An Oracle White Paper October 2014

Oracle Financials and Hyperion Performance Management Applications Integrations



# **Table of Contents**

Executive Overview	2
ntroduction	3
ntegration Diagrams	4
Data Relationship Management	4
Planning	5
Financial Management	6
Charts of Accounts and Hierarchies	7
DRM and General Ledger	7
Download from General Ledger	9
Create Files for Upload to General Ledger	10
Upload Files and Import to General Ledger	11
Upload to Planning	12
Upload to Financial Management	13
General Ledger Balances	14
Download Balances to a File	14
Download Balances to Spreadsheets	17
Transform Balances in General Ledger	18
Upload Balances to Planning	22
Upload using Financial Data Manager	23
Upload using Financial Management Data Loader	24
Budget Amounts	25
Review Budgets in Planning Prior to Load	25
Download Budgets from Planning	26
Defining Budget Scenarios in General Ledger	27
Load Budgets Using Spreadsheet Loader	28
Load Budgets Using Data File Loader	29

## **Executive Overview**

This white paper discusses integration of Oracle Financials Cloud with Oracle Hyperion Performance Management Applications including the following.

- Oracle Data Relationship Management
- Oracle Hyperion Planning and Budgeting
- Oracle Hyperion Financial Management

The types of information discussed in this white paper represent information typically shared between general ledger and financial performance management applications.

- Chart of accounts (known as dimensions in Hyperion) values and hierarchies
- Actual financial results
- Budgeted amounts

Some of the integration approaches discussed here can also be used to integrate Oracle Financials Cloud with other applications or approaches to financial management such as using non-Oracle applications or spreadsheets for budgeting or consolidations.

After a review of typical information flows between Oracle Financials Cloud and the Hyperion applications, integration guidance is provided.

## Introduction

Customers pursue a variety of approaches for budgeting and consolidation, from simple spreadsheets to applications specifically designed for budgeting or consolidation such as Oracle Hyperion Budgeting and Planning Cloud Service or Oracle Hyperion Financial Management.

Using Oracle Financials Cloud plus Oracle Hyperion Performance Applications or other solutions such as spreadsheets and non-Oracle applications, requires sharing and reusing information to reduce the cost of ownership and to ensure financial results are reliable for audits. In general terms, the types of information often shared for detailed financial reporting, consolidated financial reporting, and budgeting are as follows.

- Chart of accounts and hierarchies values
- Actual financial balances
- Budgeted amounts

The following sections describe recommended approaches for addressing the above requirements.

Throughout this document:

- General Ledger refers to the Oracle Fusion General Ledger capabilities within Oracle Financials Cloud or as an on-premise offering.
- Planning refers to Oracle Hyperion Planning. This document covers integration of on-premise offerings only. Information on integration of the cloud offerings is covered in the white paper, Financials Cloud Integration with Planning and Budgeting Cloud Service.
- Financial Management refers to Oracle Hyperion Financial Management. This is an on-premise solution.
- FDM refers to Oracle Hyperion Financial Data Quality Management Enterprise
  Edition. FDM is part of Planning Cloud Service and is an optional add-on to
  Planning (on-premise) which provides robust capabilities for data transformation
  and loading. This is an on-premise solution.
- DRM refers to Oracle Data Relationship Management. DRM is an enterprise
  change management solution for master data. It can be used to create an
  enterprise view of chart of accounts and chart of accounts hierarchies across
  general ledger and enterprise performance management systems such as Planning
  and Financial Management. This is an on-premise solution.

# **Integration Diagrams**

#### Data Relationship Management

The relationship between Oracle Data Relationship Management, General Ledger, Planning, and Financial Management is as follows.

# General Ledger Chart of Accounts and Hierarchies Import Export Data Relationship Management Chart of Accounts and Hierarchies Source of Truth Planning Financial Management Dimension Members and

Data Relationship Management and Oracle Financials Cloud

DRM is a separately licensed application. It can be used to centrally manage chart of accounts values and hierarchies and then to export the same to other applications such as General Ledger. If there is not a requirement to use Data Relationship Management as a central repository, charts of accounts and hierarchies can be maintained directly in General Ledger.

There is a direct integration between DRM and the on-premise Oracle Fusion General Ledger, but not with Oracle Financials Cloud. However, the components of the on-premise integration, such as the application template, can be reused to integrate Data Relationship Management with Oracle Financials Cloud (General Ledger). This is covered in the <u>DRM and General Ledger</u> section of this white paper.

There are integrations between DRM and Planning (on-premise) as well as Financial Management.

### **Planning**

The process for integrating Financials (General Ledger) with Planning and Budgeting onpremise is captured below. If you are using the cloud offerings, see the white paper *Oracle Financials Cloud Integration with Planning and Budgeting Cloud Service*.

If you are using DRM, steps one and two are replaced by the process covered in the DRM section.

## Planning and Budgeting General Ledger Dimension Metadata Chart of Accounts and Extract Import Hierarchies Refresh Cube Actual Balances Import Extract Actual Balances Run Business Rules for Aggregation **Budget Amounts** Extract Import **Budget Amounts**

# Planning and Budgeting and Oracle Financials

Chart of Accounts and Hierarchies are extracted from General ledger. They must be reformatted and then imported into Planning. Planning cubes are then refreshed to reflect this metadata. This process is completed during the initial configuration and again as needed to reflect updates in chart of accounts values and updates to account hierarchies.

Actual balances are extracted from General Ledger and imported into Planning. which is typically completed prior to generating or revising budgets? After the actual balances are imported, Planning business rules are run to complete aggregations of actual amounts for budgeting purposes.

Once budgets are completed or updated the amounts are extracted from Planning, converted into the format required by General Ledger and imported into the same.

#### Financial Management

The process for integrating Financials Cloud Service (General Ledger) with Financial Management is as follows. If you are using DRM, steps one and two are replaced by the process covered in the <u>DRM section</u>.

# Oracle Financials Cloud and Financial Management

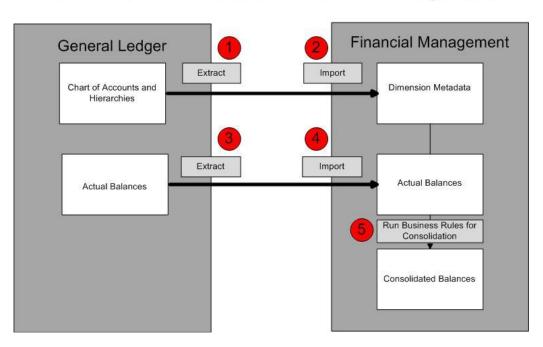


Chart of accounts and hierarchies are extracted from General Ledger. They are reformatted as dimensions metadata and loaded into Financial Management.

Actual balances are extracted, reformatted as required, and then imported into Financial Management. Financial Management is used to create consolidation rules and, in turn, consolidated financial balances.

#### Charts of Accounts and Hierarchies

This section covers synchronization of chart of account and hierarchy values between General Ledger, DRM, Planning, and Financial Management.

The suggested approach for synchronizing chart of account and hierarchy values is based upon whether you are using DRM to maintain your chart and hierarchy values.

If you are using DRM as the source of truth for chart and hierarchy values, export the values from DRM and then upload them to General Ledger, Planning, and Financial Management.

Uploading DRM values to General Ledger requires manual tasks covered in the <u>DRM and General Ledger</u> section.

If you are using General Ledger to maintain chart and hierarchy values and not using DRM, download the values from General Ledger and then upload them to Planning and Financial Management.

#### DRM and General Ledger

If you are using DRM to maintain your chart and hierarchy values, you can export the results from DRM and then upload them to General Ledger. This process requires configurations.

To enable this transfer, you must first update the application template used for DRM – General Ledger integration. This template defines the format used to export chart and hierarchy values from DRM to General Ledger. It also allows users to enter values for General Ledger specific chart of accounts purposes such as account types and start and end dates.

The name of this template is OracleGL\_DRM\_AppTemplate.xml. It is available for download from the <u>Oracle Enterprise Repository</u>.

Once uploaded into DRM, the following actions are necessary to export DRM chart of accounts and hierarchy values in the format required by General Ledger.

- Create new DRM properties to map descriptive property values in DRM to single character codes used by General Ledger, such as for the account types.
- Create or copy DRM export profiles.
- Set DRM export profile parameters. Set file output options such as the delimiter/filename and selecting hierarchies for export.
- Reorder DRM export columns to the order required by General Ledger.
- Create a DRM book for each value set that is to be run from DRM and add the exports FusionValueSetExport and FusionHierarchyExport to the book. The book runs both exports and produces two files per value set for the segment values and hierarchies.
- Use DRM version variables for selecting GL related versions in DRM.

After this initial configuration, use DRM to maintain account and hierarchies. Export these values to the .csv format required by General Ledger as needed; such as prior to closing the accounting period and generating financial reporting. Run the DRM book or exports FusionValueSetExport and FusionHierarchyExport to generate the files.

The .csv files generated by DRM need to be manually loaded into General Ledger using the import process described in the <u>Upload Files and Import to General Ledger</u> section of this white paper.

For more information on the DRM to Oracle Fusion General Ledger integration for onpremise environments, see the white paper on Oracle support document ID 1315694.1, Hyperion Data Management Integration with the Oracle Fusion and E-Business Suite General Ledgers.

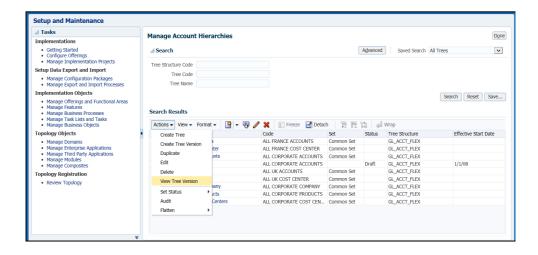
For more information on the DRM integration with Fusion General Ledger, see the <u>Oracle</u> General Ledger Integration Guide for Data Relationship Management.

## Download from General Ledger

You can export chart of accounts and hierarchies from the same task in Oracle Fusion Functional Setup Manager that is used for their maintenance.

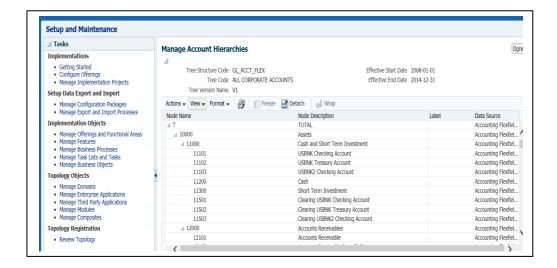
#### To complete the export:

- Choose Setup and Maintenance from the Navigator.
- Find and select the task Manage Account Hierarchies.
- Select the hierarchy.
- Expand the hierarchy to find the version to be downloaded.
- Use the Action option from the search results toolbar and select View Tree Version.



The page refreshes to display the hierarchy version.

Use the View menu option from the search results toolbar to expand the hierarchy to display the hierarchy details.



The export is based upon the selected display. If you want to download the entire hierarchy, display all the values.

Select the export nodes icon from the search results toolbar to export the information to a file, which you can then save locally and reuse as needed.

Create Files for Upload to General Ledger

Upload chart of accounts and hierarchies to General Ledger if the values are in an external system other than DRM, but used by General Ledger.

General Ledger provides two mechanisms to upload chart and hierarchy values.

1. The Rapid Implementation for General Ledger spreadsheet.

The spreadsheet is used to create enterprise structures, such as the chart of accounts structure and ledgers, and to upload chart and hierarchy values. It is organized in a business user format, rather than from a technical perspective.

This template is available from the Setup and Maintenance task. Search for the task Create Chart of Accounts, Ledger, Legal Entities, and Business Units in Spreadsheet, and then select the Go to Task icon. The spreadsheet opens automatically. It includes instructions to guide you through the upload process.

Rapid Implementation also provides the ability to just do a hierarchy version even where the core enterprise structures are already defined.

2. The Segment Values and Hierarchies Interface spreadsheet.

The spreadsheet is used exclusively for uploading chart of accounts and hierarchy values. It is not used to define the chart of accounts structure. The spreadsheet includes the ability to enter chart of account value descriptions in multiple languages; which is not provided in the Rapid Implementation for General Ledger spreadsheet.

This template is available in the <u>Oracle Enterprise Repository</u> (OER), a catalog of integration assets for Fusion applications.

Once you have logged into OER, from the main search page, search for these assets using the search: Segment Values and Hierarchies Import. Download the spreadsheet. It includes instructions to guide you through the upload process.

Upload Files and Import to General Ledger

If you have a .csv file with the chart of accounts and hierarchy values from DRM or the Segment Values and Hierarchies Interface template you can manually load the file to General Ledger. The same process is used to load .csv files from DRM and for .csv files generated by the Segment Values and Hierarchies Interface spreadsheet.

This process does not apply if you are using the Rapid Implementation of General Ledger Spreadsheet (which contains its own instructions for upload).

Use the File Import and Export navigation option from the Tools menu from applications home page to upload the file. There are screen shots showing the same process as used for loading budgets in the section <u>Load Budgets Using Data File Loader</u>.

Once you have navigated to the page, select the create icon from the search results toolbar to import a file. Enter the values as follows.

Parameter	Selection
File	The file that you created when you completed the template.
Account	fin/generalLedger/import

- Use the navigator to select Scheduled Processes.
- Select the process, Load Interface File for Import.
- Complete the parameters as follows.

Parameter	Selection
Import Process	Import Segment Values and Hierarchies
Data File	The name of the file that you imported. It must be in the account fin\$/generalLedger\$/import\$

Use the process monitor to view the results. Once this import is successful, you can import the values. From the scheduled requests page, submit the process Import Segment Values and Hierarchies. Although this has the same name as the Import Process described in the previous step, it has a different purpose and must also be submitted.

After the process completes, you can view the results using the Manage Account Hierarchies task from the setup and maintenance menu.

#### Upload to Planning

If you are using DRM, load account and hierarchy values to Planning (on-premise) using pre-built integrations provided by Oracle. This is described in the *Oracle Hyperion Data Management EPM Architect Integration Guide*.

If you are not using DRM, you can load chart of accounts and hierarchies from General Ledger using the Planning data loader.

To load chart of accounts and hierarchies from General Ledger to Planning

- Download the values from General Ledger. Each segment (known as a dimension in Planning) must be in a separate file. Details for this process are covered in the <u>Download from General Ledger</u> section.
- Reformat the values into the format required by Planning.
- Use the Planning data loader to upload the chart of accounts and hierarchies. Details
  for this are included in the Load Metadata section of the <u>Oracle Cloud Using Oracle</u>
  <u>Planning and Budgeting Cloud Service</u> documentation.

#### Upload to Financial Management

If you are using DRM, load account and hierarchy values to Financial Management using pre-built integrations provided by Oracle. This solution is available for both the on-premise. It is described in the *Oracle Hyperion Data Management EPM Architect Integration Guide*.

If you are not using DRM, you can load chart of accounts and hierarchies from General Ledger to Planning using the Planning data loader.

To load chart of accounts and hierarchies from General Ledger to Planning

- Download the values from General Ledger. Each segment (known as a dimension in Planning) must be in a separate file. Details for this process are covered in the <u>Download from General Ledger</u> section.
- Reformat the values according to Hyperion Financial Management. As part of this, you may decide that you would like to use different hierarchies for consolidation than are used by General Ledger. Formatting requirement details are located in the Creating Metadata Files of the APP Format section of the Oracle Hyperion Financial Management Administrator's Guide.
- Load the results into Hyperion Financial Management. This is covered in the Loading Metadata section of the <u>Oracle Hyperion Financial Management Administrator's</u> Guide.

## General Ledger Balances

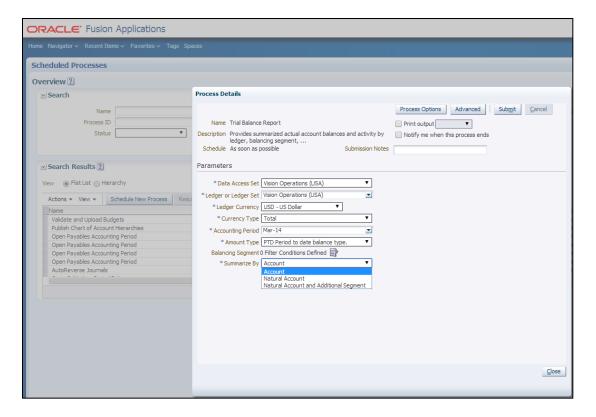
This section covers extraction and transformation of General Ledger balances for budgeting and consolidation.

- Download balances to a file if there is not a direct connection from General Ledger to the application used for budgeting or consolidation.
- Download balances to a spreadsheet if you are using spreadsheets for Budgeting or Consolidation.
- Transform balances directly in General Ledger if you are using a spreadsheet or application other than Planning or Financial Management and the level of balance detail is different than is provided by General Ledger. This transformation occurs prior to the balance download.
- Transform balances using FDM if you are using Planning (on-premise) or Financial Management and the level of balance detail is different than is provided by General Ledger. This transformation occurs after the balances are uploaded to FDM.
- Transform balances using the data loader in Planning and Budgeting if you would like to do transformations in Planning rather than General Ledger.

#### Download Balances to a File

The best way to extract actual balances from General Ledger is by running the Trial Balance Report. You can schedule this report to run at a pre-determined interval or request it on-demand.

To run this report, choose Scheduled Processes from the Navigator and select the Trial Balance Report:



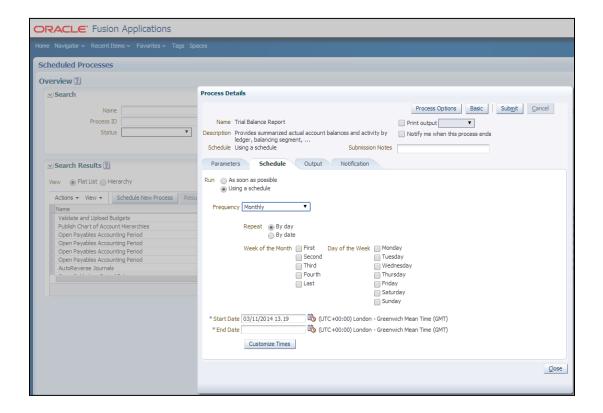
In this example, the user has elected to summarize by account, meaning the Trial Balance Report preserves the most granular account balances and display a row for each account combination. You could choose to summarize by:

- Natural Account, in which case the report would be more highly summarized, with a row for each natural account and all other chart of accounts segments summed.
- Natural Account and Additional Segment, in which case you choose one additional segment. The report includes a row for each combination of natural account and the selected segment, with all other segments summarized.

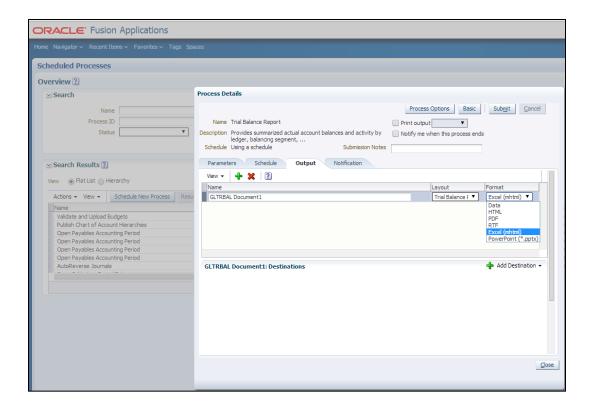
If you only budget or consolidate at the natural account level (or natural account plus one other segment), then you should choose one of these options.

If you choose Account, the finished report displays each account combination in a single column, for example 01.000.4100.0000.000.

If you want to schedule this report to run regularly, click Advanced and choose the Schedule tab:



To generate the report as a CSV file, choose the Output tab, and add a row to specify Excel (mhtml) as the format.



You can then load this file into Planning and Financial Management.

#### Download Balances to Spreadsheets

The easiest way to download actuals from General Ledger to a spreadsheet is through Smart View. Smart View is an excel add-in for reporting and analysis. If you don't already use Smart View, you can download the add-in from <u>Oracle Technology Network</u>.

With Smart View, you choose exactly which account combinations you need for which time periods and press Refresh. Smart View retrieves your actuals directly into the spreadsheet. You can then reference these actual balances.

Note: It is also possible to use Smart View to enter your budgets. However, this is not recommended because, while Smart View loads your budgets to the General Ledger balances cube for budget-actual comparisons, it does not backup your budgets. This means that, if in the future you need to rebuild your balances cube, your budgets are lost. You would have to back them up yourself, outside the General Ledger, and then reload them.

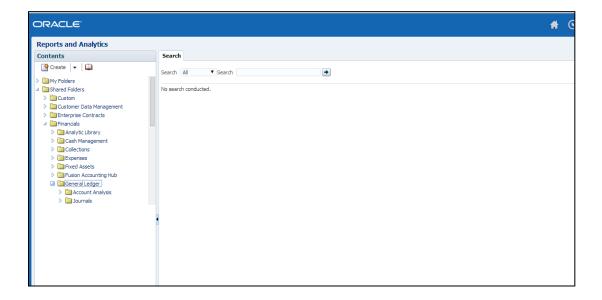
If you have a large chart of accounts, you may find it more efficient to run the Trial Balance Report rather than leveraging Smart View. You can submit the report once and it generates a report of your entire set of balances. When you run it, you can specify Excel as the output option, so that when you open the completed report, it opens directly in Excel.

#### Transform Balances in General Ledger

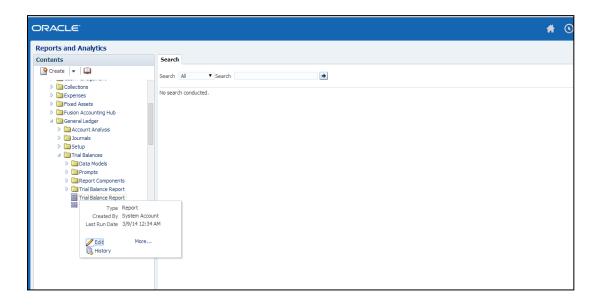
If you don't have access to data transformation tools (for example, if you are not using Hyperion Performance Management Applications), and need to transform the balances, you may want to consider modifying the General Ledger Trial Balance template. This allows you to modify the output of the report without customizations or using an external transformation tool.

For example, by default, the Trial Balance Report displays your entire account combination, e.g. 01.000.4100.0000.000. Suppose your application does not include that last segment. You could modify the Trial Balance template to suppress that final segment. To do so:

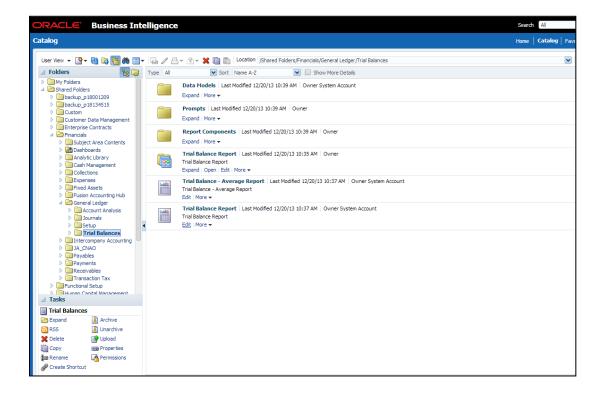
- Choose Reports and Analytics from the Tools menu in the Navigator.
- Expand Shared Folders > Financials > General Ledger



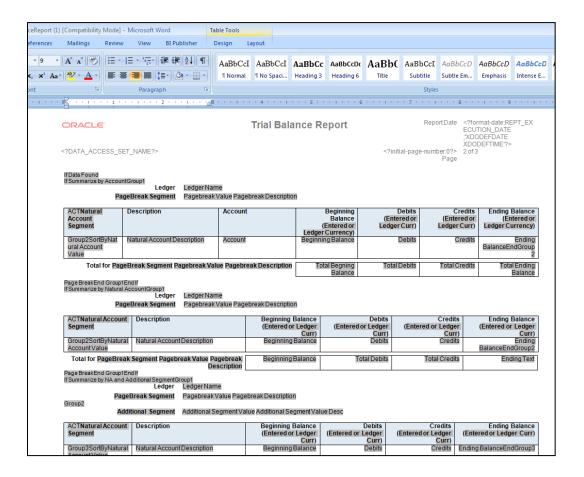
• Under General Ledger > Trial Balances, click Trial Balance Report and choose More.



Choose Edit under Trial Balance Report.



 This downloads the Trial Balance template which you can open in your word processor.

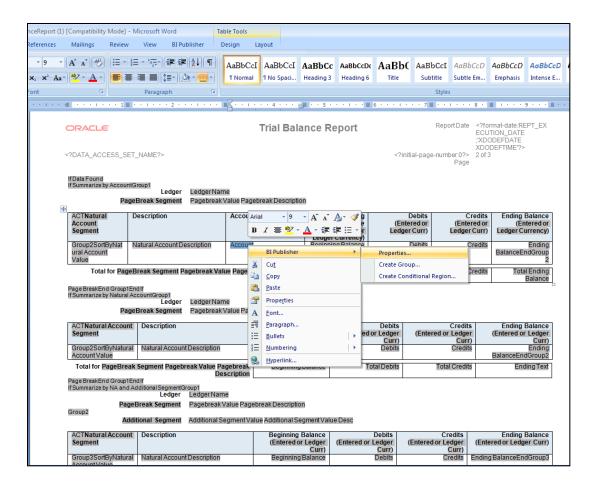


This is the template used to control the output of the Trial Balance Report.

There are three tables in this report, one for each of the Summarize by options. In other words, depending on which level you choose for Summarize by (Account, Natural Account, or Natural Account and Additional Segment), the report uses the corresponding table.

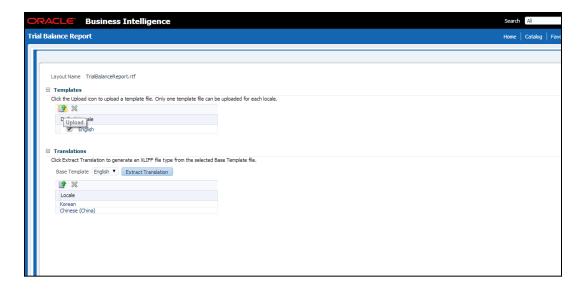
In this example, we want to display the overall account combination while suppressing the last segment. Thus, we focus on the top table.

Right-click account and choose BI Publisher > Properties.



This displays the tag (<?ACCT?>) used to slot the appropriately tagged data into that specific location in the report template. We can use the BI Publisher substring capability to only display the first 17 characters of account combinations like 01.000.4100.0000.000. Replace <?ACCT?> with <?xdofx:substr(ACCT,1,17)?> and press OK.

- When finished, save your template as an .rtf file.
- Return to your browser and click Properties under the Trial Balance Report. From here, you can upload your file as a new template.



Then, when you run the Trial Balance Report, simply specify your new template as the Output option.

This suppresses the final segment of your account combinations, which may result in multiple rows for a resulting combination. Be sure that when you load this file into your application, you are able to sum these rows together.

For more information, please refer to <u>BI Publisher</u> on http://www.oracle.com.

#### Upload Balances to Planning

To upload General Ledger Balances to Planning and Budgeting, save the trial balance information to an accessible machine (such as your PC), and then import the data into Planning.

Once the file is saved locally complete the following.

Update the file so that it is in the format required by Planning. This can be done prior to generating the trial balance described in the section <u>Transform Balances</u>

<u>Directly in General Ledger.</u> If you instead want to transform the balances in Planning you can use Data Management in Planning and Budgeting Cloud Service.

For information on completing the data load in Planning and Budgeting Cloud Service, see the Oracle Learning Library, <u>Load Data and Drill Through in Oracle Planning and Budgeting Cloud Service.</u>

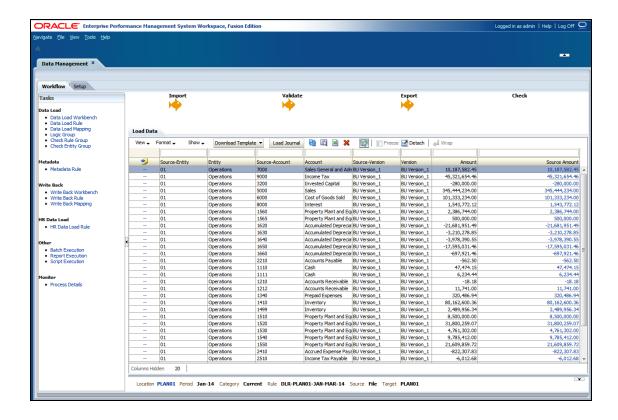
For information on completing the data load in Planning (on-premise) see the Loading Data and Metadata section of the *Oracle Hyperion Planning Administrator's Guide*.

Upload using Financial Data Manager

If you are using the on-premise Planning or and/or the Financial Management application and the balances are not at the same level of detail as your General Ledger chart of accounts, then you can load the General Ledger balances as is.

If either application is more summarized, then you need to transform your extracted actual balances to match these applications. If the applications use different levels of summarization the process is the same, but is completed once for each application using the appropriate summarization levels.

The best way to transform extracted actual balances for use with on-premise Planning or Financial Management is with Financial Data Quality Management, Enterprise Edition (FDMEE).



For more information on FDM, please refer to the <u>FDM section</u> of the Oracle Documentation Library.

Upload using Financial Management Data Loader

If you would like to bypass FDM and load the actual balances file directly into Financial Management, you can do so. However, the balances file must be formatted as required by Financial Management. Details for this are covered in the section on Managing Data in the Oracle Hyperion Financial Management User's Guide.

# **Budget Amounts**

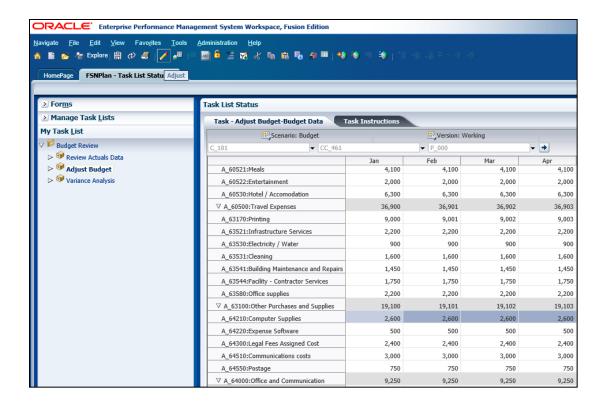
This section covers how to load completed budgets to General Ledger. There are two mechanisms which can be used for this purpose.

- Spreadsheet loader: This is useful for low volume budget data that is easy to manipulate in a spreadsheet.
- Data file loader: This is useful for large volume budget data not easily manipulated in a spreadsheet. It is also useful if you update and reload budgets frequently to General Ledger. You can schedule this process to run as needed.

If you are using Planning, and the level of detail from budgeting to General Ledger differs, you can define transformation rules using FDM. This is similar to the transformation process described in the section on General Ledger balances. If the transformations are very simple this may not be necessary.

Review Budgets in Planning Prior to Load

If you are using Planning, you can use its Budget Review feature to verify the budgeted amounts before loading them to General Ledger.



In this example, budgeting is at a high level, based primarily on Entity and Natural Account. To load your budgets to General Ledger, you need to map this high-level budget data to the chart of accounts you use to track your actuals.

- For any segments in your chart of accounts that are not represented in your budget (for example, cost center), specify a default value.
- For any segment values that represent parents in a chart of accounts hierarchy, specify a corresponding child value. This is necessary because in General Ledger, parent values represent points of aggregation. Journals should not be directly posted to them.

#### Download Budgets from Planning

You can download budget information from Planning directly into Excel; and then reformat as needed to load into General Ledger.

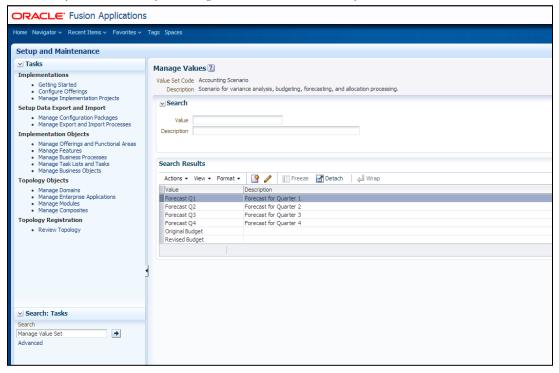
Information on downloading budget amounts into Excel is covered in the Exporting Data to Microsoft Excel section of the Working with Planning for Oracle Planning and Budgeting Cloud Service document.

## Defining Budget Scenarios in General Ledger

Prior to uploading budgets, you must define a budget scenario in General Ledger. You can maintain multiple budgets or forecast versions simultaneously using a separate scenario for each. You can reference any scenario in a variance report.

### To define a budget scenario:

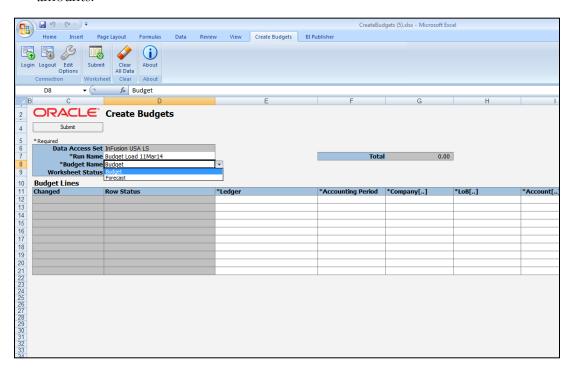
- Choose Setup and Maintenance from the Navigator.
- Go to the task Manage Value Sets.
- Search for value sets for the General Ledger module.
- Choose the Accounting Scenario value set and click Manage Values.
- Here you can see any existing scenarios and enter any needed new ones.



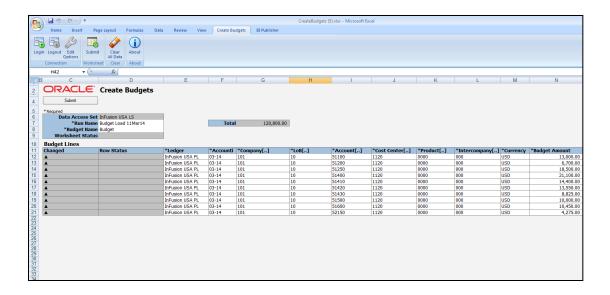
#### Load Budgets Using Spreadsheet Loader

To use the spreadsheet loader:

- Choose General Accounting Dashboard from the Navigator.
- From the Task pane on the left, choose Create Budget in Spreadsheet. This creates a blank spreadsheet with columns for your chart of accounts segments and budget amounts.



- Enter a Run Name to distinguish this budget load from other loads.
- Enter the Name of the budget you are loading. This is the scenario you created in an earlier step.
- Copy and paste the budget data from your Planning file into this spreadsheet. You can
  specify any additional segment values (or change any values as needed) simply by
  typing in the appropriate columns.

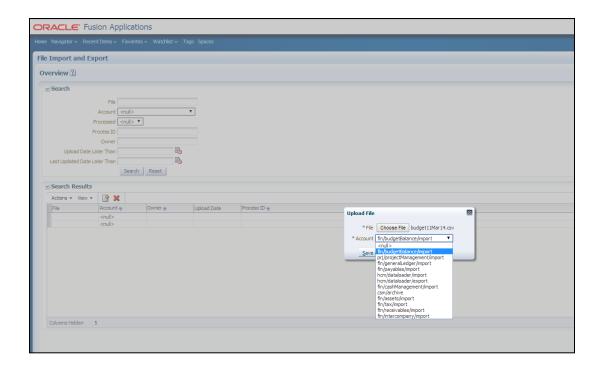


• When you are ready, click Submit at the top of the worksheet.

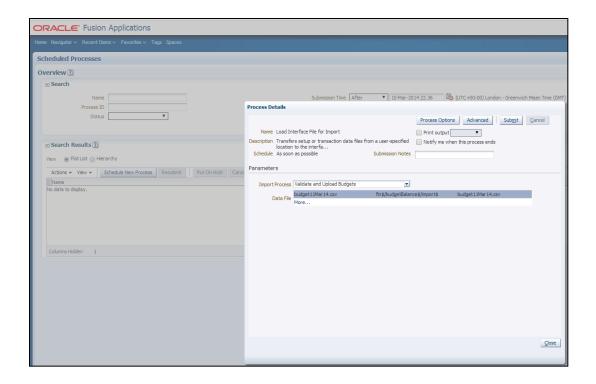
Load Budgets Using Data File Loader

To use the data file loader:

- Make sure your exported file is in the format expected by the data file loader. The exact file format is available in the <u>Oracle Enterprise Repository</u>.
- Choose File Import and Export from the Tools menu in the Navigator.
- Click the New button in the toolbar.



- Click Choose File to locate the file.
- Choose fin/budget/Balance/Import for Account.
- Click Save and Close.
- Choose Scheduled Processes from the Tools menu in the Navigator.
- Run the process Load Interface File for Import.
- Select Validate and Upload Budgets for the Import Process.
- Choose your file to complete the File option.



After this completes, please run the process Validate and Upload Budgets. Specify the Run Name you included in your budget file.

If you frequently update budgets in Planning and wish to schedule a regular process to load updated budgets to General Ledger, you can schedule these jobs to run automatically at a set interval. In this case, be sure to always name your budget file using the same filename.



Budgeting and Forecasting with Oracle Financials Cloud Service March 2014

Oracle Corporation World Headquarters 500 Oracle Parkway Redwood Shores, CA 94065 U.S.A.

Worldwide Inquiries: Phone: +1.650.506.7000 Fax: +1.650.506.7200

oracle.com



Oracle is committed to developing practices and products that help protect the environment

Copyright © 2014, Oracle and/or its affiliates. All rights reserved.

This document is provided for information purposes only, and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document, and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group. 0114

Hardware and Software, Engineered to Work Together