Oracle® Retail Replenishment Optimization

User Guide for the RPAS Fusion Client

Release 13.4

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Oracle Retail Replenishment Optimization User Guide for the RPAS Fusion Client, Release 13.4

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Value-Added Reseller (VAR) Language

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Contents

3 Optimization Review Workbook

4 Replenishment Admin Workbook

5 Replenishment Manager Workbook

6 Subgroup Analysis Workbook

7 Replenishment Analyst Workbook

List of Figures

List of Tables

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Preface

The *Oracle Retail Replenishment Optimization User Guide for the RPAS Fusion Client* describes the application's user interface. It provides detailed instructions for performing the various steps in the replenishment optimization process.

Audience

This document is intended for following types of users in Oracle Retail Replenishment Optimization:

- Replenishment Analysts
- Replenishment Managers
- Replenishment Administrators

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Related Documents

For more information, see the following documents in the Oracle Retail Replenishment Optimization Release 13.4 documentation set:

- *Oracle Retail Replenishment Optimization Implementation Guide*
- *Oracle Retail Replenishment Optimization Installation Guide*
- *Oracle Retail Replenishment Optimization Release Notes*
- *Oracle Retail Replenishment Optimization User Guide for the RPAS Classic Client*
- *Oracle Retail Batch Script Architecture Implementation Guide*
- Oracle Retail Predictive Application Server documentation

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- Detailed step-by-step instructions to recreate
- Exact error message received
- Screen shots of each step you take

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If you are installing the application for the first time, you install either a base release (for example, 13.4) or a later patch release (for example, 13.4.1). If you are installing a software version other than the base release, be sure to read the documentation for each patch release (since the base release) before you begin installation. Patch documentation can contain critical information related to the base release and code changes that have been made since the base release.

Oracle Retail Documentation on the Oracle Technology Network

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

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

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

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

Conventions

The following text conventions are used in this document:

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

1
Introduction

The primary goal of Replenishment Optimization (RO) is to harness the replenishment methods available in the client's replenishment system. To make the best use of the available replenishment capabilities, RO balances inventory investments across items/warehouses to maximize return on investment (ROI). Optimization is performed based on business objectives and allows retailers to make inventory investment decisions that are in line with their financial goals. The recommendations take into account sales volume, volatility, availability of forecast data, seasonality, client business rules and constraints, and financial objectives to determine the optimized values.

RO automatically monitors item/warehouse demand and supply chain variables to determine the optimal inventory for the greatest return. It recommends replenishment settings, either automatically approving the changes or raising alerts; for example, alerting higher impact items. The optimal replenishment settings recommended by RO may be used to update Oracle Retail Advanced Inventory Planning (AIP) replenishment parameters or the retailer's legacy replenishment system.

The automated management of replenishment settings based on item/warehouse selling characteristics ensures accurate replenishment. It allows you to focus on maximizing profit rather than the time-consuming business of managing individual item/warehouse level replenishment.

> **Note:** This guide describes RO on the RPAS Fusion Client. For information about RO on the RPAS Classic Client, see the Oracle Retail Replenishment Optimization User Guide for the RPAS Classic Client.

With RO, you can:

- Make informed decisions on inventory investments with customer service-based business goals in mind.

  You can base your inventory investment decisions on available budget, desired service levels, or a combination of the two.

- Receive optimal replenishment settings for items/warehouses.
  - Inventory investment trade-offs are performed based on item/warehouse level demand profiles and ROI.
  - Robust simulation techniques drive the calculations for product/location return on inventory investment.
  - Once an overall inventory investment decision is made, RO delivers the item/warehouse-specific requirements to help you reach that goal.

- Use item weighting during optimization.
  - RO can consider product importance when assessing ROI.
  - RO performs optimization and inventory investment recommendations based on the statistical characteristics of the item/warehouse. If an item is important for strategic reasons (for example, the item may be a traffic driver; therefore, it is important to maintain high service levels for the item), you can specify a higher weight for that item.
- Run optimization dynamically against the latest assortment.

  RO can consider changing assortments and associated item priorities that result from an assortment rationalization process.

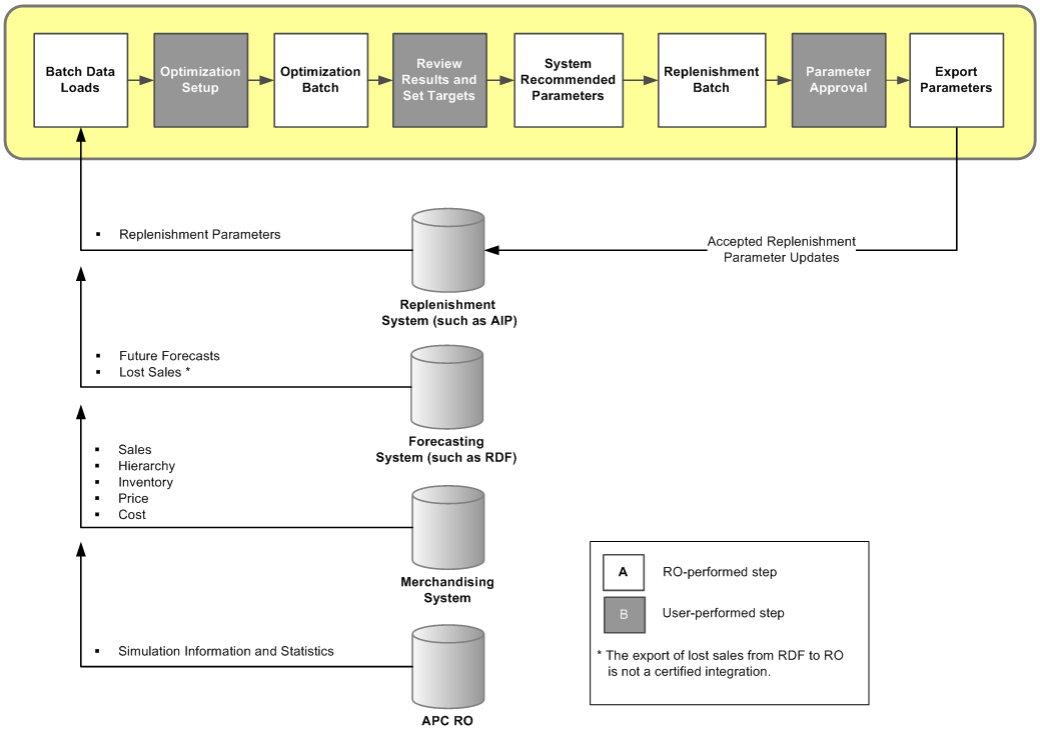
RO Solution Process Overview

The following diagram is a high level view of the RO process flow. Inventory, sales, and replenishment parameters are loaded from the merchandising system and the replenishment system. Forecasts and lost sales information are loaded from the forecasting system. Simulation information and statistics are loaded from Analytic Parameter Calculator Replenishment Optimization (APC RO).

The RO batch process generates the optimal system-recommended replenishment settings. You can perform what-if analysis by changing replenishment settings and determining the impact on projected inventory and service levels. You can restrict this analysis to only altered items/locations. You can then approve the settings by accepting the system recommendations, overriding recommendations with special inputs, or by defaulting to the previously approved or current replenishment settings.

The approved settings are then exported from RO to the replenishment system.

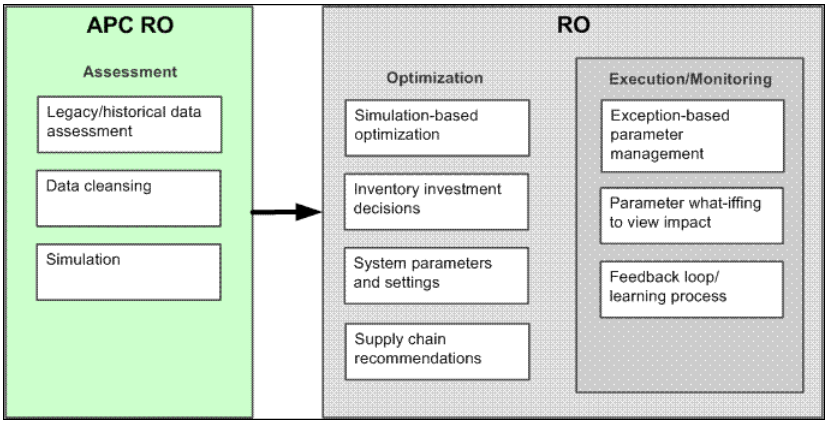
Figure 1–1 RO Solution Process Overview



RO and APC RO

RO receives simulation information and statistics from APC RO and uses these parameters to perform the optimization. This process is described in Figure 1–2.

Figure 1–2 RO and APC RO



- APC RO calculates the necessary parameters that drive the optimization within RO.
  - The parameters relate the ROI information to the statistical characteristics of the items/warehouses.
  - Parameters are based on robust simulation techniques that capture item/warehouse/day-level nuances in demand (such as day-to-day variability and spikes), lead times, pack sizes, review frequencies, warehouse fill rates (for warehouses running multi-tier), and the impact on the return on inventory investment.
- APC RO exports item/warehouse level characteristics as well as statistical characteristics based on ROI metrics.
- RO performs optimization using the parameters from APC RO. The optimization is based on the following:
  - The latest assortment mix
  - Statistical characteristic-based parameters for new or non-simulated items/warehouses
  - User-driven optimization metrics such as maximize gross margin, minimize inventory, and so on

Refer to the APC RO documentation for more information.

Keys to Success in Implementing RO

Implementing RO is a business process modification, requiring a thorough understanding of your existing processes relative to replenishment. To understand how you can use RO to automate and improve these processes, it is important to get technical training on RO. In addition, we recommend that you take advantage of the knowledge base among Oracle Retail business analysts when deciding to implement RO.

To ensure a successful RO implementation in your business, consider these recommendations:

- Clearly define critical replenishment strategies in place at your business today.
- Understand how RO fits into your business process.
- Involve key business users in the RO implementation process. Make sure they get training in RO and its capabilities.
- Establish technical ownership of the RO implementation and maintenance.
- Validate that you have the resources to take ownership for RO maintenance going forward.
- Commit to support the replenishment targets that fit your aggregate business goals. This may require you to adopt strategies that are quite different from how you replenish today.

Oracle Retail's Analytic Services group has developed RO specialist consultants who can help you learn how to use RO and provide you with the process and business consulting services to support anything from initial RO implementation efforts to advanced exception development.

RO Users

The RO users fall into three categories- Replenishment Analysts, Replenishment Managers, and Replenishment Administrators.

- Replenishment Analysts are typically responsible for item/location level replenishment settings. They monitor inventory levels and historic lost sales at item/location levels. These users can approve, reject, or override replenishment recommendations. They can perform what-if analysis to determine impact of each of these settings to make informed decisions. Users can restrict their analysis to only alerted items/locations using the Alert Manager.
- The Replenishment Managers are responsible for inventory, revenue, and service level targets at aggregate levels of the business. These users are responsible for inventory investment decisions, establishing target service levels, and inventory levels. They may also review and monitor actual inventory and services against targets.
- Replenishment Administrators are required to set up RO Replenishment Rule settings that are developed by RO Specialist Consultants. They are not the primary end users of the application.

RO Workbooks

RO contains the following workbooks:

- Optimization Definition Workbook
- Optimization Review Workbook
- Replenishment Admin Workbook
- Replenishment Manager Workbook
- Subgroup Analysis Workbook
- Replenishment Analyst Workbook

2

Optimization Definition Workbook

The Optimization Definition workbook is used to define optimization parameters as well as to specify the mode of the RO batch run. RO batch has two primary modes: full mode and refresh mode. In the full mode, RO performs optimization calculations and generates the Inventory/Service Level Trade-off curves, based on user-defined objective functions. In the refresh mode, RO refreshes the replenishment methods and parameters for product/locations based on approved inventory/service level targets from the previous full mode run. The Optimization Definition workbook contains the following steps:

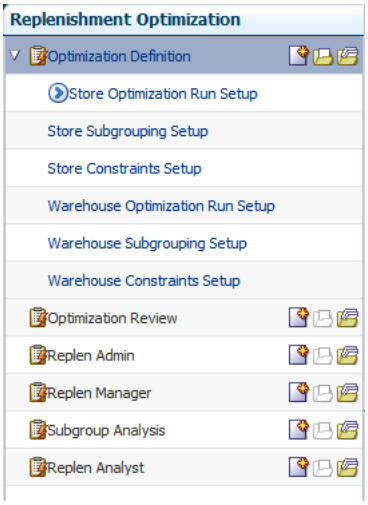
- Store Optimization Run Setup Step
- Store Subgrouping Setup Step
- Store Constraints Setup Step
- Warehouse Optimization Run Setup Step
- Warehouse Subgrouping Setup Step
- Warehouse Constraints Setup Step

Optimization Definition Wizard

To create an Optimization Definition workbook, perform the following:

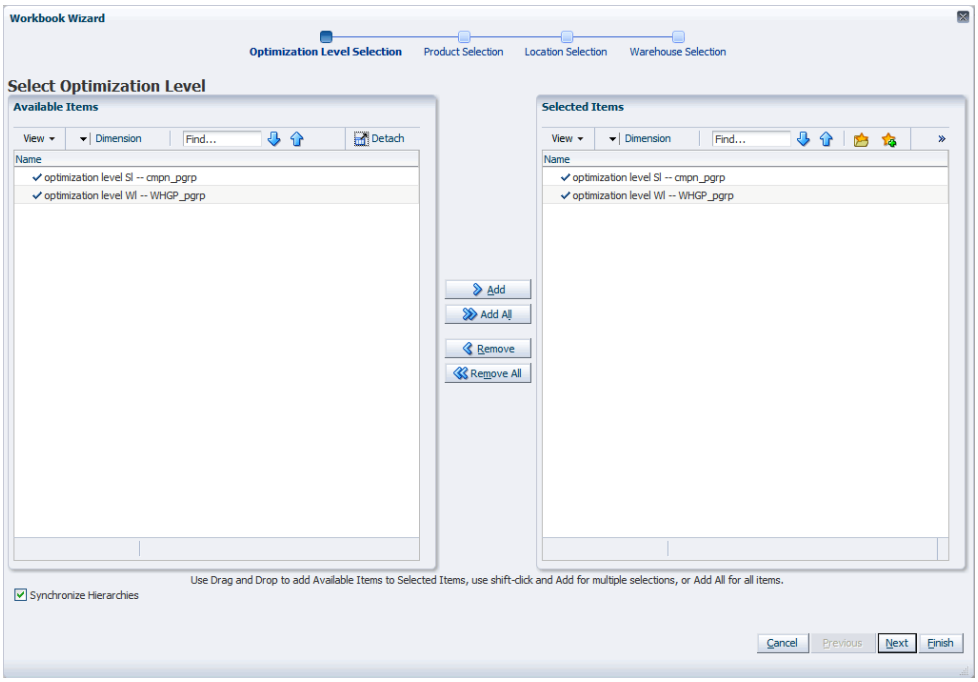
1. Click the Create New Workbook icon in the Optimization Definition task.

Figure 2–1 Creating a New Optimization Definition Workbook



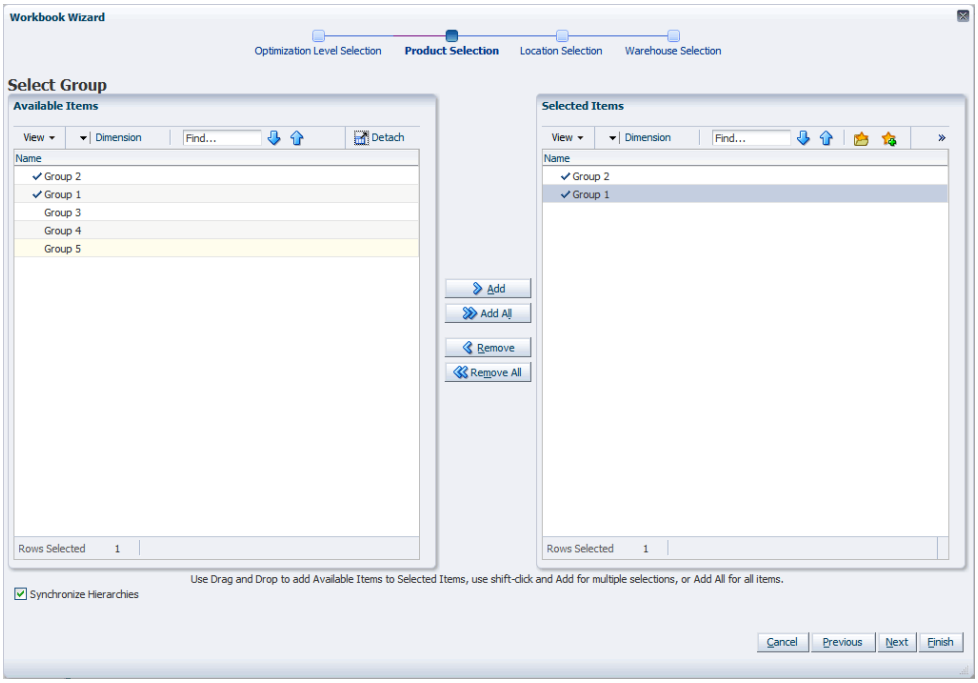
2. The Select Optimization Level window opens. Select either or both the store level (SL) or the warehouse level (WL) and click **Next**.

Figure 2–2 Select Optimization Level



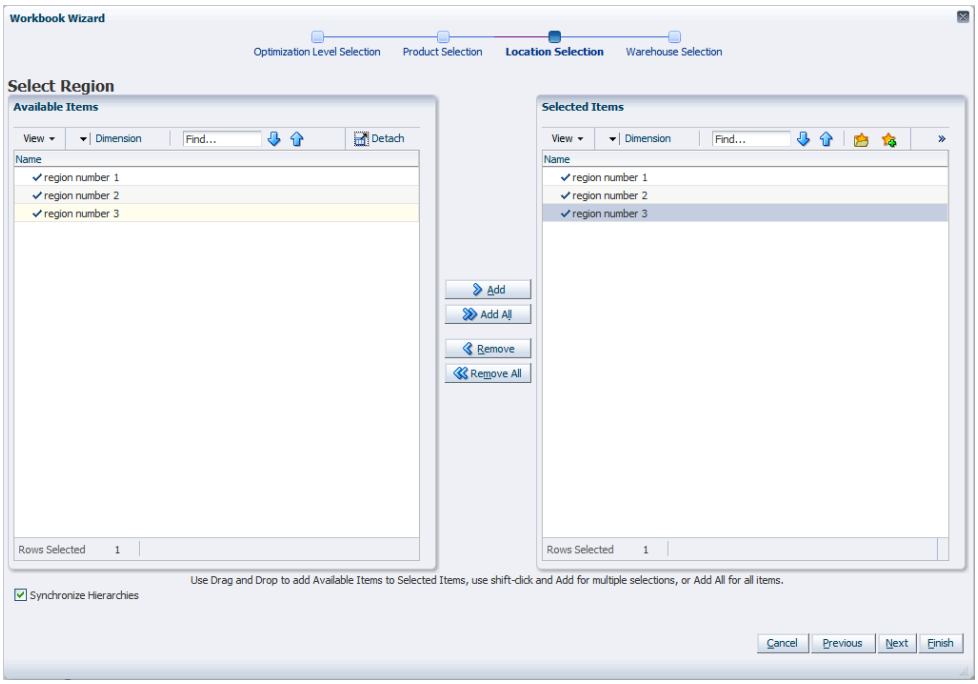
3. The Select Product window opens. Select the groups to be displayed in the workbook and click **Next**.

Figure 2–3 Select Product



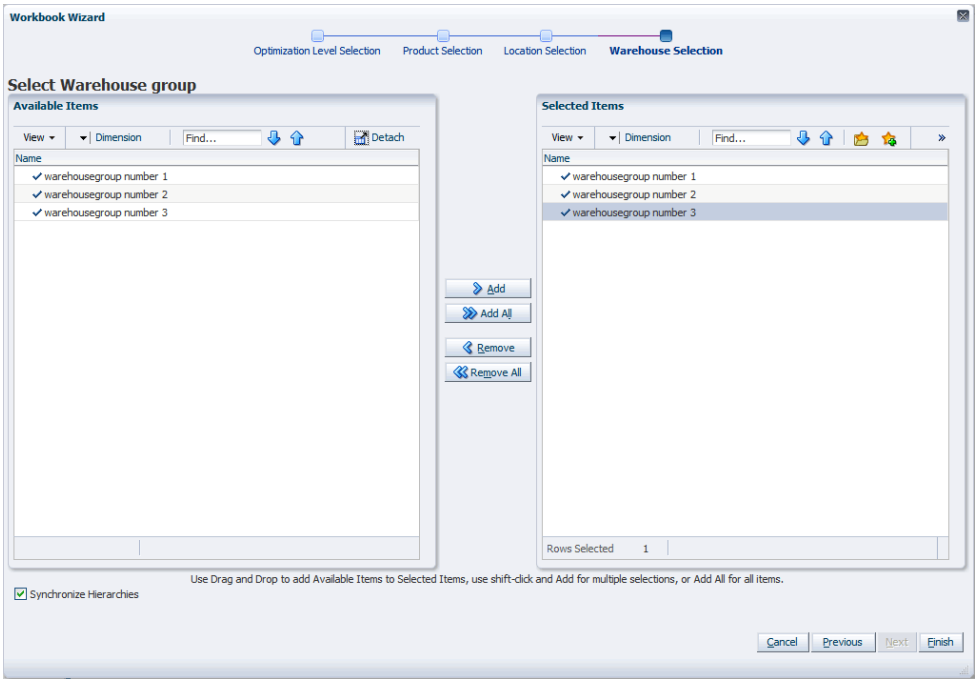
4. The Select Location window opens. Select the regions to be displayed in the workbook and click **Next**.

Figure 2–4 Select Location



5. The Select Warehouse window opens. Select the warehouses to be displayed in the workbook and click **Finish**.

Figure 2–5 Select Warehouse



The Optimization Definition workbook is built.

Store Optimization Run Setup Step

The Store Optimization Run Setup step contains the following views:

- Basic Setup for Store Optimization View
- Advanced Setup for Store Optimization View

Basic Setup for Store Optimization View

The Basic Setup for Store Optimization view enables you to set up optimization parameters like maximizing and minimizing metrics and optimization mode for the store level optimization. Note that RO determines optimal inventory investment across product/locations that maximizes returns. The inventory investment is considered the minimizing metric for optimization. Choices for the Optimization Minimizing Metric are Inventory Units and Inventory Cost. Return on investment is the maximizing metric in the optimization. Choices for the Optimization Maximizing Metric are Sales Units, Sales Revenue, Gross Margin, and Service Level.

For example, you can choose to run optimization with the goal to maximize sales revenue and at the same time keep the inventory cost as low as possible.

Figure 2–6 Basic Setup for Store Optimization View

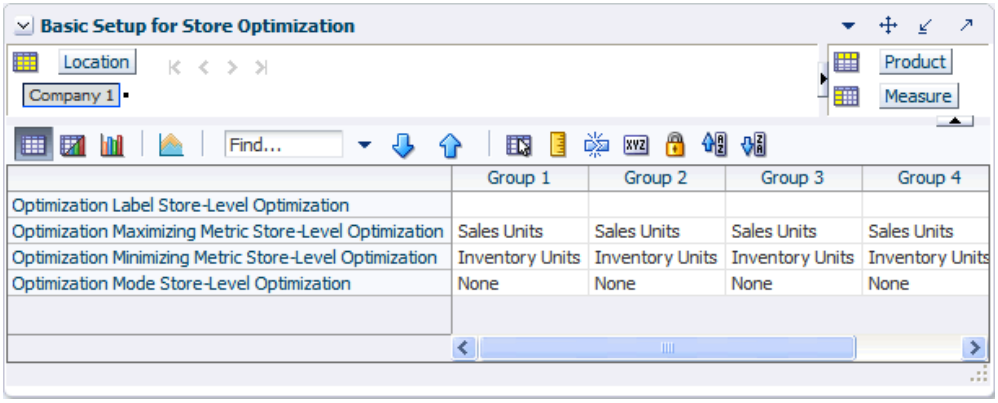


Table 2–1 Basic Setup for Store Optimization View Measures

Measure	Description
Optimization Label Store Level Optimization	User-defined label of the store level optimization. This can be viewed in the Optimization Review task.
Optimization Maximizing Metric Store Level Optimization	Used to specify the maximizing metrics in the store level optimization. This is based on the department/warehouse group level. Options are Sales Units, Sales Revenue, Gross Margin, and Service Level.
Optimization Minimizing Metric Store Level Optimization	Used to specify the minimizing metrics in the store level optimization. This is based on the department/warehouse group level. Options are Inventory Units and Inventory Cost.
Optimization Mode Store Level Optimization	Used to specify the batch mode: full mode or refresh mode.

Advanced Setup for Store Optimization View

The Advanced Setup for Store Optimization view enables you to set the advanced optimization parameters for the warehouse level optimization.

Figure 2–7 Advanced Setup for Store Optimization View

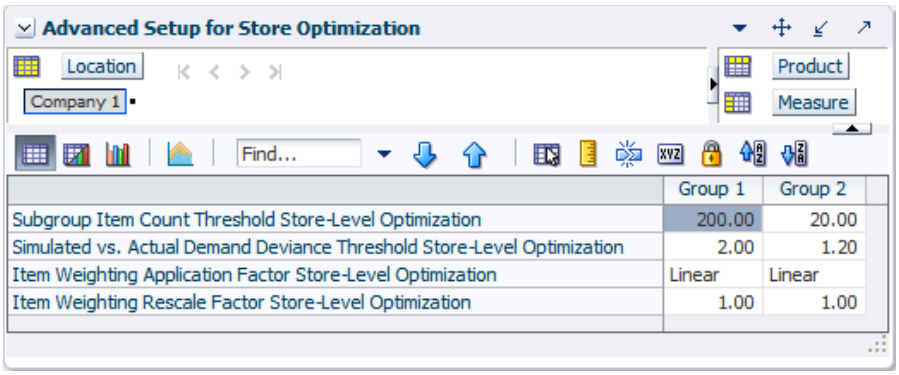


Table 2–2 Advanced Setup for Store Optimization View Measures

Measure	Description
Item Weighting Application Factor Store Level Optimization	The relationship applied to the item weighting. Options are Linear, Square Root, and Quadratically.
Item Weighting Rescale Factor Store Level Optimization	A real type measure based on department/region. For example, if IPIs range from 1 to 60, you can input a re-scaling factor of 10 in order to move them on a scale of 1 to 10.
Simulated vs. Actual demand deviance threshold Store Level Optimization	Used to determine if the demand characteristics of an item/location have deviated significantly from when it was simulated. If this threshold is exceeded, the system uses the statistical grouping level replenishment characteristics rather than the item/location-specific characteristics.
Subgroup Item Count Threshold Store Level Optimization	When the number of items/locations within a subgroup falls below this threshold, the system assumes that the robustness in the item/location-level replenishment characteristics is not enough. In those situations, the system uses the statistical grouping level characteristics for all items/locations in the subgroup in order to avoid overfitting.

Store Subgrouping Setup Step

In the Store Subgrouping Setup step, you can define the subgrouping criteria and specify the metrics to be used when determining the statistically similar items/locations.

RO performs optimization at statistical subgroupings of items/locations rather than at the item/location level to avoid overfitting. Performing optimization at the subgrouping level ensures that the optimization results are robust.

The Store Subgrouping Setup step contains the following views:

- Define Subgrouping Criteria for Store Optimization View
- Subgrouping Labels for Store Optimization View
- User Breakpoints Override for Store Optimization View

Define Subgrouping Criteria for Store Optimization View

This view enables you to define subgrouping criteria like the number of groupings, subgrouping metrics, and equalizing metrics. The optimization is performed at the specified store optimization level, such as department/region. The subgrouping criteria is defined for each optimization level.

The number of total subgroupings for the higher level intersection cannot exceed 50. In other words, when entering the values for each of the # of Groups SubGrouping measures, the product of these three numbers cannot exceed 50. The first subgrouping takes priority over the second and third subgroupings, and the second subgrouping takes priority over the third.

If you enter a number in the second or third subgrouping measure that causes the product of the three numbers to exceed 50, an **Out of Range** message is displayed that suggests a range of acceptable values.

If the values for each of the three subgroupings have already been calculated, and then you change the value of the first subgrouping to a number less than 50 that causes the product of the three measures to exceed 50, an out of range message does not appear. However, once you click **Calculate**, the Subgroup Setup Error Flag measure is selected and an error message is displayed in the Subgroup Setup Error Message measure.

The view in Figure 2–8 displays data at the department/region intersection.

Figure 2–8 Define Subgrouping Criteria for Store Optimization View

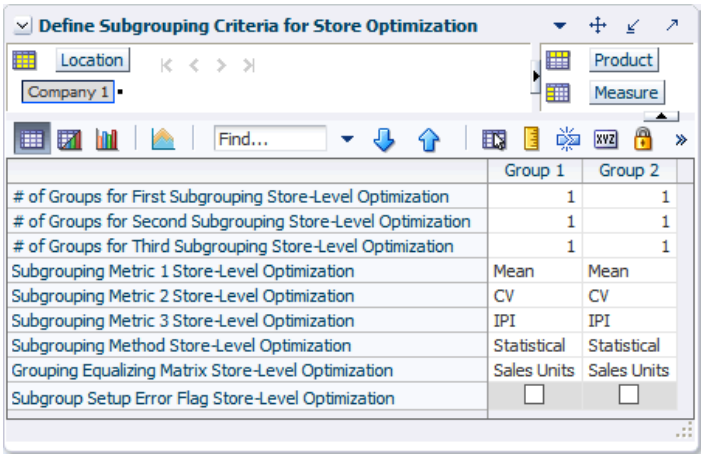


Table 2–3 Define Subgrouping Criteria for Store Optimization View Measures

Measure	Description
SubGrouping Method Store Level Optimization	The subgroup method used. Options are Breakpoints and Statistical.
SubGrouping Metric 1 Store Level Optimization	Specify the first grouping factor. Options are Mean, CV, and IPI. Usually the first subgrouping metric is the selling level (Mean).
SubGrouping Metric 2 Store Level Optimization	Specify the second grouping factor. This cannot be the same as SubGrouping Metric 1 or 3. Options are Mean, CV, and IPI. Usually the second subgrouping metric is a measure of variability (CV).
SubGrouping Metric 3 Store Level Optimization	Specify the third grouping factor. This cannot be the same as SubGrouping Metric 1 or 2. Options are Mean, CV, and IPI. When using item weights for optimization, the third subgrouping metric is usually item weights.

Table 2–3 (Cont.) Define Subgrouping Criteria for Store Optimization View Measures

Measure	Description
# of Groups for First SubGrouping Store Level Optimization	Specify the number of groups for the first group factor. This is an integer measure that is based on the department/region.
# of Groups for Second SubGrouping Store Level Optimization	Specify the number of groups for the second group factor. This is an integer measure that is based on the department/region.
# of Groups for Third SubGrouping Store Level Optimization	Specify the number of groups for the third group factor. This is an integer measure that is based on the department/region.
Grouping Equalizing Matrix Store Level Optimization	Specify the equalizing matrix used in the statistical subgrouping. Options are Sales Units, Sales Revenue, and Gross Margin. When running the statistical grouping approach, the system tries to generate the user-specified number of subgroupings so that the total equalizing metric for each bucket is nearly equal. This is needed to ensure balanced subgroups during the optimization process when each subgroup is vying for inventory. For example, when choosing a maximizing metric for Gross Margin or Sales Revenue, you should pick Sales Revenue as the equalizing metric. When maximizing Sales Units or Service Levels, you should pick Sales Units as the equalizing metric.
Subgroup Setup Error Flag Store Level Optimization	Boolean measure that indicates an error in the subgroup setup. A true value may be triggered by one of the # of Groups for Subgroupings measures being over the limit or by an incorrect setup of one of the SubGrouping Metric measures.

Performing Groupings on Multiple Metrics

The subgrouping is performed in a nested manner: grouping in Grouping Metric 1 first and then further grouping each bucket in Grouping Factor 2, and so on.

The subgrouping is usually performed based on multiple statistical attributes like selling levels and variability. For example, it is typical to group items/locations based on volume first (using mean as Subgrouping Metric 1). Then, it is typical to further group items/locations within each volume bucket on variability (by specifying CV as Subgrouping Metric 2).

Committing Subgroup Criteria

When you have modified the subgroup, you can commit them to the domain by selecting **Commit** in the **File** menu. Note that only the criteria for subgroupings is committed, not the arrangement of the item/stores within the subgroupings. The items/stores are not sorted into the new subgroupings until the next batch run.

Subgrouping Labels for Store Optimization View

This view enables you to create labels for the subgroupings.

Figure 2–9 Subgrouping Labels for Store Optimization View

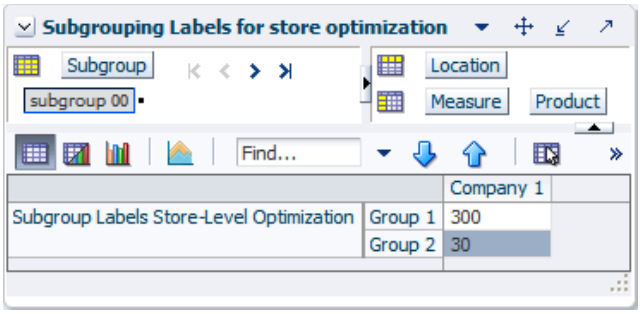


Table 2–4 Subgrouping Labels for Store Optimization View Measures

Measure	Description
SubGroup Labels Store Level Optimization	User-defined label for the subgroup. These labels appear in the Optimization Review workbook.

User Breakpoints Override for Store Optimization View

Once the statistical subgrouping has been performed by the system, you have the option to override it by specifying breakpoints for subgroupings.

Note that the subgrouping for breakpoints is performed in a nested manner as it is in the Define Subgrouping Criteria view. The breakpoints are the upper bounds for each grouping factor.

Figure 2–10 User Breakpoints Override for Store Optimization View

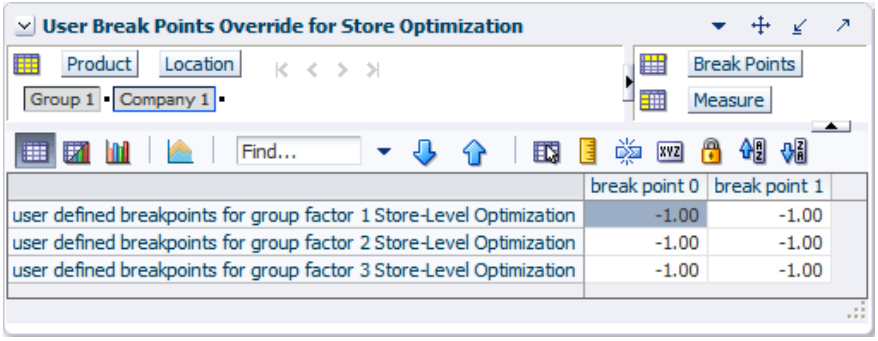


Table 2–5 User Breakpoints Override for Store Optimization View Measures

Measure	Description
User defined breakpoints for group factor 1 Store Level Optimization	Specify the breakpoints for the grouping factor 1 for the department/region.
User defined breakpoints for group factor 2 Store Level Optimization	Specify the breakpoints for the grouping factor 2 for the department/region.
User defined breakpoints for group factor 3 Store Level Optimization	Specify the breakpoints for the grouping factor 3 for the department/region.

Store Constraints Setup Step

The Store Constraints Setup Step contains the following views:

- Specify Maximum Constraint for Store Optimization View
- Specify Maximum Order Frequency for Store Optimization View
- Specify Minimum Constraints for Store Optimization View

Specify Maximum Constraint for Store Optimization View

This view enables you to specify the maximum constraint for a department/store for the store level optimization. Constraints specified in this view are used in the optimization batch run and are reflected in the constrained optimization results in the Optimization Review workbook.

Figure 2–11 Specify Maximum Constraint for Store Optimization View

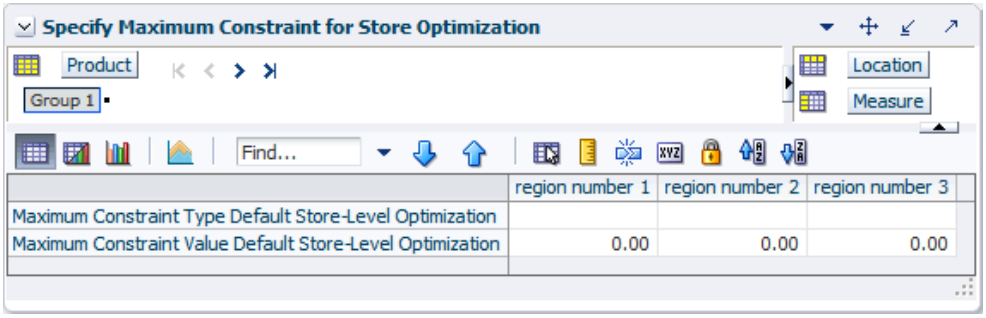


Table 2–6 Specify Maximum Constraint for Store Optimization View Measures

Measure	Description
Maximum Constraint Type Default Store Optimization Level	Specify the maximum constraint type for a department/store. Options are Inventory Units, Inventory Cost, Weeks of Supply, and Space.
Maximum Constraint Value Default Store Optimization Level	Specify the value of the maximum constraint.

Specify Maximum Order Frequency for Store Optimization View

This view enables you to specify the maximum order frequency for a department/region/subgroup. For example, you can ensure that the average order frequency (the average number of orders per week) does not exceed a certain threshold for all items/locations.

Figure 2–12 Specify Maximum Order Frequency for Store Optimization

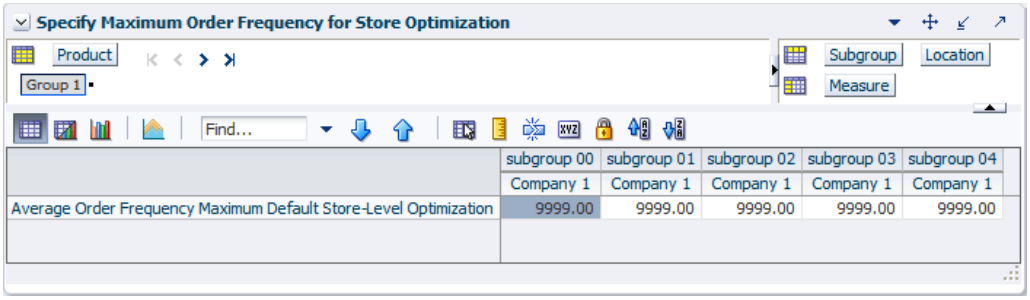


Table 2–7 Specify Maximum Order Frequency for Store Optimization View Measures

Measure	Description
Average Order Frequency Maximum Default Store Optimization Level	Specify the maximum order frequency value for a department/region/subgroup.

Specify Minimum Constraints for Store Optimization View

This view enables you to specify the minimum constraint for an item/region for the store level optimization. Constraints specified in this view are used in the optimization batch run and are reflected in the constrained optimization results in the Optimization Review workbook.

Figure 2–13 Specify Minimum Constraints for Store Optimization View

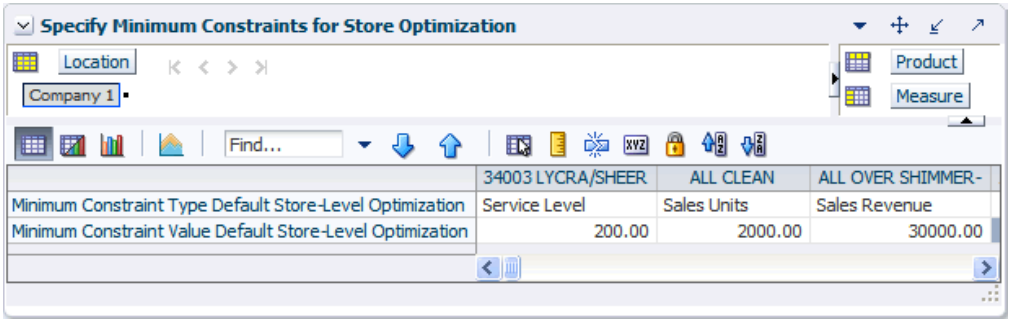


Table 2–8 Specify Minimum Constraints for Store Optimization View Measures

Measure	Description
Minimum Constraint Type Default Store Optimization Level	Specify the minimum constraint type for an item/region. Options are Service Level, Sales Units, Sales Revenue, and Gross Revenue.
Minimum Constraint Value Default Store Optimization Level	Specify the value of the minimum constraint.

Warehouse Optimization Run Setup Step

The Warehouse Optimization Run Setup step consists of the following views:

- Basic Setup for Warehouse Optimization View
- Advanced Setup for Warehouse Optimization View

Basic Setup for Warehouse Optimization View

The Basic Setup for Warehouse Optimization view enables you to set up optimization parameters like maximizing and minimizing metrics and optimization mode for the warehouse optimization.

Figure 2–14 Basic Setup for Warehouse Optimization View

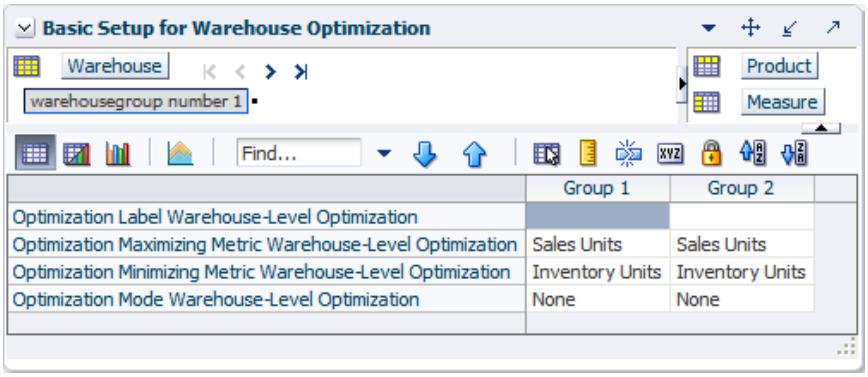


Table 2–9 Basic Setup for Warehouse Optimization View Measures

Measure	Description
Optimization Label Warehouse Level Optimization	User-defined label of the warehouse level optimization. This can be viewed in the Optimization Review workbook.
Optimization Maximizing Metric Warehouse Level Optimization	Used to specify the maximizing metrics in the warehouse level optimization. This is based on the department/warehouse group region level. Options are Sales Units, Sales Revenue, Gross Margin, and Service Level.
Optimization Minimizing Metric Warehouse Level Optimization	Used to specify the minimizing metrics in the warehouse level optimization. This is based on the department/warehouse group level. Options are Inventory Units and Inventory Cost.
Optimization Mode Warehouse Level Optimization	Used to specify the batch mode: full mode or refresh mode.

Advanced Setup for Warehouse Optimization View

The Advanced Setup for Warehouse view enables you to set the advanced optimization parameters for the warehouse level optimization.

Figure 2–15 Advanced Setup for Warehouse Optimization View

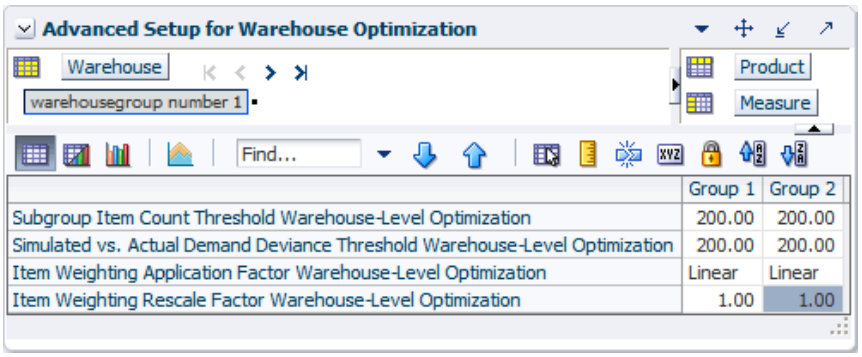


Table 2–10 Advanced Setup for Warehouse Optimization View Measures

Measure	Description
Item Weighting Application Factor Warehouse Level Optimization	The relationship applied to the item weighting. Options are Linear, Square Root, and Quadratically.
Item Weighting Rescale Factor Warehouse Level Optimization	A real type measure based on department/warehouse group region. For example, if IPIs range from 1 to 60, you can input a re-scaling factor of 10 in order to move them on a scale of 1 to 10.
Simulated vs. Actual demand deviance threshold Warehouse Level Optimization	Used to determine if the demand characteristics of an item/warehouse location have deviated significantly from when it was simulated. If this threshold is exceeded, the system uses the statistical grouping level replenishment characteristics rather than the item/warehouse location-specific characteristics.
Subgroup Item Count Threshold Warehouse Level Optimization	When the number of item/warehouse locations within a subgroup fall below this threshold, the system assumes that the robustness in the item/warehouse location-level replenishment characteristics is not enough. In those situations, the system uses the statistical grouping level characteristics for all item/warehouse locations in the subgroup in order to avoid overfitting.

Warehouse Subgrouping Setup Step

In the Warehouse Subgrouping Setup step, you can define the subgrouping criteria and specify the metrics to be used when determining the statistically similar items/locations.

RO performs optimization at statistical subgroupings of items/locations rather than at the item/location level to avoid overfitting. Performing optimization at the subgrouping level ensures that the optimization results are robust.

The Warehouse Subgrouping Setup step contains the following views:

- Define Subgrouping Criteria for Warehouse Optimization View
- Subgrouping Labels for Warehouse Optimization View
- User Breakpoints Override for Warehouse Optimization View

Define Subgrouping Criteria for Warehouse Optimization View

The metrics and parameters available in the store optimization views are available for the warehouse optimization views as well. The warehouse optimization view enables you to define subgrouping criteria like the number of groupings, subgrouping metrics, and equalizing metrics. The warehouse level optimization is performed at the specified optimization level, such as department/warehouse. The subgrouping criteria is defined for each optimization level.

The number of total subgroupings for the higher level intersection cannot exceed 50. In other words, when entering the values for each of the # of Groups SubGrouping measures, the product of these three numbers cannot exceed 50. The first subgrouping takes priority over the second and third subgroupings, and the second subgrouping takes priority over the third.

If you enter a number in the second or third subgrouping measure that causes the product of the three numbers to exceed 50, an **Out of Range** message is displayed that suggests a range of acceptable values.

If the values for each of the three subgroupings have already been calculated, and then you change the value of the first subgrouping to a number less than 50 that causes the product of the three measures to exceed 50, an out of range message does not appear. However, after you click **Calculate**, the Subgroup Setup Error Flag measure is selected and an error message is displayed in the Subgroup Setup Error Message measure.

The image of the view below is at the department/warehouse group intersection.

Figure 2–16 Define Subgrouping Criteria for Warehouse Optimization View

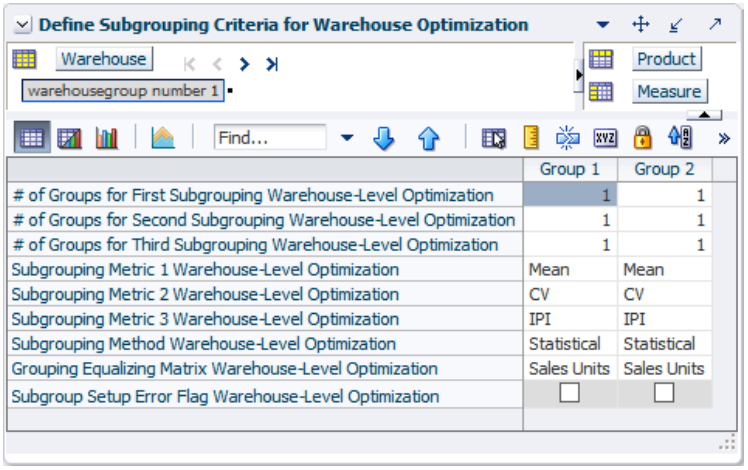


Table 2–11 Define Subgrouping Criteria for Warehouse Optimization View Measures

Measure	Description
SubGrouping Method Warehouse Level Optimization	The subgroup method used. Options are Breakpoints and Statistical.
SubGrouping Metric 1 Warehouse Level Optimization	Specify the first grouping factor. Options are Mean, CV, and IPI. Usually the first subgrouping metric is the selling level (Mean).
SubGrouping Metric 2 Warehouse Level Optimization	Specify the second grouping factor. This cannot be the same as SubGrouping Metric 1 or 3. Options are Mean, CV, and IPI. Usually the second subgrouping metric is a measure of variability (CV).
SubGrouping Metric 3 Warehouse Level Optimization	Specify the third grouping factor. This cannot be the same as SubGrouping Metric 1 or 2. Options are Mean, CV, and IPI. When using item weights for optimization, the third subgrouping metric is usually item weights.
# of Groups for First SubGrouping Warehouse Level Optimization	Specify the number of group for the first group factor. This is an integer measure that is based on the department/warehouse group.
# of Groups for Second SubGrouping Warehouse Level Optimization	Specify the number of group for the second group factor. This is an integer measure that is based on the department/warehouse group.
# of Groups for Third SubGrouping Warehouse Level Optimization	Specify the number of group for the third group factor. This is an integer measure that is based on the department/warehouse group.
Grouping Equalizing Matrix Warehouse Level Optimization	Specify the equalizing matrix used in the statistical subgrouping. Options are Sales Units, Sales Revenue, and Gross Margin. When running the statistical grouping approach, the system tries to generate the user-specified number of subgroupings so that the total equalizing metric for each bucket is nearly equal. This is needed to ensure balanced subgroups during the optimization process when each subgroup is vying for inventory. For example, when choosing a maximizing metric for Gross Margin or Sales Revenue, you should pick Sales Revenue as the equalizing metric. When maximizing Sales Units or Service Levels, you should pick Sales Units as the equalizing metric.

Table 2–11 (Cont.) Define Subgrouping Criteria for Warehouse Optimization View

Measure	Description
Subgroup Setup Error Flag Warehouse Level Optimization	Boolean measure that indicates an error in the subgroup setup. A true value may be triggered by one of the # of Groups for Subgroupings measures being over the limit or by an incorrect setup of one of the SubGrouping Metric measures.

Performing Groupings on Multiple Metrics

The subgrouping is performed in a nested manner: grouping in Grouping Metric 1 first and then further grouping each bucket in Grouping Factor 2, and so on.

The subgrouping is usually performed based on multiple statistical attributes like selling levels and variability. For example, it is typical to group items/locations based on volume first (using mean as Subgrouping Metric 1). Then, it is typical to further group items/locations within each volume bucket on variability (by specifying CV as Subgrouping Metric 2).

Committing Subgroup Criteria

When you have modified the subgroup, you can commit them to the domain by selecting **Commit** in the **File** menu. Note that only the criteria for subgroupings is committed, not the arrangement of the items/warehouses within the subgroupings. The items/warehouses are not sorted into the new subgroupings until the next batch runs.

Subgrouping Labels for Warehouse Optimization View

This view enables you to create labels for the warehouse subgroupings.

Figure 2–17 Subgrouping Labels for Warehouse Optimization View

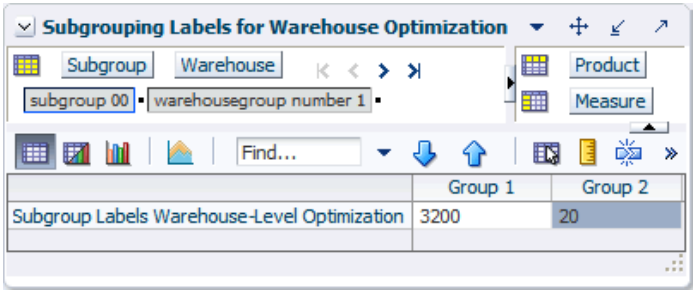


Table 2–12 Subgrouping Labels for Warehouse Optimization View Measures

Measure	Description
SubGroup Labels Warehouse Level Optimization	User-defined label for the subgroup. These labels appear in the Optimization Review workbook.

User Breakpoints Override for Warehouse Optimization View

When the statistical subgrouping has been performed by the system, you have the option to override it by specifying breakpoints for subgroupings.

Note that the subgrouping for breakpoints is performed in a nested manner as it is in the Define Subgrouping Criteria view. The breakpoints are the upper bounds for each grouping factor.

Figure 2–18 User Breakpoints Override for Warehouse Optimization View

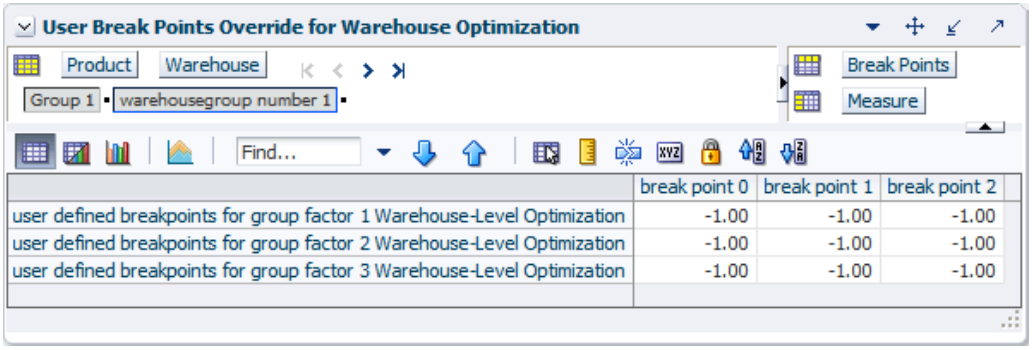


Table 2–13 User Breakpoints Override for Warehouse Optimization View Measures

Measure	Description
User defined breakpoints for group factor 1 Warehouse Level Optimization	Specify the breakpoints for the grouping factor 1 for the department/warehouse group.
User defined breakpoints for group factor 2 Warehouse Level Optimization	Specify the breakpoints for the grouping factor 2 for the department/warehouse group.
User defined breakpoints for group factor 3 Warehouse Level Optimization	Specify the breakpoints for the grouping factor 3 for the department/warehouse group.

Warehouse Constraints Setup Step

The Warehouse Constraints Setup step contains the following views:

- Specify Maximum Constraint for Warehouse Optimization View
- Specify Maximum Order Frequency for Warehouse Optimization View
- Specify Minimum Constraints for Warehouse Optimization View

Specify Maximum Constraint for Warehouse Optimization View

This view enables you to specify the maximum constraint for a department/warehouse for the warehouse level optimization. Constraints specified in this view are used in the optimization batch run and are reflected in the constrained optimization results in the Optimization Review workbook.

Figure 2–19 Specify Maximum Constraint for Warehouse Optimization View

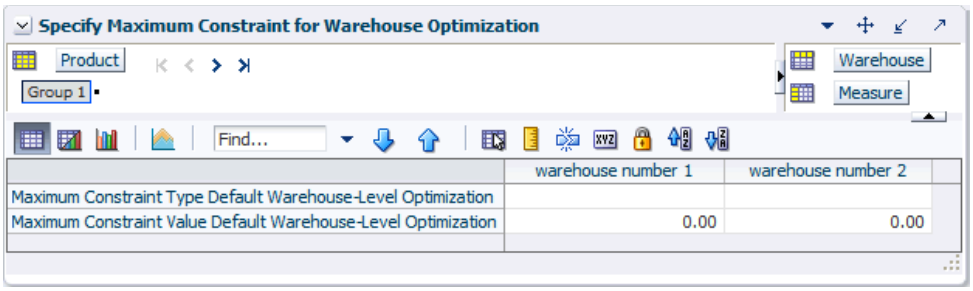


Table 2–14 Specify Maximum Constraint for Warehouse Optimization View Measures

Measure	Description
Maximum Constraint Type Default Warehouse Optimization Level	Specify the maximum constraint type for a department/warehouse. Options are Inventory Units, Inventory Cost, Weeks of Supply, and Space.
Maximum Constraint Value Default Warehouse Optimization Level	Specify the value of the maximum constraint.

Specify Maximum Order Frequency for Warehouse Optimization View

This view enables you to specify the maximum order frequency for a department/warehouse group/subgroup. For example, you can ensure that the average order frequency (the average number of orders per week) does not exceed a certain threshold for all items/locations.

Figure 2–20 Specify Maximum Order Frequency for Warehouse Optimization

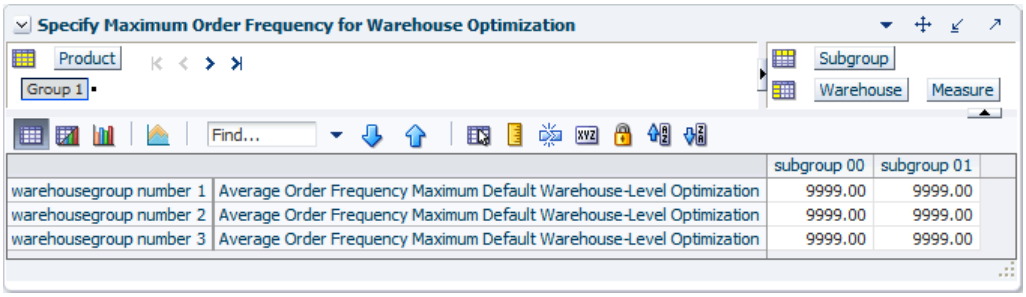


Table 2–15 Specify Maximum Order Frequency for Warehouse Optimization View Measure

Measure	Description
Average Order Frequency Maximum Default Warehouse Optimization Level	Specify the maximum order frequency value for a department/warehouse group/subgroup.

Specify Minimum Constraints for Warehouse Optimization View

This view enables you to specify the minimum constraint for an item/warehouse group for the warehouse level optimization. Constraints specified in this view are used in the optimization batch run and are reflected in the constrained optimization results in the Optimization Review workbook.

Figure 2–21 Specify Minimum Constraints for Warehouse Optimization View

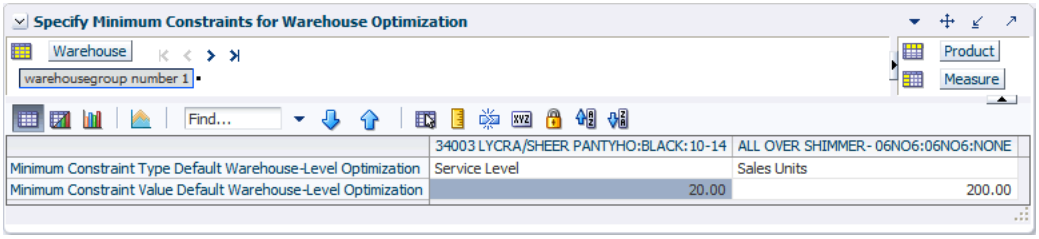


Table 2–16 Specify Minimum Constraints for Warehouse Optimization View Measures

Measure	Description
Minimum Constraint Type Default Warehouse Optimization Level	Specify the minimum constraint type for an item/warehouse group. Options are Service Level, Sales Units, Sales Revenue, and Gross Revenue.
Minimum Constraint Value Default Warehouse Optimization Level	Specify the value of the minimum constraint.

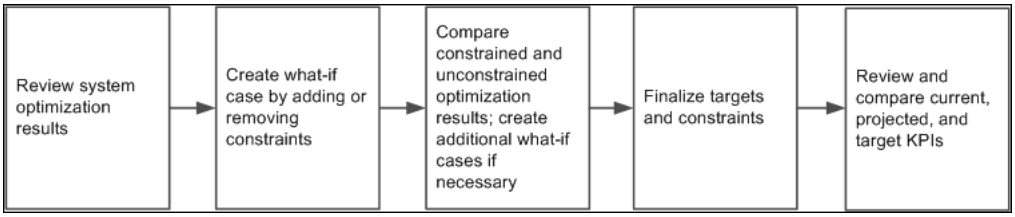
3

Optimization Review Workbook

The Optimization Review workbook enables you to analyze and approve the full mode batch results. You can compare the Inventory/Service Level Trade-off curves generated by both-the unconstrained optimization and constrained optimization in the full batch. You can also dynamically change the constraints and view the resulting changes. When you are satisfied with the optimization result, you can approve the result, which approves and saves the subgrouping breakpoints, recommended scenario for each subgroup, and recommended scenario for each item/store.

The user process flow of the Optimization Review workbook is shown in Figure 3–1.

Figure 3–1 Optimization Review Workbook User Process Flow



The Optimization Review workbook contains the following steps:

- Store Analyze Subgrouping Step
- Analyze and Approve Store Optimization Results Step
- Review and Analyze Store Constraints Step
- Warehouse Analyze Subgrouping Step
- Analyze and Approve Warehouse Optimization Results Step
- Review and Analyze Warehouse Constraints Step

Optimization Review Wizard

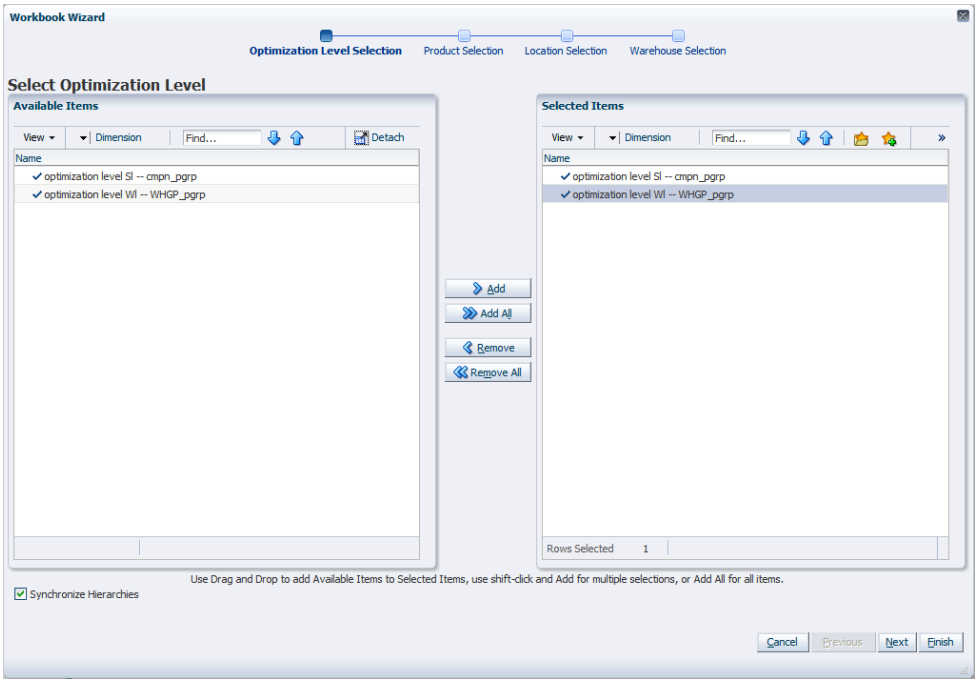
To create an Optimization Review workbook, perform the following:

1. Click the Create New Workbook icon in the Optimization Review task.

Figure 3–2 Creating a New Optimization Review Workbook

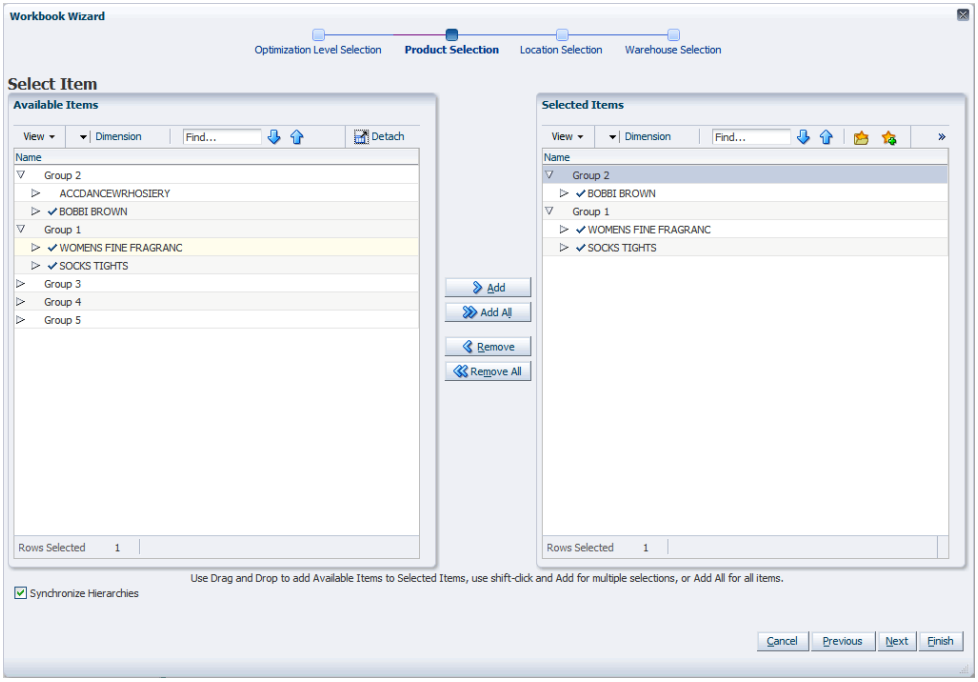
2. The Select Optimization Level window opens. Select either or both SL (store level) or WL (warehouse level) and click **Next**.

Figure 3–3 Select Optimization Level



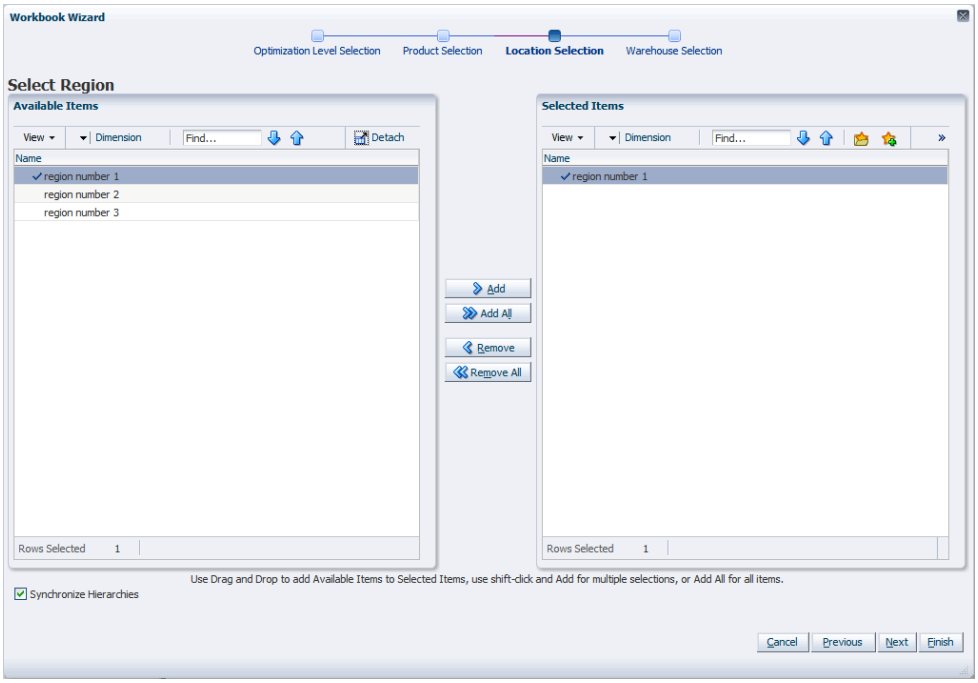
3. The Select Item window opens. Select the items to be displayed in the workbook and click **Next**.

Figure 3–4 Select Item



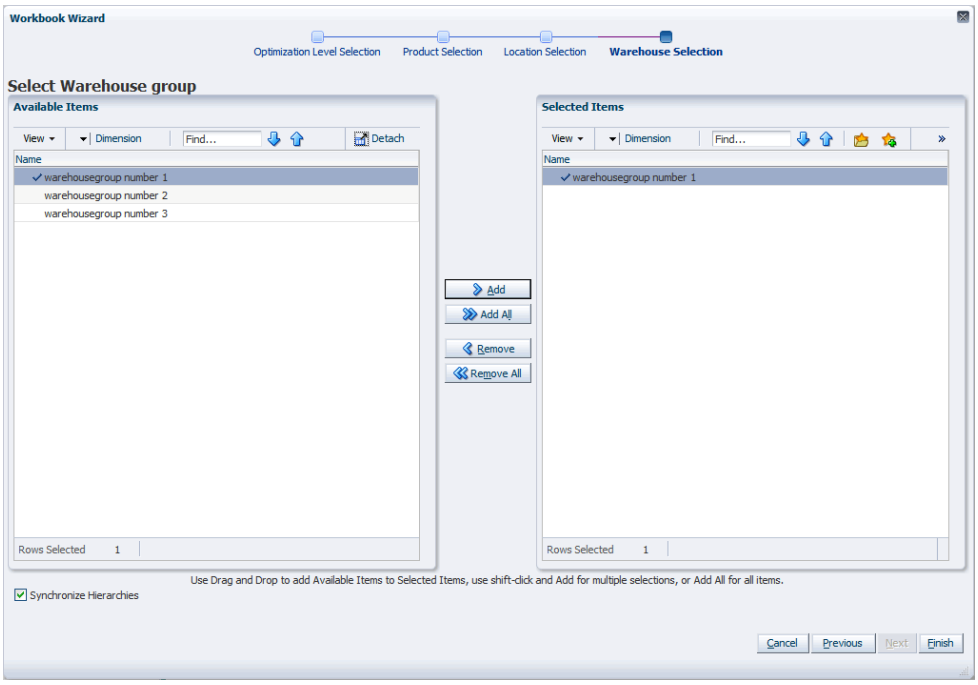
4. The Select Region window opens. Select the regions to be displayed in the workbook and click **Next**.

Figure 3–5 Select Region



The Select Warehouse window opens. Select the warehouses to be displayed in the workbook and click **Finish**.

Figure 3–6 Select Warehouse



The Optimization Review workbook is built.

Store Analyze Subgrouping Step

The Analyze Subgrouping step contains the following views:

- Review Base Level in Subgroupings for Store Optimization View
- Review Subgrouping Results for Store Optimization View
- Subgrouping Criteria for Store Optimization View
- User BreakPoint Overrides for Store Optimization View

Review Base Level in Subgroupings for Store Optimization View

This view enables you to review the subgrouping information for the item/stores in the department/regions that were selected in the wizard. This view is at the item/store intersection and is read-only.

Figure 3–7 Review Base Level in Subgroupings for Store Optimization View

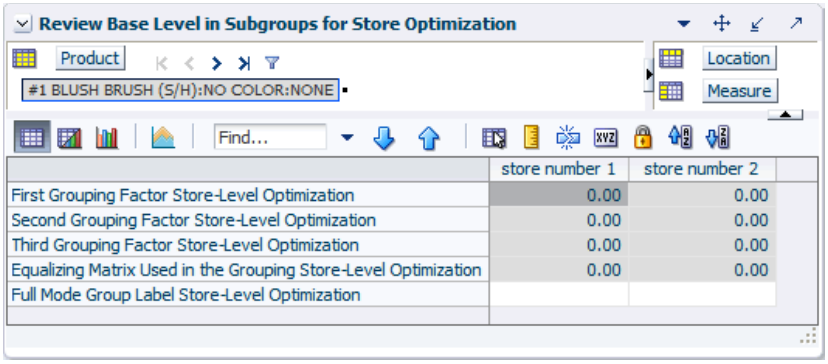


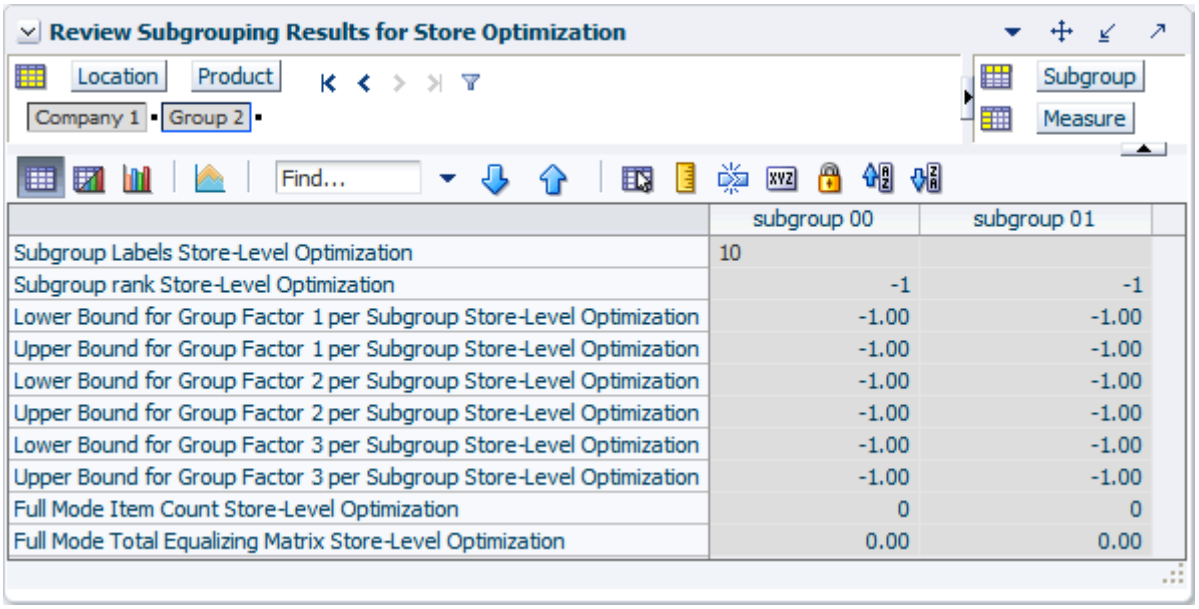
Table 3–1 Review Base Level in Subgroupings View for Store Optimization Measures

Measure	Description
Equalizing Matrix Used in the Grouping - Store Level Optimization	The value of the equalizing matrix used in subgrouping.
Full Mode Group Label - Store Level Optimization	The Full Mode Group Label-Store Level Optimization subgroup that the item/store belongs to.
First Grouping Factor - Store Level Optimization	The value of grouping factor 1.
Second Grouping Factor - Store Level Optimization	The value of grouping factor 2.
Third Grouping Factor - Store Level Optimization	The value of grouping factor 3.

Review Subgrouping Results for Store Optimization View

This view enables you to review the subgrouping results from the full mode batch run. This view is at the department/region/subgroup intersection and is read-only. Only valid subgroups are displayed.

Figure 3–8 Review Subgrouping Results for Store Optimization View



	subgroup 00	subgroup 01
Subgroup Labels Store-Level Optimization	10	
Subgroup rank Store-Level Optimization	-1	-1
Lower Bound for Group Factor 1 per Subgroup Store-Level Optimization	-1.00	-1.00
Upper Bound for Group Factor 1 per Subgroup Store-Level Optimization	-1.00	-1.00
Lower Bound for Group Factor 2 per Subgroup Store-Level Optimization	-1.00	-1.00
Upper Bound for Group Factor 2 per Subgroup Store-Level Optimization	-1.00	-1.00
Lower Bound for Group Factor 3 per Subgroup Store-Level Optimization	-1.00	-1.00
Upper Bound for Group Factor 3 per Subgroup Store-Level Optimization	-1.00	-1.00
Full Mode Item Count Store-Level Optimization	0	0
Full Mode Total Equalizing Matrix Store-Level Optimization	0.00	0.00

Table 3–2 Review Subgrouping Results for Store Optimization View Measures

Measure	Description
Item Count per Subgroup Store Level Optimization Full Mode Item Count for Store Level Optimization	The number of item/stores for the subgroup.
Lowerbound for Group Factor1 per Sbgroup - Store Level Optimization	The lower bound of the grouping factor1 for the subgroup.
Lowerbound for Group Factor2 per Sbgroup - Store Level Optimization	The lower bound of the grouping factor2 for the subgroup.
Lowerbound for Group Factor3 per Sbgroup - Store Level Optimization	The lower bound of the grouping factor3 for the subgroup.
SubGroup Labels - Store Level Optimization	User-defined label of the subgroup.
Subgroup Rank Store -Level Optimization	Ranks the subgroups for each department/region.
Full Mode Total Equalizing Matrix - Store Level Optimization	The total of equalizing matrix for each subgroup.
Upperbound for Group factor1 per Subgroup - Store Level Optimization	The upper bound of the grouping factor1 for the subgroup.
Upperbound for Group factor2 per Subgroup Store - Level Optimization	The upper bound of the grouping factor2 for the subgroup.
Upperbound for Group factor3 per Subgroup - Store Level Optimization	The upper bound of the grouping factor3 for the subgroup.

Subgrouping Criteria for Store Optimization View

This view enables you to review the subgroupings needed for a higher level intersection as well as the subgrouping metrics and the grouping equalizing matrix used for the subgroupings. This view is at the department/region intersection and is read-only.

Figure 3–9 Subgrouping Criteria for Store Optimization View

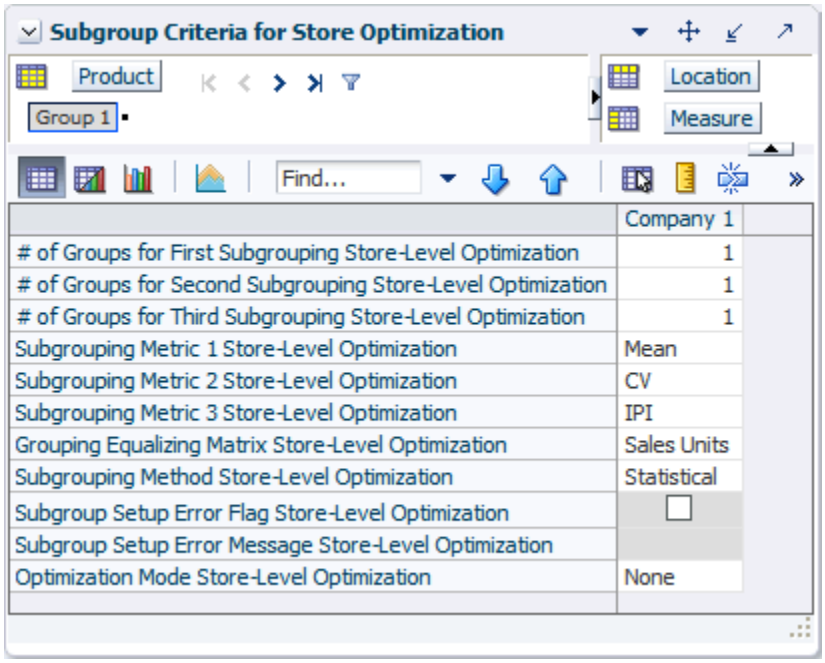


Table 3–3 Subgrouping Criteria for Store Optimization View Measures

Measure	Description
# of Groups for First SubGrouping Store - Level Optimization	Displays the number of groups for the first group factor. This is an integer measure based on the department/region.
# of Groups for Second SubGrouping Store - Level Optimization	Displays the number of groups for the second group factor. This is an integer measure based on the department/region.
# of Groups for Third SubGrouping Store - Level Optimization	Displays the number of groups for the third group factor. This is an integer measure based on the department/region.
Grouping Equalizing Matrix - Store Level Optimization	Displays the equalizing matrix used in the statistical subgrouping. Options are Sales Units, Sales Revenue, and Gross Margin.
Full Mode Mask - Store Level Optimization	Displays if the optimization run was refresh or full mode. If selected, the results displayed are generated by a full mode run.
SubGrouping Method - Store Level Optimization	The subgroup method used. Options are Breakpoints and Statistical.
SubGrouping Metric 1 - Store Level Optimization	Displays the first grouping factor. Options are Mean, CV, and IPI.
SubGrouping Metric 2 - Store Level Optimization	Displays the second grouping factor. This cannot be the same as SubGrouping Metric 1 or 3. Options are Mean, CV, and IPI.
SubGrouping Metric 3 - Store Level Optimization	Displays the third grouping factor. This cannot be the same as SubGrouping Metric 1 or 2. Options are Mean, CV, and IPI.

User BreakPoint Overrides for Store Optimization View

This view enables you to review the breakpoint overrides. This view is at the department/region/breakpoint intersection and is read-only.

Figure 3–10 User BreakPoint Overrides for Store Optimization View

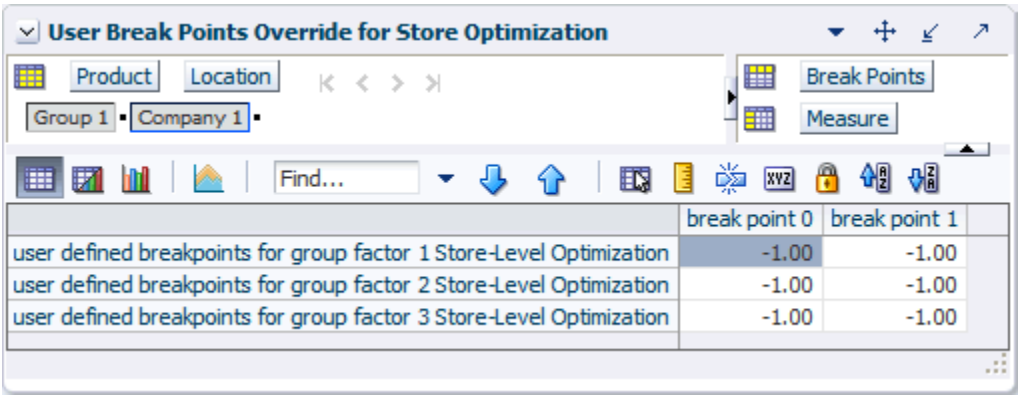


Table 3–4 User Breakpoint Overrides View for Store Optimization Measures

Measure	Description
User Defined Breakpoints for Group Factor 1 - Store Level Optimization	The breakpoint for the grouping factor 1 for the department/region.
User Defined Breakpoints for Group Factor 2 - Store Level Optimization	The breakpoint for the grouping factor 2 for the department/region.
User Defined Breakpoints for Group Factor 3 - Store Level Optimization	The breakpoint for the grouping factor 3 for the department/region.

Analyze and Approve Store Optimization Results Step

The Analyze and Approve Optimization Results step enables you to review the results of the optimization batch run, review the impact of specified constraints, and determine the inventory/service level targets.

This step contains the following views:

- Optimization Results Review for Store Optimization View
- Review Targets for Store Optimization View
- Subgroup Optimization Results Review for Store Optimization View
- Target Selection and Approve for Store Optimization View
- Weekly Projected Inventory Review for Store Optimization View

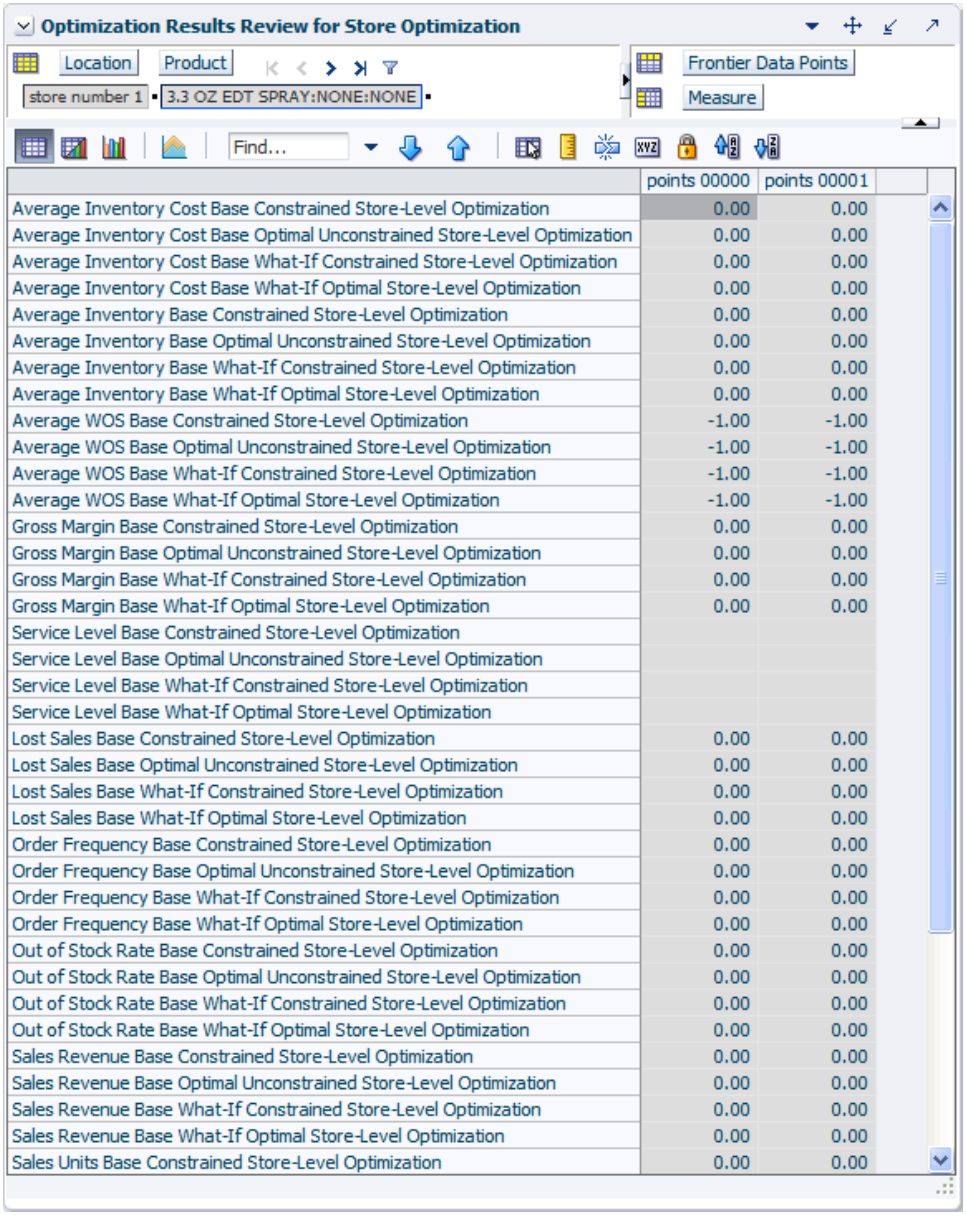
Optimization Results Review for Store Optimization View

RO performs optimization and calculates optimal inventory allocation and associated service levels, projected sales, and lost sales for various increments of inventory. Each incremental inventory investment is referred to as a point on the Inventory/Service Level Trade-off curve.

This view displays inventory, service levels, sales, lost sales, and other key metrics for each point of incremental inventory investment. It is read-only.

RO performs one batch run of unconstrained optimization and another run based on the specified constraints defined in the Optimization Definition workbook. By comparing the two runs, you can understand the costs of the specified constraints. You can also specify what-if constraints from the Review and Analyze Constraints step and interactively view the results from the optimization, based on the what-if constraints.

Figure 3–11 Optimization Results Review for Store Optimization View

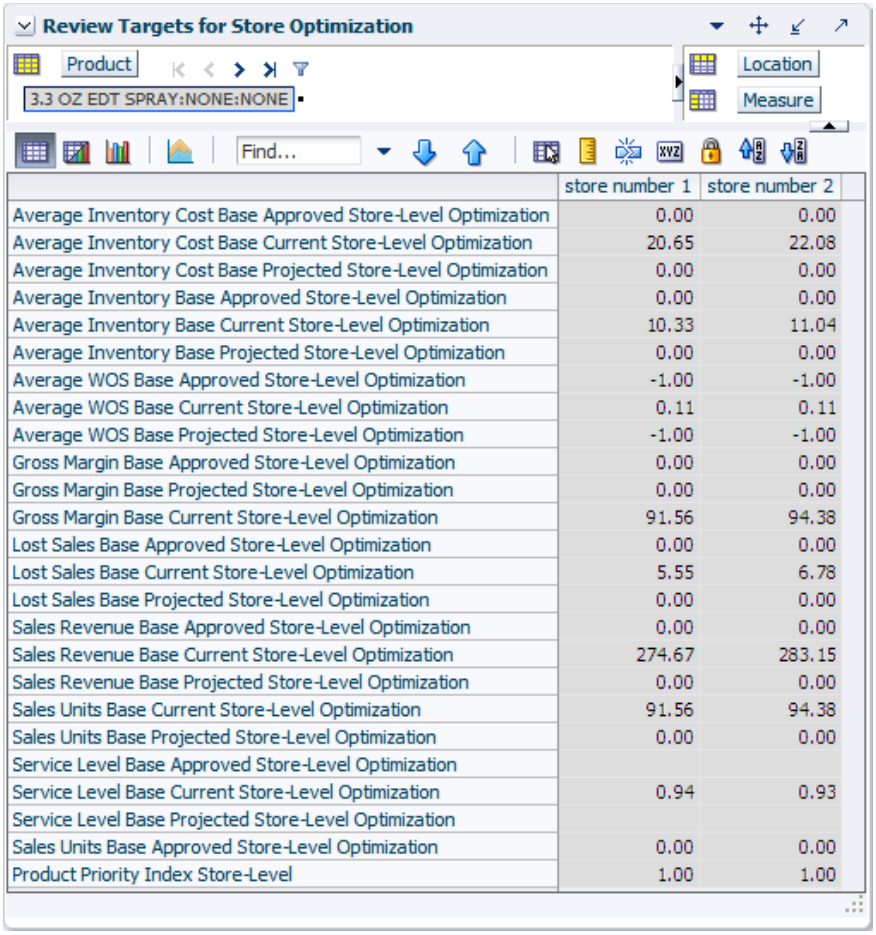


	points 00000	points 00001
Average Inventory Cost Base Constrained Store-Level Optimization	0.00	0.00
Average Inventory Cost Base Optimal Unconstrained Store-Level Optimization	0.00	0.00
Average Inventory Cost Base What-If Constrained Store-Level Optimization	0.00	0.00
Average Inventory Cost Base What-If Optimal Store-Level Optimization	0.00	0.00
Average Inventory Base Constrained Store-Level Optimization	0.00	0.00
Average Inventory Base Optimal Unconstrained Store-Level Optimization	0.00	0.00
Average Inventory Base What-If Constrained Store-Level Optimization	0.00	0.00
Average Inventory Base What-If Optimal Store-Level Optimization	0.00	0.00
Average WOS Base Constrained Store-Level Optimization	-1.00	-1.00
Average WOS Base Optimal Unconstrained Store-Level Optimization	-1.00	-1.00
Average WOS Base What-If Constrained Store-Level Optimization	-1.00	-1.00
Average WOS Base What-If Optimal Store-Level Optimization	-1.00	-1.00
Gross Margin Base Constrained Store-Level Optimization	0.00	0.00
Gross Margin Base Optimal Unconstrained Store-Level Optimization	0.00	0.00
Gross Margin Base What-If Constrained Store-Level Optimization	0.00	0.00
Gross Margin Base What-If Optimal Store-Level Optimization	0.00	0.00
Service Level Base Constrained Store-Level Optimization		
Service Level Base Optimal Unconstrained Store-Level Optimization		
Service Level Base What-If Constrained Store-Level Optimization		
Service Level Base What-If Optimal Store-Level Optimization		
Lost Sales Base Constrained Store-Level Optimization	0.00	0.00
Lost Sales Base Optimal Unconstrained Store-Level Optimization	0.00	0.00
Lost Sales Base What-If Constrained Store-Level Optimization	0.00	0.00
Lost Sales Base What-If Optimal Store-Level Optimization	0.00	0.00
Order Frequency Base Constrained Store-Level Optimization	0.00	0.00
Order Frequency Base Optimal Unconstrained Store-Level Optimization	0.00	0.00
Order Frequency Base What-If Constrained Store-Level Optimization	0.00	0.00
Order Frequency Base What-If Optimal Store-Level Optimization	0.00	0.00
Out of Stock Rate Base Constrained Store-Level Optimization	0.00	0.00
Out of Stock Rate Base Optimal Unconstrained Store-Level Optimization	0.00	0.00
Out of Stock Rate Base What-If Constrained Store-Level Optimization	0.00	0.00
Out of Stock Rate Base What-If Optimal Store-Level Optimization	0.00	0.00
Sales Revenue Base Constrained Store-Level Optimization	0.00	0.00
Sales Revenue Base Optimal Unconstrained Store-Level Optimization	0.00	0.00
Sales Revenue Base What-If Constrained Store-Level Optimization	0.00	0.00
Sales Revenue Base What-If Optimal Store-Level Optimization	0.00	0.00
Sales Units Base Constrained Store-Level Optimization	0.00	0.00

Review Targets for Store Optimization View

This view displays the current, targeted, and projected Key Performance Indicators (KPIs) based on the inventory/service level targets that you had defined in the Target Selection and Approve view.

Figure 3–12 Review Targets for Store Optimization View

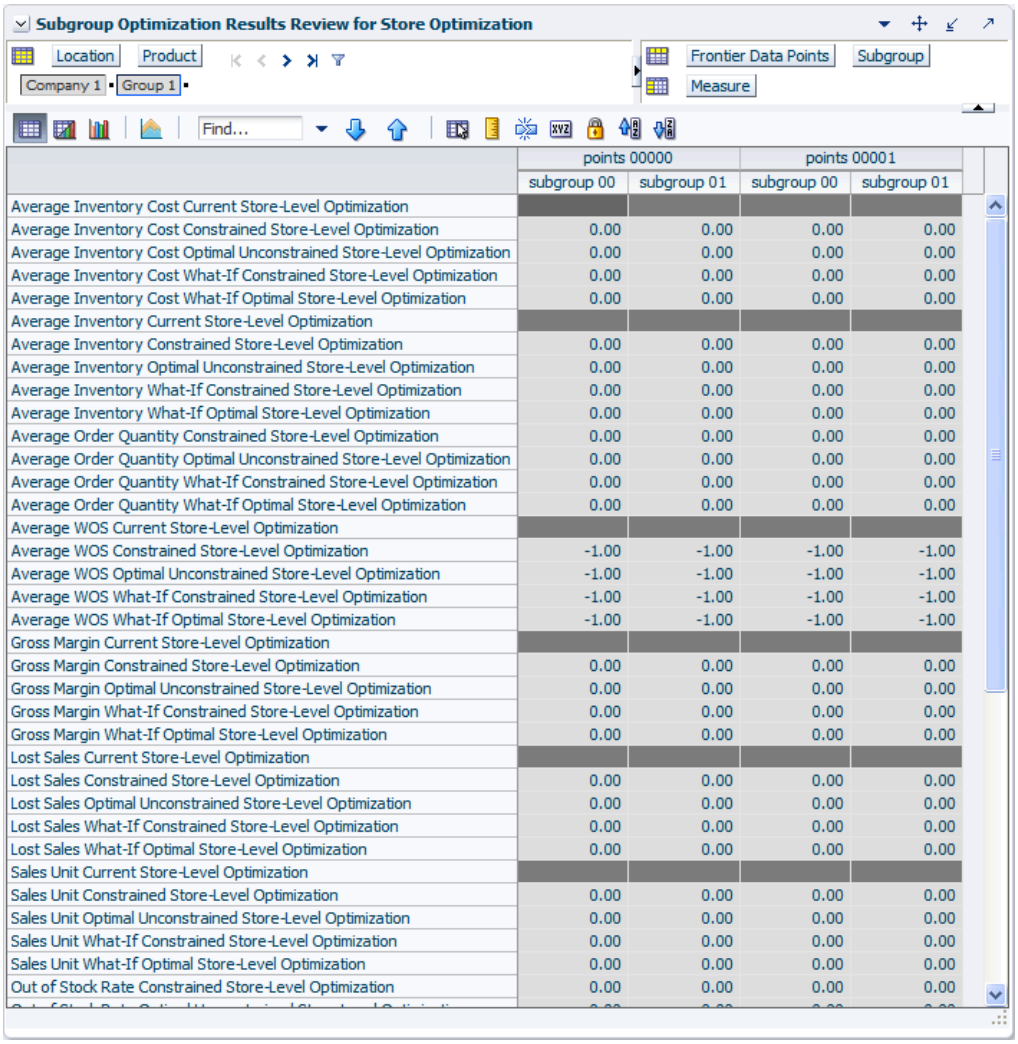


	store number 1	store number 2
Average Inventory Cost Base Approved Store-Level Optimization	0.00	0.00
Average Inventory Cost Base Current Store-Level Optimization	20.65	22.08
Average Inventory Cost Base Projected Store-Level Optimization	0.00	0.00
Average Inventory Base Approved Store-Level Optimization	0.00	0.00
Average Inventory Base Current Store-Level Optimization	10.33	11.04
Average Inventory Base Projected Store-Level Optimization	0.00	0.00
Average WOS Base Approved Store-Level Optimization	-1.00	-1.00
Average WOS Base Current Store-Level Optimization	0.11	0.11
Average WOS Base Projected Store-Level Optimization	-1.00	-1.00
Gross Margin Base Approved Store-Level Optimization	0.00	0.00
Gross Margin Base Projected Store-Level Optimization	0.00	0.00
Gross Margin Base Current Store-Level Optimization	91.56	94.38
Lost Sales Base Approved Store-Level Optimization	0.00	0.00
Lost Sales Base Current Store-Level Optimization	5.55	6.78
Lost Sales Base Projected Store-Level Optimization	0.00	0.00
Sales Revenue Base Approved Store-Level Optimization	0.00	0.00
Sales Revenue Base Current Store-Level Optimization	274.67	283.15
Sales Revenue Base Projected Store-Level Optimization	0.00	0.00
Sales Units Base Current Store-Level Optimization	91.56	94.38
Sales Units Base Projected Store-Level Optimization	0.00	0.00
Service Level Base Approved Store-Level Optimization		
Service Level Base Current Store-Level Optimization	0.94	0.93
Service Level Base Projected Store-Level Optimization		
Sales Units Base Approved Store-Level Optimization	0.00	0.00
Product Priority Index Store-Level	1.00	1.00

Subgroup Optimization Results Review for Store Optimization View

This view displays the points of valid department/region/subgroups on the Inventory/Service Level Trade-off curve. This view is at the department/region/subgroup/frontier points intersection and is read-only.

Figure 3–13 Subgrouping Optimization Results Review for Store Optimization View



	points 00000		points 00001	
	subgroup 00	subgroup 01	subgroup 00	subgroup 01
Average Inventory Cost Current Store-Level Optimization				
Average Inventory Cost Constrained Store-Level Optimization	0.00	0.00	0.00	0.00
Average Inventory Cost Optimal Unconstrained Store-Level Optimization	0.00	0.00	0.00	0.00
Average Inventory Cost What-If Constrained Store-Level Optimization	0.00	0.00	0.00	0.00
Average Inventory Cost What-If Optimal Store-Level Optimization	0.00	0.00	0.00	0.00
Average Inventory Current Store-Level Optimization				
Average Inventory Constrained Store-Level Optimization	0.00	0.00	0.00	0.00
Average Inventory Optimal Unconstrained Store-Level Optimization	0.00	0.00	0.00	0.00
Average Inventory What-If Constrained Store-Level Optimization	0.00	0.00	0.00	0.00
Average Inventory What-If Optimal Store-Level Optimization	0.00	0.00	0.00	0.00
Average Order Quantity Constrained Store-Level Optimization	0.00	0.00	0.00	0.00
Average Order Quantity Optimal Unconstrained Store-Level Optimization	0.00	0.00	0.00	0.00
Average Order Quantity What-If Constrained Store-Level Optimization	0.00	0.00	0.00	0.00
Average Order Quantity What-If Optimal Store-Level Optimization	0.00	0.00	0.00	0.00
Average WOS Current Store-Level Optimization				
Average WOS Constrained Store-Level Optimization	-1.00	-1.00	-1.00	-1.00
Average WOS Optimal Unconstrained Store-Level Optimization	-1.00	-1.00	-1.00	-1.00
Average WOS What-If Constrained Store-Level Optimization	-1.00	-1.00	-1.00	-1.00
Average WOS What-If Optimal Store-Level Optimization	-1.00	-1.00	-1.00	-1.00
Gross Margin Current Store-Level Optimization				
Gross Margin Constrained Store-Level Optimization	0.00	0.00	0.00	0.00
Gross Margin Optimal Unconstrained Store-Level Optimization	0.00	0.00	0.00	0.00
Gross Margin What-If Constrained Store-Level Optimization	0.00	0.00	0.00	0.00
Gross Margin What-If Optimal Store-Level Optimization	0.00	0.00	0.00	0.00
Lost Sales Current Store-Level Optimization				
Lost Sales Constrained Store-Level Optimization	0.00	0.00	0.00	0.00
Lost Sales Optimal Unconstrained Store-Level Optimization	0.00	0.00	0.00	0.00
Lost Sales What-If Constrained Store-Level Optimization	0.00	0.00	0.00	0.00
Lost Sales What-If Optimal Store-Level Optimization	0.00	0.00	0.00	0.00
Sales Unit Current Store-Level Optimization				
Sales Unit Constrained Store-Level Optimization	0.00	0.00	0.00	0.00
Sales Unit Optimal Unconstrained Store-Level Optimization	0.00	0.00	0.00	0.00
Sales Unit What-If Constrained Store-Level Optimization	0.00	0.00	0.00	0.00
Sales Unit What-If Optimal Store-Level Optimization	0.00	0.00	0.00	0.00
Out of Stock Rate Constrained Store-Level Optimization	0.00	0.00	0.00	0.00

Target Selection and Approve for Store Optimization View

This view enables you to specify the target inventory and service levels for the optimization level (department/region). You also have the option to apply unconstrained, constrained, or what-if optimization results for approval. Note that only one point or target can be selected for an optimization level.

When you have selected the points, click **Select Target and Approve** in the top, right corner to approve the targets.

Figure 3–14 Target Selection and Approve for Store Optimization View

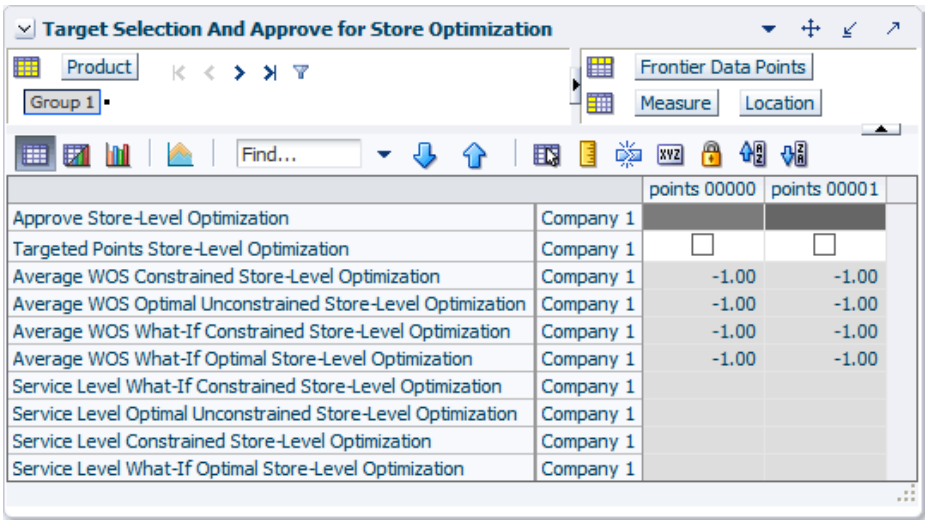


Table 3–5 Target Selection and Approve for Store Optimization View Measures

Measure	Description
Approve Store Level Optimization	Enables you to specify the version of the optimization result to approve for the department/region. Options are None, Approve Optimal, Approve Constrained, and Approve What-if. Note that the approval is done per department region, and thus to view the approval options, you must collapse the Frontier Data Points level to 'all [Frontier Data Points]'.
Average WOS Constrained Store Level Optimization	The constrained weeks of supply for the department/region/subgroup/frontier point. This is a recalc measure.
Average WOS Optimal Unconstrained Store Level Optimization	The optimal weeks of supply for the department/region/subgroup/frontier point. This is a recalc measure.
Average WOS What-if Constrained Store Level Optimization	The constrained weeks of supply with the what-if constraints for the department/region/subgroup/frontier point. This is a recalc measure.
Service Level Constrained Store Level Optimization	The constrained service level for the department/region/subgroup/frontier point. This is a recalc measure.
Service Level Optimal Unconstrained Store Level Optimization	The optimal service level for the department/region/subgroup/frontier point. This is a recalc measure.

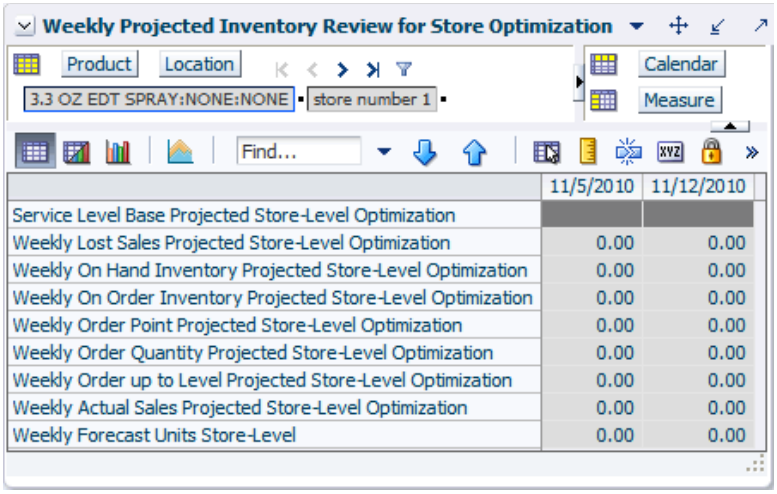
Table 3–5 (Cont.) Target Selection and Approve for Store Optimization View Measures

Measure	Description
Service Level What-if Constrained Store Level Optimization	The constrained service level with the what-if constraints for the department/region/subgroup/frontier point. This is a recalc measure.
Targeted Points Store Level Optimization	Enables you to specify which point along the curve to pick as a target. Only one point can be selected for a department/region.
Average WOS What-if Optimal Store Level Optimization	The service level generated by what-if, where no constraints were added, but the maximizing matrix was changed. For example, the matrix is changed from profit to revenue.

Weekly Projected Inventory Review for Store Optimization View

This view displays the weekly projected inventory at the item/store/week level. It is a read-only view.

Figure 3–15 Weekly Projected Inventory Review for Store Optimization View



Review and Analyze Store Constraints Step

The Review and Analyze Constraints workbook contains the following views:

- Analyze Base Location Level Constraints for Store Optimization View
- Optimization Matrices for Store Optimization View
- Maximum Order Frequency Constraints for Store Optimization View
- Analyze Base Product Level Constraints for Store Optimization View

Analyze Base Location Level Constraints for Store Optimization View

This view enables you to review the maximum constraint type and value used in the optimization. It also enables you to set the what-if maximum constraint type and value for the what-if version of the recommendation. To apply the what-if constraints that you had set, click **What-if Optimization** in the top, right corner.

Figure 3–16 Analyze Base Location Level Constraints for Store Optimization View

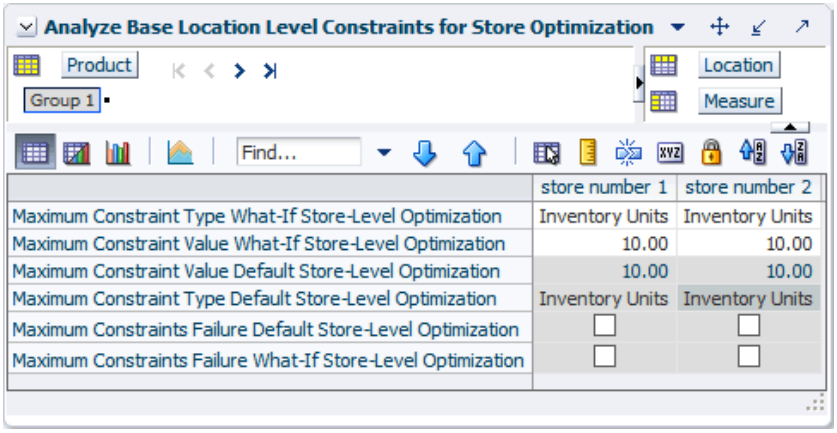


Table 3–6 Analyze Base Location Level Constraints for Store Optimization View Measures

Measure	Description
Maximum Constraint Type Default Store Level Optimization	The default maximum constraint type for a department/store used in the optimization batch. It can be Inventory Units, Inventory Cost, Weeks of Supply, or Space. This measure is read-only.
Maximum Constraint Type What-if Store Level Optimization	The maximum constraint type for the department/store used in the what-if version of the recommendation. You can specify one of these options: Inventory Units, Inventory Cost, Weeks of Supply, or Space This constraint is used when the What-if Optimization button is used to generate a what-if version recommendation.
Maximum Constraint Value Default Store Level Optimization	The default maximum constraint value for a department/store used in the optimization batch. This measure is read-only.
Maximum Constraint Value What-if Store Level Optimization	The minimum constraint value for the department/store used in the what-if version of the recommendation. This constraint is used when the What-if Optimization button is used to generate a what-if version recommendation.
Maximum Constraints Failure Default Store Level Optimization	Displays if the default constraint was met or not. If selected, the constraint was not met.
Maximum Constraints Failure What-if Store Level Optimization	Displays if the what-if constraint was met or not. If selected, the constraint was not met.

Optimization Matrices for Store Optimization View

This view enables you to review the maximizing and minimizing matrix for the regular optimization run. It also enables you to select such matrices for the what-if run.

Figure 3–17 Optimization Matrices for Store Optimization View

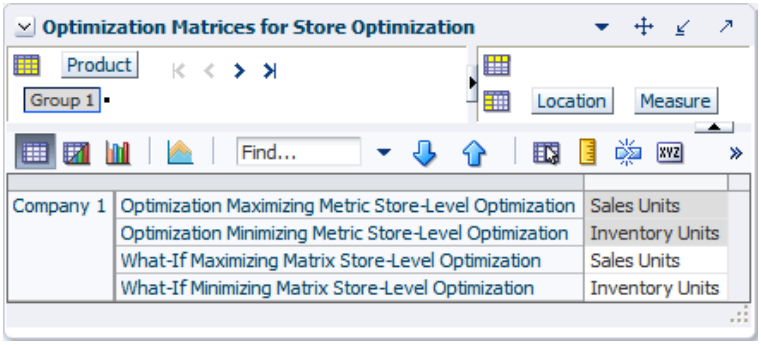


Table 3–7 Optimization Matrices for Store Optimization View Measures

Measure	Description
Optimization Minimizing Metric Store Level Optimization	Displays the minimizing metric used in the optimization run.
Optimization Maximizing Metric Store Level Optimization	Displays the maximizing metric used in the optimization run.
What-if Minimizing Metric Store Level Optimization	Allows selection of a what-if minimizing metric. The choices are Inventory Units and Inventory Cost.
What-if Maximizing Metric Store Level Optimization	Allows selection of a what-if maximizing metric. The choices are Sales Units, Sales Revenue, Gross Margin, and Service Level.

Maximum Order Frequency Constraints for Store Optimization View

This view enables you to review the maximum order frequency used in the optimization. It also enables you to set the what-if order frequency for the what-if version of the recommendation. To apply the what-if constraints that you had set, click **What-if Optimization** in the top, right corner.

Figure 3–18 Maximum Order Frequency Constraints for Store Optimization View

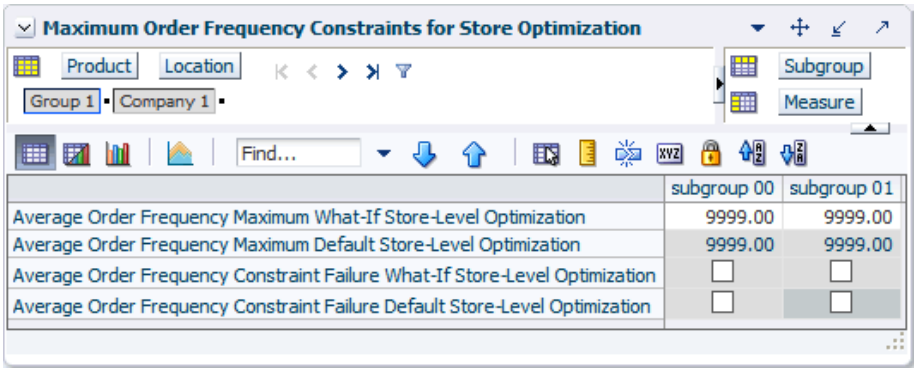


Table 3–8 Maximum Order Frequency Constraints for Store Optimization View Measures

Measure	Description
Average Order Frequency Maximum Default Store Level Optimization	The default maximum order frequency value for a subgroup used in the optimization batch. This is a read-only measure.
Average Order Frequency Maximum What-if Store Level Optimization	The maximum order frequency for a subgroup used in the what-if version of the recommendation. This constraint is used when the What-if Optimization button is used to generate a what-if version recommendation.
Maximum Constraints Failure What-if Store Level Optimization	Displays if the what-if constraint was met or not. If selected, the constraint was not met.
Maximum Constraints Failure Default Store Level Optimization	Displays if the constraint was met or not. If selected, the constraint was not met.

Analyze Base Product Level Constraints for Store Optimization View

This view enables you to review the minimum constraint type and value used in the optimization. It also enables you to set the what-if minimum constraint type and value for the what-if version of the recommendation. To apply the what-if constraints that you had set, click **What-if Optimization** in the top, right corner.

Figure 3–19 Analyze Base Product Level Constraints for Store Optimization View

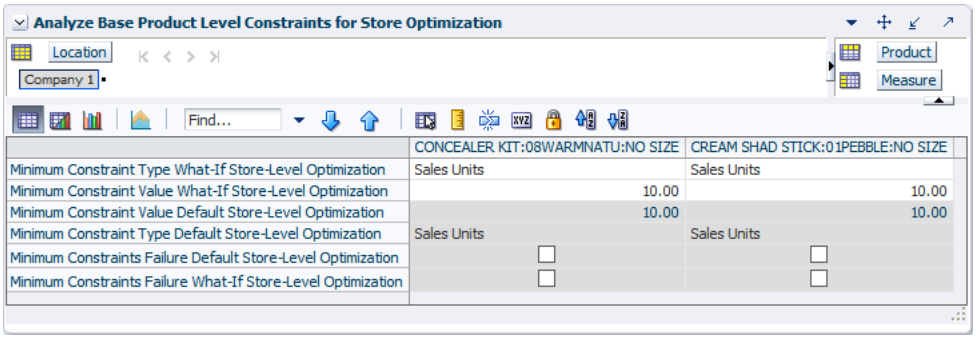


Table 3–9 Analyze Base Product Level Constraints for Store Optimization View Measures

Measure	Description
Minimum Constraint Type Default Store Level Optimization	The default minimum constraint type for an item/region used in the optimization batch. It can be Sales Units, Sales Revenue, Sales Margin, or Service Level. This measure is read-only.
Minimum Constraint Type What-if Store Level Optimization	The minimum constraint type for the item/region used in the what-if version of the recommendation. You can specify one of these options: Sales Units, Sales Revenue, Sales Margin, or Service Level. This constraint is used when the What-if Optimization button is used to generate a what-if version recommendation.
Minimum Constraint Value Default Store Level Optimization	The default minimum constraint value for an item/region used in the optimization batch. This measure is read-only.

Table 3–9 (Cont.) Analyze Base Product Level Constraints for Store Optimization View Measures

Measure	Description
Minimum Constraint Value What-if Store Level Optimization	The minimum constraint value for the item/region used in the what-if version of the recommendation. This constraint is used when the What-if Optimization button is used to generate a what-if version recommendation.
Minimum Constraints Failure Default Store Level Optimization	Displays if the constraint was met or not. If selected, the constraint was not met.
Minimum Constraints Failure What-if Store Level Optimization	Displays if the what-if constraint was met or not. If selected, the constraint was not met.

Warehouse Analyze Subgrouping Step

The Analyze Subgrouping step contains the following views:

- Review Base Level in Subgroupings for Warehouse Optimization View
- Review Subgrouping Results for Warehouse Optimization View
- Subgrouping Criteria for Warehouse Optimization View
- User Breakpoint Overrides for Warehouse Optimization View

Review Base Level in Subgroupings for Warehouse Optimization View

This view enables you to review the subgrouping information for the item/warehouses in the department/warehouse groups that were selected in the wizard. This view is at the item/warehouse intersection and is read-only.

Figure 3–20 Review Base Level in Subgroupings for Warehouse Optimization View

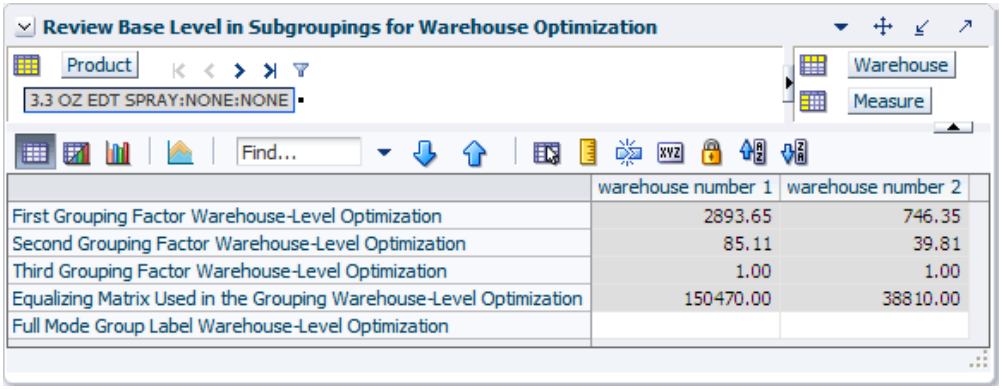


Table 3–10 Review Base Level in Subgroupings View for Warehouse Optimization Measures

Measure	Description
Equalizing Matrix Used in the Grouping - Warehouse Level Optimization	The value of the equalizing matrix used in subgrouping.
Full Mode Group Label - Warehouse Level Optimization	The subgroup that the item/warehouse belongs to.

Table 3–10 (Cont.) Review Base Level in Subgroupings View for Warehouse Optimization Measures

Measure	Description
First Grouping Factor - Warehouse Level Optimization	The value of grouping factor 1.
Second Grouping Factor - Warehouse Level Optimization	The value of grouping factor 2.
Third Grouping Factor - Warehouse Level Optimization	The value of grouping factor 3.

Review Subgrouping Results for Warehouse Optimization View

This view enables you to review the subgrouping results from the full mode batch run. This view is at the department/region/subgroup intersection and is read-only. Only valid subgroups are displayed.

Figure 3–21 Review Subgrouping Results for Warehouse Optimization View

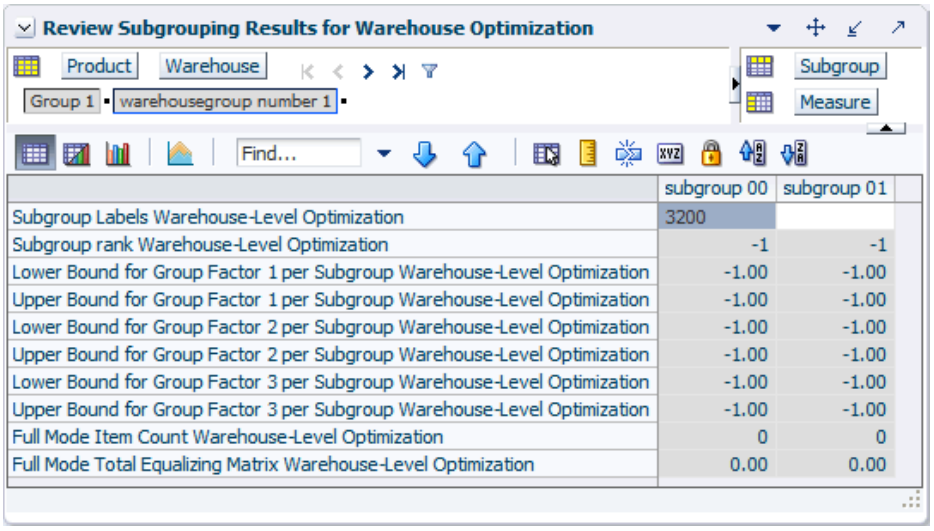


Table 3–11 Review Subgrouping Results for Warehouse Optimization View Measures

Measure	Description
Full Mode Item Count - Warehouse Level Optimization	The number of items/warehouses for the subgroup.
Lowerbound for Group Factor1 per Sbgroup - Warehouse Level Optimization	The lower bound of the grouping factor1 for the subgroup.
Lowerbound for Group Factor2 per Sbgroup - Warehouse Level Optimization	The lower bound of the grouping factor2 for the subgroup.
Lowerbound for Group Factor3 per Sbgroup - Warehouse Level Optimization	The lower bound of the grouping factor3 for the subgroup.
SubGroup Labels - Warehouse Level Optimization	User-defined label of the subgroup.
Subgroup Rank - Warehouse Level Optimization	Ranking of the subgroups for each department/warehouse group.
Full Mode Total Equalizing Matrix - Warehouse Level Optimization	The total of equalizing matrix for each subgroup.

Table 3–11 (Cont.) Review Subgrouping Results for Warehouse Optimization View Measures

Measure	Description
Upperbound for Group factor1 per Subgroup - Warehouse Level Optimization	The upper bound of the grouping factor1 for the subgroup.
Upperbound for Group factor2 per Subgroup - Warehouse Level Optimization	The upper bound of the grouping factor2 for the subgroup.
Upperbound for Group factor3 per Subgroup - Warehouse Level Optimization	The upper bound of the grouping factor3 for the subgroup.

Subgrouping Criteria for Warehouse Optimization View

This view enables you to review the subgroupings needed for a higher level intersection as well as the subgrouping metrics and the grouping equalizing matrix used for the subgroupings. This view is at the department/warehouse group intersection and is read-only.

Figure 3–22 Subgrouping Criteria for Warehouse Optimization View

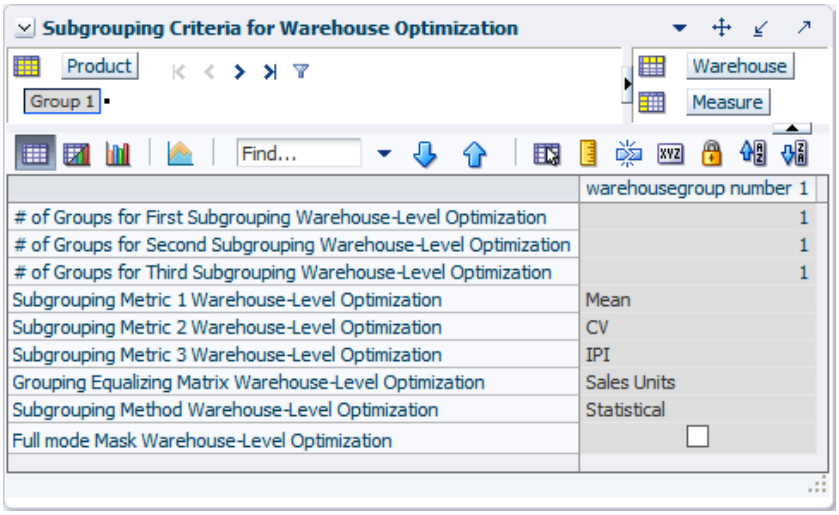


Table 3–12 Subgrouping Criteria for Warehouse Optimization View Measures

Measure	Description
# of Groups for First SubGrouping - Warehouse Level Optimization	Specify the number of group for the first group factor. This is an integer measure that is based on the department/region.
# of Groups for Second SubGrouping - Warehouse Level Optimization	Specify the number of group for the second group factor. This is an integer measure that is based on the department/region.
# of Groups for Third SubGrouping - Warehouse Level Optimization	Specify the number of group for the third group factor. This is an integer measure that is based on the department/region.
Grouping Equalizing Matrix - Warehouse Level Optimization	Specify the equalizing matrix used in the statistical subgrouping. Options are Sales Units, Sales Revenue, and Gross Margin.
Full Mode Mask - Warehouse Level Optimization	Displays if the optimization run was refresh or full mode. If selected, the results displayed are generated by a full mode run.
SubGrouping Method - Warehouse Level Optimization	The subgrouping method used. Options are Breakpoints and Statistical.

Table 3–12 (Cont.) Subgrouping Criteria for Warehouse Optimization View Measures

Measure	Description
SubGrouping Metric 1 - Warehouse Level Optimization	Specify the first grouping factor. Options are Mean, CV, and IPI.
SubGrouping Metric 2 - Warehouse Level Optimization	Specify the second grouping factor. This cannot be the same as SubGrouping Metric 1 or 3. Options are Mean, CV, and IPI.
SubGrouping Metric 3 - Warehouse Level Optimization	Specify the third grouping factor. This cannot be the same as SubGrouping Metric 1 or 2. Options are Mean, CV, and IPI.

User Breakpoint Overrides for Warehouse Optimization View

This view enables you to review the breakpoint overrides. This view is at the department/region/breakpoint intersection and is read-only.

Figure 3–23 User Breakpoint Overrides for Warehouse Optimization View

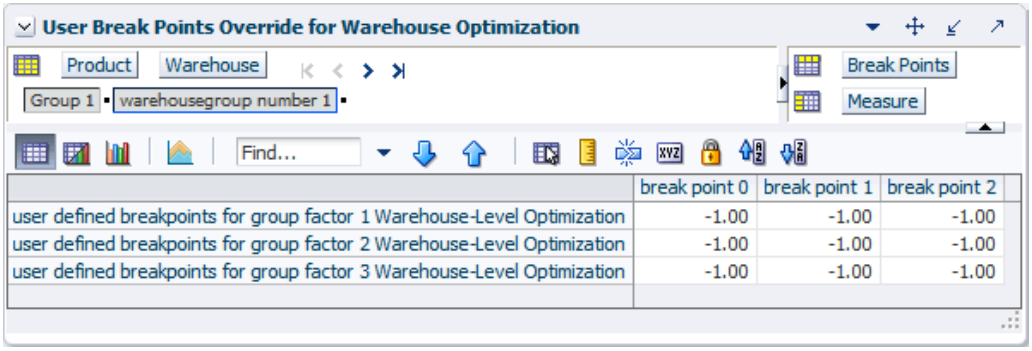


Table 3–13 User Breakpoint Overrides View for Warehouse Optimization Measures

Measure	Description
User Defined Breakpoints for Group Factor 1 - Warehouse Level Optimization	The breakpoint for the grouping factor 1 for the department/warehouse group.
User Defined Breakpoints for Group Factor 2 - Warehouse Level Optimization	The breakpoint for the grouping factor 2 for the department/warehouse group.
User Defined Breakpoints for Group Factor 3 - Warehouse Level Optimization	The breakpoint for the grouping factor 3 for the department/warehouse group.

Analyze and Approve Warehouse Optimization Results Step

The Analyze and Approve Optimization Results step enables you to review the results of the optimization batch run, review the impact of specified constraints, and determine the inventory/service level targets.

The step contains the following views:

- Optimization Results Review for Warehouse Optimization View
- Review Targets for Warehouse Optimization View
- Subgrouping Optimization Results Review for Warehouse Optimization View
- Target Selection and Approve for Warehouse Optimization View
- Weekly Projected Inventory Review for Warehouse Optimization View

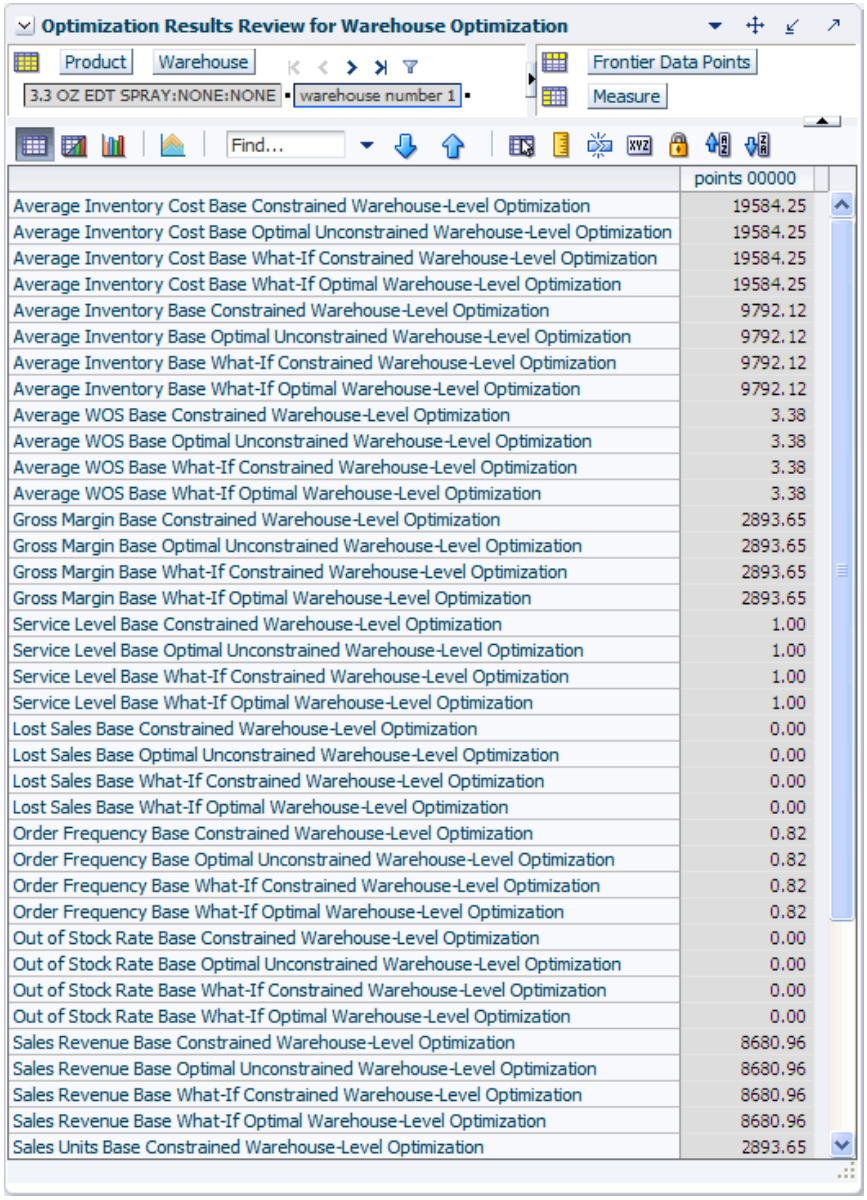
Optimization Results Review for Warehouse Optimization View

RO performs optimization and calculates optimal inventory allocation and associated service levels, projected sales, and lost sales for various increments of inventory. Each incremental inventory investment is referred to as a point on the Inventory/Service Level Trade-off curve.

This view displays inventory, service levels, sales, lost sales, and other key metrics for each point of incremental inventory investment.

RO performs one batch run of unconstrained optimization and another run based on the specified constraints defined in the Optimization Definition workbook. By comparing the two runs, you can understand the costs of the specified constraints. You can also specify what-if constraints from the Review and Analyze Constraints workbook and interactively view the results from the optimization, based on the what-if constraints. This view is read-only.

Figure 3–24 Optimization Results Review for Warehouse Optimization View

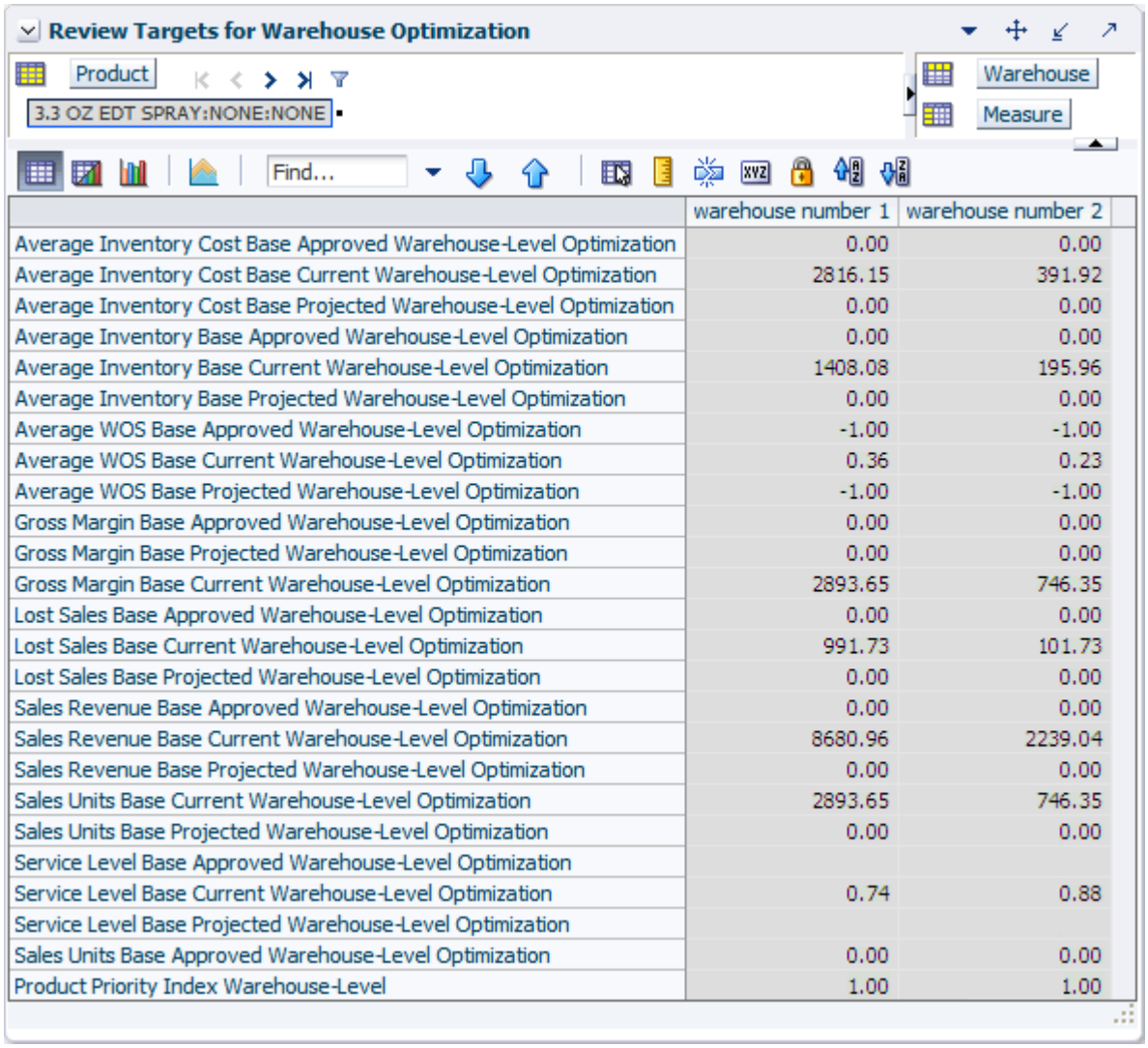


	points 00000
Average Inventory Cost Base Constrained Warehouse-Level Optimization	19584.25
Average Inventory Cost Base Optimal Unconstrained Warehouse-Level Optimization	19584.25
Average Inventory Cost Base What-If Constrained Warehouse-Level Optimization	19584.25
Average Inventory Cost Base What-If Optimal Warehouse-Level Optimization	19584.25
Average Inventory Base Constrained Warehouse-Level Optimization	9792.12
Average Inventory Base Optimal Unconstrained Warehouse-Level Optimization	9792.12
Average Inventory Base What-If Constrained Warehouse-Level Optimization	9792.12
Average Inventory Base What-If Optimal Warehouse-Level Optimization	9792.12
Average WOS Base Constrained Warehouse-Level Optimization	3.38
Average WOS Base Optimal Unconstrained Warehouse-Level Optimization	3.38
Average WOS Base What-If Constrained Warehouse-Level Optimization	3.38
Average WOS Base What-If Optimal Warehouse-Level Optimization	3.38
Gross Margin Base Constrained Warehouse-Level Optimization	2893.65
Gross Margin Base Optimal Unconstrained Warehouse-Level Optimization	2893.65
Gross Margin Base What-If Constrained Warehouse-Level Optimization	2893.65
Gross Margin Base What-If Optimal Warehouse-Level Optimization	2893.65
Service Level Base Constrained Warehouse-Level Optimization	1.00
Service Level Base Optimal Unconstrained Warehouse-Level Optimization	1.00
Service Level Base What-If Constrained Warehouse-Level Optimization	1.00
Service Level Base What-If Optimal Warehouse-Level Optimization	1.00
Lost Sales Base Constrained Warehouse-Level Optimization	0.00
Lost Sales Base Optimal Unconstrained Warehouse-Level Optimization	0.00
Lost Sales Base What-If Constrained Warehouse-Level Optimization	0.00
Lost Sales Base What-If Optimal Warehouse-Level Optimization	0.00
Order Frequency Base Constrained Warehouse-Level Optimization	0.82
Order Frequency Base Optimal Unconstrained Warehouse-Level Optimization	0.82
Order Frequency Base What-If Constrained Warehouse-Level Optimization	0.82
Order Frequency Base What-If Optimal Warehouse-Level Optimization	0.82
Out of Stock Rate Base Constrained Warehouse-Level Optimization	0.00
Out of Stock Rate Base Optimal Unconstrained Warehouse-Level Optimization	0.00
Out of Stock Rate Base What-If Constrained Warehouse-Level Optimization	0.00
Out of Stock Rate Base What-If Optimal Warehouse-Level Optimization	0.00
Sales Revenue Base Constrained Warehouse-Level Optimization	8680.96
Sales Revenue Base Optimal Unconstrained Warehouse-Level Optimization	8680.96
Sales Revenue Base What-If Constrained Warehouse-Level Optimization	8680.96
Sales Revenue Base What-If Optimal Warehouse-Level Optimization	8680.96
Sales Units Base Constrained Warehouse-Level Optimization	2893.65

Review Targets for Warehouse Optimization View

This view displays the current, targeted, and projected KPIs based on the inventory/service level targets you defined in the Target Selection and Approve view.

Figure 3–25 Review Targets for Warehouse Optimization View

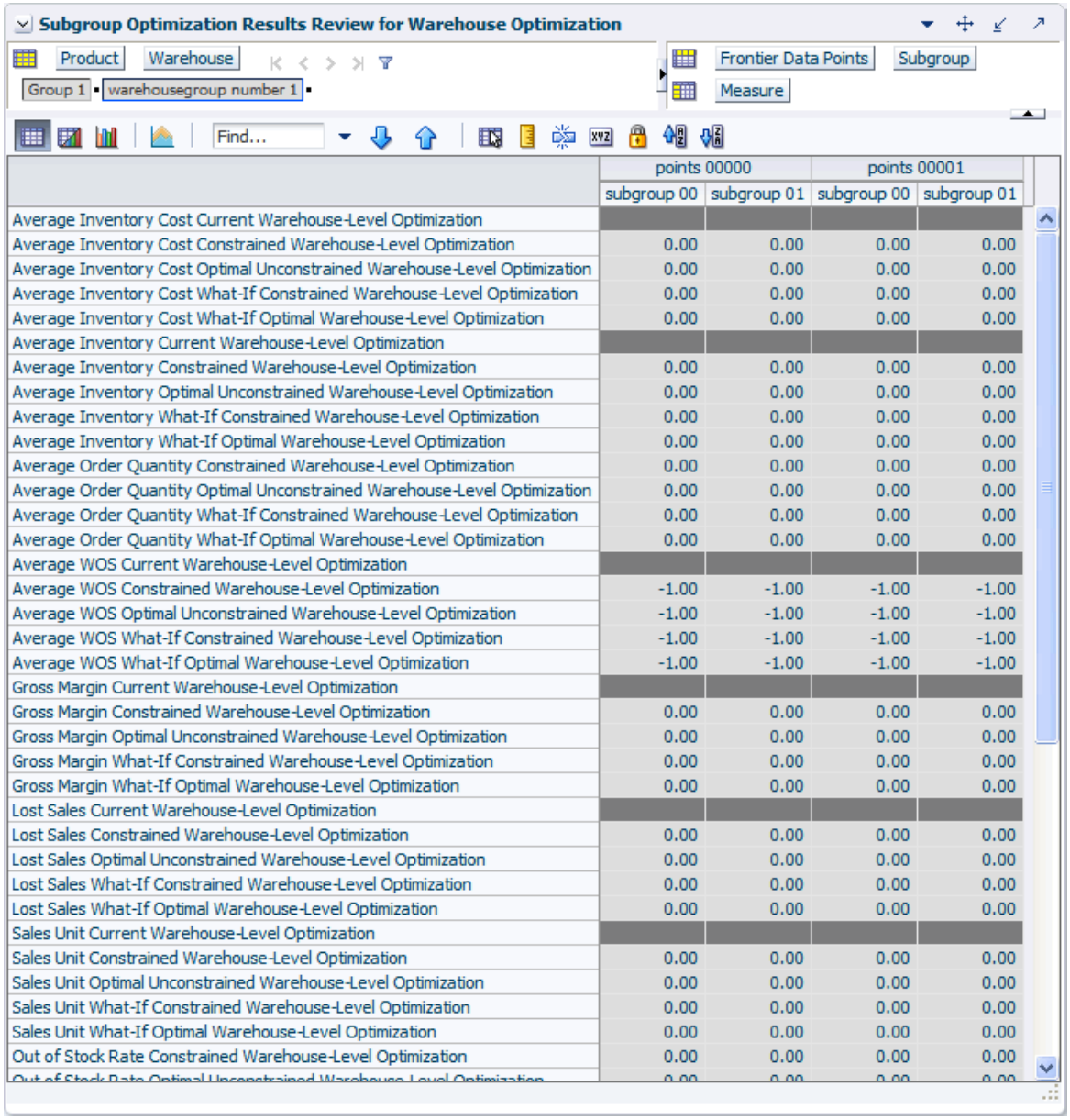


	warehouse number 1	warehouse number 2
Average Inventory Cost Base Approved Warehouse-Level Optimization	0.00	0.00
Average Inventory Cost Base Current Warehouse-Level Optimization	2816.15	391.92
Average Inventory Cost Base Projected Warehouse-Level Optimization	0.00	0.00
Average Inventory Base Approved Warehouse-Level Optimization	0.00	0.00
Average Inventory Base Current Warehouse-Level Optimization	1408.08	195.96
Average Inventory Base Projected Warehouse-Level Optimization	0.00	0.00
Average WOS Base Approved Warehouse-Level Optimization	-1.00	-1.00
Average WOS Base Current Warehouse-Level Optimization	0.36	0.23
Average WOS Base Projected Warehouse-Level Optimization	-1.00	-1.00
Gross Margin Base Approved Warehouse-Level Optimization	0.00	0.00
Gross Margin Base Projected Warehouse-Level Optimization	0.00	0.00
Gross Margin Base Current Warehouse-Level Optimization	2893.65	746.35
Lost Sales Base Approved Warehouse-Level Optimization	0.00	0.00
Lost Sales Base Current Warehouse-Level Optimization	991.73	101.73
Lost Sales Base Projected Warehouse-Level Optimization	0.00	0.00
Sales Revenue Base Approved Warehouse-Level Optimization	0.00	0.00
Sales Revenue Base Current Warehouse-Level Optimization	8680.96	2239.04
Sales Revenue Base Projected Warehouse-Level Optimization	0.00	0.00
Sales Units Base Current Warehouse-Level Optimization	2893.65	746.35
Sales Units Base Projected Warehouse-Level Optimization	0.00	0.00
Service Level Base Approved Warehouse-Level Optimization		
Service Level Base Current Warehouse-Level Optimization	0.74	0.88
Service Level Base Projected Warehouse-Level Optimization		
Sales Units Base Approved Warehouse-Level Optimization	0.00	0.00
Product Priority Index Warehouse-Level	1.00	1.00

Subgrouping Optimization Results Review for Warehouse Optimization View

This view displays the points of valid department/warehouse group/subgroups on the Inventory/Service Level Trade-off curve. This view is at the department/warehouse group/subgroup/frontier points intersection and is read-only.

Figure 3–26 Subgrouping Optimization Results Review for Warehouse Optimization View



	points 00000		points 00001	
	subgroup 00	subgroup 01	subgroup 00	subgroup 01
Average Inventory Cost Current Warehouse-Level Optimization				
Average Inventory Cost Constrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Average Inventory Cost Optimal Unconstrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Average Inventory Cost What-If Constrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Average Inventory Cost What-If Optimal Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Average Inventory Current Warehouse-Level Optimization				
Average Inventory Constrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Average Inventory Optimal Unconstrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Average Inventory What-If Constrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Average Inventory What-If Optimal Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Average Order Quantity Constrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Average Order Quantity Optimal Unconstrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Average Order Quantity What-If Constrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Average Order Quantity What-If Optimal Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Average WOS Current Warehouse-Level Optimization				
Average WOS Constrained Warehouse-Level Optimization	-1.00	-1.00	-1.00	-1.00
Average WOS Optimal Unconstrained Warehouse-Level Optimization	-1.00	-1.00	-1.00	-1.00
Average WOS What-If Constrained Warehouse-Level Optimization	-1.00	-1.00	-1.00	-1.00
Average WOS What-If Optimal Warehouse-Level Optimization	-1.00	-1.00	-1.00	-1.00
Gross Margin Current Warehouse-Level Optimization				
Gross Margin Constrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Gross Margin Optimal Unconstrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Gross Margin What-If Constrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Gross Margin What-If Optimal Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Lost Sales Current Warehouse-Level Optimization				
Lost Sales Constrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Lost Sales Optimal Unconstrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Lost Sales What-If Constrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Lost Sales What-If Optimal Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Sales Unit Current Warehouse-Level Optimization				
Sales Unit Constrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Sales Unit Optimal Unconstrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Sales Unit What-If Constrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Sales Unit What-If Optimal Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Out of Stock Rate Constrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00
Out of Stock Rate Optimal Unconstrained Warehouse-Level Optimization	0.00	0.00	0.00	0.00

Target Selection and Approve for Warehouse Optimization View

This view enables you to specify the target inventory and service levels for the optimization level (department/warehouse group). You also have the option to apply unconstrained, constrained, or what-if optimization results for approval. Note that only one point or target can be selected for an optimization level.

When you have selected the points, click **Select Target and Approve** in the top, right corner to approve the targets.

Figure 3–27 Target Selection and Approve for Warehouse Optimization View

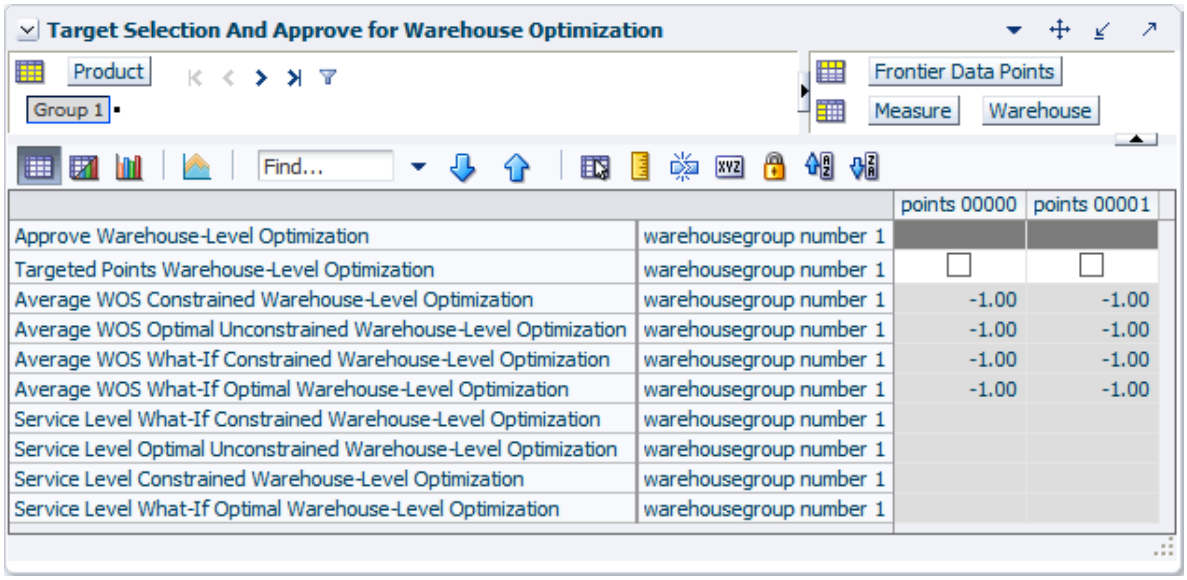


Table 3–14 Target Selection and Approve for Warehouse Optimization View Measures

Measure	Description
Approve Warehouse Level Optimization	Enables you to specify the version of the optimization result to approve for the department/warehouse group. Options are None, Approve Optimal, Approve Constrained, and Approve What-if.
Average WOS Constrained Warehouse Level Optimization	The constrained week of supply for the department/warehouse group/subgroup/frontier point. This is a recalc measure.
Average WOS Optimal Unconstrained Warehouse Level Optimization	The optimal week of supply for the department/warehouse group/subgroup/frontier point. This is a recalc measure.
Average WOS What-if Constrained Warehouse Level Optimization	The constrained week of supply with the what-if constraints for the department/warehouse group/subgroup/frontier point. This is a recalc measure.
Service Level Constrained Warehouse Level Optimization	The constrained service level for the department/warehouse group/subgroup/frontier point. This is a recalc measure.
Service Level Optimal Unconstrained Warehouse Level Optimization	The optimal service level for the department/warehouse group/subgroup/frontier point. This is a recalc measure.
Service Level What-if Constrained Warehouse Level Optimization	The constrained service level with the what-if constraints for the department/warehouse group/subgroup/frontier point. This is a recalc measure.

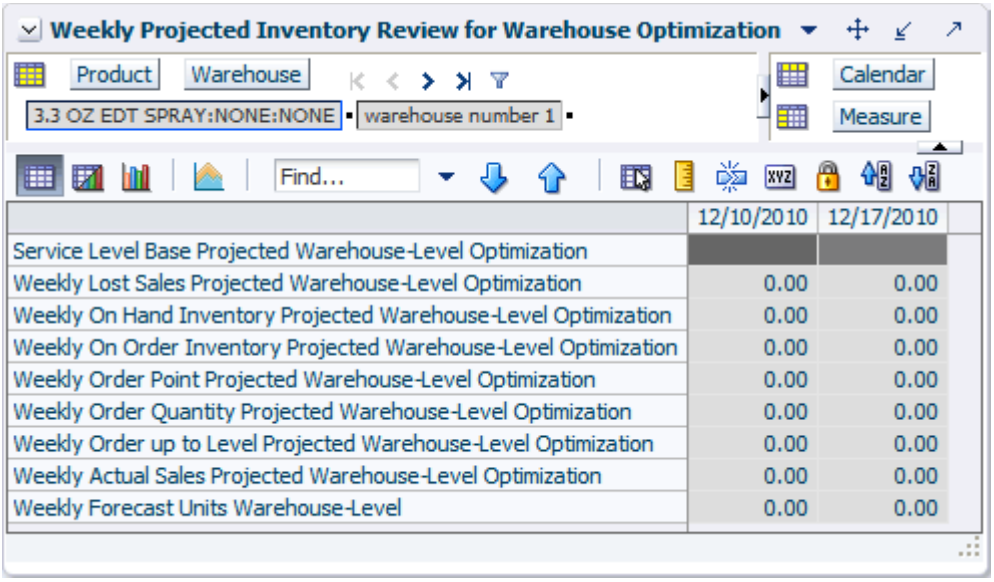
Table 3–14 (Cont.) Target Selection and Approve for Warehouse Optimization View Measures

Measure	Description
Targeted Points Warehouse Level Optimization	Enables you to specify which point along the curve to pick as a target. Only one point can be selected for a department/warehouse group.
Average WOS What-if Optimal Warehouse Level Optimization	The weeks of supply generated by what-if, where no constraints were added, but the maximizing matrix was changed. For example, the matrix is changed from profit to revenue.
Service Level What-if Optimal Warehouse Level Optimization	The service level generated by what-if, where no constraints were added, but the maximizing matrix was changed. For example, the matrix is changed from profit to revenue.

Weekly Projected Inventory Review for Warehouse Optimization View

This view displays the weekly projected inventory at the item/warehouse/week level. It is a read-only view.

Figure 3–28 Weekly Projected Inventory Review for Warehouse Optimization View



Review and Analyze Warehouse Constraints Step

The Review and Analyze Constraints step contains the following views:

- Analyze Base Location Level Constraints for Warehouse Optimization View
- Optimization Matrices for Warehouse Optimization View
- Maximum Order Frequency Constraints for Warehouse Optimization View
- Analyze Base Product Level Constraints for Warehouse Optimization View

Analyze Base Location Level Constraints for Warehouse Optimization View

This view enables you to review the maximum constraint type and value used in the optimization. It also enables you to set the what-if maximum constraint type and value for the what-if version of the recommendation. To apply the what-if constraints that you set, click **What-if Optimization** in the top, right corner.

Figure 3–29 Analyze Base Location Level Constraints for Warehouse Optimization View

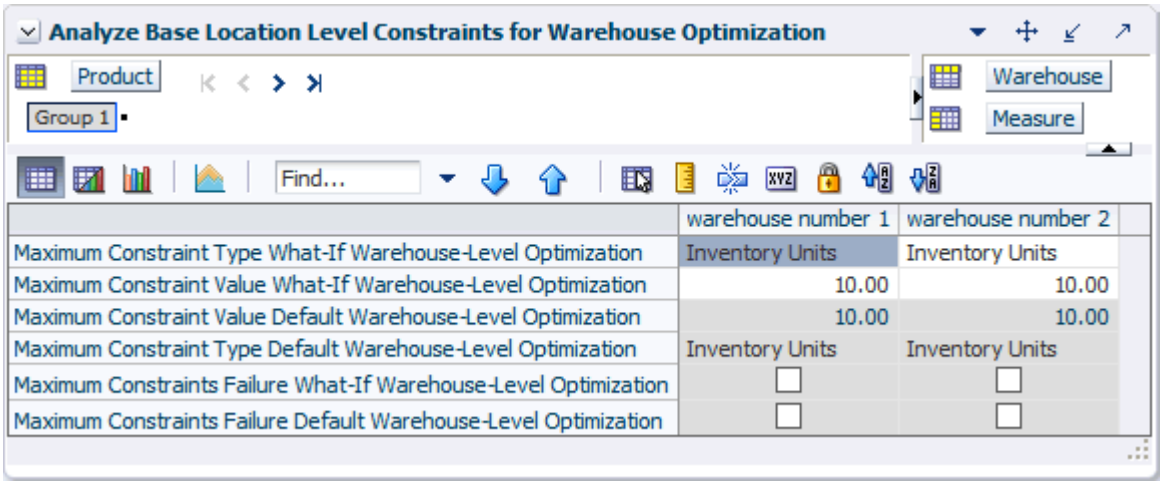


Table 3–15 Analyze Base Location Level Constraints for Warehouse Optimization View Measures

Measure	Description
Maximum Constraint Type Default Warehouse Level Optimization	The default maximum constraint type for a department/warehouse used in the optimization batch. It can be Inventory Units, Inventory Cost, Weeks of Supply, or Space. This measure is read-only.
Maximum Constraint Type What-if Warehouse Level Optimization	The maximum constraint type for the department/warehouse used in the what-if version of the recommendation. You can specify one of these options: Inventory Units, Inventory Cost, Weeks of Supply, or Space. This constraint is used when the What-if Optimization button is used to generate a what-if version recommendation.
Maximum Constraint Value Default Warehouse Level Optimization	The default maximum constraint value for a department/warehouse used in the optimization batch. This measure is read-only.
Maximum Constraint Value What-if Warehouse Level Optimization	The minimum constraint value for the department/warehouse used in the what-if version of the recommendation. This constraint is used when the What-if Optimization button is used to generate a what-if version recommendation.
Maximum Constraints Failure Default Warehouse Level Optimization	Displays if the constraint was met or not. If selected, the constraint was not met.
Maximum Constraints Failure What-if Warehouse Level Optimization	Displays if the what-if constraint was met or not. If selected, the constraint was not met.

Optimization Matrices for Warehouse Optimization View

This view enables you to review the maximizing and minimizing matrix for the regular optimization run. It also enables you to select such matrices for the what-if run.

Figure 3–30 Optimization Matrices for Warehouse Optimization View

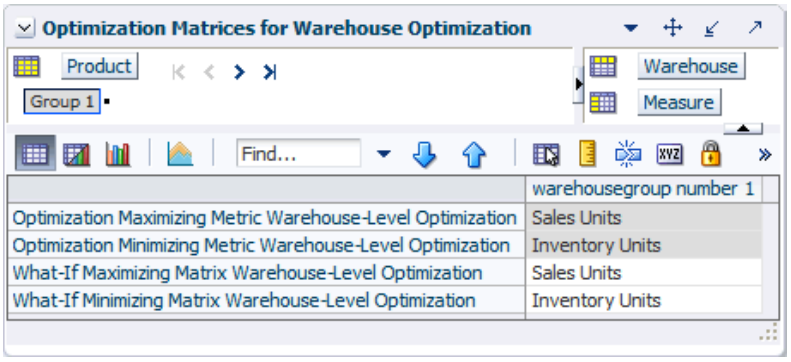


Table 3–16 Optimization Matrices for Warehouse Optimization View Measures

Measure	Description
Optimization Minimizing Metric Warehouse Level Optimization	Displays the minimizing metric used in the optimization run.
Optimization Maximizing Metric Warehouse Level Optimization	Displays the maximizing metric used in the optimization run.
What-if Minimizing Metric Warehouse Level Optimization	Allows to select a what-if minimizing metric. The choices are Inventory Units and Inventory Cost.
What-if Maximizing Metric Warehouse Level Optimization	Allows to select a what-if maximizing metric. The choices are Sales Units, Sales Revenue, Gross Margin, and Service Level.

Maximum Order Frequency Constraints for Warehouse Optimization View

This view enables you to review the maximum order frequency used in the optimization. It also enables you to set the what-if order frequency for the what-if version of the recommendation. To apply the what-if constraints that you had set, click **What-if Optimization** in the top, right corner.

Figure 3–31 Maximum Order Frequency Constraints for Warehouse Optimization View

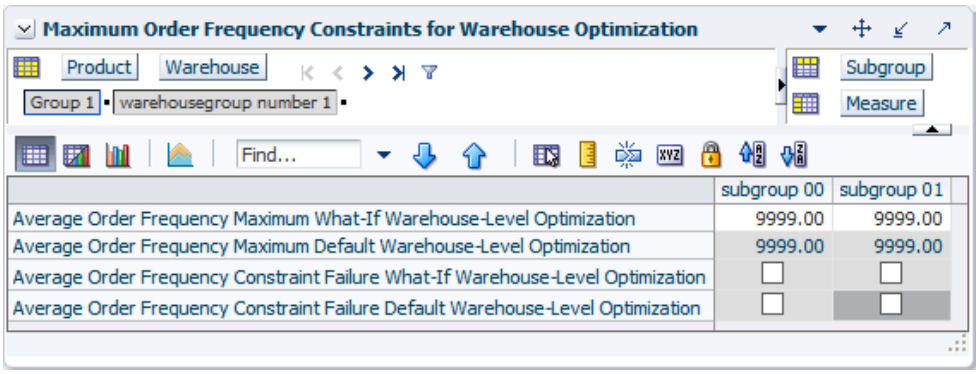


Table 3–17 Maximum Order Frequency Constraints for Warehouse Optimization View Measures

Measure	Description
Average Order Frequency Maximum Default Warehouse Level Optimization	The default maximum order frequency value for a subgroup used in the optimization batch. This is a read-only measure.
Average Order Frequency Maximum What-if Warehouse Level Optimization	The maximum order frequency for a subgroup used in the what-if version of the recommendation. This constraint is used when the What-if Optimization option in the Actions menu is used to generate a what-if version recommendation.

Analyze Base Product Level Constraints for Warehouse Optimization View

This view enables you to review the minimum constraint type and value used in the optimization. It also enables you to set the what-if minimum constraint type and value for the what-if version of the recommendation. To apply the what-if constraints that you had set, click **What-if Optimization** in the top, right corner.

Figure 3–32 Analyze Base Product Level Constraints for Warehouse Optimization View

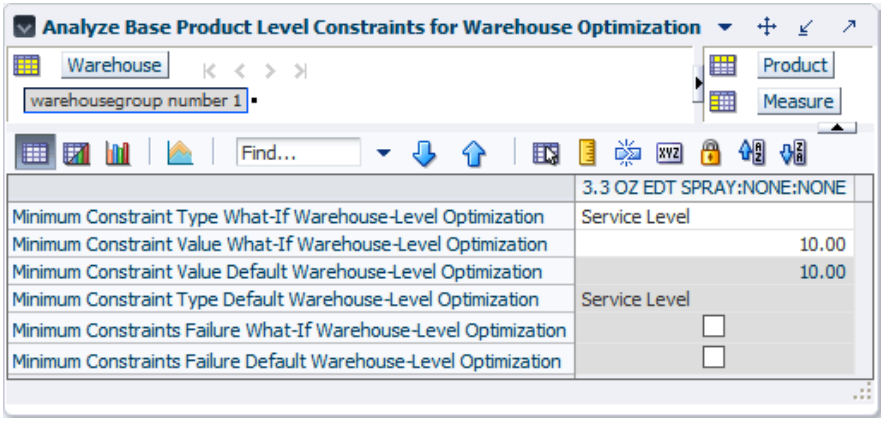


Table 3–18 Analyze Base Product Level Constraints for Warehouse Optimization View Measures

Measure	Description
Minimum Constraint Type Default Warehouse Level Optimization	The default minimum constraint type for an item/warehouse group used in the optimization batch. It can be Sales Units, Sales Revenue, Sales Margin, or Service Level. This measure is read-only.
Minimum Constraint Type What-if Warehouse Level Optimization	The minimum constraint type for the item/region used in the what-if version of the recommendation. You can specify one of these options: Sales Units, Sales Revenue, Sales Margin, or Service Level. This constraint is used when the What-if Optimization button is used to generate a what-if version recommendation.
Minimum Constraint Value Default Warehouse Level Optimization	The default minimum constraint value for an item/region used in the optimization batch. This measure is read-only.
Minimum Constraint Value What-if Warehouse Level Optimization	The minimum constraint value for the item/region used in the what-if version of the recommendation. This constraint is used when the What-if Optimization button is used to generate a what-if version recommendation.
Minimum Constraints Failure Default Warehouse Level Optimization	Displays if the constraint was met or not. If selected, the constraint was not met.
Minimum Constraints Failure What-if Warehouse Level Optimization	Displays if the what-if constraint was met or not. If selected, the constraint was not met.

4

Replenishment Admin Workbook

This chapter provides information on the Replenishment Admin (Replen Admin) workbook, which is used to specify alert thresholds for products.

The Replen Admin task contains the Admin Thresholds step, which has the following views:

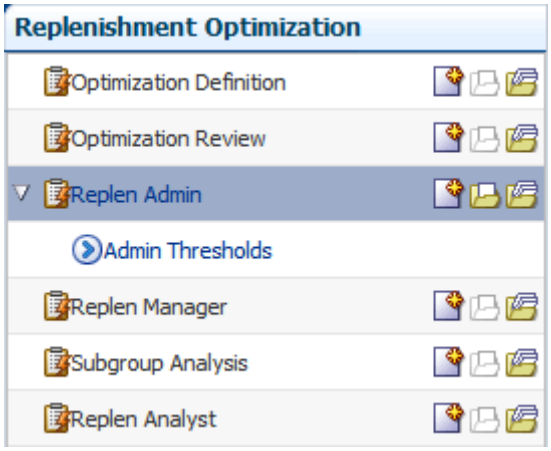
- Admin Thresholds for Store Replenishment View
- Admin Thresholds for Warehouse Replenishment View

Replen Admin Wizard

To create a Replen Admin workbook, perform the following:

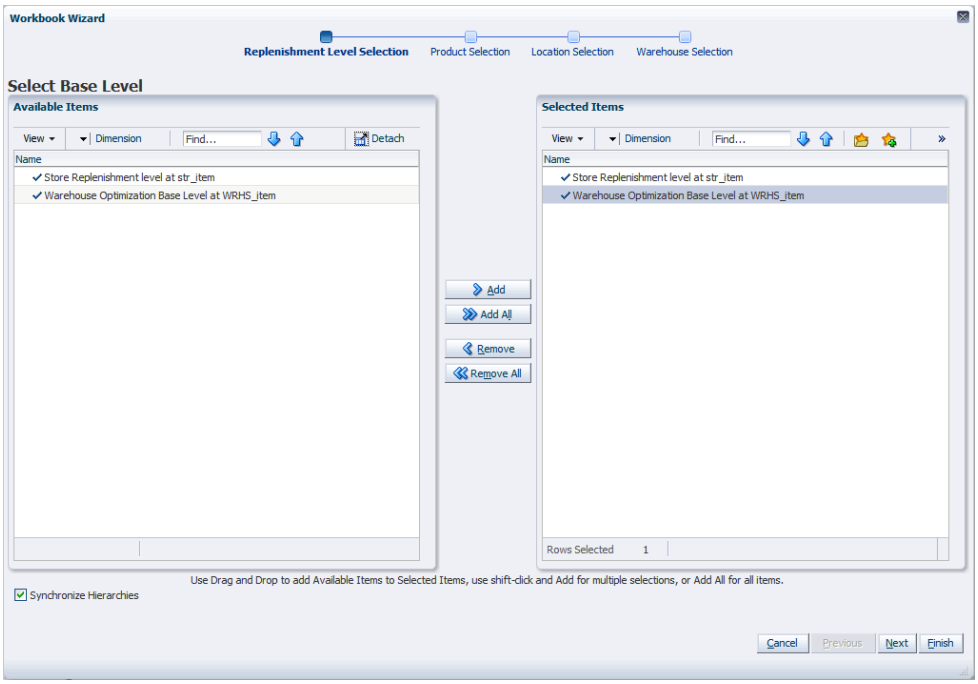
1. Click the Create New Workbook icon in the Replen Admin task.

Figure 4–1 Creating a New Replen Admin Workbook



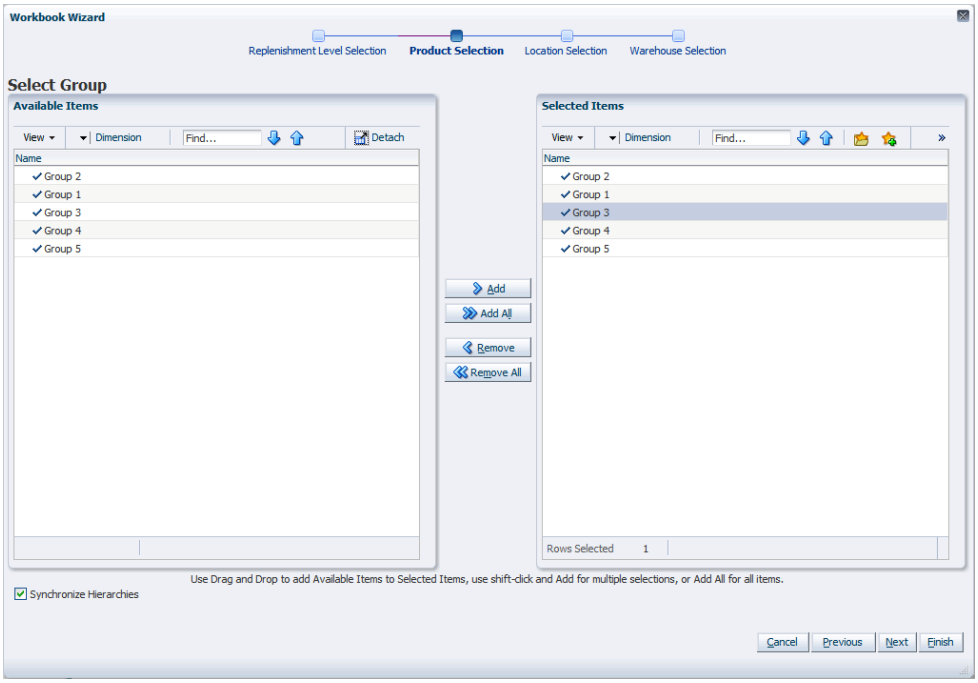
2. The Select Base Level window opens. Select either or both the store level (SL) or warehouse level (WL) and click **Next**.

Figure 4–2 Select Base Level



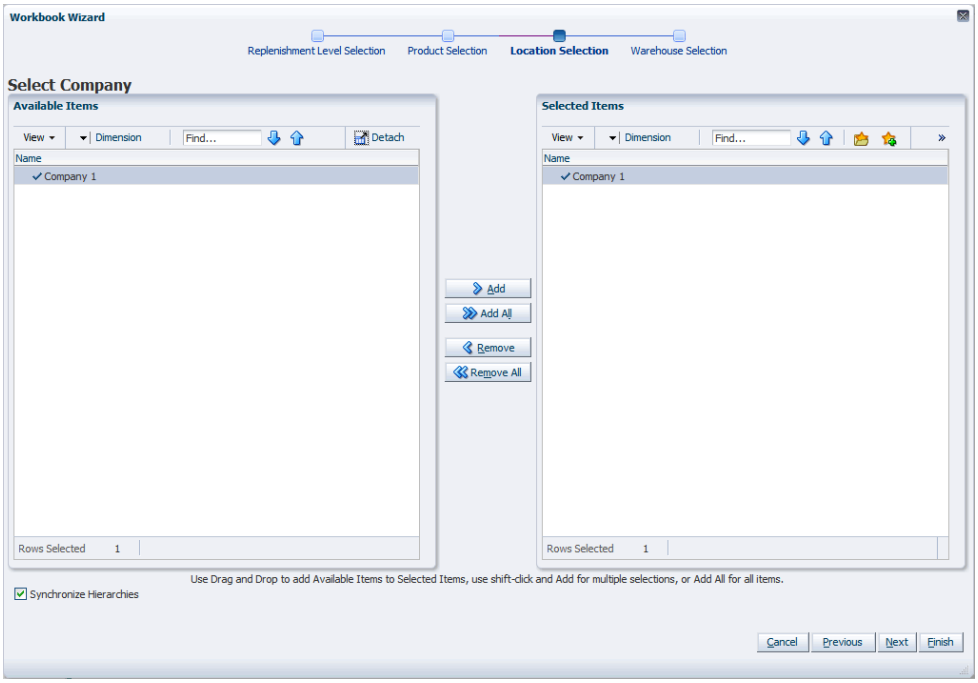
3. The Select Group window opens. Select the groups to be displayed in the workbook and click **Next**.

Figure 4–3 Select Group



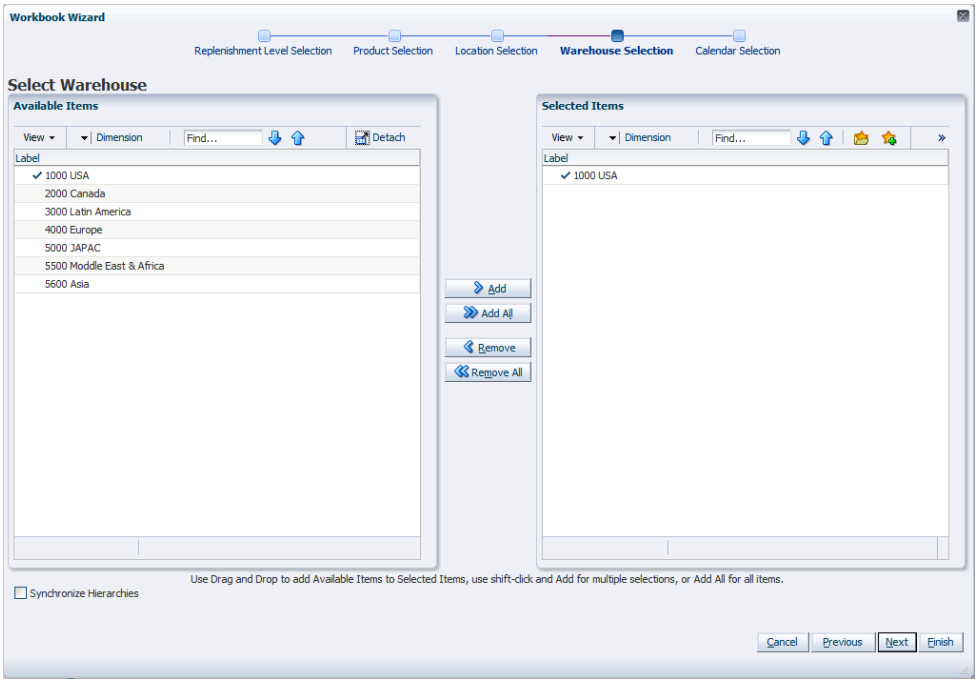
4. The Select Company window opens. Select the regions for the store level optimization to be displayed in the workbook and click **Next**.

Figure 4–4 Select Company



5. The Select Company group window opens. Select the warehouses to be displayed in the workbook and click **Finish**.

Figure 4–5 Select Warehouse

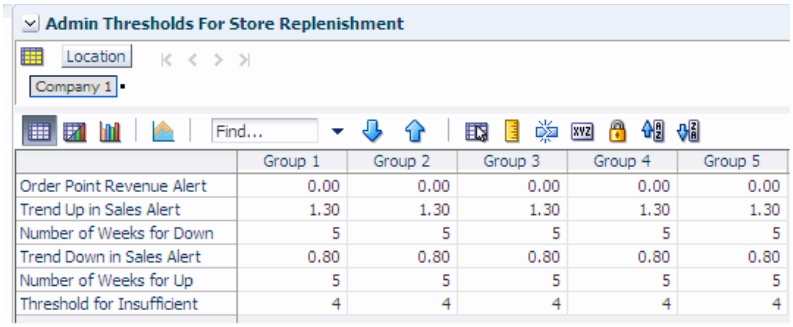


The Replen Admin workbook is built.

Admin Thresholds for Store Replenishment View

This view allows you to set thresholds for the Trend in Sales and Order Point Revenue alerts. If the trend in sales or order point for an item/location is higher than the threshold defined in this view, an alert is triggered.

Figure 4–6 Admin Thresholds for Store Replenishment View



	Group 1	Group 2	Group 3	Group 4	Group 5
Order Point Revenue Alert	0.00	0.00	0.00	0.00	0.00
Trend Up in Sales Alert	1.30	1.30	1.30	1.30	1.30
Number of Weeks for Down	5	5	5	5	5
Trend Down in Sales Alert	0.80	0.80	0.80	0.80	0.80
Number of Weeks for Up	5	5	5	5	5
Threshold for Insufficient	4	4	4	4	4

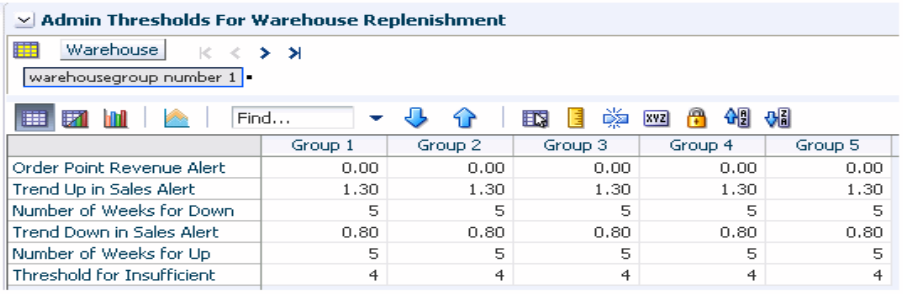
Table 4–1 Admin Threshold for Store Replenishment View Measures

Measure	Description
Order Point Revenue Alert Threshold Store-Level	The maximum value of the order point revenue that an item/location can have before an alert is triggered.
Trend Up in Sales Alert Threshold Store-Level	The maximum value of the trend in sales that an item/location can have before an alert is triggered.
Number of Weeks for Down Trend Store-Level	Determines the number of recent weeks over which store sales are averaged. The average is then divided into the long-term average and compared to a threshold to identify if a Trend Down in Sales alert should be triggered.
Trend Down in Sales Alert Threshold Store-Level	The threshold stores the values which is compared to the ratio of short term versus long term store sales averages. If the ratio is below the threshold value, the Trend Down in Sales alert is triggered.
Number of Weeks for Up Trend Store-Level	Determines the number of recent weeks over which store sales are averaged. The average is then divided into the long-term average and compared to a threshold to identify if a Trend Up in Sales alert should be triggered.
Threshold for Insufficient History Store-Level	This threshold stores the value which determines if an item/location has sufficient store sales. If the store sales history is less than the threshold value, an alert is triggered and RO's recommendations are not automatically approved.

Admin Thresholds for Warehouse Replenishment View

This view allows you to set thresholds for the Trend in Sales and Order Point Revenue alerts. If the trend in sales or order point for an item/location is higher than the threshold defined in this view, an alert is triggered.

Figure 4–7 Admin Threshold for Warehouse Replenishment View



	Group 1	Group 2	Group 3	Group 4	Group 5
Order Point Revenue Alert	0.00	0.00	0.00	0.00	0.00
Trend Up in Sales Alert	1.30	1.30	1.30	1.30	1.30
Number of Weeks for Down	5	5	5	5	5
Trend Down in Sales Alert	0.80	0.80	0.80	0.80	0.80
Number of Weeks for Up	5	5	5	5	5
Threshold for Insufficient	4	4	4	4	4

Table 4–2 Admin Thresholds for Warehouse Replenishment View Measures

Measure	Description
Order Point Revenue Alert Threshold Warehouse Level	The maximum value of the order point revenue that an item/location can have before an alert is triggered.
Trend Up in Sales Alert Threshold Warehouse-Level	The maximum value of the trend in sales that an item/location can have before an alert is triggered.
Number of Weeks for Down Trend Warehouse-Level	Determines the number of recent weeks over which warehouse demand is averaged. The average is then divided into the long-term average and compared to a threshold to identify if a Trend Down in Sales alert should be triggered.
Trend Down in Sales Alert Threshold Warehouse-Level	The threshold stores the values which is compared to the ratio of short term versus long term warehouse demand averages. If the ratio is below the threshold value, then the Trend Down in Sales alert is triggered.
Number of Weeks for Up Trend Warehouse-Level	Determines the number of recent weeks over which warehouse demand is averaged. The average is then divided into the long-term average and compared to a threshold to identify if a Trend Up in Sales alert should be triggered.
Threshold for Insufficient History Warehouse-Level	This threshold stores the value which determines if an item/location has sufficient warehouse demand. If the warehouse demand history is less than the threshold value, then an alert is triggered and RO's recommendations are not automatically approved.

5

Replenishment Manager Workbook

The Replenishment Manager workbook provides managers with high-level reports of the approved plan. Managers can review and track replenishment performance at aggregate levels. This workbook is intended for use by Replenishment Managers, who are interested in reviewing replenishment performances for their department/region or department/warehouse group.

The Replen Manager task contains the following steps:

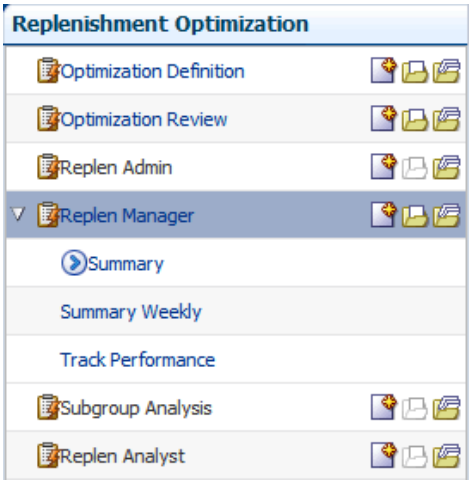
- Summary Step
- Summary Weekly Step
- Track Performance Step

Replen Manager Wizard

To create a Replen Manager workbook, perform the following:

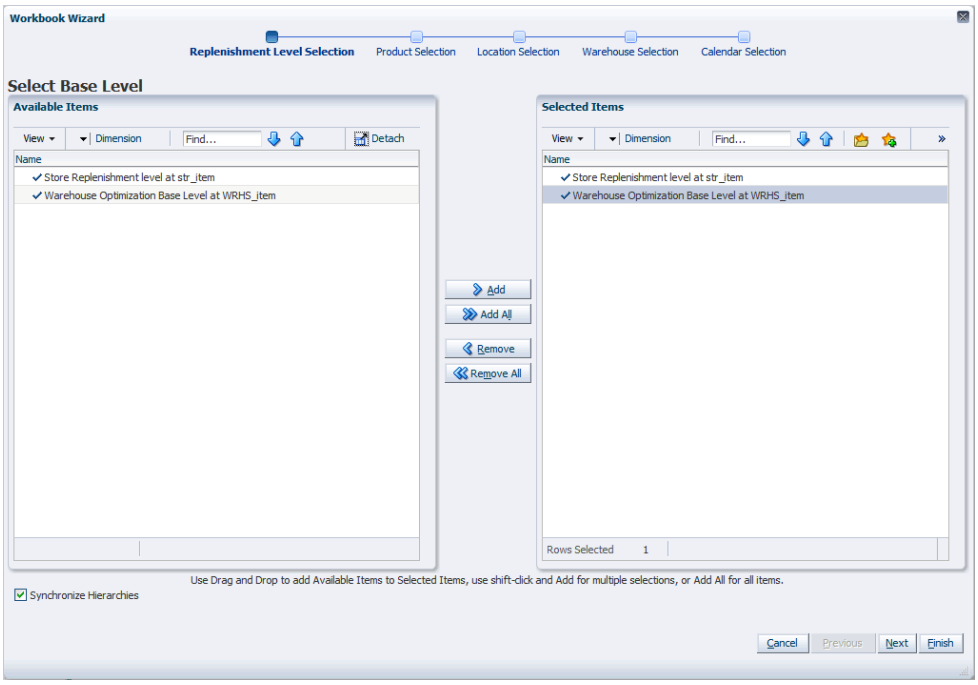
1. Click the Create New Workbook icon in the Replen Manager task.

Figure 5–1 Creating a New Replenishment Manager Workbook



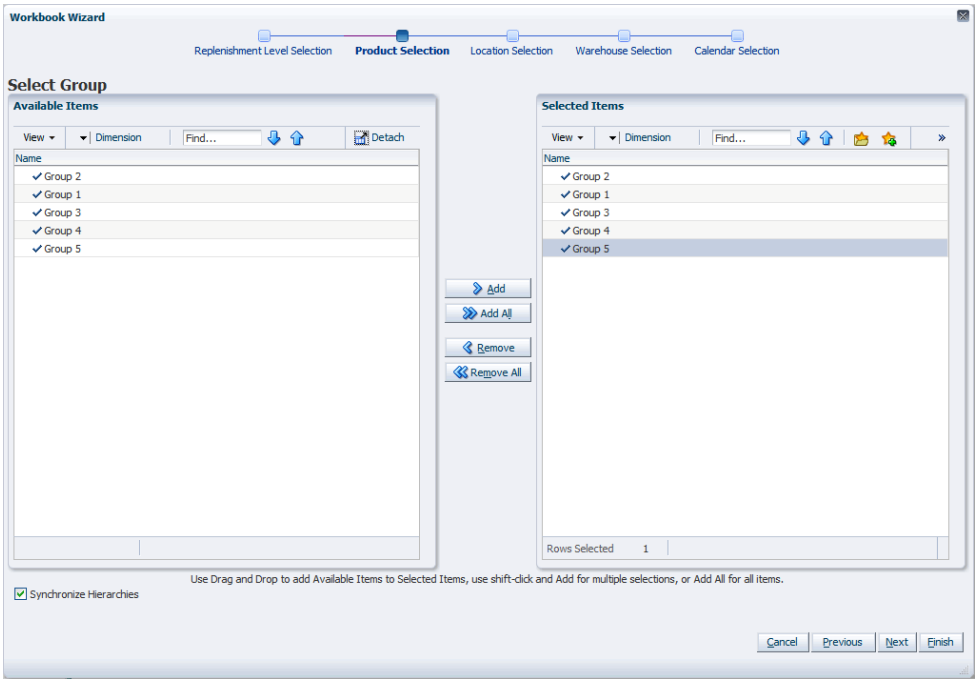
2. The Select Base Level window opens. Select either or both the store level (SL) or the warehouse level (WL) and click **Next**.

Figure 5–2 Select Base Level



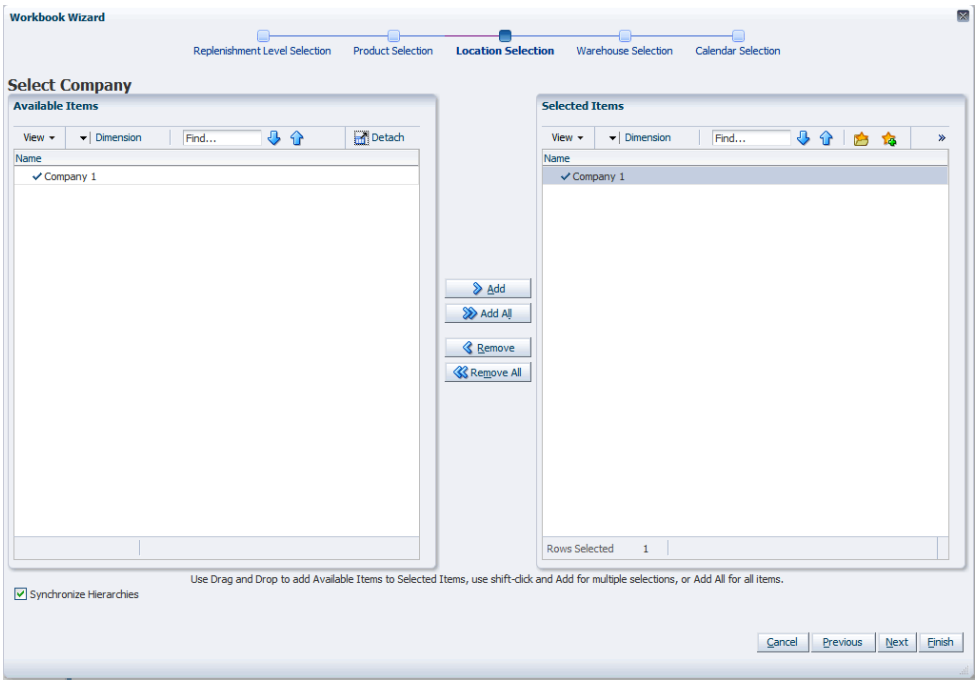
3. The Select Group window opens. Select the groups to appear in the workbook and click **Next**.

Figure 5–3 Select Group



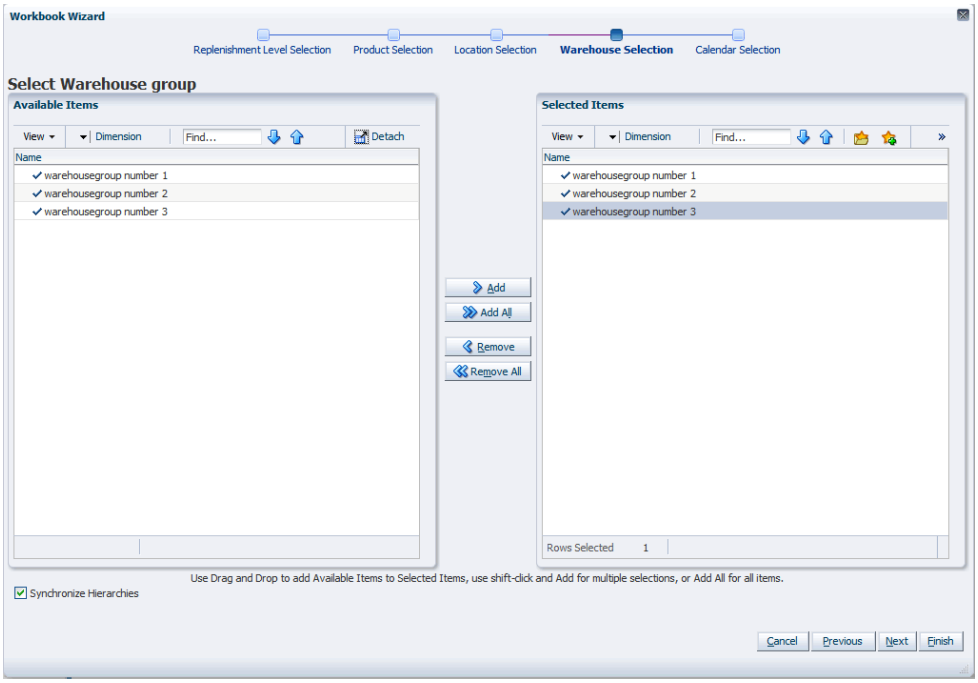
4. The Select Company window opens. Select the companies to appear in the workbook and click **Next**.

Figure 5–4 Select Company



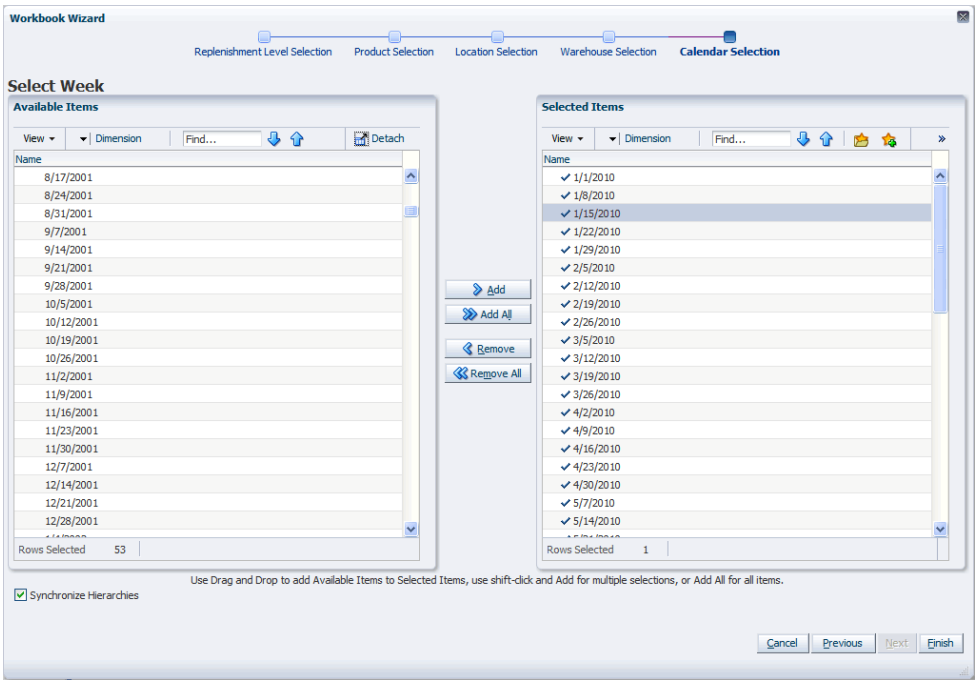
5. The Select Warehouse Group window opens. Select the warehouse locations to appear in the workbook and click **Next**.

Figure 5–5 Select Warehouse Group



6. The Select Warehouse Group window opens. Select the weeks to appear in the workbook and click **Finish**.

Figure 5–6 Select Week



The Replen Manager workbook is built.

Summary Step

This step has the following views:

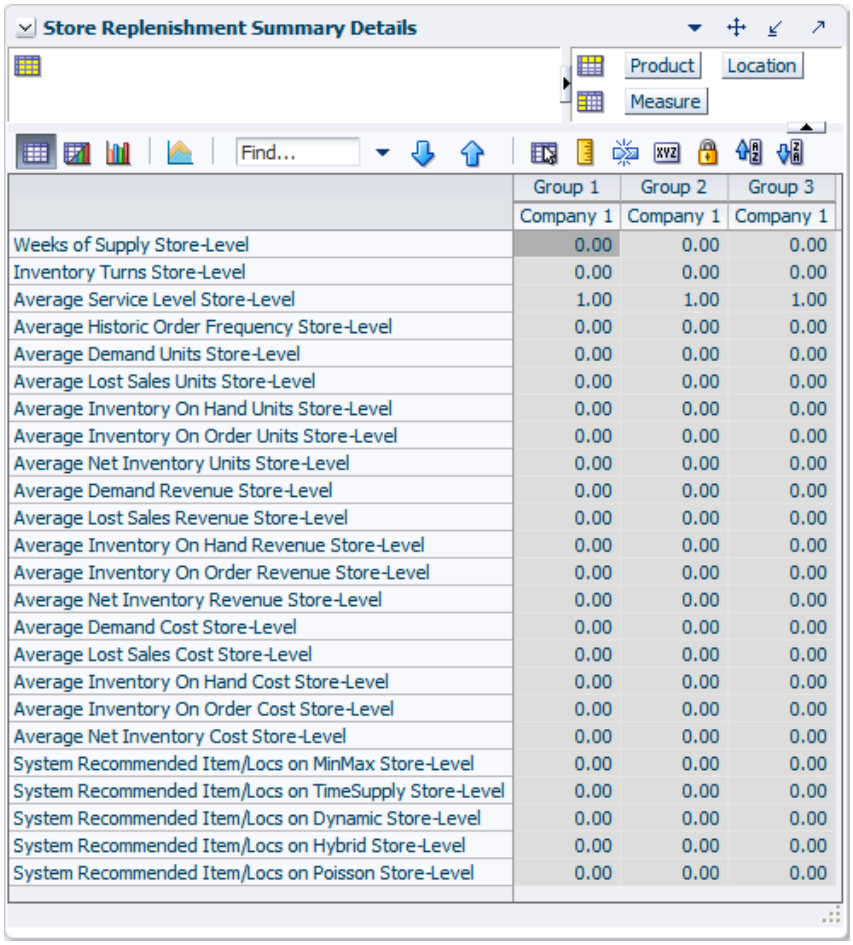
- Store Replenishment Summary Details View
- Warehouse Replenishment Summary Details View

The Summary views display the overall metrics of the approved plan.

Store Replenishment Summary Details View

This view displays a high level summary at the department/region level.

Figure 5–7 Store Replenishment Summary Details View



	Group 1	Group 2	Group 3
	Company 1	Company 1	Company 1
Weeks of Supply Store-Level	0.00	0.00	0.00
Inventory Turns Store-Level	0.00	0.00	0.00
Average Service Level Store-Level	1.00	1.00	1.00
Average Historic Order Frequency Store-Level	0.00	0.00	0.00
Average Demand Units Store-Level	0.00	0.00	0.00
Average Lost Sales Units Store-Level	0.00	0.00	0.00
Average Inventory On Hand Units Store-Level	0.00	0.00	0.00
Average Inventory On Order Units Store-Level	0.00	0.00	0.00
Average Net Inventory Units Store-Level	0.00	0.00	0.00
Average Demand Revenue Store-Level	0.00	0.00	0.00
Average Lost Sales Revenue Store-Level	0.00	0.00	0.00
Average Inventory On Hand Revenue Store-Level	0.00	0.00	0.00
Average Inventory On Order Revenue Store-Level	0.00	0.00	0.00
Average Net Inventory Revenue Store-Level	0.00	0.00	0.00
Average Demand Cost Store-Level	0.00	0.00	0.00
Average Lost Sales Cost Store-Level	0.00	0.00	0.00
Average Inventory On Hand Cost Store-Level	0.00	0.00	0.00
Average Inventory On Order Cost Store-Level	0.00	0.00	0.00
Average Net Inventory Cost Store-Level	0.00	0.00	0.00
System Recommended Item/Locs on MinMax Store-Level	0.00	0.00	0.00
System Recommended Item/Locs on TimeSupply Store-Level	0.00	0.00	0.00
System Recommended Item/Locs on Dynamic Store-Level	0.00	0.00	0.00
System Recommended Item/Locs on Hybrid Store-Level	0.00	0.00	0.00
System Recommended Item/Locs on Poisson Store-Level	0.00	0.00	0.00

Table 5–1 Store Replenishment Summary Details View Measures

Measure	Description
Inventory Performance Statistical Measures	
Weeks of Supply Store-Level	The number of Weeks of Supply or Weeks on-hand, calculated as Average Inventory On Hand Units divided by Average Demand Units. This measure is calculated by using the department/region level measures.
Inventory Turns Store-Level	Average Inventory Turns calculated as Average Demand Units over the last 52 weeks divided by Average Inventory On Hand Units the last 52 weeks. This measure is calculated by using the department/region level measures.
Average Service Level Store-Level	The percentage of demand that was met is calculated as 1 minus Average Lost Sales Units/Average Demand Units. This measure is calculated by using the department/region level measures.
Average Historic Order Frequency Store-Level	The average number of orders in a week. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Demand and Inventory Units Measures	
Average Demand Units Store-Level	The average demand in Revenue, obtained by multiplying Average Demand Units and Unit Price. Demand is calculated as historic sales plus historic Lost Sales. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Average Lost Sales Units Store-Level	The Average Lost Sales Revenue value. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Average Inventory On Hand Units Store-Level	The Average on-hand Inventory in revenue value. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Average Inventory On Order Units Store-Level	The Average On Order Inventory in revenue value. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Average Net Inventory Units Store-Level	The Average Net Inventory in revenue value. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Demand and Inventory Cost Measures	
Average Demand Revenue Store-Level	Average demand in cost, obtained by multiplying Average Demand Units by Unit Cost. Demand is calculated as historic sales plus historic Lost Sales. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Average Lost Sales Revenue Store-Level	Average Lost Sales cost. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Average Inventory On Hand Revenue Store-Level	The Average on-hand Inventory in cost. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Average Inventory On Order Revenue Store-Level	The Average On Order Inventory in cost. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.

Table 5–1 (Cont.) Store Replenishment Summary Details View Measures

Measure	Description
Average Net Inventory Revenue Store-Level	The Average Net Inventory in cost. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Number of Weeks for Stats Store-Level	The number of weeks in history over which the above statistics have been calculated. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Replenishment Settings Statistical Measures	
System Recommended Item/Locs on Dynamic Store-Level	The number of items/locations for which the System recommends the Dynamic Replenishment Method. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
System Recommended Item/Locs on Hybrid Store-Level	The number of items/locations for which the System recommends the Hybrid Replenishment Method. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
System Recommended Item/Locs on MinMax Store-Level	The number of items/locations for which the System recommends the MinMax Replenishment Method. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
System Recommended Item/Locs on Poisson Store-Level	The number of items/locations for which the System recommends the Poisson Replenishment Method. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
System Recommended Item/Locs on TimeSupply Store-Level	The number of items/locations for which the System recommends the Time Supply Replenishment Method. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
System Recommended Projected Average Inv OH Over Next Quarter Units Store-Level	Projected Average On-Hand Inventory units over the next quarter, based on system-recommended Replenishment settings. This measure represents the long-term steady state average on-hand Inventory, assuming current Inventory level is not too high or too low to drive long-term Inventory and Service levels. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
System Recommended Projected Lost Sales Units Over Next Quarter Units Store-Level	Projected Average Lost Sales over the next quarter, based on system-recommended Replenishment settings. This measure represents the long-term steady state Lost Sales, assuming current Inventory level is not too high or too low to drive long-term Inventory and Service levels. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
System Recommended Projected Average Service Level over next quarter Units Store-Level	Projected Average Service Level over the next quarter, based on system-recommended Replenishment settings. This measure represents the long-term steady state Service Level, assuming current Inventory level is not too high or too low to drive long-term Inventory and Service levels. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.

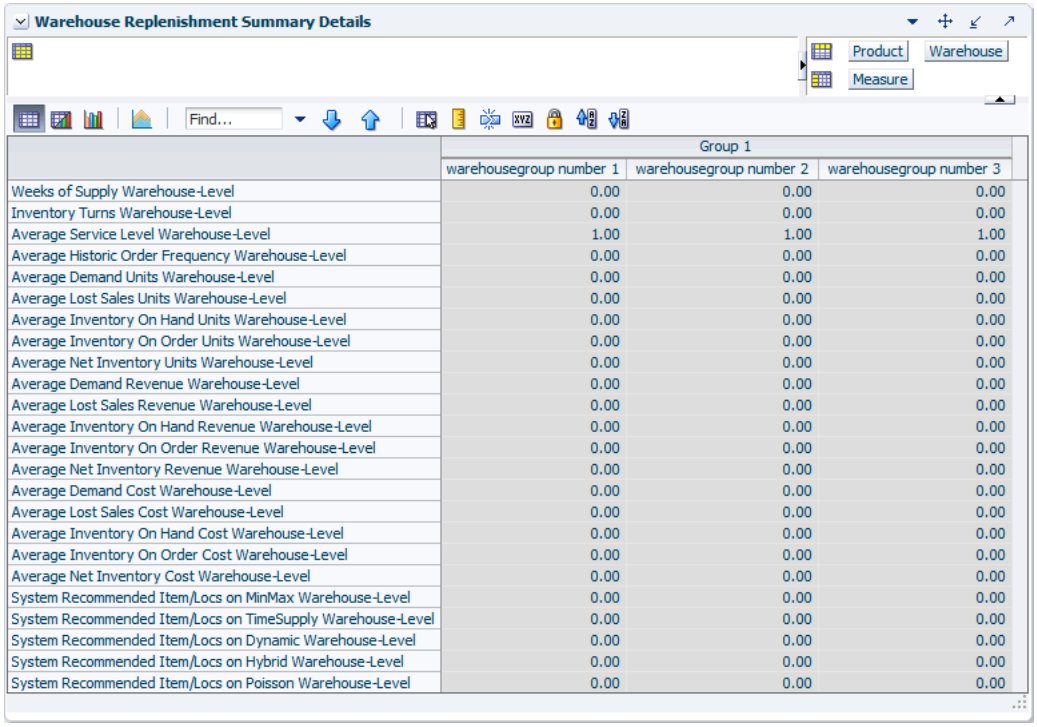
Table 5–1 (Cont.) Store Replenishment Summary Details View Measures

Measure	Description
System Recommended Projected Weeks of Supply over next quarter Store-Level	Projected Weeks of Supply over the next quarter, based on system-recommended Replenishment settings. The number of Weeks of Supply or Weeks on-hand is calculated as average on-hand Inventory divided by average Demand. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Working Projected Average Inv OH over next Quarter Units Store-Level	Projected Average on-hand Inventory units over the next quarter, based on Working Replenishment settings. This measure represents the long-term steady state average on-hand Inventory, assuming current inventory level is not too high or too low to drive long-term Inventory and Service levels. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Working Projected Average Lost Sales over next quarter Units Store-Level	Projected Average Lost Sales over the next quarter, based on Working Replenishment settings. This measure represents the long-term steady state Lost Sales, assuming current inventory level is not too high or too low to drive long-term Inventory and Service levels. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Working Projected Average Service Level over next quarter Store-Level	Projected Average Service Level over the next quarter, based on Working Replenishment settings. This measure represents the long-term steady state Service Level, assuming current inventory level is not too high or too low to drive long-term Inventory and Service levels. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.
Working Projected Weeks of Supply for next quarter Store-Level	Projected Weeks of Supply over the next quarter, based on Working Replenishment settings. The number of Weeks of Supply or Weeks on-hand is calculated as average on-hand Inventory divided by Average Demand. This measure is calculated by averaging at the item /store level for the past year and then summing up to the department/region level.

Warehouse Replenishment Summary Details View

This view displays a high level summary at the department/warehouse group level.

Figure 5–8 Warehouse Replenishment Summary Details View



	Group 1		
	warehousegroup number 1	warehousegroup number 2	warehousegroup number 3
Weeks of Supply Warehouse-Level	0.00	0.00	0.00
Inventory Turns Warehouse-Level	0.00	0.00	0.00
Average Service Level Warehouse-Level	1.00	1.00	1.00
Average Historic Order Frequency Warehouse-Level	0.00	0.00	0.00
Average Demand Units Warehouse-Level	0.00	0.00	0.00
Average Lost Sales Units Warehouse-Level	0.00	0.00	0.00
Average Inventory On Hand Units Warehouse-Level	0.00	0.00	0.00
Average Inventory On Order Units Warehouse-Level	0.00	0.00	0.00
Average Net Inventory Units Warehouse-Level	0.00	0.00	0.00
Average Demand Revenue Warehouse-Level	0.00	0.00	0.00
Average Lost Sales Revenue Warehouse-Level	0.00	0.00	0.00
Average Inventory On Hand Revenue Warehouse-Level	0.00	0.00	0.00
Average Inventory On Order Revenue Warehouse-Level	0.00	0.00	0.00
Average Net Inventory Revenue Warehouse-Level	0.00	0.00	0.00
Average Demand Cost Warehouse-Level	0.00	0.00	0.00
Average Lost Sales Cost Warehouse-Level	0.00	0.00	0.00
Average Inventory On Hand Cost Warehouse-Level	0.00	0.00	0.00
Average Inventory On Order Cost Warehouse-Level	0.00	0.00	0.00
Average Net Inventory Cost Warehouse-Level	0.00	0.00	0.00
System Recommended Item/Locs on MinMax Warehouse-Level	0.00	0.00	0.00
System Recommended Item/Locs on TimeSupply Warehouse-Level	0.00	0.00	0.00
System Recommended Item/Locs on Dynamic Warehouse-Level	0.00	0.00	0.00
System Recommended Item/Locs on Hybrid Warehouse-Level	0.00	0.00	0.00
System Recommended Item/Locs on Poisson Warehouse-Level	0.00	0.00	0.00

Table 5–2 Warehouse Replenishment Summary Details View Measures

Measure	Description
Inventory Performance Statistical Measures	
Weeks of Supply Warehouse Level	The number of Weeks of Supply or Weeks on-hand, calculated as average on-hand Inventory divided by Average Demand.
Inventory Turns Warehouse Level	Average Inventory Turns calculated as Sales over the last 52 weeks divided by average on-hand Inventory the last 52 weeks.
Average Service Level Warehouse Level	The percentage of demand that was met, calculated as Average Sales/Average Demand.
Average Historic Order Frequency Warehouse Level	The average number of orders in a week.
Demand and Inventory Units Measures	
Average Demand Revenue Warehouse Level	The average demand in Revenue, obtained by multiplying Average Demand Units by Unit Price. Demand is calculated as historic sales plus historic Lost Sales.
Average Lost Sales Revenue Warehouse Level	The Average Lost Sales Revenue value.
Average Inventory On Hand Revenue Warehouse Level	The Average on-hand Inventory in revenue value.
Average Inventory On Order Revenue Warehouse Level	The Average On Order Inventory in revenue value.

Table 5–2 (Cont.) Warehouse Replenishment Summary Details View Measures

Measure	Description
Average Net Inventory Revenue Warehouse Level	The Average Net Inventory in revenue value.
Demand and Inventory Cost Measures	
Average Demand Cost Warehouse Level	Average demand in cost, obtained by multiplying Average Demand Units and Unit Cost. Demand is calculated as historic sales plus historic Lost Sales.
Average Lost Sales Cost Warehouse Level	Average Lost Sales cost.
Average Inventory On Hand Cost Warehouse Level	The Average on-hand Inventory in cost.
Average Inventory On Order Cost Warehouse Level	The Average On Order Inventory in cost.
Average Net Inventory Cost Warehouse Level	The Average Net Inventory in cost.
Number of Weeks for Stats Warehouse Level	The number of weeks in history over which the above statistics have been calculated.
Replenishment Settings Statistical Measures	
System Recommended Item/Locs on Dynamic Warehouse Level	The number of items/locations for which the System recommends the Dynamic Replenishment Method.
System Recommended Item/Locs on Hybrid Warehouse Level	The number of items/locations for which the System recommends the Hybrid Replenishment Method.
System Recommended Item/Locs on MinMax Warehouse Level	The number of items/locations for which the System recommends the MinMax Replenishment Method.
System Recommended Item/Locs on Poisson Warehouse Level	The number of items/locations for which the System recommends the Poisson Replenishment Method.
System Recommended Item/Locs on TimeSupply Warehouse Level	The number of items/locations for which the System recommends the Time Supply Replenishment Method.
Projected Inventory and Service Level Statistics These measures provide projected statistics on Inventory, Service Level, and Lost Sales. The Working and System Recommended statistics allow the Manager to view the projected impacts of both statistical versions at the same time.	
System Recommended Projected Average Inv OH Over Next Quarter Units Warehouse Level	Projected Average On Hand Inventory units over the next quarter, based on system-recommended Replenishment settings. This measure represents the long-term steady state average on-hand Inventory, assuming current Inventory level is not too high or too low to drive long-term Inventory and Service levels.
System Recommended Projected Lost Sales Units Over Next Quarter Units Warehouse Level	Projected Average Lost Sales over the next quarter, based on system-recommended Replenishment settings. This measure represents the long-term steady state Lost Sales, assuming current Inventory level is not too high or too low to drive long-term Inventory and Service levels.
System Recommended Projected Average Service Level over next quarter Units Warehouse Level	Projected Average Service Level over the next quarter, based on system-recommended Replenishment settings. This measure represents the long-term steady state Service Level, assuming current Inventory level is not too high or too low to drive long-term Inventory and Service levels.

Table 5–2 (Cont.) Warehouse Replenishment Summary Details View Measures

Measure	Description
System Recommended Projected Weeks of Supply over next quarter Warehouse Level	Projected Weeks of Supply over the next quarter, based on system-recommended Replenishment settings. The number of Weeks of Supply or Weeks on-hand is calculated as average on-hand Inventory divided by average Demand.
Working Projected Average Inv OH over next Quarter Units Warehouse Level	Projected Average on-hand Inventory units over the next quarter, based on Working Replenishment settings. This measure represents the long-term steady state average on-hand Inventory, assuming current Inventory level is not too high or too low to drive long-term Inventory and Service levels.
Working Projected Average Lost Sales over next quarter Units Warehouse Level	Projected Average Lost Sales over the next quarter, based on Working replenishment settings. This measure represents the long-term steady state Lost Sales, assuming current Inventory level is not too high or too low to drive long-term Inventory and Service levels.
Working Projected Average Service Level over next quarter Warehouse Level	Projected Average Service Level over the next quarter, based on Working replenishment settings. This measure represents the long-term steady state Service Level, assuming current Inventory level is not too high or too low to drive long-term Inventory and Service levels.
Working Projected Weeks of Supply for next quarter Warehouse Level	Projected Weeks of Supply over the next quarter, based on Working replenishment settings. The number of Weeks of Supply or Weeks on-hand is calculated as average on-hand Inventory divided by Average Demand.

Summary Weekly Step

This step has the following views:

- Store Replenishment Summary Weekly View
- Warehouse Replenishment Summary Weekly View

These views provide weekly information to help Replenishment Managers track inventory movement.

Store Replenishment Summary Weekly View

This view displays a high level weekly summary at the department/region level.

Figure 5–9 Store Replenishment Summary Weekly View

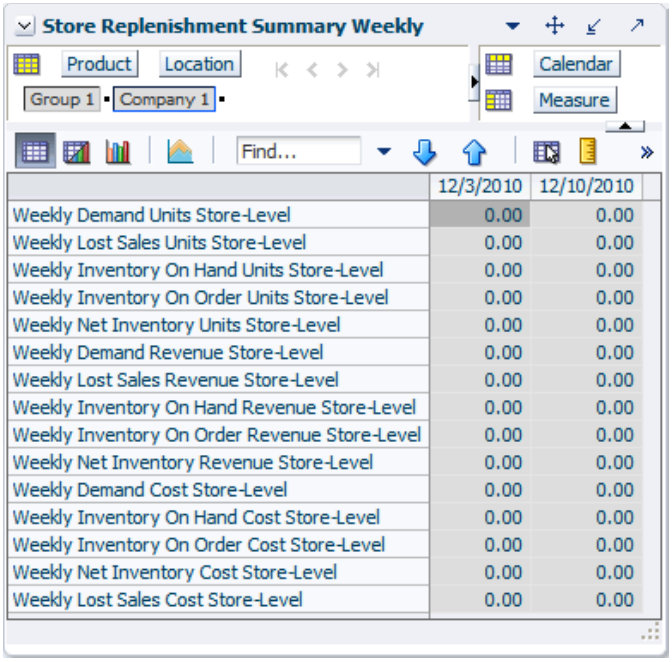


Table 5–3 Store Replenishment Summary Weekly View Measures

Measure	Description
Weekly Demand Units Store Level	The Weekly Demand Units value.
Weekly Lost Sales Units Store Level	The Weekly Lost Sales Units value.
Weekly Inventory On Hand Units Store Level	The Weekly on-hand Inventory Units value.
Weekly Inventory On Order Units Store Level	The Weekly On Order Inventory Units value.
Weekly Net Inventory Units Store Level	The Weekly Net Inventory Units value.
Weekly Demand Revenue Store Level	The Weekly Demand Revenue value.
Weekly Lost Sales Revenue Store Level	The Weekly Lost Sales Revenue value.
Weekly Inventory On Hand Revenue Store Level	The Weekly on-hand Inventory Revenue value.
Weekly Inventory On Order Revenue Store Level	The Weekly On Order Inventory Revenue value.
Weekly Net Inventory Revenue Store Level	The Weekly Net Inventory Revenue value.
Weekly Demand Cost Store Level	The Weekly Demand Cost value.

Table 5–3 (Cont.) Store Replenishment Summary Weekly View Measures

Measure	Description
Weekly Lost Sales Cost Store Level	The Weekly Lost Sales Cost value.
Weekly Inventory On Hand Cost Store Level	The Weekly on-hand Inventory Cost value.
Weekly Inventory On Order Cost Store Level	The Weekly On Order Inventory Cost value.
Weekly Net Inventory Cost Store Level	The Weekly Net Inventory Cost value.

Warehouse Replenishment Summary Weekly View

This view displays a high level weekly summary at the department/warehouse group level.

Figure 5–10 Warehouse Replenishment Summary Weekly View

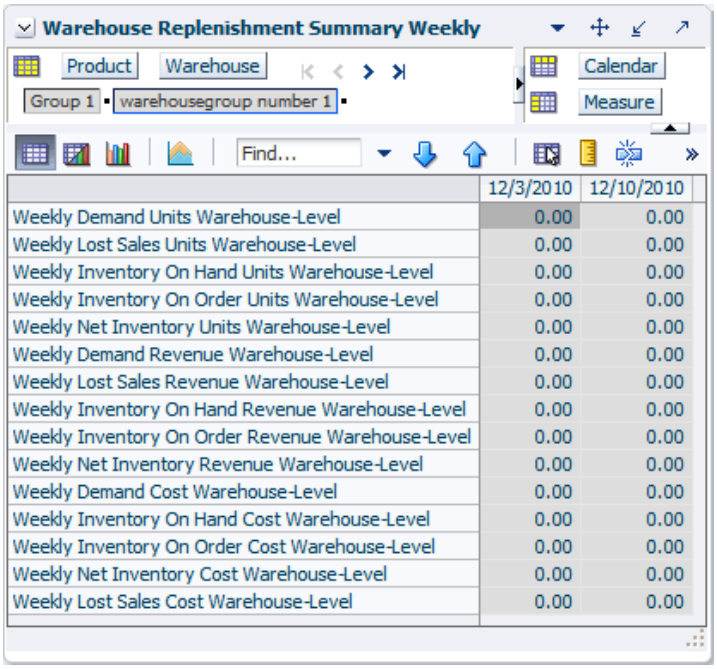


Table 5–4 Warehouse Replenishment Summary Weekly View Measures

Measure	Description
Weekly Demand Units Warehouse Level	The Weekly Demand Units value.
Weekly Lost Sales Units Warehouse Level	The Weekly Lost Sales Units value.
Weekly Inventory On Hand Units Warehouse Level	The Weekly on-hand Inventory Units value.
Weekly Inventory On Order Units Warehouse Level	The Weekly On Order Inventory Units value.
Weekly Net Inventory Units Warehouse Level	The Weekly Net Inventory Units value.
Weekly Demand Revenue Warehouse Level	The Weekly Demand Revenue value.
Weekly Lost Sales Revenue Warehouse Level	The Weekly Lost Sales Revenue value.
Weekly Inventory On Hand Revenue Warehouse Level	The Weekly on-hand Inventory Revenue value.
Weekly Inventory On Order Revenue Warehouse Level	The Weekly On Order Inventory Revenue value.
Weekly Net Inventory Revenue Warehouse Level	The Weekly Net Inventory Revenue value.

Table 5–4 (Cont.) Warehouse Replenishment Summary Weekly View Measures

Measure	Description
Weekly Demand Cost Warehouse Level	The Weekly Demand Cost value.
Weekly Lost Sales Cost Warehouse Level	The Weekly Lost Sales Cost value.
Weekly Inventory On Hand Cost Warehouse Level	The Weekly on-hand Inventory Cost value.
Weekly Inventory On Order Cost Warehouse Level	The Weekly On Order Inventory Cost value.
Weekly Net Inventory Cost Warehouse Level	The Weekly Net Inventory Cost value.

Track Performance Step

The Track Performance step allows Replenishment Managers to see how their Inventory is tracking against Optimal Inventory and Service level recommendations made by RO. The statistics displayed in this view are by subgroup, which is the level at which RO recommendations are specified during the configuration process. It is important to note that most of these statistics are also displayed in other workbooks/views, but the statistics here are by subgroup as opposed to by item/location or department/location.

This step has the following views:

- Store Replenishment Track Performance View
- Warehouse Replenishment Track Performance View

Store Replenishment Track Performance View

This view displays the subgroup performance at the department/region level.

Figure 5–11 Store Replenishment Track Performance View

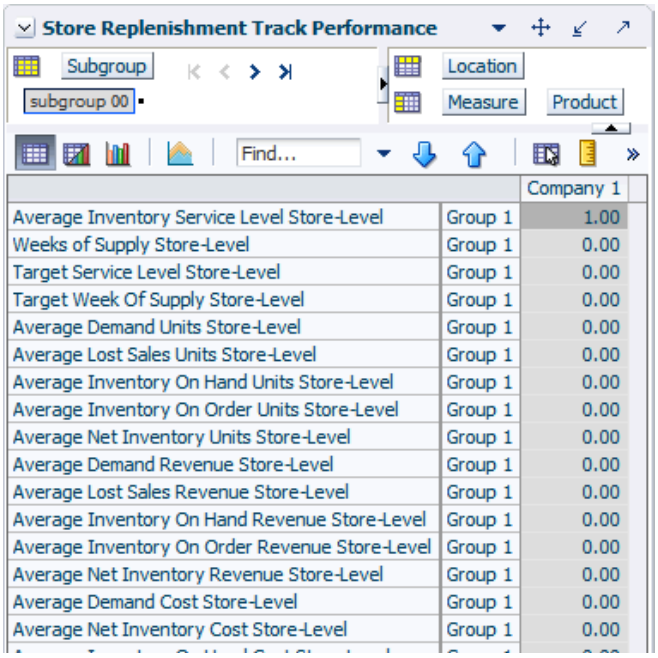


Table 5–5 Store Replenishment Track Performance View Measures

Measure	Description
Inventory Performance Measures	
Average Inventory Service Level Store Level	The percentage of demand that was met. Calculated as historic Average Sales/Average Demand over the last year.
Weeks of Supply Store Level	The number of Weeks of Supply or Weeks on-hand, calculated as average on-hand Inventory divided by Average Demand over the last year.
Target Service Level Store Level	The target optimal Service Level recommended by RO for this subgroup.
Target Weeks of Supply Store Level	The target optimal Weeks of Supply recommended by RO for this subgroup.
Demand and Inventory Units Measures	
Average Demand Units Store Level	The Average Demand in units for this subgroup over the last year. Demand is calculated as historic sales plus historic Lost Sales.
Average Lost Sales Units Store Level	The Average Lost Sale in units for this subgroup over the last year.
Average Inventory On Hand Units Store Level	The Average on-hand Inventory in units.
Average Inventory On Order Units Store Level	The Average On Order Inventory in units.
Average Net Inventory Units Store Level	The Average Net Inventory in units.
Demand and Inventory Revenue Measures	
Average Demand Revenue Store Level	The Average Demand in Revenue for this subgroup over the last year. Demand is calculated as historic sales plus historic Lost Sales.
Average Lost Sales Revenue Store Level	The Average Lost Sale in Revenue for this subgroup over the last year.
Average Inventory On Hand Revenue Store Level	The Average on-hand Inventory in Revenue value.
Average Inventory On Order Revenue Store Level	The Average On Order Inventory in Revenue value.
Average net Inventory Revenue Store Level	The Average Net Inventory in Revenue value.
Demand and Inventory Cost Measures	
Average Demand Cost Store Level	The Average Demand in Cost for this subgroup over the last year. Demand is calculated as historic sales plus historic Lost Sales.
Average Net Inventory Cost Store Level	The Average Net Inventory in Cost value.
Average Inventory On Hand Cost Store Level	The Average on-hand Inventory in Cost value.
Average Inventory On Order Cost Store Level	The Average On Order Inventory in Cost value.
Average Lost Sales Cost Store Level	The Average Lost Sale in Cost for this subgroup over the last year.
Manager Comment Measure	
Manager Comment Store Level	This is a writable measure that allows the Replenishment Manager to enter comments on the performance of the subgroup. These comments can be reviewed by the Replenishment Analyst in the Replenishment Analyst Workbook at an item/location level.

Warehouse Replenishment Track Performance View

This view displays the subgroup performance at the department/warehouse group level.

Figure 5–12 Warehouse Replenishment Track Performance View

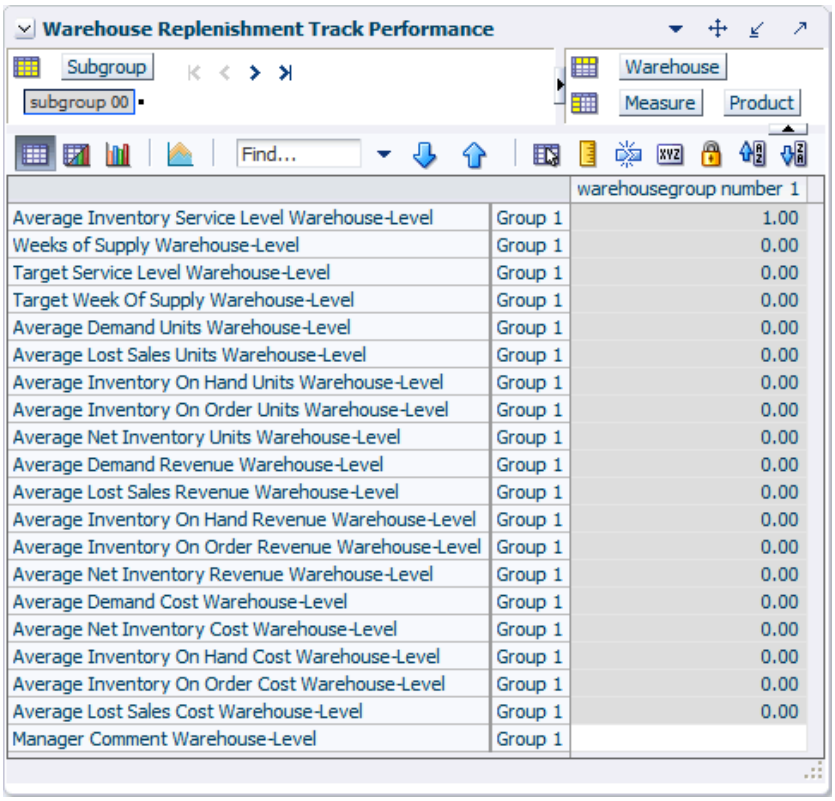


Table 5–6 Warehouse Replenishment Track Performance View Measures

Measure	Description
Inventory Performance Measures	
Average Inventory Service Level Warehouse Level	The percentage of demand that was met. Calculated as historic Average Sales/Average Demand over the last year.
Weeks of Supply Warehouse Level	The number of Weeks of Supply or Weeks on-hand, calculated as average on-hand Inventory divided by Average Demand over the last year.
Target Service Level Warehouse Level	The target optimal Service Level recommended by RO for this subgroup.
Target Weeks of Supply Warehouse Level	The target optimal Weeks of Supply recommended by RO for this subgroup.
Demand and Inventory Units Measures	
Average Demand Units Warehouse Level	The average demand in units for this subgroup over the last year. Demand is calculated as historic sales plus historic Lost Sales.
Average Lost Sales Units Warehouse Level	The Average Lost Sale in units for this subgroup over the last year.
Average Inventory On Hand Units Warehouse Level	The Average on-hand Inventory in units.

Table 5–6 (Cont.) Warehouse Replenishment Track Performance View Measures

Measure	Description
Average Inventory On Order Units Warehouse Level	The Average On Order Inventory in units.
Average Net Inventory Units Warehouse Level	The Average Net Inventory in units.
Demand and Inventory Revenue Measures	
Average Demand Revenue Warehouse Level	The Average Demand in Revenue for this subgroup over the last year. Demand is calculated as historic sales plus historic Lost Sales.
Average Lost Sales Revenue Warehouse Level	The Average Lost Sale in Revenue for this subgroup over the last year.
Average Inventory On Hand Revenue Warehouse Level	The Average on-hand Inventory in Revenue value.
Average Inventory On Order Revenue Warehouse Level	The Average On Order Inventory in Revenue value.
Average net Inventory Revenue Warehouse Level	The Average Net Inventory in Revenue value.
Demand and Inventory Cost Measures	
Average Demand Cost Warehouse Level	The Average Demand in Cost for this subgroup over the last year. Demand is calculated as historic sales plus historic Lost Sales.
Average Net Inventory Cost Warehouse Level	The Average Net Inventory in Cost value.
Average Inventory On Hand Cost Warehouse Level	The Average on-hand Inventory in Cost value.
Average Inventory On Order Cost Warehouse Level	The Average On Order Inventory in Cost value.
Average Lost Sales Cost Warehouse Level	The Average Lost Sale in Cost for this subgroup over the last year.
Manager Comment Measure	
Manager Comment Warehouse Level	This is a writable measure that allows the Replenishment Manager to enter comments on the performance of the subgroup. These comments can be reviewed by the Replenishment Analyst in the Replenishment Analyst Workbook at an item/location level.

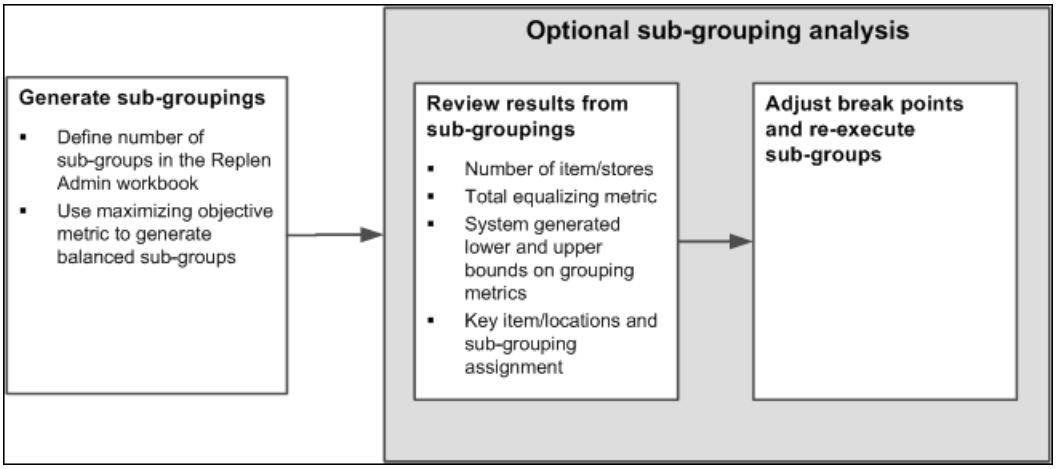
6

Subgroup Analysis Workbook

This chapter describes the Subgroup Analysis workbook, which enables you to dynamically alter the subgroup parameters to analyze and refine the subgroup parameters prior to full mode batch process. The modified subgroup parameters can be committed back to the domain to be used in the next batch. Any change to the subgroup parameters means that the approved optimization parameters in the domain are out of date. A full mode batch process needs to be rerun and reapproved before any refresh mode batch process is invoked.

The user process flow of the Subgroup Analysis workbook is shown in Figure 6–1.

Figure 6–1 Subgroup Analysis Workbook User Process Flow



The Subgroup Analysis workbook contains the following steps:

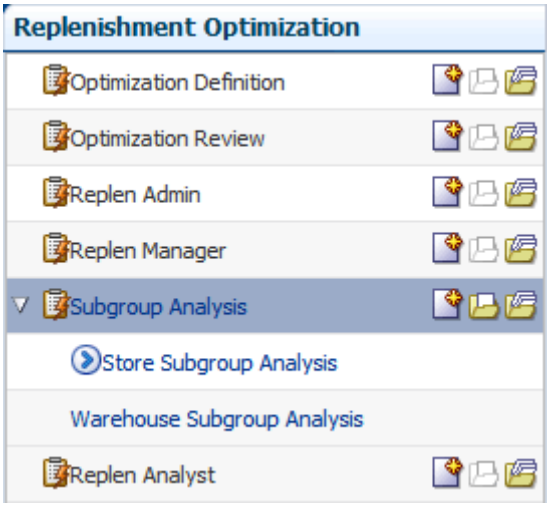
- Store Subgroup Analysis Step
- Warehouse Subgroup Analysis Step

Subgroup Analysis Wizard

To create a Subgroup Analysis workbook, perform the following:

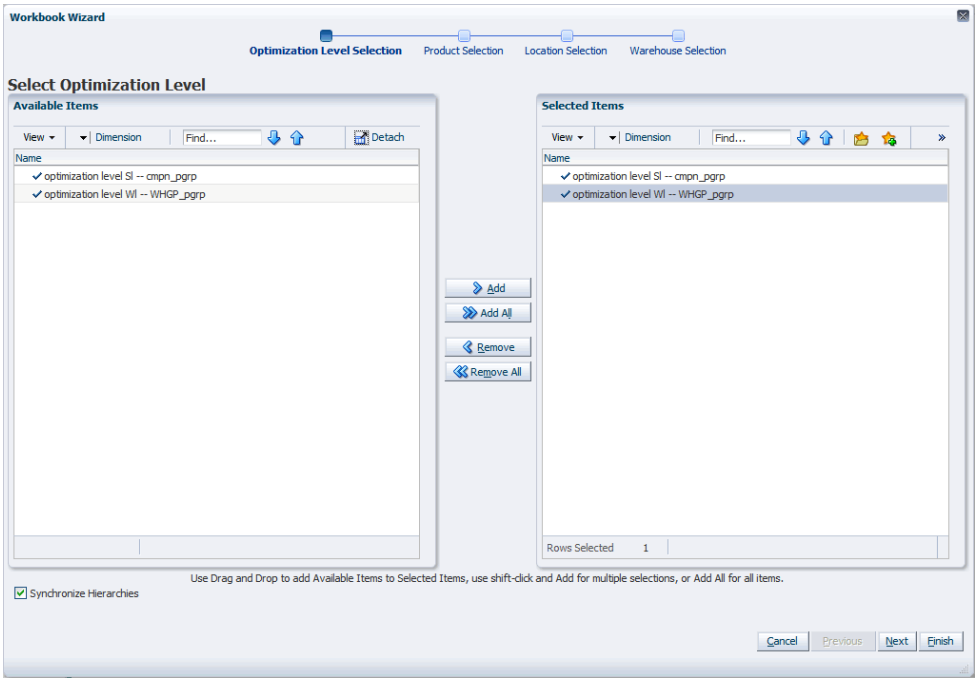
1. Click the Create New Workbook icon in the Subgroup Analysis task.

Figure 6–2 Creating a New Subgroup Analysis Workbook



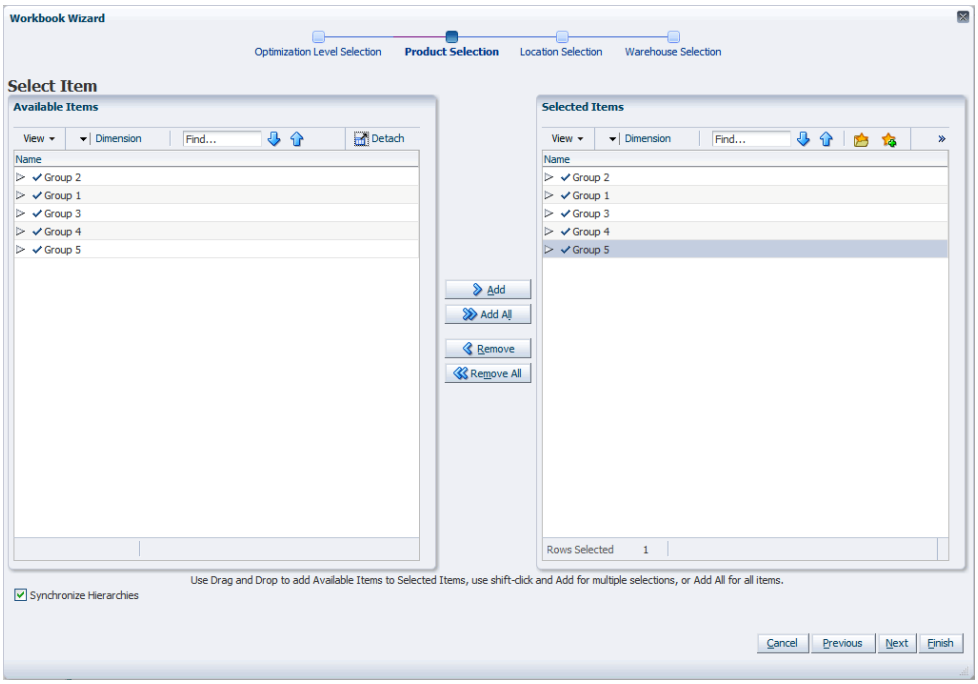
2. The Select Optimization Level window opens. Select either or both the warehouse (SL) or the warehouse level (WL) and then click **Next**.

Figure 6–3 Select Optimization Level



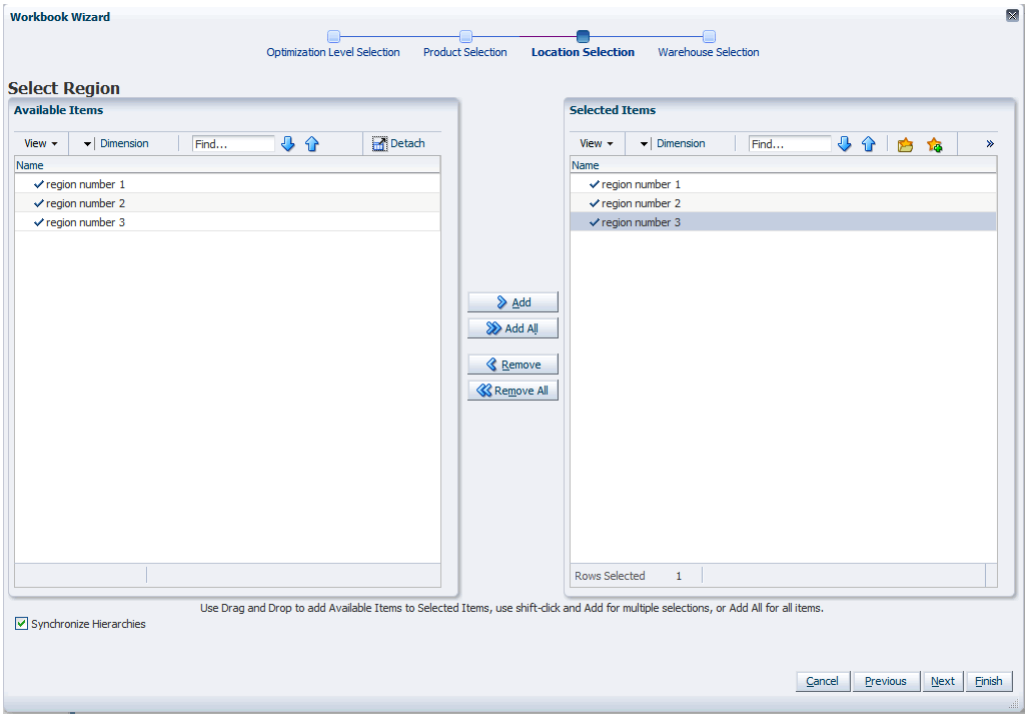
3. The Select Item window opens. Select the items to be displayed in the workbook and click **Next**.

Figure 6–4 Select Item



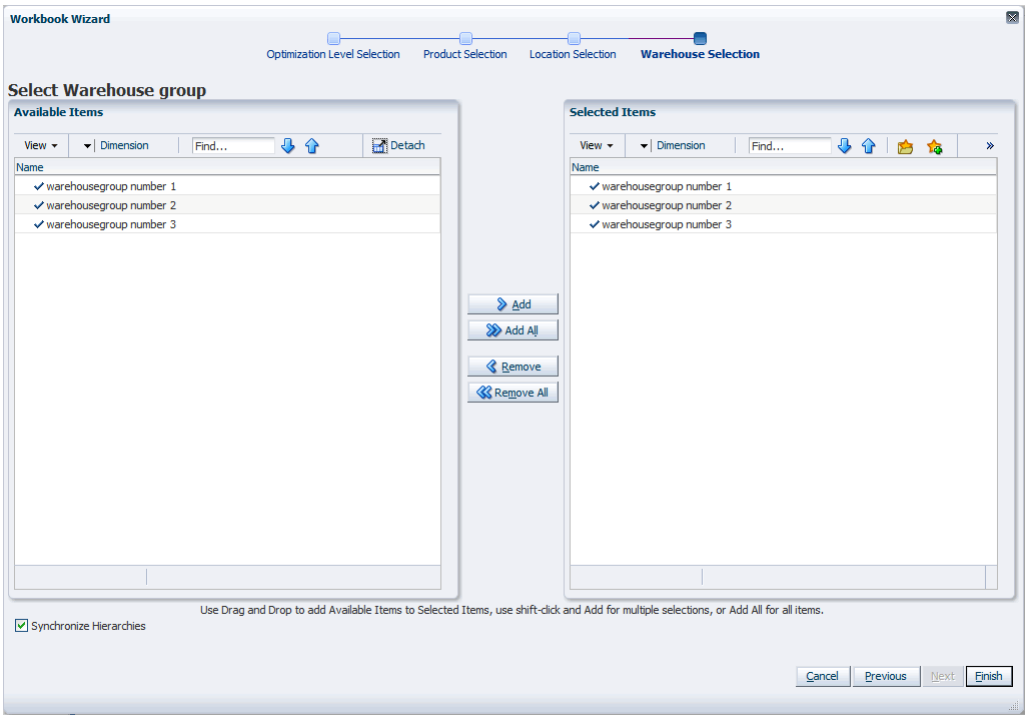
4. The Select Region window opens. Select the regions to be displayed in the workbook and click **Next**.

Figure 6–5 Select Region



5. The Select Warehouse Group window opens. Select the warehouses to be displayed in the workbook and click **Finish**.

Figure 6–6 Select Warehouse Group



The Subgroup Analysis workbook is built.

Store Subgroup Analysis Step

The Store Subgroup Analysis step contains the following views:

- Review Base Level in Subgroups for Store Optimization View
- Review Subgrouping Results for Store Optimization View
- User Breakpoint Overrides for Store Optimization View
- Subgroup Criteria for Store Optimization View

Review Base Level in Subgroups for Store Optimization View

This view enables you to review the subgrouping information for the items/stores in the departments/regions that were selected in the wizard. This view is read-only.

Figure 6–7 shows the worksheet at the item/store intersection.

Figure 6–7 Review Base Level in Subgroups for Store Optimization View

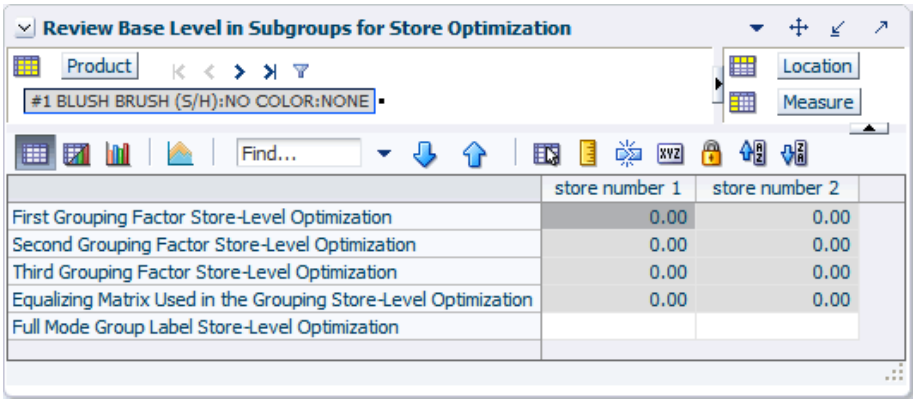


Table 6–1 Review Base level in Subgroupings for Store Optimization View Measures

Measure	Description
Equalizing Matrix Used in the Grouping Store Level Optimization	The value of the equalizing matrix used in subgrouping.
Full Mode Group Label Store Level Optimization	Displays the label of the subgroup that the item/store belongs to.
First Grouping Factor Store Level Optimization	The value of grouping factor 1.
Second Grouping Factor Store Level Optimization	The value of grouping factor 2.
Third Grouping Factor Store Level Optimization	The value of grouping factor 3.

Review Subgrouping Results for Store Optimization View

This view enables you to review the subgrouping results from the full mode batch run. Only valid subgroups are displayed. All measures, except SubGroup Labels, are read-only.

Figure 6–8 shows the worksheet at the department/region/subgroup intersection.

Figure 6–8 Review Subgrouping Results for Store Optimization View

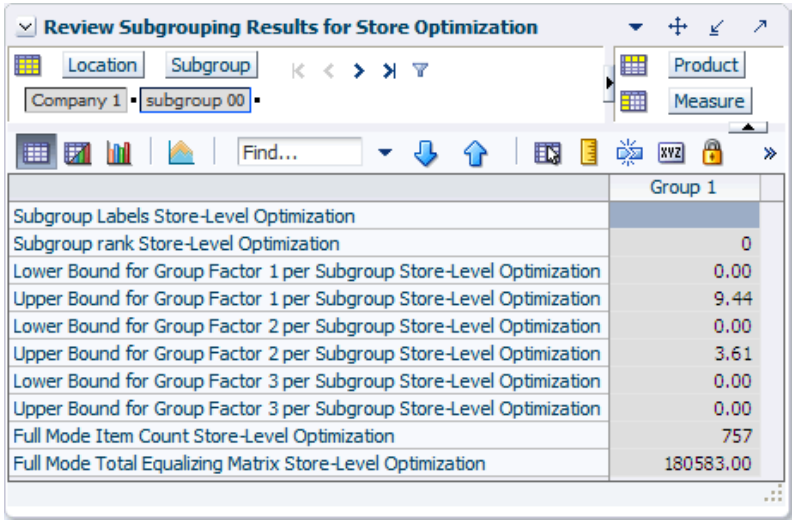


Table 6–2 Review Subgrouping Results for Store Optimization View Measures

Measure	Description
Full Mode Item Count Per Subgroup Store Level Optimization	The number of item/stores for the subgroup.
Lowerbound for Group Factor1 per Sbgroup Store Level Optimization	The lower bound of the grouping factor1 for the subgroup.
Lowerbound for Group Factor2 per Sbgroup Store Level Optimization	The lower bound of the grouping factor2 for the subgroup.
Lowerbound for Group Factor3 per Sbgroup Store Level Optimization	The lower bound of the grouping factor3 for the subgroup.
SubGroup Labels Store Level Optimization	User-defined label of the subgroup.
Subgroup Rank Store Level Optimization	Ranking of the subgroups for each department/region.
Full Mode Total Equalizing Matrix per Subgroup Store Level Optimization	The total of equalizing matrix for each subgroup.
Upperbound for Group factor1 per Subgroup Store Level Optimization	The upper bound of the grouping factor1 for the subgroup.
Upperbound for Group factor2 per Subgroup Store Level Optimization	The upper bound of the grouping factor2 for the subgroup.
Upperbound for Group factor3 per Subgroup Store Level Optimization	The upper bound of the grouping factor3 for the subgroup.

User Breakpoint Overrides for Store Optimization View

This view enables you to review and alter the breakpoint overrides.

Figure 6–9 shows the worksheet at the department/region/breakpoint intersection.

Figure 6–9 User Breakpoint Overrides for Store Optimization View

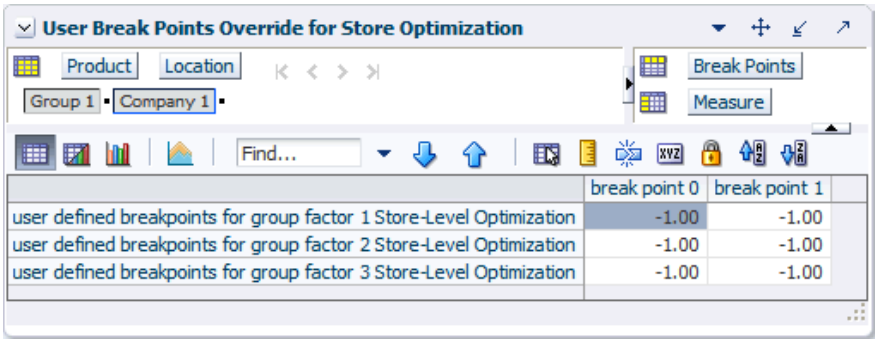


Table 6–3 User Breakpoint Overrides for Store Optimization View Measures

Measure	Description
User Defined Breakpoints for Group Factor 1 Store Level Optimization	The breakpoint for the grouping factor 1 for the department/region.
User Defined Breakpoints for Group Factor 2 Store Level Optimization	The breakpoint for the grouping factor 2 for the department/region.
User Defined Breakpoints for Group Factor 3 Store Level Optimization	The breakpoint for the grouping factor 3 for the department/region.

Subgroup Criteria for Store Optimization View

This view enables you to review the subgrouping criteria for a for a higher level intersection (such as department/region) and change it if necessary.

The number of total subgroupings for the higher level intersection cannot exceed 50. In other words, when entering the values for each of the # of Groups SubGrouping measures, the product of these three numbers cannot exceed 50. The first subgrouping takes priority over the second and third subgroupings, and the second subgrouping takes priority over the third.

If you enter a number in the second or third subgrouping measure that causes the product of the three numbers to exceed 50, an **Out of Range** message is displayed, which suggests a range of acceptable values.

If the values for each of the three subgroupings have already been calculated, and then you change the value of the first subgrouping to a number less than 50 that causes the product of the three measures to exceed 50, an out of range message does not appear. However, when you click **Calculate**, the Subgroup Setup Error Flag measure is selected and an error message is displayed in the Subgroup Setup Error Message measure.

Figure 6–10 shows the worksheet at the department/region intersection.

Figure 6–10 Subgroup Criteria for Store Optimization View

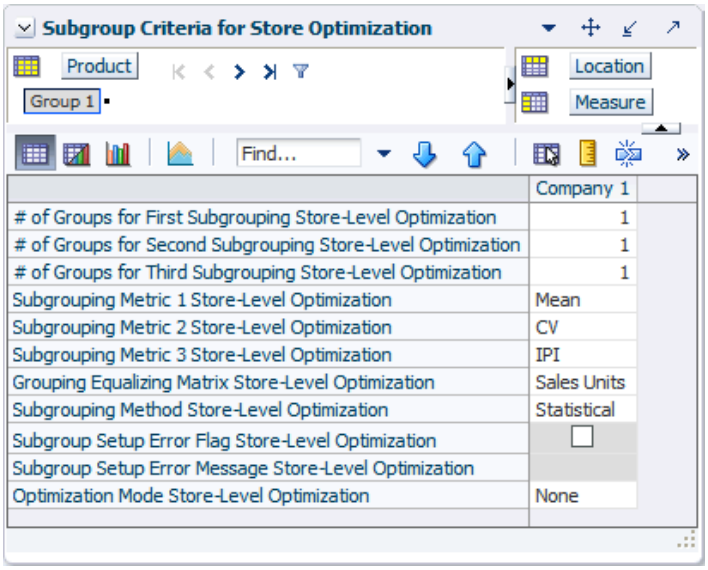


Table 6–4 Subgrouping Criteria View for Store Optimization Measures

Measure	Description
# of Groups for First SubGrouping Store Level Optimization	Specify the number of group for the first group factor. This is an integer measure based on the department/region.
# of Groups for Second SubGrouping Store Level Optimization	Specify the number of group for the second group factor. This is an integer measure based on the department/region.
# of Groups for Third SubGrouping Store Level Optimization	Specify the number of group for the third group factor. This is an integer measure based on the department/region.
Grouping Equalizing Matrix Store Level Optimization	Specify the equalizing matrix used in the statistical subgrouping. Options are Sales Units, Sales Revenue, and Gross Margin.
Subgroup Setup Error Flag Store Level Optimization	Boolean measure that indicates an error in the subgroup setup. A true value may be triggered by one of the # of Groups for Subgroupings measures being over the limit or by an incorrect setup of one of the SubGrouping Metric measures.
SubGrouping Method Store Level Optimization	The subgroup method used. Options are Breakpoints and Statistical.
SubGrouping Metric 1 Store Level Optimization	Specify the first grouping factor. Options are Mean, CV, and IPI.
SubGrouping Metric 2 Store Level Optimization	Specify the second grouping factor. This cannot be the same as SubGrouping Metric 1 or 3. Options are Mean, CV, and IPI.
SubGrouping Metric 3 Store Level Optimization	Specify the third grouping factor. This cannot be the same as SubGrouping Metric 1 or 2. Options are Mean, CV, and IPI.
Optimization Mode Store Level Optimization	Specifies the optimization type. Options are Full, Refresh, and None.
Subgroup Setup Error Message Store Level Optimization	Displays the message **resulting total subgroup number over limit**, if the number of subgroups is larger than the limit, which is 50.

Committing Subgroup Criteria

When you have modified the subgroup criteria, performed a what-if case to review the outcome of the modifications, and decided to use the new settings, you can commit them to the domain by selecting **Commit** in the **File** menu. Note that only the criteria for subgroupings is committed, not the arrangement of the item/stores within the subgroupings. The item/stores are not sorted into the new subgroupings until the next batch run.

Warehouse Subgroup Analysis Step

The Warehouse Subgroup Analysis step contains the following views:

- Review Base Level in Subgroups for Warehouse Optimization View
- Review Subgrouping Results for Warehouse Optimization View
- User Breakpoint Overrides for Warehouse Optimization View
- Subgroup Criteria for Warehouse Optimization View

Review Base Level in Subgroups for Warehouse Optimization View

This view enables you to review the subgrouping information for the items/warehouses in the department/warehouse groups that were selected in the wizard. This view is read-only.

Figure 6–11 shows the worksheet at the item/warehouse intersection.

Figure 6–11 Review Base Level in Subgroups for Warehouse Optimization View

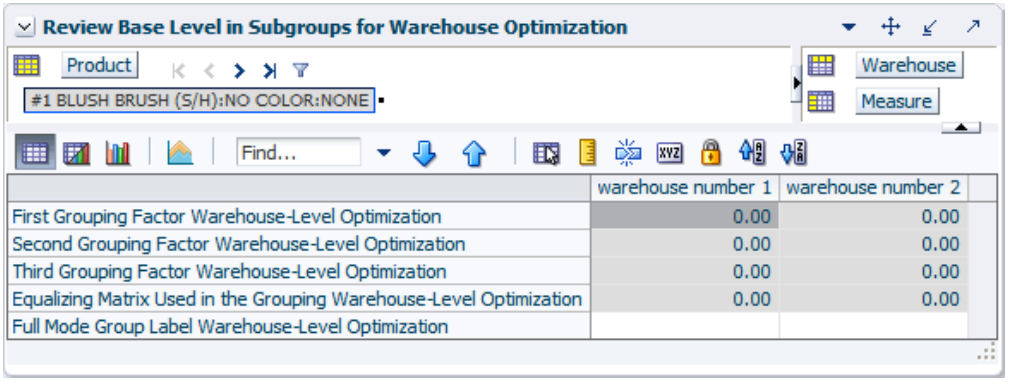


Table 6–5 Review Base Level in Subgroupings for Warehouse Optimization View Measures

Measure	Description
Equalizing Matrix Used in the Grouping Warehouse Level Optimization	The value of the equalizing matrix used in subgrouping.
Full Mode Group Label Warehouse Level Optimization	Displays the label of the subgroup that the item/warehouse belongs to.
First Grouping Factor Warehouse Level Optimization	The value of grouping factor 1.
Second Grouping Factor Warehouse Level Optimization	The value of grouping factor 2.
Third Grouping Factor Warehouse Level Optimization	The value of grouping factor 3.

Review Subgrouping Results for Warehouse Optimization View

This view enables you to review the subgrouping results from the full mode batch run. Only valid subgroups are displayed. All measures but SubGroup Labels are read-only.

Figure 6–12 shows the worksheet at the department/warehouse group/subgroup intersection.

Figure 6–12 Review Subgrouping Results for Warehouse Optimization View

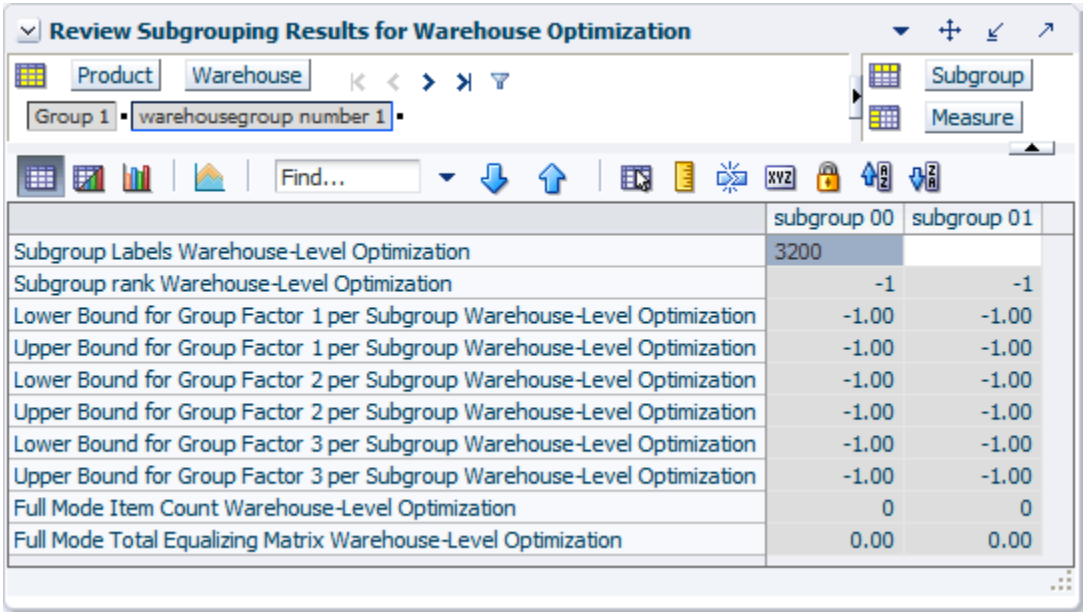


Table 6–6 Review Subgrouping Results for Warehouse Optimization View Measures

Measure	Description
Full Mode Item Count Per Subgroup Warehouse Level Optimization	The number of items/warehouses for the subgroup.
Lowerbound for Group Factor1 per Sbgroup Warehouse Level Optimization	The lower bound of the grouping factor1 for the subgroup.
Lowerbound for Group Factor2 per Sbgroup Warehouse Level Optimization	The lower bound of the grouping factor2 for the subgroup.
Lowerbound for Group Factor3 per Sbgroup Warehouse Level Optimization	The lower bound of the grouping factor3 for the subgroup.
SubGroup Labels Warehouse Level Optimization	User-defined label of the subgroup.
Subgroup Rank Warehouse Level Optimization	Ranks the subgroups for each department/warehouse group.
Full Mode Total Equalizing Matrix per Subgroup Warehouse Level Optimization	The total of equalizing matrix for each subgroup.
Upperbound for Group factor1 per Subgroup Warehouse Level Optimization	The upper bound of the grouping factor1 for the subgroup.
Upperbound for Group factor2 per Subgroup Warehouse Level Optimization	The upper bound of the grouping factor2 for the subgroup.
Upperbound for Group factor3 per Subgroup Warehouse Level Optimization	The upper bound of the grouping factor3 for the subgroup.

User Breakpoint Overrides for Warehouse Optimization View

This view enables you to review and alter the breakpoint overrides.

Figure 6–13 shows the worksheet at the department/region/breakpoint intersection.

Figure 6–13 User Breakpoint Overrides for Warehouse Optimization View

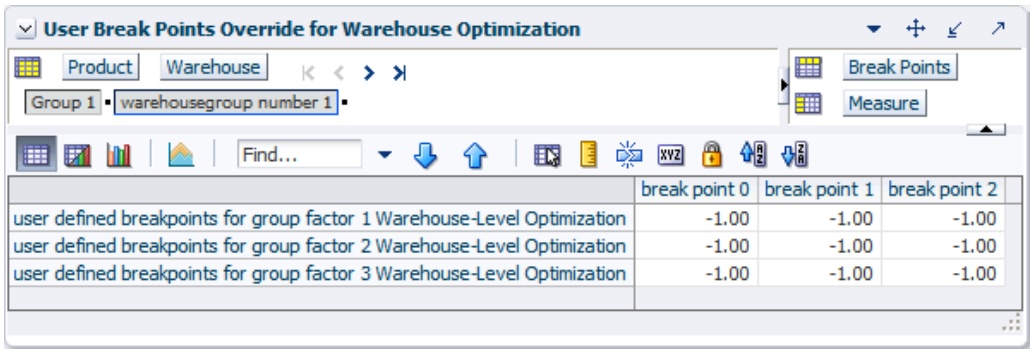


Table 6–7 User Breakpoint Overrides for Warehouse Optimization View Measures

Measure	Description
User Defined Breakpoints for Group Factor 1 Warehouse Level Optimization	The breakpoint for the grouping factor 1 for the department/warehouse group.
User Defined Breakpoints for Group Factor 2 Warehouse Level Optimization	The breakpoint for the grouping factor 2 for the department/warehouse group.
User Defined Breakpoints for Group Factor 3 Warehouse Level Optimization	The breakpoint for the grouping factor 3 for the department/warehouse group.

Subgroup Criteria for Warehouse Optimization View

This view enables you to review the subgrouping criteria for a higher level intersection (such as department/warehouse group) and change it if necessary.

The number of total subgroupings for the higher level intersection cannot exceed 50. In other words, when entering the values for each of the # of Groups SubGrouping measures, the product of these three numbers cannot exceed 50. The first subgrouping takes priority over the second and third subgroupings, and the second subgrouping takes priority over the third.

If you enter a number in the second or third subgrouping measure that causes the product of the three numbers to exceed 50, an **Out of Range** message is displayed, which suggests a range of acceptable values.

If the values for each of the three subgroupings have already been calculated, and then you change the value of the first subgrouping to a number less than 50 that causes the product of the three measures to exceed 50, an out of range message does not appear. However, when you click **Calculate**, the Subgroup Setup Error Flag measure is selected and an error message is displayed in the Subgroup Setup Error Message measure.

Figure 6–14 shows the worksheet at the department/warehouse group intersection.

Figure 6–14 Subgroup Criteria for Warehouse Optimization View

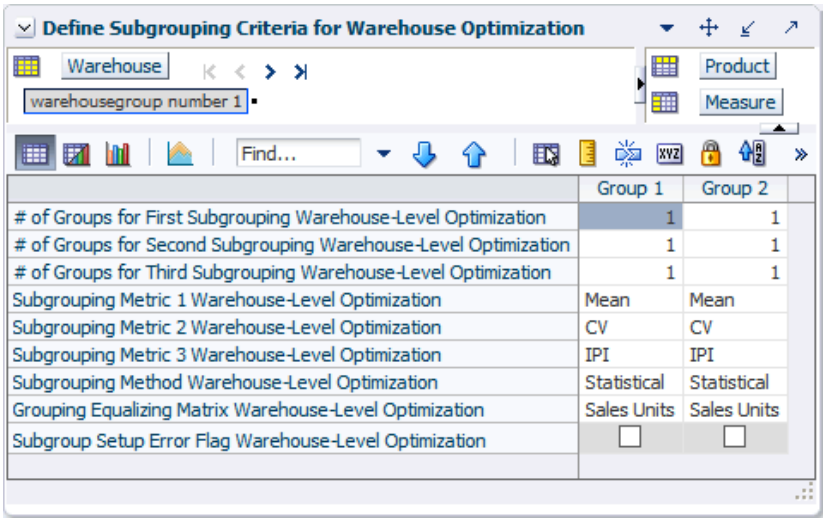


Table 6–8 Subgrouping Criteria View for Warehouse Optimization Measures

Measure	Description
# of Groups for First SubGrouping Warehouse Level Optimization	Specify the number of groups for the first group factor. This is an integer measure based on the department/warehouse group.
# of Groups for Second SubGrouping Warehouse Level Optimization	Specify the number of group for the second group factor. This is an integer measure based on the department/warehouse group.
# of Groups for Third SubGrouping Warehouse Level Optimization	Specify the number of group for the third group factor. This is an integer measure based on the department/warehouse group.
Grouping Equalizing Matrix Warehouse Level Optimization	Specify the equalizing matrix of the statistical subgrouping. Options are Sales Units, Sales Revenue, and Gross Margin.
Subgroup Setup Error Flag Warehouse Level Optimization	Indicates an error in the subgroup setup. A true value may be triggered by one of the # of Groups for Subgroupings measures being over the limit or by an incorrect setup of one of the SubGrouping Metric measures.
SubGrouping Method Warehouse Level Optimization	The subgroup method used; options are Breakpoints and Statistical.
SubGrouping Metric 1 Warehouse Level Optimization	Specify the first grouping factor. Options are Mean, CV, and IPI.
SubGrouping Metric 2 Warehouse Level Optimization	Specify the second grouping factor. It cannot be the same as SubGrouping Metric 1 or 3. Options are Mean, CV, and IPI.
SubGrouping Metric 3 Warehouse Level Optimization	Specify the third grouping factor. This cannot be the same as SubGrouping Metric 1 or 2. Options are Mean, CV, and IPI.
Optimization Mode Warehouse Level Optimization	Specifies the optimization type. Options are Full, Refresh, and None.
Subgroup Setup Error Message Warehouse Level Optimization	Displays the message, resulting total subgroup number over limit, if the number of subgroups is larger than the limit, which is 50.

7

Replenishment Analyst Workbook

The Replenishment Analyst workbook enables you to monitor replenishment performance and modify item/location level replenishment settings. This workbook also includes what-if capabilities, allowing you to view projected impact of Replenishment Settings on parameters such as Inventory, Order Points, Order Up-to Levels, and Service Level.

This workbook enables you to make an informed decision based on the impact of the changes in the Replenishment Settings. You have the option of applying System Recommended Settings, Previously Approved Settings, or Override with Special user input settings.

This workbook is intended to include all items/locations for which the Replenishment Analyst is responsible.

The Replenishment Analyst (Replen Analyst) workbook contains the following steps and views:

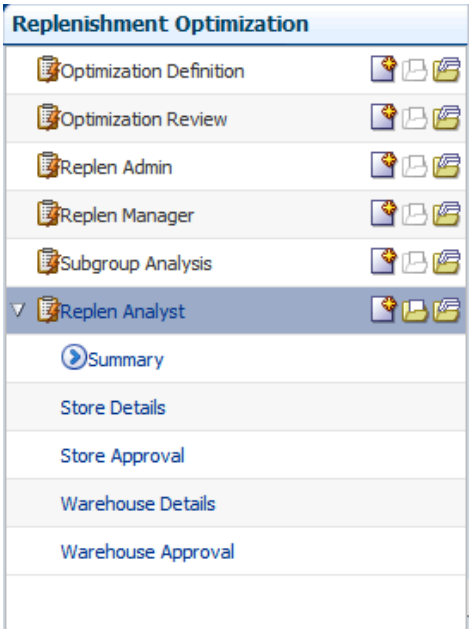
- Summary Step
- Store Details Step
- Store Approval Step
- Warehouse Details Step
- Warehouse Approval Step

Replen Analyst Wizard

To create a Replen Analyst workbook, perform the following:

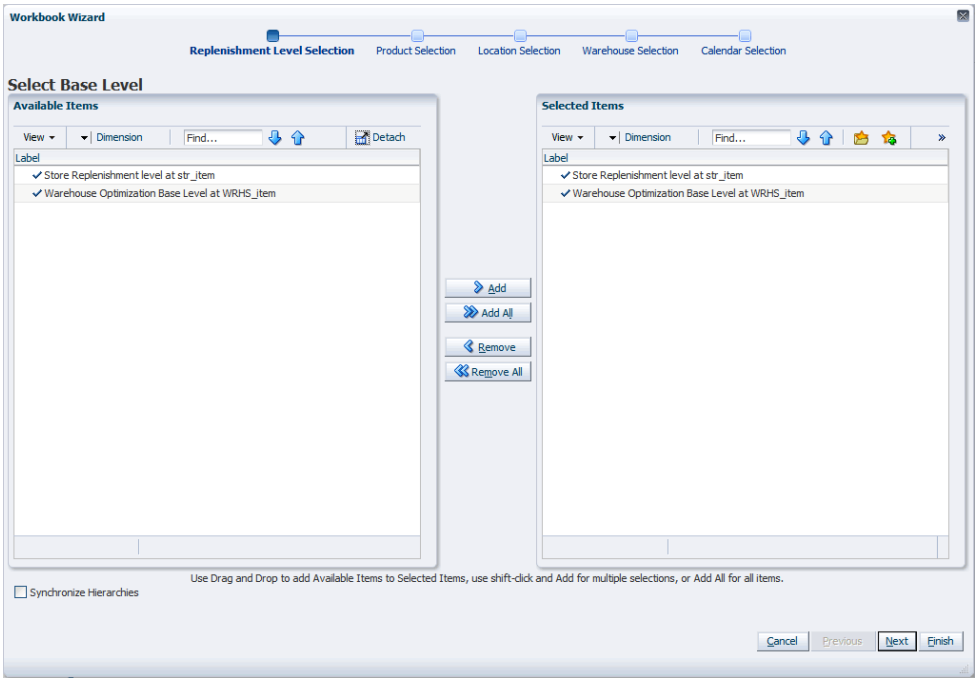
1. Click the Create New Workbook icon in the Replen Analyst task.

Figure 7–1 Creating a New Replen Analyst Workbook



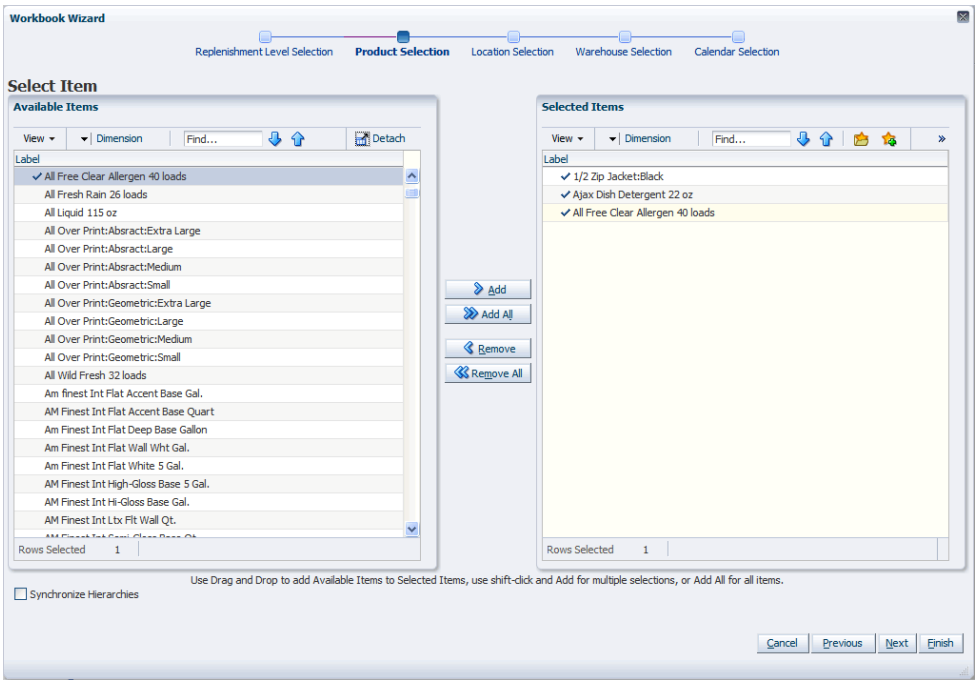
2. The Select Base Level window opens. Select either or both the store level (SL) or warehouse level (WL) to be displayed in the workbook and click **Next**.

Figure 7–2 Select Base Level



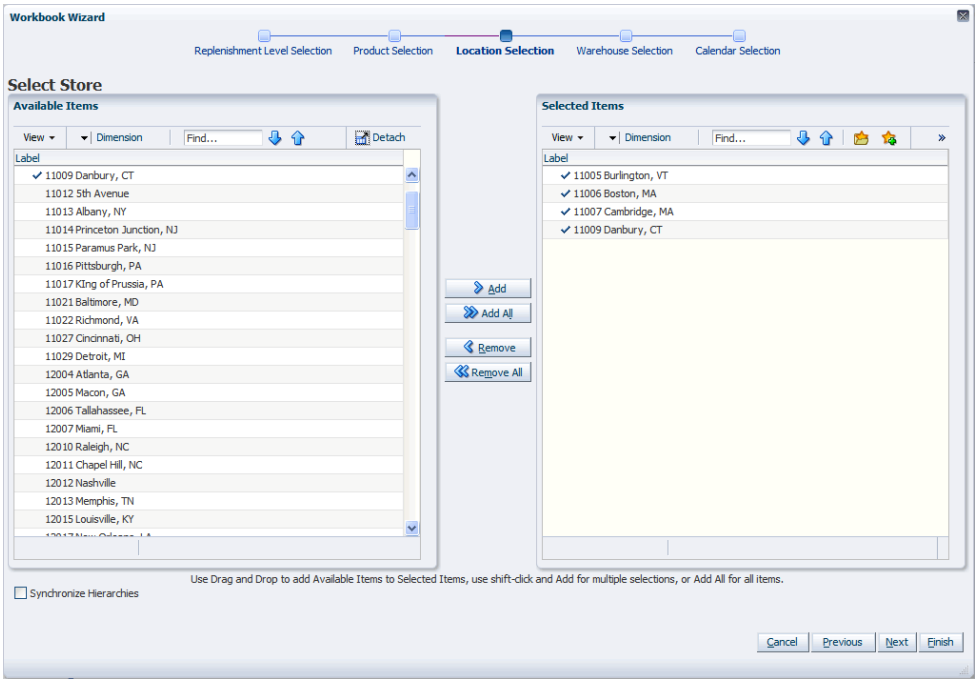
3. The Select Item window opens. Select the items to be displayed in the workbook and click **Next**.

Figure 7–3 Select Item



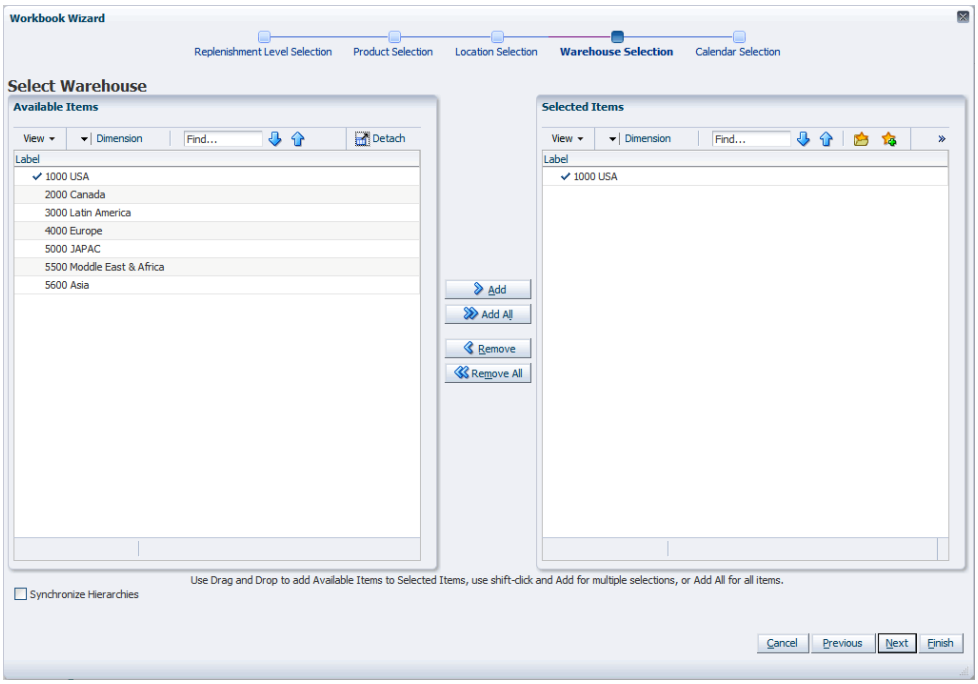
4. The Select Store window opens. Select the stores to be displayed in the workbook and click **Next**.

Figure 7–4 Select Store



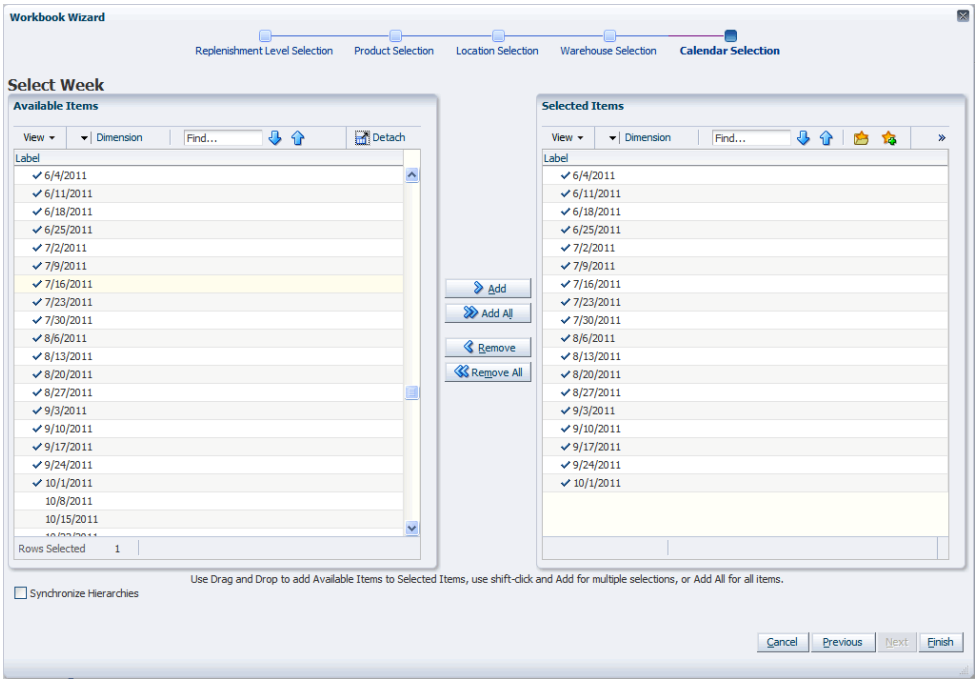
5. The Select Warehouse window opens. Select the warehouses to be displayed in the workbook and click **Next**.

Figure 7–5 Select Warehouse



6. The Select Week window opens. Select the weeks to be displayed in the workbook and click **Finish**.

Figure 7–6 Select Week



The Replen Analyst workbook is built.

Replenishment Methods and Parameters Overview

Replenishment methods and parameters are concepts that are modified and reviewed in the Replen Analyst workbook. In the Replen Analyst workbook, there are several versions of these concepts, including:

- System Recommended
- Approved Version

Replenishment Method

Replenishment Method to be applied to all items/locations that meet the Replenishment Rule Group and Replenishment Rule ID thresholds. This is a writable measure.

Replenishment Param Name1

This is a read-only measure that prompts you with what Replenishment Parameters need to be entered for the selected Replenishment Method. This measure gets populated when you enter a Replenishment Method and click **Calculate**.

Replenishment Param Name2

This is a read-only measure that prompts you with the Replenishment Parameters that need to be entered for the selected Replenishment Method. This measure gets populated when you enter a Replenishment Method and click **Calculate**.

Auxiliary Replenishment Param Name1

This is a read-only measure that prompts you with the Replenishment Parameters that need to be entered for the selected Replenishment Method. This measure gets populated when you enter a Replenishment Method and click **Calculate**.

Auxiliary Replenishment Param Name2

This is a read-only measure that prompts you with the Replenishment Parameters that need to be entered for the selected Replenishment Method. This measure gets populated when you enter a Replenishment Method and click **Calculate**.

Replenishment Param Value1

This is a writable measure, which can either be loaded or entered through this workbook. This measure holds the value for Replenishment Param1. For example, if you choose a Replenishment Method of MinMax, then this measure stores the Min value (as suggested by the Replenishment Param Name1 measure).

Replenishment Param Value2

This is a writable measure, which can either be loaded or entered through this workbook. This measure holds the value for Replenishment Param1. For example, if you choose a Replenishment Method of MinMax, then this measure stores the Max value (as suggested by the Replenishment Param Name2 measure).

Auxiliary Replenishment Param Value1

This is a writable measure, which can either be loaded or entered through this workbook. This measure holds the value for Auxiliary Replenishment Param1.

Auxiliary Replenishment Param Value2

This is a writable measure, which can either be loaded or entered through this workbook. This measure holds the value for Auxiliary Replenishment Param2.

Auxiliary Parameters for MinMax Replenishment Method

RO enables you to specify minimum and maximum values that are a function of mean sales and standard deviation, as an alternate specifying a fixed value of minimum and maximum values. The Auxiliary Parameters in this case are called Safety Stock Factor and Weeks of Supply Factor. They are used as shown in Figure 7–7 to arrive at the Min and Max values:

Figure 7–7 Auxiliary Parameters for MinMax Replenishment Values

$$Min = ceil(LeadTime + \mathrm{Re}viewTime) * Mean + SafetyStockFator * \sqrt{LeadTime} * std$$
$$Max = ceil(Min + WOSfactor * Mean)$$

Note: If both Min/Max values as well as Auxiliary Parameters - SafetyStock and WOSFactors are entered, then the Auxiliary Parameters take precedence.

User Message

This is a read-only measure that contains any error or warning messages from the system. When you select Calculate, the system validates the user input values and populates this measure with any error or warning messages.

Replenishment Parameters and Validity

Table 7–1 lists the replenishment methods and valid values of the corresponding parameters.

Table 7–1 Replenishment Parameters and Validity Table

Repl Method	Repl Param1	Repl Param2	Auxiliary Repl Param1	Auxiliary Repl Param2	Validity
MinMax	Min	Max	SafetyStockFactor	WOS Factor	Min>0; Max>0; Max>Min
					SafetyStockFactor >0; WOS factor>0
					If Min, Max, SafetyStock, and WOS factors are all input, then the Min/Max values will be ignored.
Dynamic	Service Level	Inventory Selling Days			Service Level>0 and <1 Inventory Selling days>0

Table 7–1 (Cont.) Replenishment Parameters and Validity Table

Repl Method	Repl Param1	Repl Param2	Auxiliary Repl Param1	Auxiliary Repl Param2	Validity
TimeSupply	MinTS	MaxTS	TSHorizon		MinTS>0; MaxTS>0; MaxTS>MinTS
					TSHorizon> 0
Poisson	Service Level	Inventory Selling Days			Service Level>0 and <1 Inventory Selling days>0
Hybrid	MinTS	Inventory Selling Days	TSHorizon		MinTS>0; TSHorizon>0

Summary Step

The Summary step summarizes the alert review progress, performance statistics, and system recommendations for all items/locations that are included in this workbook. This workbook gives Replenishment Analysts a high-level summary of inventory, sales, service level, and other performance statistics of all items/locations for which they are responsible.

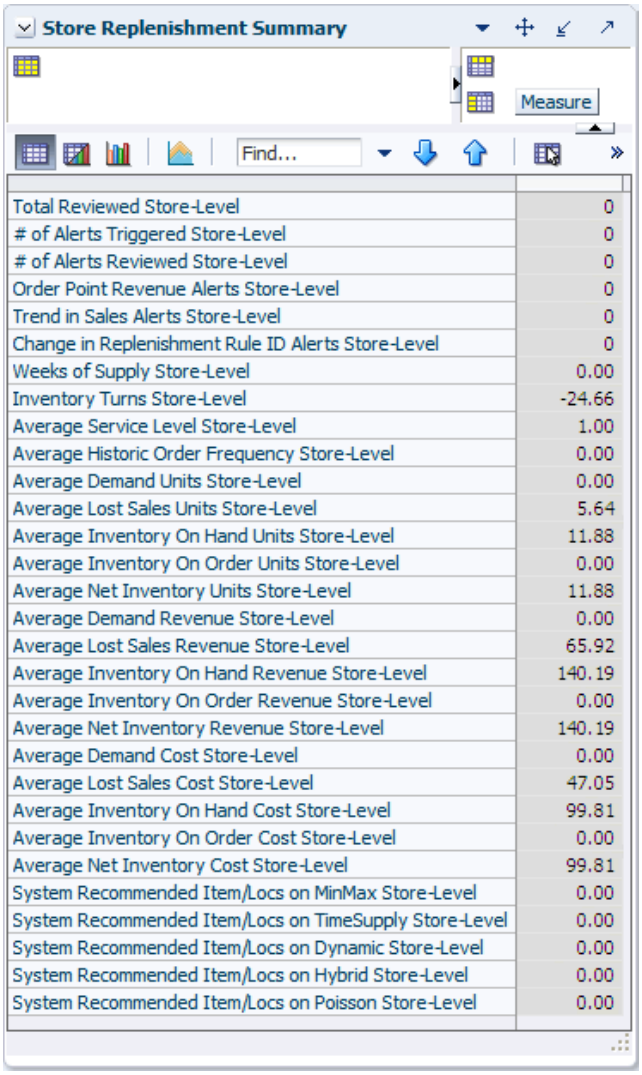
The Summary step contains the following views:

- Store Replenishment Summary View
- Warehouse Replenishment Summary Details View

Store Replenishment Summary View

In this view, the metrics are presented at the aggregate level, for all item/store combinations selected in the wizard.

Figure 7–8 Store Replenishment Summary View



Total Reviewed Store-Level	0
# of Alerts Triggered Store-Level	0
# of Alerts Reviewed Store-Level	0
Order Point Revenue Alerts Store-Level	0
Trend in Sales Alerts Store-Level	0
Change in Replenishment Rule ID Alerts Store-Level	0
Weeks of Supply Store-Level	0.00
Inventory Turns Store-Level	-24.66
Average Service Level Store-Level	1.00
Average Historic Order Frequency Store-Level	0.00
Average Demand Units Store-Level	0.00
Average Lost Sales Units Store-Level	5.64
Average Inventory On Hand Units Store-Level	11.88
Average Inventory On Order Units Store-Level	0.00
Average Net Inventory Units Store-Level	11.88
Average Demand Revenue Store-Level	0.00
Average Lost Sales Revenue Store-Level	65.92
Average Inventory On Hand Revenue Store-Level	140.19
Average Inventory On Order Revenue Store-Level	0.00
Average Net Inventory Revenue Store-Level	140.19
Average Demand Cost Store-Level	0.00
Average Lost Sales Cost Store-Level	47.05
Average Inventory On Hand Cost Store-Level	99.81
Average Inventory On Order Cost Store-Level	0.00
Average Net Inventory Cost Store-Level	99.81
System Recommended Item/Locs on MinMax Store-Level	0.00
System Recommended Item/Locs on TimeSupply Store-Level	0.00
System Recommended Item/Locs on Dynamic Store-Level	0.00
System Recommended Item/Locs on Hybrid Store-Level	0.00
System Recommended Item/Locs on Poisson Store-Level	0.00

Table 7–2 Store Replenishment Summary View Measures

Measure	Description
Alert Statistical Measures	
Total Reviewed Store - Level	The total number of items/locations that have been reviewed so far.
# of Alerts Triggered - Store Level	The total number of items/locations that have any alerts triggered.
# of Alerts Reviewed - Store Level	The total number of items/locations that have any alert triggered and have been reviewed.
Order Point Revenue Alerts - Store Level	The number of items/locations that have the order point revenue alert triggered. This alert is triggered when order point revenue exceeds a threshold. The threshold is the value entered in the Exception Threshold Workbook.
Trend in Sales Alerts - Store Level	The number of items/locations that have the trend in sales alert triggered. This alert is triggered when the absolute value of trend in sales over the last month exceeds a threshold. The threshold is the value entered in the Exception Threshold Workbook.
Change in Replenishment Rule ID Alerts - Store Level	The number of items/locations that have been reassigned to different subgroupings.
Inventory Performance Statistical Measures	
Weeks of Supply Store Level	The number of weeks of supply or weeks on-hand, calculated as average on-hand inventory divided by average demand.
Inventory Turns - Store Level	The average inventory turns calculated as sales over that last 52 weeks divided by average on-hand inventory the last 52 weeks.
Average Service Level - Store Level	The percentage of demand that was met. Calculated as average sales/average demand.
Average Historic Order Frequency - Store Level	The average number of orders in a week.
Demand and Inventory Units Measures	
Average Demand Units - Store Level	The average demand in units value. Demand is calculated as historic sales plus historic lost sales.
Average Lost Sales Units - Store Level	The average lost sales units.
Average Inventory On Hand Units - Store Level	The average on-hand inventory in units.
Average Inventory On Order Units - Store Level	The average on order inventory in units.
Average Net Inventory Units -Store Level	The average net inventory in units.
Demand and Inventory Revenue Measures	
Average Demand Revenue - Store Level	The average demand in revenue value is calculated by multiplying average demand units by unit price. Demand is calculated as historic sales plus historic lost sales.
Average Lost Sales Revenue - Store Level	The average lost sales revenue value.
Demand and Inventory Revenue Measures	
Average Inventory On Hand Revenue - Store Level	The average on-hand inventory in revenue value.
Average Inventory On Order Revenue - Store Level	The average on order inventory in revenue value.

Table 7–2 (Cont.) Store Replenishment Summary View Measures

Measure	Description
Average Net Inventory Revenue - Store Level	The average net inventory in revenue value.
Demand and Inventory Cost Measures	
Average Demand Cost - Store Level	The average demand in cost value is calculated by multiplying average demand units by unit cost. Demand is calculated as historic sales plus historic lost sales.
Average Lost Sales Cost - Store Level	The average lost sales cost value.
Average Inventory On Hand Cost - Store Level	The average on-hand inventory in cost value.
Average Inventory On Order Cost - Store Level	The average on order inventory in cost value.
Average Net Inventory Cost - Store Level	The average net inventory in cost value.
Number of Weeks for Stats - Store Level	The number of weeks in history over which the above statistics have been calculated.
Replenishment Settings Statistical Measures	
System Recommended Item/Locs on MinMax - Store Level	The number of items/locations for which the system recommends the MinMax Replenishment Method.
System Recommended Item/Locs on TimeSupply - Store Level	The number of items/locations for which the system recommends the Time Supply Replenishment Method.
System Recommended Item/Locs on Dynamic - Store Level	The number of items/locations for which the system recommends the Dynamic Replenishment Method.
System Recommended Item/Locs on Hybrid - Store Level	The number of items/locations for which the system recommends the Hybrid Replenishment Method.
System Recommended Item/Locs on Poisson - Store Level	The number of items/locations for which the system recommends the Poisson Replenishment Method.

Warehouse Replenishment Summary Details View

In this view, the metrics are presented at the aggregate level, for all item/warehouse combinations selected in the wizard.

Figure 7–9 Warehouse Replenishment Summary Details

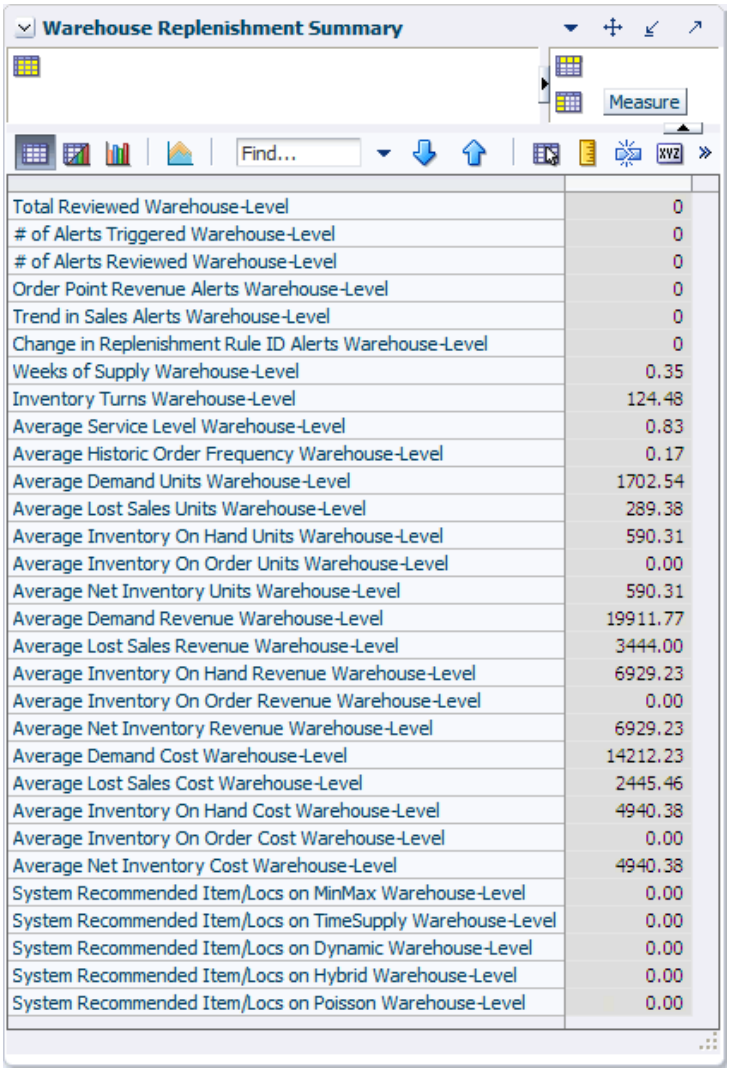


Table 7–3 Warehouse Replenishment Summary Details View Measures

Measure	Description
Alert Statistical Measures	
Total Reviewed - Warehouse Level	The total number of items/locations that have been reviewed so far.
# of Alerts Triggered - Warehouse Level	The total number of items/locations that have any alerts triggered.
# of Alerts Reviewed - Warehouse Level	The total number of items/warehouses that have any alert triggered and have been reviewed.
Order Point Revenue Alerts - Warehouse Level	The number of items/locations that have the Order Point Revenue alert triggered. This alert is triggered when the Order Point Revenue exceeds a threshold. The threshold is the value entered in the Exception Threshold Workbook.

Table 7–3 (Cont.) Warehouse Replenishment Summary Details View Measures

Measure	Description
Trend in Sales Alerts - Warehouse Level	The number of items/locations that have the Trend is Sales alert triggered. This alert is triggered when the absolute value of trend in Sales over the last month exceeds a threshold. The threshold is the value entered in the Exception Threshold Workbook.
Change in Replenishment Rule ID Alerts - Warehouse Level	The number of items/locations that have been reassigned to different subgroupings.
Inventory Performance Statistical Measures	
Weeks of Supply Warehouse Level	The number of Weeks of Supply or Weeks On-Hand, calculated as average On-Hand Inventory divided by average Demand.
Inventory Turns - Warehouse Level	The Average Inventory Turns calculated as Sales over that last 52 weeks divided by average On-Hand Inventory the last 52 weeks.
Average Service Level - Warehouse Level	The percentage of demand that was met. Calculated as average sales/average Demand.
Average Historic Order Frequency - Warehouse Level	The Average number of Orders in a week.
Demand and Inventory Units Measures	
Average Demand Units - Warehouse Level	The average demand in units value. Demand is calculated as historic sales plus historic Lost Sales.
Average Lost Sales Units - Warehouse Level	The average lost sales units.
Average Inventory On Hand Units - Warehouse Level	The average on-hand inventory in units.
Average Inventory On Order Units - Warehouse Level	The average on order inventory in units.
Average Net Inventory Units - Warehouse Level	The average net inventory in units.
Demand and Inventory Revenue Measures	
Average Demand Revenue - Warehouse Level	The average demand in revenue value is calculated by multiplying Average Demand Units by Unit Price. Demand is calculated as historic sales plus historic Lost Sales.
Average Lost Sales Revenue - Warehouse Level	The average lost sales revenue value.
Demand and Inventory Revenue Measures	
Average Inventory On Hand Revenue - Warehouse Level	The average on-hand inventory in revenue value.
Average Inventory On Order Revenue - Warehouse Level	The average on order inventory in revenue value.
Average Net Inventory Revenue - Warehouse Level	The average net inventory in revenue value.
Demand and Inventory Cost Measures	
Average Demand Cost - Warehouse Level	The average demand in cost value is calculated by multiplying Average Demand Units by Unit Cost. Demand is calculated as historic sales plus historic Lost Sales.
Average Lost Sales Cost - Warehouse Level	The average lost sales cost value.

Table 7–3 (Cont.) Warehouse Replenishment Summary Details View Measures

Measure	Description
Average Inventory On Hand Cost - Warehouse Level	The average on-hand inventory in cost value.
Average Inventory On Order Cost - Warehouse Level	The average on order inventory in cost value.
Average Net Inventory Cost - Warehouse Level	The average net inventory in cost value.
Number of Weeks for Stats - Warehouse Level	The number of weeks in history over which the above statistics have been calculated.
Replenishment Settings Statistical Measures	
System Recommended Item/Locs on MinMax - Warehouse Level	The number of items/locations for which the system recommends the MinMax Replenishment Method.
System Recommended Item/Locs on TimeSupply - Warehouse Level	The number of items/locations for which the system recommends the Time Supply Replenishment Method.
System Recommended Item/Locs on Dynamic - Warehouse Level	The number of items/locations for which the system recommends the Dynamic Replenishment Method.
System Recommended Item/Locs on Hybrid - Warehouse Level	The number of items/locations for which the system recommends the Hybrid Replenishment Method.
System Recommended Item/Locs on Poisson - Warehouse Level	The number of items/locations for which the system recommends the Poisson Replenishment Method.

Store Details Step

The Store Details step provides item/location and weekly details, what-if capabilities, and the option to select system-recommended, previous-approved, or user-updated settings by updating the approval status. For additional information about replenishment setting, see Understanding the Working Version of the Replenishment Settings. This step contains the following views:

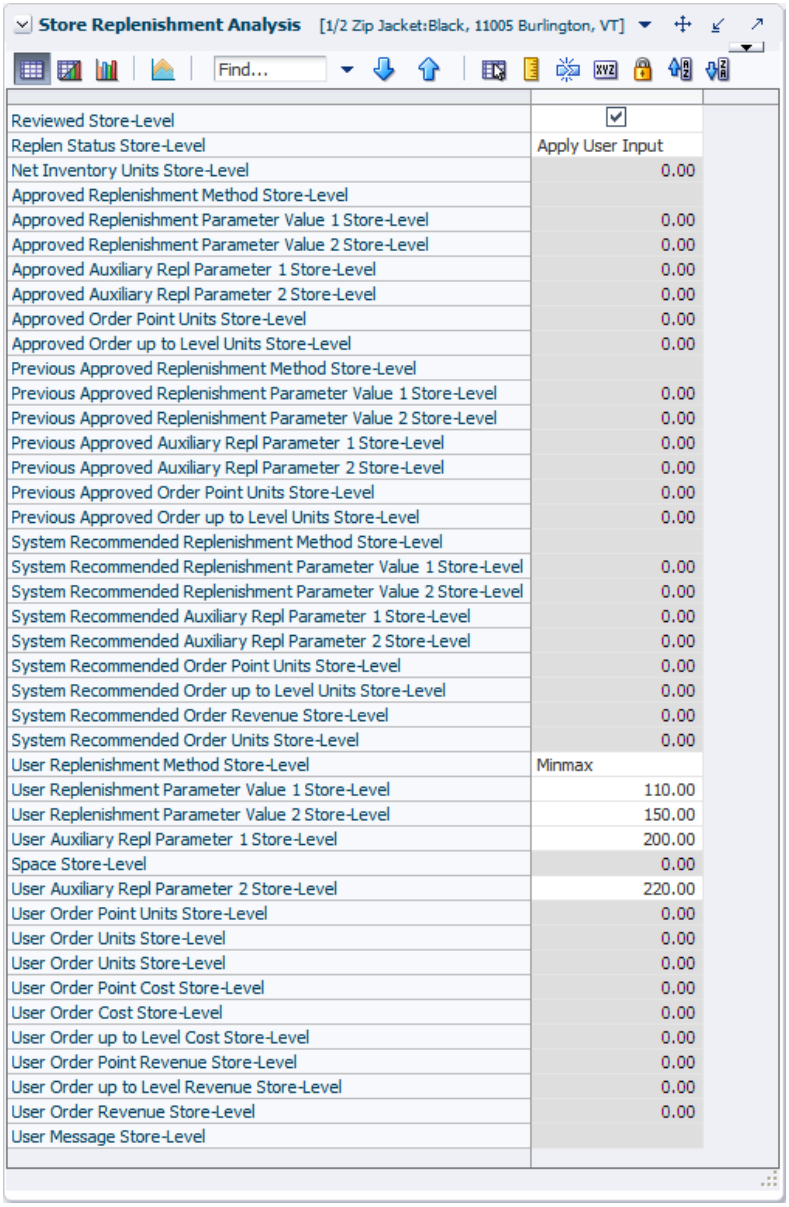
- Store Replenishment Analysis View
- Store Replenishment Statistics View
- Store Replenishment Weekly Details View

Store Replenishment Analysis View

The Analysis view enables you to compare different replenishment settings, perform what-if analysis to determine impact of these settings, and ultimately select the settings to be used. You can apply system-recommended, previously-approved, or special-user input settings by updating the Replen Status measure. The workbook calculates OP, OUTL, and Projected Order Quantity. You can compare these values for various choices.

The user replenishment method and parameter measures that you set trigger a calculation that updates the read-only user measures when you click **Calculate User Overrides** in the top, right corner.

Figure 7–10 Store Replenishment Analysis View



Reviewed Store-Level	☑
Replen Status Store-Level	Apply User Input
Net Inventory Units Store-Level	0.00
Approved Replenishment Method Store-Level	
Approved Replenishment Parameter Value 1 Store-Level	0.00
Approved Replenishment Parameter Value 2 Store-Level	0.00
Approved Auxiliary Repl Parameter 1 Store-Level	0.00
Approved Auxiliary Repl Parameter 2 Store-Level	0.00
Approved Order Point Units Store-Level	0.00
Approved Order up to Level Units Store-Level	0.00
Previous Approved Replenishment Method Store-Level	
Previous Approved Replenishment Parameter Value 1 Store-Level	0.00
Previous Approved Replenishment Parameter Value 2 Store-Level	0.00
Previous Approved Auxiliary Repl Parameter 1 Store-Level	0.00
Previous Approved Auxiliary Repl Parameter 2 Store-Level	0.00
Previous Approved Order Point Units Store-Level	0.00
Previous Approved Order up to Level Units Store-Level	0.00
System Recommended Replenishment Method Store-Level	
System Recommended Replenishment Parameter Value 1 Store-Level	0.00
System Recommended Replenishment Parameter Value 2 Store-Level	0.00
System Recommended Auxiliary Repl Parameter 1 Store-Level	0.00
System Recommended Auxiliary Repl Parameter 2 Store-Level	0.00
System Recommended Order Point Units Store-Level	0.00
System Recommended Order up to Level Units Store-Level	0.00
System Recommended Order Revenue Store-Level	0.00
System Recommended Order Units Store-Level	0.00
User Replenishment Method Store-Level	Minmax
User Replenishment Parameter Value 1 Store-Level	110.00
User Replenishment Parameter Value 2 Store-Level	150.00
User Auxiliary Repl Parameter 1 Store-Level	200.00
Space Store-Level	0.00
User Auxiliary Repl Parameter 2 Store-Level	220.00
User Order Point Units Store-Level	0.00
User Order Units Store-Level	0.00
User Order Units Store-Level	0.00
User Order Point Cost Store-Level	0.00
User Order Cost Store-Level	0.00
User Order up to Level Cost Store-Level	0.00
User Order Point Revenue Store-Level	0.00
User Order up to Level Revenue Store-Level	0.00
User Order Revenue Store-Level	0.00
User Message Store-Level	

Table 7–4 Store Replenishment Analysis View Measures

Measure	Description
Approved Auxiliary Repl Parameter 1 Store Level	This measure selects the Approve option in the Approval step to invoke the Approve menu. The system will then copy the Auxiliary Replenishment Param1 indicated in the Replen Status measure to the Approved Replenishment Param1. The Approved flag will then be cleared to allow you to re-approve at a later time if needed.
Approved Auxiliary Repl Parameter 2 Store Level	This measure selects the Approve option in the Approval step to invoke the Approve menu. The system will then copy the Auxiliary Replenishment Param1 indicated in the Replen Status measure to the Approved Replenishment Param1. The Approved flag will then be cleared to allow you to re-approve at a later time if needed.
Approved Order Point Units Store Level	This measure selects the Approve option in the Approval step to invoke the Approve menu. The system will then update this measure with the Order Point corresponding to the Approved Replenishment Method and Parameters.
Approved Order up to Level Units Store Level	This measure selects the Approve option in the Approval step to invoke the Approve menu. The system will then update this measure with the Order Up to Level corresponding to the Approved Replenishment Method and Parameters.
Approved Replenishment Method Store Level	This measure selects the Approve option in the Approval step to invoke the Approve menu. The system will then copy the Replenishment Settings indicated in the Replen Status measure to the Approved Replenishment Method. The Approved flag will then be cleared to allow you to re-approve at a later time if needed.
Approved Replenishment Parameter Value 1 Store Level	This measure selects the Approve option in the Approval step to invoke the Approve menu. The system will then copy the Replenishment Param1 indicated in the Replen Status measure to the Approved Replenishment Param1. The Approved flag will then be cleared to allow you to re-approve at a later time if needed.
Approved Replenishment Parameter Value 2 Store Level	This measure selects the Approve option in the Approval step to invoke the Approve menu. The system will then copy the Replenishment Param2 indicated in the Replen Status measure to the Approved Replenishment Param1. The Approved flag will then be cleared to allow you to re-approve at a later time if needed.
Net Inventory Units Store Level	The current net inventory position.
Previous Approved Auxiliary Repl Parameter 1 Store Level	Previous Approved Auxiliary Replenishment Parameter Value 1.
Previous Approved Auxiliary Repl Parameter 2 Store Level	Previous Approved Auxiliary Replenishment Parameter Value 2.
Previous Approved Order Point Units Store Level	The Previous Approved Order Point Units value.
Previous Approved Order up to Level Units Store Level	The Previous Approved Order Up to Level Units value.
Previous Approved Replenishment Method Store Level	The Previous Approved Replenishment Method.
Previous Approved Replenishment Parameter Value 1 Store Level	Previous Approved Replenishment Parameter Value 1.
Previous Approved Replenishment Parameter Value 2 Store Level	Previous Approved Replenishment Parameter Value 2.

Table 7–4 (Cont.) Store Replenishment Analysis View Measures

Measure	Description
Replen Status Store Level	The Replenishment Status is a writable measure that determines the set of Replenishment parameters to be applied. This measure list provides the following options: ■ Apply System ■ Apply Prev Approved ■ Apply User Input This measure defaults to Apply System Recommended Settings if no alerts are triggered for the items/locations. If any alert is triggered, this measure defaults to Apply Previous Approved. This measure will directly impact the Working Replenishment Method and Parameters.
Reviewed Store Level	This is a writable measure indicating whether or not this item/location has been reviewed by the you. This measure is used only for tracking purposes and updates the # of Alerts Reviewed and Total Reviewed measures.
Space Store Level	Space for item/warehouse.
System Recommended Auxiliary Repl Parameter 1 Store Level	The System Recommended Auxiliary Replenishment Parameter Value 1 value.
System Recommended Auxiliary Repl Parameter 2 Store Level	The System Recommended Auxiliary Replenishment Parameter Value 2 value.
System Recommended Order Point Units Store Level	The Order Point Units based on the System Recommended Methods and Parameters value.
System Recommended Order Revenue Store Level	The System Recommended Order Revenue measure value.
System Recommended Order Units Store Level	The Projected Order units calculated based on the System Recommended Methods and Parameters value.
System Recommended Order up to Level Units Store Level	The Order Up to Level Units based on the System Recommended Methods and Parameters value.
System Recommended Replenishment Method Store Level	The System Recommended Replenishment Method value.
System Recommended Replenishment Parameter Value 1 Store Level	The System Recommended Replenishment Parameter Value 1 value.
System Recommended Replenishment Parameter Value 2 Store Level	The System Recommended Replenishment Parameter Value 2 value.
User Auxiliary Repl Parameter 1 Store Level	This is a writable measure where you input auxiliary replenishment parameter 1 based on the Replenishment Method chosen. Refer to Chapter 1, "Introduction" for valid Replenishment Parameter inputs for each method.
User Auxiliary Repl Parameter 2 Store Level	This is a writable measure where you input auxiliary replenishment parameter 2 based on the Replenishment Method chosen. Refer to Chapter 1, "Introduction" for valid Replenishment Parameter inputs for each method.
User Message Store Level	This is a read-only measure that contains any error or warning messages returned by the system based on the user-input values.
User Order Cost Store Level	This read-only measure is the product of the cost per unit and the number of the projected order units based on the user-input methods and parameters.
User Order Point Cost Store Level	This read-only measure is the Order Point units multiplied by unit cost, calculated based on the user-input Replenishment settings.

Table 7–4 (Cont.) Store Replenishment Analysis View Measures

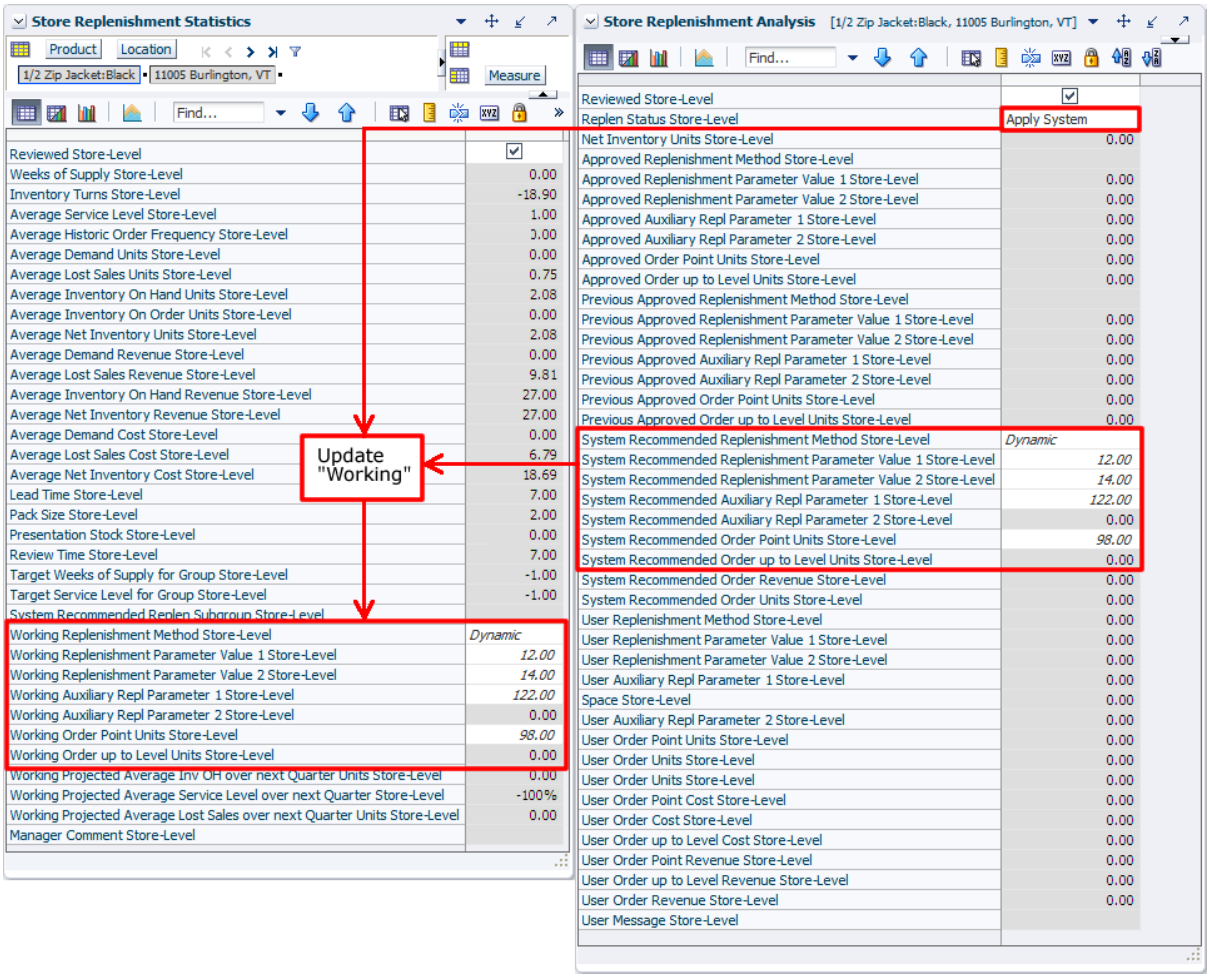
Measure	Description
User Order Point Revenue Store Level	This read-only measure is the product of the price per unit and the order point units based on the user-input methods and parameters.
User Order Point Units Store Level	This read-only measure is the number of order point units based on the user-input method and parameters.
User Order Revenue Store Level	This read-only measure is the number of order units multiplied by the unit retail price, calculated based on user-input Replenishment settings.
User Order Units Store Level	This read-only measure is the Projected Order Units based on the user-input Methods and Parameters.
User Order up to Level Cost Store Level	This read-only measure is the product of the Order Up to Level Units and the unit cost based on the user-input Methods and Parameters.
User Order up to Level Revenue Store Level	The Order up to Level units multiplied by unit retail price, calculated based on User Input Replenishment settings.
User Order up to Level Units Store Level	This read-only measure is the Order Up to Level Units based on the user Input Methods and Parameters.
User Replenishment Method Store Level	This is measure list provides the following Replenishment Methods options: ▪ MinMax ▪ Dynamic ▪ TimeSupply ▪ Poisson ▪ Hybrid Refer to Chapter 4, "Replenishment Admin Workbook" for valid replenishment parameter inputs and for information about each method.
User Replenishment Parameter Value 1 Store Level	This is a writable measure where you input replenishment parameter 1 based on the Replenishment Method chosen. Refer to Chapter 4, "Replenishment Admin Workbook" for valid replenishment parameter inputs and for information about each method.
User Replenishment Parameter Value 2 Store Level	This is a writable measure where you input replenishment parameter 2 based on the Replenishment Method chosen. Refer to Chapter 4, "Replenishment Admin Workbook" for valid replenishment parameter inputs and for information about each method.

Understanding the Working Version of the Replenishment Settings

The Replenishment Status (Replen Status) determines the Working version of the Replenishment Settings as illustrated in Figure 7–11 and Figure 7–12.

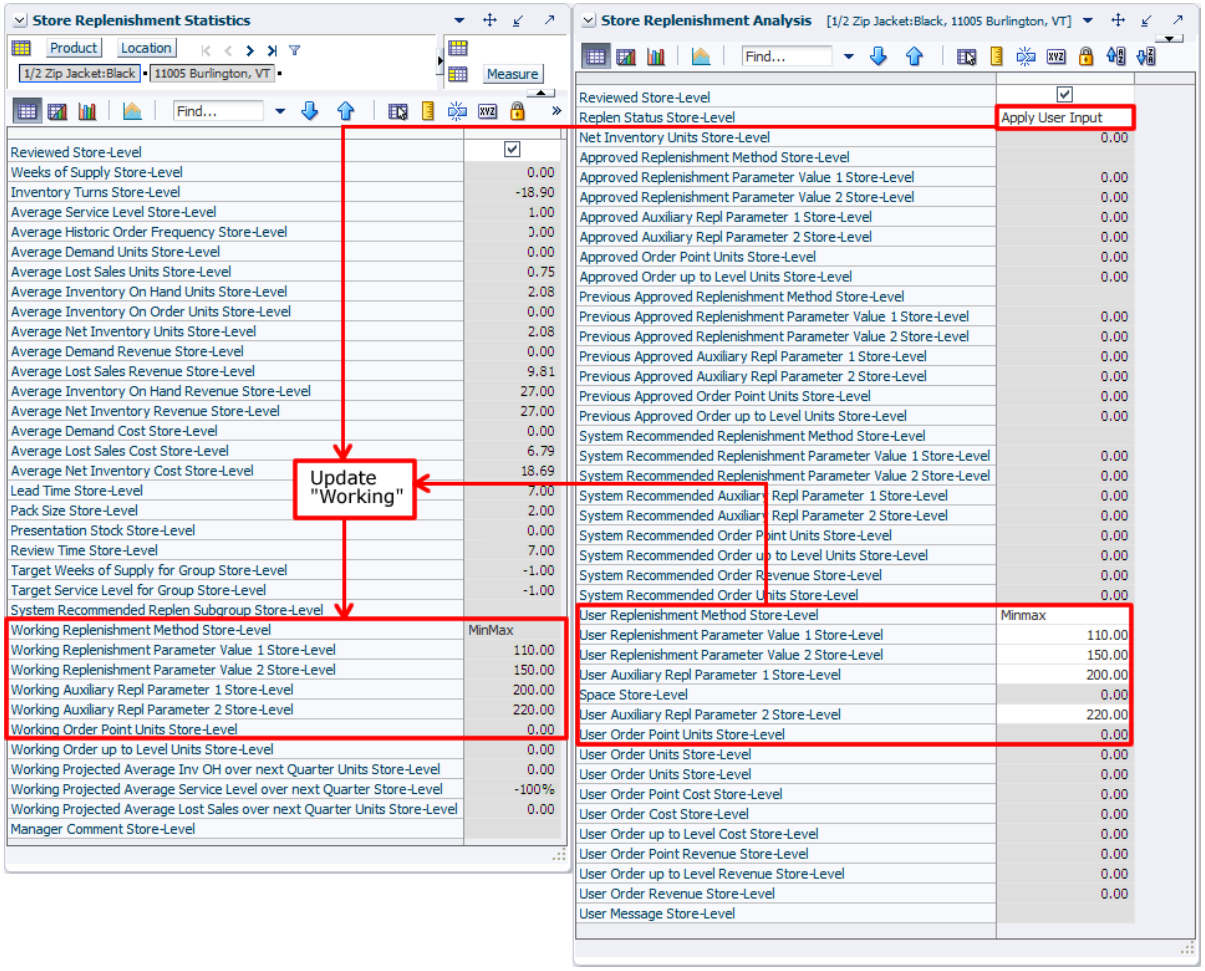
The side-by-side view of the views in Figure 7–11 shows the relationship between the assigned Replenishment Status setting and you measure in the Analyst view and the Working version of measures applied to the Statistics view. In the following example, the Replenishment Status is set to **Apply System**, which means that the System Recommended measures in the Analysis view (on the right) are used as the Working version of measures in the Statistics view (on the left).

Figure 7–11 Working Version of Replenishment Settings



In Figure 7–12, the Replenishment Status is set to **Apply User Input**, which means that the User measures in the Analysis view (on the right) are used as the Working version of measures in the Statistics view (on the left).

Figure 7–12 Apply User Input in Replenishment Status



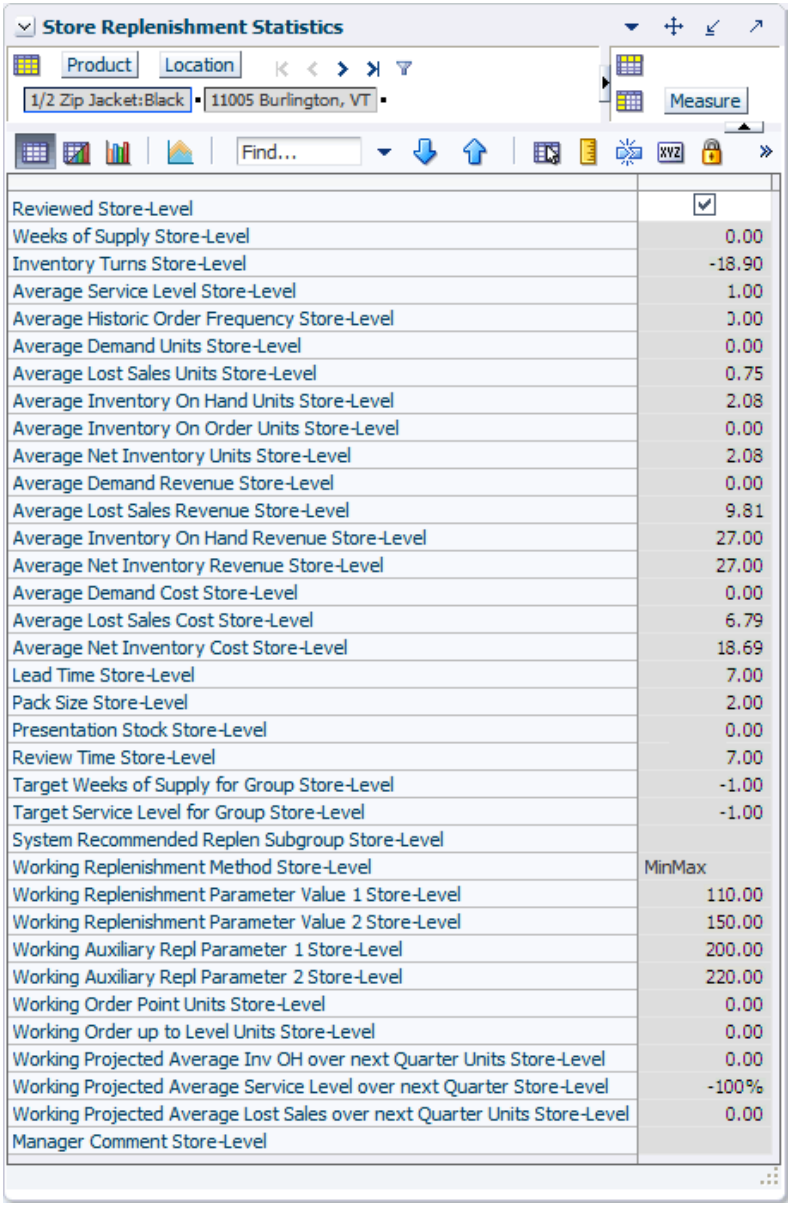
The Replenishment Status selection drives the working version in the Statistics view. When you have reviewed the alerts, performed any necessary what-if modifications, and updated the Replenishment Status, you can review the working version to see the results. When you are satisfied with the working version, you can approve the settings in the Approval view.

The replenishment status for alerted items/locations defaults to **Apply Previous Approved**. After reviewing the alerted items/locations, if you want to accept the system recommended setting, you change the Replenishment Status to **Apply System Recommended**. Once all alerts are reviewed, you can approve the selected settings.

Store Replenishment Statistics View

Several of the statistics listed in this view are the same as those listed in the Summary view of this workbook, but at the item/store level. Refer to Table 7–2 for measure descriptions. Figure 7–13 shows a list of measure descriptions that are not included in the Summary view.

Figure 7–13 Store Replenishment Statistics View



Reviewed Store-Level	☑
Weeks of Supply Store-Level	0.00
Inventory Turns Store-Level	-18.90
Average Service Level Store-Level	1.00
Average Historic Order Frequency Store-Level	3.00
Average Demand Units Store-Level	0.00
Average Lost Sales Units Store-Level	0.75
Average Inventory On Hand Units Store-Level	2.08
Average Inventory On Order Units Store-Level	0.00
Average Net Inventory Units Store-Level	2.08
Average Demand Revenue Store-Level	0.00
Average Lost Sales Revenue Store-Level	9.81
Average Inventory On Hand Revenue Store-Level	27.00
Average Net Inventory Revenue Store-Level	27.00
Average Demand Cost Store-Level	0.00
Average Lost Sales Cost Store-Level	6.79
Average Net Inventory Cost Store-Level	18.69
Lead Time Store-Level	7.00
Pack Size Store-Level	2.00
Presentation Stock Store-Level	0.00
Review Time Store-Level	7.00
Target Weeks of Supply for Group Store-Level	-1.00
Target Service Level for Group Store-Level	-1.00
System Recommended Replen Subgroup Store-Level	
Working Replenishment Method Store-Level	MinMax
Working Replenishment Parameter Value 1 Store-Level	110.00
Working Replenishment Parameter Value 2 Store-Level	150.00
Working Auxiliary Repl Parameter 1 Store-Level	200.00
Working Auxiliary Repl Parameter 2 Store-Level	220.00
Working Order Point Units Store-Level	0.00
Working Order up to Level Units Store-Level	0.00
Working Projected Average Inv OH over next Quarter Units Store-Level	0.00
Working Projected Average Service Level over next Quarter Store-Level	-100%
Working Projected Average Lost Sales over next Quarter Units Store-Level	0.00
Manager Comment Store-Level	

Table 7–5 Store Replenishment Statistics View Measures

Measure	Description
Reviewed - Store Level	This is a writable measure indicating whether or not this item/location has been reviewed by you. This measure is used only for tracking purposes and updates the # of alerts reviewed and total reviewed measures.
Lead Time - Store Level	The total lead time of the item/location value.
Pack Size - Store Level	The item pack size value.
Presentation Stock - Store Level	The minimum presentation stock value.
Review Time - Store Level	The frequency at which inventory is reviewed for replenishment purposes.
Price - Store Level	The unit retail price of the item value.
Cost - Store Level	The unit cost of the item value.
System Recommended Replen Subgroup - Store Level	Replenishment Rule ID that the system recommends for the item/location.
Target Weeks of Supply for Group - Store Level	The overall target or optimal weeks of supply recommended by RO for the subgroup of items/locations that this item/location belongs to. While tracking inventory and service level performance against this optimal target, it is important to track performance for the entire group of items/locations as opposed to the performance of individual items/locations.
Target Service Level for Group - Store Level	The overall target or optimal service level recommended by RO for the group of items/locations that this item/location belongs to. While tracking Inventory and Service Level performance against this optimal target, it is important to track performance for the entire group of items/locations as opposed to the performance of individual items/locations.
Working Replenishment Method - Store Level	Replenishment method you have currently chosen for this item/location. You can choose between system-recommended, previous-approved, and special-user input settings. This measure is updated based on the replenishment status measure. This measure represents the replenishment method that will be exported by the system, if you approve the settings now.
Working Replenishment Parameter Value 1 - Store Level	Replenishment Parameter1 you have currently chosen for this item/location. You can choose between system-recommended, previous-approved, and special user input settings. This measure is updated based on the replenishment status measure. This measure represents the replenishment method that will be exported by the system, if you approve the settings now.
Working Replenishment Parameter Value 2 - Store Level	Replenishment Parameter2 you have currently chosen for this item/location. You can choose between system-recommended, previous-approved, and special user input settings. This measure is updated based on the Replenishment Status Measure. This measure represents the Replenishment Method that will be exported by the system, if you approve the settings now.
Working Auxiliary Repl Parameter 1 - Store Level	Auxiliary Replenishment Parameter1 you have currently chosen for this item/location. You can choose between system-recommended, previous-approved, and special user input settings. This measure is updated based on the Replenishment Status Measure. This measure represents the Replenishment Method that will be exported by the system, if you approve the settings now.
Working Auxiliary Repl Parameter 2 - Store Level	Auxiliary Replenishment Parameter2 you have currently chosen for this item/location. You can choose between system-recommended, previous-approved, and special user input settings. This measure is updated based on the Replenishment Status Measure. This measure represents the Replenishment Method that will be exported by the system, if you approve the settings now.

Table 7–5 (Cont.) Store Replenishment Statistics View Measures

Measure	Description
Working Replenishment Settings Statistical Measures The following measures provide statistics based on the working replenishment settings. The statistics help provide you with supporting information on the impact of the chosen replenishment settings on future inventory and service levels. This helps you to choose the correct replenishment settings.	
Working Order Points Units - Store Level	Order Point Units calculated by the system based on the working replenishment method and parameters.
Working Order Up to Level Units - Store Level	Order Up to Point Units calculated by the system, based on the working replenishment method and parameters.
Working Projected Average Inv OH over next Quarter Units - Store Level	Projected Average On hand Inventory units over the next quarter, based on working replenishment settings. This measure represents the long-term steady state average on-hand inventory, assuming current inventory level is not too high or too low to drive long-term inventory and service levels.
Working Projected Average Service Level over next Quarter - Store Level	Projected Average Service Level over the next quarter, based on working replenishment settings. This measure represents the long-term steady state service level, assuming current inventory level is not too high or too low to drive long-term inventory and service levels.
Working Projected Lost Sales Units over next quarter Units - Store Level	Projected Average Lost Sales over the next quarter, based on working replenishment settings. This measure represents the long-term steady state lost sales, assuming current inventory level is not too high or too low to drive long-term inventory and service levels.
System Recommended Replenishment Settings Statistical Measures The following measures provide statistics based on the System Recommended Replenishment Settings. The statistics help provide you with supporting information on the impact of the chosen replenishment Settings on future inventory and service levels to help you choose the correct Replenishment Settings.	
System Recommended Projected Average Inv OH over the next Quarter Units - Store Level	Projected Average on-hand Inventory units over next quarter based on system recommended replenishment settings. This measure represents the long-term steady state average on-hand inventory, assuming current inventory level is not too high or too low to drive long-term inventory and service levels.
System Recommended Projected Average Service Level Over next Quarter - Store Level	Projected Average Service Level over next quarter based on system recommended replenishment settings. This measure represents the long-term steady state service level, assuming current inventory level is not too high or too low to drive long-term inventory and service levels.
System Recommended Projected Lost Sales Units over next quarter Units - Store Level	Projected Average Lost Sales over next quarter based on system recommended replenishment settings. This measure represents the long-term steady state lost sales, assuming current inventory level is not too high or too low to drive long-term inventory and service levels.
Manager Comment - Store Level	This is a read-only measure, indicating any comments input in the Replenishment Manager Workbook. If the Replenishment Manager enters any special remarks about the performance of a replenishment rule ID, the comment is visible here to the replenishment analysts for all items/locations that belong to that replenishment rule ID.

Store Replenishment Weekly Details View

This view provides item/store/week-level details of historic inventory, demand, lost sales, and forecasts to help you easily identify trends in inventory and demand, large stock out situations, and so on.

Figure 7–14 Store Replenishment Weekly Details View

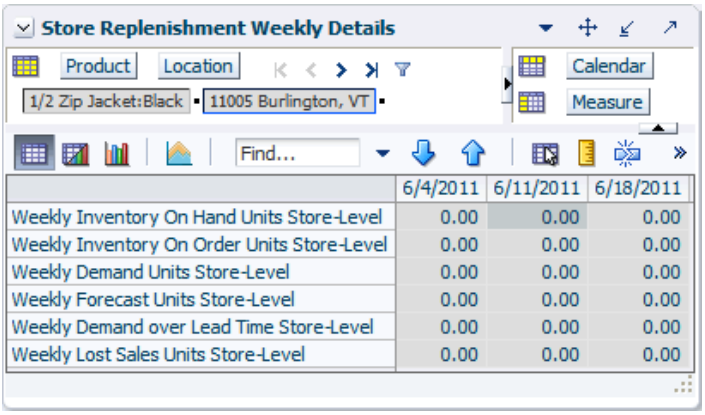


Table 7–6 Store Replenishment Weekly Details View Measures

Measure	Description
Weekly Demand Over Lead time Store Level	Weekly demand units aggregated over lead time for each week
Weekly Demand Units Store Level	Weekly demand units
Weekly Forecast Units Store Level	Weekly forecast units
Weekly Inventory On Hand Units Store Level	Weekly on-hand inventory units
Weekly Inventory On Order Units Store Level	Weekly on order inventory units
Weekly Lost Sales Units Store Level	Weekly lost sales units

Store Approval Step

The Store Approval step consists of the following view:

- Store Replenishment Approve View

The approval process is the final step in the replenishment analysis process. After reviewing inventory performance, performing what-if-analysis, and updating the Replenishment Status, you can open the Approval view and approve the selected settings.

For additional information about the process flow, see: Approval Process Flow.

Store Replenishment Approve View

In this view, the metrics are presented at the item/store level, for all combinations selected in the wizard.

Figure 7–15 Store Replenishment Approve View

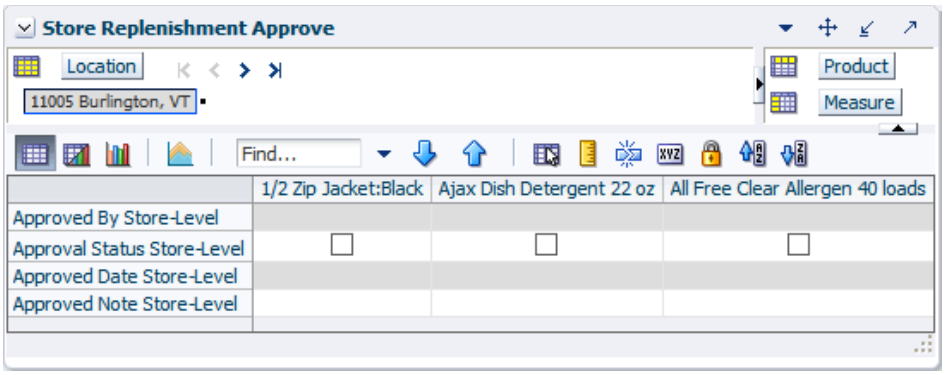


Table 7–7 Store Replenishment Approve View Measures

Measure	Description
Approval Status Store Level	This is a writable check box measure. When you select this measure and invokes the Approve menu, the Approved Replenishment settings get updated.
Approved By Store Level	This is a read-only measure that gets updated with the user ID when you select the Approval Status measure and invoke the Approve menu.
Approved Date Store Level	This is a read-only measure that gets updated with the current date when you select the Approval Status measure and invoke the Approve menu.
Approved Note Store Level	This is a writable measure where you can input Approval notes at the time of approval.

Warehouse Details Step

The Warehouse Details step provides item/location and weekly details, what-if capabilities, and the option to select system-recommended, previous-approved, or user-updated settings by updating the approval status.

For additional information about replenishment setting, see Understanding the Working Version of the Replenishment Settings.

The Warehouse Details step consists of the following views:

- Warehouse Replenishment Analysis View

  Enables you to perform the following:

  - Compare different replenishment settings
  - Perform what-if analysis to determine impact of these settings
  - Select system-recommended, previous-approved, or user-updated replenishment settings by updating the Replen Status measure

- Warehouse Replenishment Statistics View

  Lists item/location-level inventory performance and other statistics.

- Warehouse Replenishment Weekly Details View

  Gives you item/location/week-level information on inventory, demand, lost sales, forecasts, and so on.

Warehouse Replenishment Analysis View

The Analysis view enables you to compare different replenishment settings, perform what-if analysis to determine impact of these settings, and ultimately select the settings to be used. You can apply system-recommended, previously-approved, or special-user input settings by updating the Replen Status measure. The workbook calculates OP, OUTL, and Projected Order Quantity. You can compare these values for various choices.

The user replenishment method and parameter measures that you set trigger a calculation that updates the read-only user measures when you click **Calculate User Overrides** in the top, right corner.

Figure 7–16 Warehouse Replenishment Analysis View

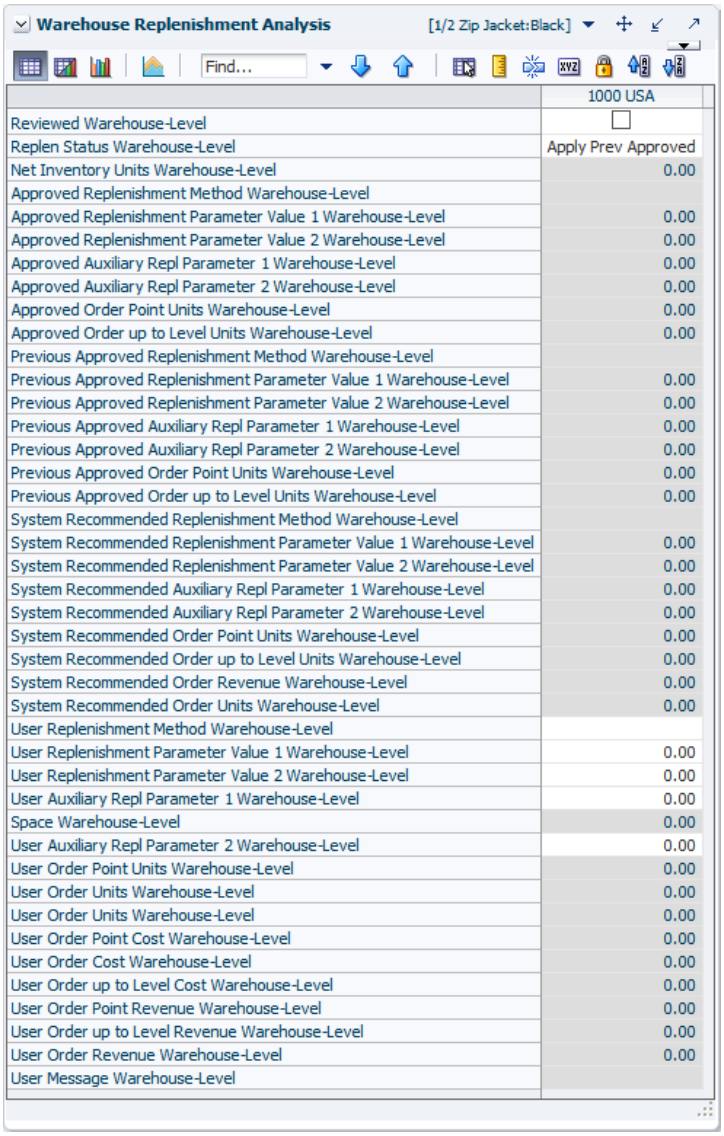


Table 7–8 Warehouse Replenishment Analysis View Measures

Measure	Description
Approved Auxiliary Repl Parameter 1 Warehouse Level	This measure selects the Approve option in the Approval step to invoke the Approve menu. The system will then copy the Auxiliary Replenishment Param1 indicated in the Replen Status measure to the Approved Replenishment Param1. The Approved flag will then be cleared to allow you to re-approve at a later time if needed.
Approved Auxiliary Repl Parameter 2 Warehouse Level	This measure selects the Approve option in the Approval step to invoke the Approve menu. The system will then copy the Auxiliary Replenishment Param1 indicated in the Replen Status measure to the Approved Replenishment Param1. The Approved flag will then be cleared to allow you to re-approve at a later time if needed.
Approved Order Point Units Warehouse Level	This measure selects the Approve option in the Approval step to invoke the Approve menu. The system will then update this measure with the Order Point corresponding to the Approved Replenishment Method and Parameters.

Table 7–8 (Cont.) Warehouse Replenishment Analysis View Measures

Measure	Description
Approved Order up to Level Units Warehouse Level	This measure selects the Approve option in the Approval step to invoke the Approve menu. The system will then update this measure with the Order Up to Level corresponding to the Approved Replenishment Method and Parameters.
Approved Replenishment Method Warehouse Level	This measure selects the Approve option in the Approval step to invoke the Approve menu. The system will then copy the Replenishment Settings indicated in the Replen Status measure to the Approved Replenishment Method. The Approved flag will then be cleared to allow you to re-approve at a later time if needed.
Approved Replenishment Parameter Value 1 Warehouse Level	This measure selects the Approve option in the Approval step to invoke the Approve menu. The system will then copy the Replenishment Param1 indicated in the Replen Status measure to the Approved Replenishment Param1. The Approved flag will then be cleared to allow you to re-approve at a later time if needed.
Approved Replenishment Parameter Value 2 Warehouse Level	This measure selects the Approve option in the Approval step to invoke the Approve menu. The system will then copy the Replenishment Param2 indicated in the Replen Status measure to the Approved Replenishment Param1. The Approved flag will then be cleared to allow you to re-approve at a later time if needed.
Net Inventory Units Warehouse Level	The current net inventory position.
Previous Approved Auxiliary Repl Parameter 1 Warehouse Level	Previous Approved Auxiliary Replenishment Parameter Value 1.
Previous Approved Auxiliary Repl Parameter 2 Warehouse Level	Previous Approved Auxiliary Replenishment Parameter Value 2.
Previous Approved Order Point Units Warehouse Level	The Previous Approved Order Point Units value.
Previous Approved Order up to Level Units Warehouse Level	The Previous Approved Order Up to Level Units value.
Previous Approved Replenishment Method Warehouse Level	The Previous Approved Replenishment Method.
Previous Approved Replenishment Parameter Value 1 Warehouse Level	Previous Approved Replenishment Parameter Value 1.
Previous Approved Replenishment Parameter Value 2 Warehouse Level	Previous Approved Replenishment Parameter Value 2.
Replen Status Warehouse Level	The Replenishment Status is a writable measure that determines the set of Replenishment parameters to be applied. This measure list provides the following options: ■ Apply System ■ Apply Prev Approved ■ Apply User Input This measure defaults to Apply System Recommended Settings if no alerts are triggered for the items/locations. If any alert is triggered, this measure defaults to Apply Previous Approved. This measure will directly impact the Working Replenishment Method and Parameters.
Reviewed Warehouse Level	This is a writable measure indicating whether or not this item/location has been reviewed by you. This measure is used only for tracking purposes and updates the # of Alerts Reviewed and Total Reviewed measures.
Space Warehouse Level	Space for item/warehouse.

Table 7–8 (Cont.) Warehouse Replenishment Analysis View Measures

Measure	Description
System Recommended Auxiliary Repl Parameter 1 Warehouse Level	The System Recommended Auxiliary Replenishment Parameter Value 1 value.
System Recommended Auxiliary Repl Parameter 2 Warehouse Level	The System Recommended Auxiliary Replenishment Parameter Value 2 value.
System Recommended Order Point Units Warehouse Level	The Order Point Units based on the System Recommended Methods and Parameters value.
System Recommended Order Revenue Warehouse Level	The System Recommended Order Revenue measure value.
System Recommended Order Units Warehouse Level	The Projected Order units calculated based on the System Recommended Methods and Parameters value.
System Recommended Order up to Level Units Warehouse Level	The Order Up to Level Units based on the System Recommended Methods and Parameters value.
System Recommended Replenishment Method Warehouse Level	The System Recommended Replenishment Method value.
System Recommended Replenishment Parameter Value 1 Warehouse Level	The System Recommended Replenishment Parameter Value 1 value.
System Recommended Replenishment Parameter Value 2 Warehouse Level	The System Recommended Replenishment Parameter Value 2 value.
User Auxiliary Repl Parameter 1 Warehouse Level	This is a writable measure where you input auxiliary replenishment parameter 1 based on the Replenishment Method chosen. Refer to Chapter 1, "Introduction" for valid Replenishment Parameter inputs for each method.
User Auxiliary Repl Parameter 2 Warehouse Level	This is a writable measure where you input auxiliary replenishment parameter 2 based on the Replenishment Method chosen. Refer to Chapter 1, "Introduction" for valid Replenishment Parameter inputs for each method.
User Message Warehouse Level	This is a read-only measure that contains any error or warning messages returned by the system based on the user-input values.
User Order Cost Warehouse Level	This read-only measure is the product of the cost per unit and the number of the projected order units based on the user-input methods and parameters.
User Order Point Cost Warehouse Level	This read-only measure is the Order Point units multiplied by unit cost, calculated based on user-input Replenishment settings.
User Order Point Revenue Warehouse Level	This read-only measure is the product of the price per unit and the order point units based on the user-input methods and parameters.
User Order Point Units Warehouse Level	This read-only measure is the number of order point units based on the user-input method and parameters.
User Order Revenue Warehouse Level	This read-only measure is the number of order units multiplied by the unit retail price, calculated based on User Input Replenishment settings.
User Order Units Warehouse Level	This read-only measure is the Projected Order Units based on the User Input Methods and Parameters.
User Order up to Level Cost Warehouse Level	This read-only measure is the product of the Order Up to Level Units and the unit cost based on the user Input Methods and Parameters.
User Order up to Level Revenue Warehouse Level	The Order up to Level units multiplied by unit retail price, calculated based on User Input Replenishment settings.
User Order up to Level Units Warehouse Level	This read-only measure is the Order Up to Level Units based on the user Input Methods and Parameters.

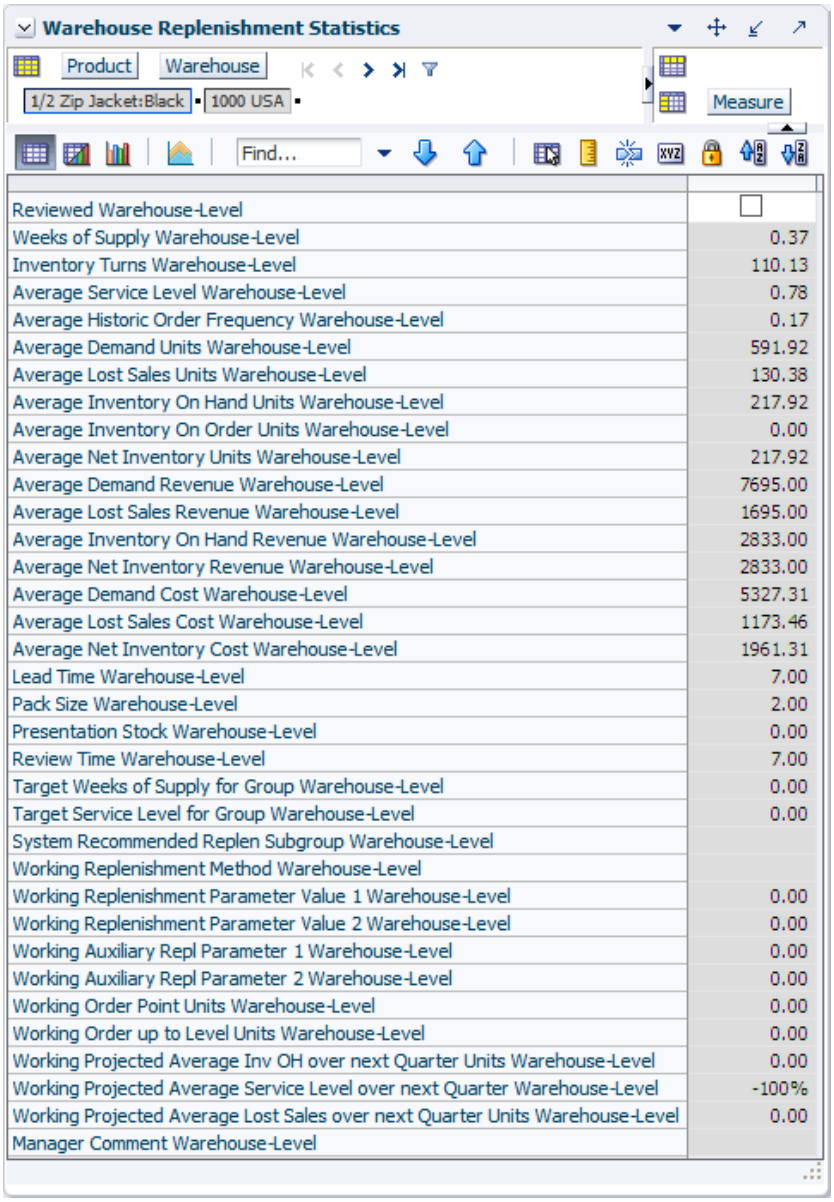
Table 7–8 (Cont.) Warehouse Replenishment Analysis View Measures

Measure	Description
User Replenishment Method Warehouse Level	This is measure list provides the following Replenishment Methods options: ■ MinMax ■ Dynamic ■ TimeSupply ■ Poisson ■ Hybrid Refer to Chapter 4, "Replenishment Admin Workbook" for valid replenishment parameter inputs and for information about each method.
User Replenishment Parameter Value 1 Warehouse Level	This is a writable measure where you input replenishment parameter 1 based on the Replenishment Method chosen. Refer to Chapter 4, "Replenishment Admin Workbook" for valid replenishment parameter inputs and for information about each method.
User Replenishment Parameter Value 2 Warehouse Level	This is a writable measure where you input replenishment parameter 2 based on the Replenishment Method chosen. Refer to Chapter 4, "Replenishment Admin Workbook" for valid replenishment parameter inputs and for information about each method.

Warehouse Replenishment Statistics View

Many of the statistics listed in this view are the same as those listed in the Summary view of this workbook, but at the item/warehouse level. Refer to Warehouse Replenishment Summary Details View Measures for measure descriptions. Figure 7–17 shows a list of measure descriptions that are not included in the Summary view.

Figure 7–17 Warehouse Replenishment Statistics View



Reviewed Warehouse-Level	☐
Weeks of Supply Warehouse-Level	0.37
Inventory Turns Warehouse-Level	110.13
Average Service Level Warehouse-Level	0.78
Average Historic Order Frequency Warehouse-Level	0.17
Average Demand Units Warehouse-Level	591.92
Average Lost Sales Units Warehouse-Level	130.38
Average Inventory On Hand Units Warehouse-Level	217.92
Average Inventory On Order Units Warehouse-Level	0.00
Average Net Inventory Units Warehouse-Level	217.92
Average Demand Revenue Warehouse-Level	7695.00
Average Lost Sales Revenue Warehouse-Level	1695.00
Average Inventory On Hand Revenue Warehouse-Level	2833.00
Average Net Inventory Revenue Warehouse-Level	2833.00
Average Demand Cost Warehouse-Level	5327.31
Average Lost Sales Cost Warehouse-Level	1173.46
Average Net Inventory Cost Warehouse-Level	1961.31
Lead Time Warehouse-Level	7.00
Pack Size Warehouse-Level	2.00
Presentation Stock Warehouse-Level	0.00
Review Time Warehouse-Level	7.00
Target Weeks of Supply for Group Warehouse-Level	0.00
Target Service Level for Group Warehouse-Level	0.00
System Recommended Replen Subgroup Warehouse-Level	
Working Replenishment Method Warehouse-Level	
Working Replenishment Parameter Value 1 Warehouse-Level	0.00
Working Replenishment Parameter Value 2 Warehouse-Level	0.00
Working Auxiliary Repl Parameter 1 Warehouse-Level	0.00
Working Auxiliary Repl Parameter 2 Warehouse-Level	0.00
Working Order Point Units Warehouse-Level	0.00
Working Order up to Level Units Warehouse-Level	0.00
Working Projected Average Inv OH over next Quarter Units Warehouse-Level	0.00
Working Projected Average Service Level over next Quarter Warehouse-Level	-100%
Working Projected Average Lost Sales over next Quarter Units Warehouse-Level	0.00
Manager Comment Warehouse-Level	

Table 7–9 Warehouse Replenishment Statistics View Measures

Measure	Description
Reviewed Warehouse Level	This is a writable measure indicating whether or not this item/location has been reviewed by you. This measure is only used for tracking purposes and updates the # of Alerts Reviewed and Total Reviewed measures.
Lead Time Warehouse Level	The Total Lead Time of the item/location value.
Pack Size Warehouse Level	The Item Pack Size value.
Presentation Stock Warehouse Level	The Minimum Presentation Stock value.
Review Time Warehouse Level	The frequency at which inventory is reviewed for replenishment purposes.
Price Warehouse Level	The Unit Retail Price of the Item value.
Cost Warehouse Level	The Unit Cost of the Item value.
System Recommended Replen Subgroup Warehouse Level	Subgroup that the System recommends for the item/location.
Target Weeks of Supply for Group Warehouse Level	The overall target or optimal weeks of supply recommended by RO for the subgroup of items/locations this item/location belongs to. While tracking inventory and service level performance against this optimal target, it is important to track performance for the entire group of items/locations as opposed to the performance of individual items/locations.
Target Service Level for Group Warehouse Level	The overall target or optimal service level recommended by RO for the subgroup of items/locations this item/location belongs to. While tracking inventory and service level performance against this optimal target, it is important to track performance for the entire group of items/locations as opposed to the performance of individual items/locations.
Working Replenishment Method Warehouse Level	Replenishment method currently chosen by you for this item/location. You can choose between system-recommended, previous-approved, and special-user input settings. This measure is updated based on the replenishment status measure. This measure represents the replenishment method that will be exported by the system, if you approve the settings now.
Working Replenishment Parameter Value 1 Warehouse Level	Replenishment Parameter1 currently chosen by you for this item/location. You can choose between system-recommended, previous-approved, and special-user input settings. This measure is updated based on the replenishment status measure. This measure represents the replenishment method that will be exported by the system, if you approve the settings now.
Working Replenishment Parameter Value 2 Warehouse Level	Replenishment Parameter2 currently chosen by you for this item/location. You can choose between system-recommended, previous-approved, and special-user input settings. This measure is updated based on the replenishment status measure. This measure represents the replenishment method that will be exported by the system, if you approve the settings now.
Working Auxiliary Repl Parameter 1 Warehouse Level	Auxiliary Replenishment Parameter1 currently chosen by you for this item/location. You can choose between system-recommended, previous-approved, and special-user input settings. This measure is updated based on the replenishment status measure. This measure represents the replenishment method that will be exported by the system, if you approve the settings now.
Working Auxiliary Repl Parameter 2 Warehouse Level	Auxiliary Replenishment Parameter2 currently chosen by you for this item/location. You can choose between system-recommended, previous-approved, and special-user input settings. This measure is updated based on the replenishment status measure. This measure represents the replenishment method that will be exported by the system, if you approve the settings now.

Table 7–9 (Cont.) Warehouse Replenishment Statistics View Measures

Measure	Description
Working Replenishment Settings Statistical Measures The following measures provide statistics based on the Working Replenishment Settings. The statistics help provide you with supporting information on the impact of the chosen replenishment Settings on future Inventory and Service levels to help you choose the correct Replenishment Settings.	
Working Order Points Units Warehouse Level	Order Point Units calculated by the system based on the working replenishment method and parameters.
Working Order Up to Level Units Warehouse Level	Order up to point units calculated by the system based on the working replenishment method and parameters.
Working Projected Average Inv OH over next Quarter Units Warehouse Level	Projected average on-hand inventory units over next quarter based on working replenishment settings. This measure represents the long-term steady state average on-hand inventory, assuming current inventory level is not too high or too low to drive long-term inventory and service levels.
Working Projected Average Service Level over next Quarter Warehouse Level	Projected average service level over next quarter based on working replenishment settings. This measure represents the long-term steady state service level, assuming current inventory level is not too high or too low to drive long-term inventory and service levels.
Working Projected Lost Sales Units over next quarter Units Warehouse Level	Projected average lost sales over next quarter based on working replenishment settings. This measure represents the long-term steady state lost sales, assuming current inventory level is not too high or too low to drive long-term inventory and service levels.
System Recommended Replenishment Settings Statistical Measures The following measures provide statistics based on the System Recommended Replenishment Settings. The statistics help provide you with supporting information on the impact of the chosen replenishment Settings on future Inventory and Service levels to help you choose the correct Replenishment Settings.	
System Recommended Projected Average Inv OH over the next Quarter Units Warehouse Level	Projected average on-hand inventory units over next quarter based on system recommended replenishment settings. this measure represents the long-term steady state average on-hand inventory, assuming current inventory level is not too high or too low to drive long-term inventory and service levels.
System Recommended Projected Average Service Level Over next Quarter Warehouse Level	Projected average service level over next quarter based on system recommended replenishment settings. This measure represents the long-term steady state service level, assuming current inventory level is not too high or too low to drive long-term inventory and service levels.
System Recommended Projected Lost Sales Units over next quarter Units Warehouse Level	Projected average lost sales over next quarter based on system recommended replenishment settings. This measure represents the long-term steady state lost sales, assuming current inventory level is not too high or too low to drive long-term inventory and service levels.
Manager Comment Warehouse Level	This is a read-only measure, indicating any comments input in the replenishment manager workbook. If the replenishment manager enters any special remarks about the performance of a replenishment rule ID, the comment is visible here to the replenishment analysts for all items/locations that belong to that replenishment rule ID.

Warehouse Replenishment Weekly Details View

This view provides item/warehouse/week-level details of historic inventory, demand, lost sales, and forecasts to help you easily identify trends in inventory and demand, large stock out situations, and so on.

Figure 7–18 Warehouse Replenishment Weekly Details View

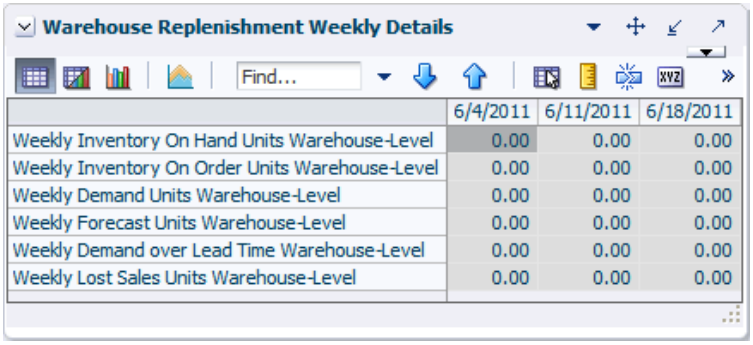


Table 7–10 Warehouse Replenishment Weekly Details View Measures

Measure	Description
Weekly Demand Over Lead time Warehouse Level	Weekly demand units aggregated over lead time for each week
Weekly Demand Units Warehouse Level	Weekly demand units
Weekly Forecast Units Warehouse Level	Weekly forecast units
Weekly Inventory On Hand Units Warehouse Level	Weekly on-hand inventory units
Weekly Inventory On Order Units Warehouse Level	Weekly on order inventory units
Weekly Lost Sales Units Warehouse Level	Weekly lost sales units

Warehouse Approval Step

The Warehouse Approval step consists of the following view:

- Warehouse Replenishment Approve View

The approval process is the final step in the replenishment analysis process. After reviewing inventory performance, performing what-if-analysis, and updating the Replenishment Status, you can open the Approval view and approve the selected settings.

For additional information about the process flow, see: Approval Process Flow.

Warehouse Replenishment Approve View

In this view, the metrics are presented at the item/warehouse level, for all combinations selected in the wizard.

Figure 7–19 Warehouse Replenishment Approve View

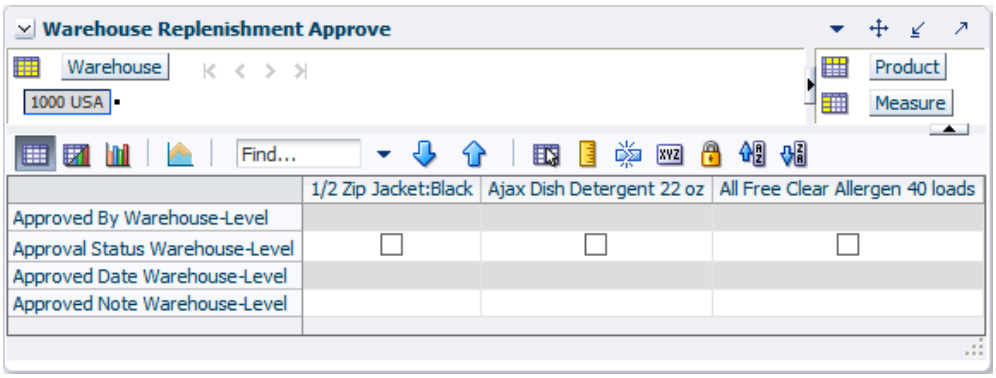


Table 7–11 Warehouse Replenishment Approve View Measures

Measure	Description
Approval Status Warehouse Level	This is a writable check box measure. When you select this measure and invokes the Approve menu, the Approved Replenishment settings get updated.
Approved By Warehouse Level	This is a read-only measure that gets updated with the user ID when you select the Approval Status measure and invoke the Approve menu.
Approved Date Warehouse Level	This is a read-only measure that gets updated with the current date when you select the Approval Status measure and invoke the Approve menu.
Approved Note Warehouse Level	This is a writable measure where you can input Approval notes at the time of approval.

Approval Process Flow

The Approval Process Flow is a combination of front-end and back-end batch processes. The RO batch updates the system-recommended replenishment settings. You can view the system-recommended and previously approved replenishment settings in the Replenishment Analyst workbook. You can enter user-input replenishment settings, compare the impacts on inventory and service levels, and update the Replenishment Status appropriately. For items/locations that do not have any alerts triggered, the Replenishment Status defaults to Apply System Recommended settings. For items/locations that have at least one alert triggered, the Replenishment Status defaults to the Apply Previous Approved setting.

The Working Replenishment Settings get updated based on the Replenishment Status. When you approves these settings, the Working Replenishment settings get copied to the Approved Replenishment settings.

For items/locations that you have not approved at the time of the Approval batch run, the system will copy the System Recommended settings if no alerts were triggered; otherwise, the system will copy the Previous Approved settings.

The approval batch is responsible for updating the Approved Replenishment Settings for any items/locations that you have not manually approved.

Figure 7–20 illustrates how the default Replenishment Status is assigned.

Figure 7–20 Default Replenishment Status Assignment

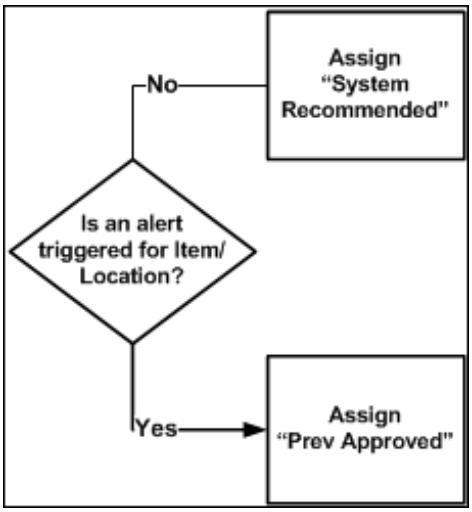


Figure 7–21 displays the approval process workflow in the Replenishment Analyst workbook.

Figure 7–21 Approval Process Workflow in Replenishment Analyst