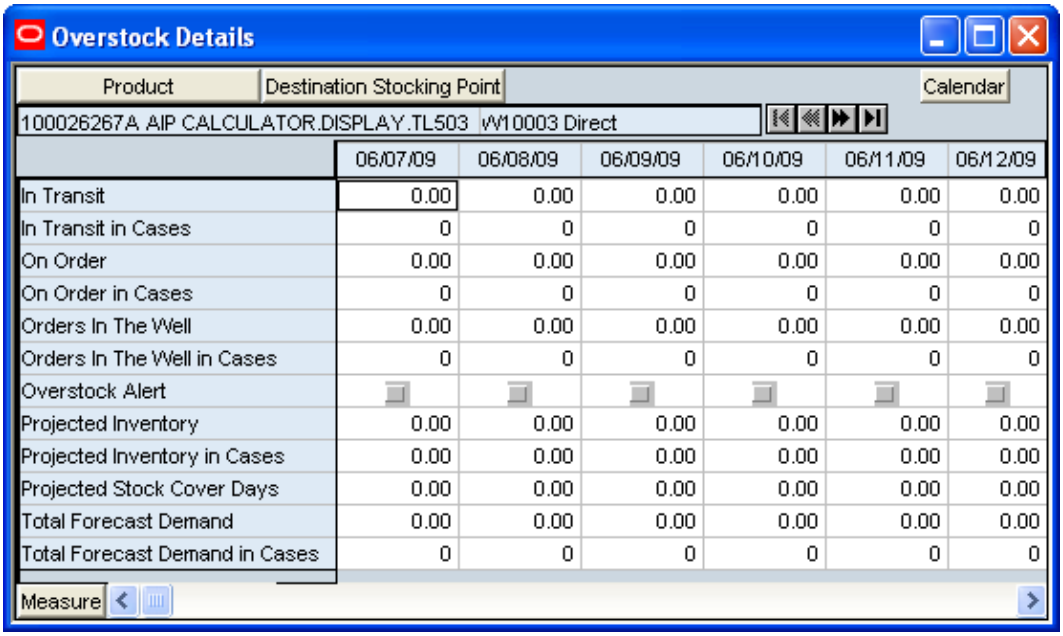
WRP Promotional Commodity View Worksheet

The following measures are displayed automatically when using the default template:

Measure Label	Description
Promotional SKU	This read-only measure indicates whether a SKU in the SKU Group has been flagged as promotional.

WRP Overstock Details Worksheet

The WRP Overstock Details Worksheet displays detailed overstock information at the SKU Group/Destination/Day level.



Overstock Details Worksheet

The following measures are displayed automatically when using the default template.

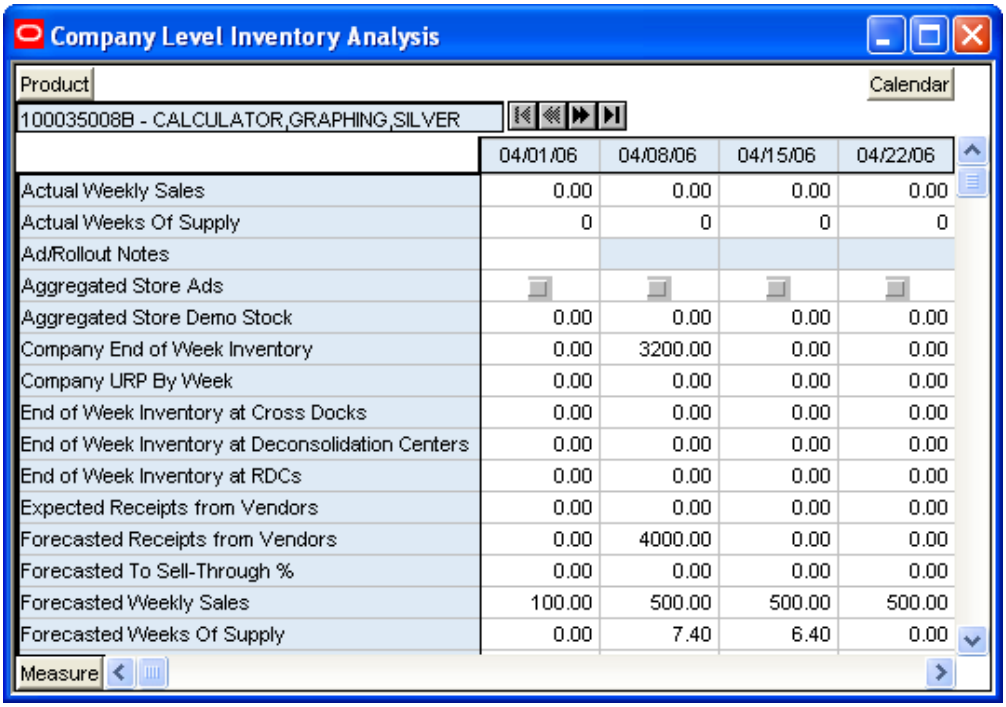
Measure Label	Description
In Transit	This is a read-only view of in-transits in units. For a given SKU-pack size at a warehouse, in transits are considered orders into the destination stocking point that have left the source stocking point. In transits are included in expected receipts in the projected inventory calculation.
In Transit in Cases	This is a read-only view of in-transits in cases. For a given SKU-pack size at a warehouse, in transits are considered orders into the destination stocking point that have left the source stocking point. In transits are included in expected receipts in the projected inventory calculation.
On Order	This is a read-only view of on orders in units. These are open orders that are currently being processed for delivery to warehouses. On orders are included in expected receipts in the projected inventory calculation.
On Order in Cases	This is a read-only view of on orders in cases. These are open orders that are currently being processed for delivery to warehouses. On orders are included in expected receipts in the projected inventory calculation.
Transfers in the Well	This is a read-only view of transfers in the well in units. It represents a total quantity of inventory required to satisfy transfers that have already been released by AIP to the warehouse but not yet picked.
Transfers in the Well in Cases	Transfers in the Well converted to Cases.

Allocations in the Well	This is a read-only view of all allocations in the well in units. It represents planned inventory movement out of the warehouse that will consume inventory and therefore is subtracted from the future inventory assessments.
Allocations in the Well in Cases	Allocations in the Well converted to Cases.
Overstock Alert	A read-only-only measure that indicates that an over stock alert exists for the SKU Group.
Projected Inventory	This is a read-only view of projected inventory in units. Projected Inventory (PI) is calculated in batch and represents a projection of the opening inventory position for any day in the planning horizon at a specific warehouse. None of that day's activities (either receipts or demand) are reflected in PI, and so it is often referred to as a beginning of day position. PI on a given day is calculated as the PI of the previous day plus the net impact of all forecasted demand and expected and planned receipts on the previous day.
Projected Inventory in Cases	This is a read-only view of projected inventory in cases. Projected Inventory (PI) is calculated in batch and represents a projection of the opening inventory position for any day in the planning horizon at a specific warehouse. None of that day's activities (either receipts or demand) are reflected in PI, and so it is often referred to as a beginning of day position. PI on a given day is calculated as the PI of the previous day plus the net impact of all forecasted demand and expected and planned receipts on the previous day.
Projected Stock Cover Days	Projected stock cover is defined as the number of days the opening inventory for a given day satisfies the projected outbound volume.
Total Forecast Demand	Read-only measure that displays forecasted demand in units aggregated to the stocking point level.
Total Forecast Demand in Cases s	Read-only measure that displays forecasted demand in cases aggregated to the stocking point level.

Company Level Inventory Analysis Tab

Company Level Inventory Analysis Worksheet

This worksheet provides a company wide view of inventory levels in the supply chain.



	04/01/06	04/08/06	04/15/06	04/22/06
Actual Weekly Sales	0.00	0.00	0.00	0.00
Actual Weeks Of Supply	0	0	0	0
Ad/Rollout Notes				
Aggregated Store Ads				
Aggregated Store Demo Stock	0.00	0.00	0.00	0.00
Company End of Week Inventory	0.00	3200.00	0.00	0.00
Company URP By Week	0.00	0.00	0.00	0.00
End of Week Inventory at Cross Docks	0.00	0.00	0.00	0.00
End of Week Inventory at Deconsolidation Centers	0.00	0.00	0.00	0.00
End of Week Inventory at RDCs	0.00	0.00	0.00	0.00
Expected Receipts from Vendors	0.00	0.00	0.00	0.00
Forecasted Receipts from Vendors	0.00	4000.00	0.00	0.00
Forecasted To Sell-Through %	0.00	0.00	0.00	0.00
Forecasted Weekly Sales	100.00	500.00	500.00	500.00
Forecasted Weeks Of Supply	0.00	7.40	6.40	0.00

Company Level Inventory Analysis Worksheet

This company contains the following read-only measures.

Measure Label	Description
Actual Weekly Sales	Actual Weekly Sales represents the sum of actual sales data from stores aggregated to the SKU Group/Week level.
Actual Weeks of Supply	Actual Total Weeks of Supply represents weeks of supply for all locations (stores and warehouses). It is calculated by dividing Saleable Inventory by Total Avg Weekly Sales.
Ad/Rollout Notes	SKU Ad/Rollout Notes contains notes related to a product ad or rollout.
Aggregated Store Ads	Aggregated Store Ads indicates the presence of any active ads within the SKU Group/Week level. Aggregated Store Ads is true if at least one ad exists over the week for this SKU Group.
Aggregated Store Demo Stock	Aggregated Store Demo Stock represents the total demo stock over the week for this SKU Group. It is calculated as the sum of demo stock across all stores on the last day of the week (Saturday).
Company End of Week Inventory	Company End of Week Inventory represents the sum of a SKU's Projected inventory on last day of week at all locations (stores and warehouses).

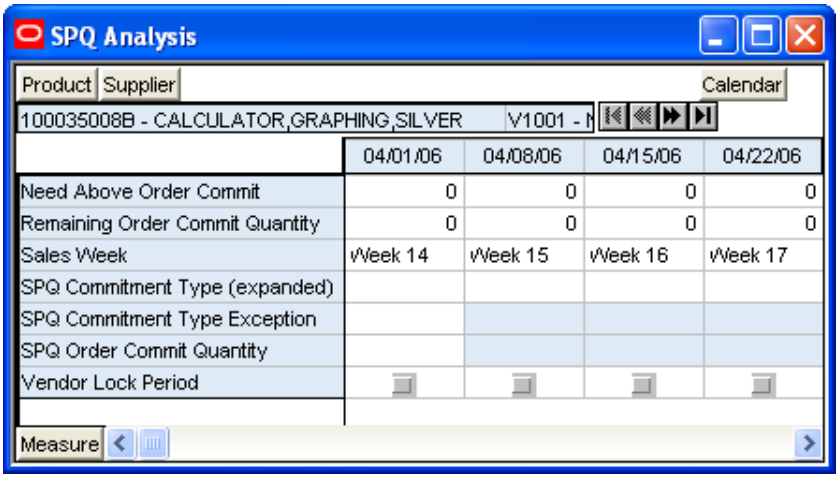
Company URP by Week	Company URP by Week is the unconstrained receipt plan (URP) for a given SKU Group across the company for a given week. Unconstrained receipt plan (URP) is calculated as Store Receipt Plan (SKU/Store/Day) plus the Store Reconciliation Adjustment (SKU/Store/Day). The resulting URP values for each SKU/Store combination are then aggregated to a SKU Group/Company/Week level.
End of Week Inventory at CrossDocks	End of Week Inventory at CrossDocks represents the sum a SKU's Projected Inventory on the last day of the week at all warehouses with a warehouse type of CrossDocks.
End of Week Inventory at Deconsolidation Center	End of Week Inventory at Deconsolidation Center represents the sum of a SKU's Projected Inventory on the last day of the week at all warehouses with a warehouse type of Deconsolidation Center.
End of Week Inventory at RDCs	End of Week Inventory at RDsC represents the sum a SKU's Projected Inventory on the last day of the week at all warehouses with a warehouse type of RDC.
Expected Receipts from Vendors	Expected Receipts from Vendors shows the total inventory on order from vendors to warehouses and stores for any direct to store shipments.
Forecasted Receipts from Vendors	Forecasted Receipts from Vendors shows the total planned receipts from vendors to warehouses and stores for any direct to store shipments.
Forecast to Sell-Through %	Forecast to Sell-Through % contains the percentage of actual sales (historical weekly sales) to forecasted sales (forecasted demand at the week level).
Forecasted Weekly Sales	Forecasted Weekly Sales represents the total forecasted weekly sales (including customer orders) for a given SKU Group.
Forecasted Weeks of Supply	Forecasted Weeks of Supply represents the forecasted weeks of cover. It is calculated by dividing Saleable Inventory by Forecasted Avg Weekly Sales, where Forecasted Avg Weekly Sales is calculated as Forecasted Weekly Sales divided by the Number Of Weeks Forecast.
Inventory per Store	Inventory per Store represents the average inventory level per store, excluding demo stock. It is calculated as the Saleable Inventory divided by the number of stores.
Number Of Stores	Number Of Stores represents the total number of stores for this SKU Group.
Number Of Weeks Forecast	Number Of Weeks Forecast represents the number of weeks in the future (including present week) over which Forecasted Avg Weekly Sales is calculated.
Retail Price	Retail Price is the product's retail price. **Note:** Retail Price is loaded from an external system.
Saleable Inventory	Saleable Inventory represents the amount of inventory that can actually be sold. It is calculated as the aggregated end of week projected inventory minus the aggregated end of week demo stock.
Sales Week	Sales Week represents the calendar week number. For example, week 5 is the 5th week of the year.
Sum of RDC Avg Weekly Sales	Sum of RDC Avg Weekly Sales contains the aggregated total of average weekly sales for an RDC (Regional Distribution Center) warehouse.

Sum of Stores Avg Weekly Sales	Sum of Stores Avg Weekly Sales contains the aggregation of an item's average weekly sales across all stores.
Total Avg Weekly Sales	Total Avg Weekly Sales contains the Sum of SKU of RDC Avg Weekly Sales and SKU Sum of Stores Avg Weekly Sales.
Tracking Sales	Tracking Sales estimates sales for the current week based on week-to-date sales. First, average daily sales is calculated by dividing the week-to-date sales by the number of days week-to-date (Sunday through the day prior to the current day). Next, the average daily sales are multiplied by 7, resulting in the SKU Tracking Sales.

WRP SPQ Analysis Tab

WRP SPQ Analysis Worksheet

The WRP SPQ Analysis Worksheet provides management information related to items with fixed purchase quantities. Information is displayed at the SKU Group/Week level.



SPQ Analysis Worksheet

The following measures are displayed automatically when using the default template.

Measure Label	Description
Need Above Order Commit	A read-only measure calculated as the Order Commit Quantity minus the aggregated unconstrained IRQ.
Need Above Order Commit - What if	Read-only measure that initially displays the Need Above Order Commit calculated in the previous AIP Batch Run. If any changes are made to WRP parameters and the user selects "**What If -- Unconstrained**" or "**What If -- Constrained**" from the "**What If**" option on the menu bar, this measure will be updated with the newly calculated Need Above Order Commit.
Remaining Order Commit Quantity	The Remaining Order Commit Quantity represents the portion of an SPQ order still available in the current week. This measure is calculated by deducting any executed orders from the order commit quantity for that week.

Remaining Order Commit Quantity – What if	Read-only measure that initially displays the Remaining Order Commit Quantity calculated in the previous AIP Batch Run. If any changes are made to WRP parameters and the user selects ''**What If -- Unconstrained**'' or ''**What If -- Constrained**'' from the ''**What If**'' option on the menu bar, this measure will be updated with the newly calculated Remaining Order Commit Quantity.
Sales Week	Sales Week represents the calendar week number. For example, week 5 is the 5th week of the year.
SPQ Commitment Type (expanded)	The expanded read-only version of the SPQ Commitment Type measure that displays the actual value used in calculations. This is a merge of the global (Dept), default (Sub-class/Destination) and exception (SKU/Destination/Day) levels.
SPQ Commitment Type Exception	The SPQ Commitment Type is used whenever a Supplier Purchase Quantity (SPQ) has been entered for a SKU. The commitment type indicates how the SPQ should be interpreted. The options are **Fixed** or **Capped**. Fixed indicates that the user-specified SPQ quantity may not be exceeded, but it must be ordered in its entirety, regardless of whether there is demand for it. Capped indicates that the user-specified SPQ quantity may not be exceeded, but it need not be ordered if it is not required.
SPQ Order Commit Quantity	The SPQ Order Commit Quantity contains the **Fixed** or **Capped** Purchase Quantity agreed upon with the Vendor.
Vendor Lock Period	The Vendor Lock Period identifies which weeks are in the vendor lock period. The vendor lock period alerts the user that there may be a vendor lock during this period. During this time period the user would need to negotiate changes to the SPQ with the supplier. This indicator is for information purposes only and does not affect the replenishment plan calculations.
Supplier Residual Excess Quantity	Supplier Residual Excess Quantity would be equal to any excess stock that was left at the end of the week for which there were no locations available to receive excess stock (either as a result of inventory capping or no ATP days at suitable destinations..
Supplier Residual Excess Quantity – What if	Read-only measure that initially displays the Residual Excess Quantity calculated in the previous AIP Batch Run. If any changes are made to WRP parameters and the user selects **What If – Unconstrained** or **What If – Constrained** from the **What If** option on the menu bar, this measure is updated with the newly calculated Supplier Residual Excess Quantity.

WRP Network Threshold Maintenance Workbook

The WRP Network Threshold Maintenance workbook enables users to manage Network Level Thresholds and Capacity Levels for warehouses. This workbook contains the following tabs and worksheets:

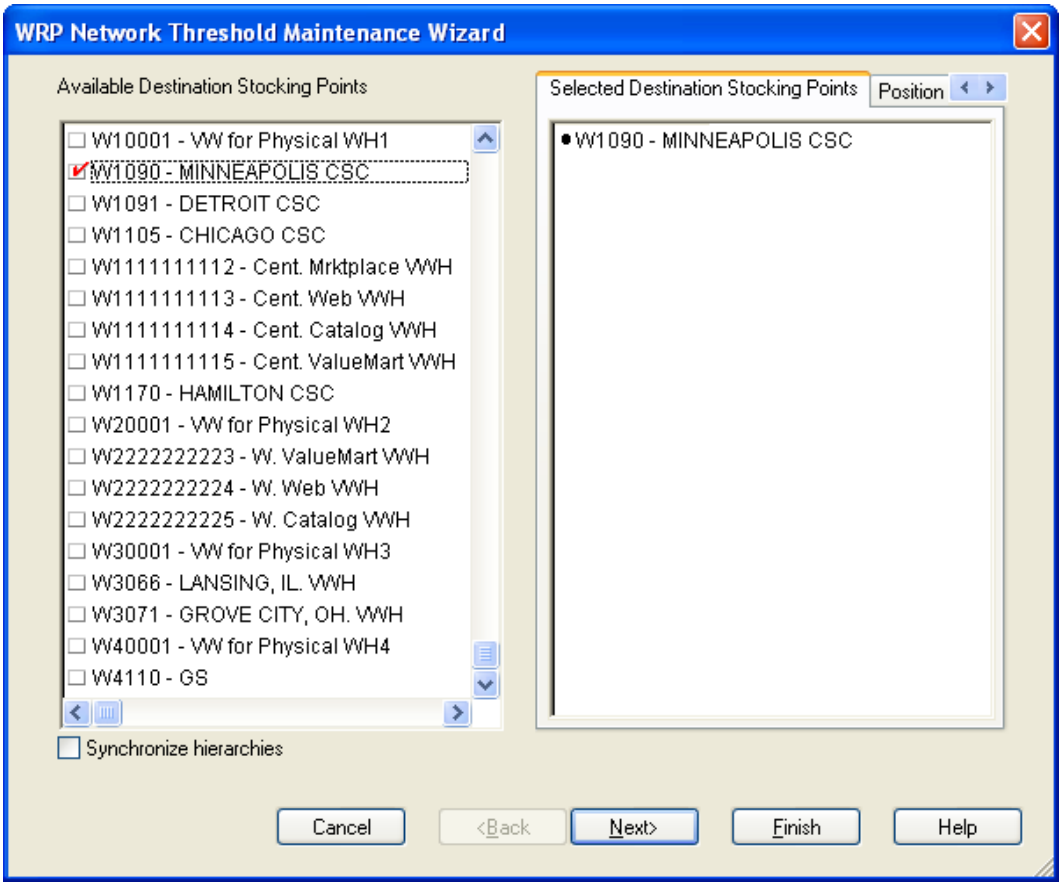
- A WRP Network Threshold Maintenance Tab containing
  - A WRP Excessive Stock Cover Threshold worksheet
  - A WRP Network Alert Run Days worksheet
  - A WRP Day on Day Change Threshold worksheet
  - A WRP Stocking Point Holding Capacity worksheet
  - A WRP Target Stock Cover Screen worksheet

> **Note:** All measures in this workbook are writeable unless otherwise stated.

WRP Network Threshold Maintenance Wizard

Available Destination Stocking Points

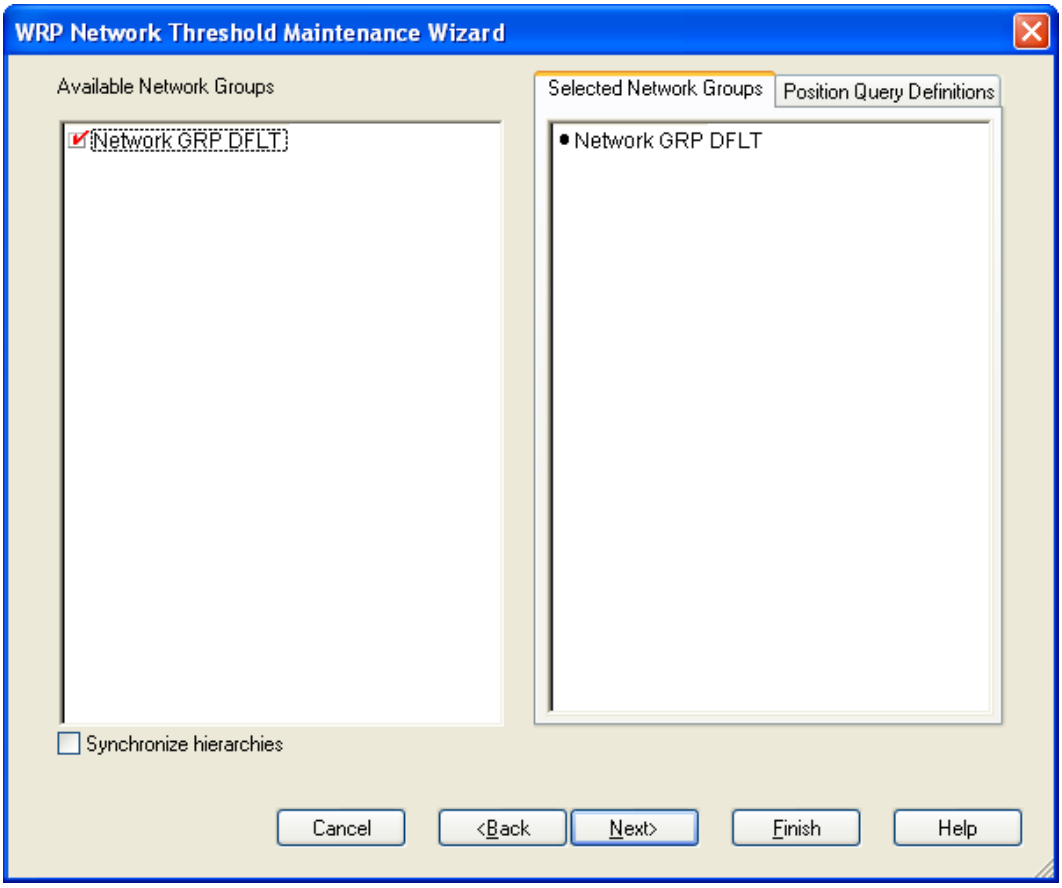
This dialog box enables the user to select Destination Stocking Points from a list of all available Destination Stocking Points in the AIP domain. The Selected Destination Stocking Points list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Destination Stocking Points. Standard RPAS functionality is available for this particular wizard page.



WRP Network Threshold Maintenance Wizard – Available Destination Stocking Points

Available Network Groups

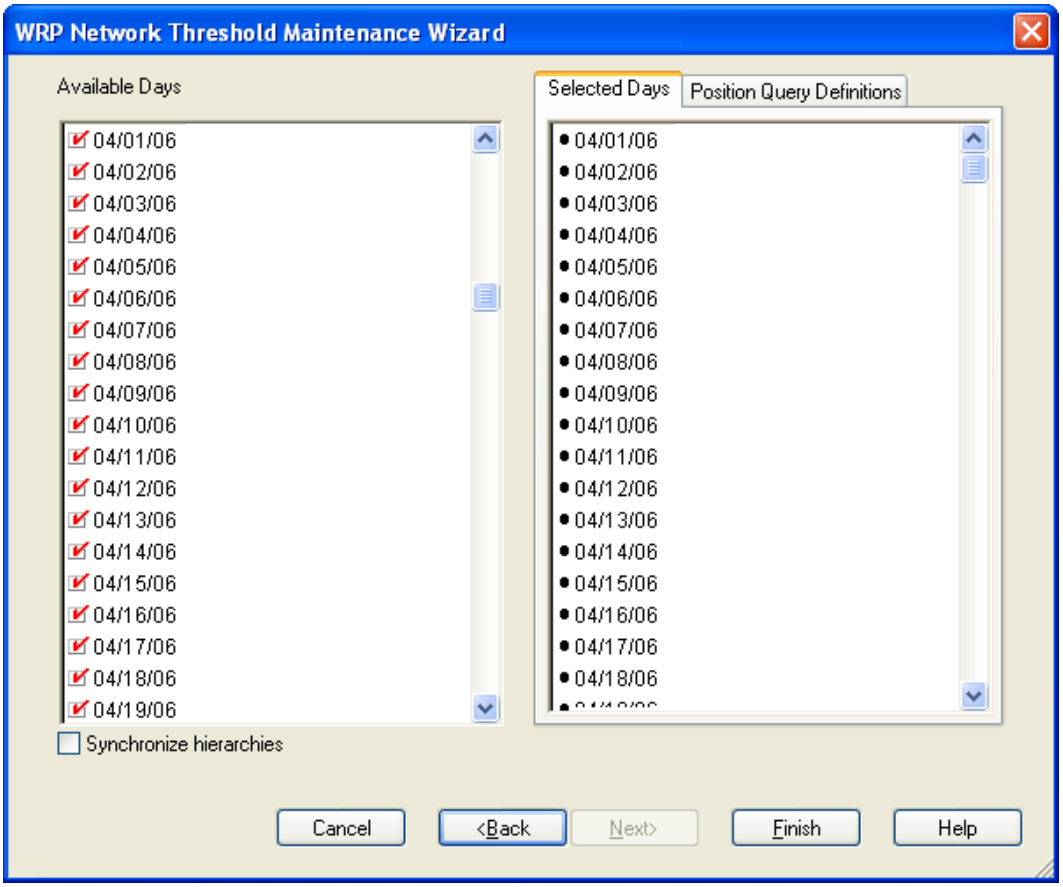
This dialog box enables the user to select Network Groups from a list of all available Network Groups in the AIP domain. The Selected Network Groups list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Network Groups. Standard RPAS functionality is available for this particular wizard page.



WRP Network Threshold Maintenance Wizard – Available Network Groups

Available Days

This dialog box enables the user to select Days from a list of all available Days in the AIP domain. The Selected Days list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Days. Standard RPAS functionality is available for this particular wizard page.



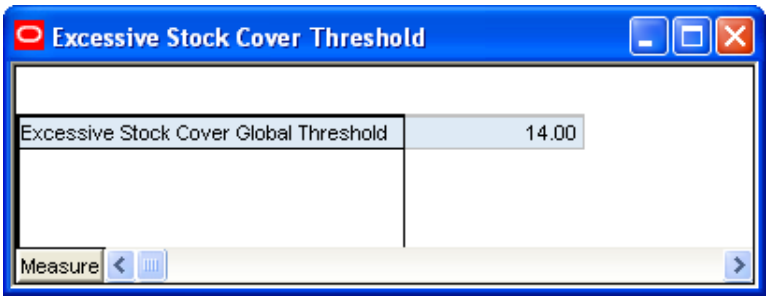
WRP Network Threshold Maintenance Wizard – Available Days

When the user selects **Finish**, the workbook is built using the Destinations, Network Group and days selected.

WRP Network Threshold Maintenance Tab

WRP Excessive Stock Cover Threshold Worksheet

The WRP Excessive Stock Cover worksheet displays parameters at the global level.



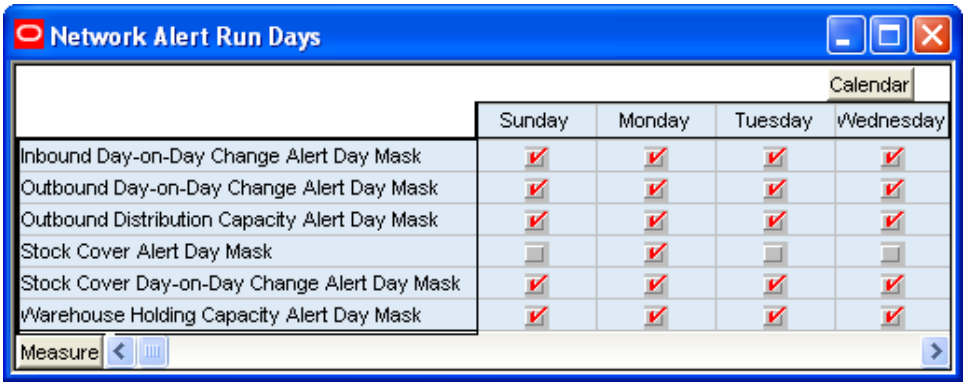
WRP Excessive Stock Cover Threshold Worksheet

The following measures are displayed automatically when using the default template:

Measure Label	Explanation
Excessive Stock Cover Global Threshold.	A value that must be exceeded for excessive stock cover alert to be triggered. Stock cover is based on current inventory and forecasted demand. Any positive value is valid.

WRP Network Alert Run Days Worksheet

The WRP Network Alert Run Days worksheet allows the user to maintain alert masks at the Day of Week level.



WRP Network Alert Run Days Worksheet

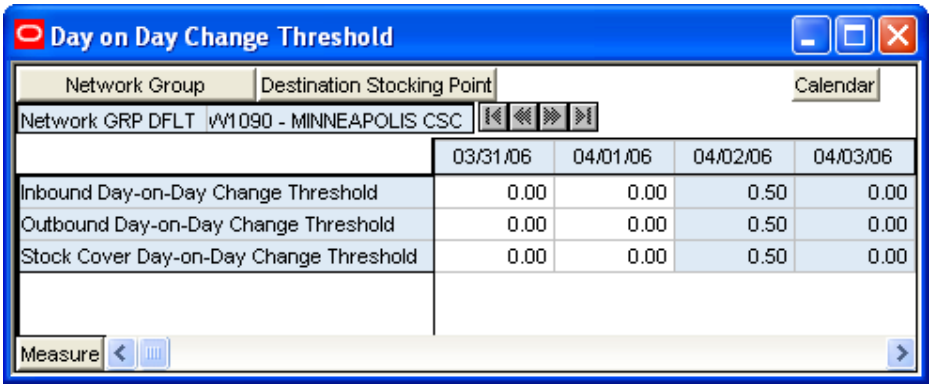
The following measures are displayed automatically when using the default template:

Measure Label	Explanation
Inbound Day-on-Day Change Alert Day Mask	A mask that determines if the Inbound Day on Day Change Alert should run. Checking the box indicates the alert should run on that day of the week.
Outbound Day-on-Day Change Alert Day Mask	A mask that determines if the Outbound Day on Day Change Alert should run. Checking a box indicates the alert should run on that day of the week.

Measure Label	Explanation
Outbound Distribution Capacity Alert Day Mask	A mask that determines if the Outbound Distribution Capacity Alert should run. Checking the box indicates the alert should run on that day of the week.
Stock Cover Alert Day Mask	A mask that determines if the Stock Cover Alert should run. Checking the box indicates the alert should run on that day of the week.
Stock Cover Day-on-Day Change Alert Day Mask	A mask that determines if the Stock Cover Day on Day Change Alert should run. Checking the box indicates the alert should run on that day of the week.
Warehouse Holding Capacity Alert Day Mask	A mask that determines if the Warehouse Holding Capacity Alert should run. Checking the box indicates the alert should run on that day of the week.

WRP Day on Day Change Threshold Worksheet

The WRP Day on Day Change Threshold worksheet enables the user to maintain day on day change thresholds at the network group/destination/day level.



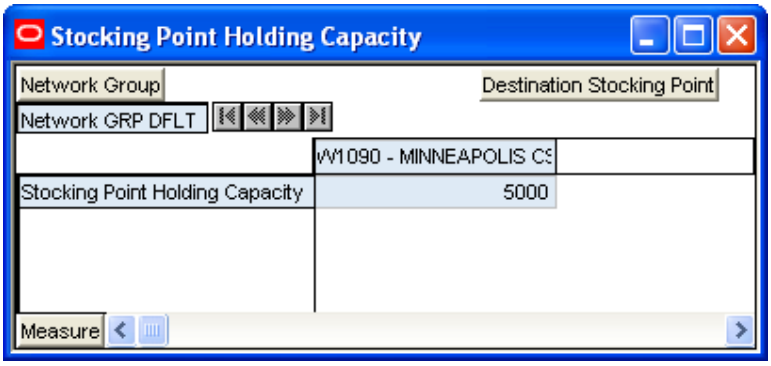
WRP Day on Day Change Threshold Worksheet

The following measures are displayed automatically when using the default template:

Measure Label	Explanation
Inbound Day-on-Day Change Threshold	When the percentage change between yesterday's remaining week actual inbound plan and today's remaining week actual inbound plan exceeds this threshold, an alert is raised.
Outbound Day-on-Day Change Threshold	When the percentage change between yesterday's remaining week actual outbound plan and today's remaining week actual outbound plan exceeds this threshold, an alert is raised.
Stock Cover Day-on-Day Change Threshold	When the percent change between yesterday's stock cover in cases and today's stock cover in cases exceeds this threshold, an alert is raised.

WRP Stocking Point Holding Capacity Worksheet

The WRP Stocking Point Holding Capacity Worksheet permits maintenance of the warehouse capacity at the network group/destination level.



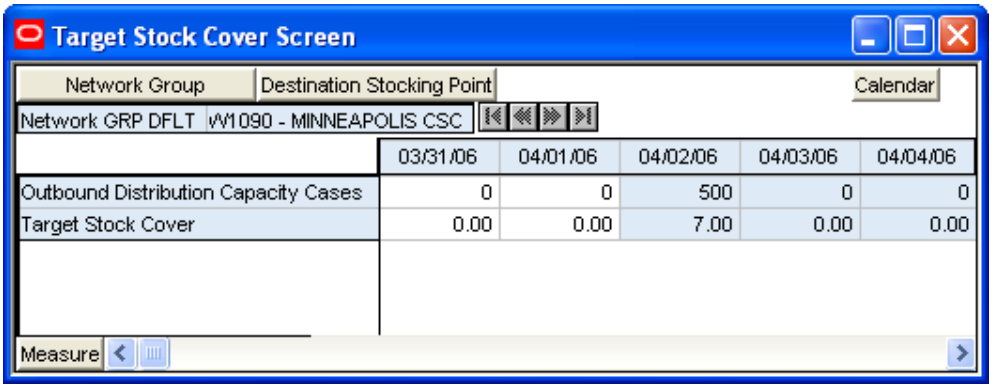
WRP Stocking Point Holding Capacity Worksheet

The following measures are displayed automatically when using the default template:

Measure Label	Explanation
Stocking Point Holding Capacity	A measure representing the storage capacity of the network group/warehouse in pallets. Any positive value is valid.

WRP Target Stock Cover Screen Worksheet

The WRP Target Stock Cover Screen worksheet displays measures at the network group/destination/day level.



WRP Target Stock Cover Screen Worksheet

The following measures are displayed automatically when using the default template:

Measure Label	Explanation
Outbound Distribution Capacity Cases	A measure indicating the outbound distribution capacity in cases for a network group at a warehouse. Any positive value is valid.
Target Stock Cover	Stock cover target in terms of weeks cover for a network group and warehouse. Any positive value is valid.

Network Throughput Plan Workbook

The WRP Network Throughput Plan workbook provides a high level view of network throughput. This workbook contains the following tabs and worksheets:

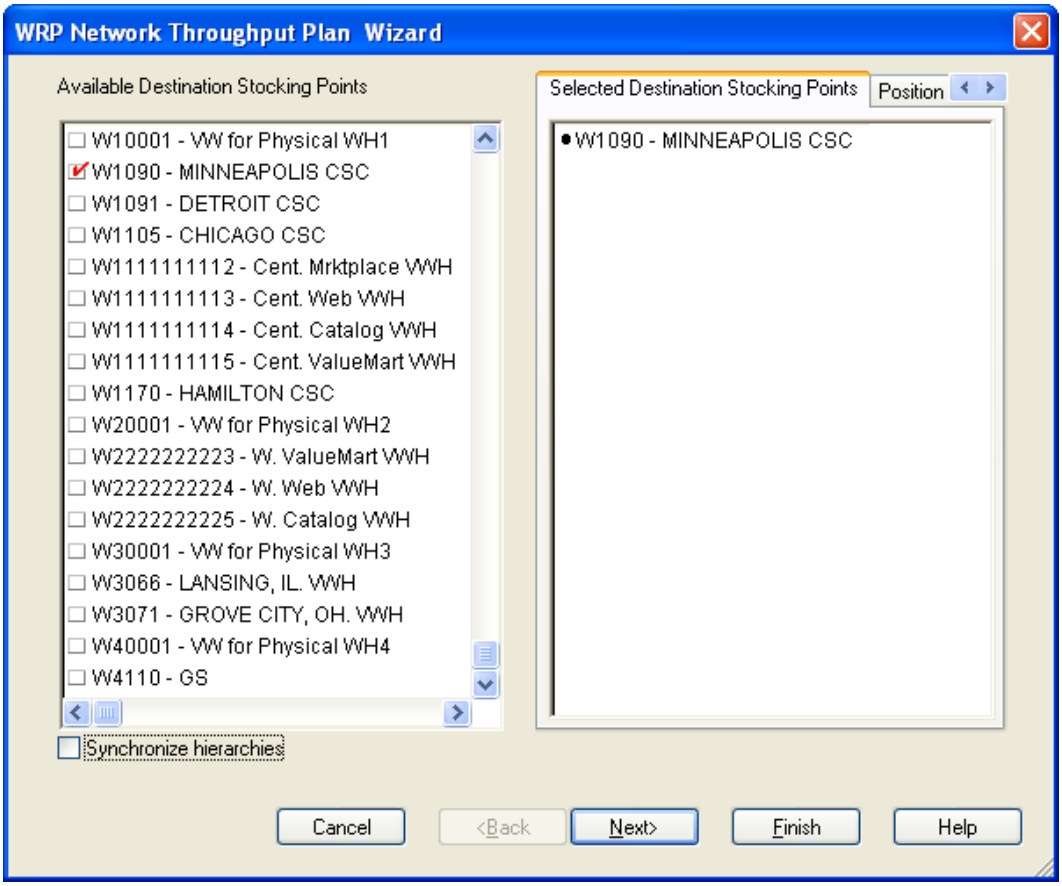
- A WRP Network Throughput Plan Tab containing
  - A WRP Warehouse Summary worksheet
  - A WRP Outbound Distribution Capacity worksheet
  - A WRP Warehouse Holding Capacity worksheet
  - A WRP Open Inventory and Stock Cover worksheet

> **Note:** All measures in this workbook are writeable unless otherwise stated.

Network Throughput Plan Wizard

Available Destination Stocking Points

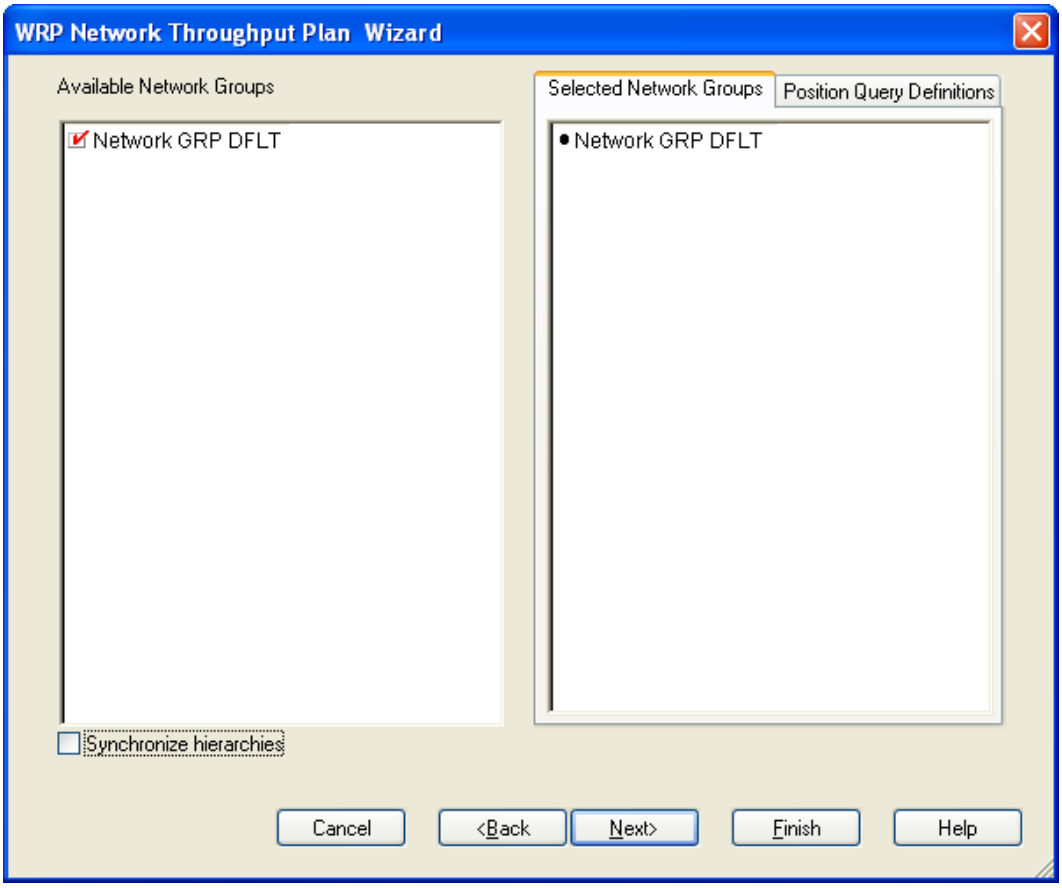
This dialog box enables the user to select Destination Stocking Points from a list of all available Destination Stocking Points in the AIP domain. The Selected Destination Stocking Points list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Destination Stocking Points. Standard RPAS functionality is available for this particular wizard page.



WRP Network Throughput Plan Wizard – Available Destination Stocking Points

Available Network Groups

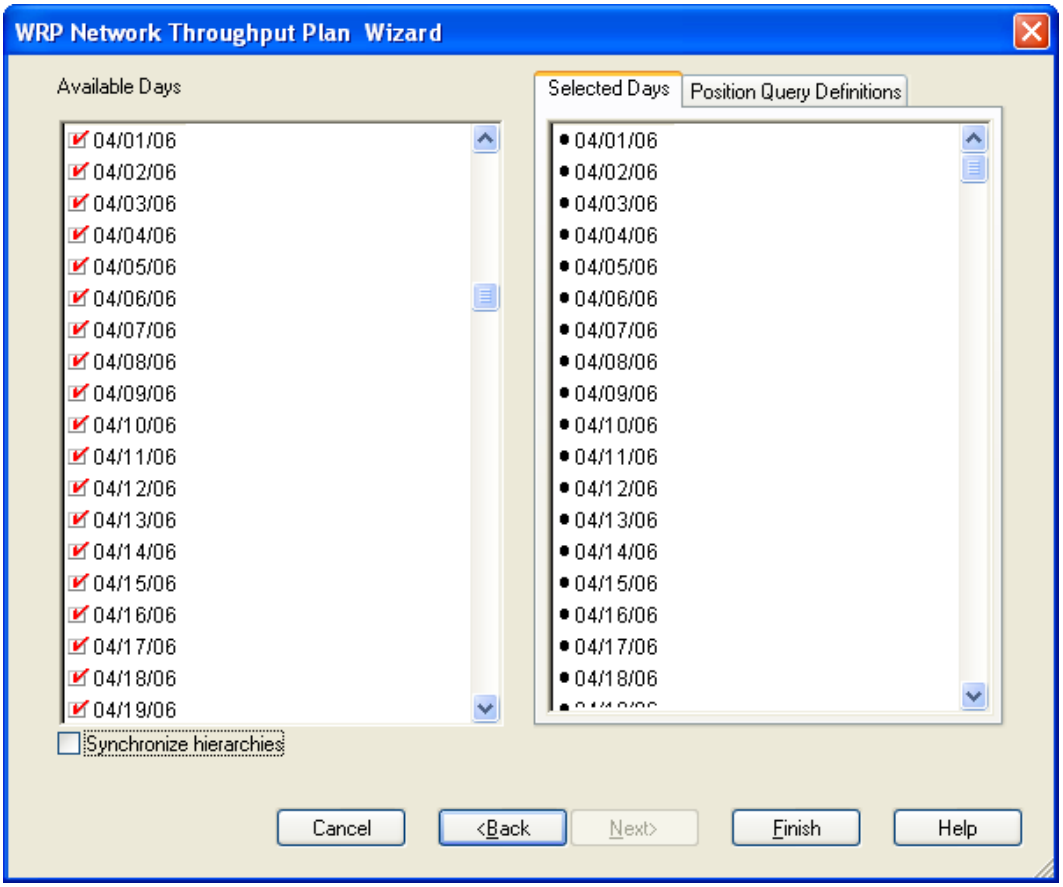
This dialog box enables the user to select Network Groups from a list of all available Network Groups in the AIP domain. The Selected Network Groups list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Network Groups. Standard RPAS functionality is available for this particular wizard page.



WRP Network Throughput Plan Wizard – Available Network Groups

Available Days

This dialog box enables the user to select Days from a list of all available Days in the AIP domain. The Selected Days list is pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Days. Standard RPAS functionality is available for this particular wizard page.



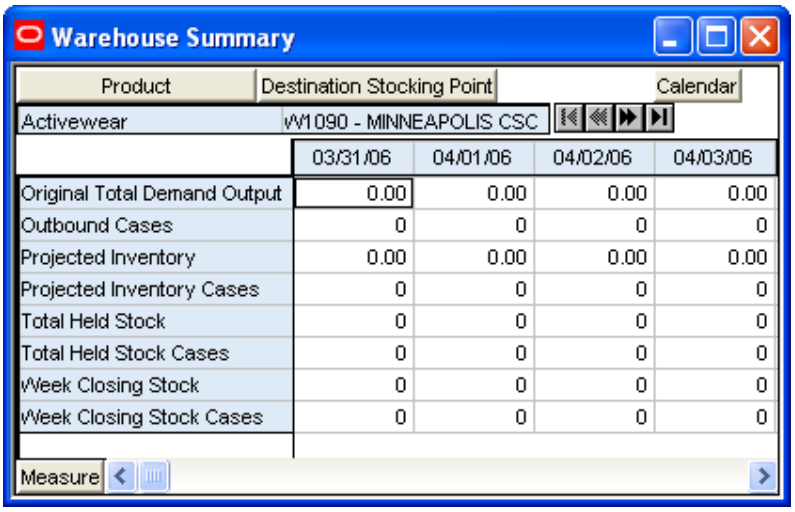
WRP Network Throughput Plan Wizard – Available Days

When the user selects **Finish**, the workbook is built using the Destinations, Network Group and days selected.

WRP Network Throughput Plan Tab

WRP Warehouse Summary Worksheet

The WRP Warehouse Summary worksheet displays parameters at the dept/destination/day level.



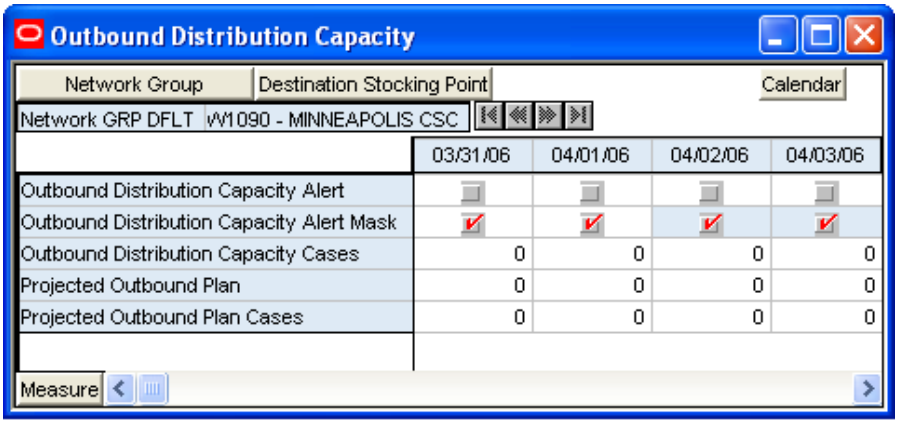
WRP Warehouse Summary Worksheet

The following measures are displayed automatically when using the default template:

Measure Label	Explanation
Projected Inventory	A read-only summation in units of the projected opening inventory position for any day in the planning horizon at a specific warehouse. None of that day's activities (either receipts or demand) are reflected in PI, and so it is often referred to as a beginning of day position.
Projected Inventory Cases	A read-only summation in cases of Projected inventory at the beginning of day.
Total Forecast Demand	A read-only summation in units of the planned outbound shipments.
Total Forecast Demand in Cases	A read-only summation in cases of the planned outbound shipments.
Total Held Stock	A read-only summation in units of inventory set aside in the warehouse and therefore not available to meet store demand.
Total Held Stock Cases	A read-only summation in cases of inventory set aside in the warehouse and therefore not available to meet store demand.
Week Closing Stock	A read-only projection in units of the closing week inventory based upon the beginning of day projected inventory for the following Sunday morning. This is disabled until the worksheet is rolled up to view all products.
Week Closing Stock Cases	A read-only projection in cases of the closing week inventory based upon the beginning of day projected inventory for the following Sunday morning. This is disabled until the worksheet is rolled up to view all products.

WRP Outbound Distribution Capacity Worksheet

The WRP Outbound Distribution Capacity worksheet shows data at the network/destination/day level.



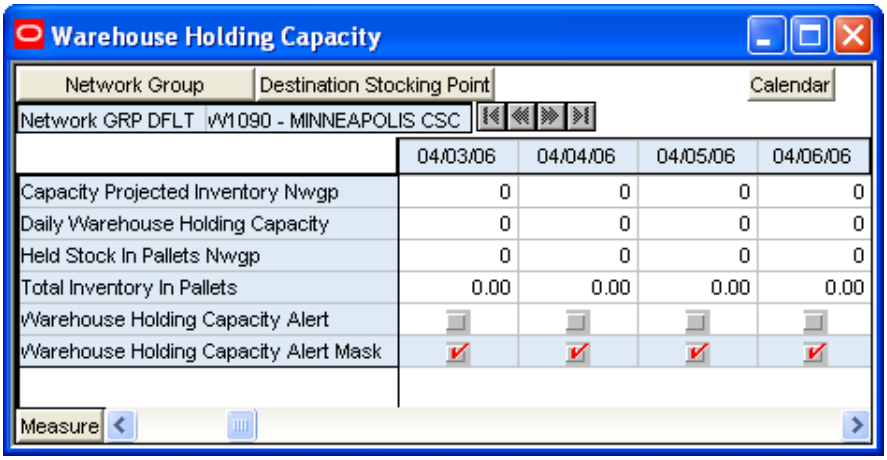
WRP Outbound Distribution Capacity Worksheet

The following measures are displayed automatically when using the default template:

Measure Label	Explanation
Outbound Distribution Capacity Alert	A read-only checkbox indicating if an outbound distribution capacity alert has been triggered. This alert is triggered when projected outbound volume is greater than the capacity.
Outbound Distribution Capacity Alert Mask	A Boolean mask indicating whether the outbound distribution capacity alert should be run on the day. Checking a box indicates it should.
Outbound Distribution Capacity Cases	A read-only measure displaying the outbound capacity in cases.
Projected Outbound Plan	A read-only measure displaying a projection of the outbound volume in units.
Projected Outbound Plan Cases	A read-only measure displaying a projection of the outbound volume in cases.

WRP Warehouse Holding Capacity Worksheet

The WRP Warehouse Holding Capacity Worksheet shows the user data held at the network group/destination/day level.



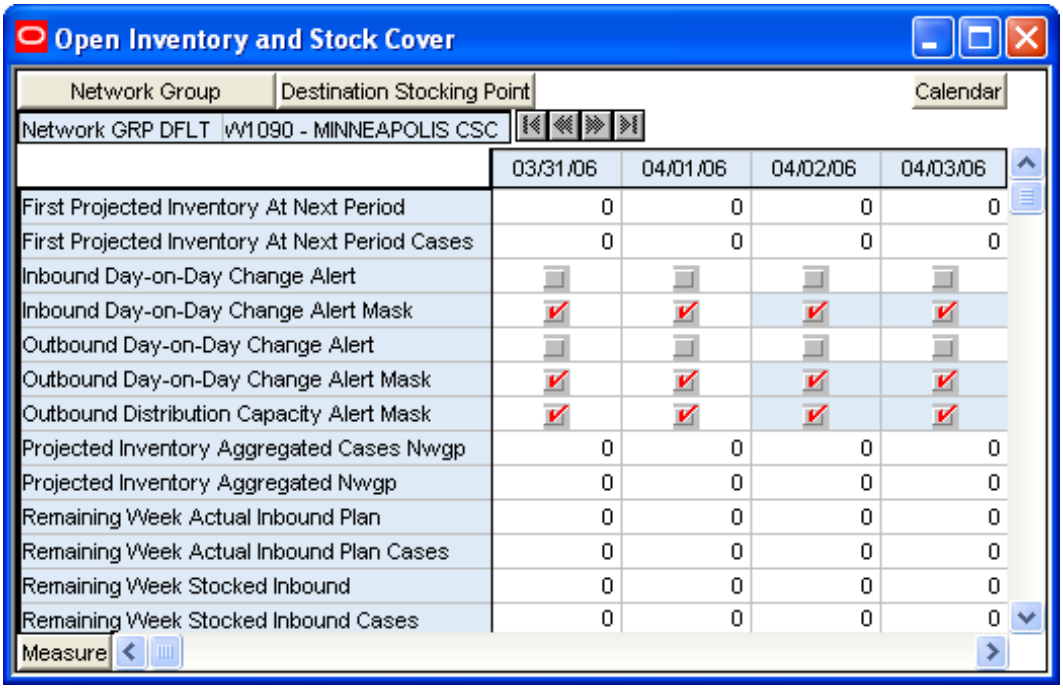
WRP Warehouse Holding Capacity Worksheet

The following measures are displayed automatically when using the default template:

Measure Label	Explanation
Capacity Opening Inventory Nwgp	A read-only opening inventory position in pallets used for holding capacity alerts.
Daily Warehouse Holding Capacity	The number of pallets that can be held on a given day. Read-only.
Held Stock in Pallets Nwgp	A read-only summation of the inventory that has been set aside and is therefore not available to meet demand.
Total Inventory in Pallets	A read-only summation of the total inventory in pallets.
Warehouse Holding Capacity Alert	A read-only check box indicating is the warehouse holding capacity alert has been triggered.
Warehouse Holding Capacity Alert Mask	A Boolean mask indicating whether the warehouse holding capacity alert should be run on the day. Checking a box indicates it should.

WRP Open Inventory and Stock Cover Worksheet

The WRP Open Inventory and Stock Cover Worksheet shows the user data held at the network group/destination/day level.



WRP Open Inventory and Stock Cover Worksheet

The following measures are displayed automatically when using the default template:

Measure Label	Explanation
First Projected Inventory At Next Period	Read-only measure showing projected inventory in units at first day of the next planning week.
First Projected Inventory At Next Period Cases	Read-only measure showing projected inventory in cases at first day of the next planning week.
Inbound Day-on-Day Change Alert	Read-only checkbox indicating if the inbound day on day change alert has been triggered.
Inbound Day-on-Day Change Alert Mask	A Boolean mask indicating whether the inbound day on day change alert should be run on the day. Checking a box indicates it should.
Outbound Day-on-Day Change Alert	Read-only checkbox indicating if the outbound day on day change alert has been triggered.
Outbound Day-on-Day Change Alert Mask	A Boolean mask indicating whether the outbound day on day change alert should be run on the day. Checking a box indicates it should.
Outbound Distribution Capacity Alert Mask	A Boolean mask indicating whether the outbound distribution capacity alert should be run on the day. Checking a box indicates it should.
Projected Inventory Cases Nwgp	A read-only aggregation in cases of the opening inventory position.

Projected Inventory Nwgp	A read-only aggregation in units of the opening inventory position.
Remaining Week Inbound Plan	The inbound plan in units for the remainder of the given week.
Remaining Week Inbound Plan Cases	The inbound plan in cases for the remainder of the given week.
Remaining Week Stocked Inbound	Sum of each day's inbound volume in units for stocked inventory from current day through the end of the week. Saturday is considered the last day of the week.
Remaining Week Stocked Inbound Cases	Sum of each day's inbound volume in cases for stocked inventory from current day through the end of the week. Saturday is considered the last day of the week.
Remaining Week Stockless Inbound	Sum of each day's inbound volume in units for stockless inventory from current day through the end of the week. Saturday is considered the last day of the week.
Remaining Week Stockless Inbound Cases	Sum of each day's inbound volume in cases for stockless inventory from current day through the end of the week. Saturday is considered the last day of the week.
Remaining Week Outbound	The planned outbound shipments in units. The remainder is based on the reconciled Total Forecasted Demand for a selected day and the remaining days of that calendar week.
Remaining Week Outbound Cases	The planned outbound shipments in cases. The remainder is based on the reconciled Total Forecasted Demand for a selected day and the remaining days of that calendar week.
Stock Cover	A read-only projection of stock cover. This is defined as the number of days the opening inventory plus held stock for a given day satisfies the Projected Outbound Plan.
Stock Cover Actuals/Target Difference	This read-only measure shows the relative difference between the Stock Cover Cases Nwgp and the Target Stock Cover values on any day.
Stock Cover Alert Mask	A Boolean mask indicating whether the stock cover alert should be run on the day. Checking a box indicates it should.
Stock Cover Cases Nwgp	A read-only conversion of stock into cases.
Stock Cover Day-on-Day Change Alert	Read-only checkbox indicating if the stock cover day on day change alert has been triggered.
Stock Cover Day-on-Day Change Alert Mask	A Boolean mask indicating whether the stock cover day on day change alert should be run on the day. Checking a box indicates it should.
Target Stock Cover	A read-only measure showing the stock cover goal in terms of number of weeks.
Total Held Stock Cases Nwgp	A read-only aggregation in cases of all inventory set aside and therefore not available to meet demand.
Total Held Stock Nwgp	A read-only aggregation in units of all inventory set aside and therefore not available to meet demand.
Total Outbound Cases Nwgp	A read-only aggregation in cases of Projected Outbound Plan. This is disabled until the worksheet is rolled up to cover all destinations.

Total Outbound Nwgp	A read-only aggregation in units of Projected Outbound Plan. This is disabled until the worksheet is rolled up to cover all destinations.
Total Outbound Stock Cover Cases Nwgp	Read-only case conversion of total outbound stock cover.
Total Outbound Stock Cover Nwgp	Total outbound stock cover is defined as the number of days the projected inventory for a given day satisfies the projected outbound volume.
Warehouse Holding Capacity Alert Mask	A Boolean mask indicating whether the warehouse holding capacity alert should be run on the day. Checking a box indicates it should.

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Build Workbooks

Typically, the WRP workbooks are automatically built during the nightly batch run by using workbook-creation settings that are defined by system administrators.

Set Up Workbooks for Automatic Builds

The Workbook Auto Build feature allows users to set up workbook builds to take place on a regular basis during nightly batch runs. Workbooks to be built in this way are added to the auto build queue. Because the workbook build process is automated, users are spared the processing time required to regularly enter the same wizard selections each time a new workbook is built. And because the build process occurs overnight, users are spared the wait time associated with constructing new workbooks.

Build Automatic Workbook

The Workbook Auto Build feature works through the Workbook Auto Build Maintenance Wizard.

1. Click **New** on the toolbar, or choose File – New. The New dialog box is displayed.
2. On the Administration tab, select Workbook Auto Build Maintenance.
3. Click **O**K. The Workbook Auto Build Maintenance Wizard is displayed.
4. From the task list, select **Add a Workbook**.
5. Click **Nex**t.
6. Select a workbook template type
7. Click **Nex**t.
8. If you are a system administrator, you are now prompted to specify the owner of the new workbook. Select **Administrator** or **Default User**.
9. Click **Nex**t.

> **Note:** If you are not a system administrator, the system assigns the new workbook to you by default, so this window does not appear.

10. Fill in the workbook name (Build Label), the frequency (in days) with which the workbook should be built (Build Frequency), and the next date that the workbook should be built (Next Build Date).
11. Select one of the following radio buttons to specify access privileges for this workbook:
    - User – allows only you to access and make changes to the workbook
    - World – permits any user to make changes to the workbook
    - Group – allows only those users who are in your group (as determined by your System Administrator) to make changes to the workbook

12. Select the group that owns the workbook. You can choose from the list of groups to which you belong.
13. Click **Next** to initialize the wizard for the workbook template selected in step 6 above. This wizard guides you through the process of building the workbook. For detailed information about building specific WRP workbooks, see the chapter on Workbook and Worksheet Descriptions.
14. Click **Finish**. The workbook is added to the queue of workbooks that were automatically built during batch processing.

Build a Workbook Manually

Workbooks can also be manually built by using the workbook-creation wizards. The wizards include several screens where you specify the scope of the data to be included in the workbook; such as selecting positions on the Time, Product, and Location hierarchies. The specific questions that a wizard asks may differ depending on the type of workbook that you are building, but the basic purpose of wizards of this type are to allow you to select specific data to be incorporated into your new workbook. Once you make these selections and complete the workbook creation; the workbook is built, opened, and displayed in the solution.

Note: Depending on the amount of days, products, and stores that you have chosen to include in the plan, the workbook creation process can happen quickly or it can take a significant amount of time.

Build Manual Workbook

1. From the main menu, select **File– New**, or click **New** from the toolbar. The New dialog box appears.
2. Select the **WRP** tab.
3. Select the workbook type from the list of workbook templates.
4. The wizard for the selected workbook template steps you through the process of building the new workbook. For detailed information about building specific WRP workbooks, see the chapter on Workbook and Worksheet Descriptions.

5

Calculations

Replenishment Basics

Replenishment is an AIP batch process that runs twice within the nightly batch. It calculates the replenishment plan for each SKU-pack size at each destination location (warehouse and store) in the supply chain across the planning horizon. Replenishment assumes no quantity constraints and so the orders calculated for a destination reflect their need without regard for the ability of the source of the orders (warehouse or supplier) to supply them.

However, real world constraints upon the supply of product do exist. This is addressed by splitting the planning horizon for each SKU-pack-size/destination into two distinct periods of time. The first period contains that part of the planning horizon over which constraints apply. This is referred to as the fixed period – because the ultimate supply of stock within this time period is limited – or fixed. The second period of time is simply called **Post Fixed Period** and refers to that remaining part of the planning horizon that exists after the fixed period.

A special case of replenishment is when a SKU is capped. The Inventory Cap represents a physical space constraint in units at a store for a given day. The Inventory Capping functionality generates a Store replenishment plan such that all future projections of inventory (which consider current inventory, expected and planned receipts, and forecast demand) at the store do not violate the space constraints at the store for any day. At the same time, the Warehouse replenishment plans are generated based on forecasted demand from the stores with no inventory caps being applied to it across time.

Replenishment is run twice in each night – the first time it produces a replenishment plan for the fixed period for all valid SKU-pack/Destinations. The second time it produces a replenishment plan for the Post Fixed Period for all valid SKU-pack/Destinations. In between these 2 replenishment runs, the constraints that relate to the fixed period for each SKU-pack/Destination are applied. These constraints modify the plan within the fixed period and ultimately determine the correct inventory position at the start of the post fixed period. This updated inventory position is then used by the second run of the replenishment process.

Replenishment runs for all destinations in the supply chain – both warehouses and stores. However, the calculations vary by destination type. From this point forward, all calculations listed are relevant only to warehouses and destinations are typically referred to as warehouses. See the *SRP User Guide* for store-specific calculations.

To determine any order, Replenishment looks at the current inventory position, forecasted demand, and expected receipts to project the inventory position in the future. Based on the user-defined Replenishment Method and other user-defined parameters, stocking level targets (allocation boundaries) for a product/warehouse combination are calculated. Orders are generated if and when the projected inventory position falls below certain allocation boundaries. A more detailed explanation is provided in the following topics.

Replenishment Calculation Variables

Fixed Period

The term Fixed Period refers to the period of time for a location inside which the supply of inventory for a SKU-Pack is ultimately constrained – or fixed.

Typically, the only time AIP assumes infinite availability of supply is when the warehouse's source is a supplier. In a multi-tier supply chain, the fixed period for a destination is the time period it takes for an order to be delivered from a supplier, and pass through the appropriate levels of the supply chain to reach the destination.

The time it takes a product to be moved from one location to another is the lead-time. The fixed period for a given SKU-pack/Store is the sum of the lead times for all locations an order must pass through from Supplier to the store.

ATP Dates

Release Schedules

A lead-time is the number of days ahead of the desired delivery date than an order must be communicated to the entity (or source) responsible for making that delivery. Sources for a delivery into a warehouse can be vendors, or other warehouses. Lead-times are ultimately Source/SKU-pack/Destination/Delivery Date specific. This means that a lead-time on a specific date indicates the advanced notice that the source of a specific SKU-pack requires to make a delivery into the destination on that date.

A release schedule holds a lead time for each Source/SKU-pack/Destination/Delivery date within the planning horizon that is able to plan a delivery on that day. A release schedule therefore indicates whether a delivery can be received at a location and if so, the lead time required for receiving it.

Planning Deliveries

A delivery cannot be planned on a date whose lead time would require ordering in the past. Imagine today is Monday and the lead-time for delivery into a warehouse on every Tuesday is two days. The release schedule must indicate that tomorrow is not a legitimate day. This is because the lead time for tomorrow would be two days – indicating that a delivery tomorrow must have been planned and executed yesterday. There may already be an order expected for delivery tomorrow – but you certainly cannot re-plan the delivery today because the opportunity for that passed yesterday.

Primary and Secondary Schedules

The batch module is responsible for producing schedules and actually produces two different schedules for use by the AIP replenishment engine. These are Primary and Secondary Schedules.

Primary Schedules are used by Replenishment to determine the days on which orders can be planned into a warehouse destination. Secondary Schedules are used in Reconciliation only when a destination experiences a shortage at which point the Reconciliation logic may turn to a Secondary (or alternate) source to address the shortage.

Only Primary Schedule is constructed using the Source Split information. Source splits indicate what percentage of a warehouse's order should be given to one or more sources that are able to deliver to that warehouse. While many sources may be able to deliver a product to a warehouse, the user may decide to attribute a percentage of the order to only one or a few of the sources. For a delivery day to be a legitimate day in the release

schedule, a percentage must be assigned to the source for the warehouse destination and SKU-pack. The lead time schedule for any source not designated as satisfying a percentage of an order on a particular day into a warehouse must be blank on that day. Sources that have been attributed a percentage of a warehouse's need and therefore appear in the Primary Schedules are considered to be Primary Sources.

The Secondary Schedule does not observe the source splits, but instead considers the list of secondary (alternate) sources specified by the user. Secondary Schedules is only built for those sources that have been specifically identified as secondary sources for a given destination by the user.

ATP days

Available to plan (ATP) days are those days on which Replenishment performs an order calculation to determine if an order is needed. ATP days are determined by examining the Primary Release Schedule for each source (bearing in mind there could be more than one) that can deliver a product into a warehouse on a given day. If any one of these sources can deliver into the warehouse on a day, then that day is considered an ATP day. This is because the day represents a potential delivery opportunity into the warehouse and therefore a planning calculation should be performed for that Destination/Product/Day combination in order to determine what, if any, quantity, is needed.

Primaries as Alternates functionality

The Primaries as Alternates functionality allows you to change the way in which the Primary Schedule is built. This functionality specifically allows Secondary (or alternate) sources to produce Primary Receiving Schedules, even though the Source does not meet the normal qualifying Source Split criteria required to produce a Primary Schedule. This functionality addresses those situations where there are multiple sources that can deliver into a warehouse destination, but the favored source (presumably due to cost reasons) has a longer lead time.

A Tale of Two Vendors

Imagine a situation where there are two vendors – one considerably more expensive to purchase from than the other. The cheaper vendor is given one hundred percent of all the orders to satisfy into a warehouse (the Source Split is 100% for this vendor). However, this cheaper vendor also has a lead time of 10 days. This means that the Release Schedule for this vendor is blank in the first 9 days of the planning horizon because any order to be delivered in the next 9 days must have been executed before today. Therefore, there are no ATP days at the warehouse in the first 9 days. The expensive vendor has a lead time of only 3 days. Traditionally, the user is forced into a decision between choosing a cheaper, less-reactive vendor, who can delivery no earlier than 10 days from now, and a more expensive vendor who can deliver in only 3 days time. The Primaries as Alternates indicator addresses this choice.

In its off (zero) state, the indicator maintains the already described behavior when building the Primary Schedules. This means that the expensive vendor with a source split is considered a Primary Vendor and the Primary Schedule contains only this vendor but the first delivery in the Primary Schedule is in 10 days time. Days 1 to 9 are not considered valid delivery days and therefore replenishment does not consider days 1 to 9 as ATP days.

If the indicator is set to a non-zero state, then the behavior that builds the Primary Release Schedules considers the more expensive vendor if it has been set up as a secondary vendor. In this situation, the secondary (or alternate) vendor is considered a Primary Vendor for the one or more days in which it can deliver before the first real

Primary Vendor can deliver. The real Primary Vendor can only deliver from day 10 onwards. The Secondary Vendor can deliver from day 3 onwards. The functionality can therefore consider the secondary Vendor to be Primary between days 3 and 9 inclusive. If the indicator is set to one, the Secondary Vendor is only considered to be Primary on the 1st day (day 3) that it can deliver before the true Primary can deliver (day 10). If the Indicator is set to two, then the Secondary Vendor is considered as Primary for all days it can deliver before the real Primary can deliver (days 3 to 9 inclusive).

Secondary Sources as Primary Sources Impact

The net result is that the Secondary Source is considered a Primary Source for one or more days before the real Primary Source can deliver, and is written out to the Primary Receiving Schedule. The impact of this is that either day 3 (indicator set to 1) or all days between days 3 and 9 (indicator set to 2) becomes ATP days at the destination. This specifically allows the system to use the cheaper source for all orders from 10 days out and further, but allows the system to use the more expensive source between days 3 and 9 to address any immediate shortages that may occur as a result of changes to forecast demand inside 10 days.

In situations where there are multiple secondary sources that might be considered as primary according to the Alternates as Primaries Indicator, only the secondary source with the earliest possible delivery day in its secondary release schedule is considered.

Note: Alternates as Primaries functionality works for both warehouse and vendor sourcing. This means that both vendors and warehouses that are secondary sources may be used to address short term shortages at warehouse destinations even though they are not primary sources.

Review Time

Review time describes the period of time which is assessed to determine an order quantity for a specific ATP day. The first day of the Review Time is the ATP day, referred to as the Beginning of Review Time (BRT). The last day of the Review Time is referred to as the End of Review Time (ERT). The ERT for any ATP day is defined as the day before the BRT of the next ATP day.

The Review Time for a particular ATP day is considered to be all the days between, and including, the BRT and ERT. Therefore, if BRT and ERT fall on the same day, the Review Time is considered to be 1 day.

What determines the BRT for a particular ATP day is when the delivery on that day becomes available to meet demand. This is determined by the WRALT measure (Warehouse Receipt to Availability Lead-Time). It indicates the number of days after delivery that the inventory delivered into a warehouse becomes available to meet outbound demand. This measure is has valid values of zero and one day.

For any ATP day the BRT of that ATP day is defined as follows:

$$BRT_{\text{of current ATP day}} = \text{Current ATP day} + WRALT_{\text{of current ATP day}}$$

This means that when WRALT is set to zero, the BRT for an ATP day *is* the ATP day. Otherwise, WRALT is set to one and the BRT for an ATP day is the day after the ATP day.

The ERT for any ATP day is defined as the day before the BRT of the next ATP day.

The BRT of the next ATP day is defined as:

$$BRT_{\text{of next ATP day}} = \text{Next ATP day} + WRALT_{\text{of next ATP day}}$$

Therefore, ERT for of the earlier ATP day is defined as follows:

$$ERT_{\text{of current ATP day}} = BRT_{\text{of next ATP day}} - 1\ day$$

The Review Time for a particular ATP day is considered to be all the days between, and including, the BRT and ERT. Therefore, if BRT and ERT fall on the same day, the Review Time is considered to be one day.

It is important to understand that only WRALT and the ATP day itself impact the definition of review time. The lead time on any ATP day does not impact the definition of the review time in any way.

Expected Receipts

Expected Receipts for a warehouse are those orders (Purchase Orders or Transfers) that have already been executed, and therefore need to be considered when planning future orders. Expected Receipts contain quantities of a specific SKU-pack due to arrive at a destination (in this case a warehouse) on a specified day.

Expected Receipts consist of two types of orders:

- On Orders represent those orders which have been executed, but as of yet there is no information regarding their physical shipment to the destination.
- In Transits represent those orders which have physically shipped to the destination.

For a given SKU-pack/Destination/Delivery Date, the Expected Receipts are calculated as shown below.

Calculation Expressions:

ER = Expected Receipts

IT = In Transits

OO = On Orders

Calculation:

$$ER = IT + OO$$

Forecast Demand

A necessary pre-requisite for performing replenishment for a warehouse is a Forecast Demand stream. This stream is made available to replenishment for the lowest tier of the network (stores) only. It is necessary for Replenishment itself to determine demand on warehouses before they can be replenished in this process.

The output from replenishment of any SKU-pack/destination in the supply chain is a receipt plan showing desired order quantities to be delivered into the destination. The receipt plan is specific to a source and delivery date.

Each desired order quantity in the receipt plan also has a corresponding ship (or order) date. The ship date is calculated as the delivery date of the order quantity minus the lead time. Time shifting all orders to their ship date and summing them at the SKU-pack/source level yields a total of all orders that need to be shipped from the source. This total, for each SKU-pack/warehouse, represents the forecast demand stream for that SKU-pack on the warehouse.

In the case of a SKU which is capped, this demand still represents the shipments to meet the Unconstrained Receipt Plan at the destination store, without accounting for any capping constraints. This is because the warehouse should still order the entire amount needed from the stores. Thus, even if the stores cannot store all the stock they are

potentially going to sell, the warehouses can meet that demand through direct shipments to customers.

Product Life and Expected Spoilage

Product Life is not relevant to Warehouses. The working assumption is that product life indicates a number of days upon receipt at a store. Warehouses clear all products to the store and therefore it does not expire within the warehouse. As such, Expected Spoilage, which refers to a prediction of how much unsold product spoils, is also not relevant to warehouse replenishment calculations.

Projected Inventory

Projected Inventory (PI) represents a projection of the opening inventory position for any day in the planning horizon at a specific warehouse. None of that day's activities (either receipts or demand) are reflected in PI, and so it is often referred to as a beginning of day position. The inventory position of any warehouse may not be negative, and so it is capped so it may not be less than zero.

PI on a day t is calculated as the PI of the previous day (t- 1) plus the net impact of all demand and supply on the previous day. Demand on the previous day is considered to be forecast demand. Supply on the previous day is considered to be Expected and Planned Receipts. While expected receipts have already been discussed, Planning Receipts have not.

Planned Receipts represent those orders calculated by the current run of Replenishment for delivery on days prior to the current one being planned – but have not yet been executed.

The availability of the receipts to meet demand is impacted by WRALT; therefore, if WRALT is 1 on the previous day (t-1), none of that day's demand can be satisfied by the receipts of that day. Instead, an attempt to satisfy that day's demand from that day's beginning inventory must be made. If WRALT is 0 on the previous day (t-1), the opening inventory of that day can be supplemented by that day's receipts prior to the demand being decremented.

Although future Allocations in the Well (AIW) is considered demand, it is different from other elements of demand because it is usually the result of an allocation (created outside of AIP) and is handled differently by the warehouse. If there is insufficient opening inventory to satisfy that day's orders, the orders are unlikely to be picked until that day's receipts have arrived; therefore, the calculation reflects the deduction after that day's receipts have arrived.

Finally, the Residual Excess Quantity (REQ) from the previous day needs to be deducted. This quantity represents any inventory that the Reconciliation process could not push out of a location due to conflicting business drivers but must is still discounted because business process ensures the inventory is physically pushed out.

In summary, PI for day t, where t is not today, is calculated shown below.

Calculation Expressions:

PI = Projected Inventory

ER = Expected Receipts

PR = Planned Receipts

FD = Forecast Demand

AIW = Allocation in the Well

REQ = Residual Excess Quantity

WRALT = Warehouse Receipt to Availability Lead Time

Calculation:

$$PIt = Max(Max(PI_{t-1} - WRALT_{t-1}\ x\ Dmd_{t-1}\ , 0) + ER_{t-1} + PR_{t-1} - (1 - WRALT_{t-1})xDmd_{t-1} - AIW_{t-1} - REQ_{t-1}, 0)$$

Today is a special case for PI, since there is no need to project an inventory position for today if a current warehouse inventory feed is available from an external system. If this external feed is available, then PI for today is defined as shown below.

Calculation Expressions:

PI = Projected Inventory

Calculation:

$$PI_{\text{for today}} = Max\ (Current\ Inventory - Transfers\ in\ the\ Well_{\text{today}}\ , 0)$$

Transfers in the Well is a source centric feed from an external system for warehouses. All orders previously executed by AIP that have not yet been honored by the warehousing system are summed and assigned to today's date. This quantity is deducted from the current inventory position to yield a quantity truly available to meet new demand.

Where a Current Inventory Feed is not available for today, then PI for today should be yesterday's projection of PI for today.

Calculation Expressions:

For warehouse with no current inventory feed,

PI = Projected Inventory

Calculation:

$$PI_{\text{for today}} = Yesterday's\ calculated\ PI_{\text{for today}}.$$

Net Inventory

Net Inventory (NI) is a prediction of the inventory position at the end of a specific period of time. It does not consider demand over the specified period, and so it is often referred to as Available Inventory – as it ultimately represents what inventory is available to meet demand over the period.

All NI calculations are based upon a Projected Inventory position at the beginning of the period and then consider the impact of expected receipts, allocations in the well and over the period. The basis of this period is the review time of the current Available To Plan day, and therefore the days on which the Beginning of Review Time (BRT) and End of Review Time (ERT) fall feature in the definition of this period.

The availability of receipts to meet demand is impacted by the Warehouse Receipt to Availability Lead-time (WRALT) and therefore the period over which receipts are considered must be shortened by WRALT. This period commences on the BRT and finishes on (but includes) the ERT minus the value of WRALT on the ERT.

Allocations in the well represent orders sitting in the warehouse system which have yet to be honored. These orders consume warehouse inventory and they must therefore be deducted from the inventory position when determining how much inventory is available to meet future demand. These orders are not impacted by WRALT and therefore they are summed between the BRT and the ERT (inclusive

The user may specify a Holdback quantity representing a quantity of inventory that can be put aside and considered not available to meet known demand. The user specifies if

Hold back should be included in the NI calculation. NI must be capped so that it may not fall below zero.

In summary, for Replenishment purposes, the definition of NI associated with a given ATP day if Holdback is to be included in the calculation is shown below.

Calculation Expressions:

NI = Net Inventory

PI = Projected Inventory

BRT = Beginning of Review Time

ERT = End of Review Time

ER = Expected Receipts

$WRALT_{BRT}$ *= Warehouse Receipt to Availability Lead-time as specified on BRT*

Calculations:

$$\left(\left(PI_{BRT_{ATP}} + \left(\sum_{BRT_{ATP}}^{(ERT_{ATP}-WRALT_{ERT_{ATP}})}(ER)\right) - \left(\sum_{BRT_{ATP}}^{(ERT_{ATP})} AIW\right) - \text{Holdback Qty}\right),0\right)$$

** The Holdback value to be used is the largest value in the review time of the ATP day which may not be the value on the ATP day.*

If Holdback is to be excluded from the calculation, the calculation is

$$\left(\left(PI_{BRT_{ATP}} + \left(\sum_{BRT_{ATP}}^{(ERT_{ATP}-WRALT_{ERT_{ATP}})}(ER)\right) - \left(\sum_{BRT_{ATP}}^{(ERT_{ATP})} AIW\right)\right),0\right)$$

Allocation Boundaries

The basis for replenishment is the calculation of allocation boundaries. These boundaries represent varying levels of inventory required to satisfy particular requirements. The calculation of these boundaries varies significantly across the replenishment methods. There are two allocation boundaries relevant to warehouses:

- Receipt Point

  The Receipt Point (RP) represents the inventory level below which an order should be triggered.

- Receive Up To Level

  The Receive Up To Level (RUTL) denotes the target level of inventory when generating an order.

Allocation Boundaries – Components and Calculations

Safety Stock Calculations - Minimums and Maximums

Safety Stock is inventory held at a location to mitigate the risks of stock out caused by variability in forecast demand. Like the allocation boundaries, the calculation of Safety Stock varies by method.

For replenishment methods that do not calculate Safety Stock based upon forecast demand, Safety Stock Minimums and Maximums provide a means of applying boundaries to limit the minimum and maximum values for calculated Safety Stock. Before the boundaries can actually be applied to the calculated Safety Stock, the upper and lower boundaries themselves need to be determined. The calculation of the minimums and maximums do not vary by replenishment method.

The user may specify upper and lower limits, both in terms of numbers of days and numbers of units. Given that the upper and lower limits may be applied in both units and numbers of days at the same time, the following rules are used to determine which takes priority.

- The lower limit to be applied to Safety Stock is simply calculated as the larger of either of the 2 specified minimum values in units. That is the smaller of either the Minimum Units or the Minimum Days (converted into units).
- The upper limit to be applied to Safety Stock is simply calculated as the larger of either of the two specified maximum values in units. That is the larger of either the Maximum Units or the Maximum Days (converted into units).
- When neither the Minimum Units nor Minimum Days measure has been specified by the user, the lower bound to be applied to Safety Stock is zero.
- When neither the Maximum Units nor Maximum Days measure has been specified by the user, there is no upper boundary to be applied to Safety Stock.
- Where the calculated lower boundary for Safety Stock exceeds the calculated upper boundary for Safety Stock, the lower boundary should be set to the upper boundary.

It is necessary to convert the Minimum and Maximum Day values into units so that they can be directly compared to the user specified Minimum and Maximum Unit values. Both the Minimum and Maximum day values, when specified, can be converted into units by summing the specified number of days of forecast demand commencing (and including) the Beginning of Review Time (BRT).

The following logic summarizes the processing for stores. WSSMAX and WSSMIN refer to the ultimate maximum and minimum boundaries to be applied to warehouse safety stock.

Calculation Expressions:

WSSMIN = Warehouse Safety Stock Minimum

WSSMinUnits = Warehouse Safety Stock Minimum Units (user-defined parameter)

WSSMinDays = Warehouse Safety Stock Minimum Days (user-defined parameter)

FD = Forecasted Demand

BRT = Beginning of Review Time

ERT = End of Review Time

Calculation:

$$WSSMIN = Max\left(WSSMinUnits, \sum_{BRT}^{(BRT + WSSMinDays - 1)} FD\right)$$

Note: If both WSSMinUnits and WSSMinDays have not been specified, WSSMIN is set to zero.

Safety Stock Maximum

Calculation Expressions:

WSSMAX = Warehouse Safety Stock Maximum

WSSMaxUnits = Warehouse Safety Stock Maximum Units (user-defined parameter)

WSSMaxDays = Warehouse Safety Stock Maximum Days (user-defined parameter)

FD = Forecasted Demand

BRT = Beginning of Review Time

ERT = End of Review Time

Calculation:

$$WSSMAX = Max\left(WSSMaxUnits, \sum_{BRT}^{(BRT+WSSMaxDays-1)} FD\right)$$

Note: If both WSSMaxUnits and WSSMaxDays have not been specified, WSSMax is unbounded (infinite).

Weekly Sales Min and Weekly Sales Max

There are two methods that calculate safety stock based upon sales. These methods are Factor AWS and Sales Week Range. For these methods safety stock ranging boundaries mentioned above are not used. Instead, the calculated safety stock is limited by two user specified boundaries - Weekly Sales Min and Weekly Sales Max. If the Weekly Sales Min value exceeds the Weekly Sales Max value, then the Minimum value should be set to the Maximum value.

Supplier Compliance Safety Stock

The purpose of Supplier Compliance Safety Stock Uplift (SCSSU) is to address the poor record of a supplier for meeting their delivery obligations. The calculation of SCSSU involves summing demand for a period of time specified by the user as a number of days, Supplier Compliance Safety Stock Days (SCSSD). The beginning of the period over which the summation should take place is calculated as the current ATP day plus an additional number of days. This additional number of days is the maximum of the number of days in the review time for the current ATP day or the user-specified Inventory Selling Days (ISD) parameter.

Calculation Expressions:

SCSSU = Supplier Compliance Safety Stock Uplift

SCSSD = Supplier Compliance Safety Stock Days (user-defined parameter)

FD = Forecasted Demand

RT = Review Time

ISD = Inventory Selling Days (user-defined parameter)

Calculations:

$$StartDate = currentATPday + Max(RT, ISD)$$

$$SCSSU = \sum_{StartDate}^{StartDate+SCSSD-1} FD$$

Warehouse Additional Stocks

For warehouses, there are two additional methods of carrying inventory. These are Baseline and Contingency stock.

Contingency stock is a quantity effectively represents a minimum level of stock to be carried for contingency purposes. The user may enter multiple contingency stocks, but given then the contingency carried for one purpose can be used for another, the system uses the largest of the contingency stock entries and disregards the rest.

Just as the system chooses the largest of the contingency stock entries because stock carried for one purpose can be used for any un-forecasted even, the system applies this approach by comparing the largest of the user-specified contingency stocks against the system calculated Safety Stock. Safety Stock is then reset to the larger of the two.

Baseline Stock represents additional inventory that should be carried for a discreet purposes and as such, it should be a quantity that is required over and above the already system-calculated safety stock. As such, it is added onto the calculated safety stock. Given that the user can specify multiple reasons for adding baseline stock, the various baseline stock entries are added together before being added to the system calculated safety stock.

Calculation Expressions:

SS= Method Specific Safety Stock Calculation

SCSSU = Supplier Compliance Safety Stock Uplift

FSS = Final Safety Stock

Calculations:

$$FSS = Max((SS + SCSSU), Contingency\ Stock) + Baseline\ Stock$$

Warehouse Replenishment Methods

There are a number of replenishment methods that may be used to generate a replenishment plan for warehouses. The different methods are appropriate for different kinds of situations.

The replenishment method that is used for a particular SKU or set of SKUs is typically chosen during implementation by super users who set the replenishment parameters. This method is used throughout the supply chain management process. The use of the replenishment method is monitored for effectiveness, and it is modified as needed over time.

The following replenishment methods can be used for replenishing warehouses:

- Min/Max
- Time Supply
- Dynamic
- Hybrid

- No Replenishment
- Poisson Replenishment
- Loaded SS Dynamic
- Sales Week Range
- Factor AWS
- Factor ARS

The following sections discuss these replenishment methods, which includes an explanation of the safety stock and allocation boundary calculations.

Min/Max Replenishment Method

Min/Max is a simple, non-forecast-based replenishment method. It is generally used in the following types of situations:

- When it is impossible to generate a reasonable forecast, such as a completely new type of product that cannot be modeled after anything else
- For extremely slow-selling items where the minimum presentation levels constantly exceed the weekly demand

Safety Stock

Safety Stock in the Min/Max method consists of the minimum supply in units (MinS) multiplied by an increment percentage factor (Inc%).

Minimum stock level (user-defined parameter) is the minimum number of units required to have on hand to satisfy demand.

Increment Percent (user-defined parameter) is a multiplier for minimum and maximum stock that is designed to handle temporary fluctuation in demand for items on Min/Max replenishment without altering the established MIN and MAX values.

Calculation Expressions:

SS = Safety Stock

MinS = Minimum stock

Inc% = Increment Percent

SCSSU = Supplier Compliance Safety Stock Uplift

Calculation:

$$SS = (MinS * Inc\%)$$

Calculation Expressions:

FSS = Final Safety Stock

Calculation:

FSS = Max ((SS+ SCSSU), Contingency Stock) + Baseline Stock

Receipt Point

Receipt Point in the Min/Max method is set to the calculated Final Safety Stock.

FSS = Final Safety Stock

RP = Receipt Point

RP = FSS

Receive Up To Level

For the Min/Max replenishment method, Receive Up To Level (RUTL) is calculated by taking the larger of the Final Safety Stock and the product of the Maximum Stock (MaxS) and Increment Percent (Inc %) values.

Calculation Expressions:

RUTL = Receive Up To Level

FSS = Final Safety Stock

MaxS = Maximum stock

Inc% = Increment Percent

Calculation:

$$RUTL = Max(MaxS \times Inc\%, FSS)$$

Time Supply Replenishment Method

The Time Supply replenishment method allows the user to maintain a minimum and maximum amount of stock in terms of days of supply. This method is useful for replenished items where the objective is not necessarily to reduce the inventory on hand, but to prevent stock-outs and to maintain a constant inventory within a specified range.

The Time Supply Horizon Parameter

The Time Supply Horizon parameter is an optional parameter used in safety stock and receives up to level calculations for this method. A projected daily average rate of sale is calculated based on the forecasted demand over the time supply horizon. This parameter can be used to smooth spiky forecasts or extend the time supply days beyond the planning horizon.

If the Time Supply Horizon parameter is undefined, the total of the forecast over the minimum and maximum time supply days is used instead. This results in a more representative view of the demand since the forecasted demand over the minimum supply days and maximum supply days may have varying rates of sale.

Safety Stock

Safety Stock (SS) in the Time Supply method consists of calculating a stock level based on the forecasted demand or an average rate of sales.

If a Time Supply Horizon (TSH) has been specified, then this method establishes an Average Rate of Sale (ROS) over the time supply horizon period starting (and including) the beginning of review time. This average is then multiplied by the Minimum Time Supply Days (MinTS).

If a time supply horizon is not specified, then the method sums the forecasted demand over the Minimum Time Supply Days (MinTS) starting with (and including) the beginning of the review time.

The result of either of the calculations above is then checked to ensure that it falls between the SSMIN and SSMAX boundaries determined in the Safety Stock Minimums and Maximums section.

Calculation Expressions:

SS = Safety Stock

TSH = Time Supply Horizon (user-defined parameter)

FDMIN = Forecast Minimum

FD = Forecasted Demand

MinTS = Minimum Time Supply Days (user-defined parameter)

SSMIN = Safety Stock Minimum

SSMAX = Safety Stock Maximum

ROS = Rate of Sale

SCSSU = Supplier Compliance Safety Stock Uplift

BRT = Beginning of Review Time

ERT = End of Review Time

Calculations:

When the time supply horizon has been specified (*TSH>0*)

$$ROS = \frac{\sum_{BRT}^{(BRT+TSH-1)} FD}{TSH}$$

$$FDMIN = ROS * MinTS$$

When the time supply horizon has not been specified (*TSH=0*)

$$FDMIN = \sum_{BRT}^{BRT+MinTS-1} FD$$

In either case,

$$SS = Max(Max(Min(FDMIN, SSMAX), SSMIN), 0)$$

$$BS = Boundary\ Stock$$

$$BS = Max\ ((SS + SCSSU),\ Contingency\ Stock) + Baseline\ Stock$$

Receipt Point

Receipt Point in the Time Supply method is set to the calculated Boundary Stock.

RP = Receipt Point

BS = Boundary Stock

$$RP = BS$$

Receive Up To Level

Receive Up To Level (RUTL) in the Time Supply method consists of calculating a target stock level based on the forecasted demand or an average rate of sales.

If a Time Supply Horizon (TSH) has been specified, then this method establishes an Average Rate of Sale (ROS) over the time supply horizon period starting (and including) the beginning of review time. This average is then multiplied by the Maximum Time Supply Days (MaxTS).

If a time supply horizon is not specified, then the method sums the forecasted demand over the Maximum Time Supply Days (MaxTS) period starting (and including) the beginning of the review time.

Calculation Expressions:

RUTL = Receive Up To Level

TSH = Time Supply Horizon (user-defined parameter)

FDMAX = Forecast Maximum

FD = Forecasted Demand

MaxTS = Maximum Time Supply Days (user-defined parameter)

ROS = Rate of Sale

BS = Boundary Stock

BRT = Beginning of Review Time

ERT = End of Review Time

Calculations:

When the time supply horizon has been specified (*TSH>0*)

$$ROS = \frac{\sum_{BRT}^{(BRT+TSH-1)} FD}{TSH}$$

$$FDMAX = ROS * MaxTS$$

When the time supply horizon has not been specified (*TSH=0*)

$$FDMAX = \sum_{BRT}^{BRT+MaxTS-1} FD$$

Calculate the RUTL based on FDMAX.

$$RUTL = Max(FDMAX, BS)$$

Dynamic Replenishment Method

The goal of the Dynamic replenishment method is to replenish only the quantity required to meet user specified customer service level. It is a statistical method that assumes the forecast demand observes normal distribution. The dynamic method minimizes the amount of safety stock on hand while meeting specified service levels. Higher service levels results in higher levels of safety stock. The method assumes that forecast demand observes normal distribution.

Safety Stock

Safety Stock in the Dynamic method is a multi-step process. In the first step, an Acceptable Unit Loss (also referred to as Expected Units Shortfall) is calculated. This refers to the amount of stock-outs for a given product that the user is willing to suffer based on the specified service level over the review time.

A standard lookup function using a normal distribution table is then used to determine a factor which is multiplied by the standard deviation for the review time. The result is then checked to ensure that it falls between the SSMIN and SSMAX boundaries determined in the Safety Stock Minimums and Maximums section.

Calculation Expressions:

σ_{AIP} *= standard deviation for the review time*

Service Level = User Specified Value on ATP day

AUL_{RT} *= Acceptable Unit Loss Over Review Time*

FD = Forecast Demand

BS = Boundary Stock

BRT = Beginning of Review Time

ERT = End of Review Time

Calculations:

$$AUL_{RT} = \frac{(1 - ServiceLevel) \times \sum_{BRT}^{ERT} FD}{\sigma_{AIP}}$$

The warehouse standard deviation for the review time estimates the statistical deviation of projected warehouse demand. This is a function of the difference between constrained and unconstrained warehouse demand, as well as the variability between minimum and maximum number of days in the lead time and review time.

WMINLT = Warehouse Minimum Lead Time
WRT = Warehouse Review Time
WVDAYS = Warehouse Variance Days

WVDAYS = MINLT + WRT

MINVDAYS = Minimum of the Warehouse Variance Days
MAXVDAYS = Maximum of the Warehouse Variance Days

MINVDAYS = WVDAYS.MIN_POP
MAXVDAYS = WVDAYS.MAX_POP

WMINVED = Warehouse Minimum Variance Evaluation Days
WMAXVED = Warehouse Maximum Variance Evaluation Days

WMINVED = current day + MINVDAYS
WMAXVED = current day + MAXVDAYS

WD = Warehouse Demand
WVDMIN = Warehouse Variance Demand over Minimum Evaluation Days
WVDMAX = Warehouse Variance Demand over Maximum Evaluation Days

$$WVDMIN = \sum_{t}^{WMINVED-1} WD(i)$$

$$WVDMAX = \sum_{t}^{WMAXVED-1} WD(i)$$

TMINVA = Total Minimum Variance Adjustments

TMAXVA = Total Maximum Variance Adjustments

$$TMINVA = (\sum_{t-WMINVED}^{WMINVED-1} WD(i) - WVDMIN)^2$$

$$TMAXVA = (\sum_{t-WMAXVED}^{WMAXVED-1} WD(i) - WVDMAX)^2$$

WVUB = Warehouse Statistical Variance Upper Bounday
WVTHR = Warehouse Statistical Variance Threshold
MINVACHK = Minimum Override Variance Threshold
MAXVACHK = Maximum Override Variance Threshold

If TMINVA or TMAXVA exceeds a certain value then it is capped and reduced: MINVACHK & MAXVACHK measures are used for capping the TMINVA & TMAXVA. Their previous day's values are stored and used.

*If TMINVA < WVUB * MINVACHK and MINVACHK not equal to 0*
*then TMINVA = WVUB * MINVACHK*

*If TMAXVA > WVUB * MAXVACHK and MAXVACHK not equal to 0*
*then TMAXVA = WVUB * MAXVACHK*

*MINVACHK = WVTHR * MINVACHK + (1-WVTHR)(TMINVA)*
*MAXVACHK = WVTHR * MAXVACHK + (1-WVTHR)(TMAXVA)*

WV = Warehouse Variance Over the Variance Days

WVDAYS is used to avoid error introduced by extrapolation.

$$WV = WVDAYS * \left[MINVACHK + (MAXVACHK - MINVACHK) * \frac{WVDAYS - MINVDAYS}{MAXVDAYS - MINVDAYS} \right]$$

$$Finally,\ WS = Warehouse\ Standard\ Deviation = \sqrt{WV} * \sqrt{Review\ Time}$$

$$SSS = Lookup\ Function\ (AUL_{RT}) \times \sigma_{AIP}$$
$$SS = max\ (max\ (min\ (SSS, SSMAX), SSMIN), 0)$$
$$BS = Max\ ((SS + SCSSU), Contingency\ Stock) + Baseline\ Stock$$

Receipt Point

For the Dynamic method, Receipt Point is calculated as the Forecast Demand over the review time plus Boundary Stock.

Calculation Expressions:

RP = Receipt Point

BS = Boundary Stock

FD = Forecast Demand

Calculation:

$$RP = \sum_{BRT}^{ERT} FD + BS$$

Receive Up To Level

Receive Up To Level (RUTL) in the Dynamic method is based upon Forecast Demand assessed over a number of days plus calculated Boundary Stock. The number of days over which demand is assessed is the larger of either the number of days in the review time, or the user-specified Inventory Selling Days parameter.

Calculation Expressions:

ND = Number of Days

ERT = End of Review Time

BRT = Beginning of Review Time

ISD = Inventory Selling Days

RUTL = Receiver Up To Level

BS = Boundary Stock

FD = Forecast Demand

Calculations:

$$ND = Max\ ((ERT\text{-}BRT+1), ISD)$$
$$RUTL = \left(\sum_{BRT}^{BRT+ND-1} FD \right) + BS$$

Hybrid Replenishment Method

The Hybrid replenishment method is a combination of Dynamic and Time Supply replenishment methods. Safety Stock is calculated using the same approach as Time Supply, but the allocation boundaries are calculated using the Dynamic approach.

Safety Stock

Safety Stock (SS) in the Hybrid method consists of calculating a stock level based on the forecasted demand or an average rate of sales.

If a Time Supply Horizon (TSH) has been specified, then this method establishes an Average Rate of Sale (ROS) over the time supply horizon period starting (and including) the beginning of review time. This average is then multiplied by the Minimum Time Supply Days (MinTS).

If a time supply horizon is not specified, then the method sums the forecasted demand over the Minimum Time Supply Days (MinTS) starting with (and including) the beginning of the review time.

The result of either of the calculations above is then checked to ensure that it falls between the SSMIN and SSMAX boundaries determined in the Safety Stock Minimums and Maximums section.

Calculation Expressions:

SS = Safety Stock

TSH = Time Supply Horizon (user-defined parameter)

FDMIN = Forecast Minimum

FD = Forecasted Demand

MinTS = Minimum Time Supply Days (user-defined parameter)

SSMIN = Safety Stock Minimum

SSMAX = Safety Stock Maximum

ROS = Rate of Sale

SCSSU = Supplier Compliance Safety Stock Uplift

BRT = Beginning of Review Time

ERT = End of Review Time

Calculations:

When the time supply horizon has been specified (*TSH>0*)

$$ROS = \frac{\sum_{BRT}^{(BRT+TSH-1)} FD}{TSH}$$

$$FDMIN = ROS * MinTS$$

When the time supply horizon has not been specified (*TSH=0*)

$$FDMIN = \sum_{BRT}^{BRT+MinTS-1} FD$$

In either case,

$$SS = Max(Max(Min(FDMIN, SSMAX), SSMIN), 0)$$

$$BS = Boundary\ Stock$$

$$BS = Max\ ((SS + SCSSU),\ Contingency\ Stock) + Baseline\ Stock$$

Receipt Point

For the Hybrid method, Receipt Point is calculated as the Forecast demand over the review time plus Boundary Stock.

Calculation Expressions:

RP = Receipt Point

BS = Boundary Stock

FD = Forecast Demand

Calculation Expressions:

$$RP = \sum_{BRT}^{ERT} FD + BS$$

Receive Up To Level

Receive Up To Level (RUTL) in the Hybrid method is based upon Forecast Demand assessed over a number of days plus calculated Boundary Stock. The number of days over which demand is assessed is the larger of either the number of days in the review time, or the user-specified Inventory Selling Days parameter.

Calculation Expressions:

ND = Number of Days

ERT = End of Review Time

BRT = Beginning of Review Time

ISD = Inventory Selling Days

RUTL = Receiver Up To Level

BS = Boundary Stock

FD = Forecast Demand

Calculations:

$$ND = \text{Max}\left((ERT - BRT + 1), ISD\right)$$

$$RUTL = \left(\sum_{BRT}^{BRT+ND-1} FD\right) + BS$$

No Replenishment Method

The No Replenishment method is provided for cases when replenishment calculations need to be turned off for a specific SKU/Warehouse/day.

This method is used for periods when a warehouse does not want to have any replenishment performed.

Example:

Where No Replenishment is used, all allocation boundaries and the final order that replenishment produces (referred to as the unconstrained receipt plan (URP)) are set to zero.

Poisson Replenishment Method

The Poisson replenishment method is identical to the Dynamic replenishment method, except for the way the safety stock is derived. This method uses a Poisson distribution look up table but unlike the Dynamic method does not factor in forecast error.

Required Data

The following data must be loaded in order to use the Poisson replenishment method. Please refer to the *Oracle Retail Advanced Inventory Planning Implementation Guide* for details on loading data.

- Interval Hierarchy
- Poisson Distribution Table

Safety Stock

Safety Stock in the Poisson method is based upon the use of a Poisson distribution lookup table. The look up function is fed the Forecast Demand over the Review Time and the desired Service Level as parameters. The result is then checked to ensure that it falls between the SSMIN and SSMAX boundaries determined in the Safety Stock Minimums and Maximums section.

Calculation Expressions:

Service Level = User Specified Value on ATP day

SSS = Statistical Safety Stock

FD = Forecast Demand

BS = Boundary Stock

BRT = Beginning of Review Time

ERT = End of Review Time

Calculations:

$$SSS = lookup\left(\sum_{BRT}^{ERT} FD,\ Service\ Level\right)$$

$$SS = max\ (max\ (min\ (SSS,\ SSMAX),\ SSMIN),\ 0)$$

$$BS = Max\ ((SS+\ SCSSU),\ Contingency\ Stock) + Baseline\ Stock$$

Receipt Point

For the Poisson method, Receipt Point is calculated as the Forecast demand over the review time plus Boundary Stock.

Calculation Expressions:

RP = Receipt Point

BS = Boundary Stock

FD = Forecast Demand

BRT = Beginning of Review Time

ERT = End of Review Time

Calculation:

$$RP = \sum_{ERT}^{ERT} FD + BS$$

Receive Up To Level

Receive Up To Level (RUTL) in the Poisson method is based upon Forecast Demand assessed over a number of days plus calculated Boundary Stock. The number of days over which demand is assessed is the larger of either the number of days in the review time, or the user-specified Inventory Selling Days parameter.

Calculation Expressions:

ND = Number of Days

ERT = End of Review Time

BRT = Beginning of Review Time

ISD = Inventory Selling Days

RUTL = Receiver Up To Level

BS = Boundary Stock

FD = Forecast Demand

Calculations:

$$ND = Max\ ((ERT\text{-}BRT+1),\ ISD)$$

$$RUTL = \left(\sum_{BRT}^{BRT+ND-1} FD\right) + BS$$

Loaded Safety Stock Dynamic Replenishment Method

The Loaded Safety Stock Dynamic replenishment method allows the user to make use of an external system to provide a safety stock quantity

Required Data

The following data must be loaded in order to use the Loaded Safety Stock Dynamic replenishment method. Please refer to the *Oracle Retail Advanced Inventory Planning Implementation Guide* for details on loading data.

- Warehouse Loaded Safety Stock

Safety Stock

Safety stock in the Loaded Safety Stock Dynamic method is the value loaded from an external system.

SS = Loaded Safety Stock

Calculation:

$$BS = Max ((SS + SCSSU), Contingency\ Stock) + Baseline\ Stock$$

Receipt Point

For the Loaded Safety Stock Dynamic method, Receipt Point is calculated as the Forecast demand over the review time plus Boundary Stock.

Calculation Expressions:

RP = Receipt Point

BS = Boundary Stock

FD = Forecast Demand

Calculation:

$$RP = \sum_{BRT}^{ERT} FD + BS$$

Receive Up To Level

Receive Up To Level (RUTL) in the Loaded Safety Stock Dynamic method is based upon Forecast Demand assessed over a number of days plus calculated Boundary Stock. The number of days over which demand is assessed is the larger of either the number of days in the review time, or the user-specified Inventory Selling Days parameter.

Calculation Expressions:

ND = Number of Days

ERT = End of Review Time

BRT = Beginning of Review Time

ISD = Inventory Selling Days

RUTL = Receiver Up To Level

BS = Boundary Stock

FD = Forecast Demand

Calculations:

$$ND = Max\ ((ERT\text{-}BRT+1),\ ISD)$$

$$RUTL = \left(\sum_{BRT}^{BRT+ND-1} FD \right) + BS$$

Sales Week Range Replenishment Method

The Sales Week Range replenishment method allows the user to define the Safety Stock based on sales history over a specified time period. These sales are loaded from an external system.

There are two variants of this method. One variant keeps the time period specified by the user static, regardless of which week in the planning horizon is being planned. The second variant rolls the time period specified by the user forward one week at a time as Replenishment progresses through the planning horizon. This keeps the time period specified by the user relative to the day being planned.

Along with the user specified Start and End dates there is a Roll Weeks Flag. This flag determines which variant of the method is being used. It is important to understand how the rolling of weeks occurs if the user is to fully comprehend the impact of setting this flag to true.

The Replenishment process actually steps through every day in the planning horizon. However, it only runs boundary calculations and considers ordering on ATP day. The process of stepping through every day in the planning horizon is significant because it is this action that enables the rolling of weeks if the Roll Weeks Flag is set to true.

If the Rolls Weeks Flag is set to true, then as Replenishment walks through each day in the planning horizon, it checks to see if the day is the first day in a week (Sunday). If it is the first day in the week and not the very first day in the planning horizon, the Start Date and End Date specified by the user are moved forward exactly one week (7 days is added to both dates) as long as both dates still remains in the past. If adding 7 days places one or both dates on or after the today's date, neither date is moved.

If the Roll Weeks Flag is false, then the Start and End date specified by the user remain static throughout the Replenishment Process.

Required Data

The following data must be loaded in order to use the Sales Week Range replenishment method. Please refer to the *Oracle Retail Advanced Inventory Planning Implementation Guide* for details on loading data.

- Warehouse Historical Weekly Sales

Safety Stock

Safety stock in the Sales Week Range Method is calculated as the historic loaded daily sales between the user-specified start and end date.

Calculation Expressions:

SD = User Specified Start Date

ED = User Specified End Date

SSDR = Safety Stock for Delivery Range (before SS Ranging)

SS = Safety Stock

BS = Boundary Stock

Calculations:

$$SSDR = \sum_{SD}^{ED} LoadedHistoricDailySales$$

$$SS = Max\ (Max\ (Min\ (SlsMax,\ SSDR),\ SlsMin),\ 0)$$

$$BS = Max\ ((SS + SCSSU),\ Contingency\ Stock) + Baseline\ Stock$$

Receipt Point

Receipt Point for the Sales Week Range method is set to the calculated Boundary Stock.

Calculation Expressions:

RP = Receipt Point

BS = Boundary Stock

Calculation:

$$RP = BS$$

Receive Up To Level

The Receive Up To Level for the Sales Week Range method is set to the calculated Boundary Stock.

Calculation Expressions:

RUTL = Receive Up To Level

BS = Boundary Stock

Calculation:

$$RUTL = BS$$

Factor AWS Replenishment Method

The Factor AWS method allows the user to define the Safety Stock based upon an Average Weekly Sales (AWS) calculated using sales history over a specified time period. These sales are loaded from an external system.

There are two variants of this method. One variant keeps the time period specified by the user static, regardless of which week in the planning horizon is being planned. The second variant rolls the time period specified by the user forward one week at a time as Replenishment progresses through the planning horizon. This keeps the time period specified by the user relative to the day being planned.

Along with the user specified Start and End dates there is a Roll Weeks Flag. This flag determines which variant of the method is being used. It is important to understand how the rolling of weeks occurs if the user is to fully comprehend the impact of setting this flag to true.

The Replenishment process actually steps through every day in the planning horizon. However, it only runs boundary calculations and considers ordering on ATP day. The process of stepping through every day in the planning horizon is significant because it is this action that enables the rolling of weeks if the Roll Weeks Flag is set to true.

If the Rolls Weeks Flag is set to true, then as Replenishment walks through each day in the planning horizon, it checks to see if the day is the first day in a week (Sunday). If it is the first day in the week and not the very first day in the planning horizon, the Start Date and End Date specified by the user are moved forward exactly one week (7 days is added to both dates) as long as both dates still remains in the past. If adding 7 days places one or both dates on or after the today's date, neither date is moved.

If the Roll Weeks Flag is false, then the Start and End date specified by the user remain static throughout the Replenishment Process.

Required Data

The following data must be loaded in order to use the Factor AWS replenishment method. Please refer to the *Oracle Retail Advanced Inventory Planning Implementation Guide* for details on loading data.

- Warehouse Historical Weekly Sales

Safety Stock

Safety stock in the Average Weekly Sales Method is calculated by taking by calculating a daily average rate of sale from the loaded sales over the period specified by the user and then multiplying the average by 7 to get a weekly number. This weekly number is then multiplied by the user-specified Average Weekly Sales Factor.

Calculation Expressions:

NDR = Number of Days in Range

SD = User Specified Start Date

ED = User Specified End Date

AWF = Average Weekly Sales

AWSF = Average Weekly Sales Factor

FAWS = Factored Average Weekly Sales

SSDR = Safety Stock for Delivery Range (before SS Ranging)

SS = Safety Stock

BS = Boundary Stock

Calculations:

$$NDR = ED - SD + 1$$

$$SSDR = \sum_{SD}^{ED} LoadedHistoricDailySales$$

$$AWS = \left(\frac{SSDR}{NDR}\right) \times 7$$

$$FAWS = AWSF \times AWS$$

$$SS = Max\ (Max\ (Min\ (SlsMax,\ SSDR),\ SlsMin),\ 0)$$

$$BS = Max\ ((SS + SCSSU),\ Contingency\ Stock) + Baseline\ Stock$$

Receipt Point

Receipt Point for the Average Weekly Sales method is set to the calculated Boundary Stock.

Calculation Expressions:

RP = Receipt Point

BS = Boundary Stock

Calculation:

$$RP = BS$$

Receive Up To Level

The Receive Up To Level for the Average Weekly Sales method is set to the calculated Boundary Stock.

Calculation Expressions:

RUTL = Receive Up To Level

BS = Boundary Stock

Calculation:

$$RUTL = BS$$

Factor ARS Replenishment Method

The Factor ARS method allows the user to define the Safety Stock based upon an Average Rate of Sale (ARS) loaded from an external system.

There are two variants of this method. One variant keeps the time period specified by the user static, regardless of which week in the planning horizon is being planned. The second variant rolls the time period specified by the user forward one week at a time as Replenishment progresses through the planning horizon. This keeps the time period specified by the user relative to the day being planned.

Along with the user specified Start and End dates there is a Roll Weeks Flag. This flag determines which variant of the method is being used. It is important to understand how the rolling of weeks occurs if the user is to fully comprehend the impact of setting this flag to true.

The Replenishment process actually steps through every day in the planning horizon. However, it only runs boundary calculations and considers ordering on ATP day. The process of stepping through every day in the planning horizon is significant because it is this action that enables the rolling of weeks if the Roll Weeks Flag is set to true.

If the Rolls Weeks Flag is set to true, then as Replenishment walks through each day in the planning horizon, it checks to see if the day is the first day in a week (Sunday). If it is the first day in the week and not the very first day in the planning horizon, the Start Date and End Date specified by the user are moved forward exactly one week (7 days is added to both dates) as long as both dates still remains in the past. If adding 7 days places one or both dates on or after the today's date, neither date is moved.

If the Roll Weeks Flag is false, then the Start and End date specified by the user remain static throughout the Replenishment Process.

Required Data

The following data must be loaded in order to use the Factor ARS replenishment method. Please refer to the *Oracle Retail Advanced Inventory Planning Implementation Guide* for details about loading data.

- Store Average Weekly Rate of Sale

- Total Store Average Rate of Sales

Safety Stock

Safety stock in the Average Rate of Sale Method is calculated by adding the loaded ARS value to a user-specified independent ARS value. The resulting value is assumed to be weekly and so is divided by 7 to achieve a daily number before being multiplied by a user-specified ARS factor.

Calculation Expressions:

ARS = Average Rate of Sale

TARS = Total Warehouse Average Rate of Sale

SSARS = Safety Stock Average Rate of Sale

ARSF = Average Rate of Sale Factor

SS = Safety Stock

BS = Boundary Stock

Calculations:

$$TARS = Loaded\ ARS \quad + User\text{-}specified\ Independent\ ARS$$

Sum only for stores that are destinations of current warehouse being replenished

$$SSARS = \left(\frac{TARS}{7}\right) \text{x } ARSF$$

$$SS = max\ (max\ (min\ (SlsMax,\ SSARS),\ SlsMin),\ 0)$$

$$BS = Max\ ((SS + SCSSU),\ Contingency\ Stock) + Baseline\ Stock$$

Receipt Point

Receipt Point for the Average Rate of Sale method is set to the calculated Boundary Stock.

Calculation Expressions:

RP = Receipt Point

BS = Boundary Stock

Calculation:

$$RP = BS$$

Receive Up To Level

The Receive Up To Level for the Average Rate of Sale method is set to the calculated Boundary Stock.

Calculation Expressions:

RUTL = Receive Up To Level

BS = Boundary Stock

Calculation:

$$RUTL = BS$$

Replenishment Order Determination

Replenishment steps through every day in the planning horizon for each SKU-pack/warehouse combination. Regardless of whether or not the day is Available To Plan (there is a source that can deliver on the day) the Projected Inventory (PI) position is calculated.

If the day is Available To Plan (ATP) then the Beginning of Review Time (BRT) and End of Review Time (ERT) are determined and the allocation boundaries are calculated in line with the selected Replenishment Method. The Net Inventory Position (NI) is also calculated.

The NI position is then compared to the Receipt Point (RP) allocation boundary. If NI is less than RP, then a Raw Ideal Receipt Quantity (RIRQ) is calculated as the Receipt Up To Level (RUTL) allocation boundary minus the Net Inventory position.

The resulting RIRQ for that ATP day represents the desired raw order quantity prior to any rounding.

Splitting Orders Across Multiple Sources

Once a Raw Ideal Receipt Quantity has been calculated it is necessary to allocate the quantity across the one or more sources who can deliver on the Available To Plan day. The activity of allocating quantities across one or more sources is performed based on the following two pieces information:

1. The Source Splits information mastered in the Data Management Online Application.

   The Source Splits indicate how a warehouse destination's orders should ideally be split long-term across all the available sources that can deliver the product. The orders on any given day need not hit the target percentages allotted to each source; the aim is to achieve the target splits over time, and therefore allow for the likelihood that there are occasions when only one of the sources can deliver on a day, hence receiving one hundred percent of the order.

2. Historical Order History for each Source Split captured by the Order management Application.

   The historical orders, maintained at a demand group level, represent the total unit orders for each source split given to each source prior to the current batch run.

Only sources that have a positive percentage split gets orders. When there is only one source with a positive percentage who can deliver on a given ATP day, that source gets all the orders. However, if there are several sources, then the Raw Ideal Receipt Quantity needs to be divided amongst them in a way that gets the long term history of orders (including the order now being split) as close as possible to the target percentages.

When allotting order quantities to a given source, this is done in order multiple quantities. These quantities are always in units. The order multiple to be used is always the one associated with the preferred ordering pack-size specified by the user. For a warehouse, the appropriate Order Multiple is the user-specified Order Multiple associated with the Location Orderable Unit (LOU). Both the Order Multiple and the LOU are specified by the user in the Data Management Online module. The LOU is entered in cases, and so this value needs to be converted to eaches prior to its use.

It is important to understand that one or more of the sources allotted a percentage of the demand for a warehouse may not be available to deliver on an ATP day. Therefore, the split percentages of those sources who can deliver on the ATP day must be normalized so that they total one hundred percent. This ensures that the entire order is accounted for.

Replenishment then goes through a number of calculations to split the Raw Idea Receipt Quantity across the available sources in whole order multiple quantities. These calculations are available on written request from Oracle Retail. Each order multiple allotted to a source represents part of the order to be delivered into the warehouse from that source. Each time a whole order multiple is added to a Source's order, the Raw Ideal Receipt Quantity is reduced by that same Order Multiple Quantity. This process stops when all whole order multiples have been allotted to sources and allotting another order multiple to a source would reduce the Raw Ideal Receipt Quantity below zero.

After this process is complete one of more of the available sources on the ATP day is allotted order quantities that represent one or more whole order multiples. Unless the original Raw Ideal Receipt Quantity happened to be a multiple of the sources order multiples, then there is a remaining part of the Raw Ideal Receipt Quantity that is smaller than one of the sources' order multiples. A rounding decision now needs to be made about this remaining part of the Raw Ideal Receipt Quantity.

Order Rounding

Once all whole order multiples have been allotted to sources, a rounding decision must be made concerning the remaining Raw Ideal Receipt Quantity. This rounding decision uses the order multiple, which can vary by source, making it necessary to identify which source is the one that may receive an additional order multiple if one is needed.

If there is only one source on the ATP day, then that source is the one that receives an additional order multiple should the decision be made to round up. However, if there are multiple sources on the ATP day, then the source that is farthest away from its target split percentage is the one selected.

If the decision is made to round down, then the remaining quantity is discarded and no more order multiples are added to any source's existing order.

Regardless of which source is selected, the rounding decision is based upon a number of criteria, any of which could cause another order multiple to be ordered. Once it is determined that another order multiple is required, another order multiple is allotted to the chosen source and all further checking to see if another order multiple is required is bypassed.

The following text lists the conditions under which another order-multiple is required:

1. If as a result of not ordering another order multiple, the inventory position at the warehouse would be less than the forecast demand over the review time, then another order multiple is ordered from the chosen source.
2. The user maintains a Safety Stock Threshold (SST) which represents the minimum percentage of the calculated safety stock (SS) that must be ordered when performing rounding. The calculation (1 – SST) therefore represents the maximum percentage of calculated safety stock that can be lost through rounding. Multiplying (1-SST) by the calculated safety stock gives the maximum number of units that may be lost through rounding. If the remaining Raw Ideal Receipt Quantity exceeds the maximum number of units that may be lost through rounding, then another order multiple must be ordered from the selected source.
3. The user maintains a rounding threshold (Rth) that represents the percentage of an order multiple on or above which rounding up to the next whole order multiple should take place. If the remaining Raw Ideal Receipt Quantity as a percentage of the order multiple is greater than or equal to the rounding threshold, then another order multiple must be ordered from the selected source.

The Unconstrained Receipt Plan

Once the rounding decision has been made, the resulting orders for each source make up the total unconstrained receipt plan into the destination on that ATP day. The process for determining orders is repeated in the same manner for every ATP in the planning horizon – in chronological order. The orders for each source can be summed to form the planned receipts due into the warehouse on that ATP day. These planned receipts are then be used in the Project Inventory calculation for subsequent days in the planning horizon.

The orders are unconstrained because at no time was any limitation placed upon the calculation of what could be ordered from each source. It is the responsibility of the Shortfall Reconciliation and Stockless processes to apply constraints.

Shortfall Reconciliation Basics

In the replenishment process, a receipt plan is generated for all warehouses to satisfy their future inventory needs. The replenishment receipt plan is unconstrained; it assumes the inventory at the source is unlimited. In reality, the inventory at the source is limited and may not meet the demand within the supply chain. The source may be either another warehouse or a vendor. It is normally assumed that vendors have unlimited inventory, but if there is a Supplier Purchase Agreement in place with the retailer, then the volume of orders from the vendor may not exceed the agreed quantity. If the available inventory at a source is insufficient to meet the demand against that source, the shortfall reconciliation process is run to distribute the limited inventory.

The reconciliation process performs a number of activities:

- It identifies situations where there is insufficient inventory within the supply chain to meet the unconstrained demand and shares the available inventory accordingly.
- It attempts to address shortage experiences at warehouses by using user-specified secondary sources to address the shortfall.
- If shortages still exist after looking to secondary sources, reconciliation shares the available inventory.
- It attempts to address shortages using product substitution.
- It drives inventory from sources over and above demand when there is a need to clear an excess quantity from a source.

Secondary Sourcing

The Shortfall Reconciliation process first looks for secondary or alternate sources to meet the unsatisfied demand. An alternate source is a source that can be used to provide inventory in the event of a shortage caused by the original source's inability to meet the unconstrained demand placed upon it.

The following are key concepts to the secondary sourcing step in the reconciliation process:

- **Primary Source**

  From a destination perspective, a primary source is one that is responsible for meeting some percentage of the destination's demand as a result of a non-zero source split.

- **Secondary or Alternate Source**

  From a destination perspective, a secondary or alternate source represents a source that can be used to address a shortage in the event that other primary source(s) cannot meet its orders due to inventory constraints.

- **Primary destination**

  From a source perspective, a primary destination represents a destination that places demand on the source as a result of a non-zero source split.

- **Secondary destination**

  From a source perspective, a secondary destination is one that has placed additional demand on the source as a result of a primary source not satisfying the unconstrained orders placed upon it.

The user has the ability to maintain a prioritized list of alternate sources by Demand Group/Location. This list is used whenever a shortage is experienced for a SKU-pack within the Demand Group at the specified location. The secondary source priority represents the preferred order in which the alternate sources should be used to satisfy shortages.

In situations where the supply of inventory at a primary source cannot meet the needs of its primary destinations, WRP uses the prioritized list of alternate sources of the same SKU-pack to order additional quantities.

A source can be used as an alternate for destinations with shortages only after it has already satisfied primary demand. Primary demand is considered to be those orders placed on the source by destinations as a result of a non-zero Source Split against the source. In other words, a secondary source must first meet the needs of its primary destinations before it can be used to meet the needs of its secondary destinations. Once primary demand has been satisfied, the source attempts to meet the needs of its secondary destinations.

In situations where a source is specified as an alternate for a number of destinations which have shortages, those destinations that have the source as a higher priority alternate are addressed prior to those destinations that have the source as a lower priority alternate. If shortages still exist shortfall reconciliation is used to fairly distribute the available inventory.

The Reconciliation Method

The Reconciliation Method is set to either over time or day on day. This is determined by user choice, except where the source is a vendor and therefore a Supplier Purchase Quantity (SPQ) agreement is in place. An SPQ agreement always applies the quantity limitation in a given week, and therefore the Reconciliation is forced to be over time.

When the method is set to day on day, the Reconciliation Period is set to one day. This means that the Reconciliation process steps through the fixed period one day at a time at the source. The availability of each day is compared to the quantity that is required to ship on that day. Any shortage is dealt with a day at a time. This means that if there is a shortage on day one and all availability is exhausted on that day, without an additional delivery of inventory on day two, any warehouses that require deliveries on day two gets nothing. This leads to the description of Day on Day Reconciliation as a first come first served approach.

When the method is set to over time, the Reconciliation Period is defined as the Review Time of each ATP day into the source warehouse. This means that if the source warehouse gets new inventory every Saturday, then the Reconciliation period starts on the day that the Saturday delivery can first meet demand. The period ends when the next delivery on the following Saturday becomes available. Assuming no delay between inventory delivery and availability in the source warehouse, the Reconciliation Period would be defined as starting on Saturday and ending the following Friday. Each subsequent Reconciliation Period would be the same duration, unless the schedule of deliveries into the source changed. There are some exceptions.

First, if the source is an SPQ Vendor, then the reconciliation period is always defined as the Sunday of the week the SPQ applies and ends on the following Saturday.

Second, when the method is over time, the first day in the planning horizon is always considered the start of the first Reconciliation Period. That period ends in the normal way – when the next delivery becomes available to meet demand. Subsequent periods follow the rules stated above.

Shortfall Reconciliation

Approach to Shortage Processing

If the availability within the Reconciliation Period is less than the Total Shipments within the same period, there is a shortage situation. The shortage calculations are not included in this document. However, a written explanation is available on request from Oracle Retail. What follows is a high level outline of the approach Shortfall Reconciliation adopts for warehouses when addressing a shortage.

1. Stores always take priority over warehouses whenever a shortage situation occurs. A user defined matrix exists which depicts how store priority should be used to share availability inventory to stores in a shortage situation. From a warehouse perspective, how the inventory is shared to stores does not matter. If there is more than sufficient inventory to satisfy all store needs, then warehouse shipments are then considered.
2. If there is no inventory remaining after stores needs have been addressed. Warehouses get nothing. The Constrained Receipt Plan of warehouses with shipments in the Reconciliation Period is set to zero.
3. If there is inventory remaining after stores needs are addressed then an attempt is made to satisfy the needs of warehouses. The user defined matrix that dictates how priority should be used to share available inventory extends to warehouses. However, given that all warehouses have the same priority and that the two allocation boundaries relevant to warehouses should be used in order of smallest to largest, this matrix offers the user little configurability for warehouses.
4. When attempting to satisfy warehouse needs, Shortfall Reconciliation identifies how much inventory is required to get all warehouses who requested deliveries to their respective Receipt Points. If there is sufficient to do this, then the same calculation is performed for the Receive Up to Level. It is not possible to achieve both allocation boundaries for all warehouses – otherwise there would not be a shortage.
5. Once it has been determined which boundary is not achievable, a ratio is calculated which ranks all the warehouses asking for inventory. The ratio attempts to predict the inventory position of each warehouse in terms of where it lies between the allocation boundary that could not be satisfied (either RP or RUTL) and the next lowest boundary.
6. Once the warehouses are ranking from largest to smallest using the ratio, a watershed calculation is performed to identify how many of the lowest ranked warehouses should receive some of the available inventory in order to raise them to an inventory position just below that of the next highest ranked warehouse. It is possible, that all warehouses could receive something.
7. Once it has been determined which warehouses should receive inventory, a target ratio is calculated across those warehouses. This indicates a level of inventory somewhere between the allocation boundary that could not be met and the next lowest boundary that those warehouses selected to receive inventory can attain. Because a ratio is used, this allows for the target inventory level of those warehouses

to be set at the same relative position – regardless of whether the warehouse is high or low volume.

8. The target ratio is then used to calculate an actual target inventory level for each of the warehouses selected to receive inventory. The remaining inventory at the source is then given to these warehouses to get each of them up to the calculated actual target inventory level. The process is then complete for the current SKU-pack/Source.

The Constrained Receipt Plan after Shortfall Reconciliation

The output of the Shortfall Reconciliation Process is a plan of receipts at destinations – some of which may have been modified.

If there was sufficient inventory of a SKU-pack to meet all the demands placed upon the Source in any given Reconciliation period, then the Constrained Receipt Plan of all destinations with orders that ship within that period is exactly the same as the Unconstrained Receipt Plan.

If there was insufficient inventory of a SKU-pack to meet all the demands placed upon the Source in any given Reconciliation period, then the Constrained Receipt Plan of those destinations with orders that shipped from the source inside the period is modified to reflect how the available inventory was shared to the destinations.

Warehouse Feedback

The Fixed Period represents the period of time in which inventory into the supply chain is ultimately limited. This means warehouse orders cannot be changed and the inventory supply from warehouses to stores is ultimately capped. When stores experience shortages inside the Fixed Period, they may react by increasing demand on the warehouse. This increased demand on the warehouse cannot always be satisfied and with no ability to change warehouse orders inside the Fixed Period, stores may continue to experience further shortages.

There are those rare business scenarios where it is desirable to be able to positively influence the warehouse orders inside the Fixed Period to address the increased demand from stores that may result from store shortages. These situations can be caused by a combination of long-lead times and SPQs which artificially lengthen the Fixed Period (inside which into-warehouse orders cannot normally be changed). Although desirable in these scenarios, a re-planning of the affected warehouses inside the Fixed Period to address the increased store demand is not possible. Instead, a Warehouse Feedback mechanism is employed.

Warehouse Feedback is a mechanism by which a quantity representing the increased store demand on a warehouse that could not be satisfied (as a result of the stores reacting to a shortage) is captured on one batch run, and then fed back into the warehouse replenishment calculation as additional baseline safety stock on the next day's batch run. By feeding additional quantities of store demand (which could not be satisfied by the warehouse on one day) into the warehouse replenishment calculation on the next day, more inventory is ordered into the warehouse inside the Fixed Period. As a result, the warehouse is more likely to have the inventory required to satisfy the increased store demand. This does not prevent the original shortage at the store, but it does minimize the likelihood of cascading shortages at the store by attempting to order sufficient inventory into the warehouse to address the store reaction to the original shortage.

Warehouse Feedback is not normally required and the mechanism is disabled by default. It should only be employed in very specific circumstances where empirical data suggests it would positively influence the receipt plan. Given that this mechanism leverages the

Base Line Stock feature, when Warehouse Feedback is used, the Base Line Stock Feature cannot be employed directly by the user.

Substitution Overview

Whenever possible, substitution processing is executed before a Stockless push from warehouse to store. The ability to execute substitution processing before Stockless processing is impacted by the Excess-push Valid Destinations parameter and the destinations served by a Stockless warehouse. It is not discussed in any great detail here, because it remains a Warehouse to Store process that changes the Store Receipt Plan based upon the Stores need rather than a warehouses requirement to push inventory.

Substitution directly addresses those situations where, after Shortfall Reconciliation the Constrained Receipt Plan (CRP) for a store is less than the Unconstrained Receipt Plan (URP). This indicates the store did not get everything it requested due to a lack of inventory.

For each SKU-pack/source where there are one or more store shortages, Substitution uses available quantities of alternate pack-sizes in the same SKU Group as substitutes for the originally requested pack-size. The available quantities of the substitutes are those that are not otherwise required to meet any other demand. The available quantities of the substitutes are used to satisfy the shortages experienced by the stores. At no point is the original URP of any stores exceeded.

If there is insufficient availability of a substitute to completely satisfy a shortage, then what availability there is shared across the stores using the same approach adopted by Shortfall Reconciliation to place all stores in the same relative position. Substitution then continues to use other substitutes to address the remaining shortage until the list of all substitutes has been exhausted, or the original shortages have been satisfied to their fullest extent without exceeding the original URPs.

Stockless Basics

After Shortfall Reconciliation and Warehouse to Store Substitution has been run, Stockless is run to ensure that any excess inventory is cleared from a source when circumstances dictate. There are two circumstances that dictate that excess inventory should be removed from a source.

The first is when the product is stockless at the source. In this instance, excess inventory may not remain in the warehouse and so must be pushed to available destinations.

The second is when an Allocate-type Fixed Purchase Agreement is in place with the retailer. In this situation, the agreed quantity must be ordered, regardless of whether the total unconstrained receipt plan for warehouses indicates it is required. Any part of the agreed quantity not ordered by the warehouses must be pushed to the warehouses.

Regardless of the reason why excess inventory should be cleared from the source, the excess is identified as that quantity of inventory that would otherwise remain at a source over and above unconstrained demand. Stockless processing increases the Constrained Receipt Plan of destinations served by the Source in order to clear the excess inventory.

The Reconciliation Period

Stockless processing makes use of a Reconciliation Period in a similar manner to Shortfall Reconciliation. The Stockless process steps through the fixed period of each SKU-pack/Source one Reconciliation Period at a time in chronological order. The Reconciliation Period refers to a time period over which availability at the source is assessed.

If the product is stockless at the source, the Reconciliation Period is set to be one day. In this instance, all inventory must be removed from the source at the end of the day.

If the product is subject to an Allocate-type SPQ agreement then the Reconciliation Period is set to the entire week of the SPQ agreement. The Reconciliation Period starts on a Sunday and ends the following Saturday. There is an exception to this that is only applicable for the very first day in the fixed period. When the first day is not a Sunday but happens to fall within the week in which an Allocate-type SPQ applies, then the first day of the Reconciliation Period is considered to be the first day in the Fixed Period. The end of that period is the first Saturday inside the Fixed Period.

It is important to note that both the Stockless and SPQ status of a SKU at a Source can vary over time. Therefore, when the status indicates that, for a given period of time within the fixed period, a SKU is no longer stockless or not subject to an SPQ agreement, then the Stockless processing does not push excess stock on those days in the fixed period.

Regardless of the length of the Reconciliation Period the Stockless process is the same. Availability of inventory over the period is assessed and compared to the sum of all the orders that ship out of the source over that period. If the calculated availability is greater than the sum of all orders, there is an excess situation and shipments from the source must be increased to absorb the excess inventory.

Assessing Excess Inventory Over The Reconciliation Period

The excess inventory to be removed from the source warehouse, during the Reconciliation Period, is a calculated value which considers the PI at the beginning of the reconciliation period, and expected and planned receipts available within the reconciliation period. Next, the Allocations in the Well, Actual Holdback Quantity, and total demand within the reconciliation period is subtracted.

The demand within the Reconciliation period at the source is assessed as the sum of the Constrained Receipt Plan for destinations that ship from the source during the period. The constrained receipt plan for the destinations is used because it reflects the changes made by the Shortfall and/or Primary Push to Warehouse processes.

Approach to Stockless Processing

If there is excess inventory at the source and it must be cleared, then the orders of destinations that ship within the Reconciliation Period must be increased to absorb the excess. The actual Stockless calculations are not included in this document. However, a written explanation is available on request from Oracle Retail. What follows is a high level outline of the approach Stockless Reconciliation adopts to clear excess inventory.

Surplus Matrices

Once an excess quantity has been identified the valid destinations are chosen and grouped according to the surplus matrix. For a supplier source valid destinations are all primary warehouses and stores that have a ship or delivery date from the supplier that falls in the SPQ week. Which date falls in the SPQ week depends on whether the SPQ applies to the ship week or receipt week, respectively. Destinations for a warehouse source are all primary warehouses and stores that have a ship date from the warehouse that falls within the reconciliation period that is on or before the stockless date. In both cases if no destinations are found then the same rules are applied to secondary warehouse destinations.

There are actually two surplus matrices which determine how destinations are grouped:

- All Destination Type Surplus Matrix

- Prioritized Store Surplus Matrix

All Destination Type Surplus Matrix

In the **All Destination Types** matrix all destinations are grouped—and therefore processed—together with no destination type being prioritized over any other.

	Up To Upper Boundary (RUTL or MSQ)	**Above Upper Boundary**
All Destinations	1	2

Prioritized Store Surplus Matrix

The **Prioritized Store** matrix contains only store destinations and they are grouped and processed by store priority.

	Up To Upper Boundary (RUTL or MSQ)	**Above Upper Boundary**
Super high	1	6
High	2	5
Normal	3	4

Pushing

Which surplus matrix is used depends on which type of push is being executed, either:

- push to stores
- push to all destinations

The following action is taken based on the Excess Push Valid Destinations parameter.

Parameter	**Action**
All Destinations	If the source serves only stores then push to stores Otherwise push to all destinations
Prefer Stores	If the source serves any store then push to stores and remove all other destinations. Otherwise push to all destinations
Protect Substitutes	If the SKU is a substitute for another SKU then follow the Prefer Stores behavior Otherwise Follow the All Destinations behavior

When pushing excess only to stores the Excess Push Respect Store Priority user specified parameter determines which surplus matrix is used. When the parameter is true the Prioritized Store matrix is used, in all other situations the All Destination Types matrix is used.

Similar to Shortfall Reconciliation, the general approach for stockless is to push the excess inventory to a group of destinations (dictated by the matrix groups) by raising the Constrained Receipt Plan (CRP) into those destinations so that the resulting inventory position of each of the destinations does not exceed the upper allocation boundary (RUTL for warehouses). This process is then repeated for pushing beyond the upper allocation boundary at the same set of destinations or for the current allocation boundary for destinations of a different priority. This choice, dictated by the surplus matrix, repeats until all excess stock is absorbed by the increase of the CRP into the various destinations served by the source.

When attempting to achieve the upper allocation boundary a Need Ratio is calculated for each destination. The ratio attempts to assess a destination in terms of what it takes to get the destination up to its upper boundary, for all valid ATP days in the stockless reconciliation period, as a proportion of the cumulative upper allocation boundaries.

When exceeding the upper boundary an Excess Ratio is calculated for each destination which attempts to assess a destination in terms of how much inventory there is in the destination, and in the supply chain below the destination, as a proportion of an aggregated period of forecast sales of all the stores in the supply chain below the destination. This includes stores that are ultimately served by the source being reconciled but are one or more tiers removed from the current source.

The need or excess ratio is then used to rank the destinations in order to divvy the inventory to those destinations in the best situation to use it. A watershed calculation is performed to identify how many of the lowest ranked destinations (in terms of greatest need or smallest excess) should receive some of the available inventory in order to raise them to an inventory position just below that of the next highest ranked destination.

A special case exists when the warehouse chamber may be flagged as stockless for a product type while the SKU is flagged as capped. These two settings are in direct conflict with each other. Ideally, the user is expected to never set a SKU as stockless at the warehouse while capped at the store level. However, if a SKU is set up this way, when the only destinations served by the source warehouse are stores, AIP behaves in the following manner:

- PI for every day is 0 (except for TODAY, where PI is based on current inventory).
- The excess stock is never pushed out to the store destinations for capped SKUs.
- A residual quantity would be calculated and displayed which would show the amount of stock that the location has in excess and which needs to be manually pushed out.
- The excess is determined by comparing available inventory at the warehouse to the Demand at the warehouse.
- When stores and warehouses are valid destinations, the excess is pushed to those destinations following the standard process of matrix prioritization. Any push to a store which puts the store over its cap is not pushed but instead increases the warehouse Residual Excess Quantity. The excess is determined by comparing available inventory at the warehouse to the Demand (Capped) at the warehouse.

Another unique case of stockless occurs when the following two criteria are met:

- Allocate by Commit SPQ exists at a source Supplier which supplies direct to store.
- SKU is capped at the store and the capped demand is less than the SPQ quantity.

The above scenario is not currently supported in the software. AIP does not support planning an SPQ vendor, which can supply directly to stores, either in addition to supplying warehouses or supplying only stores.

6

Review Alerts and Manage Exceptions

WRP generates alerts as a means of identifying possible problems in the supply chain, such as insufficient stock to fulfill store orders or forecasted demand, overstocks, insufficient warehouse capacity or other warehouse problems.

Alerts are notifications that are sent to users about measures whose values are above or below an established acceptance range or threshold. Whenever values for these measures fall outside of this established range, an exception is generated, which causes alerts to be displayed in the Alert Manager window when the user logs on to WRP. This provides a means of easily viewing problem situations on an exception basis and following with the appropriate action.

Alerts are calculated in a nightly batch process. Review of alerts and the management of exceptions is an interactive process that is performed by the user during the day following the batch run.

The process of reviewing alerts and managing exceptions involves the following tasks:

- Review alerts – The Alert Manager provides notification of any exceptions generated and allows the user to transfer to the appropriate workbook(s) to research the root cause of the problem.
- Maintain parameters – Occasionally the WRP parameters used in the warehouse replenishment planning process may need modification to produce a better plan.
- Maintain alert parameters – Alerts are triggered based on thresholds, alert horizons, and parameters. These parameters and thresholds may need tuning to control the number and types of alerts.
- Perform what-if analysis on replenishment plans – What-if analysis can be useful in comparing the current store plan with a what-if plan based on parameter changes. This allows the user the flexibility of analyzing the effect of changed values on the plan without making the changes permanent.

This section provides a:

- Summary of WRP Alerts, followed by a more detailed description of each alert
- Using the Alert Manager
- Using WRP workbooks to analyze alerts
- Using WRP workbooks to maintain alert parameter or replenishment parameters

WRP Alerts

WRP alerts are divided into four categories:

- Warehouse Stock Shortage Alerts: Provide notification of historical conditions indicating various adverse conditions in a store experienced by a warehouse, such as insufficient stock to fulfill store orders or forecasted demand
- Network Exception Alerts: Provide notification of current and future for groups of SKUs at a warehouse
- Overstock Alerts: Provide notification of projected overstock situations at stocked and stockless warehouses
- RDF Alerts: Provide notification that an alert exists in RDF that may be the cause of problems in the warehouses replenishment

Warehouse Stock Shortage Alerts

Warehouse Stock Shortage Alerts provide notification of historical conditions indicating various adverse conditions in a store experienced by a warehouse, such as insufficient stock to fulfill store orders or forecasted demand.

The warehouse stock shortage alerts can be separated into two groups – sales credit item alerts and demand credit item alerts.

The sales credits alerts are triggered when the warehouses shortage does not cover expected sales at the stores. In other words, the sales credit alerts warn of possible lost sales at the stores.

The demand credits alerts are triggered when the warehouses shortage does not cover forecasted demand at the stores. In other words, the demand credit alerts warn of possible low stock situations at the stores.

The following table lists historical alerts issued by WRP along with a brief description. Details for each alert are addressed in the following sections.

Alert	Description
Sales Credit Multi-Day Stocked Alert	A Sales Credit Multi-Day Stocked alert is generated when the number of days a sales credit exception exists exceeds a sales credit days threshold. This alert is only triggered for stocked products.
Sales Credit Stocked Alert	A Sales Credit Stocked alert is generated when the Sales Credit exceeds a sales credit unit threshold and the percentage sales credit exceeds a sales credit percentage shortage threshold. This alert is only triggered for stocked products. SKUs alerted for Sales Credit Multi-Day Stocked Alert are not alerted.
Sales Credit Multi-Day Stockless Alert	A Sales Credit Multi-Day Stockless alert is generated when the number of days a sales credit exception exists exceeds a sales credit days threshold. This alert is only triggered for stockless products.
Sales Credit Stockless Alert	A Sales Credit Stockless alert is generated when the Sales Credit exceeds a sales credit unit threshold and the percentage sales credit exceeds a sales credit percentage shortage threshold. This alert is only triggered for stockless products. SKUs alerted for Sales Credit Multi-Day Stockless Alert are not alerted.
Sales Credit Summary Alert	The Sales Credit Summary Alert is triggered when any of the Sales Credit Alerts are triggered.

Alert	Description
Demand Credit Multi-Day Stocked Alert	A Demand Credit Multi-Day Stocked alert is generated when the number of days a demand credit exceeds a demand credit days threshold, demand credit units/case threshold, and a percentage threshold. This alert is only triggered for stocked products. SKUs alerted for any Sales Credit Alerts are not alerted.
Demand Credit Stocked Alert	A Demand Credit Stocked alert is generated when the Demand Credit exceeds a demand credit unit/case threshold and the percentage demand credit exceeds a demand credit percentage threshold. This alert is only triggered for stocked products. SKUs alerted for Demand Credit Multi-Day Stocked Alert are not alerted. SKUs alerted for any Sales Credit Alerts are not alerted.
Demand Credit Summary Alert	The Demand Credit Summary Alert is triggered when any of the Demand Credit Alerts are triggered.

Sales Credit Multi-Day Stocked Alert

A Sales Credit Multi-Day Stocked Alert is generated for stocked products when the number of days a sales credit exception exists exceeds the Sales Credit Days Threshold for Stocked Commodity.

The Sales Credit represents the difference between the store's need and the warehouse available inventory position.

The Percentage Sales Credit represents the percent of unsatisfied store sales for a product by a warehouse.

Alert Parameters

- Sales Credit Case Threshold For Stocked Commodity
- Sales Credit Unit Threshold For Stocked Commodity
- Sales Credit Percentage Shortage For Stocked Commodity
- Sales Credit Days Threshold For Stocked Commodity

Alert Logic Summarized

The Sales Credit Multi-Day Stocked Alert is triggered if all of the following conditions are true:

1. Calculate the Sales Credit. The negative of the Sales Credit must be greater than a user-defined threshold.
   - First, the Minimum Sales over Review Time is calculated as the sum of Minimum Sales Stock (MSS), from store destinations only, minus the store net inventory.
   - The Sales Credit is the warehouse net inventory, minus the Minimum Sales over Review Time. The Sales Credit is capped at zero. The Sales Credit is only calculated within the fixed period.

- If set, convert the Sales Credit Case Threshold to Units by multiplying it by the warehouse orderable unit, then select the smaller unit threshold value. If more than one warehouse orderable unit is found for the SKU Group/Warehouse select the largest.
- Calculate the Negative Sales Credit as Sales Credit times negative one.
- The Negative Sales Credit is compared to the sales credit units threshold.
- If the Negative Sales Credit is greater than the sales credit units threshold, the first condition for this alert is true.

2. Calculate the Percentage Sales Credit. The Percentage Sales Credit must be greater than a user-defined threshold.
   - First, Calculate the Percentage Sales Credit as the Negative Sales Credit divided by the Minimum Sales over Review Time needed from the warehouse.
   - The Percentage Sales Credit is compared to an alert parameter, Sales Credit Percentage Shortage for Stocked Commodity. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
   - If the Percentage Sales Credit is greater than Sales Credit Percentage Shortage for Stocked Commodity, this condition is true.
3. The number of days a sales credit exception exists is greater than a user-defined threshold.
   - First, count the number of ATP days the negative of the sales credit exceeds the sales credit unit threshold and the sales credit percentage shortage.
   - The number of days calculated above is compared to an alert parameter, Sales Credit Days Threshold for Stocked Commodity. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
   - If the number of days a sales credit exception exists is greater than Sales Credit Days Threshold For Stocked Commodity, this condition is true
4. The product is stocked.

Sales Credit Stocked Alert

A Sales Credit Stocked Alert is generated for stocked products when the Sales Credit exceeds the Sales Credit Unit Threshold and the Percentage Sales Credit exceeds the Sales Credit Percentage Shortage.

SKUs alerted for Sales Credit Multi-Day Stocked Alert are not alerted.

The Sales Credit represents the difference between the store's need and the warehouse available inventory position.

The Percentage Sales Credit represents the percent of unsatisfied store sales for a product by a warehouse.

Alert Parameters

- Sales Credit Case Threshold For Stocked Commodity
- Sales Credit Unit Threshold For Stocked Commodity
- Sales Credit Percentage Shortage For Stocked Commodity

Alert Logic Summarized

The Sales Credit Stocked Alert is triggered if all of the following conditions are true:

1. Calculate the Sales Credit. The negative of the Sales Credit must be greater than a user-defined threshold.
   - First, the Minimum Sales over Review Time is calculated as the sum of Minimum Sales Stock (MSS), from store destinations only, minus the store net inventory.
   - The Sales Credit is the warehouse net inventory, minus the Minimum Sales over Review Time. The Sales Credit is capped at zero. The Sales Credit is only calculated within the fixed period.
   - If set, convert the Sales Credit Case Threshold to Units by multiplying it by the warehouse orderable unit, then select the smaller unit threshold value. If more than one warehouse orderable unit is found for the SKU Group/Warehouse select the largest.
   - Calculate the Negative Sales Credit as Sales Credit times negative one.
   - The Negative Sales Credit is compared to the sales credit units threshold.
   - If the Negative Sales Credit is greater than the sales credit units threshold, the first condition for this alert is true.
2. Calculate the Percentage Sales Credit. The Percentage Sales Credit must be greater than a user-defined threshold.
   - First, Calculate the Percentage Sales Credit as the Negative Sales Credit divided by Minimum Sales over Review Time needed from the warehouse.
   - The Percentage Sales Credit is compared to an alert parameter, Sales Credit Percentage Shortage for Stocked Commodity. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
   - If the Percentage Sales Credit is greater than Sales Credit Percentage Shortage for Stocked Commodity, this condition is true.
3. The product is stocked.
4. The Sales Credit Multi-Day Stocked Alert is not triggered.

Sales Credit Multi-Day Stockless Alert

A Sales Credit Multi-Day Stockless Alert is generated for stockless products when the number of days a sales credit exception exists exceeds the Sales Credit Days Threshold for Stockless Commodity.

The Sales Credit represents the difference between store's need and the warehouse available inventory position.

The Percentage Sales Credit represents the percent of unsatisfied store sales for a product by a warehouse.

Alert Parameters

- Sales Credit Case Threshold For Stockless Commodity
- Sales Credit Unit Threshold For Stockless Commodity
- Sales Credit Percentage Shortage For Stockless Commodity
- Sales Credit Days Threshold For Stockless Commodity

Alert Logic Summarized

The Sales Credit Multi-Day Stockless Alert is triggered if all of the following conditions are true:

1. Calculate the Sales Credit. The negative of the Sales Credit must be greater than a user-defined threshold.
   - First, the Minimum Sales over Review Time is calculated as the sum of Minimum Sales Stock (MSS), from store destinations only, minus the store net inventory.
   - The Sales Credit is the warehouse net inventory, minus the Minimum Sales over Review Time. For stockless items, the Sales Credit is not capped at zero. The Sales Credit is only calculated within the fixed period.
   - If set, convert the Sales Credit Case Threshold to Units by multiplying it by the warehouse orderable unit, then select the smaller unit threshold value. If more than one warehouse orderable unit is found for the SKU Group/Warehouse select the largest.
   - Calculate the Negative Sales Credit as Sales Credit times negative one.
   - The Negative Sales Credit is compared to the sales credit units threshold.
   - If the Negative Sales Credit is greater than the sales credit units threshold, the first condition for this alert is true.
2. Calculate the Percentage Sales Credit. The Percentage Sales Credit must be greater than a user-defined threshold.
   - First, Calculate the Percentage Sales Credit as the Negative Sales Credit divided by the Minimum Sales over Review Time needed from the warehouse.
   - The Percentage Sales Credit is compared to an alert parameter, Sales Credit Percentage Shortage for Stockless Commodity. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
   - If the Percentage Sales Credit is greater than Sales Credit Percentage Shortage for Stockless Commodity, this condition is true.
3. The number of days a sales credit exception exists is greater than a user-defined threshold.
   - First, count the number of days the sales credit exceeds the sales credit unit threshold and the sales credit percentage shortage.
   - The number of ATP days calculated above is compared to an alert parameter, Sales Credit Days Threshold for Stockless Commodity. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
   - If the number of days a sales credit exception exists is greater than Sales Credit Days Threshold for Stockless Commodity, this condition is true.
4. The product is stockless.

Sales Credit Stockless Alert

A Sales Credit Stockless Alert is generated for stockless products when the Sales Credit exceeds the Sales Credit Unit Threshold and the Percentage Sales Credit exceeds the Sales Credit Percentage Shortage.

SKUs alerted for Sales Credit Multi-Day Stockless Alert are not alerted.

The Sales Credit represents the difference between the store's need and the warehouse available inventory position.

The Percentage Sales Credit represents the percent of unsatisfied store sales for a product by a warehouse.

Alert Parameters

- Sales Credit Case Threshold For Stockless Commodity
- Sales Credit Unit Threshold For Stockless Commodity
- Sales Credit Percentage Shortage For Stockless Commodity

Alert Logic Summarized

The Sales Credit Stockless Alert is triggered if all of the following conditions are true:

1. Calculate the Sales Credit. The negative of the Sales Credit must be greater than a user-defined threshold.
   - First, the Minimum Sales over Review Time is calculated as the sum of Minimum Sales Stock (MSS), from store destinations only, minus the store net inventory.
   - The Sales Credit is the warehouse net inventory minus the Minimum Sales over Review Time. For stockless items, the Sales Credit is not capped at zero. The Sales Credit is only calculated within the fixed period.
   - If set, convert the Sales Credit Case Threshold to Units by multiplying it by the warehouse orderable unit, then select the smaller unit threshold value. If more than one warehouse orderable unit is found for the SKU Group/Warehouse select the largest.
   - Calculate the Negative Sales Credit as Sales Credit times negative one.
   - The Negative Sales Credit is compared to the sales credit units threshold.
   - If the Negative Sales Credit is greater than the sales credit unit threshold, the first condition for this alert is true.
2. Calculate the Percentage Sales Credit. The Percentage Sales Credit must be greater than a user-defined threshold.
   - First, Calculate the Percentage Sales Credit as the Negative Sales Credit divided by the Minimum Sales over Review Time needed from the warehouse.
   - The Percentage Sales Credit is compared to an alert parameter, Sales Credit Percentage Shortage for Stockless Commodity. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
   - If the Percentage Sales Credit is greater than Sales Credit Percentage Shortage for Stockless Commodity, this condition is true.
3. The product is stockless.
4. The Sales Credit Multi-Day Stockless Alert is not triggered.

Sales Credit Summary Alert

A Sales Credit Summary Alert is raised if any of the Sales Credit alerts are generated.

The summary allows the user to view any SKU group/warehouse with shortages that do not cover expected sales at the stores.

The Sales Credit Summary Alert is triggered if any of the following alerts are raised for a SKU group/warehouse:

- Sales Credit Multi-Day Stocked
- Sales Credit Stocked
- Sales Credit Multi-Day Stockless
- Sales Credit Stockless

Demand Credit Multi-Day Stocked Alert

A Demand Credit Multi-Day Stocked Alert is generated for stocked products when the demand credit (shortage) exceeds a unit/case threshold, and it exceeds a percentage of the demand, and the number of days that this occurs exceeds the Demand Credit Days Threshold for Stocked Commodity.

The Demand Credit represents the number of units above or below the inventory level required to satisfy forecasted demand thus achieving a projected store inventory at the receive up to level.

The Percentage Demand Credit represents the percent of unsatisfied store demand for a product by a warehouse.

Alert Parameters

- Demand Credit Case Threshold For Stocked Commodity
- Demand Credit Unit Threshold For Stocked Commodity
- Demand Credit Percentage Threshold For Stocked Commodity
- Demand Credit Days Threshold For Stocked Commodity

Alert Logic Summarized

The Demand Credit Multi-Day Stocked Alert is triggered if all of the following conditions are true:

1. Calculate the Demand Credit. The negative of the Demand Credit must be greater than a user-defined threshold.
   - Warehouse Demand for a day is the sum of capped store Unconstrained Receipt Plans (URP) from store destinations only.
   - For reconciled warehouse-chambers, the Demand Credit is calculated as the Warehouse Demand subtracted from the sum of the CRPs from store destinations only. For unreconciled warehouse-chambers, the Demand Credit is calculated as the Warehouse Demand subtracted from the net inventory which includes planned receipts. The Demand Credit is only calculated on ATP days within the warehouse's fixed period.
   - Calculate the Negative Demand Credit as Demand Credit times negative one.
   - If set, convert the Demand Credit Case Threshold to units by multiplying it by the warehouse orderable unit, then select the smaller unit threshold value. If more than one warehouse orderable unit is found for the SKU Group/Warehouse select the largest.

- If the Negative Demand Credit is greater than demand credit units threshold, the first condition for this alert is true.

2. Calculate the Percentage Demand Credit. The Percentage Sales Credit must be greater than a user-defined threshold.
   - First, Calculate the Percentage Demand Credit as the Negative Demand Credit divided by the sum of unconstrained demand from the stores.
   - The Percentage Demand Credit is compared to an alert parameter, Demand Credit Percentage Threshold for Stocked Commodity. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
   - If the Percentage Demand Credit is greater than Demand Credit Percentage Threshold for Stocked Commodity, this condition is true.
3. The number of ATP days the demand credit units and percentage thresholds are exceeded is greater than a user-defined threshold.
   - First, count the number of ATP days the demand credit exceeds the demand credit unit threshold and the demand credit percentage threshold.
   - The number of days calculated above is compared to an alert parameter, Demand Credit Days Threshold for Stocked Commodity. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
   - If the number of days a demand credit exceeds both thresholds is greater than Demand Credit Days Threshold for Stocked Commodity, this condition is true.
4. The product is stocked.
5. No Sales Credit Alerts are generated for this SKU group/warehouse.

Demand Credit Stocked Alert

A Demand Credit Stocked Alert is generated for stocked products when the Demand Credit exceeds the Demand Credit Unit Threshold and the Percentage Demand Credit exceeds the Demand Credit Percentage Threshold.

SKUs alerted for Demand Credit Multi-Day Stocked Alert are not alerted.

The Demand Credit represents the number of units above or below the inventory level required to satisfy forecasted demand thus achieving a projected store inventory at the receive up to level.

The Percentage Demand Credit represents the percent of unsatisfied store demand for a product at a warehouse.

Alert Parameters

- Demand Credit Case Threshold For Stocked Commodity
- Demand Credit Unit Threshold For Stocked Commodity
- Demand Credit Percentage Threshold For Stocked Commodity

Alert Logic Summarized

The Demand Credit Stocked Alert is triggered if all of the following conditions are true:

1. Calculate the Demand Credit. The Negative Demand Credit must be greater than a user-defined threshold.
   - Warehouse Demand for a day is the sum of capped store Unconstrained Receipt Plans (URP) from store destinations only.

- For reconciled warehouse-chambers, the Demand Credit is calculated as the Warehouse Demand subtracted from the sum of the CRPs from store destinations only. For unreconciled warehouse-chambers, the Demand Credit is calculated as the Warehouse Demand subtracted from the net inventory which includes planned receipts. The Demand Credit is only calculated on ATP days within the warehouse's fixed period.
- Calculate the Negative Demand Credit as Demand Credit times negative one.
- If set, convert the Demand Credit Case Threshold to Units by multiplying it by the warehouse orderable unit, then select the smaller unit threshold value. If more than one warehouse orderable unit is found for the SKU Group/Warehouse select the largest.
- If the Negative Demand Credit is greater than demand credit units threshold, the first condition for this alert is true.

2. Calculate the Percentage Demand Credit. The Percentage Sales Credit must be greater than a user-defined threshold.
   - First, Calculate the Percentage Demand Credit as the Negative Demand Credit divided by the sum of unconstrained demand from the stores.
   - The Percentage Demand Credit is compared to an alert parameter, Demand Credit Percentage Threshold for Stocked Commodity. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
   - If the Percentage Demand Credit is greater than Demand Credit Percentage Threshold for Stocked Commodity, this condition is true.
3. The product is stocked.
4. The Demand Credit Multi-Day Stocked Alert is not triggered and no Sales Credit Alerts are generated for this SKU group/warehouse.

Demand Credit Summary Alert

A Demand Credit Summary Alert is raised any of the Demand Credit alerts are generated.

The summary allows the user to view any SKU group/warehouse with shortages that do not cover expected demand at the stores.

The Demand Credit Summary Alert is triggered if any of the following alerts are raised for a SKU group/warehouse:

- Demand Credit Multi-Day Stocked Alert
- Demand Credit Stocked Alert

Network Exception Alerts

Network Exception Alerts provide notification of current and future capacity for groups of SKUs at a warehouse.

The following table lists network alerts issued by WRP along with a brief description. Details for each alert are addressed in the following sections.

Alert	Description
Outbound Distribution Capacity Exception	The Outbound Distribution Capacity Exception is raised when the Warehouse Actual Outbound Volume exceeds the Outbound Distribution Capacity.

Alert	Description
Warehouse Holding Capacity Exception	The Warehouse Holding Capacity Exception is raised when the total capacity opening inventory exceeds the Stocking Point Holding Capacity.
Stock Cover Exception	The Stock Cover Exception is triggered when the Projected Stock Cover Actual\Target Difference exceeds the Excessive Stock Cover Threshold for that day.
Inbound Day-on-Day Change Exception	The Inbound Day-on-Day Change Exception is triggered when the percent change between Yesterday's Remaining Week Inbound Plan and Today's Remaining Week Inbound Plan exceeds the Inbound Day-On-Day Change Threshold.
Outbound Day-on-Day Change Exception	The Outbound Day-on-Day Change Exception is triggered when the percent change between Yesterday's Remaining Week Outbound Plan and Today's Remaining Week Outbound Plan exceeds the Outbound Day-On-Day Change Threshold.
Stock Cover Day-on-Day Change Exception	The Stock Cover Day-on-Day Change Exception is triggered when the percent change between Yesterday's Stock Cover and Today's Stock Cover exceeds the Stock Cover Day-On-Day Change Threshold.

Outbound Distribution Capacity Exception

The Outbound Distribution Capacity Exception is raised when the Warehouse Actual Outbound Volume exceeds the Outbound Distribution Capacity.

Alert Parameters

- Outbound Distribution Capacity Cases

Alert Logic Summarized

The Outbound Distribution Capacity Exception is triggered if the following condition is true:

- Calculate the projected outbound plan. The projected outbound plan must be greater than a user-defined threshold.
  - The projected outbound plan is calculated as the sum of demand in cases for all SKUs in the network group for a warehouse.
  - Each day, the projected outbound plan is compared to an alert parameter, Outbound Distribution Capacity Cases. This parameter is maintained in the WRP Network Threshold Maintenance workbook at the Network Group/Warehouse/Day level.
  - If the projected outbound plan is greater than the Outbound Distribution Capacity Cases threshold the alert is triggered.

Warehouse Holding Capacity Exception

The Warehouse Holding Capacity Exception is raised when the total capacity opening inventory in pallets exceeds the Stocking Point Holding Capacity.

Alert Parameters

- Stocking Point Holding Capacity

Alert Logic Summarized

The Warehouse Holding Capacity Exception is triggered if the following condition is true:

- Calculate the capacity projected inventory. The capacity projected inventory must be greater than a user-defined threshold.
  - For each day, the capacity projected inventory is calculated as the sum of Projected Inventory plus Total Held Stock for all SKUs in the network group for a warehouse.
  - The capacity projected inventory is compared to an alert parameter, Stocking Point Holding Capacity. This parameter is maintained in the WRP Network Threshold Maintenance workbook at the Network Group/Warehouse level.
  - If the capacity projected inventory in pallets is greater than the Stocking Point Holding Capacity threshold the alert is triggered.

Stock Cover Exception

The Stock Cover Exception is triggered when the Projected Stock Cover Actual\Target Difference exceeds the Excessive Stock Cover Threshold for that day.

Alert Parameters

- Target Stock Cover
- Excessive Stock Cover Global Threshold

Alert Logic Summarized

The Stock Cover Exception is triggered if the following condition is true:

- For each day, calculate Projected Stock Cover Days. Projected Stock Cover represents the number of days that the Opening Inventory on a certain planning day satisfies the Projected Outbound Plan.
  - Each day, the Projected Outbound Plan (POP) is calculated as the sum of the day's demand in cases for all SKUs in the network group for a warehouse.
  - Calculate the capacity projected inventory as the sum of Projected Inventory plus Total Held Stock for all SKUs in the network group for a warehouse.
  - Calculate the Projected Stock Cover Days Count as the count of days from the current day until the current day's Capacity Projected Inventory (CPI) minus Projected Outbound Plan (POP) is equal to zero. Note that the number of stock covers days may include a partial day.
  - If the Capacity Projected Inventory (CPI) minus Projected Outbound Plan (POP) is less than zero on the last day, only a portion of this day is covered, calculate the stock cover for a portion of the last day.
  - If the remaining Capacity Projected Inventory minus Projected Outbound Plan is greater than zero on the last day of the planning horizon the stock cover days will remain equal to the number of days between the current day and the end of the planning horizon.

- Projected Stock Cover Days equals the count of days covered plus the percent of the last day's cover.
- Calculate the Stock Cover Target/Actual Difference as the relative percentage difference between the Projected Stock Days cover and Target Stock Cover.

  Target Stock Cover is an alert parameter maintained in the WRP Network Threshold Maintenance workbook at the Network Group/Warehouse/Day level.

  Stock Cover Target/Actual Difference is calculated as (projected stock cover minus target stock cover) divided by target stock cover.
- The Stock Cover Target/Actual Difference is compared to an alert parameter, Excessive Stock Cover Global Threshold. This parameter is maintained in the WRP Network Threshold Maintenance workbook at the global level.
- If Stock Cover Target/Actual Difference is greater than the Excessive Stock Cover Global Threshold for any day, the alert is triggered.

Inbound Day-on-Day Change Exception

The Inbound Day-on-Day Change Exception is triggered when the percent change between Yesterday's Remaining Week Inbound Plan and Today's Remaining Week Inbound Plan exceeds the Inbound Day-On-Day Change Threshold.

Alert Parameters

- Inbound Day-on-Day Change Threshold

Alert Logic Summarized

The Inbound Day-on-Day Change Exception is triggered if the following condition is true:

- Calculate the percent change between yesterday and today's remaining week inbound plans. The percent change must be greater than a user-defined threshold.
  - Calculate today's remaining week inbound plan as the sum of the constrained planned receipts from today through the end of the current week for all SKUs in the network group for a warehouse.
  - Today's remaining week inbound plan becomes yesterday's remaining week inbound plan on the following day.
  - Calculate the percent change by taking the difference between today's and yesterday's remaining week inbound plans and divide the difference by yesterday's remaining week inbound plan.
  - The percent change is compared to an alert parameter, Inbound Day-on-Day Change Threshold. This parameter is maintained in the WRP Network Threshold Maintenance workbook at the Network Group/Warehouse/Day level.
  - If the percent change is greater than Inbound Day-on-Day Change Threshold the alert is triggered.

Outbound Day-on-Day Change Exception

The Outbound Day-on-Day Change Exception is triggered when the percent change between Yesterday's Remaining Week Outbound Plan and Today's Remaining Week Outbound Plan exceeds the Outbound Day-On-Day Change Threshold.

Alert Parameters

- Outbound Day-on-Day Change Threshold

Alert Logic Summarized

The Outbound Day-on-Day Change Exception is triggered if the following condition is true:

- Calculate the percent change between yesterday and today's remaining week outbound plans. The percent change must be greater than a user-defined threshold.
  - First, calculate the Projected Outbound Plan (POP) as the sum of demand for all SKUs in the network group for a warehouse.
  - Calculate today's remaining week outbound plan as the sum of the Projected Outbound Plan from today through the end of the current week for all SKUs in the network group for a warehouse
  - Today's remaining week outbound plan becomes yesterday's remaining week outbound plan on the following day.
  - Calculate the percent change by taking the difference between today's and yesterday's remaining week outbound plans and divide the difference by yesterday's remaining week outbound plan.
  - The percent change is compared to an alert parameter, Outbound Day-on-Day Change Threshold. This parameter is maintained in the WRP Network Threshold Maintenance workbook at the Network Group/Warehouse/Day level.
  - If the percent change is greater than Outbound Day-on-Day Change Threshold the alert is triggered.

Stock Cover Day-on-Day Change Exception

The Stock Cover Day-on-Day Change Exception is triggered when the percent change between Yesterday's Stock Cover and Today's Stock Cover exceeds the Stock Cover Day-On-Day Change Threshold.

Alert Parameters

- Stock Cover Day-on-Day Change Threshold

Alert Logic Summarized

The Stock Cover Day-on-Day Change Exception is triggered if the following condition is true:

- Calculate the percent change between yesterday's stock cover and today's stock cover. The percent change must be greater than a user-defined threshold.
  - For each day calculate the Projected Outbound Plan (POP) as the sum of the day's demand in cases for all SKUs in the network group for a warehouse.
  - Calculate the capacity projected inventory as the sum of Projected Inventory plus Total Held Stock for all SKUs in the network group for a warehouse.
  - Calculate the Projected Stock Cover Days Count as the count of days from the current day until the current day's Capacity Projected Inventory (CPI) minus Projected Outbound Plan (POP) is equal to zero. Note that the number of stock covers days may include a partial day.
  - If the Capacity Projected Inventory (CPI) minus Projected Outbound Plan (POP) is less than zero on the last day, only a portion of this day is covered, calculate the stock cover for a portion of the last day.
  - If the remaining Capacity Projected Inventory minus Projected Outbound Plan is greater than zero on the last day of the planning horizon the stock cover days will remain equal to the number of days between the current day and the end of the planning horizon.

- Projected Stock Cover Days equals the count of days covered plus the percent of the last day's cover.
- Calculate the percent change by taking the difference between today's projected stock cover days and yesterday's projected stock cover days and divide the difference by yesterday's projected stock cover days.
- The percent change is compared to an alert parameter, Stock Cover Day-on-Day Change Threshold. This parameter is maintained in the WRP Network Threshold Maintenance workbook at the Network Group/Warehouse/Day level.
- If the percent change is greater than Stock Cover Day-on-Day Change Threshold the alert is triggered

WRP Overstock Alerts

The following table provides information about the available WRP Overstock alerts.

Alert	Description
WRP Overstock Alert	The WRP Overstock Alert is generated when projected number of days stock cover exceeds the Projected Stock Cover Days Threshold Exception and the projected inventory exceeds the Overstock Threshold Exception.
Stockless Surplus Alert for Multiple Days	The Stockless Surplus Alert for Multiple Days is generated for stockless products when the Demand Credit exceeds the Stockless Surplus Threshold, the Demand Credit less the demand over the Stockless Surplus Days Threshold is greater than zero, and the number of days a Stockless Surplus alert exists exceeds the Stockless Surplus MultiDay Threshold.
Stockless Surplus Alert for a Single Day	A Stockless Surplus Alert for a Single Day is generated for stockless products when the Demand Credit exceeds the Demand Credit Unit Threshold and the demand over the Stockless Surplus Days Threshold is greater than zero.
Overstock Summary Alert	Triggered when any of the overstock item alerts is triggered.

WRP Overstock Alert

The WRP Overstock Alert is generated when projected number of days stock cover exceeds the Projected Stock Cover Days Threshold Exception and the projected inventory exceeds the Overstock Threshold Exception.

Alert Parameters

- Projected Stock Cover Days Threshold Exception
- Overstock Threshold Exception

Alert Logic Summarized

The WRP Overstock Alert is triggered if all of the following conditions are true:

1. Calculate Projected Stock Cover Days. Projected Stock Cover represents the number of days that the Projected Inventory on a certain planning day satisfies the Projected

Demand. The Projected Stock Cover Days must be greater than the Projected Stock Cover Days Threshold.

- Calculate the Projected Stock Cover Days Count as the count of days from the current day until the current day's Projected Inventory minus Forecast Demand is less than or equal to zero. Note that the number of stock cover days may include a partial day.
- The Projected Stock Cover Days is compared to an alert parameter, Projected Stock Cover Days Threshold (Global, Default, or Exception). This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
- If Projected Stock Cover Days is greater than the Projected Stock Cover Days Threshold, this condition is true.

2. Compare Projected Inventory to the Overstock Threshold.
   - The Projected Inventory is compared to an alert parameter, Overstock Threshold. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
   - If Projected Inventory is greater than the Overstock Threshold, this condition is true.

Stockless Surplus Alert for Multiple Days Alert

The Stockless Surplus Alert for Multiple Days is generated for stockless products when the Demand Credit exceeds the Stockless Surplus Threshold, the Demand Credit less the demand over the Stockless Surplus Days Threshold is greater than zero, and the number of days a Stockless Surplus alert exists exceeds the Stockless Surplus MultiDay Threshold.

The Demand Credit represents the number of units above or below the inventory level required to satisfy forecasted demand thus achieving a projected store inventory at the receive up to level

Alert Parameters

- Stockless Surplus Threshold
- Stockless Surplus Days of Demand Threshold
- Stockless Surplus MultiDay Threshold

Alert Logic Summarized

The Stockless Surplus Alert for Multiple Days is triggered if all of the following conditions are true:

1. Calculate the Demand Credit. The Demand Credit must be greater than the Stockless Surplus Threshold.
   - For reconciled warehouse-chambers, the Demand Credit is calculated as the Warehouse Demand subtracted from the sum of the CRPs from store destinations only. For unreconciled warehouse-chambers, the Demand Credit is calculated as the Warehouse Demand subtracted from the net inventory which includes planned receipts. The Demand Credit is only calculated on ATP days within the warehouse's fixed period.
   - The Demand Credit is compared to an alert parameter, Stockless Surplus Threshold. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.

- If the Demand Credit is greater than Stockless Surplus Threshold, the first condition for this alert is true.

2. Calculate the Surplus Inventory. The amount of surplus inventory (Demand Credit) must be greater than the store demand for a period of days specified by the user.
   - First, calculate the store demand over the Stockless Surplus Days of Demand Threshold. This is the sum of the unconstrained store demand whose order/ship date falls between the ATP day's Beginning of Review Time (BRT) and the Stockless Surplus Days of Demand Threshold.
   - If the Demand Credit surplus is greater than the sum of demand over the number of days specified in the alert parameter, Stockless Surplus Days of Demand Threshold then the surplus is greater than the demand for those days. If the demand credit is greater, this condition is true
3. Calculate the number of days the surplus exception exists. The number of ATP days the surplus exception exists must be greater than the Stockless Surplus MultiDay Threshold.
   - First, count the number of ATP days the Demand Credit exceeds the Stockless Surplus Threshold and the demand credit is greater than the demand over the days of demand threshold.
   - The number of days calculated above is compared to an alert parameter, Stockless Surplus MultiDay Threshold. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
   - If the number of days a surplus inventory exception exists is greater than Stockless Surplus MultiDay Threshold, this condition is true.
4. The product is stockless.

Stockless Surplus Alert for a Single Day Alert

A Stockless Surplus Alert for a Single Day is generated for stockless products when the Demand Credit exceeds the Demand Credit Unit Threshold and the Demand Credit exceeds the demand over the Stockless Surplus Days of Demand Threshold.

SKUs alerted for the Stockless Surplus Alert for Multiple Days is not alerted.

The Demand Credit represents the difference between the number of units above or below the inventory level required to satisfy forecasted demand thus achieving a projected store inventory at the receive up to level

Alert Parameters

- Stockless Surplus Threshold
- Stockless Surplus Days of Demand Threshold

Alert Logic Summarized

The Stockless Surplus Alert for a Single Day is triggered if all of the following conditions are true:

1. Calculate the Demand Credit. The Demand Credit must be greater than the Stockless Surplus Threshold.
   - For reconciled warehouse-chambers, the Demand Credit is calculated as the Warehouse Demand subtracted from the sum of the CRPs from store destinations only. For unreconciled warehouse-chambers, the Demand Credit is calculated as the Warehouse Demand subtracted from the net inventory which

includes planned receipts. The Demand Credit is only calculated on ATP days within the warehouse's fixed period.

- The Demand Credit is compared to an alert parameter, Stockless Surplus Threshold. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
- If the Demand Credit is greater than Stockless Surplus Threshold, the first condition for this alert is true.

2. Calculate the Surplus Inventory. The amount of surplus inventory (Demand Credit) must be greater than the store demand for a period of days specified by the user.
   - First, calculate the demand over the Stockless Surplus Days of Demand Threshold. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
   - If the Demand Credit surplus is greater than the sum of demand over the number of days specified in the alert parameter, Stockless Surplus Days of Demand Threshold then the surplus is greater than the demand for those days. If the demand credit is greater, this condition is true.
3. The product is stockless.
4. The Stockless Surplus Alert for Multiple Days is not triggered.

Overstock Summary Alert

An Overstock Summary Alert is raised any of the Overstock alerts are generated.

The summary allows the user to view any SKU group/warehouse with overstocks.

The Overstock Summary Alert is triggered if any of the following alerts are raised for a SKU group/warehouse:

- WRP Overstock Alert
- Stockless Surplus Alert for Multiple Days
- Stockless Surplus Alert for a Single Day

RDF Alerts

The following table provides information about the available Retail Demand Forecasting (RDF) alerts.

Alert	Description
RDF Detail Alert	A Forecasting Detail exception is raised when an exception in RDF or another Forecasting system has been flagged for a SKU Group/Warehouse.

RDF Detail Alert

A Forecasting Detail exception is raised when an exception in RDF or another Forecasting system has been flagged for a SKU Group/Warehouse.

The RDF Detail Alert is loaded from an external source based on exceptions found in the user's forecasting system. No calculations are performed within WRP.

The RDF Detail alert is used to give the user visibility of an exception in the forecasting system that could be causing exceptions in WRP. This allows the user to determine if changes are required within the forecasting system or within WRP to resolve the exception.

Reviewing and Managing WRP Alerts

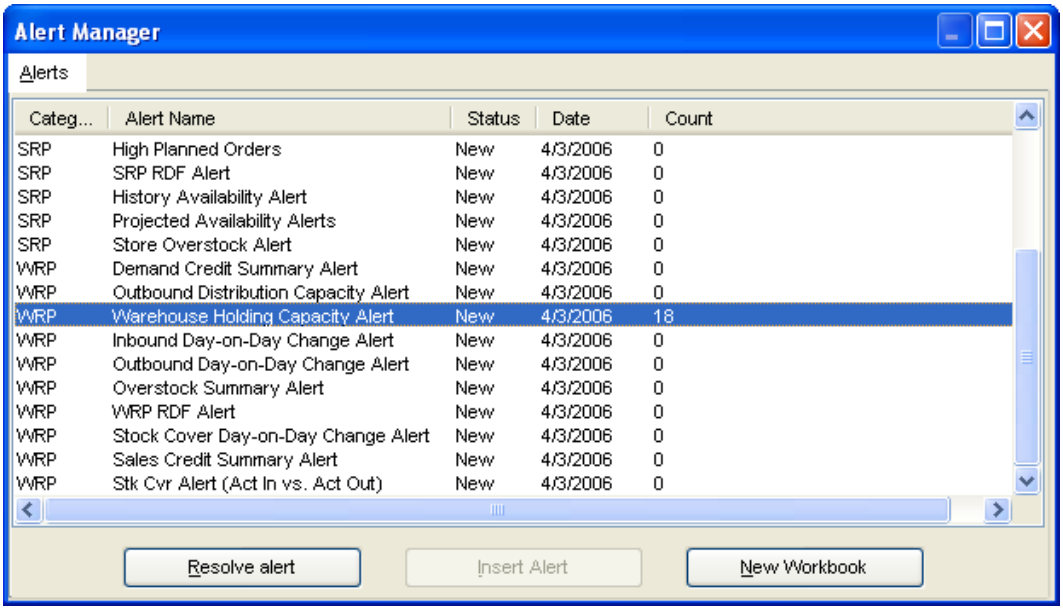
Reviewing alerts for warehouse replenishment plans involve the following components of the WRP solution:

- The Alert Manager
- The WRP Interactive Evaluation Workbook – WRP Replenishment Plan Tab
- The WRP Interactive Evaluation Workbook – WRP Exception Summary Tab
- The Network Throughput Plan Workbook

The Alert Manager

When a user logs on to WRP, if any alerts have been issued to that user, the Alert Manager automatically opens. The Alert Manager displays all alerts issued to a user, along with other information, such as alert name and the number of instances for each alert, which assists the user in prioritizing the alerts selected for review and management.

The Alert Manager is part of the common user interface for Oracle Retail Predictive Application Server (RPAS)-based products. This guide focuses on how you use the Alert Manager to review and resolve alerts in WRP. For more general information about the Alert Manager, see the *RPAS Online Help*, which is accessible from the Help menu, or refer to the *RPAS User Guide*.



Alert Manager

About the Alert Tab

The Alert Manager's Alert Workbooks tab displays all of the alerts that have been issued to you and the workbooks in which the alerts occur. Alerts are displayed in the following format:

- Category – The category that issued the alert; in this case WRP.
- Alert Name –A descriptive label for the alert.
- Priority –The alert priority (High, Medium, or Low).

- Status –Specifies whether the alert is new since the last time you logged on. If it is not new, it specifies whether the alert resolved or unresolved.

  Note: After selecting an alert from the list, a user can change the status of the alert by clicking the **Resolve Alert** button or the **Unresolve Alert** button.

- Date –The date that the alert was identified. That is, the date that the exception was detected in the alert plan and an alert was sent to the WRP user.
- Count – The number of SKU/Warehouse combinations that are associated with the alert.

Alert Tab Buttons

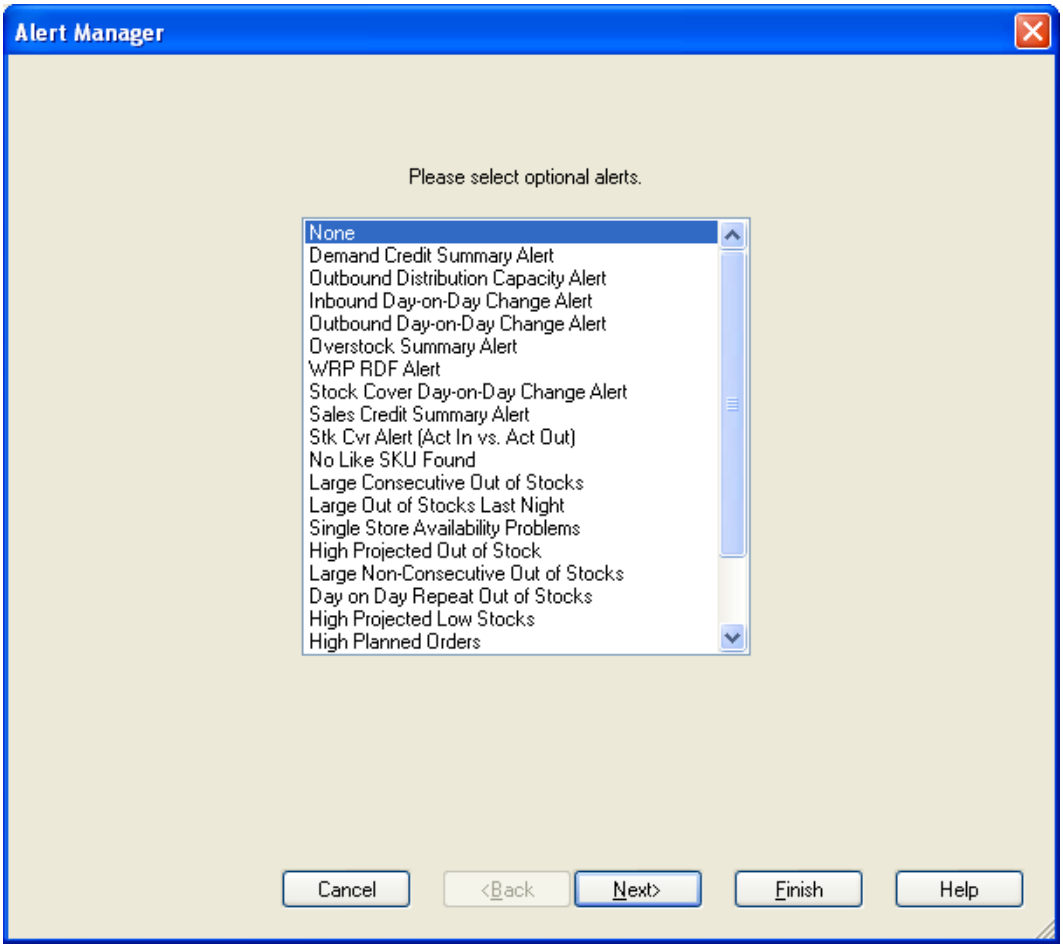
The Alert tab displays the following buttons used for further processing on the alerts:

- Resolve Alert/Unresolve Alert button – For new alerts or alerts that you have reviewed; the Resolve Alert button changes the status of the alert from New or Reviewed to Resolved. For Resolved alerts, the Unresolve Alerts button changes the status back to Reviewed.
- Insert Alert – Selecting this button allows the user to insert the selected alert into the open workbook.
- New Workbook – Selecting this button allows a user to create a new workbook that includes the selected alert.
- Open Workbook – If you have existing alert workbooks, this button appears. It allows a user to open an alert workbook that was previously created. If no alert workbooks exist, this button is not displayed.

Analyzing and Resolving Alerts Using the Alert Manager and WRP Workbooks

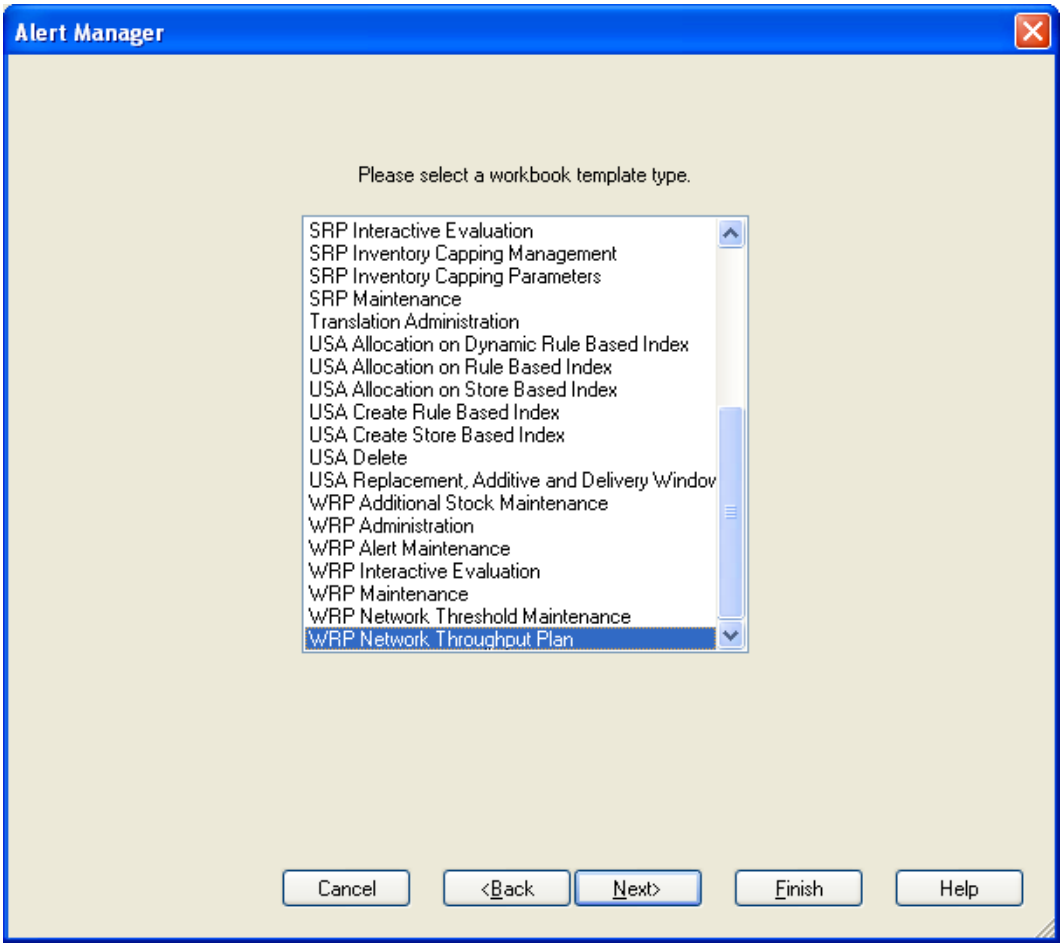
The Alert Manager lists alerts issued to a user regarding potential problems that may require review. The user can select an alert, such as the Historical Availability alert to review and click **New Workbook** or **Open Workbook** to view more information about the alert.

1. If an alert workbook was previously created, select **Open Workbook**. If no alert workbook was previously created, select **New Workbook** can be selected. The Alert wizard screen appears to guide through creating a new alert workbook.



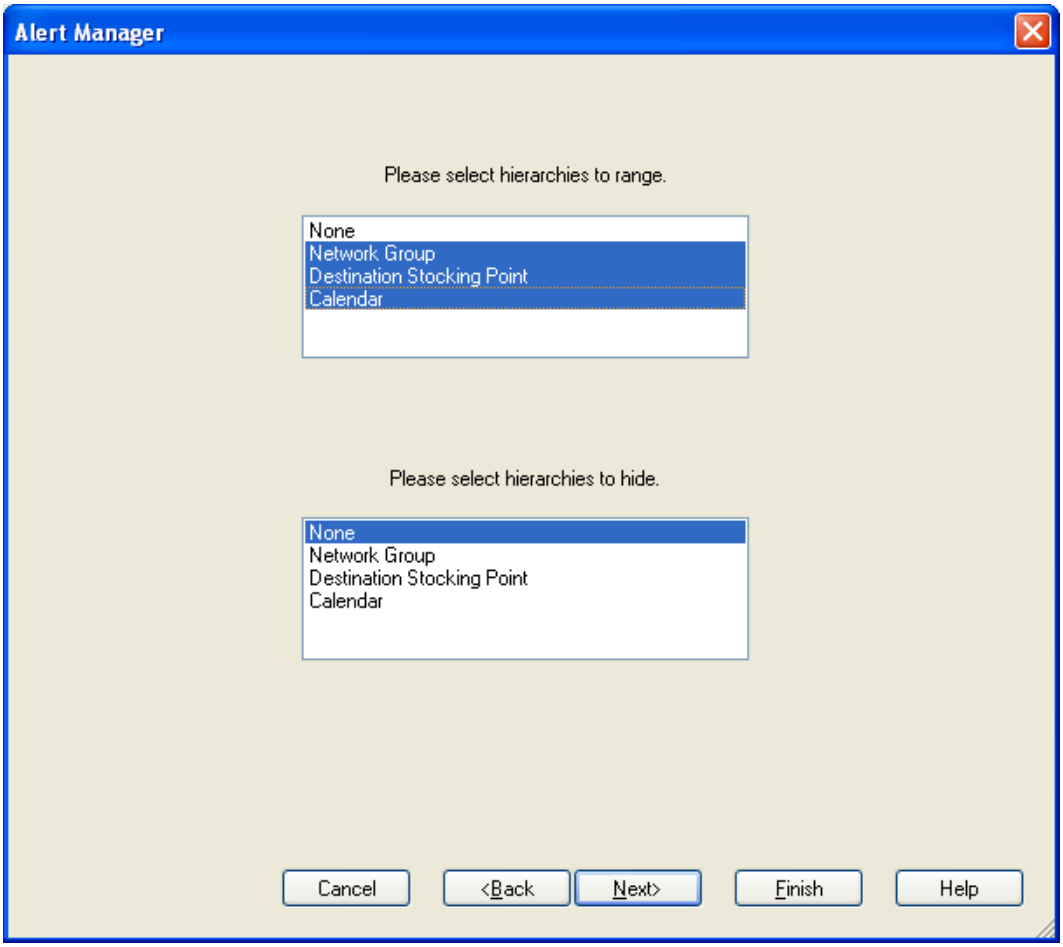
Alert Manager– Select Optional Alerts Screen

2. Select any additional alerts that you want to include in the new workbook, and click **Next**. The Select Workbook Template screen appears.



Alert Manager– Select Workbook Template Screen

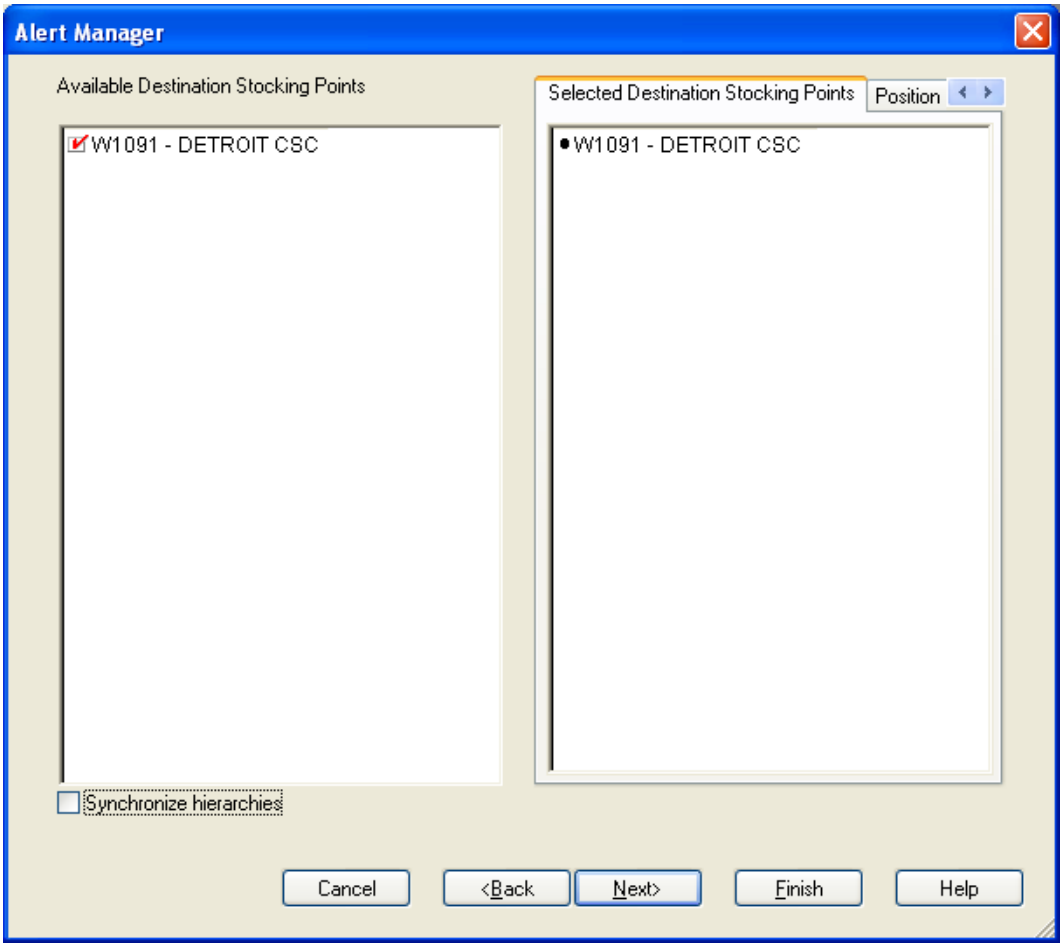
3. Select the workbook template that you want to use to build the workbook, and click **Next**. The Select Hierarchy screen appears.



Alert Manager– Select Hierarchies Screen

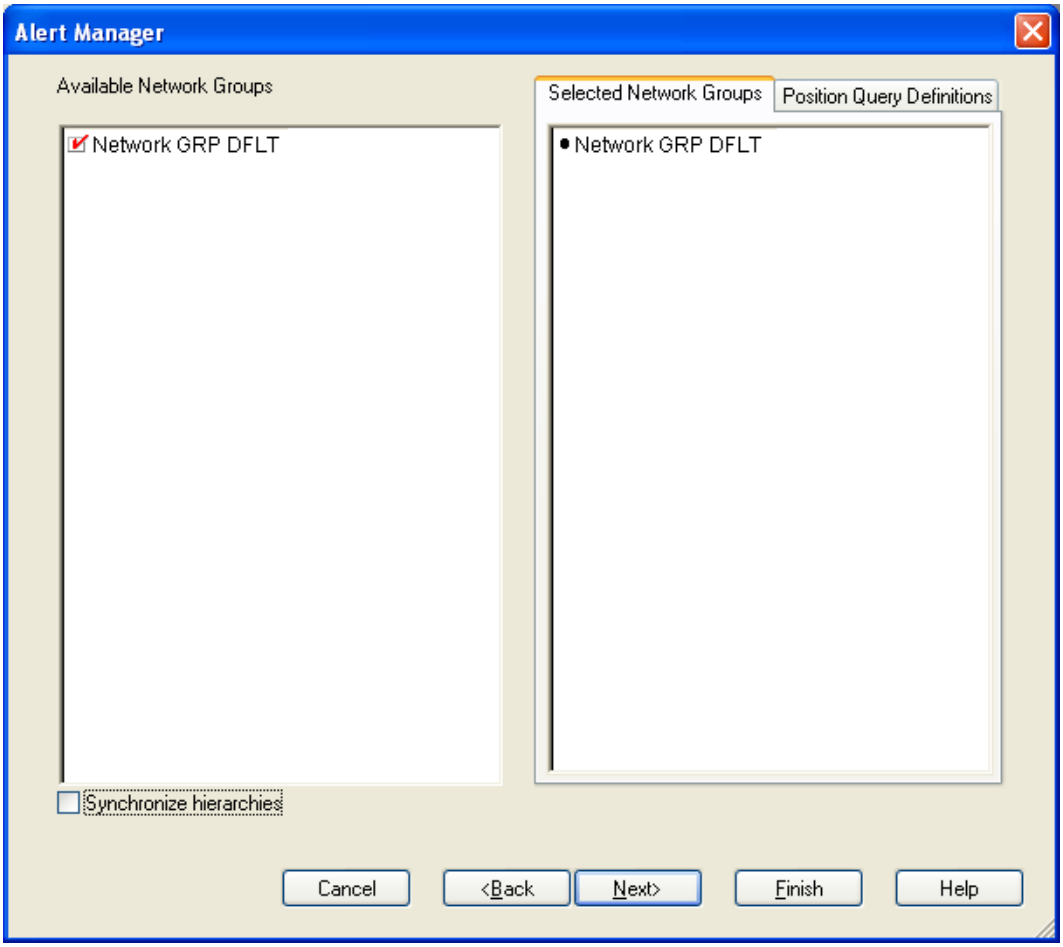
4. Select hierarchies for the new workbook and click **Next**. In most cases, both product and location hierarchies should be selected. In this case, since we are reviewing a Network Alert, we select the Network Group, Destination Stocking Point, and Calendar hierarchies. At this time, the wizard for the workbook template that was selected is displayed. The Available Destination Stocking Points screen appears.

> **Note:** When a hierarchy is selected, only positions in the hierarchy that triggered an alert is available for selection in the new workbook wizard. For instance, when selecting the product hierarchy, the product selection screen for the new workbook wizard only allows you to choose products for which an alert was triggered. This means that all non-alert-related positions are excluded from the workbook build.



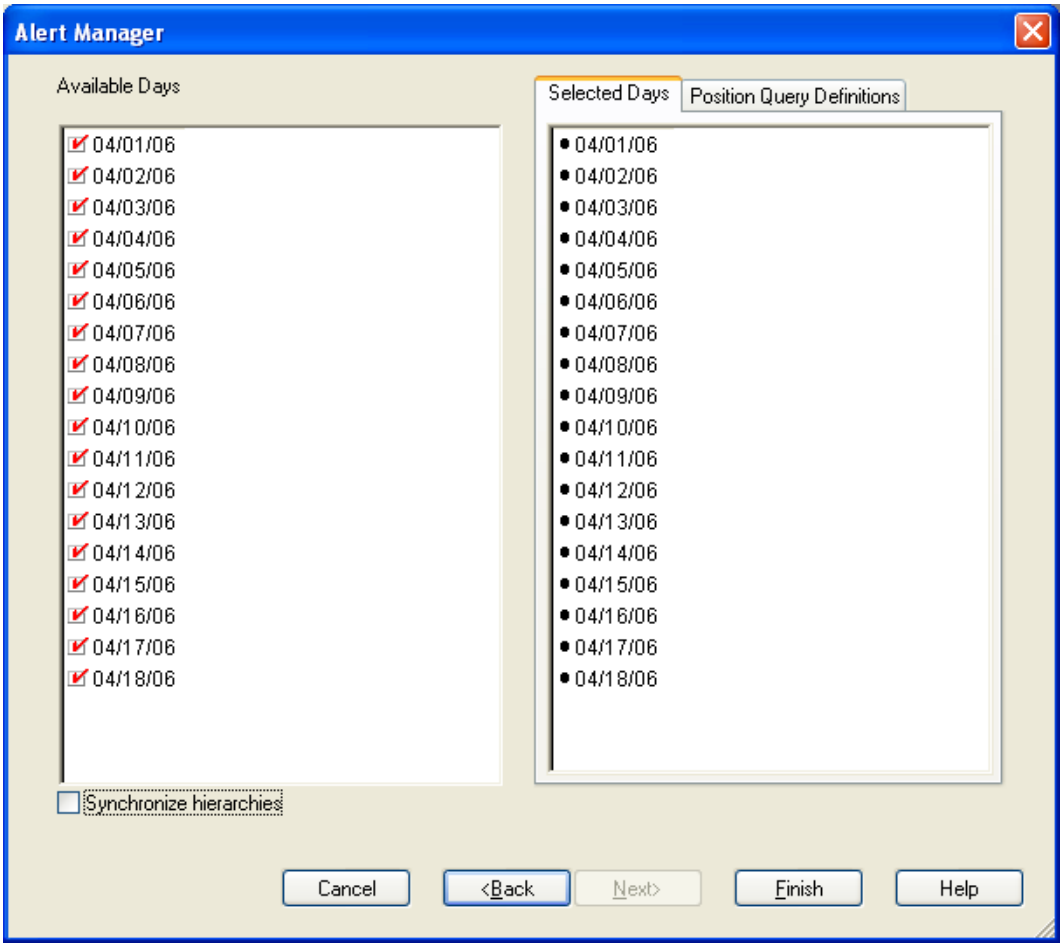
Alert Manager - Available Destination Stocking Points Screen

5. Select the warehouses that you want to view to in the workbook, and click **Next**. The Available Network Groups screen appears.



Alert Manager – Available Network Groups Screen

6. Select the Network Groups that you want to view to in the workbook, and click **Next**. The Available Days screen appears.



Alert Manager – Available Network Groups Screen

7. Select the day(s) that you want to view to in the workbook, and click **Finish**.

   The WRP Network Throughput workbook is opened. Only those Destination Stocking Point/Network Group(s) that are associated with the selected alert are displayed in the Replenishment Summary worksheets. The measure on which the loaded alert is based is the first measure displayed in the newly-built workbook. Checkmarks identify the positions associated with a recognized alert.

Example of Warehouse Holding Capacity Alert for Warehouse Holding Capacity Worksheet

8. Analyze the selected workbook and, if necessary, make the appropriate changes.

   After selecting a warehouse to work with a user can look for patterns that may be causing the exception, such as stocking and inventory issues, issues with WRP parameters or threshold values.

   Suppose a shortage alert was selected and a threshold was exceeded. The user can review the WRP Replenishment Summary worksheet to determine when the exception occurred and its cause.

   Analysis may show the shortage occurred for a variety of reasons, such as:

   - The supplier was unable to deliver the product to the location in time.
   - A warehouse was unable to fulfill a receiving warehouse's demand on the dates indicated.
   - A WRP parameter value was not properly set.
   - Data loaded into WRP is not accurate.

   At this point, the user can look at the different views of replenishment plan data in the workbook to find any patterns and the root cause of the problem. Correcting the problem could require changes to parameters or communication with other people involved in supply-chain management to resolve the problem.

   When reviewing the measures, the user may consider the following questions:

   - Is the problem source in external data that feeds into WRP?
   - Is the problem within WRP itself? Is the problem in values for replenishment parameters set within WRP, such as the replenishment method for the product or products and other parameters, Safety Stock, and other measures?

   If it has been determined the problem is with WRP, in addition to reviewing the replenishment plan data, the WRP Interactive Evaluation workbook can be used to perform what-if analysis, using various replenishment parameters to determine which parameters provide the desired results.

The parameters can be maintained directly in the Interactive Evaluation workbook or in the WRP Maintenance workbook. The parameters may also be maintained at higher levels in the WRP Administration workbook. Refer to the workbook chapter in this document for detailed information on these workbooks.

It may be determined that the problem is thresholds or other alert parameters for triggering alerts need tuning. For example, a threshold may need to be increased or decreased, either as a temporary change or as a deliberate change in how the business handles that exception.

The alert parameters can be maintained in the WRP Alert Maintenance Workbook at the SKU/Destination, Sub-class, or Department levels. Refer to the workbook chapter in this document for detailed information on this workbook.

The network thresholds can be maintained in the WRP Network Threshold Maintenance Workbook. Refer to the workbook chapter in this document for detailed information on this workbook.

> **Note:** Changes to WRP replenishment parameters or alert parameters are reflected in the next AIP batch run.

Once the review, analysis, and any desired changes have been made, the alert status may be updated to resolved.

9. To resolve, or close, an alert, return to the Alert Manager. Select the alert that you investigated, and click the **Resolve Alert** button. This moves the alert to the Resolved state.

> **Note:** At any point in the alert review process, if you acquire new information about an alert that would move it back to open or unresolved status, you can select the alert, and click the **Unresolve Alert** button

7

Loading and Maintaining Data

The following data must be loaded in order to generate a warehouse replenishment plan:

1. Basic hierarchy and attribute information – This data must be loaded via an interface with RMS or via flat file from another source.
2. Inventory information – This data includes on hand, in transits, transfers in the well, and allocations in the well.
3. Replenishment parameters – These parameters are maintained in WRP administration and maintenance workbooks. They include measures, such as minimum and maximum stock in cases, and maximum time supply days.
4. Supply Chain Definitions – This data includes lead-times, network definition and order multiple information.

The loading of data is a business process that is performed during the nightly batch. The maintaining of replenishment parameters can be performed at any time, but the effect of these changes is not seen until the next batch run.

Adding a New Warehouse Using a Sister Warehouse

Prior to opening a new warehouse, the new warehouse may be added to the system and replenishment planning can begin. A new warehouse can be modeled after a warehouse with similar characteristics and anticipated similar demand. To do this, a Sister Warehouse relationship is set up in RMS. Once this relationship is established, WRP performs a one-time copy of all required replenishment settings and parameters from the sister warehouse. WRP performs a weekly copy of sales history from the sister warehouse to a new warehouse that is scheduled to open. It continues to copy the sales history weekly up until the Warehouse Opening Date. On the Warehouse Opening Date, any remaining balance of sales history is copied.

If the warehouse opening date is greater than today's date, WRP copies all of the appropriate replenishment parameters that were manually set in WRP workbooks or that were loaded from external systems. These replenishment parameters are copied from the sister warehouse items to the new warehouse items for the length of time necessary to cover the period from the copy date to the new Warehouse Opening Date. The Sister Warehouse Parameters Flag indicates to users that the parameter copying script for Sister Warehouse has run and has copied the appropriate parameters.

Glossary

Active Product

Product that is for sale.

Actuals

Figures for sales, receipts and inventory for product/ locations.

Advanced Inventory Planning (AIP)

A suite of software products that are designed to manage the supply chain needs of large retailers, from interaction with its suppliers through various layers of warehouses down to individual stores and e-commerce sites. It couples time-phased replenishment and allocation algorithms to produce an actionable receipt plan over time. This is based on demand forecasts, replenishment parameters, and inventory availability at the numerous supply points within the supply chain. The suite is composed of Store Replenishment Planning (SRP), Warehouse Replenishment Planning (WRP), Order Management (OM), and Data Management (DM).

Alert

A notice that is displayed to system users that a value is above or below user defined limits (an exception).

Alert Manager

A window that displays the alerts that are assigned to you. This dialog provides a list of all identified instances in which a monitored data value fall outside a set of defined limits. You may pick an alert from this list and have the Alert Manager automatically build a workbook that contains the measure values that triggered the alert.

Alert Workbooks

Workbooks that display all of the alerts that have been issued to you along with the workbooks in which the alerts occur.

Availability Lead Time

This refers to the number of days from receipt that an order is prepared to be shipped to the next level in the supply chain. Valid values are 0 and 1.

Collaboration

A process of exchanging forecasted and actual sales, order, and other data between trading partners.

Commodity

The level at which plans are created for the stores. Commodity is synonymous with product and SKU.

Commodity Pack-Size

Numeric value that indicates the pack-size that may be ordered for a given commodity. Commodity Pack-Size is synonymous with SKU Pack-Size.

Constrained Receipt Plan

The ideal receipt quantity is modified to account for the availability of a product at the source location.

Corporate Acceptable Loss

The threshold for the amount of stock that is acceptable to lose due to spoilage. This amount is determined at a corporate level, and it affects measures, such as SRP Ideal Receipt Quantity.

Corporate Discontinuation Date

A date that represents when a SKU pack-size is planned for discontinuation at the corporate level.

Coupled

An information only flag to indicate a placement lead-time is in effect for this SKU. The coupled flag in not used in any calculations and does not determine that the placement lead-time is used.

Data Modeling

When setting up a new element, such as a new store, the user can select a similar store and use most of the characteristics of that store as a model for the new store.

Decoupled

An information only flag to indicate a placement lead-time is not in effect for this SKU. The decoupled flag in not used in any calculations and does not determine that the placement lead-time is not used.

Delivery Calendar Exception

A delivery lead-time that is used instead of the normal delivery lead-time. The lead-time is a numeric value.

Demand Group

A grouping of similar SKU pack-sizes used in DM to apply changes for all SKU pack-sizes in the demand group.

Demo Stock

The amount of stock to be used as demos (floor models), although it may be sold.

Direct Supplier

A supplier that ships a product directly to a store, thereby bypassing layers of the supply chain.

Dynamic Replenishment Method

A replenishment method that attempts to replenish only the quantity that is required from one replenishment cycle to the next. This method is useful for minimizing the amount of stock on hand while preventing stock-outs. It considers the lead times of the product and forecast prediction intervals for the safety stock calculations.

Exception

A value that is greater than or less than a user-defined limit.

Exception Reporting

The process of notifying the user that exceptions exist.

Fixed Period

The future time period in which a user can no longer alter an order that has been placed.

Forecast Data

Information about a store's future demand. In SRP, this data is often referring to data that has originated from Retail Demand Forecasting (RDF).

Forecasted Demand

The quantity of an item forecasted to be sold during a specified period.

Global Non-release Day

A day when orders, except for exceptions, are not released.

Global Non-trading Day

A day when all stores are not open to trade.

Hierarchy Information

Information from or about data structures (hierarchies), such as product, location, or time.

Home Warehouse

This is the warehouse within the profile that usually, but not always, supplies all of the products from the profile to the selected store. Usually, this is the warehouse geographically closest to the store.

Hybrid Replenishment Method

A replenishment method that is a combination of Dynamic and Time Supply replenishment methods. The main difference between the Hybrid and Dynamic methods is the calculation of safety stock. In the Hybrid method, two choices are available to calculate safety stock. The safety stock is calculated by summing the forecasted demand over minimum days of time supply or multiplying an average rate of sale by minimum days of time supply. The result is compared to the safety stock minimum level and adjusted up to the minimum level if required.

Ideal Store Receipt Plan

A receipt plan that is generated after the data is loaded. The parameters set for a particular replenishment method for a particular product/store combination are used to drive the calculations that generates the initial receipt plan. This process considers items; such as product life, rounding constraints, and pack-sizes to determine the ideal receipt quantities over time for each product/store combination.

In Transit

The number of items that have been ordered, picked up, and shipped, but not yet received at the replenished location.

Item

A generic term for any uniquely identifiable SKU in the merchandise hierarchy.

Lead Time Cycle

A cycle of 1, 2, or 4 weeks that specifies the lead-time for an order group on a specific day of the period.

Location Hierarchy

Pre-defined list of stores that is based on attributes; such as size of store, climate, and type of store. There is also a list of supply points.

Lost Sales

The estimated number of historical or projected sales that are lost due to stock outs. Lost sales are used in calculating SRP alerts.

Maximum Limit

The maximum amount of a USA a store or store group is able to receive.

Min/Max Replenishment Method

A simple, non-forecast-based replenishment method that should only be used when it is impossible to generate a reasonable forecast, such as a completely new type of product that cannot be modeled after anything else or for extremely slow-selling items where the minimum presentation levels constantly exceed the weekly demand.

Minimum Limit

The minimum amount of a USA that a store or store group is able to receive.

Need

The quantity of a product that represents the inventory demand when considering the defined data at the location level.

Net Inventory

Inventory that has been committed to a replenished location. This includes items on hand, on order, and in transit.

Network Group

A grouping of profiles/warehouses that are used for monitoring the quantities of products that are flowing through the physical network. One profile can only be in one network group at any given point in time unless there are warehouse exceptions within a profile. A network group can contain many profiles.

No Replenishment Method

A replenishment method that is provided for cases when replenishment calculations need to be turned off for a specific SKU/store/day. This method is used for periods when a store does not want to have any replenishment performed.

Non-Delivery Day

The day that a store cannot receive a delivery.

Non-Order Day

The day that a store or a regional distribution center cannot release an order.

Off-Supply Date

The date that represents the final date for delivery of a product into a store.

On Hand

The current inventory (in units) of a given product at a replenished location.

On-Supply Date

The date that represents when a store should begin receiving the product.

Open Orders

The number of items that have been ordered, but not yet shipped.

Order Calendar

A calendar of how many days in advance an order must be placed to be received on a specific day of the period. This calendar is generally produced by repeating an order cycle.

Order Cycle

A cycle of 1, 2, or 4 weeks that specifies how many days in advance an order must be placed to be received on a specific day of the period.

Order Cycle Pattern Length

The length of the order cycle in number of weeks (1, 2, or 4).

Order Group

A group that has similar order placement/lead-time characteristics. These characteristics include order cycles.

Order Lead Time

The number of days between the date an order is placed and the date that the merchandise is available for sale in the store.

Order Up To Level

See Receive Up To Level.

Pallet

A wooden platform that is used for handling, storing, or moving inventory throughout the supply chain.

Parameter Maintenance

The process that is used to set up or update the default values that are used to populate measures and exception thresholds.

Pattern

Patterns are used for placing and releasing orders to WRP and PKMS. Each commodity store combination is allocated a pattern. Patterns may change over time or as a result of switching the commodity to a different profile.

Placement Calendar

A schedule of the date that an order must be released by a store in order for the store to receive it by a certain date. The order must move through the entire supply chain (supplier to store).

Placement Cycle

A cycle of 1, 2, or 4 weeks that specifies how many days in advance an order must be placed from a store to a supplier for it to be received on a specific day of the period.

Placement Lead Time

The placement lead-time indicates that SRP cannot change the order plan after a specified number of days prior to the delivery day.

Planning Group

A single or a collection of network groups. Planning groups enable Network controllers to have a high level view of the volumes that flow through the supply chain and identify any capacity issues at warehouses.

Planning Horizon

The range of planning involved. This is typically expressed as a range of dates (for example, 1-35 days or 1-26 weeks).

Presentation Stock

The amount of stock that must be on store shelves in order to make the merchandise fixture look attractive. Presentation stock is not expected to satisfy consumer demand, but it can be used to do so.

Product

The level at which plans are created for the stores. Product is synonymous with commodity and SKU.

Product Hierarchy

A pre-defined list of items that are grouped on similar attributes.

Product Type

All commodities products have a product type (specified in RMS, such as Ambient, Chill, Frozen, or Slow Moving goods), and the product types are linked to a chamber.

Profile

Grouping of products with similar ordering patterns. The profile assists in defining the sourcing rules for a commodity between store and warehouses.

Proportional Spreading

This refers to the ability to change a value at an aggregated level, such as class, and have that value spread to the lower levels of detail while maintaining the relationship that each one is to the total.

Ranged Product

A product that is currently being sold.

Ranging

To specify ranges of positions in a hierarchy over which you want to apply an alert. For example, you might only want one Sub-class of products (and not the entire product hierarchy) to be monitored by a particular alert.

Rate of Sale

An average measure of how fast inventory is sold over a specified time period. In time supply replenishment, ROS is multiplied by the minimum and maximum days of stock values to calculate stocking levels for the time supply window. Also see Time supply replenishment method.

Receipt Point

The inventory level that triggers a suggested order.

Receive Up To Level

The maximum value to which a chosen replenishment method raises the inventory when generating a recommended orders. Receive Up To Level is synonymous with Order Up To Level.

Receiving Schedule

A Boolean measure that indicates when stores can receive a delivery.

Recommended Order Quantity

The total number of units that the system suggests should be ordered for a given product/location combination.

Reconciliation

Strategic placement of merchandise to either store locations or warehouse locations.

Reconciliation Adjustment

The difference between the ideal order quantity and the constrained order due to product availability at the source.

Reconciliation Period

A period of time within the fixed period over which the reconciliation process occurs based on availability of inventory and demand.

Reconciliation Quantity

The suggested quantity to be allocated to each location or location group. This is based on the need and the defined quantity limits. This quantity can be over-written by the user prior to approving.

Regional Distribution Center (RDC)

A stockholding location that is used to distribute goods to stores or other warehouses within a given region. Also see warehouse.

Release Calendar

A schedule of what date an order must be released by in order to receive it by a certain date. Same as a release schedule.

Release Calendar Exceptions

A release lead-time that is used instead of the normal release lead-time. The lead-time is a numeric value.

Release Cycle

A cycle of 1, 2, or 4 weeks that specifies how many days in advance an order must be placed from a store to a warehouse for it to be received on a specific day of the period.

Release Date

The date that store order goods must leave the warehouse in order to arrive at the store as planned.

Release Schedule

A schedule of the date that an order must be released in order to receive it by a certain date.

Replenishment

A pull method of deploying merchandise to locations that is used for staple products that have a predictable demand, a frequent reorder period, and a base inventory level.

Replenishment Cycle

The set of events that make up one iteration of the replenishment process. For instance, Order Lead Time followed by Review Time followed by Inventory Selling Days.

Replenishment Parameters

Values that are stored to populate measures and exception thresholds specifically related to replenishment.

Replenishment Plan

A unique set of data (calculated according to demand forecasts), replenishment parameters, and inventory availability that gives retailers the ability to project their demand and share these projections with their suppliers whenever it is appropriate.

Retail Demand Forecasting (RDF)

Oracle Retail's statistical and causal forecasting solution. RDF uses state-of-the-art modeling techniques to produce high quality forecasts with minimal human intervention. Forecasts produced by RDF enhance the retailer's supply-chain planning, allocation, and replenishment processes.

Retail Merchandising System (RMS)

Oracle Retail's transaction system that serves as the focal point for information flows throughout the Oracle Retail Product Suite. This has key functions; such as inventory management, purchasing and receiving, price/ promotion management, and replenishment.

Retail Predictive Planning

New generation planning suite that provides solutions that are easy to use, flexible, and in support of all aspects of an organization's planning process.

Review Time (RT)

The amount of time (measured in days) that represents the amount of time between days on which an order may be generated.

Rule

The foundation for USAs is based on the need that defines the data to determine the individual store need based on user-defined rules. Rule modifiers can be applied to the selected rule to further increase the accuracy of the need calculation. There are four Rules to choose from:

1. Sales History
2. Forecasted Orders
3. Forecasted Sales
4. Manual Index

Rule Modifier

A defined set of data that enables a more accurate calculation of allocation quantity (for example, time definition).

Safety Stock

The number of units to have on hand in order to ensure that enough items are ordered to cover deviations from forecasted demand.

SKU

Stock Keeping Unit. A SKU is a number that is associated with a product for inventory purposes. Also see Product.

Source Switching

The process of moving a supply point for a product/store combination. Switching is used to balance the quantities of commodities that are flowing through the system (for example, Christmas). It is also used for resolving Warehouse supply problems. There are two types of switches: temporary and permanent.

Store Calendar

Boolean measure that indicates when stores can receive a delivery.

Store Demand Forecast Data

Information about a store's future demand. In SRP, this data is often referring to data that is originating from Retail Demand Forecasting (RDF).

Store Format

A grouping of stores with a similar layout. Examples include Local, Supermarket, and Super Center.

Store Placement Lead Time

The time that a product takes to get from the supplier to a store from the order date.

Store Release Lead Time

The time that a product takes to get from a RDC to a store from the order date.

Store Replenishment Plan

A unique set of data (calculated according to demand forecasts) replenishment parameters, and inventory availability that gives retailers the ability to project their demand and share these projections with their suppliers whenever it is appropriate.

Store Replenishment Planning (SRP)

A component of the Oracle Retail Advanced Inventory Planning solution. It uses a set of parameters and calculations on loaded static and dynamic data to produce a replenishment receipt plan at the store level.

Store Shipping Lead Time

The number of days between the date an order is shipped and the date it is expected to be received in the store.

Supplier

The top level in the Retailer supply chain. This is the first level, which is not always owned and operated by Retailer.

Supplier Order Multiple

The quantity of units that must be ordered at the same time.

Supply Point

The source from where the ordering location receives its inventory from.

Time Supply Horizon (TSH)

An optional measure that determines the number of days used to calculate the rate of sale from forecast data. If a TSH is not specified, forecasts are simply summed over the minimum and maximum days of supply.

Time Supply Replenishment Method

A replenishment method that allows users to maintain a minimum and maximum amount of stock in terms of days of supply. This method is useful for replenished items where the objective is not necessarily to reduce the inventory on hand, but to prevent stock-outs and maintain a constant inventory within a specified range.

Unconstrained Receipt Plan

The ideal receipt quantity based on the current inventory position, the receipt point, and the receive up to level allocation boundaries.

Unit of Measure

Defines how the user views data — either in packs or eaches.

User Specified Allocation (USA)

A component of the Store Replenishment Planning (SRP) solution that allows for system users to push inventory to a given store or a group of stores.

Value Added Product

A promotional product that includes an addition amount of the product for the same price as the un-promoted product.

Warehouse

A stockholding location that is used to distribute goods to stores or other warehouses within a given region. Also see Regional Distribution Center.

Warehouse Chamber

Grouping of products with the same storage characteristic or distribution channels (WH-CH). For example, Ambient, Chill, Frozen, or Slow Moving goods.

Warehouse Replenishment Planning (WRP)

A component of the Oracle Retail Advanced Inventory Planning solution that determines the orders between depots and suppliers while constraining each depot's orders based on product availability at its source. Supplier orders are not constrained.

Warehouse Inventory

The quantity of merchandise that is owned in perpetual inventory residing in the warehouse for eventual distribution to store locations or other warehouse locations.

Wizard

Used to select a product, locations, set of rules, rule modifiers, and periods of time.