

Oracle® Retail Advanced Inventory Planning
Warehouse Replenishment Planning User Guide
Release 13.0.1.1

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- (ix) the software component known as **DataBeacon™** developed and licensed by Cognos Incorporated of Ottawa, Ontario, Canada, to Oracle and imbedded in the Oracle Retail Value Chain Collaboration application.

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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 13.0.1.1 documentation set:

- *Oracle Retail Advanced Inventory Planning Release Notes*
- *Oracle Retail Advanced Inventory Planning Data Management Online 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 Order Management User Guide*
- *Oracle Retail Advanced Inventory Planning Store Replenishment Planning User 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*
- *Oracle Retail Advanced Inventory Planning Installation Guide*
- *Oracle Retail Advanced Inventory Planning Operations Guide*
- *Oracle Retail Advanced Inventory Planning Implementation Guide*

Customer Support

<https://metalink.oracle.com>

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Review Patch Documentation

For a base release ("0" release, such as 13.0), Oracle Retail strongly recommends that you read all patch documentation before you begin installation procedures. Patch documentation can contain critical information related to the base release, based on new information and code changes that have been made since the base release.

Oracle Retail Documentation on the Oracle Technology Network

In addition to being packaged with each product release (on the base or patch level), all Oracle Retail documentation is available on the following Web site:

http://www.oracle.com/technology/documentation/oracle_retail.html

Documentation should be available on this Web site within a month after a product release. Note that documentation is always available with the packaged code on the release date.

Conventions

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

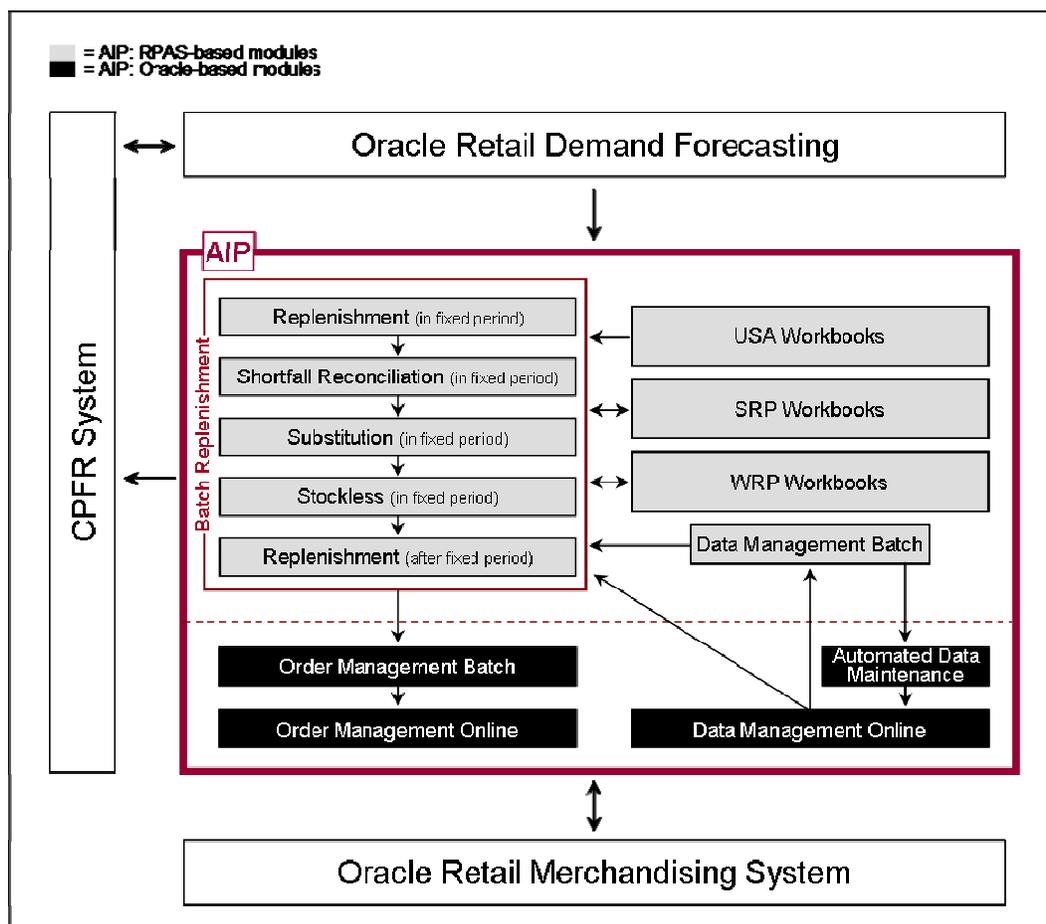
Note: This is a note. It is used to call out information that is important, but not necessarily part of the procedure.

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

A hyperlink appears like this.

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 will be communicated to other systems. These orders will be 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 will be 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- will be 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.

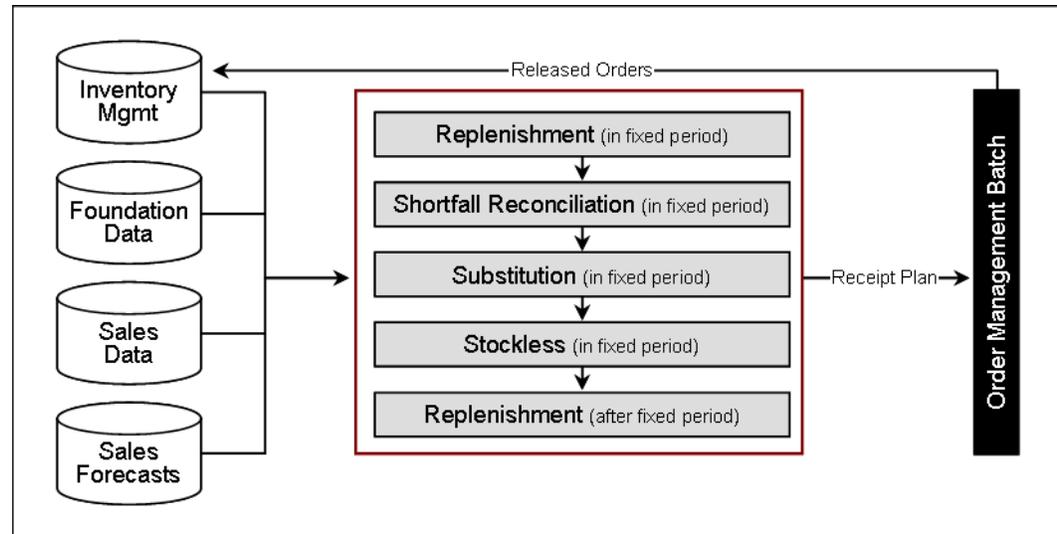
Instead, the actual process of producing a warehouse replenishment plan is accomplished by the running of the five batch replenishment modules.

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 will need 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 will be 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 period will not be 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.

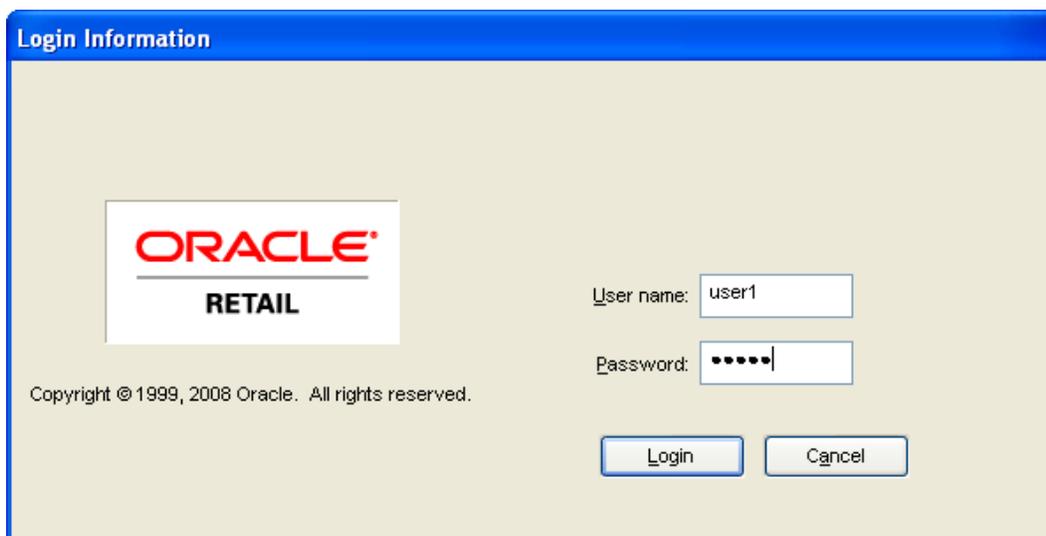
The Order Management interface gives the user access to those orders that have already been released. Those purchase orders that have not been received may be updated. Those forecast Purchase Orders that have not yet been released because they ship at a later date may be executed early.

Navigation in WRP

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

Logging into WRP

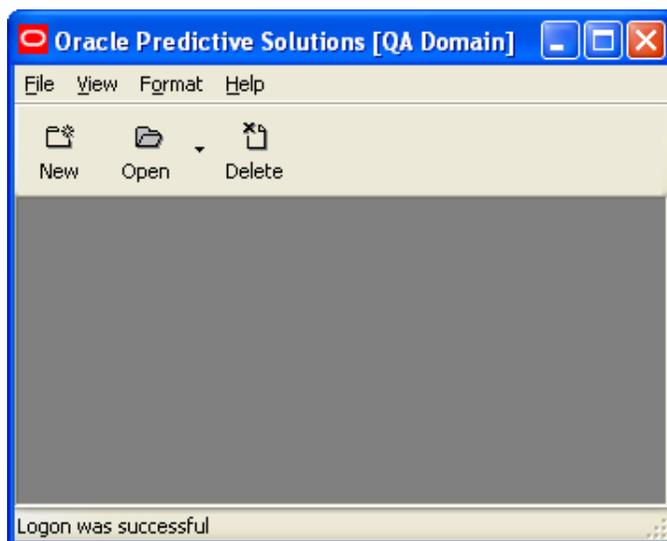
1. From the Windows Start menu, select **Programs – Oracle Predictive Solutions – Oracle Predictive Solutions**. The Login Information dialog box appears.



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.



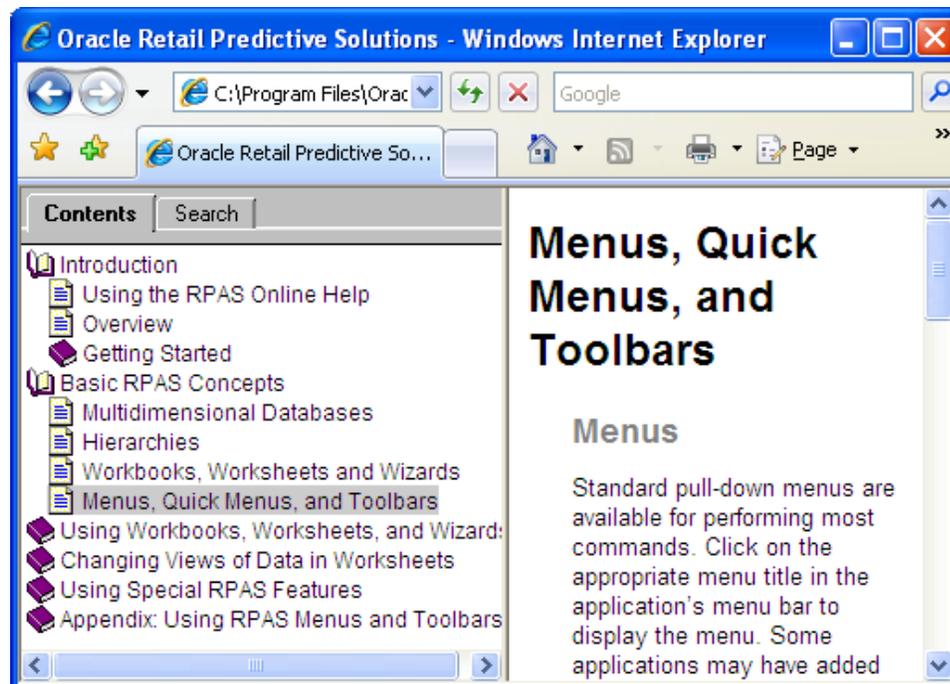
Oracle Predictive Solutions [AIP 12] Main Menu and Toolbar – No Workbooks Open

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 – Menu, Quick Menus, and Toolbars**. Select an applicable topic.



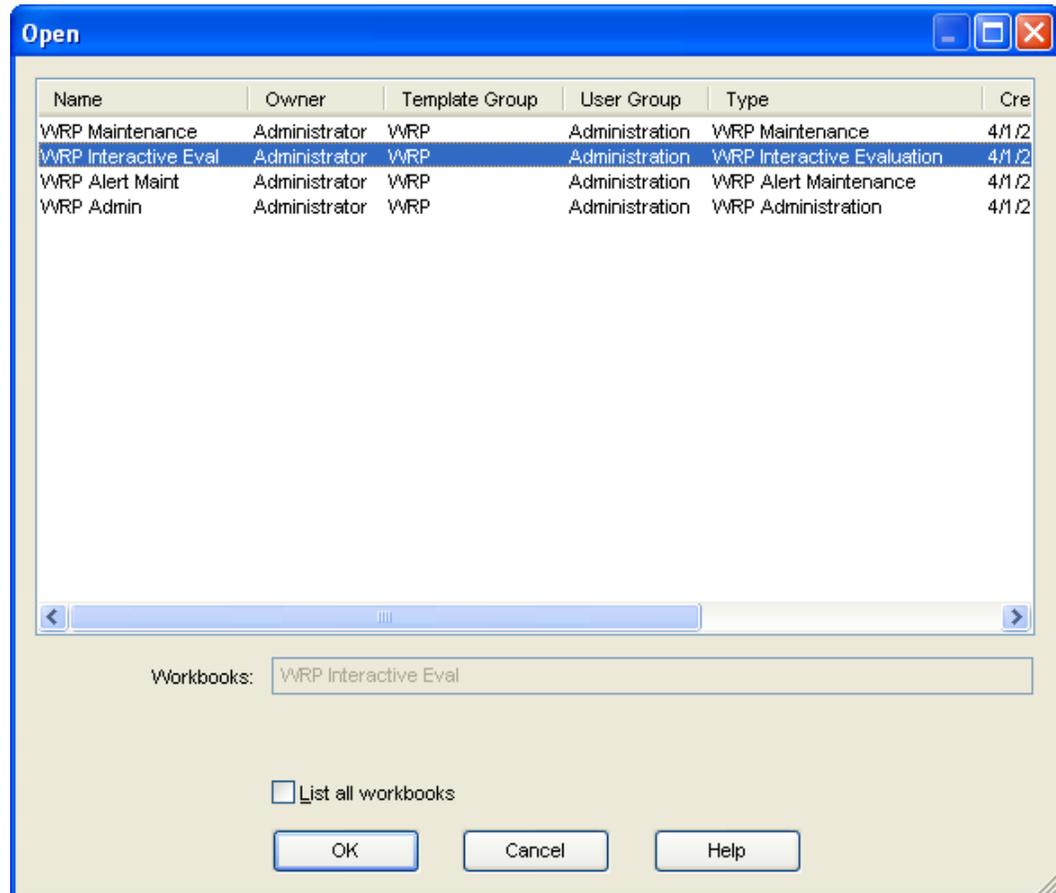
Help Contents – Menu, Quick Menus, and Toolbars Topics

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

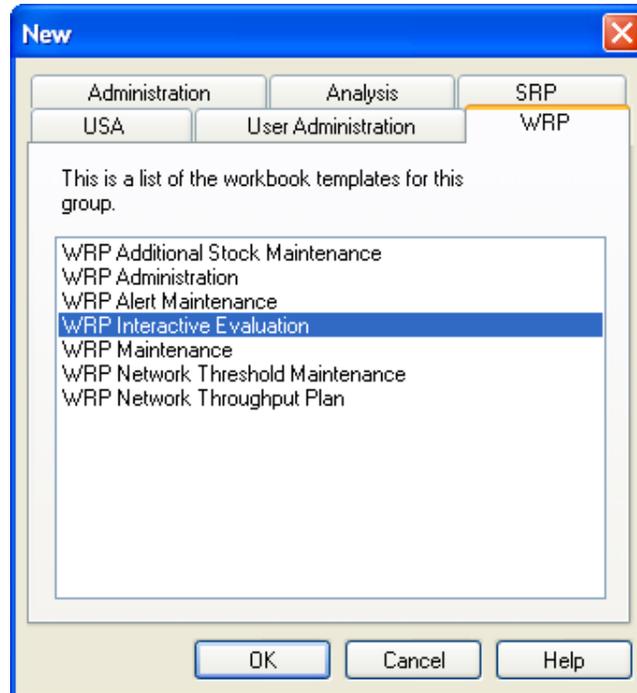
2. Select a workbook to read or edit.
3. Click **OK**. The selected workbook is opened. The last visible window when the workbook was saved is displayed. Use the next or previous arrows to navigate through the workbook windows.

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 “Chapter 3 – Workbook and Worksheet Descriptions”.

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



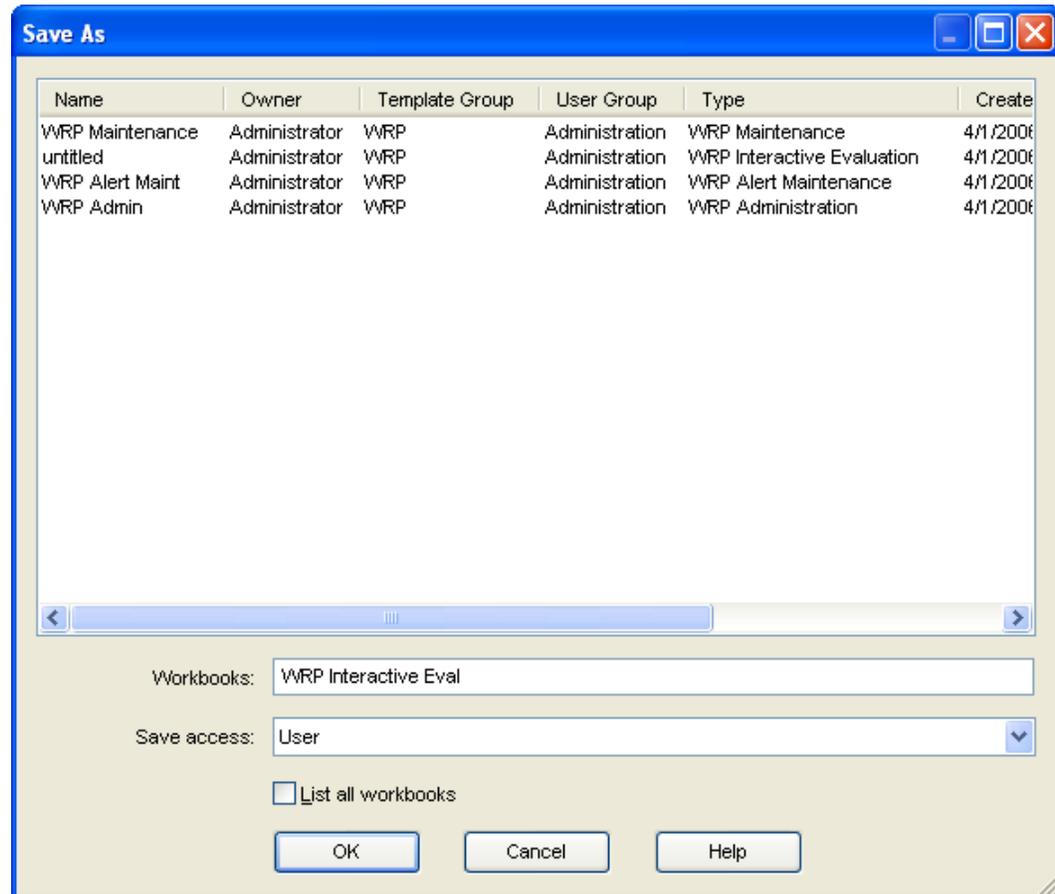
New Dialog Box for Creating Workbooks

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.

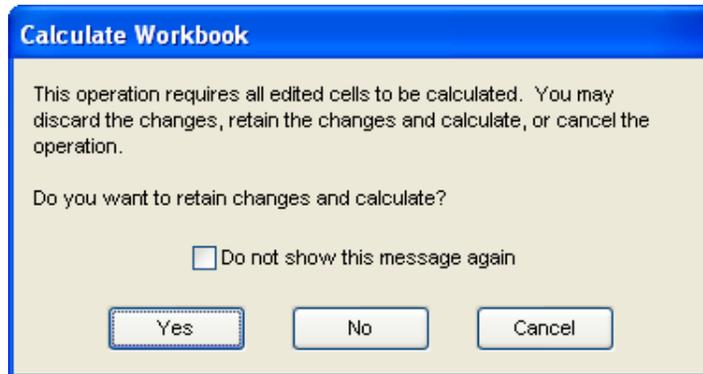
Saving Options

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

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

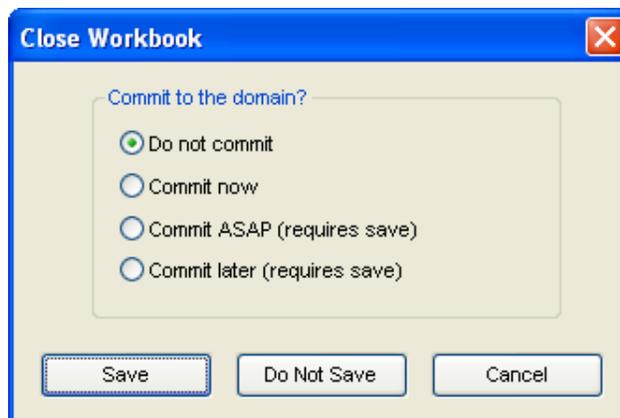
Closing a Workbook

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.

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 will only be 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 will only be used if no lower level (exception) parameters exist. Parameter values at the Sub-class/Store Format level will be used over global defaults.
- Exception parameters are the lowest level used in determining the effective value of the measure. In other words, exception parameters the will be used over global and default level parameters.
- The default parameters allow the user to enter parameters that will affect 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 will remain 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 will use the value from the previous day (i.e., the value remains the same as the prior day)
-2 (Use Default)	Indicates the measure will be 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 will be used, resulting in Maximum Stock remaining unbounded.
- On 11/30, the user enters '-2' at the exception level, indicating the default value will be 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) will be 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 will be used. The default level has changed to '-2', indicating the global default value will be 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) will be 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:

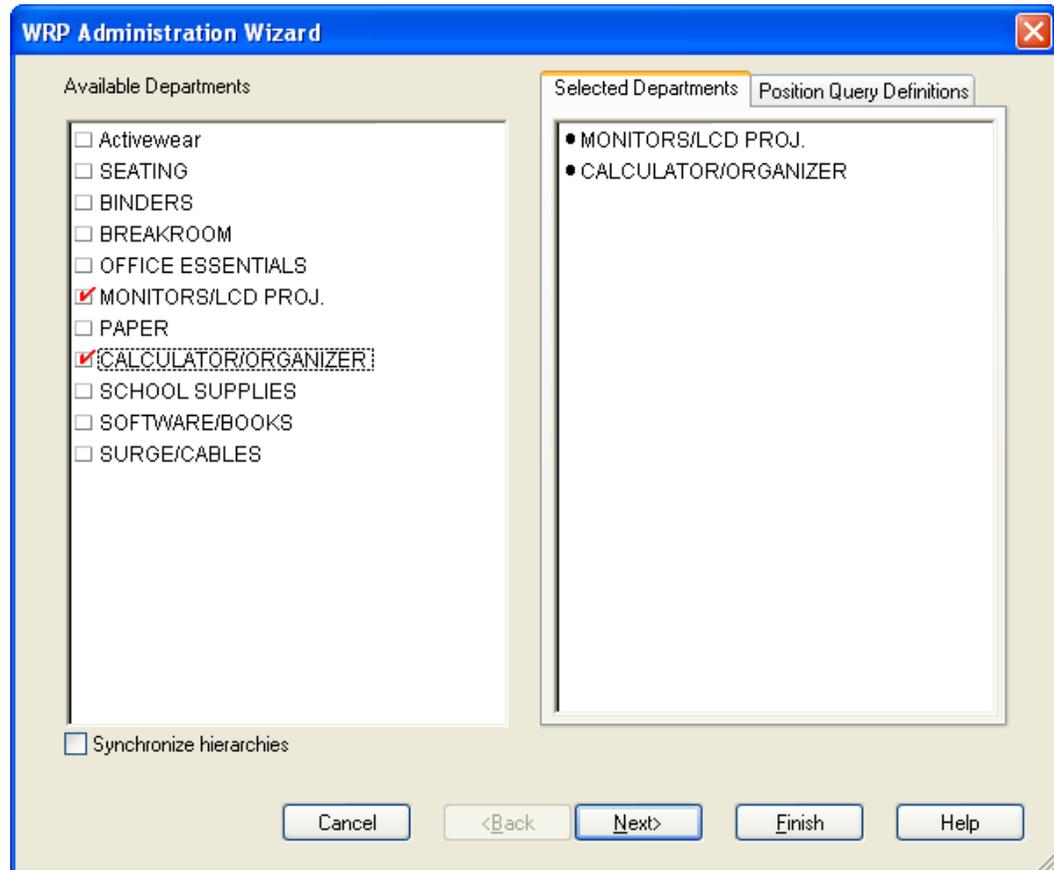
- A WRP Global Parameters (Dept) Tab containing
 - A WRP Global Parameters worksheet at the Dept level
- A WRP Default Parameters (Sub-class/Destination/Day) Tab containing
 - A WRP Default Parameters worksheet at the Sub-class/Destination/Day level
- A WRP Default Parameters (Sub-class/Destination/Week)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

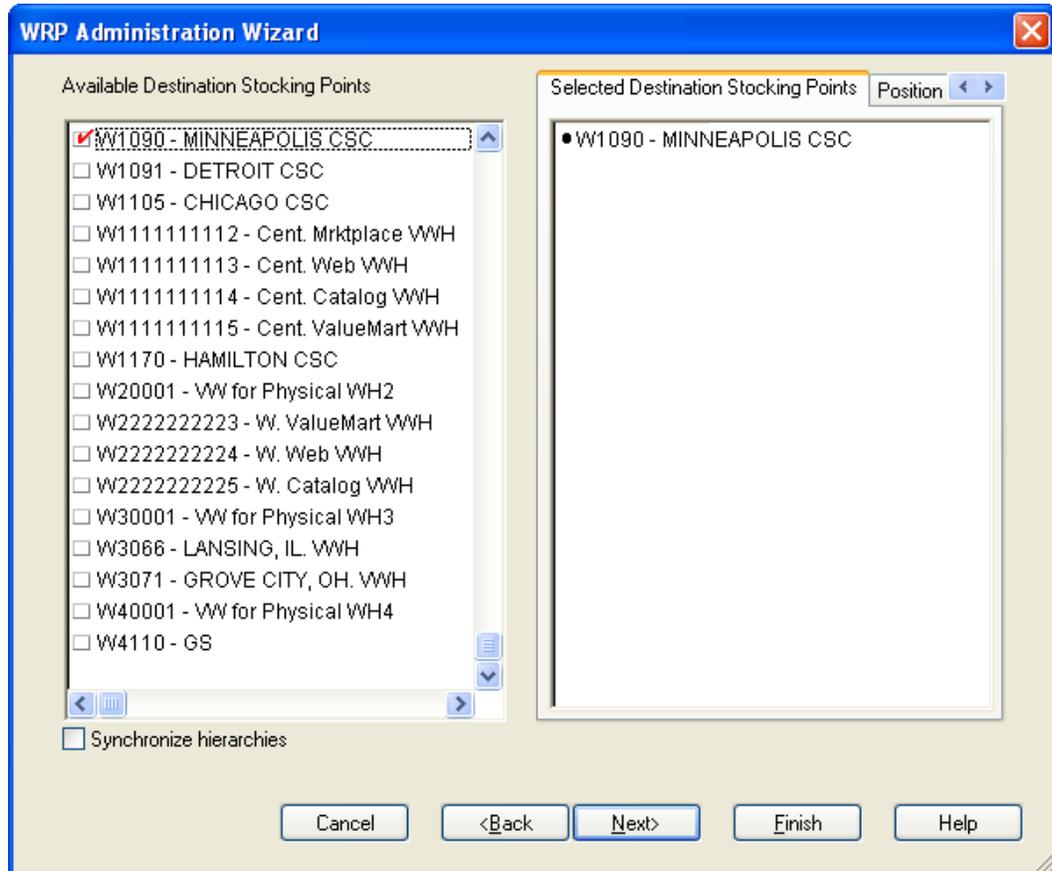
This dialog box enables the user to select Departments from a list of all available Departments in the AIP domain. The Selected Departments list will be pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Departments. Standard RPAS functionality is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



WRP Administration Wizard – Available Departments

Available Destination Stocking Points

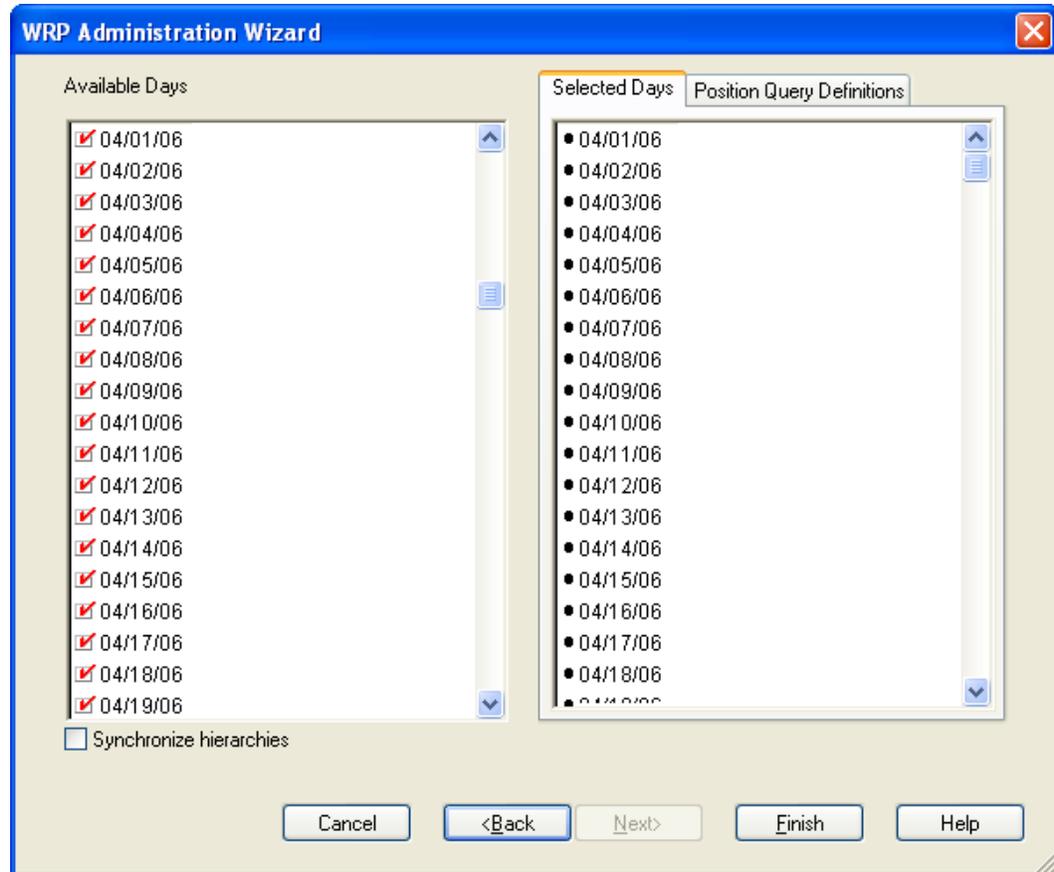
This dialog box enables the user to select Destination Stocking Points from a list of all available Destination Stock Points in the AIP domain. The Selected Destination Stocking Points list will be pre-populated with any previous user selections. Amendments are made by checking or un-checking Available 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 will be 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.



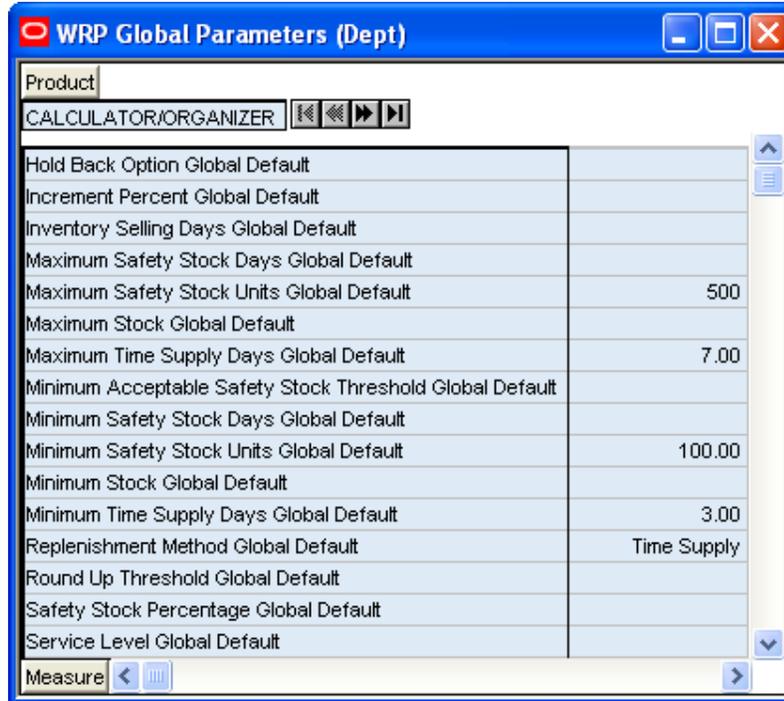
WRP Administration Wizard – Available Days

When the user selects 'Finish', the workbook will be 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	<p>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".</p> <p>Reserve Holdback Quantity means that any user-specified Hold Back quantity should be deducted from the On Hand (Net Inventory) position.</p> <p>Do Not Reserve Holdback Quantity means that the On Hand (Net Inventory) calculation ignores any Hold Back quantity specified by the user.</p>
Increment Percent Global Default	<p>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.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To use 120% of the Min and Max Stock, the user would enter a value of 1.2.</p>

Measure Label	Explanation
Inventory Selling Days Global Default	<p>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.</p> <p>Any positive number is valid.</p> <p>Example: To account for 3 days of demand, the user should enter 3.</p>
Maximum Safety Stock Days Global Default	<p>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.</p> <p>If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary will use the larger of demand over max safety stock days and max safety stock units.</p> <p>Any positive integer, including zero, is valid.</p> <p>Example: To ensure the maximum safety stock will contain 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.</p>
Maximum Safety Stock Units Global Default	<p>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.</p> <p>If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary will use the larger of demand over max safety stock days and max safety stock units.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To ensure the maximum safety stock will contain 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.</p>
Maximum Stock Global Default	<p>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.</p> <p>Any positive number, including zero, is valid.</p>
Maximum Time Supply Days Global Default	<p>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.</p> <p>Any positive integer, including zero, is valid.</p> <p>Example: To ensure an order will bring the inventory level up to 14 days of supply, 14 would be entered in Max Time Supply Days.</p>
Minimum Acceptable Safety Stock Threshold Global Default	<p>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.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To protect 40% of safety stock, the user would enter a value of 0.4.</p>

Measure Label	Explanation
Minimum Safety Stock Days Global Default	<p>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.</p> <p>If the user enters both Min Safety Stock Days and Min Safety Stock Units, the minimum safety stock boundary will use the larger of demand over min safety stock days and min safety stock units.</p> <p>Any positive integer, including zero, is valid.</p> <p>Example: To ensure the minimum safety stock will contain 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.</p>
Minimum Safety Stock Units Global Default	<p>The Minimum Safety Stock Units parameter is used to specify the minimum amount of inventory to be kept on hand as safety stock.</p> <p>If the user enters both Min Safety Stock Days and Min Safety Stock Units, the minimum safety stock boundary will use the larger of demand over min safety stock days and min safety stock units.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To ensure the minimum safety stock will contain 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.</p>
Minimum Stock Global Default	<p>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.</p> <p>Any positive number, including zero, is valid.</p>
Minimum Time Supply Days Global Default	<p>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.</p>
Replenishment Method Global Default	<p>The choice of Replenishment Method determines the type of calculations that will be used in generating a warehouse replenishment plan. The user selects the Replenishment Method from the following picklist options:</p> <ul style="list-style-type: none"> ▪ Min/Max ▪ Time Supply ▪ Dynamic ▪ Hybrid ▪ No Replenishment ▪ Sales Week Range ▪ Factor AWS ▪ Loaded SS Dynamic ▪ Factor ARS <p>The default method is No Replenishment.</p>

Measure Label	Explanation
Round Up Threshold Global Default	<p>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.</p> <p>Valid values are 0 through 1.</p> <p>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.</p>
Safety Stock Percentage Global Default	<p>The Safety Stock Percentage Global Default measure is reserved for future use.</p>
Service Level Global Default	<p>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.</p> <p>Valid values are 0 through 1.</p> <p>Example: If a user wants to carry enough safety stock to maintain a 90% customer service level, the user would enter .90.</p>
SPQ Commitment Type Global Default	<p>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”.</p> <p>“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.</p> <p>“Capped” indicates that the user-specified SPQ quantity may not be exceeded, but it need not be ordered if it is not required.</p>
Statistical Variance Threshold Global Default	<p>The variance threshold is used to determine whether statistical variance should be updated. If the calculated value is above the threshold, then it will not be used to update variance.</p>
Statistical Variance Upper Boundary Global Default	<p>WRP calculates variance as a percent of forecast demand. The variance (represented as a percentage) is not permitted to exceed this threshold.</p>
Time Supply Horizon Global Default	<p>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.</p> <p>Any positive integer is valid.</p> <p>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.</p>
Warehouse ARS Factor Global Default	<p>Used only in the ARS (Average Rate of Sale) Replenishment Method, this factor is multiplied by the ARS to determine target stock levels.</p> <p>Any positive value is valid.</p> <p>Example: To multiply the ARS by a factor of 2, the user should enter a value of 2.</p>

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	<p>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.</p> <p>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.</p> <p>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.</p> <p>Valid values are zero (0) for false and one (1) for true.</p>

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.

Product	Destination Stocking Point	Calendar			
CRT MONITORS	W1090 - MINNEAPOLIS CSC	03/31/06	04/01/06	04/02/06	04/03/06
Hold Back Option Default					
Increment Percent Default					
Inventory Selling Days Default					
Maximum Safety Stock Days Default					
Maximum Safety Stock Units Default					
Maximum Stock Default					
Maximum Time Supply Days Default				3.00	
Minimum Acceptable Safety Stock Threshold Default					
Minimum Safety Stock Days Default					
Minimum Safety Stock Units Default					
Minimum Stock Default					
Minimum Time Supply Days Default				1.00	
Replenishment Method Default				Hybrid	
Round Up Threshold Default					
Service Level Default					

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	<p>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”.</p> <p>Reserve Holdback Quantity means that any user-specified Hold Back quantity should be deducted from the On Hand (Net Inventory) position.</p> <p>Do Not Reserve Holdback Quantity means that the On Hand (Net Inventory) calculation ignores any Hold Back quantity specified by the user.</p>
Increment Percent Default	<p>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.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To use 120% of the Min and Max Stock, the user would enter a value of 1.2.</p>
Inventory Selling Days Default	<p>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.</p> <p>Any positive number is valid.</p> <p>Example: To account for 3 days of demand, the user should enter 3.</p>
Maximum Safety Stock Days Default	<p>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.</p> <p>If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary will use the larger of demand over max safety stock days and max safety stock units.</p> <p>Any positive integer, including zero, is valid.</p> <p>Example: To ensure the maximum safety stock will contain 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.</p>
Maximum Safety Stock Units Default	<p>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.</p> <p>If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary will use the larger of demand over max safety stock days and max safety stock units.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To ensure the maximum safety stock will contain 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.</p>

Measure Label	Explanation
Maximum Stock Default	<p>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.</p> <p>Any positive number, including zero, is valid.</p>
Maximum Time Supply Days Default	<p>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.</p> <p>Any positive integer, including zero, is valid.</p> <p>Example: To ensure an order will bring the inventory level up to 14 days of supply, 14 would be entered in Max Time Supply Days.</p>
Minimum Acceptable Safety Stock Threshold Default	<p>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.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To protect 40% of safety stock, the user would enter a value of 0.4.</p>
Minimum Safety Stock Days Default	<p>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.</p> <p>If the user enters both Min Safety Stock Days and Min Safety Stock Units, the minimum safety stock boundary will use the larger of demand over min safety stock days and min safety stock units.</p> <p>Any positive integer, including zero, is valid.</p> <p>Example: To ensure the minimum safety stock will contain 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.</p>
Minimum Safety Stock Units Default	<p>The Minimum Safety Stock Units parameter is used to specify the minimum amount of inventory to be kept on hand as safety stock.</p> <p>If the user enters both Min Safety Stock Days and Min Safety Stock Units, the minimum safety stock boundary will use the larger of demand over min safety stock days and min safety stock units.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To ensure the minimum safety stock will contain 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.</p>
Minimum Stock Default	<p>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.</p> <p>Any positive number, including zero, is valid.</p>

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	<p>The choice of Replenishment Method determines the type of calculations that will be used in generating a warehouse replenishment plan. The user selects the Replenishment Method from the following picklist options:</p> <ul style="list-style-type: none"> ▪ Min/Max ▪ Time Supply ▪ Dynamic ▪ Hybrid ▪ No Replenishment ▪ Sales Week Range ▪ Factor AWS ▪ Loaded SS Dynamic ▪ Factor ARS <p>The default method is No Replenishment.</p>
Round Up Threshold Default	<p>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.</p> <p>Valid values are 0 through 1.</p> <p>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.</p>
Service Level Default	<p>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.</p> <p>Valid values are 0 through 1.</p> <p>Example: If a user wants to carry enough safety stock to maintain a 90% customer service level, the user would enter .90.</p>
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 will not be 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	<p>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.</p> <p>Any positive integer is valid.</p> <p>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.</p>

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.

Product	Destination	Stocking Point	Calendar			
CRT MONITORS	W1090 - MINNEAPOLIS CSC		04/01/06	04/08/06	04/15/06	04/22/06
SPQ Commitment Type Default				Fixed		
Warehouse ARS Factor Default						
Warehouse Roll Weeks Default						

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

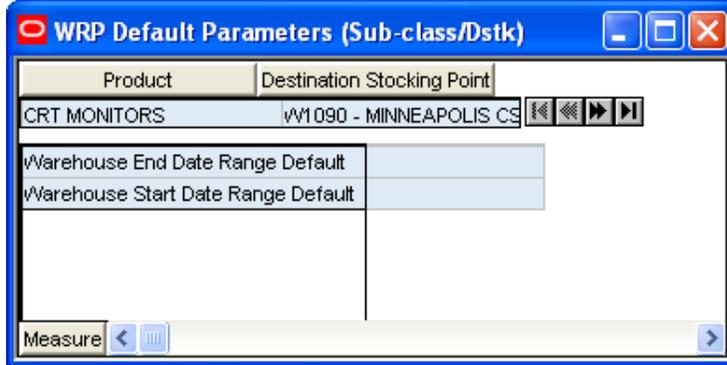
The following measures are displayed automatically when using the default template.

Measure Label	Explanation
SPQ Commitment Type Default	<p>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”.</p> <p>“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.</p> <p>“Capped” indicates that the user-specified SPQ quantity may not be exceeded, but it need not be ordered if it is not required.</p>
Warehouse ARS Factor Default	<p>Used only in the ARS (Average Rate of Sale) Replenishment Method, this factor is multiplied by the ARS to determine target stock levels.</p> <p>Any positive value is valid.</p> <p>Example: To multiple the ARS by a factor of 2, the user should enter a value of 2.</p>
Warehouse Roll Weeks Default	<p>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.</p> <p>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.</p> <p>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.</p> <p>Valid values are zero (0) for false and one (1) for true.</p>

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:

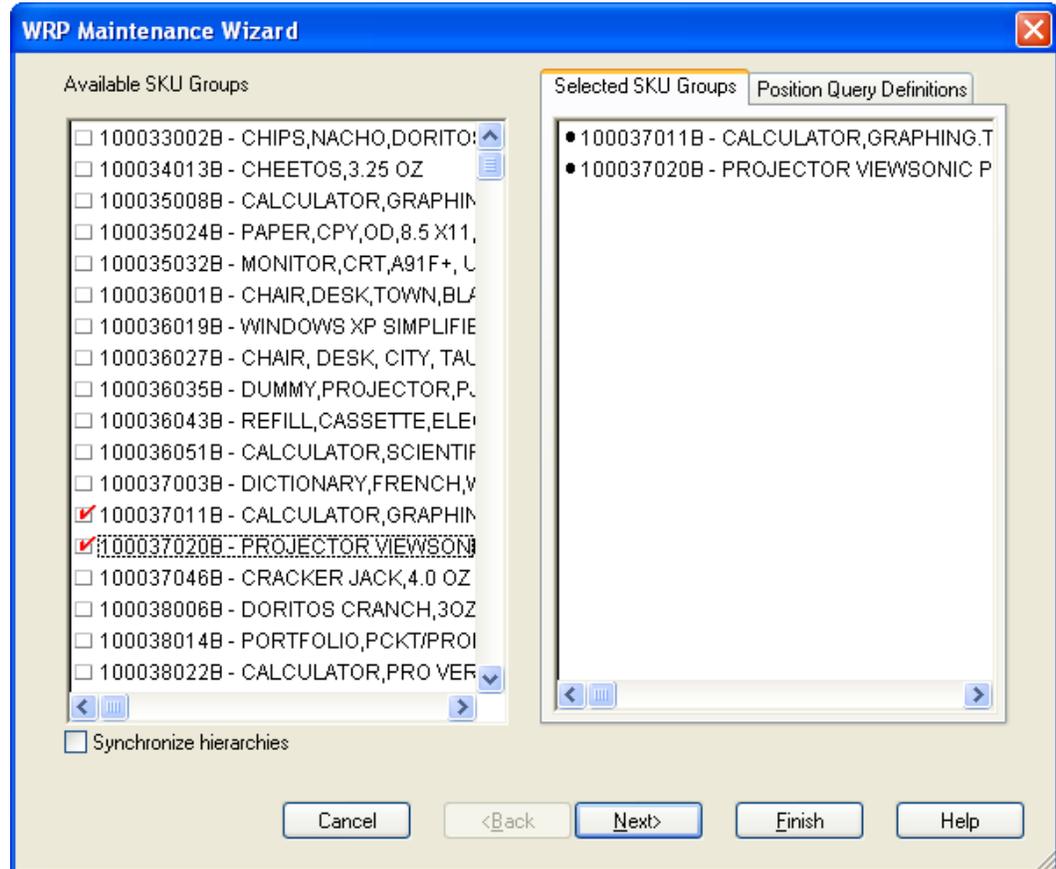
- A WRP Exception Parameters (SKU/Destination/Day) Tab containing
 - A WRP Exception Parameters worksheet at the SKU/Destination/Day level
- A WRP Exception Parameters (SKU/Destination) Tab containing
 - A WRP Exception Parameters worksheet at the SKU/Destination level
- A WRP Exception Parameters (SKU/Destination/Week)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

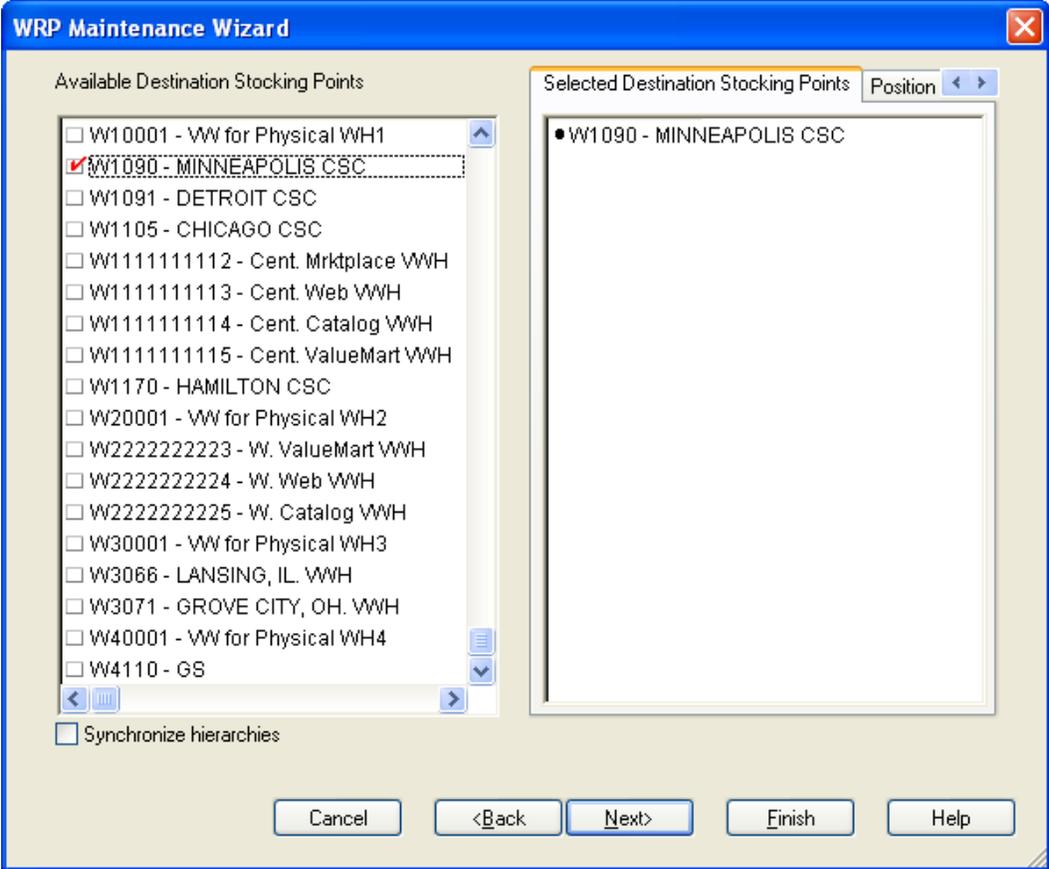
This dialog box enables the user to select SKU Groups from a list of all available SKU Groups in the AIP domain. The Selected SKU Groups list will be pre-populated with any previous user selections. Amendments are made by checking or un-checking Available SKU Groups. Standard RPAS functionality is available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



WRP Maintenance Wizard – Available SKU Groups

Available Destination Stocking Points

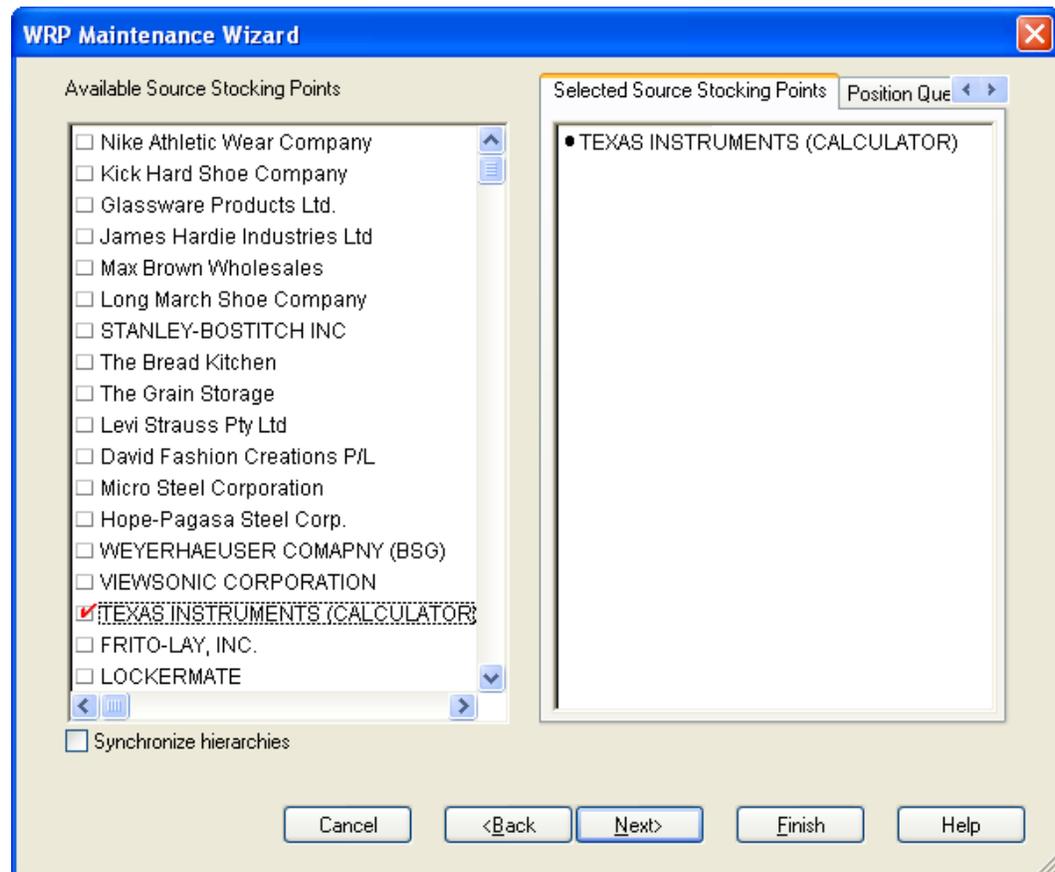
This dialog box enables the user to select Destination Stocking Points from a list of all available Destination Stock Points in the AIP domain. The Selected Destination Stocking Points list will be pre-populated with any previous user selections. Amendments are made by checking or un-checking Available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



WRP Maintenance Wizard – Available Destination Stocking Points

Available Source Stocking Points

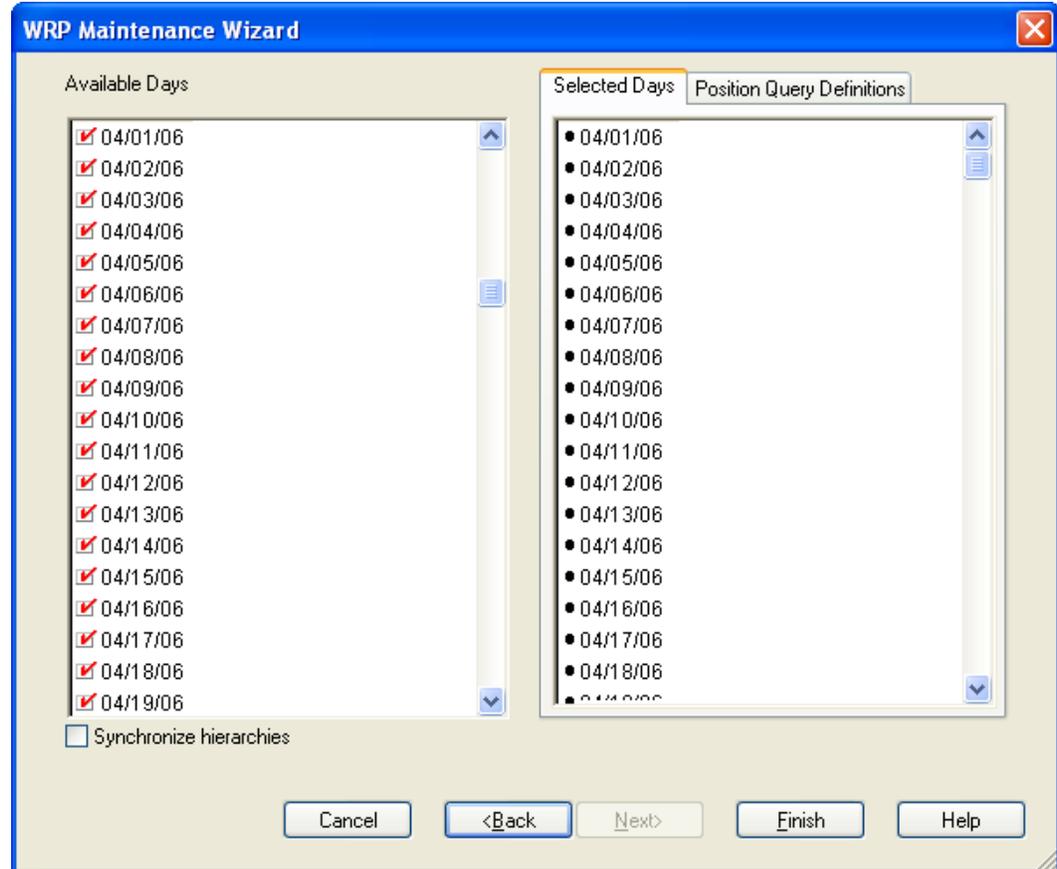
This dialog box enables the user to select Source Stocking Points from a list of all available Source Stocking Points in the AIP domain. The Selected Source Stocking Points list will be pre-populated with any previous user selections. Amendments are made by checking or un-checking Available Source Stocking 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 will be 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 will be 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.

Product	Destination Stocking Point	Calendar			
100037011 - CALCULATOR_GRAPHING.T186	W1090 - MINNEAPOLIS CSC	03/31/06	04/01/06	04/02/06	04/03/06
Hold Back Option Exception					
Increment Percent Exception					
Inventory Selling Days Exception					
Maximum Safety Stock Days Exception					
Maximum Safety Stock Units Exception					
Maximum Stock Exception				500.00	
Maximum Time Supply Days Exception					
Minimum Acceptable Safety Stock Threshold Exception					
Minimum Safety Stock Days Exception					
Minimum Safety Stock Units Exception					
Minimum Stock Exception				200.00	
Minimum Time Supply Days Exception					
Replenishment Method Exception				Min/Max	
Round Up Threshold Exception					

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	<p>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".</p> <p>Include in OH means that any user-specified Hold Back quantity should be deducted from the On Hand (Net Inventory) position.</p> <p>Exclude from OH means that the On Hand (Net Inventory) calculation ignores any Hold Back quantity specified by the user.</p>
Increment Percent Exception	<p>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.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To use 120% of the Min and Max Stock, the user would enter a value of 1.2.</p>

Measure Label	Explanation
Inventory Selling Days Exception	<p>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.</p> <p>Any positive value is valid.</p> <p>To account for 3 days of demand, the user should enter 3.</p>
Maximum Safety Stock Days Exception	<p>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.</p> <p>If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary will use the larger of demand over max safety stock days and max safety stock units.</p> <p>Any positive integer, including zero, is valid.</p> <p>Example: To ensure the maximum safety stock will contain 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.</p>
Maximum Safety Stock Units Exception	<p>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.</p> <p>If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary will use the larger of demand over max safety stock days and max safety stock units.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To ensure the maximum safety stock will contain 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.</p>
Maximum Stock Exception	<p>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.</p> <p>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.</p> <p>Any positive integer, including zero, is valid.</p> <p>Example: To ensure an order will bring the inventory level up to 14 days of supply, 14 would be entered in Max Time Supply Days.</p>
Maximum Time Supply Days Exception	<p>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.</p> <p>Any positive integer, including zero, is valid.</p> <p>Example: To ensure an order will bring the inventory level up to 14 days of supply, 14 would be entered in Max Time Supply Days.</p>

Measure Label	Explanation
Minimum Acceptable Safety Stock Threshold Exception	<p>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.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To protect 40% of safety stock, the user would enter a value of 0.4.</p>
Minimum Safety Stock Days Exception	<p>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.</p> <p>If the user enters both Min Safety Stock Days and Min Safety Stock Units, the minimum safety stock boundary will use the larger of demand over min safety stock days and min safety stock units.</p> <p>Any positive integer, including zero, is valid.</p> <p>Example: To ensure the minimum safety stock will contain 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.</p>
Minimum Safety Stock Units Exception	<p>The Minimum Safety Stock Units parameter is used to specify the minimum amount of inventory to be kept on hand as safety stock.</p> <p>If the user enters both Min Safety Stock Days and Min Safety Stock Units, the minimum safety stock boundary will use the larger of demand over min safety stock days and min safety stock units.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To ensure the minimum safety stock will contain 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.</p>
Minimum Stock Exception	<p>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.</p> <p>Any positive number, including zero, is valid.</p>
Minimum Time Supply Days Exception	<p>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.</p>

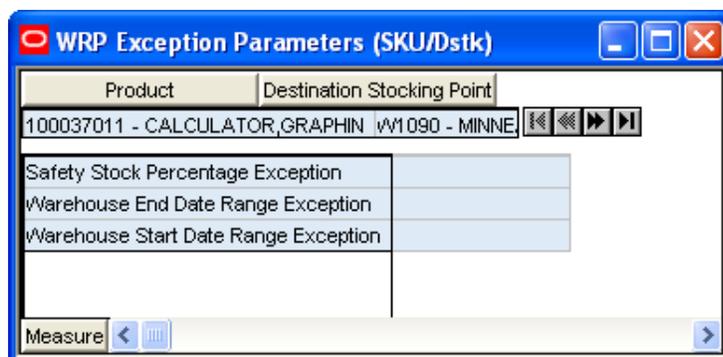
Measure Label	Explanation
Replenishment Method Exception	<p>The choice of Replenishment Method determines the type of calculations that will be used in generating a warehouse replenishment plan. The user selects the Replenishment Method from the following picklist options:</p> <ul style="list-style-type: none"> ▪ Min/Max ▪ Time Supply ▪ Dynamic ▪ Hybrid ▪ No Replenishment ▪ Sales Week Range ▪ Factor AWS ▪ Loaded SS Dynamic ▪ Factor ARS <p>The default method is No Replenishment.</p>
Round Up Threshold Exception	<p>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.</p> <p>Valid values are 0 through 1.</p> <p>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.</p>
Service Level Exception	<p>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.</p> <p>Valid values are 0 through 1.</p> <p>Example: If a user wants to carry enough safety stock to maintain a 90% customer service level, the user would enter .90.</p>
Statistical Variance Threshold Exception	<p>The variance threshold is used to determine whether statistical variance should be updated. If the calculated value is above the threshold, then it will not be used to update variance.</p>
Statistical Variance Upper Boundary Exception	<p>WRP calculates variance as a percent of forecast demand. The variance (represented as a percentage) is not permitted to exceed this threshold.</p>
Time Supply Horizon Exception	<p>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.</p> <p>Any positive integer is valid.</p> <p>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.</p>
Warehouse AWS Factor Exception	<p>Used only in the AWS (Average Weekly Sales) Replenishment Method, this factor is multiplied by the AWS to produce target stock levels.</p> <p>Any positive value is valid.</p> <p>Example: To multiple the ARS by a factor of 2, the user should enter a value of 2.</p>

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

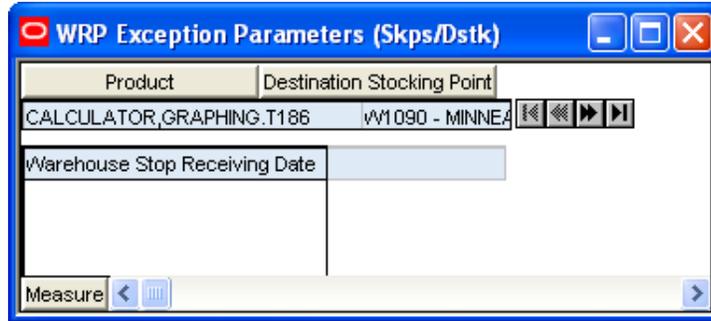
The following measures are displayed automatically when using the default template.

Measure Label	Explanation
SPQ Commitment Type Exception	<p>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”.</p> <p>“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.</p> <p>“Capped” indicates that the user-specified SPQ quantity may not be exceeded, but it need not be ordered if it is not required.</p>
Warehouse ARS Factor Exception	<p>Used only in the ARS (Average Rate of Sale) Replenishment Method, this factor is multiplied by the ARS to determine target stock levels.</p> <p>Any positive value is valid.</p> <p>Example: To multiple the ARS by a factor of 2, the user should enter a value of 2.</p>
Warehouse Roll Weeks Exception	<p>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.</p> <p>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.</p> <p>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.</p> <p>Valid values are zero for false and one for true.</p>

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

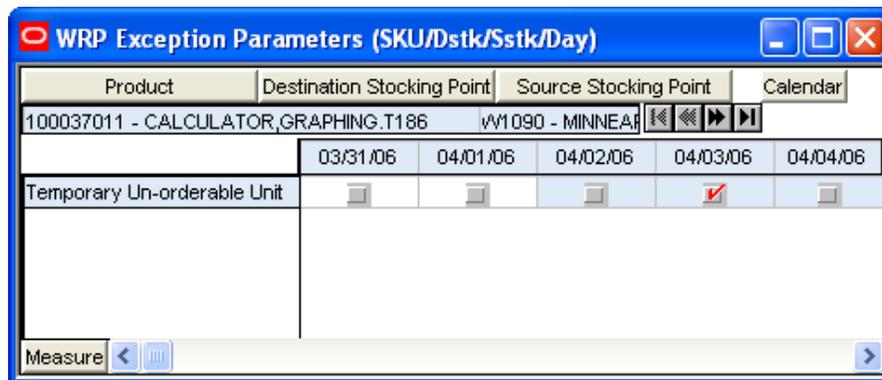
The following measures are displayed automatically when using the default template.

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

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 from a Source for delivery into the destination. If the checkbox is checked, then no receipt will be 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 flow that you will 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 will be 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 will be applied to all SKUs within the selected profile.
2. Department – baseline or contingency stock will be applied to all SKUs within the selected department.
3. Department within profile – baseline or contingency stock will be applied only to SKUs within the selected department AND profile.
4. SKU group – baseline or contingency stock will be applied to a specific SKU group. This level will override 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 will be 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.

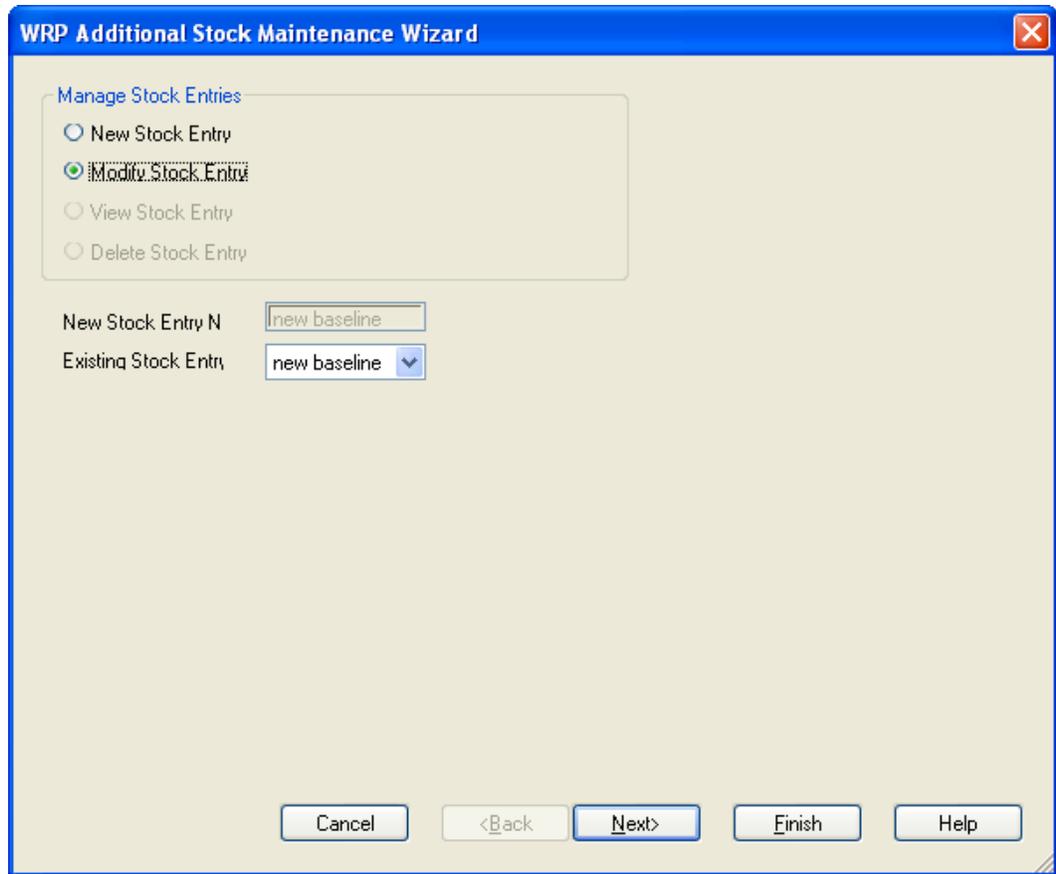
The following screen flow reflects the user process flow to be taken to maintain Additional Stock levels.

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

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

WRP Additional Stock Maintenance Wizard – Manage Stock Entries

If “Modify” was selected, the user will select 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 will select the stock type, baseline or contingency.

WRP Additional Stock Maintenance Wizard

Select Additional Stock Type

Baseline

Model Baseline

Contingency

Select Supply Points

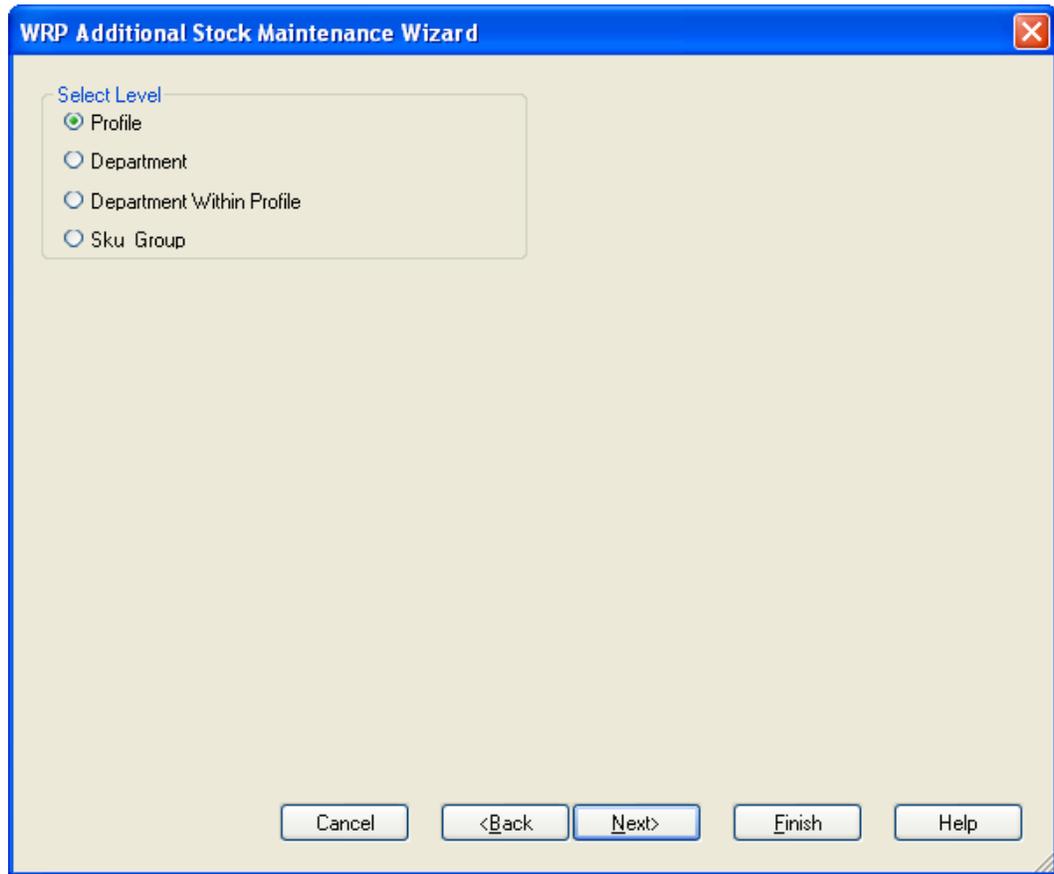
Existing Supply Point W10001 - VW for Physic

Target Supply Point W10001 - VW for Physic

Cancel <Back Next> Finish Help

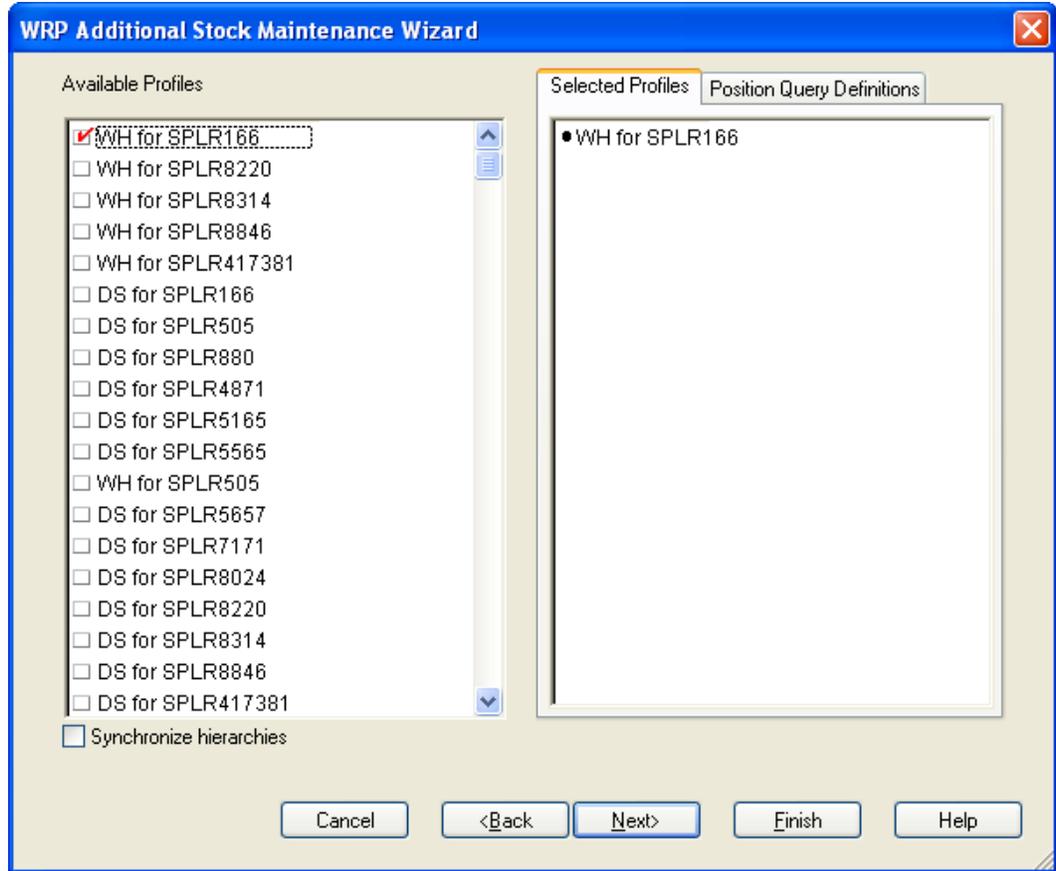
WRP Additional Stock Maintenance Wizard – Select Additional Stock Type

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

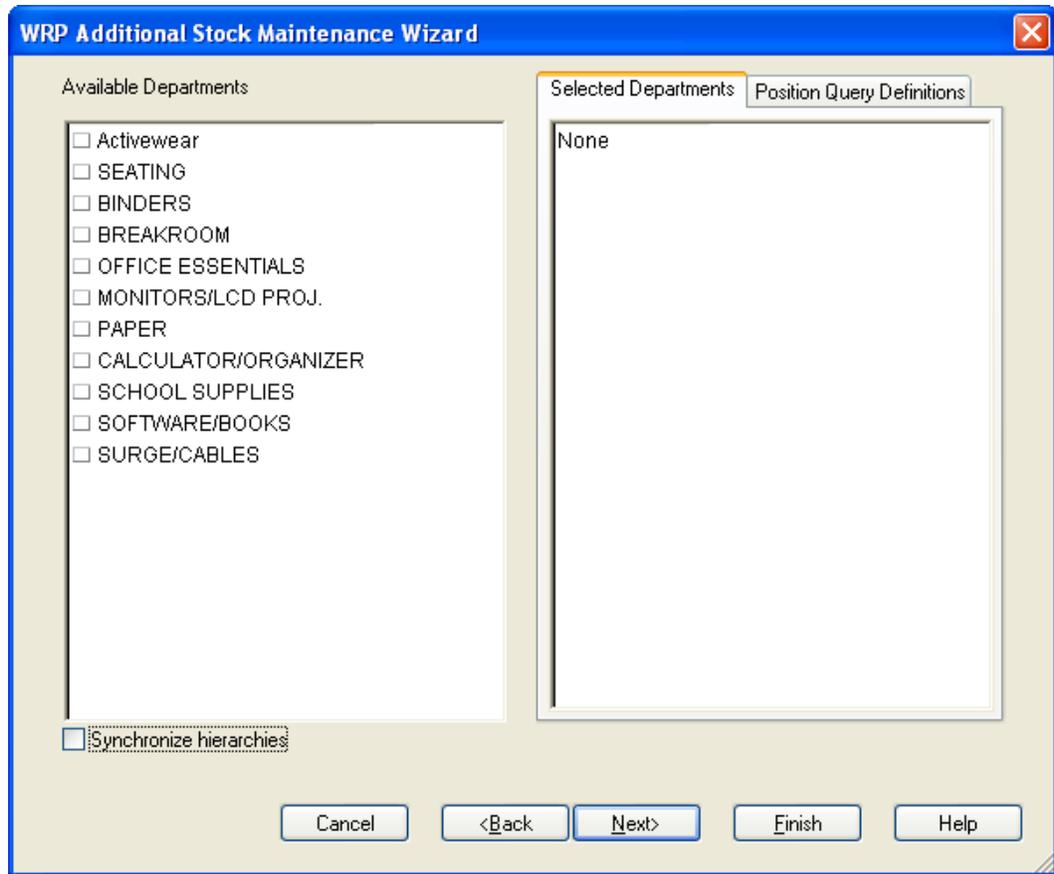


WRP Additional Stock Maintenance Wizard – Select Level

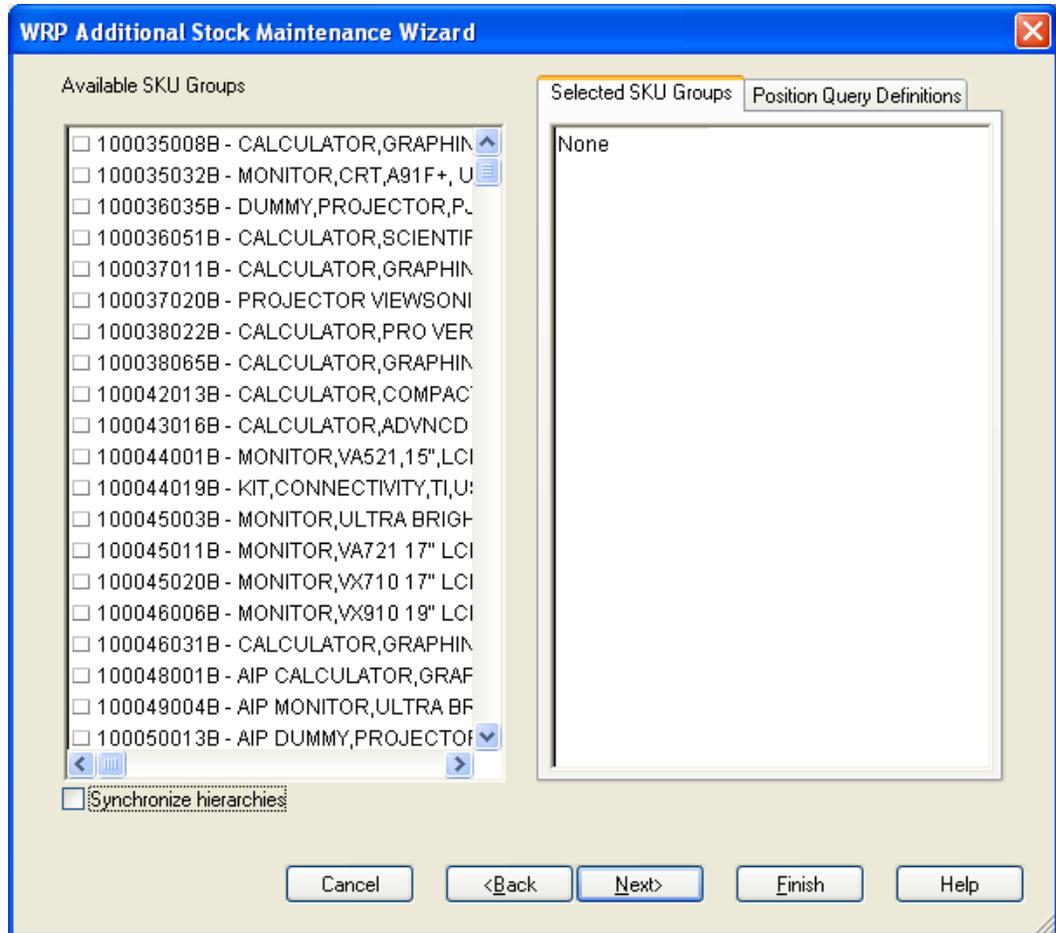
4. Once a specific level is selected, the user must make selections for each of the elements that make up the chosen level. A different screen exists for each element. For Department Within Profile, the Available Profiles screen will be displayed followed by the Available Departments screen.



WRP Additional Stock Maintenance Wizard – Available Profiles

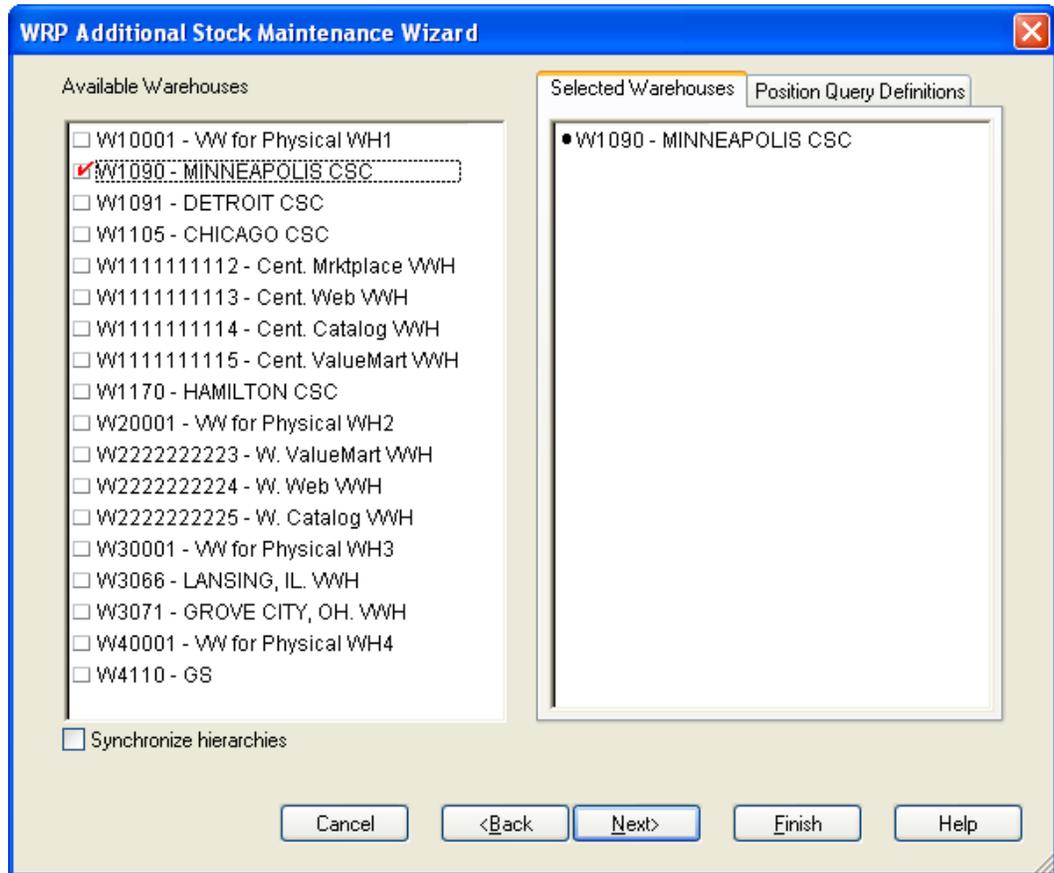


WRP Additional Stock Maintenance Wizard – Available Departments



WRP Additional Stock Maintenance Wizard – Available SKU Groups

5. A filtered list of available warehouses will be 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 will be 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 will apply to the SKU group level setting only.

WRP Additional Stock Maintenance Wizard

Please Select Quantity Entry Method

- Forward Days Cover
- Percent of Next Week Demand
- Absolute Quantity (Cases)
- Absolute Quantity (Units)

Quantity Entry

Cancel <Back Next> Finish Help

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

Please Review Equivalent Absolute Quantity

Quantity Method: FORWARD

Equivalent Absolute: 200

Buttons: Cancel, <Back, Next>, Finish, Help

WRP Additional Stock Maintenance Wizard – Review Equivalent Absolute Quantity

- Four dates are required to determine how to Phase In Additional Stock and how to eventually Phase Out Additional Stock. The user will select 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

Please Enter Phase In Dates

Phase In Start Date 7/17/2008

Phase In End Date 7/17/2008

Please Enter Phase Out Dates

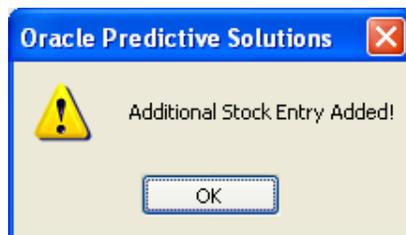
Phase Out Start Date 7/17/2008

Phase Out End Date 7/17/2008

Cancel <Back Next> Finish Help

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

- 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:

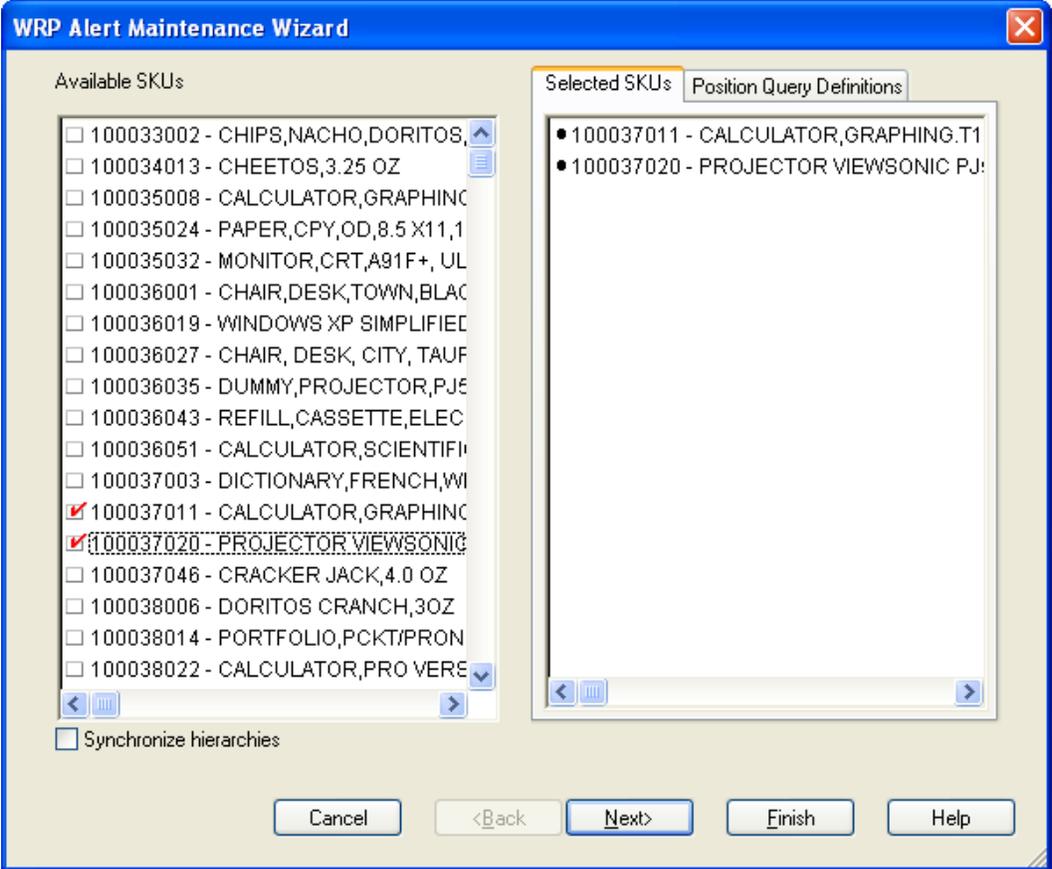
- WRP Alert Exception (SKU/Destination) Tab containing
 - A WRP Alert Exception worksheet at the SKU/Destination level
- WRP Alert Default (Sub-class) Tab containing
 - A WRP Alert Default worksheet at the Sub-class level
- WRP Alert Global Default (Dept) Tab containing
 - A WRP Alert Global Default 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

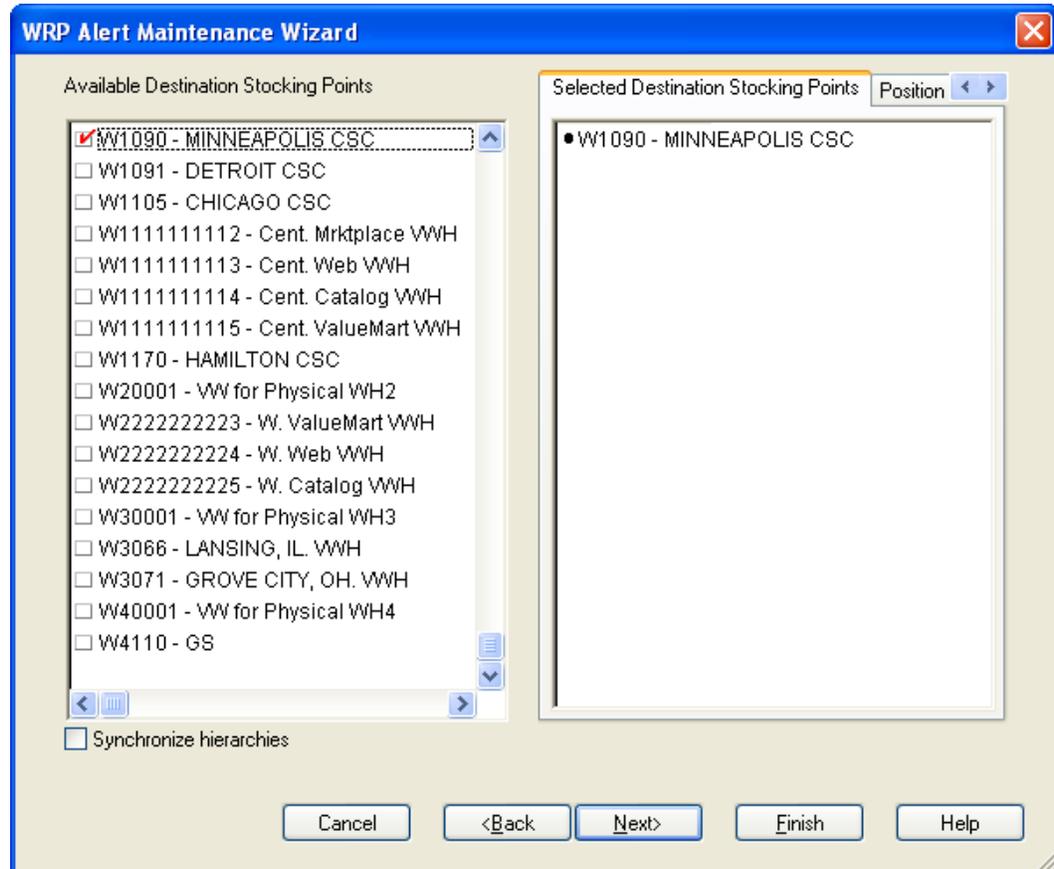
This dialog box enables the user to select SKUs from a list of all available SKUs in the AIP domain. The Selected SKUs list will be pre-populated with any previous user selections. Amendments are made by checking or un-checking Available SKUs. Standard RPAS functionality is available for this particular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



WRP Alert Maintenance Wizard – Available SKUs

Available Destination Stocking Points

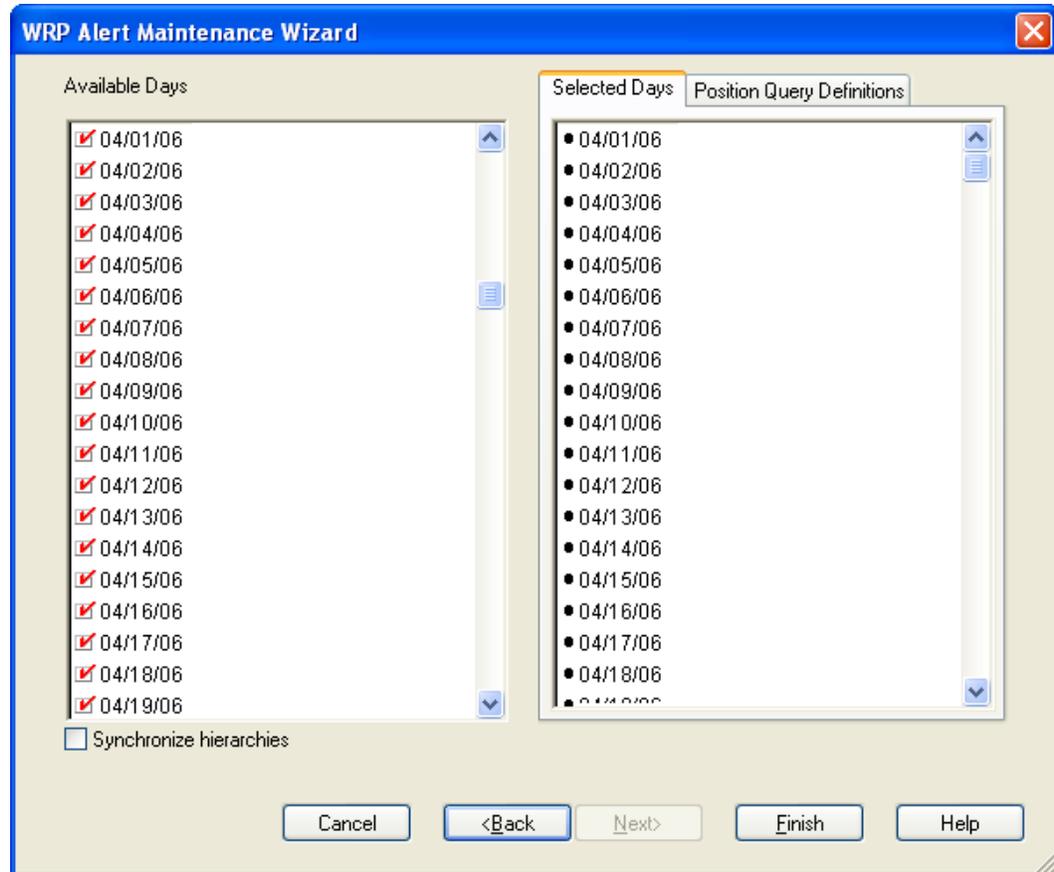
This dialog box enables the user to select Destination Stocking Points from a list of all available Destination Stock Points in the AIP domain. The Selected Destination Stocking Points list will be pre-populated with any previous user selections. Amendments are made by checking or un-checking Available 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 will be 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 will be 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.

Product	Destination Stocking Point
100037011 - CALCULATOR,GRAPHING.T1E	W1090 - MINN
Demand Credit Case Threshold For Stocked Commodity	
Demand Credit Days Threshold For Stocked Commodity	
Demand Credit Percentage Threshold For Stocked Commodity	
Demand Credit Unit Threshold For Stocked Commodity	
Overstock Threshold Exception	
Projected Stock Cover Days Threshold Exception	
Sales Credit Case Threshold For Stocked Commodity	
Sales Credit Case Threshold For Stockless Commodity	
Sales Credit Days Threshold For Stocked Commodity	5.00
Sales Credit Days Threshold For Stockless Commodity	
Sales Credit Percentage Shortage For Stocked Commodity	0.60
Sales Credit Percentage Shortage For Stockless Commodity	
Sales Credit Unit Threshold For Stocked Commodity	50.00
Sales Credit Unit Threshold For Stockless Commodity	
Stockless Surplus Days	
Stockless Surplus MultiDay Threshold	
Stockless Surplus Threshold	

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

Measure Label	Description
Sales Credit Days Threshold For Stocked Commodity	<p>Threshold in days for alerting Sales Credits for a stocked commodity based on a number of consecutive days of sales credits.</p> <p>Any positive value, including zero, is valid.</p> <p>Example: If the user wants alerts to be raised when there are more than 3 days of sales credits, they would enter 3.</p>
Sales Credit Days Threshold For Stockless Commodity	<p>Threshold in days for alerting Sales Credits for a stockless commodity based on a number of consecutive days of sales credits.</p> <p>Any positive value, including zero, is valid.</p> <p>Example: If the user wants alerts to be raised when there are more than 3 days of sales credits, they would enter 3.</p>
Sales Credit Percentage Shortage For Stocked Commodity	<p>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.</p> <p>Any value between zero and one is valid.</p> <p>Example: If the user wants alerts for all Sales Credits representing more than 60% of Sales, they would enter .6.</p>
Sales Credit Percentage Shortage For Stockless Commodity	<p>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.</p> <p>Any value between zero and one is valid.</p> <p>Example: If the user wants alerts for all Sales Credits representing more than 60% of Sales, they would enter .6.</p>
Sales Credit Unit Threshold For Stocked Commodity	<p>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.</p> <p>Any positive value, including zero, is valid.</p> <p>Example: If the user wants to set a threshold of 10 units, above which alerts will be generated, they would enter 10.</p>
Sales Credit Unit Threshold For Stockless Commodity	<p>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.</p> <p>Any positive value, including zero, is valid.</p> <p>Example: If the user wants to set a threshold of 10 units, above which alerts will be generated, they would enter 10.</p>
Stockless Surplus Days	<p>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.</p> <p>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 Threshold is greater than zero, one of the criteria to raise a stockless surplus has been met.</p> <p>The Stockless Surplus Days Threshold is used in both the Stockless Surplus Alert for a Single Day and the Stockless Surplus Alert for Multiple Days.</p> <p>Any positive value, including zero, is valid.</p> <p>Example: If the user wants to sum the demand for 5 days, they would enter 5.</p>

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

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.

The screenshot shows a window titled "WRP Alert Default (Sub-Class)". Inside, there is a "Product" field with the value "GRAPHING CALCULATORS". Below this is a table with 17 rows of parameters. The "Measure" field at the bottom is set to "Demand Credit Case Threshold For Stocked Commodity Default".

Measure Label	Description
Demand Credit Case Threshold For Stocked Commodity Default	
Demand Credit Days Threshold For Stocked Commodity Default	3.00
Demand Credit Percentage Threshold For Stocked Commodity Default	0.50
Demand Credit Unit Threshold For Stocked Commodity Default	
Overstock Threshold Default	
Projected Stock Cover Days Threshold Default	7.00
Sales Credit Case Threshold For Stocked Commodity Default	
Sales Credit Case Threshold For Stockless Commodity Default	
Sales Credit Days Threshold For Stocked Commodity Default	
Sales Credit Days Threshold For Stockless Commodity Default	
Sales Credit Percentage Shortage For Stocked Commodity Default	
Sales Credit Percentage Shortage For Stockless Commodity Default	
Sales Credit Unit Threshold For Stocked Commodity Default	
Sales Credit Unit Threshold For Stockless Commodity Default	
Stockless Surplus Days Default	
Stockless Surplus MultiDay Threshold Default	
Stockless Surplus Threshold Default	

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 will be 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.
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.

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

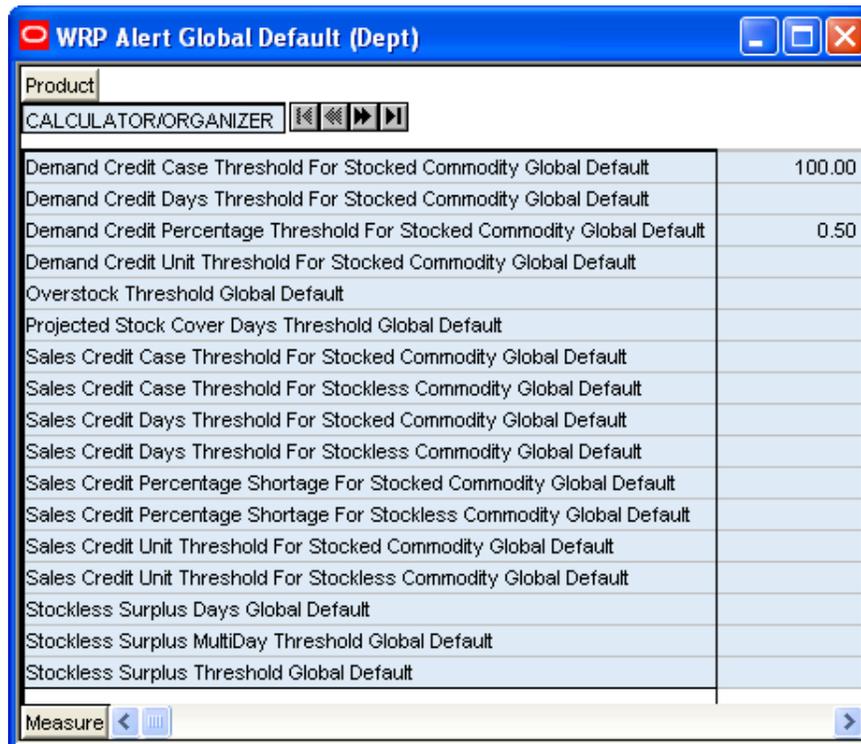
Measure Label	Description
Sales Credit Percentage Shortage For Stockless Commodity Default	<p>Threshold as a percentage of Sales for alerting Sales Credits for a stockless commodity. This percentage must be exceeded, as must the Sales credit case threshold for a sales credit alert to be raised.</p> <p>Any value between zero and one is valid.</p> <p>Example: If the user wants alerts for all Sales Credits representing more than 60% of Sales, they would enter .6.</p>
Sales Credit Unit Threshold For Stocked Commodity Default	<p>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.</p> <p>Any positive value, including zero, is valid.</p> <p>Example: If the user wants to set a threshold of 10 units, above which alerts will be generated, they would enter 10.</p>
Sales Credit Unit Threshold For Stockless Commodity Default	<p>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.</p> <p>Any positive value, including zero, is valid.</p> <p>Example: If the user wants to set a threshold of 10 units, above which alerts will be generated, they would enter 10.</p>
Stockless Surplus Days Default	<p>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.</p> <p>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 Threshold is greater than zero, one of the criteria to raise a stockless surplus has been met.</p> <p>The Stockless Surplus Days Threshold is used in both the Stockless Surplus Alert for a Single Day and the Stockless Surplus Alert for Multiple Days.</p> <p>Any positive value, including zero, is valid.</p> <p>Example: If the user wants to sum the demand for 5 days, they would enter 5.</p>
Stockless Surplus MultiDay Threshold Default	<p>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.</p> <p>A stockless surplus alert notifies the user that excessive orders exist at this warehouse based on warehouse demand.</p> <p>Any positive value, including zero, is valid.</p> <p>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.</p>

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

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.



The screenshot shows a software window titled "WRP Alert Global Default (Dept)". Inside, there is a "Product" field and a "CALCULATOR/ORGANIZER" toolbar. Below is a table with 17 rows of parameters and their values.

Parameter Name	Value
Demand Credit Case Threshold For Stocked Commodity Global Default	100.00
Demand Credit Days Threshold For Stocked Commodity Global Default	
Demand Credit Percentage Threshold For Stocked Commodity Global Default	0.50
Demand Credit Unit Threshold For Stocked Commodity Global Default	
Overstock Threshold Global Default	
Projected Stock Cover Days Threshold Global Default	
Sales Credit Case Threshold For Stocked Commodity Global Default	
Sales Credit Case Threshold For Stockless Commodity Global Default	
Sales Credit Days Threshold For Stocked Commodity Global Default	
Sales Credit Days Threshold For Stockless Commodity Global Default	
Sales Credit Percentage Shortage For Stocked Commodity Global Default	
Sales Credit Percentage Shortage For Stockless Commodity Global Default	
Sales Credit Unit Threshold For Stocked Commodity Global Default	
Sales Credit Unit Threshold For Stockless Commodity Global Default	
Stockless Surplus Days Global Default	
Stockless Surplus MultiDay Threshold Global Default	
Stockless Surplus Threshold Global Default	

At the bottom of the window, there is a "Measure" field with a dropdown arrow and a scroll bar.

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

Measure Label	Description
Sales Credit Days Threshold For Stocked Commodity Global Default	<p>Threshold in days for alerting Sales Credits for a stocked commodity based on a number of consecutive days of sales credits.</p> <p>Any positive value, including zero, is valid.</p> <p>Example: If the user wants alerts to be raised when there are more than 3 days of sales credits, they would enter 3.</p>
Sales Credit Days Threshold For Stockless Commodity Global Default	<p>Threshold in days for alerting Sales Credits for a stockless commodity based on a number of consecutive days of sales credits.</p> <p>Any positive value, including zero, is valid.</p> <p>Example: If the user wants alerts to be raised when there are more than 3 days of sales credits, they would enter 3.</p>
Sales Credit Percentage Shortage For Stocked Commodity Global Default	<p>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.</p> <p>Any value between zero and one is valid.</p> <p>Example: If the user wants alerts for all Sales Credits representing more than 60% of Sales, they would enter .6.</p>
Sales Credit Percentage Shortage For Stockless Commodity Global Default	<p>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.</p> <p>Any value between zero and one is valid.</p> <p>Example: If the user wants alerts for all Sales Credits representing more than 60% of Sales, they would enter .6.</p>
Sales Credit Unit Threshold For Stocked Commodity Global Default	<p>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.</p> <p>Any positive value, including zero, is valid.</p> <p>Example: If the user wants to set a threshold of 10 units, above which alerts will be generated, they would enter 10.</p>
Sales Credit Unit Threshold For Stockless Commodity Global Default	<p>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.</p> <p>Any positive value, including zero, is valid.</p> <p>Example: If the user wants to set a threshold of 10 units, above which alerts will be generated, they would enter 10.</p>
Stockless Surplus Days Global Default	<p>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.</p> <p>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 Threshold is greater than zero, one of the criteria to raise a stockless surplus has been met.</p> <p>The Stockless Surplus Days Threshold is used in both the Stockless Surplus Alert for a Single Day and the Stockless Surplus Alert for Multiple Days.</p> <p>Any positive value, including zero, is valid.</p> <p>Example: If the user wants to sum the demand for 5 days, they would enter 5.</p>

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

Run Masks Tab

Alert Day Masks (DOW) Worksheet

The WRP Run Mask worksheet permits maintenance of alert masks by Day of Week. By checking 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.



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.

Product	Destination	Stocking Point	Calendar			
100037011B - CALCULATOR, GRAPHING	W1090 - MINNE		<input type="button" value="←"/> <input type="button" value="⏪"/> <input type="button" value="⏩"/> <input type="button" value="→"/>			
			03/31/06	04/01/06	04/02/06	04/03/06
Demand Credit Alert Mask			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Overstock Alert Mask			<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Sales Credit Alert Mask			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Measure	<input type="button" value="←"/> <input type="button" value="⏪"/> <input type="button" value="⏩"/> <input type="button" value="→"/>					

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 'check' a box to stop that alert from being run.

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.

Product	Destination	Stocking Point	Calendar
100037011B - CALCULATOR, GRAPHING	W1090 - MINNE		<input type="button" value="←"/> <input type="button" value="⏪"/> <input type="button" value="⏩"/> <input type="button" value="→"/>
RDF Alert Mask			<input checked="" type="checkbox"/>
Measure	<input type="button" value="←"/> <input type="button" value="⏪"/> <input type="button" value="⏩"/> <input type="button" value="→"/>		

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 'check' 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:

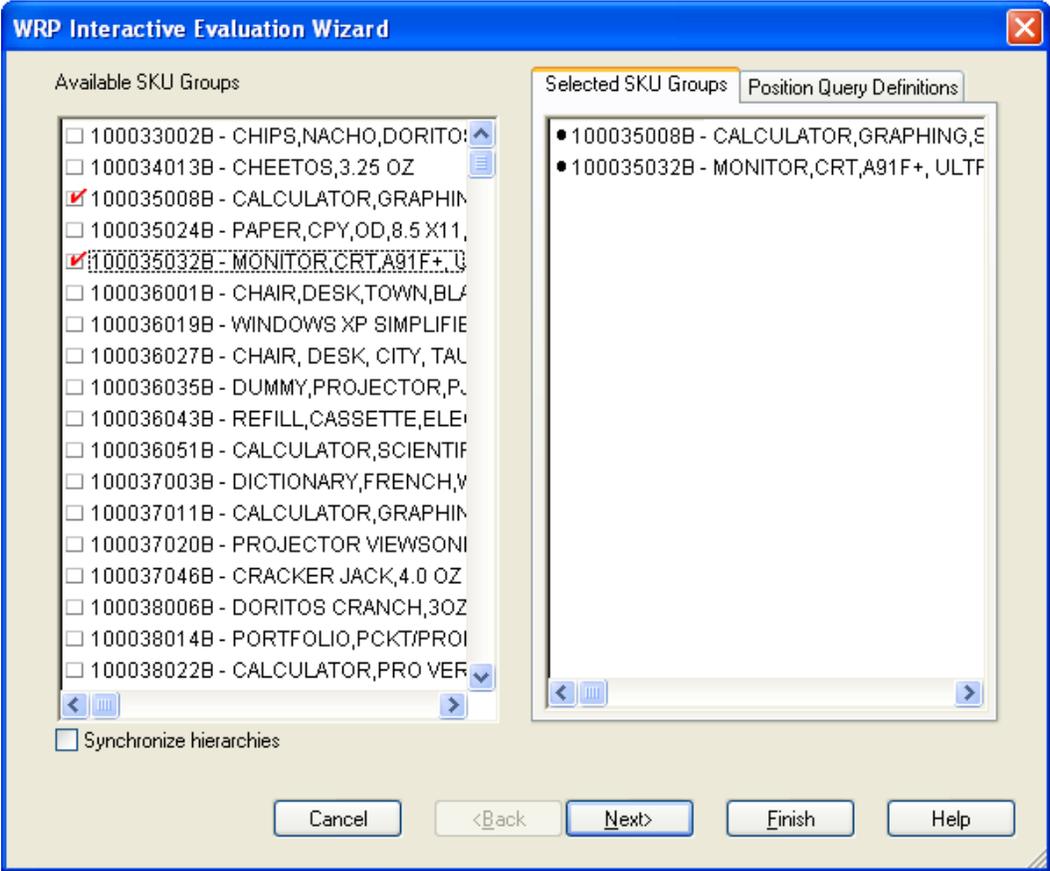
- A WRP Replenishment Plan Tab containing
 - A WRP Receipt Plan by SKU Group worksheet
 - A WRP Receipt Plan by SKU Pack Size worksheet
 - A WRP Replenishment Parameters by SKU Group worksheet
 - A WRP Replenishment Parameters by Week by SKU Group worksheet
 - A WRP Temporarily Un-orderable worksheet
 - 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

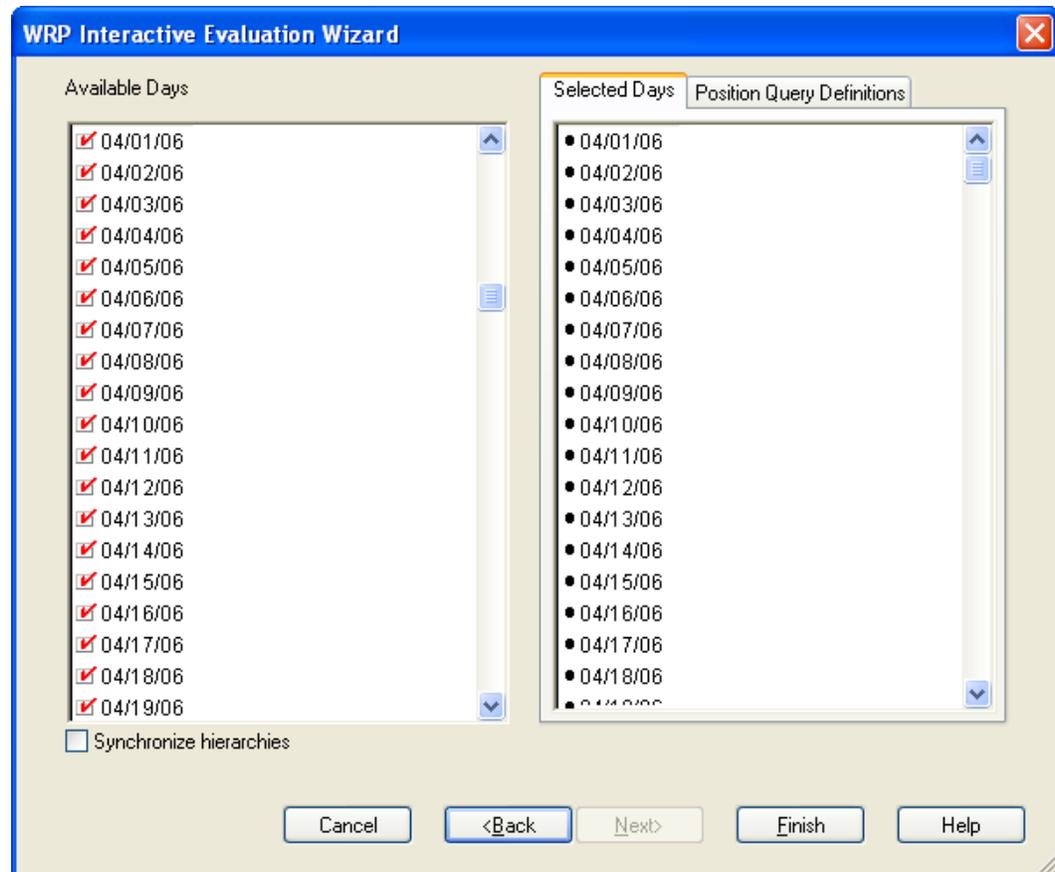
This dialog box enables the user to select SKU Groups from a list of all available SKU Groups in the AIP domain. The Selected SKU Groups list will be pre-populated with any previous user selections. Amendments are made by checking or un-checking Available SKU Groups. Standard RPAS functionality is available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



WRP Interactive Evaluation Wizard – Available SKU Groups

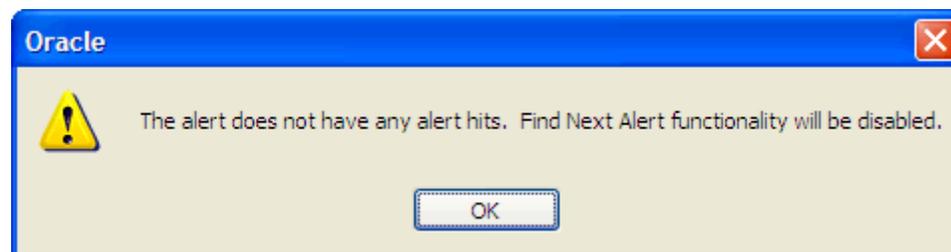
Available Days

This dialog box enables the user to select Days from a list of all available Days in the AIP domain. The Selected Days list will be 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 Interactive Evaluation Wizard – Available Days

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



When the user selects 'Finish', the workbook will be built using the SKU groups and days selected. It will also build 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 will be hidden in the workbook. Suppliers will also be 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 will be visible. If the user is pleased with the revised boundaries, the new values can be committed to the database and will be 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' will perform replenishment over the planning horizon and display the newly calculated unconstrained Receipt Plan. 'What If - Constrained' will perform 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 will take 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.

Product	Destination Stocking Point	Calendar			
100035008B - CALCULATOR,GRAPHING,SILVER	W1090 - MINNEAPOLIS CSC	03/31/06	04/01/06	04/02/06	04/03/06
Available To Plan Receipt		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Baseline Safety Stock %		0.00	0.00	0.00	0.00
Baseline Safety Stock % Override		0.00	0.00	0.00	0.00
Baseline Safety Stock (Units)		0.00	0.00	0.00	0.00
Baseline Safety Stock (Units) Override		0.00	0.00	0.00	0.00
Contingency Safety Stock %		0.00	0.00	0.00	0.00
Contingency Safety Stock % Override		0.00	0.00	0.00	0.00
Contingency Safety Stock (Units)		0.00	0.00	0.00	0.00
Contingency Safety Stock (Units) Override		0.00	0.00	0.00	0.00
Demand Forecast		0.00	0.00	400.00	0.00
Demand Forecast History		0.00	0.00	400.00	0.00
Expected Receipts		0.00	0.00	0.00	0.00
Forecast Demand Over Review Time		0.00	0.00	400.00	0.00
Forecasted Receipts		0.00	0.00	4000.00	0.00

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 will remain unchanged regardless of which other parameters are changed in the work book.
Baseline Safety Stock %	Percent of that days demand that will be 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 will be 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 will be 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 will be zero. This value may change if the stop receiving date is updated.
Forecasted Receipts	Read-only measure which represents the constrained receipt plan calculated in the previous batch run.
Forecasted Receipts - What If	Read-only measure that initially displays the constrained 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 will be updated with the newly calculated CRP for the SKU/Warehouse.
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 will be displayed and will never change 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.
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.

Measure Label	Description
Loaded Safety Stock History	A read-only historical view of loaded safety stock. The value current domain value will be displayed and will never change 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	<p>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.</p> <p>If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary will use the larger of demand over max safety stock days and max safety stock units.</p> <p>Any positive integer, including zero, is valid.</p> <p>Example: To ensure the maximum safety stock will contain 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.</p>
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	<p>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.</p> <p>If the user enters both Max Safety Stock Days and Max Safety Stock Units, the maximum safety stock boundary will use the larger of demand over max safety stock days and max safety stock units.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To ensure the maximum safety stock will contain 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.</p>
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.
Maximum Stock Exception	<p>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.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To set a maximum stock of 20 units, the user should enter 20.</p>
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.

Measure Label	Description
Maximum Time Supply Days Exception	<p>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.</p> <p>Any positive integer, including zero, is valid.</p> <p>Example: To ensure an order will bring the inventory level up to 14 days of supply, 14 would be entered in Max Time Supply Days.</p>
Minimum Acceptable Safety Stock Threshold (expanded)	<p>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.</p>
Minimum Acceptable Safety Stock Threshold Exception	<p>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.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To protect 40% of safety stock, the user would enter a value of 0.4.</p>
Minimum Safety Stock Days (expanded)	<p>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.</p>
Minimum Safety Stock Days Exception	<p>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 will use the larger of demand over min safety stock days and min safety stock units.</p> <p>Any positive integer, including zero, is valid.</p> <p>Example: To ensure the minimum safety stock will contain 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.</p>
Minimum Safety Stock Units (expanded)	<p>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.</p>
Minimum Safety Stock Units Exception	<p>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 will use the larger of demand over min safety stock days and min safety stock units.</p> <p>Any positive number, including zero, is valid.</p> <p>Example: To ensure the minimum safety stock will contain 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.</p>

Measure Label	Description
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 total planned receipts 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 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 will change based on the calculation of Stores Projected Inventory.
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. This read-only measure displays the PI calculated in the previous AIP Batch run.

Measure Label	Description
Projected Inventory - What If	<p>Read-only measure that initially displays the Projected Inventory calculated in the previous AIP Batch run.</p> <p>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 PI for the SKU/Warehouse.</p>
Receipt Point	<p>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.</p> <p>This read-only measure displays the RP calculated in the previous AIP Batch run.</p>
Receipt Point - What If	<p>Read-only measure that initially displays the Receipt Point calculated in the previous AIP Batch run.</p> <p>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 RP for the SKU/Warehouse.</p>
Receive Up To Level	<p>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.</p>
Receive Up To Level - What If	<p>Read-only measure that initially displays the Receive Up To Level calculated in the previous AIP Batch run.</p> <p>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 RUTL for the SKU/Warehouse.</p>
Reconciliation Adjustment	<p>A read-only measure indicating the difference between the Constrained Receipt Plan and the Unconstrained Receipt Plan.</p>
Reconciliation Adjustment - What If	<p>Read-only measure that initially displays the Reconciliation Adjustment calculated in the previous AIP Batch run.</p> <p>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 will be 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.</p>
Replenishment Method (expanded)	<p>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.</p>

Measure Label	Description
Replenishment Method Exception	<p>The choice of Replenishment Method determines the type of calculations that will be used in generating a warehouse replenishment plan. The user selects the Replenishment Method from the following picklist options:</p> <ul style="list-style-type: none"> ▪ Min/Max ▪ Time Supply ▪ Dynamic ▪ Hybrid ▪ No Replenishment ▪ Sales Week Range ▪ Factor AWS ▪ Loaded SS Dynamic ▪ Factor ARS
Review Time	<p>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.</p>
Round Up Threshold (expanded)	<p>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.</p>
Round Up Threshold Exception	<p>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.</p> <p>Valid values are 0 through 1.</p> <p>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</p>
Safety Stock	<p>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.</p> <p>Store Safety Stock is only calculated on Available to Plan receipt days and is read-only.</p>
Safety Stock - What If	<p>Read-only measure that initially displays the Safety Stock calculated in the previous AIP Batch run.</p> <p>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 SS for the SKU/Warehouse.</p>
Service Level (expanded)	<p>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.</p>

Measure Label	Description
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 will 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 will change 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.
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.

Measure Label	Description
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.
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 will be available to meet demand over the period. The NI calculation is based on the 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. Store 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.
Warehouse Net Inventory - What If	Read-only measure that initially displays the Warehouse Net Inventory 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 NI for the SKU/Warehouse.
Warehouse Receipt to Available 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.

Measure Label	Description
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: $PI_t = \text{Max}(PI_{t-1} + ER_{t-1} - Dmd_{t-1} + PR_{t-1} - ESt_{t-1} - CO_{t-1}, 0)$ 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 will be 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: $ResidualQty(t) = \text{Max}(PI(t) + ER(t) + CRP(t) - Dmd(t), 0)$ (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.

Product	Destination Stocking Point	Source Stocking Point	Calendar					
CALCULATOR.GRAPHING.SILVER	W1090 - MINNEAPOLIS CSC	MINNEAPOLIS C	<input type="button" value="K"/>					
			03/31/06	04/01/06	04/02/06	04/03/06	04/04/06	04/05/06
Lead Time								
Receipt Plan			0.00	0.00	0.00	0.00	0.00	0.00
Receipt Plan - What if			0.00	0.00	0.00	0.00	0.00	0.00
Source Order Multiple								
Source Splits (expanded)								
Unconstrained Receipt Plan			0.00	0.00	0.00	0.00	0.00	0.00
Unconstrained Receipt Plan - What if			0.00	0.00	0.00	0.00	0.00	0.00
Warehouse Orderable Unit								
Warehouse Source								

WRP Receipt Plan by SKU Pack Size Worksheet

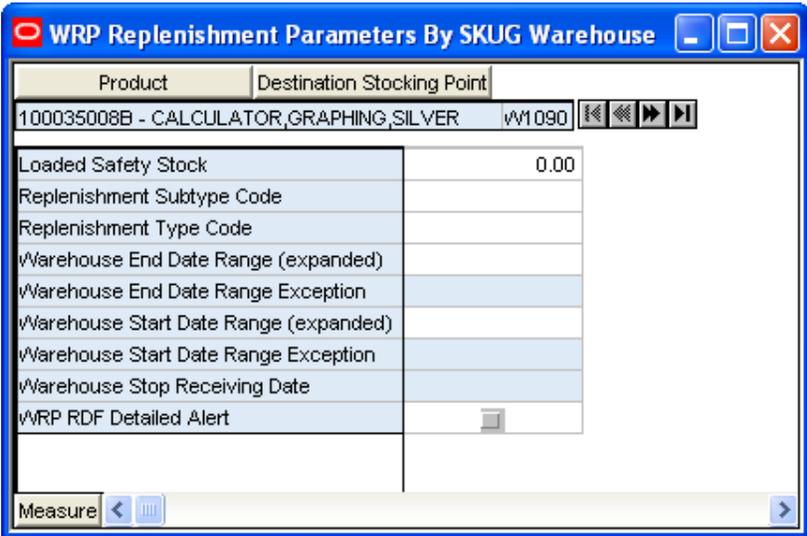
The following measures are displayed automatically when using the default template:

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 will be 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 will be 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 will be displayed and will never change 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.

Measure Label	Description
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 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 will be 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.

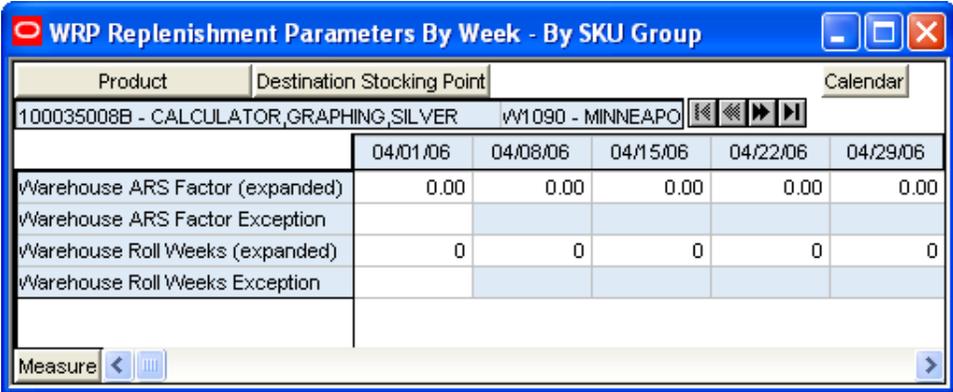
Hidden Workbook Measures

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.

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.

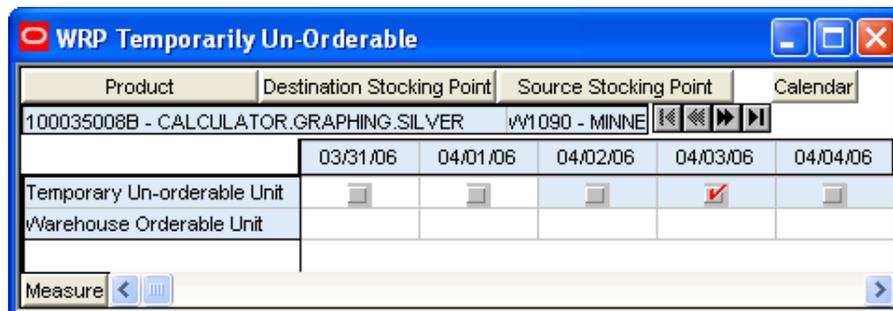
Hidden Workbook Measures

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 Date 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.



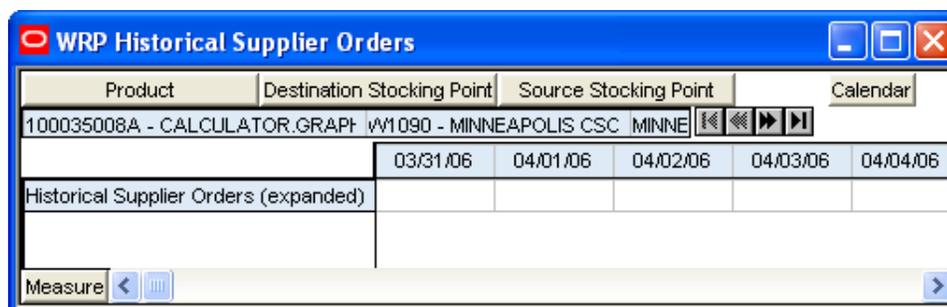
WRP Temporarily Un-Orderable Worksheet

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 from 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.



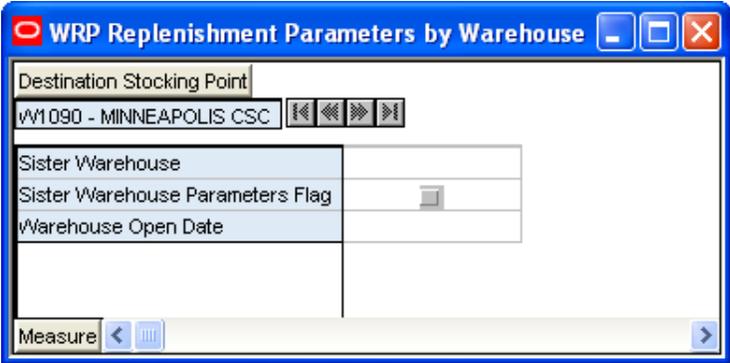
WRP Historical Supplier Orders Worksheet

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 will be 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.

Product	Destination	Stocking Point	Calendar			
100035008B - CALCULATOR, GRAPHING, SILVER	WM1090 - MINNEAP		03/31/06	04/01/06	04/02/06	04/03/06
Actual Inventory in Cases	0	0	0	3600		
Available Warehouse Inventory	0.00	0.00	0.00	3600.00		
Demand Credit Detail	0.00	0.00	0.00	0.00		
Demand Credit Detail in Cases	0	0	0	0		
Demand Credit Stocked Alert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Demand Forecast	0.00	0.00	400.00	0.00		
Demand Forecast in Cases	0	0	0	0		
In Transit	0.00	0.00	0.00	0.00		
In Transit in Cases	0	0	0	0		
On Order	0.00	0.00	0.00	0.00		
On Order in Cases	0	0	0	0		
Orders In The Well	0.00	0.00	0.00	0.00		
Orders In The Well in Cases	0	0	0	0		
Projected Inventory	0.00	0.00	0.00	3600.00		
Projected Inventory in Cases	0.00	0.00	0.00	3600.00		

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, and orders in the well. Displayed in cases.
Available Warehouse Inventory	Read-only view of inventory at the warehouse; including on order, in transit, and orders 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.
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 read-only measure will be grayed out until the workbook is rolled up to the SKU group/destination level.

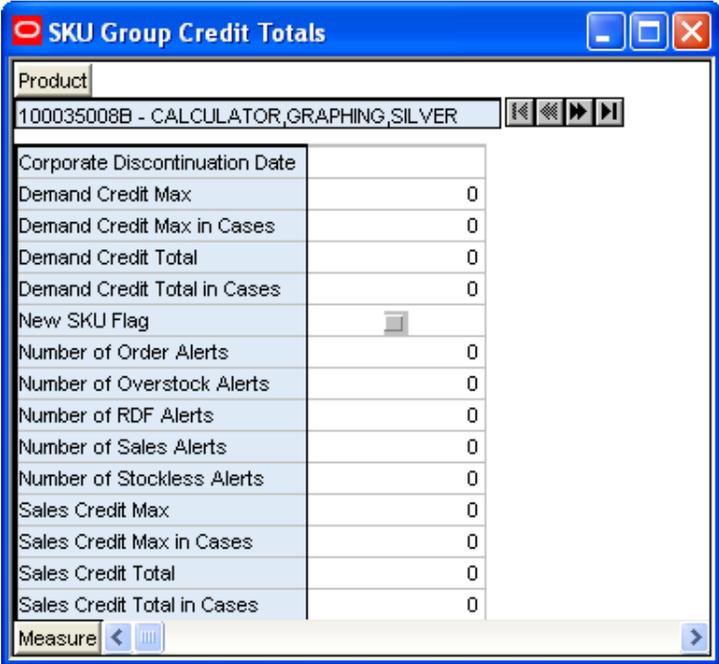
Measure Label	Description
Demand Credit Stocked Alert	A demand credit stocked alert notifies the user that a stock shortage exists at this warehouse based on forecasted demand. The Demand Credit Stocked Alert for a Single Day for a Stocked SKU indicates that that the demand credit exceeds the demand 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.
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 will be grayed out until the work book is rolled up to SKU Group/Destination level.
Demand Forecast	Read-only measure that displays forecasted demand in units aggregated to the stocking point level.
Demand Forecast in Cases	Read-only measure that displays forecasted demand in cases aggregated to the stocking point level.
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.
Orders In The Well	This is a read-only view of orders in the well in units. Orders in the well represent inventory that is in the warehouse but has already been committed to orders and is therefore no longer available. Orders In The Well are subtracted from the current inventory position that is used as the basis for all subsequent projected inventory calculations.
Orders In The Well in Cases	This is a read-only view of orders in the well in cases. Orders in the well represent inventory that is in the warehouse but has already been committed to orders and is therefore no longer available. Orders In The Well are subtracted from the current inventory position that is used as the basis for all subsequent projected inventory calculations.
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.

Measure Label	Description
Projected Inventory in Cases	<p>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.</p> <p>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.</p>
Sales Credit Detail	<p>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.</p> <p>This read-only measure is calculated each day from today to the end of the fixed period.</p>
Sales Credit Detail in Cases	<p>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.</p> <p>This read-only measure is calculated each day from today to the end of the fixed period.</p>
Sales Credit Multi-Day Stocked Alert	<p>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 read only measure is grayed out until the workbook is rolled up to the SKU Group/Destination level.</p>
Sales Credit Multi-Day Stockless Alert	<p>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 read only measure is grayed out until the workbook is rolled up to the SKU Group/Destination level.</p>
Sales Credit Stocked Alert	<p>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.</p>
Sales Credit Stockless Alert	<p>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 will be grayed out until the work book is rolled up to SKU Group/Destination level.</p>
Sales Credit Summary Alert	<p>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 read only measure is grayed out until the workbook is rolled up to the SKU Group/Destination level.</p>

Measure Label	Description
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 will trigger when 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 read only measure will be grayed out until the work book is rolled up to SKU Group/Destination level.
Warehouse Receipt to Available 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

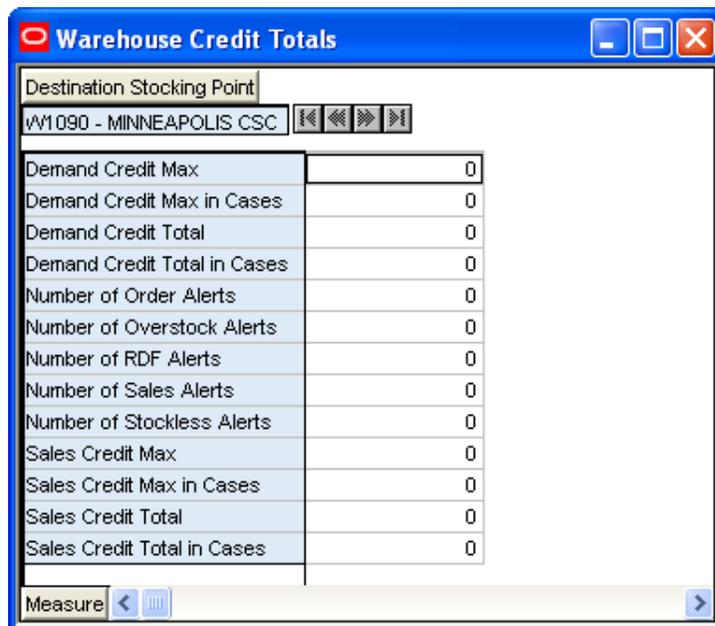
The following measures are displayed automatically when using the default template. All measures are read only.

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.

Measure Label	Description
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.
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.



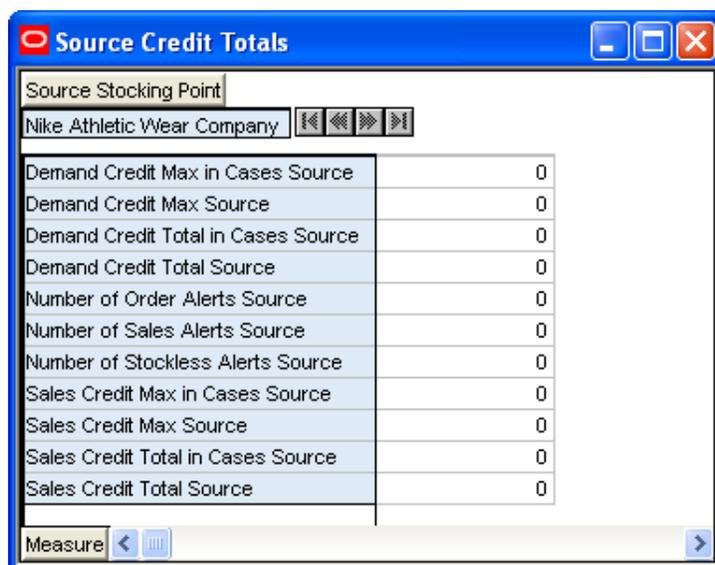
Warehouse Credit Totals Worksheet

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.
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.



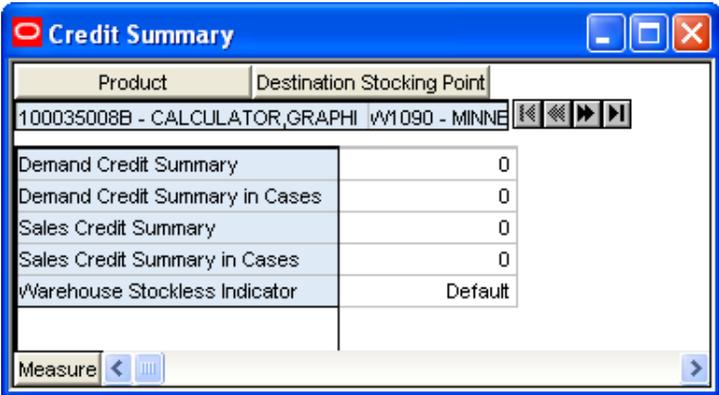
Source Credit Totals Worksheet

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.
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.



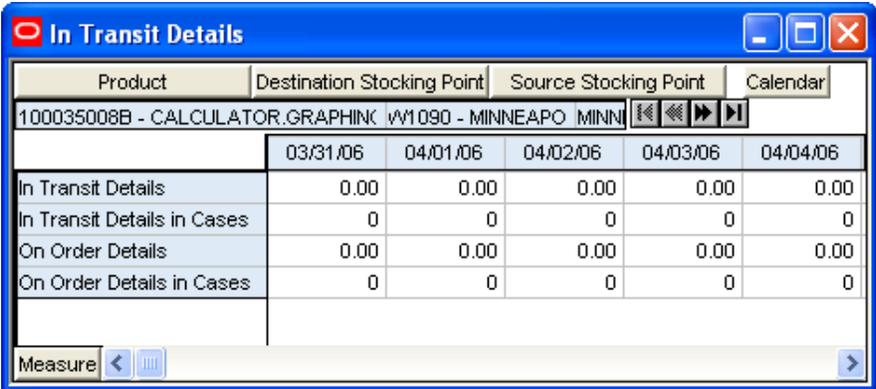
WRP Credit Summary Worksheet

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

Measure Label	Description
Demand Credit Summary	A read only summation in units of demand credits for a given SKU group/warehouse.
Demand Credit Summary in Cases	A read only summation in cases of demand credits for a given SKU group/warehouse.
Sales Credit Summary	A read only summation in units of sales credits for a given SKU group/warehouse.
Sales Credit Summary in Cases	A read only summation in cases of sales credits for a given SKU group/warehouse.
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

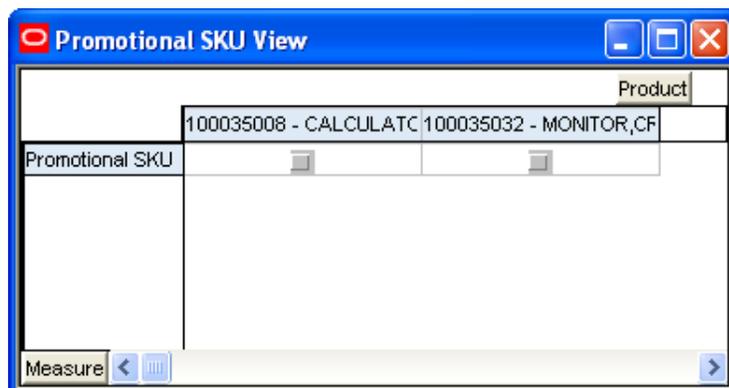
The following measures are displayed automatically when using the default template:

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.
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.



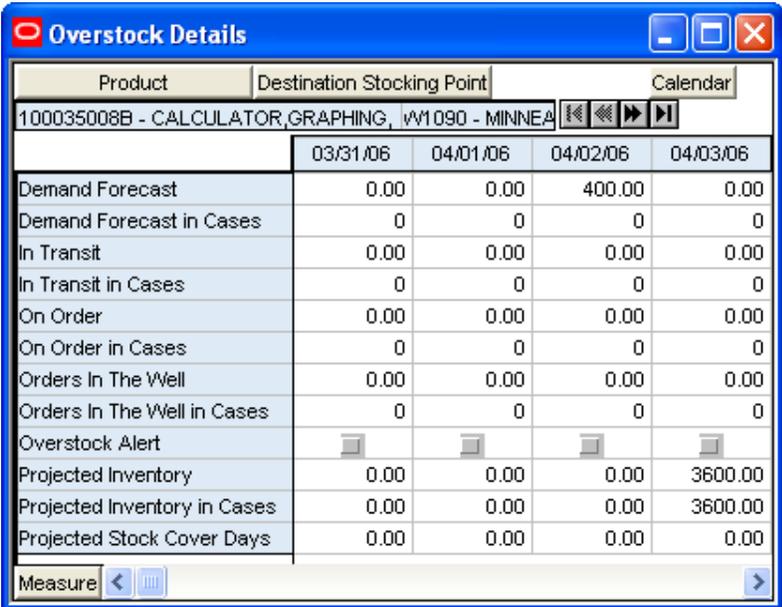
WRP Promotional Commodity View Worksheet

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
Demand Forecast	Read-only measure that displays forecasted demand in units aggregated to the stocking point level.
Demand Forecast in Cases	Read-only measure that displays forecasted demand in cases aggregated to the stocking point level.
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.
Orders In The Well	This is a read-only view of orders in the well in units. Orders in the well represent inventory that is in the warehouse but has already been committed to orders and is therefore no longer available. Orders In The Well are subtracted from the current inventory position that is used as the basis for all subsequent projected inventory calculations.

Measure Label	Description
Orders In The Well in Cases	This is a read-only view of orders in the well in cases. Orders in the well represent inventory that is in the warehouse but has already been committed to orders and is therefore no longer available. Orders In The Well are subtracted from the current inventory position that is used as the basis for all subsequent projected inventory calculations.
Overstock Alert	A read-only-only measure that indicates that an over stock alert exists for the SKU Group.
Projected Inventory	<p>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.</p> <p>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.</p>
Projected Inventory in Cases	<p>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.</p> <p>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.</p>
Projected Stock Cover Days	Projected stock cover is defined as the number of days the opening inventory for a given day will satisfy the projected outbound volume.

Company Level Inventory Analysis Tab

Company Level Inventory Analysis Worksheet

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

Product	Calendar			
100035008B - CALCULATOR, GRAPHING, SILVER	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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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).

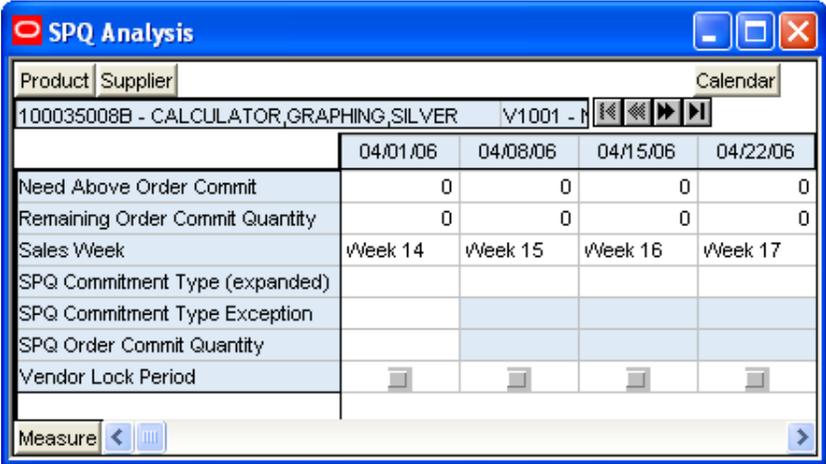
Measure Label	Description
Company URP by Week	Company URP by Week is the unconstrained receipt plan (URP) for a given SKU Group across the company for a given week. Unconstrained receipt plan (URP) is calculated as Store Receipt Plan (SKU/Store/Day) plus the Store Reconciliation Adjustment (SKU/Store/Day). 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.

Measure Label	Description
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.
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.
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.

Measure Label	Description
SPQ Commitment Type Exception	<p>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".</p> <p>"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.</p> <p>"Capped" indicates that the user-specified SPQ quantity may not be exceeded, but it need not be ordered if it is not required.</p>
SPQ Order Commit Quantity	<p>The SPQ Order Commit Quantity contains the "Fixed" or "Capped" Purchase Quantity agreed upon with the Vendor.</p>
Vendor Lock Period	<p>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.</p>
Vendor Excess Quantity	<p>Vendor 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.</p>

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

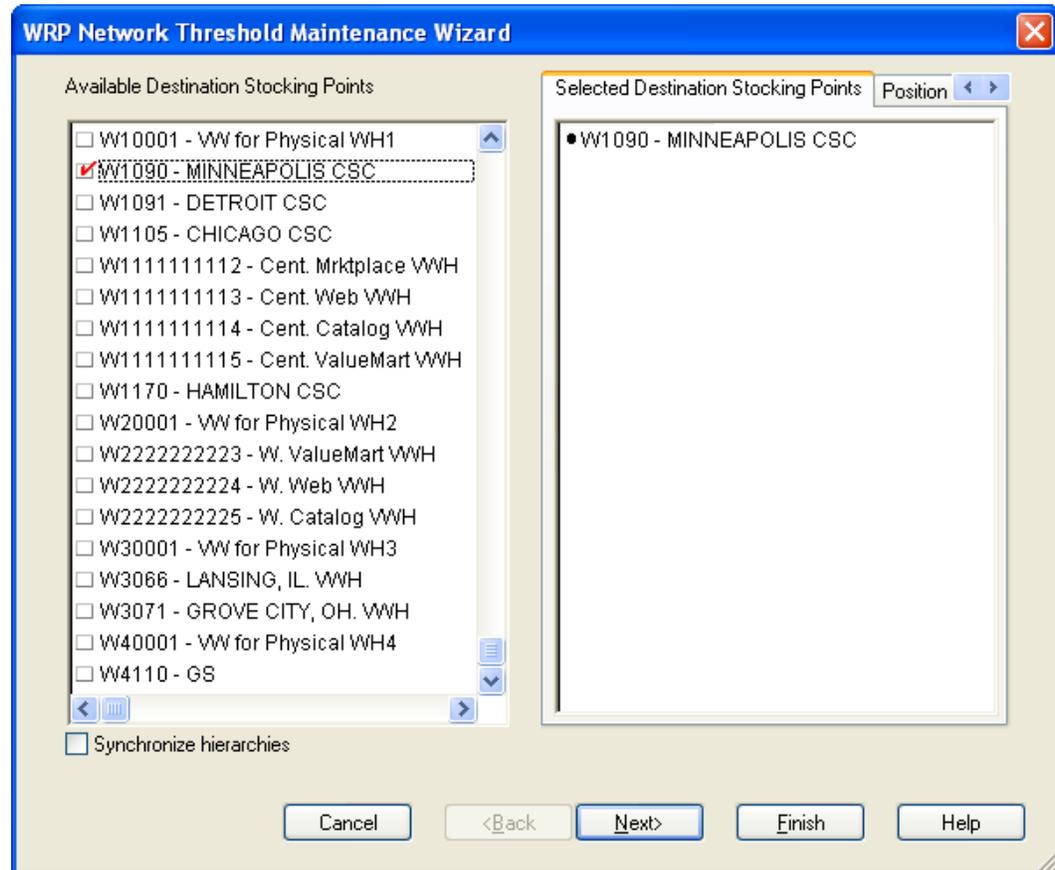
Note: All measures in this workbook are writeable unless otherwise stated.

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 will be pre-populated with any previous user selections.

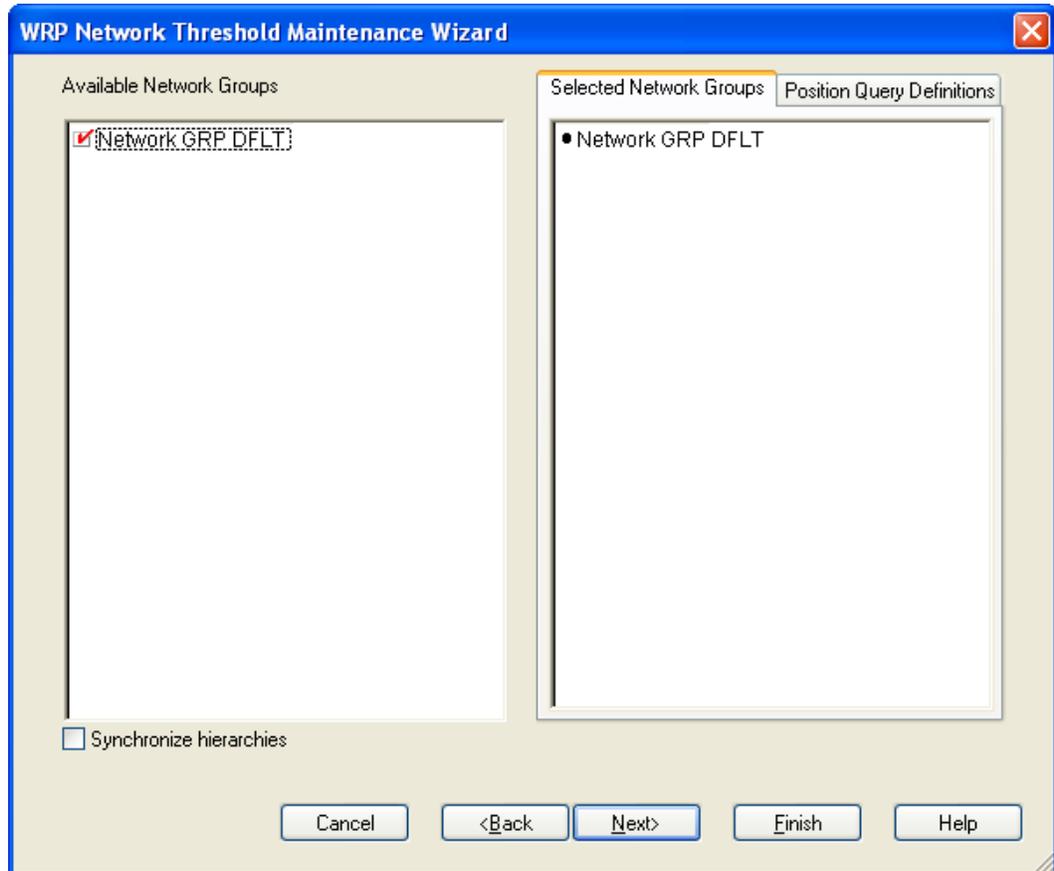
Amendments are made by checking or un-checking Available Destination Stocking Points. Standard RPAS functionality is available for this particular wizard page.



WRP Network Threshold Maintenance Wizard – Available Destination Stocking Points

Available Network Groups

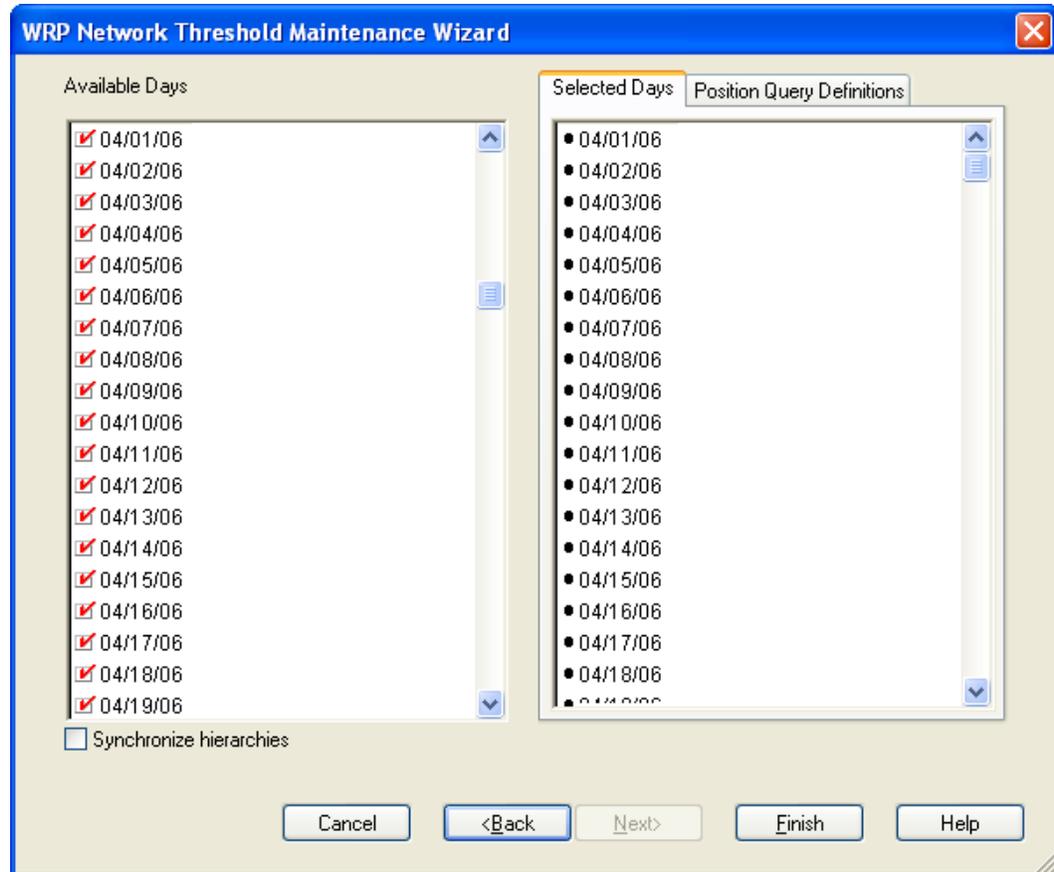
This dialog box enables the user to select Network Groups from a list of all available Network Groups in the AIP domain. The Selected Network Groups list will be pre-populated with any previous user selections. Amendments are made by checking or unchecking Available Network Groups. Standard RPAS functionality 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 will be 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 will be 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.



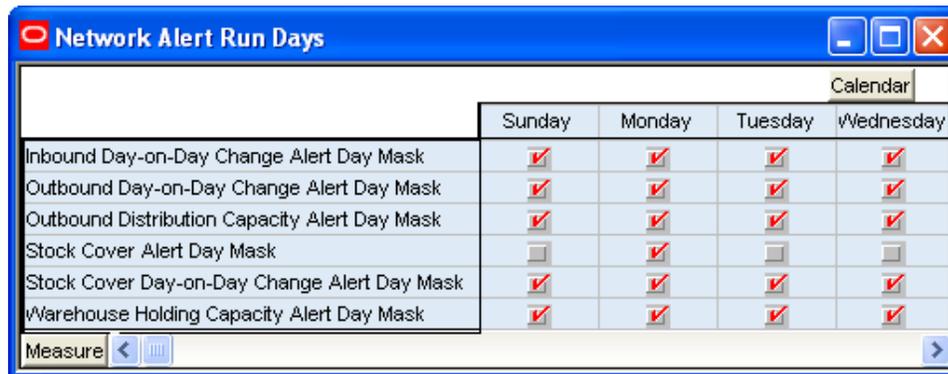
WRP Excessive Stock Cover Threshold Worksheet

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.



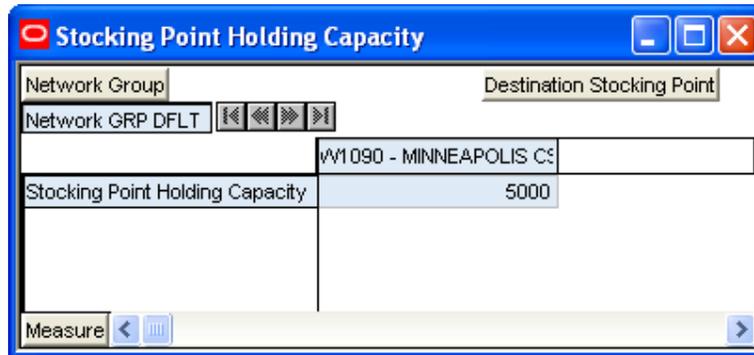
WRP Day on Day Change Threshold Worksheet

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.



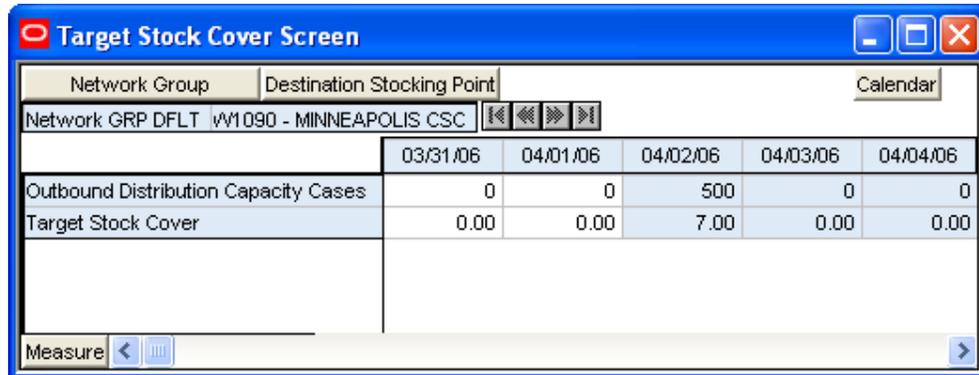
WRP Stocking Point Holding Capacity Worksheet

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 will be 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.

The screenshot shows the 'WRP Network Throughput Plan Wizard' dialog box. It is divided into two main sections: 'Available Destination Stocking Points' and 'Selected Destination Stocking Points'.

Available Destination Stocking Points: This section contains a list of 20 items, each with a checkbox. The first item, 'W1 090 - MINNEAPOLIS CSC', is checked. The other items are: W1 0001 - WW for Physical WH1, W1 091 - DETROIT CSC, W1 105 - CHICAGO CSC, W1 111111112 - Cent. Mrktplace WWH, W1 111111113 - Cent. Web WWH, W1 111111114 - Cent. Catalog WWH, W1 111111115 - Cent. ValueMart WWH, W1 170 - HAMILTON CSC, W2 0001 - WW for Physical WH2, W2 222222223 - W. ValueMart WWH, W2 222222224 - W. Web WWH, W2 222222225 - W. Catalog WWH, W3 0001 - WW for Physical WH3, W3 066 - LANSING, IL. WWH, W3 071 - GROVE CITY, OH. WWH, W4 0001 - WW for Physical WH4, and W4 110 - GS. At the bottom of this list is a checkbox labeled 'Synchronize hierarchies' which is currently unchecked.

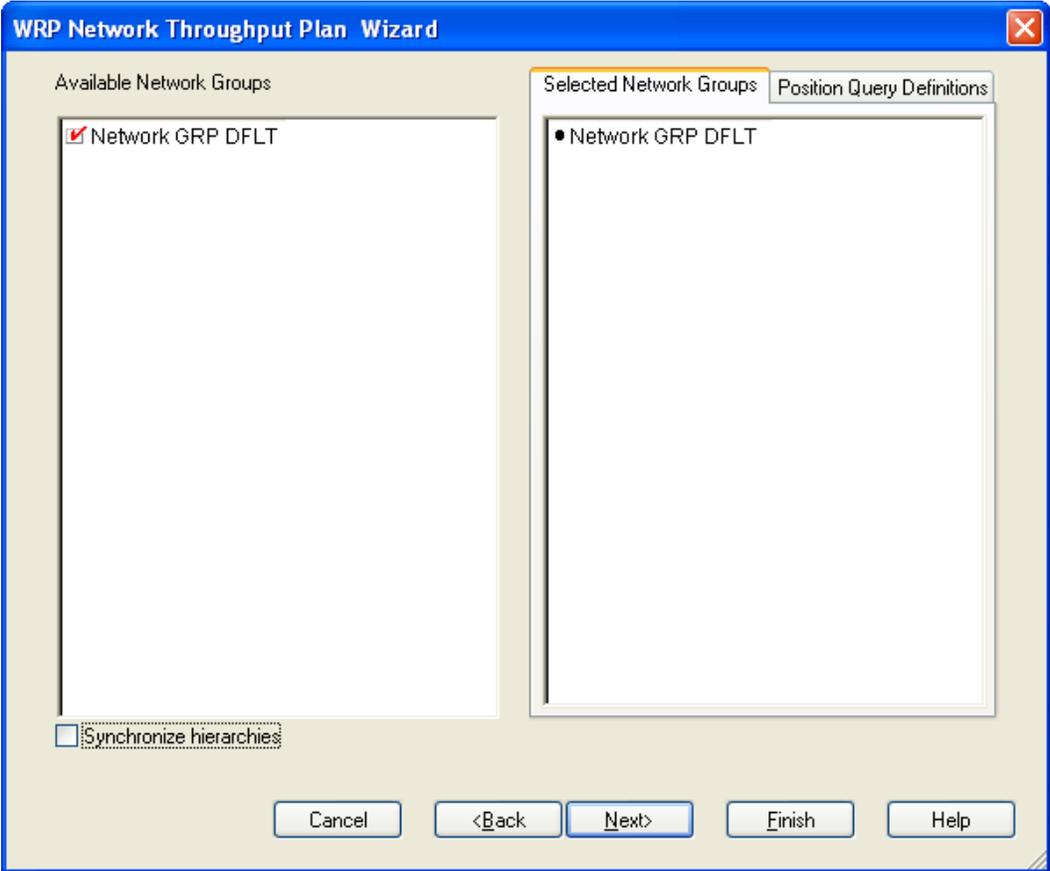
Selected Destination Stocking Points: This section contains a list with a 'Position' header and a scroll bar. It currently contains one item: 'W1 090 - MINNEAPOLIS CSC'.

At the bottom of the dialog box are five buttons: 'Cancel', '< Back', 'Next >', 'Finish', and 'Help'.

WRP Network Throughput Plan Wizard – Available Destination Stocking Points

Available Network Groups

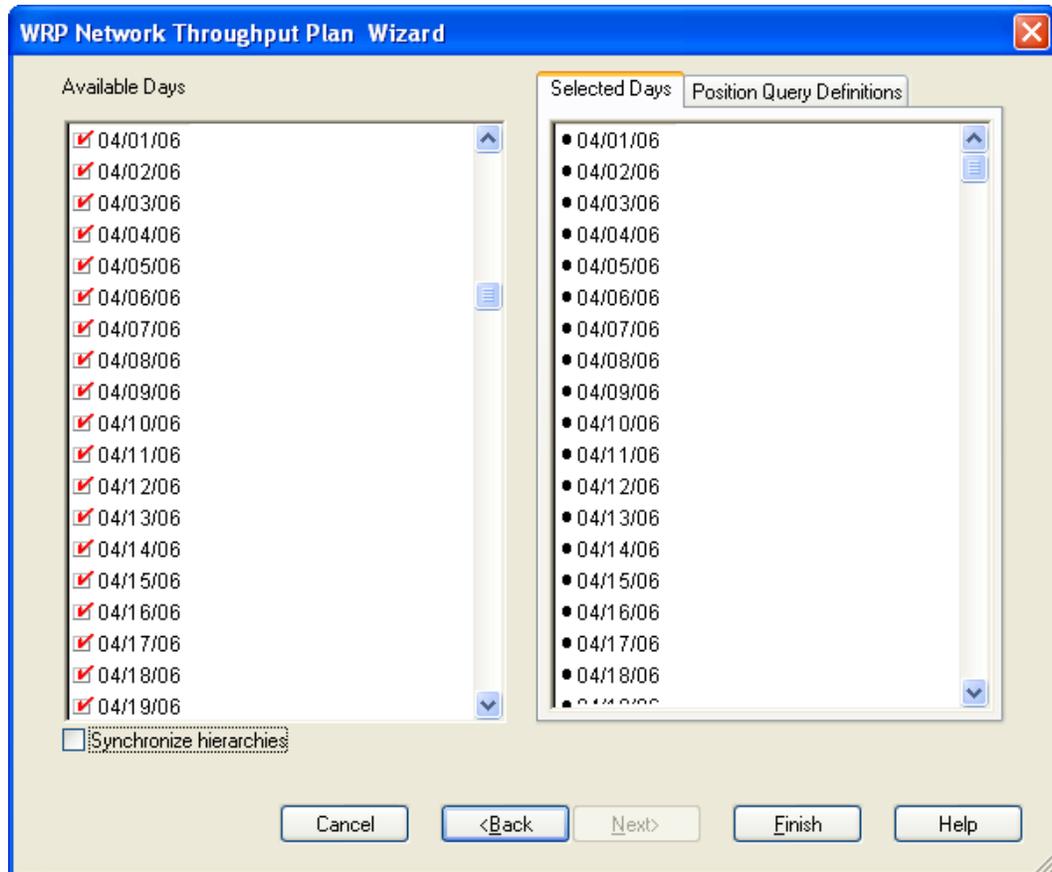
This dialog box enables the user to select Network Groups from a list of all available Network Groups in the AIP domain. The Selected Network Groups list will be pre-populated with any previous user selections. Amendments are made by checking or unchecking Available Network Groups. Standard RPAS functionality 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 will be 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 will be 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.

Product	Destination	Stocking Point	Calendar			
Activewear	W1090 - MINNEAPOLIS CSC		<input type="button" value="←"/> <input type="button" value="⏪"/> <input type="button" value="⏩"/> <input type="button" value="→"/>			
			03/31/06	04/01/06	04/02/06	04/03/06
Original Total Demand Output			0.00	0.00	0.00	0.00
Outbound Cases			0	0	0	0
Projected Inventory			0.00	0.00	0.00	0.00
Projected Inventory Cases			0	0	0	0
Total Held Stock			0	0	0	0
Total Held Stock Cases			0	0	0	0
Week Closing Stock			0	0	0	0
Week Closing Stock Cases			0	0	0	0

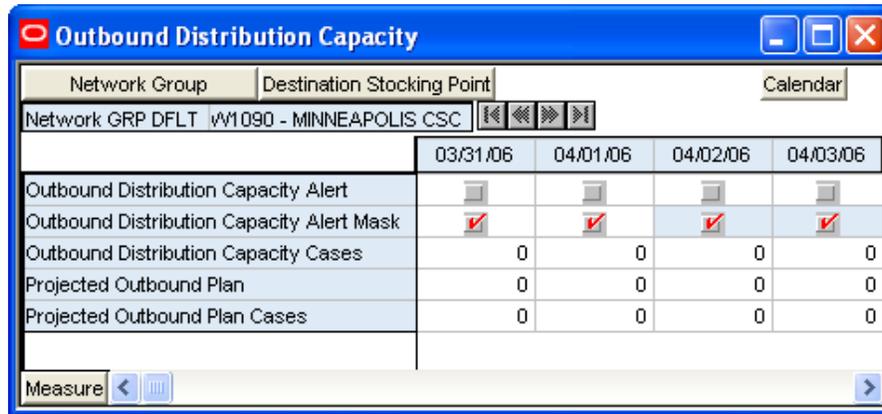
WRP Warehouse Summary Worksheet

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

Measure Label	Explanation
Original Total Demand Output	A read-only summation in units of all planned outbound shipments from a warehouse.
Total Outbound Cases	A read-only summation in cases of all planned outbound shipments from a warehouse.
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 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 projected inventory for the following Sunday morning. This is grayed out until the worksheet is rolled up to view all products.
Week Closing Stock Cases	A read-only projection in units of the closing week inventory based upon the projected inventory for the following Sunday morning. This is grayed out 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.



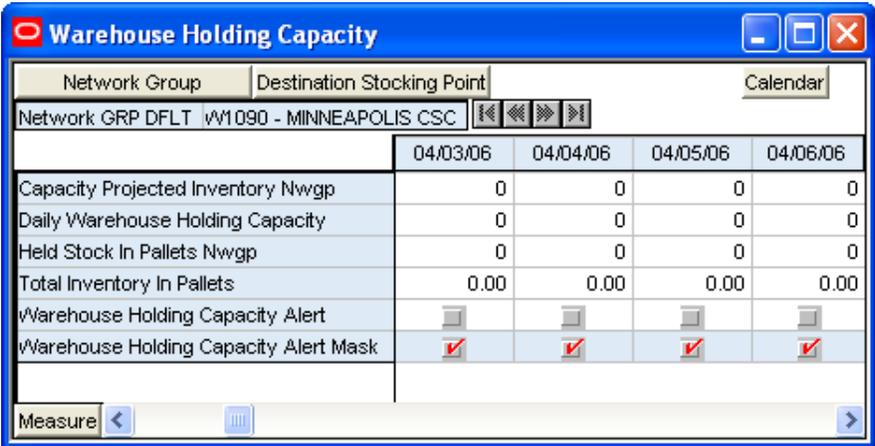
WRP Outbound Distribution Capacity Worksheet

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 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.

Network Group	Destination	Stocking Point	Calendar			
Network GRP DFLT	W1090 - MINNEAPOLIS	CSC	03/31/06	04/01/06	04/02/06	04/03/06
First Projected Inventory At Next Period			0	0	0	0
First Projected Inventory At Next Period Cases			0	0	0	0
Inbound Day-on-Day Change Alert			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inbound Day-on-Day Change Alert Mask			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Outbound Day-on-Day Change Alert			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outbound Day-on-Day Change Alert Mask			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Outbound Distribution Capacity Alert Mask			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Projected Inventory Aggregated Cases Nwgp			0	0	0	0
Projected Inventory Aggregated Nwgp			0	0	0	0
Remaining Week Actual Inbound Plan			0	0	0	0
Remaining Week Actual Inbound Plan Cases			0	0	0	0
Remaining Week Stocked Inbound			0	0	0	0
Remaining Week Stocked Inbound Cases			0	0	0	0

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 Aggregated Cases Nwgp	A read-only aggregation in cases of the opening inventory position.

Measure Label	Explanation
Projected Inventory Aggregated Nwgp	A read-only aggregation in units of the opening inventory position.
Remaining Week Actual Inbound Plan	The actual warehouse inbound plan in units for the remainder of the given week.
Remaining Week Actual Inbound Plan Cases	The actual warehouse inbound plan in cases for the remainder of the given week.
Remaining Week Stocked Inbound	Sum of each day's actual 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 actual 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 actual 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 actual 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 Total Outbound	The read-only total showing remaining planned outbound shipments in units. The remainder is based on the planned and expected receipts for a selected day and the remaining days of that calendar week.
Remaining Week Total Outbound Cases	The read-only total showing remaining planned outbound shipments in cases. The remainder is based on the planned and expected receipts 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 for a given day will satisfy the projected outbound volume.
Stock Cover Actuals/Target Difference	This read-only measure shows the relative difference between the Projected Stock Cover 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.

Measure Label	Explanation
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 outbound volume. This will be grayed out until the worksheet is rolled up to cover all destinations.
Total Outbound Nwgp	A read-only aggregation in units of outbound volume. This will be grayed out 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 opening inventory for a given day will satisfy 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.

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 **OK**. The Workbook Auto Build Maintenance Wizard is displayed.
4. From the task list, select **Add a Workbook**.
5. Click **Next**.
6. Select a workbook template type
7. Click **Next**.
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 **Next**.

Note: If you are not a system administrator, the system assigns the new workbook to you by default, so this window will 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 “Chapter 3 – 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 “Chapter 3 – Workbook and Worksheet Descriptions”

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 will 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 will typically be 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

Not everyday in the planning horizon is a legitimate delivery day for a warehouse to receive an order for a SKU-pack. Legitimate delivery days are referred to as Available-To-Plan (ATP) days and are specific to a particular SKU-pack and Warehouse.

Replenishment only plans order quantities for receipt on ATP days.

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:

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

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 will clear all product to the store and therefore it will not expire within the warehouse. As such, Expected

Spoilage, which refers to a prediction of how much unsold product will spoil, 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.

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

Calculation:

$$PI_{for\ day\ t} = Max (PI_{for\ day\ t-1} + ER_{for\ day\ t-1} - FD_{for\ day\ t-1} + PR_{for\ day\ t-1}, 0)$$

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:

$$PI_{for\ today} = Max (Current\ Inventory - Orders\ in\ the\ Well, 0)$$

Orders in the Well is a feed from an external system for warehouses only and represents previously executed orders in the warehouse which have not yet been satisfied. 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 a contingency PI calculation is used. If there is no current inventory feed 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:

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

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 often referred as Available Inventory – as it ultimately represents what inventory will be 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 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.

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:

$$NI_{for\ ATP\ day} @ Max \begin{matrix} \rightarrow \\ \frac{3}{1/2} \end{matrix} PI_{@\ BRT} \cdot \begin{matrix} \rightarrow \\ \frac{3}{1/2} \end{matrix} \begin{matrix} (ERT - WRALT_{BRT}) \\ \leftrightarrow \\ BRT_{ATP} \end{matrix} \begin{matrix} \uparrow \\ ER \end{matrix} \begin{matrix} \downarrow \\ 0 \end{matrix} \begin{matrix} \uparrow \\ Holdback_{ATP}, 0 \end{matrix} \begin{matrix} \downarrow \\ \end{matrix}$$

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

$$NI_{for\ ATP\ day} @ Max \begin{matrix} \rightarrow \\ \frac{3}{1/2} \end{matrix} PI_{@\ BRT} \cdot \begin{matrix} \rightarrow \\ \frac{3}{1/2} \end{matrix} \begin{matrix} (ERT - WRALT_{BRT}) \\ \leftrightarrow \\ BRT_{ATP} \end{matrix} \begin{matrix} \uparrow \\ ER \end{matrix} \begin{matrix} \downarrow \\ 0 \end{matrix} \begin{matrix} \uparrow \\ \end{matrix} \begin{matrix} \downarrow \\ \end{matrix}$$

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 lower 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:

$$WSSMIN @ \underset{BRT}{\text{Min}} (WSSMinUnits, \overset{(BRT . WSSMinDays01)}{\leftrightarrow FD})$$

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

Safety Stock MaximumCalculation 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:

$$WSSMAX @ \underset{BRT}{\text{Max}} (WSSMaxUnits, \overset{(BRT . WSSMaxDays01)}{\leftrightarrow FD})$$

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)

$$SCSSU @ \begin{matrix} StartDate . SCSSD01 \\ \leftrightarrow FD \\ StartDate \end{matrix}$$

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:

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

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:

$$RUTL = \text{Max}(\text{MaxS} * \text{Inc}\%, FSS)$$

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 ($TSH > 0$)

$$ROS @ \frac{\overset{(BRT . TSH 01)}{\leftrightarrow} FD}{\underset{BRT}{TSH}}$$

$$FDMIN @ ROS * MinTS$$

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

$$FDMIN @ \frac{\overset{BRT . MinTS 01}{\leftrightarrow} FD}{\underset{BRT}{}}$$

In either case,

$$SS @ Max(Max(Min(FDMIN, SS MAX), SSMIN), 0)$$

$$BS = \text{Boundary Stock}$$

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

Receipt Point

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

$$RP = \text{Receipt Point}$$

$$BS = \text{Boundary Stock}$$

$$RP @ BS$$

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:

$$RUTL = \text{Receive Up To Level}$$

$$TSH = \text{Time Supply Horizon (user-defined parameter)}$$

$$FD MAX = \text{Forecast Maximum}$$

$$FD = \text{Forecasted Demand}$$

$$MaxTS = \text{Maximum Time Supply Days (user-defined parameter)}$$

$$ROS = \text{Rate of Sale}$$

$$BS = \text{Boundary Stock}$$

$$BRT = \text{Beginning of Review Time}$$

$$ERT = \text{End of Review Time}$$

Calculations:

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

$$ROS @ \frac{\overset{(BRT \cdot TSH \ 01)}{\leftrightarrow} FD}{\underset{BRT}{TSH}}$$

$$FDMAX @ ROS * MaxTS$$

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

$$FDMAX @ \frac{BRT \cdot MaxTS \ 01}{\leftrightarrow} \underset{BRT}{FD}$$

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 will result 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 (over review time). The result is then checked to ensure that it falls between the SSMIN and SS MAX boundaries determined in the Safety Stock Minimums and Maximums section.

Calculation Expressions:

σ = standard deviation over 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:

$$AUL_{RT} = \frac{(1 - \text{ServiceLevel}) \cdot \overset{ERT}{\leftrightarrow} FD}{\underset{BRT}{\vee}}$$

$$SSS = \text{Lookup Function} (AUL_{RT}) \cdot \vee$$

$$SS = \max (\max (\min (SSS, SS_{MAX}), SS_{MIN}), 0)$$

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

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:

$$RP @ \overset{ERT}{\leftrightarrow} FD \cdot BS$$

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:

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

$$RUTL @ \overset{BRT \cdot ND + 1}{\frac{1}{2}} \overset{\frac{1}{2}}{\leftrightarrow} FD \cdot BS$$

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 SS MAX 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 ($TSH > 0$)

$$ROS @ \frac{\overset{(BRT \cdot TSH \ 01)}{\leftrightarrow} FD}{\underset{BRT}{TSH}}$$

$$FDMIN @ ROS * MinTS$$

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

$$FDMIN @ \frac{BRT \cdot MinTS \ 01}{\underset{BRT}{\leftrightarrow} FD}$$

In either case,

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

$$BS = \text{Boundary Stock}$$

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

Receipt Point

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

Calculation Expressions:

$$RP = \text{Receipt Point}$$

$$BS = \text{Boundary Stock}$$

$$FD = \text{Forecast Demand}$$

Calculation Expressions:

$$RP @ \overset{ERT}{\leftrightarrow} \underset{BRT}{FD} . BS$$

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:

$$ND = \text{Number of Days}$$

$$ERT = \text{End of Review Time}$$

$$BRT = \text{Beginning of Review Time}$$

$$ISD = \text{Inventory Selling Days}$$

$$RUTL = \text{Receiver Up To Level}$$

$$BS = \text{Boundary Stock}$$

$$FD = \text{Forecast Demand}$$

Calculations:

$$ND @ \text{Max} ((ERT - BRT \cdot 1), ISD)$$

$$RUTL @ \begin{matrix} \xrightarrow{BRT \cdot ND01} \\ \frac{1}{2} \end{matrix} \leftrightarrow \begin{matrix} \frac{1}{2} \\ BRT \end{matrix} \cdot BS \downarrow$$

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.

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:

$$SSS @ \text{lookup} \begin{matrix} \xrightarrow{ERT} \\ \frac{1}{2} \end{matrix} \leftrightarrow \begin{matrix} \frac{1}{2} \\ BRT \end{matrix} \cdot FD, \text{Service Level} \begin{matrix} \frac{1}{2} \\ \downarrow \end{matrix}$$

$$SS = \text{max} (\text{max} (\text{min} (SSS, SS\text{MAX}), SS\text{MIN}), 0)$$

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

Receipt Point

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

Calculation Expressions:

$RP = \text{Receipt Point}$

$BS = \text{Boundary Stock}$

$FD = \text{Forecast Demand}$

$BRT = \text{Beginning of Review Time}$

$ERT = \text{End of Review Time}$

Calculation:

$$RP @ \begin{matrix} ERT \\ \leftrightarrow \\ BRT \end{matrix} FD . BS$$

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:

$ND = \text{Number of Days}$

$ERT = \text{End of Review Time}$

$BRT = \text{Beginning of Review Time}$

$ISD = \text{Inventory Selling Days}$

$RUTL = \text{Receiver Up To Level}$

$BS = \text{Boundary Stock}$

$FD = \text{Forecast Demand}$

Calculations:

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

$$RUTL = \begin{matrix} \xrightarrow{BRT \cdot ND} \\ \frac{1}{2} \end{matrix} \leftrightarrow \begin{matrix} \frac{1}{2} \\ BRT \end{matrix} FD \downarrow + BS$$

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

Safety Stock

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

$SS = \text{Loaded Safety Stock}$

Calculation:

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

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:

$RP = \text{Receipt Point}$

$BS = \text{Boundary Stock}$

$FD = \text{Forecast Demand}$

Calculation:

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

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:

$ND = \text{Number of Days}$

$ERT = \text{End of Review Time}$

$BRT = \text{Beginning of Review Time}$

$ISD = \text{Inventory Selling Days}$

$RUTL = \text{Receiver Up To Level}$

$BS = \text{Boundary Stock}$

$FD = \text{Forecast Demand}$

Calculations:

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

$$RUTL = \overset{\text{BRT} \cdot ND01}{\underset{\frac{1}{2} \quad BRT}{\text{3}}} \leftrightarrow \underset{\downarrow}{FD} \frac{1}{2} + BS$$

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 Roll 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 will still remain 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.

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:

$$SSDR = \overset{ED}{\underset{SD}{\leftrightarrow}} \text{LoadedHistoricDailySales}$$

$$SS = \text{Max} (\text{Max} (\text{Min} (SlMax, SSDR), SlMin), 0)$$

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

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 will still remain 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.

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:

$$NDR = ED - SD + 1$$

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

$$AWS = \frac{SSDR}{\frac{1}{2} NDR} \times 7$$

$$FAWS = AWSF \times AWS$$

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

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

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 will still remain 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.

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:

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

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

$$SSARS @ \frac{3}{\frac{1}{2}} \frac{TARS}{7} \frac{1}{2} \times ARSF$$

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

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

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 the day or not 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 will be 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 will get orders. When there is only one source with a positive percentage who can deliver on a given ATP day, that source will get 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 will have been 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 will be 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 will receive 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 will attempt 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 will be 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 will get nothing. This leads to the description of Reconciliation Over Time 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 will 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 will not be 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 will be 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 will have been modified to reflect how the available inventory was shared to the destinations.

Substitution Overview

Substitution processing runs after Shortfall processing and before Stockless processing. 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 will be shared across the stores using the same approach adopted by Shortfall Reconciliation to place all stores in the same relative position. Substitution will then continue 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 will 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 availability of inventory at the source during the Reconciliation Period is assessed for a warehouse source using the same modified Net Inventory (NI) calculation. The variation used is the one that further reduces Available Inventory by the Holdback quantity. The user has no choice in this regard.

The demand over the Reconciliation period at the source is assessed as the sum of the Constrained Reconciliation Plan for destinations that ship from the source during the period. The constrained reconciliation plan for the destinations is used because it reflects the changes made by the Shortfall and Substitution processes.

The excess inventory at the source is calculated as the available inventory for the Reconciliation Period minus the demand over the same period. If the result is greater than zero, then the result represents the excess quantity to be removed from the Source.

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.

Excess SPQ quantities are only pushed to the warehouses to which the vendor delivers. However, excess stockless product may be pushed from a warehouse to other stores and warehouses. A user defined matrix exists which depicts how excess inventory should be shared amongst stores of various priorities and warehouses. Typically, it is undesirable to push excess inventory from one stockless warehouse to another warehouse because the inventory usually needs to reach a store in order to be consumed.

The general approach is to push the excess inventory to a group of destinations (dictated by the user) by raising the Constrained Receipt Plan (CRP) into those destinations so that the resulting inventory position of each of the destinations does not exceed a specified allocation boundary. This process can then be repeated for the next higher 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 user matrix, repeats until all excess stock is absorbed by the increase of the CRP into the various destinations served by the source.

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, with the only destinations served by the source warehouse are stores, AIP will behave in the following manner:

- PI for every day would be 0 (except for TODAY, where PI is based on current inventory).
- The excess stock would NEVER be 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 would be determined by comparing available inventory at the warehouse to the Demand at the warehouse.
- The excess would be pushed out to only warehouse destinations. This would only occur when all the destinations are also warehouses. If even a single destination is a store, excess would not be pushed out, and would simply be represented as the Warehouse Excess Qty (Stockless). The excess would be 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.

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 Unsatisfied Sales Orders for Multiple Days for a Stocked SKU Group will not be 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 Unsatisfied Store Sales for Multiple Days for a Stockless SKU Group will not be 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	<p>A Demand Credit Multi-Day Stocked alert is generated when the number of days a demand credit exception exists exceeds a demand credit days threshold.</p> <p>This alert is only triggered for stocked products. SKUs alerted for any Sales Credit Alerts will not be alerted.</p>
Demand Credit Stocked Alert	<p>A Demand Credit Stocked alert is generated when the Demand Credit exceeds a demand credit unit threshold and the percentage demand credit exceeds a demand credit percentage shortage threshold.</p> <p>This alert is only triggered for stocked products. SKUs alerted for Unsatisfied Store Orders for Multiple Days for a Stocked SKU Group will not be alerted.</p> <p>SKUs alerted for any Sales Credit Alerts will not be alerted.</p>
Demand Credit Summary Alert	<p>The Demand Credit Summary Alert is triggered when any of the Demand Credit Alerts are triggered.</p>

Unsatisfied Store Sales for Multiple Days for a Stocked SKU Group

An Unsatisfied Store Sales for Multiple Days for a Stocked SKU Group 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 forecasted demand over the review time and the projected inventory position.

The Percentage Sales Credit represents the percent of satisfied sales for a product at a warehouse.

Alert Parameters

- 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 Unsatisfied Store Sales for Multiple Days for a Stocked SKU Group up 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 minimum of forecasted demand over the review time and maximum sellable quantity minus net inventory.
 - The Sales Credit is the sum of the constrained receipt plan and expected receipts, minus the Minimum Sales over Review Time. The Sales Credit is capped at zero. The Sales Credit is only calculated within the fixed period.

- The negative of the Sales Credit is compared to an alert parameter, Sales Credit Unit 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 negative of the Sales Credit is greater than Sales Credit Unit Threshold for Stocked Commodity, 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 Sales Credit divided by the unconstrained demand from the stores.
 - 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 days 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.

Unsatisfied Store Sales for a Single Day for a Stocked SKU Group

An Unsatisfied Store Sales for a Single Day for a Stocked SKU Group alert is generated for stocked products when the Warehouse Sales Credit exceeds the Warehouse Sales Credit Unit Threshold and the Percentage Sales Credit exceeds the Warehouse Sales Credit Percentage Shortage.

SKUs alerted for Unsatisfied Store Orders for Multiple Days for a Stocked SKU Group will not be alerted.

The Sales Credit represents the difference between the forecasted demand over the review time and the projected inventory position.

The Percentage Sales Credit represents the percent of satisfied sales for a product at a warehouse.

Alert Parameters

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

Alert Logic Summarized

The Unsatisfied Store Sales for a Single Day for a Stocked SKU Group 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 minimum of forecasted demand over the review time and maximum sellable quantity minus net inventory.
 - The Sales Credit is the sum of the constrained receipt plan and expected receipts, minus the Minimum Sales over Review Time. The Sales Credit is capped at zero. The Sales Credit is only calculated within the fixed period.
 - The negative of the Sales Credit is compared to an alert parameter, Sales Credit Unit 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 negative of the Sales Credit is greater than Sales Credit Unit Threshold for Stocked Commodity, 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 Sales Credit divided by the unconstrained demand from the stores.
 - 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 Unsatisfied Store Orders for Multiple Days for a Stocked SKU Group Alert is not triggered.

Unsatisfied Store Sales for Multiple Days for a Stockless SKU Group

An Unsatisfied Store Sales for Multiple Days for a Stockless SKU Group 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 the forecasted demand over the review time and the projected inventory position.

The Percentage Sales Credit represents the percent of satisfied sales for a product at a warehouse.

Alert Parameters

- 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 Unsatisfied Store Sales for Multiple Days for a Stockless SKU Group up 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 minimum of forecasted demand over the review time and maximum sellable quantity minus net inventory.
 - The Sales Credit is the sum of the constrained receipt plan and expected receipts, 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.
 - The negative of the Sales Credit is compared to an alert parameter, Sales Credit Unit 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 negative of the Sales Credit is greater than Sales Credit Unit Threshold for Stockless Commodity, 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 Sales Credit divided by the unconstrained demand from the stores.
 - 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 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.

Unsatisfied Store Sales for a Single Day for a Stockless SKU Group

An Unsatisfied Store Sales for a Single Day for a Stockless SKU Group 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 Unsatisfied Store Orders for Multiple Days for a Stockless SKU Group will not be alerted.

The Sales Credit represents the difference between the forecasted demand over the review time and the projected inventory position.

The Percentage Sales Credit represents the percent of satisfied sales for a product at a warehouse.

Alert Parameters

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

Alert Logic Summarized

The Unsatisfied Store Sales for a Single Day for a Stockless SKU Group 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 minimum of forecasted demand over the review time and maximum sellable quantity minus net inventory.
 - The Sales Credit is the sum of the constrained receipt plan and expected receipts, 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.
 - The negative of the Sales Credit is compared to an alert parameter, Sales Credit Unit 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 negative of the Sales Credit is greater than Sales Credit Unit Threshold for Stockless Commodity, 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 Sales Credit divided by the unconstrained demand from the stores.
 - 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 Unsatisfied Store Sales for Multiple Days for a Stockless SKU Group Alert is not triggered.

Sales Credit Summary Alert

A Sales Credit Summary Alert is raised 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:

- Unsatisfied Store Sales for Multiple Days for a Stocked SKU Group
- Unsatisfied Store Sales for a Single Day for a Stocked SKU Group
- Unsatisfied Store Sales for Multiple Days for a Stockless SKU Group
- Unsatisfied Store Sales for a Single Day for a Stockless SKU Group

Unsatisfied Store Orders for Multiple Days for a Stocked SKU Group

An Unsatisfied Store Orders for Multiple Days for a Stocked SKU Group alert is generated for stocked products when the number of days a demand credit exception exists exceeds the Demand Credit Days Threshold for Stocked Commodity.

The Demand Credit represents the difference between the total demand (unconstrained) at the warehouses and the projected inventory position at the warehouses.

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

Alert Parameters

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

Alert Logic Summarized

The Unsatisfied Store Orders for Multiple Days for a Stocked SKU Group up 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.
 - First, the Demand Credit is calculated as the available inventory at the warehouse minus the unconstrained demand on the warehouse. The Demand Credit is capped at zero. The Demand Credit is only calculated within the fixed period.
 - The negative of the Demand Credit is compared to an alert parameter, Demand Credit Unit 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 negative of the Demand Credit is greater than Demand Credit Unit Threshold for Stocked Commodity, 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 Demand Credit divided by the unconstrained demand from all locations sourced by this warehouse.
 - The Percentage Demand Credit is compared to an alert parameter, Demand 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 Demand Credit is greater than Demand Credit Percentage Shortage for Stocked Commodity, this condition is true.

3. The number of days a demand credit exception exists is greater than a user-defined threshold.
 - First, count the number of days the demand credit exceeds the demand credit unit threshold and the demand credit percentage shortage.
 - 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 exception exists 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.

Unsatisfied Store Orders for a Single Day for a Stocked SKU Group

An Unsatisfied Store Orders for a Single Day for a Stocked SKU Group alert is generated for stocked products when the Demand Credit exceeds the Demand Credit Unit Threshold and the Percentage Sales Credit exceeds the Demand Credit Percentage Shortage.

SKUs alerted for Unsatisfied Store Orders for Multiple Days for a Stocked SKU Group will not be alerted.

The Demand Credit represents the difference between the total demand (unconstrained) at the warehouses and the projected inventory position at the warehouses.

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

Alert Parameters

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

Alert Logic Summarized

The Unsatisfied Store Orders for a Single Day for a Stocked SKU Group 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.
 - First, the Demand Credit is calculated as the available inventory at the warehouse minus the unconstrained demand on the warehouse. The Demand Credit is capped at zero. The Demand Credit is only calculated within the fixed period.
 - The negative of the Demand Credit is compared to an alert parameter, Demand Credit Unit 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 negative of the Demand Credit is greater than Demand Credit Unit Threshold for Stocked Commodity, 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 Demand Credit divided by the unconstrained demand from all locations sourced by this warehouse.

- The Percentage Demand Credit is compared to an alert parameter, Demand 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 Demand Credit is greater than Demand Credit Percentage Shortage for Stocked Commodity, this condition is true.
3. The product is stocked.
 4. The Unsatisfied Store Orders for Multiple Days for a Stocked SKU Group 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:

- Unsatisfied Store Orders for Multiple Days for a Stocked SKU Group
- Unsatisfied Store Orders for a Single Day for a Stocked SKU Group

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.
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.

Alert	Description
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 for all SKUs in the network group for a warehouse.
 - 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 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.
 - 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 is greater than the Stocking Point Holding Capacity threshold the alert is triggered.

Stock Cover Exception

The Stock Cover Exception is raised when the total capacity opening inventory exceeds the warehouse capacity.

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:

- Calculate Projected Stock Cover Days. Projected Stock Cover represents the number of days that the Opening Inventory on a certain planning day will satisfy the Projected Outbound Plan.
 - First, calculate the Projected Outbound Plan (POP) as the sum of demand 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 (within fixed period) 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.
 - 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 is 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.
 - First, calculate the Projected Outbound Plan (POP) as the sum of demand for all SKUs in the network group for a warehouse.
 - Calculate the Projected Stock Cover as the count of days (within fixed period) 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.
 - Today's projected stock cover days become yesterday's projected stock cover days on the following day.
 - 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 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.

Alert	Description
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 Opening Inventory on a certain planning day will satisfy the Projected Outbound Plan.
 - First, calculate the Projected Outbound Plan (POP) as the sum of demand 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 (within fixed period) 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.
 - The Projected Stock Cover Days is compared to an alert parameter, Projected Stock Cover Days Threshold 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 Overstock Threshold Exception, this condition is true.
2. Compare Projected Inventory to the Overstock Units Threshold.
 - The Projected Inventory is compared to an alert parameter, Overstock Units 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 Units 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 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 difference between the total demand (unconstrained) at the warehouses and the projected inventory position at the warehouses.

Alert Parameters

- Stockless Surplus Threshold
- Stockless Surplus Days 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.
 - First, the Demand Credit is calculated as the available inventory at the warehouse minus the unconstrained demand on the warehouse. The Demand Credit is capped at zero. The Demand Credit is only calculated within the 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 Surplus Inventory must be greater than zero.
 - First, calculate the surplus inventory as the sum of demand over the number of days specified in the alert parameter, Stockless Surplus Days Threshold. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
 - If the surplus inventory is greater than zero, this condition is true.
3. Calculate the number of days the surplus inventory exception exists. The number of days the surplus inventory exception exists must be greater than the Stockless Surplus MultiDay Threshold.
 - First, count the number of days the Demand Credit exceeds the Stockless Surplus Threshold and surplus inventory is greater than zero.
 - 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 over the Stockless Surplus Days Threshold is greater than zero.

SKUs alerted for The Stockless Surplus Alert for Multiple Days will not be alerted.

The Demand Credit represents the difference between the total demand (unconstrained) at the warehouses and the projected inventory position at the warehouses.

Alert Parameters

- Stockless Surplus Threshold
- Stockless Surplus Days Threshold

Alert Logic Summarized

The Unsatisfied Store Orders for a Single Day for a Stocked SKU Group alert 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.
 - First, the Demand Credit is calculated as the available inventory at the warehouse minus the unconstrained demand on the warehouse. The Demand Credit is capped at zero. The Demand Credit is only calculated within the 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 Surplus Inventory must be greater than zero.
 - First, calculate the surplus inventory as the sum of demand over the number of days specified in the alert parameter, Stockless Surplus Days Threshold. This parameter is maintained in the WRP Alert Maintenance workbook at the SKU/Warehouse, Sub-class or Department level.
 - If the surplus inventory is greater than zero, 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 item 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 will assist 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*.

Alerts				
Categ...	Alert Name	Status	Date	Count
SRP	High Planned Orders	New	4/3/2006	0
SRP	SRP RDF Alert	New	4/3/2006	0
SRP	History Availability Alert	New	4/3/2006	0
SRP	Projected Availability Alerts	New	4/3/2006	0
SRP	Store Overstock Alert	New	4/3/2006	0
WRP	Demand Credit Summary Alert	New	4/3/2006	0
WRP	Outbound Distribution Capacity Alert	New	4/3/2006	0
WRP	Warehouse Holding Capacity Alert	New	4/3/2006	18
WRP	Inbound Day-on-Day Change Alert	New	4/3/2006	0
WRP	Outbound Day-on-Day Change Alert	New	4/3/2006	0
WRP	Overstock Summary Alert	New	4/3/2006	0
WRP	WRP RDF Alert	New	4/3/2006	0
WRP	Stock Cover Day-on-Day Change Alert	New	4/3/2006	0
WRP	Sales Credit Summary Alert	New	4/3/2006	0
WRP	Stk Cvr Alert (Act In vs. Act Out)	New	4/3/2006	0

Buttons: Resolve alert, Insert Alert, New Workbook

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:

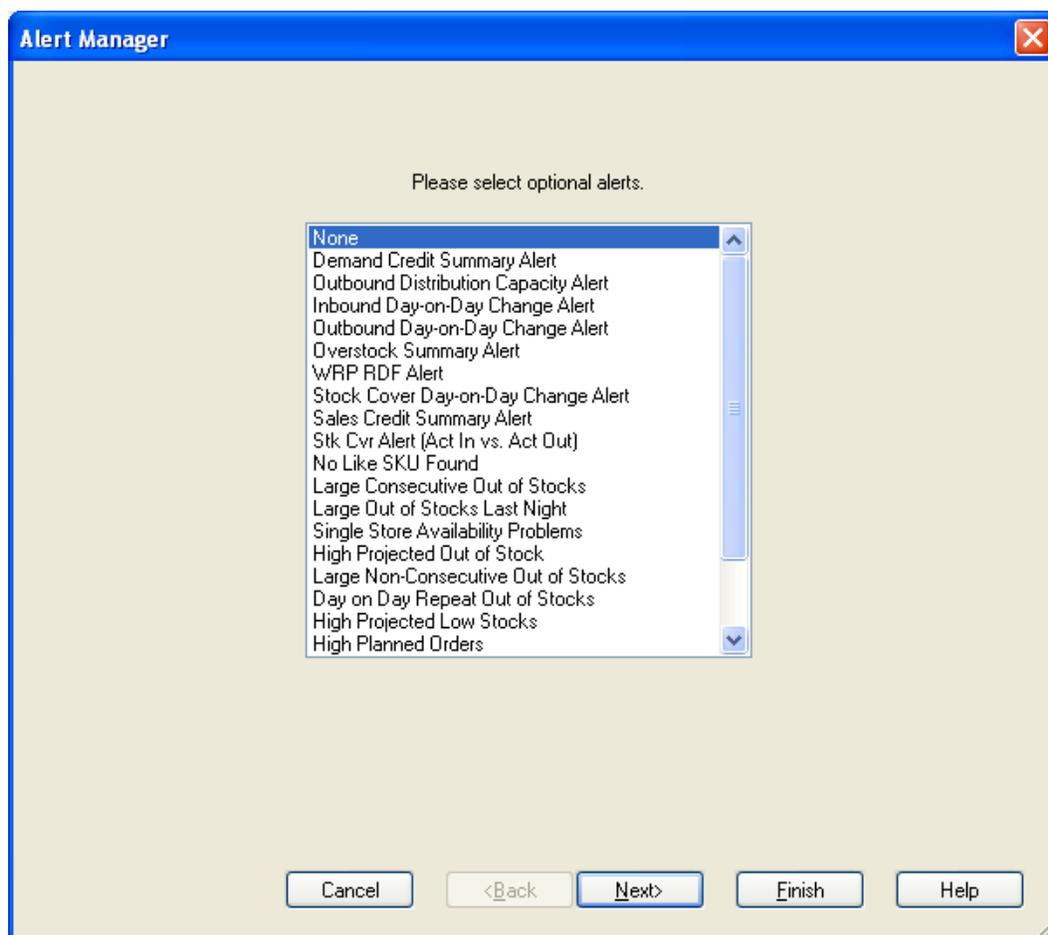
- Resolve Alert/Unresolve Alert button – For new alerts or alerts that you have reviewed; the Resolve Alert button changes the status of the alert from New or Reviewed to Resolved. For Resolved alerts, the Unresolve Alerts button changes the status back to Reviewed.

- **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

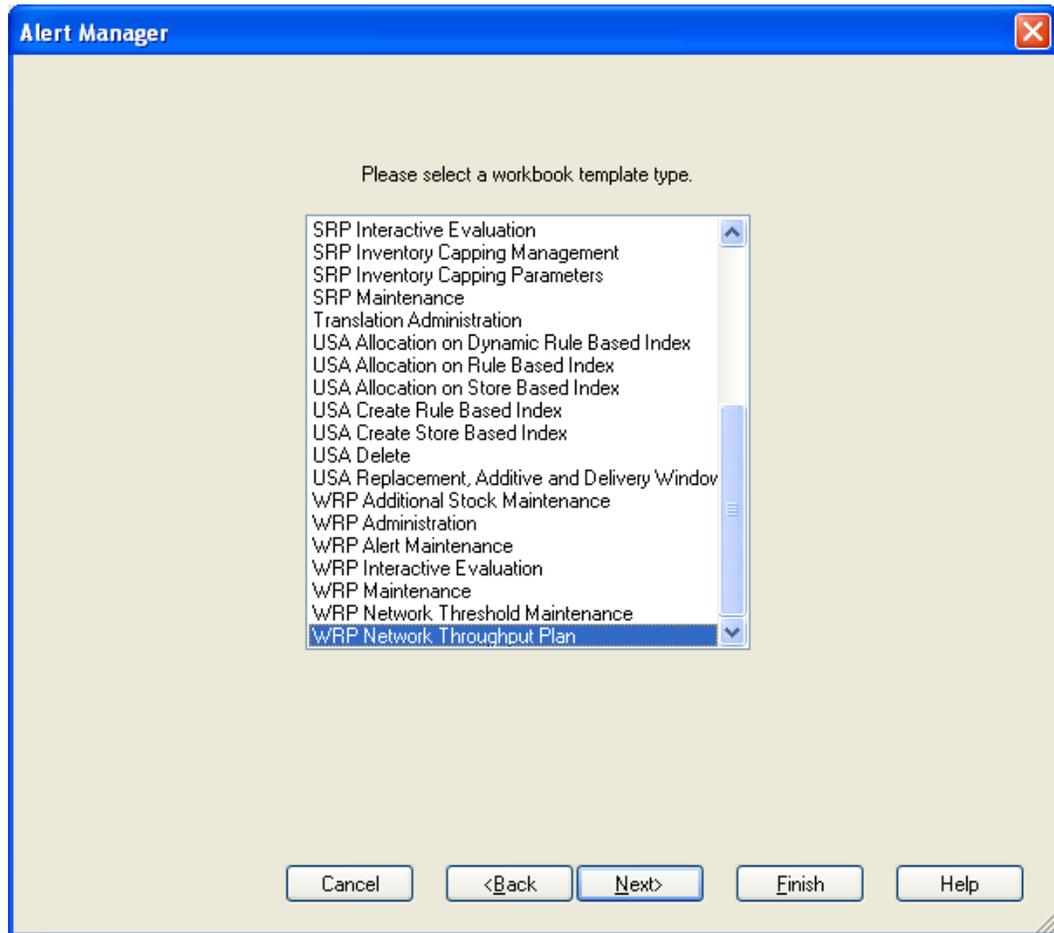
The Alert Manager lists alerts issued to a user regarding potential problems that may require review. The user can select an alert, such as the Historical Availability alert to review and click **New Workbook** or **Open Workbook** to view more information about the alert.

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.



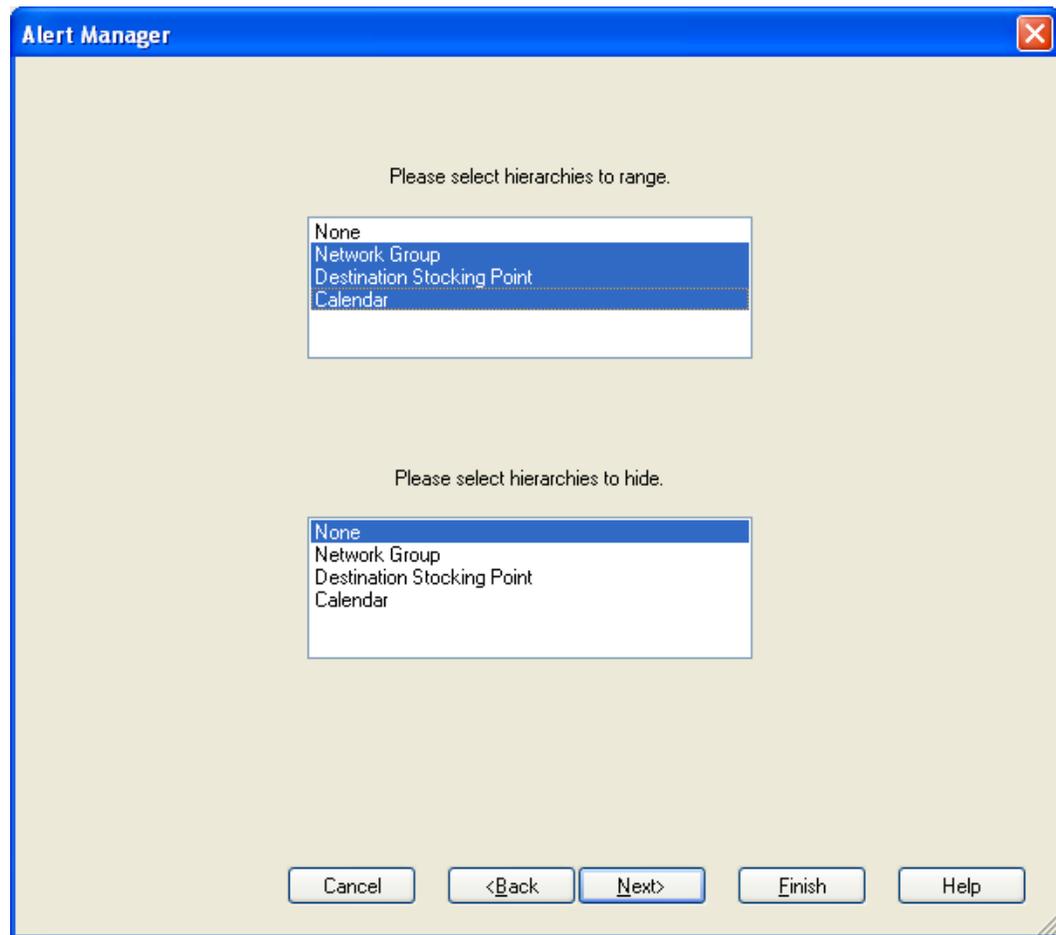
Alert Manager– Select Optional Alerts Screen

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

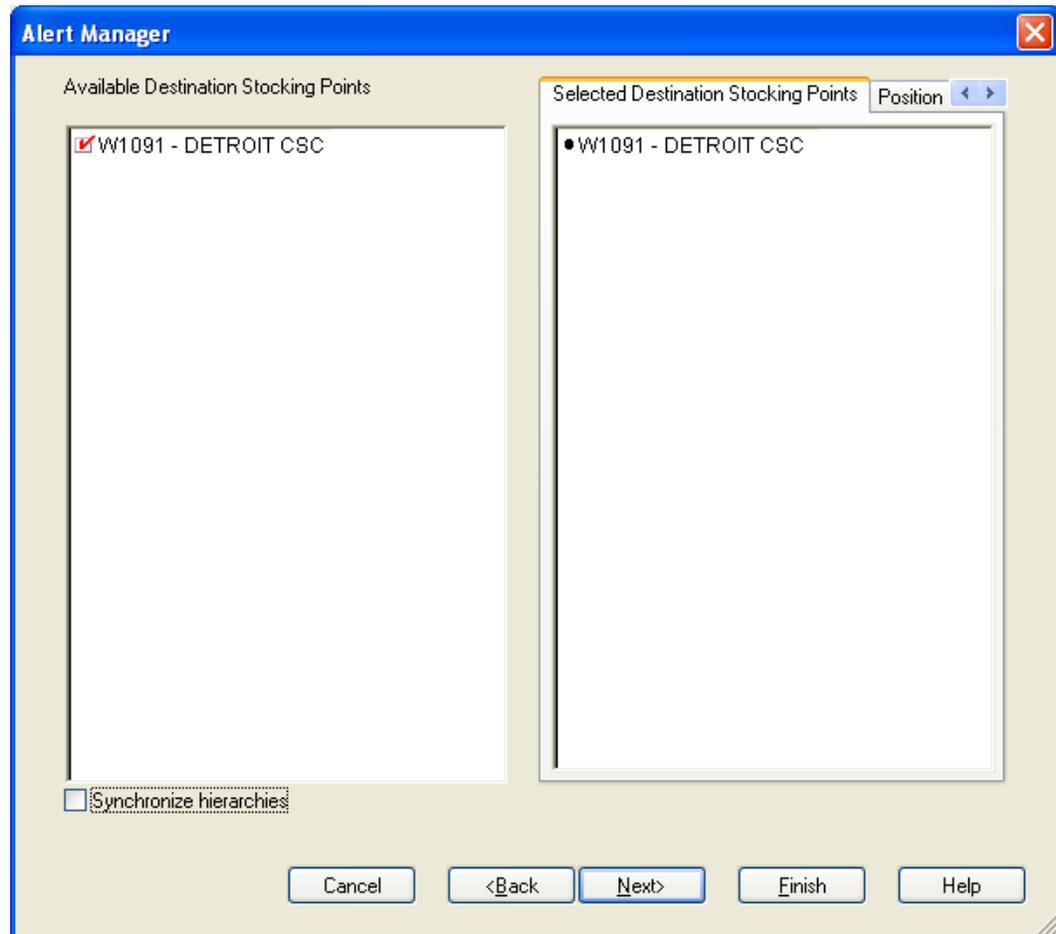
3. Select the workbook template that you want to use to build the workbook, and click **Next**. The Select Hierarchy screen appears.



Alert Manager– Select Hierarchies Screen

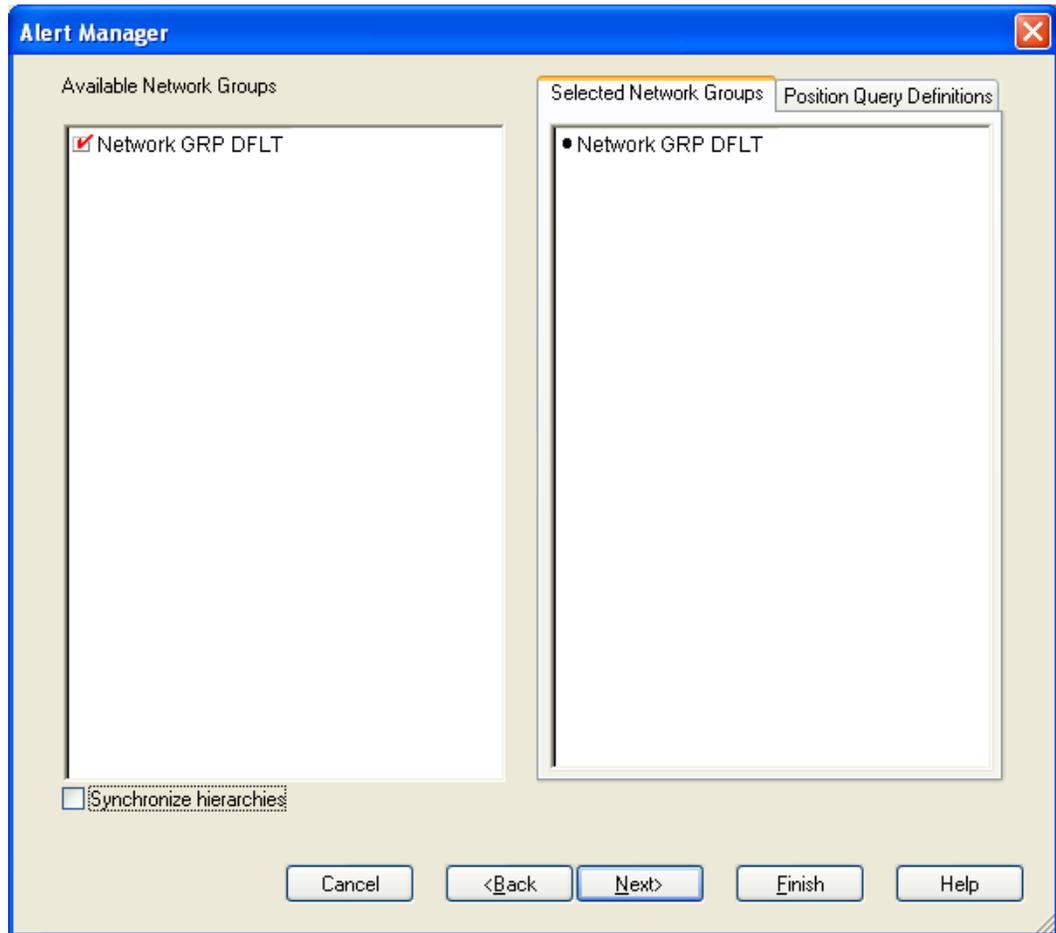
4. Select hierarchies for the new workbook and click **Next**. In most cases, both product and location hierarchies should be selected. In this case, since we are reviewing a Network Alert, we will select the Network Group, Destination Stocking Point, and Calendar hierarchies. At this time, the wizard 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 will be available for selection in the new workbook wizard. For instance, when selecting the product hierarchy, the product selection screen for the new workbook wizard will only allow you to choose products for which an alert was triggered. This means that all non-alert-related positions will be excluded from the workbook build.



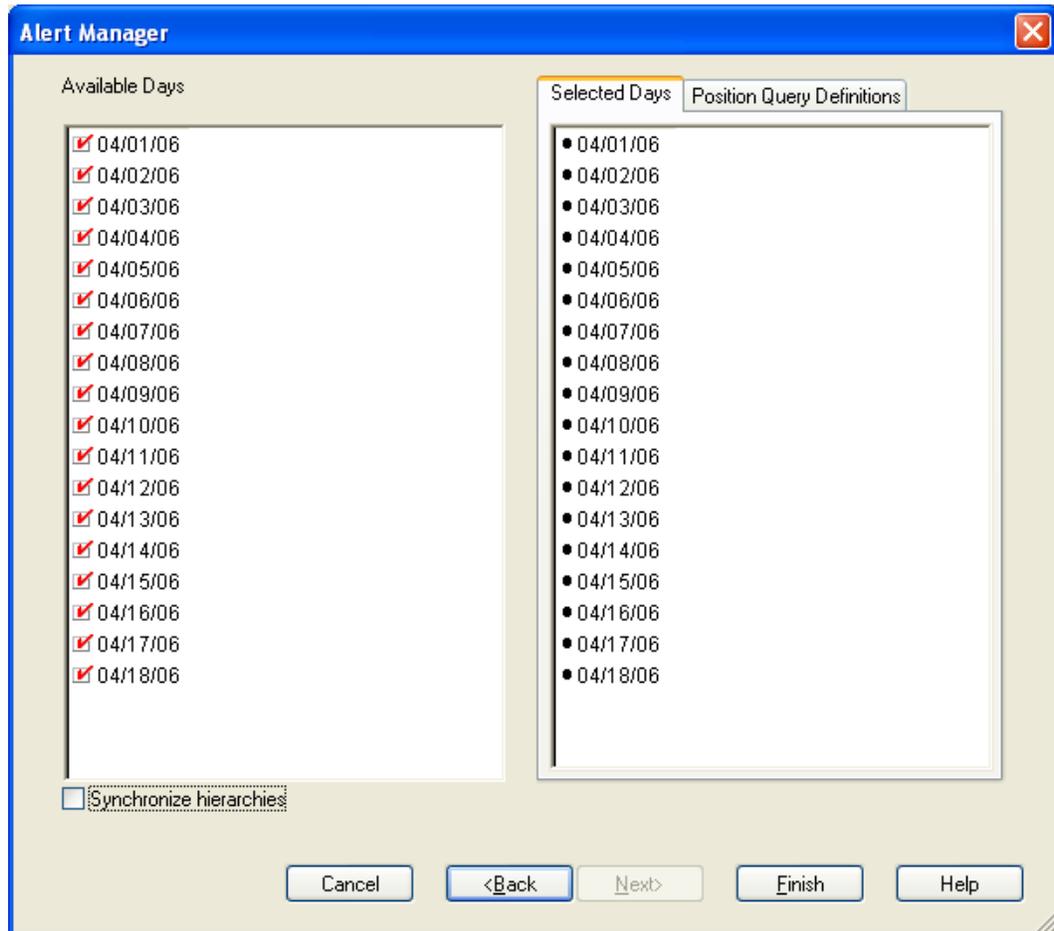
Alert Manager - Available Destination Stocking Points Screen

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 will be the first measure displayed in the newly-built workbook. Checkmarks identify the positions associated with a recognized alert.

Network Group	Destination Stocking Point	Calendar			
Network GRP DFLT	W1091 - DETROIT CSC	03/31/06	04/01/06	04/02/06	04/03/06
Capacity Projected Inventory Nwgp		0	0	0	6000
Daily Warehouse Holding Capacity		100	100	100	100
Held Stock In Pallets Nwgp		0	2000	2000	2000
Total Inventory In Pallets		0.00	2000.00	2000.00	8000.00
Warehouse Holding Capacity Alert		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Warehouse Holding Capacity Alert Mask		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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 will be 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

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 hands, in transits, and orders 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 will not be 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 will perform a one-time copy of all required replenishment settings and parameters from the sister warehouse. WRP will perform a weekly copy of sales history from the sister warehouse to a new warehouse that is scheduled to open. It will continue to copy the sales history weekly up until the Warehouse Opening Date. On the Warehouse Opening Date, any remaining balance of sales history will be copied.

If the warehouse opening date is greater than today’s date, WRP will copy 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 will indicate 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 will be 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 is 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 is 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 will normally, but not always, supply 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 will generate 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 will also be 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 will be 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 will 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 subclass 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 will raise 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 will receive 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.