



BI101: Cardinal Business Intelligence Reporting Overview

Web Based Training



Welcome

Welcome to Cardinal Training!

This training provides employees with the skills and information necessary to use the Cardinal Business Intelligence (BI) Solution. It is not intended to replace existing Commonwealth and/or agency policies.

In this course, you will learn about the Cardinal Business Intelligence (BI) Solution. This course provides a general overview of Cardinal BI and is intended for all General Users. It also serves as a prerequisite for the Cardinal BI Ad Hoc Reporting Course.

These training materials include screenshots that depict various aspects of the Cardinal BI Solution. **The screenshots are representative of the Cardinal Business Intelligence Solution and are subject to change.** Furthermore, some screenshots show pages that not all users can access. A user's responsibilities dictate the functionality to which they are granted access.





Course Objectives

After completing this course, you will be able to:

- Understand the purpose of Cardinal Business Intelligence
- Understand the functionality of a dashboard and a report
- Log into Cardinal Business Intelligence
- Use the Global Header
- Understand prompts and use prompt capabilities to filter report data
- Understand hierarchy drilldowns and guided navigation between dashboard pages
- Understand available report features
- Understand the different report and graph types
- Manipulate report columns on a dashboard
- Use different print and export options
- Set default prompts on a dashboard page
- Set a landing page
- Clear personalization
- Find Cardinal Business Intelligence Help

Assessment questions at the end of each lesson will check for your understanding.





Lesson 1: Cardinal Business Intelligence Basics

In this lesson, you will learn about the following topics:

- Cardinal Business Intelligence Overview
- Logging Into Cardinal Business Intelligence



Cardinal Business Intelligence Overview

The **Cardinal Business Intelligence (BI)** Solution is a tool created using **Oracle Business Intelligence Enterprise Edition (OBIEE)** that:

- Provides easy access to Cardinal information across a wide range of audiences through self-service reporting and analysis. (General Ledger, Accounts Payable, Employee Expenses and Accounts Receivables information)
- Empowers executive, managerial and select agency operational staff to make data driven, fact-based decisions using Key Performance Indicators (KPIs) focused on outcomes.
- Provides transparent access to data.

This web based training teaches the navigation and general use of the Cardinal BI Solution and is not specific to the Cardinal system. Please refer to BI Job Aids and the BI Report Listing on the Cardinal Website using the following path:

Cardinal Website > Statewide Toolbox > Job Aids > Business Intelligence Reporting

Note: There is typically a one day interval between the time the data is posted in Cardinal and the time the data is posted in BI. The BI data is refreshed from the Cardinal system nightly and does not reflect real time information.



Dashboard and Report Overview

Cardinal BI is made up of many **Dashboards**, **Dashboard Pages** and **Reports**.

A **Dashboard** is a structure that organizes analytical content (e.g., General Ledger, Accounts Payable, Accounts Receivable, Employee Expenses). The content on a **Dashboard Page** (e.g., reports, links, visualizations) is usually displayed as one or more reports.

In this example, the General Ledger **Dashboard** displays the **Dashboard Page** Expenditures by Account. The **Dashboard Page** Expenditures by Account displays the Expenditures by Account **Report**.

The screenshot displays the CARDINAL Business Intelligence interface. At the top, the 'CARDINAL Business Intelligence' logo is visible. Below it, the 'General Ledger' section is highlighted with a red box. Underneath, three tabs are shown: 'Expenditures and Revenue Summary', 'Expenditures by Program and Fund', and 'Expenditures by Account', with the latter being the active tab. The interface includes a filter section with the following fields: 'Fiscal Year' (set to 2016), 'Secretariat Level Name' (set to --Select Value--), and 'Agency Description' (set to --Select Value--). There is also a checkbox for 'Select by Agency Code' and buttons for 'Apply' and 'Reset'. Below the filter section, the 'Expenditures by Account' report is displayed, with a red box around its title. The report shows a large value of '\$1,559,020,896' labeled as 'Actual Expenditures'. At the bottom right, there is a 'View' button and a 'Trellis' dropdown menu.



Dashboard and Report Overview (continued)

In BI, a **Report** is an analysis displayed as a table or visualization based on a data set. There can be multiple reports placed on one **Dashboard**.

In this example, the two **Reports** are **Expenditures Budget vs. Actual** and **Revenue Budget vs. Actual**.

CARDINAL Business Intelligence

General Ledger | Home | Catalog | Favorites | Dashboard

Expenditures and Revenue Summary | Expenditures by Program and Fund | Expenditures by Account | Expenditures by Object

* Fiscal Year: 2016 [Apply] [Reset]

Expenditures Budget vs. Actual
ETL Run Date: 12-OCT-2015

\$5,267,876,794 Budget Expenditures	\$1,559,105,372 Actual Expenditures
---	---

% of Fiscal Year Remaining: 71.58%

Statewide Level Name	Budget Expenditures	Actual Expenditures	Budget Expenditures Remaining	% of Budget Expenditures Remaining
STATEWIDE	\$5,267,876,794	\$1,559,105,372	\$3,708,771,422	70.4%

Fiscal Year is equal to 2016
and Ledger Short Name is equal to / is in ACTUALS
and Fiscal Calendar Name is equal to / is in State Fiscal Calendar
and Actual Expenditures is not null
or FILTER(Budget Expenditures USING Budget Ledger Short Name = 'C_APPROP_B') is not null

Print - Export

Revenue Budget vs. Actual
ETL Run Date: 12-OCT-2015

\$2,537,278,831 Budget Revenue	\$1,505,339,672 Actual Revenue
--	--

% of Fiscal Year Remaining: 71.58%

Click on image to enlarge



Logging In

You can access the Cardinal BI Solution logon page using the following link:

<https://cardinalbi.cov.virginia.gov>

From the logon page, enter your **User ID** and **Password**.

User ID: The User ID for Cardinal BI is the same as your Active Directory account user ID.

Note: If your user ID is based on first name and last name then only use firstname.lastname as the User ID and exclude “@agencyname.virginia.gov”.

Password: Cardinal BI uses the same password as your Active Directory account password.

Sign In

Enter your user id and password.

User ID

Password

Accessibility Mode

 English



Announcement Overview

When you log into Cardinal BI, the **Announcement Overview** page displays the following three sections:

- **Announcement** - Users are informed about system outages, system upgrades and important information related to the BI system.
- **Background** – Information about the Cardinal System and Cardinal BI.
- **Information** – Links to each of the subject area dashboard and dashboard pages. For example, click on the “Expenditures and Revenue” link and see the details for the 7 dashboard pages related to expenditures and revenue.
- **Disclaimer** - Statement that defines risk and responsibility for any user of the BI system.
- **Related Sites** – links to other websites.

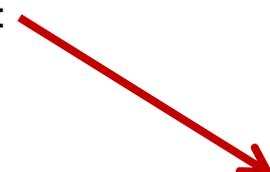


Announcement Overview (continued)

Click on the links in the **Information** section of the **Announcement Overview** page.

Links in the **Information** section:

1. **Expenditures and Revenue** link
2. **Employee Expenses** link
3. **Vendor Payments** link
4. **Receipts** link



When user clicks on one of the links in the **Information** section then you view the list of dashboard pages related to that link.

Users can then click on any dashboard page link and view the report(s) on that dashboard page.

Announcement Overview

BUSINESS INTELLIGENCE

A Bird's Eye View of the Commonwealth of Virginia's Financial Activity

Announcements

Cardinal Business Intelligence is currently under pilot review by DOA and VDOT Cardinal users. Web-based training for this application can be accessed via your agency's knowledge management system (COWKC and VDOT LMS respectively).

Background

The Commonwealth of Virginia's state government is comprised of approximately 280 Executive Branch agencies responsible for everything from road construction to professional licensing, from prison administration to university research. Since 2011, the Commonwealth has been transitioning agencies onto the new Cardinal system in a phased approach. Currently, about half of the agencies have migrated to the new Cardinal system.* The remaining agencies will transition to the new system in 2016.

Cardinal Business Intelligence, or Cardinal BI, is an extension of the Cardinal System, designed to provide better visibility, openness, and accessibility to financial activities across the Executive Branch agencies of the Commonwealth. The application provides tools and information to help you visualize key information at a summarized level. It also gives you the ability to drill down to more detailed subcategories and even more specific data.

*Click here to view data availability for each agency and subject area.

Information

Expenditures & Revenue

Curious to see how the Commonwealth spends money and if it meets budget expectations? See how the money is spent, down to the specific transaction.

Employee Expenses

Commonwealth employees incur expenses on behalf of the state government. Use the tools to see the costs behind those expenses.

Vendor Payments

Do you ever wonder where the agencies are spending money? Track where all payments are going.

Receipts

Commonwealth agencies receive payments from outside companies and other agencies. Learn more about funds coming into the Commonwealth.

Cardinal BI is available 24 hours a day, 7 days per week, except during routine maintenance operations. Data is loaded from Cardinal to Cardinal BI's data warehouse each night. The process starts at approximately 2:55am and completes by 3:00am. Recognize that this processing may impact your experience through data availability and system performance. Please plan accordingly.

Disclaimer

Any person, organization, firm, corporation or other entity using this database does so at its own risk. The Commonwealth of Virginia accepts no liability for any loss suffered by any person, organization, firm, corporation, or other entity from the use of the information in this database. In addition, the Commonwealth of Virginia does not guarantee system availability and is not responsible for any losses associated with any system unavailability.

Related Sites

Cardinal
Virginia Performs
Commonwealth Data Point
Data.Virginia.Gov
eVA

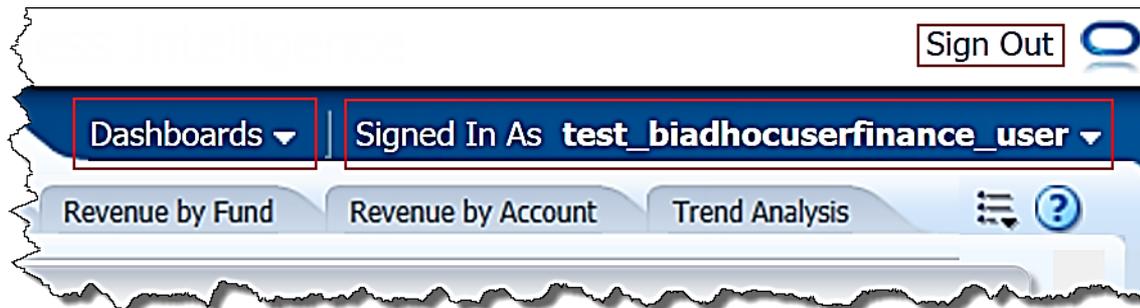


Global Header

The **Global Header** provides quick access to commonly used functions. In the example below, it enables you to easily access the functionality for Dashboards, Signed In As and Sign Out.

Key links on the Global Header:

- **Dashboards** - Contains links to all dashboards that are available to the user (this is the primary way to navigate through the Cardinal BI Solution).
- **Signed In As** - Displays your username and links to **My Account**, which allows you to specify preferences.
- **Sign Out** - Signs you out of Cardinal BI.





Lesson 1: Checkpoint

Now is your opportunity to check your understanding of the course material. Read the question, select your answer and click **Submit** to see if you chose the correct response.



In Cardinal BI, a _____ displays analytical content in the form of multiple reports

- Web page
- Dashboard Page
- Analysis
- Catalog

You can log into the Cardinal Business Intelligence Solution with your Active Directory account User ID and Password.

- True
- False

Which links are available in the Global Header?

- Home, Dashboards, New, Signed In As
- Dashboards, Signed In As
- Open, Home, Dashboards
- Home, Catalog, Dashboards, New, Signed In As



Lesson 1: Summary

In this lesson, you learned:

- The Cardinal BI Solution is an OBIEE tool used to provide transparent and easy access to Cardinal information across a wide range of audiences through self-service reporting and analysis.
- Cardinal BI is made up of dashboards and reports. Each dashboard will have at least one report.
- You can log into Cardinal BI through <https://cardinalbi.cov.virginia.gov> with your Active Directory User ID and Password.
- The Global Header allows easy access to important links.



Lesson 2: Dashboards and Reports

In this lesson, we will describe how dashboards and reports function within Cardinal BI. You will learn about the following topics:

- Navigation
- Prompts
- Report features
- Report types
- Exporting and printing



Navigation

The **Dashboards** button is the key navigational link. It allows you to move from one subject area to another in order to view different reports.

Dashboards are organized by Subject Areas. A Subject Area is a logical grouping of similar content and information (e.g., Accounts Payable, Accounts Receivables, Employee Expenses and General Ledger).

A list of all the available Subject Area Dashboards can be found under the **Dashboards** link on the Global Header.

Click the **Dashboards** link to navigate throughout the Cardinal BI Solution.

For example, to see **General Ledger Reports**, select **Dashboards** and under **Cardinal** click on **General Ledger**.





Navigation (continued)

Once you have selected a subject area from the drop-down list, the report(s) on the first dashboard of that subject area will run based upon predefined prompt values. In the example below, we selected the **Accounts Receivable** subject area so the **Agency Deposit Overview** reports will run automatically.

You can navigate between the dashboard pages within the subject area (in our example, **Accounts Receivable**) by clicking on the individual tabs. Each dashboard page will then display the corresponding reports. In the example below, **Agency Deposit Overview** and **Customer Deposit Overview** are the different dashboards within the **Accounts Receivable** subject area.

Most reports can be accessed through a dashboard page. This is the primary method of navigation in Cardinal BI.





Prompts

Reports are run with default criteria. By using prompts you can change these criteria. For example, most Dashboard pages are defaulted to show reports from a statewide perspective. You can use prompts to narrow the reporting results to your specific agency.

Prompts

- Prompts are available at the top of each dashboard page.
- Prompts allow you to filter the dashboard to smaller increments of data you want to see.
- Once prompts are applied, the report for that dashboard will reflect the newly queried selections.
- Many dashboard pages default prompt values, but you can change those defaults.

Constrained Prompts limit all other prompt values. For example, if you choose agency number, a constrained prompt, the Program prompt only shows programs for that agency. Sometimes you may not see a prompt selection because a previously selected constrained prompt value has eliminated it as a choice.

The example below displays the **Fiscal Year** prompt, the **Secretariat Level Name** prompt, the **Agency Code** prompt and the **Program Level 30 Code** prompt.

* Fiscal Year	Secretariat Level Name	Agency Code	Program Level 30 Code	Apply	Reset
2014	(All Column Value)	(All Column Value)	(All Column Value)		



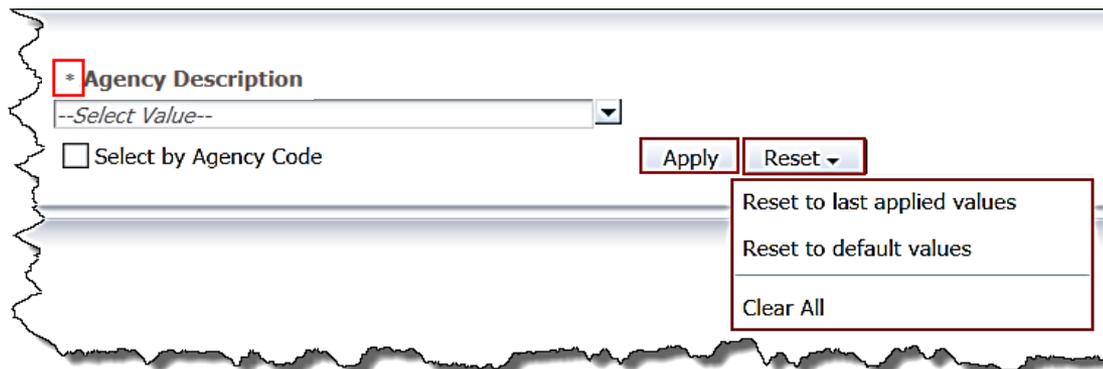
Prompts (continued)

An **asterisk (*)** indicates the prompt is a required field and a selection must be made.

After selecting prompt values, click the **Apply** button to run the report. Note that pressing **Enter** on your keyboard does **not** apply prompt values to the dashboard.

Use the **Reset** button to:

- **Reset to last applied values** - resets all prompt values to the most recently run values
- **Reset to default values** - resets to default prompt values for that dashboard page
- **Clear All** - clears all prompt values





Types of Prompts

There are different types of prompts that allow different user input options. The Cardinal BI prompt types include: Radio Button, List Box, Choice List, Text Field, and Slider.

Some prompts allow you to **Select One** value, while other prompts allow you to **Select Multiple** values.

Select One

Project Category

BRDG

- NULL
- 1CTY
- AIRP
- BRDG
- BUSS
- CAPITAL
- CAPOUT
- CIBF

Search...

Select Multiple

*** Fiscal Year**

2013;2014

- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
- Unspecified



Auto-Complete

Auto-Complete suggests and highlights matching prompt values as the user types in the prompt selection field. In the example below, as you type the word **Virginia** only those agencies that contain the word **Virginia** will be listed in the **Agency Description** prompt.

The screenshot shows a web application interface with two tabs: "Expenditures by Program and Fund" (selected) and "Expenditures by Account". Below the tabs is a table with columns for "Agency Description" and "Actual Expenditures". A search input field is active, containing the text "Virginia". A dropdown menu is open below the search field, displaying a list of agency names, each with the word "Virginia" highlighted in yellow. The agencies listed are:

- Virginia Code Commission
- Virginia Commission on Youth
- Virginia Disability Commission
- Virginia Housing Commission
- Virginia Museum of Fine Arts
- Virginia Parole Board
- Virginia Racing Commission
- Virginia Tourism Authority

At the bottom of the dropdown menu is a "Search..." input field. The table below the dropdown has a header row with "Agency Description" and "Actual Expenditures".



Searching Prompts

Often the list of values within a prompt is very extensive. It can be difficult to find the prompt value you would like to use. Cardinal BI has an automatic search feature that reduces the number of prompt values as you begin typing in a value.

However, if you do not remember the exact value or want to choose more than one value, select the **Search...** feature. This makes it easy to find multiple specific prompt values at one time.

Agency Description

--Select Value--

- Admin of Health Insurance
- Appropriation Vetoes
- Augusta Correctional Center
- Autism Advisory Council
- Baskerville Correctional Cntr
- Bland Correctional Center
- Board of Accountancy
- Board of Bar Examiners

Search...



Searching Prompts (continued)

Once the **Search...** button has been selected, the **Select Values** window shown below displays. You can select the type of search: **Starts**, **Contains**, **Ends**, **is Like (pattern match)**.

Agency Description
--Select Value--
 Select by Agency Code
Apply Reset

Select Values

Available

Name Starts
Contains
Ends
is Like (pattern match)

Case

Admin
Appropriation Vetoes
Augusta Correctional Center
Autism Advisory Council
Baskerville Correctional Cntr
Bland Correctional Center
Board of Accountancy
Board of Bar Examiners
Brown v. Board of Ed Committee
Brunswick Correctional Center
Buckingham Correctional Center
Capitol Square Preservation Cn
Centennial Women's Right Vote
Central Appropriations
Central Capital Outlay
Central Region Corr FieldUnits

Selected

OK Cancel



Searching Prompts (continued)

Once you choose a search type, enter the search criteria (in this example “Dept”). You can then move selected items to the **Selected** box via the **Move** or **Move All** arrows. Select “Dept of Health Professions” and click the single arrow to move from the “Available” box to the “Selected” box. Once you select **OK** to finish, the selected item(s) will appear in the prompt.

The image displays two screenshots of a 'Select Values' dialog box. The top screenshot shows the search criteria 'Dept' and a list of departments. The bottom screenshot shows the search criteria 'dept' and the 'Dept of Health Professions' moved to the 'Selected' box.

Top Screenshot:

- Dialog Title: Select Values
- Search Criteria: Name Starts Dept
- Match Case:
- Available List:
 - Dept of Corr - Central Admin
 - Dept of Corr - Div of Inst
 - Dept of Corr - Institutions
 - Dept of Health Professions
 - Dept of Historic Resources
 - Dept of Human Resource Mgt
 - Dept of Planning and Budget
 - Dept of Prof & Occup Reg
 - Dept of Rail & Public Trans
- Selected List: (Empty)

Bottom Screenshot:

- Dialog Title: Select Values
- Search Criteria: Name Starts dept
- Match Case:
- Available List:
 - Dept of Corr - Central Admin
 - Dept of Corr - Div of Inst
 - Dept of Corr - Institutions
 - Dept of Historic Resources
 - Dept of Human Resource Mgt
 - Dept of Planning and Budget
 - Dept of Prof & Occup Reg
 - Dept of Rail & Public Trans
- Selected List:
 - Dept of Health Professions
- Buttons: Move Right, Move All Right, Move Left, Move All Left
- Bottom Buttons: OK, Cancel



Searching Prompts (continued)

Once you select **OK** to finish, the selected item (Dept of Health Professions) appears in the prompt.

Agency Description

Dept of Health Professions × ▾

Select by Agency Code



Report Features

Select View is a drop-down list from which you can select a specific view of the results.

In Cardinal BI, there can be different graphs, tiles or pivot tables for the user to view.

In this example, the **Select View** allows you to choose between the following:

- **Trend Revenue and Expenditures**
- **Trend Revenue**
- **Trend Expenditures**

This screenshot below shows **Trend Revenue and Expenditures**.

Revenue and Expenditures FY Trend Analysis
ETL Run Date: 17-OCT-2015

Fiscal Year	Budget Revenue	YTD Actual Revenue	Difference	Budget Expenditures	YTD Actual Expenditures	Difference
2016	\$2,956,443,433	\$2,289,143,439	(\$667,299,994)	\$11,380,723,782	\$2,859,925,641	\$8,520,798,141
2015	\$2,902,074,564	\$7,473,270,603	\$4,571,196,039	\$11,793,016,312	\$9,428,455,832	\$2,364,560,480
Grand Total	\$5,858,517,997	\$9,762,414,042	\$3,903,896,045	\$23,173,740,094	\$12,288,381,473	\$10,885,358,621

Select View: Trend Revenue and Expenditures
Trend Revenue
Trend Expenditures



Report Features (continued)

Column selector - A column selector is a set of drop-down lists that contain pre-selected columns. You can select columns and change the data that is displayed in the views of the analysis.

In the example below, the column selector allows you to select and view the **Budget Amount** or the **Transaction Amount** in the analysis.

Budget Amount ▾	
Budget Amount	
Transaction Amount	
Date - Fiscal Calendar	Budget Amount
▷ 2010	\$40,145,622,094
▷ 2011	\$13,533,265,591
▷ 2012	\$19,872,485,628
▷ 2013	\$29,638,633,311
▷ 2014	\$66,761,352,518

Transaction Amount ▾	
Date - Fiscal Calendar	Transaction Amount
▷ 2011	\$0
▷ 2012	(\$2,649,380)
▷ 2013	\$16,544,541
▷ 2014	\$0



Drilldowns

Cardinal BI allows you to drill down on a column for more detailed information. The most common drilldown is a **hierarchical column** (or **hierarchy**). A **hierarchy** is a column that can drill down into more specific information for a certain number of pre-established levels.

The **Expenditures by Account** report displays information starting at Level 27. If you click on column header **Account Level 27 Code** then you will drill down to **Account Level 26 Code**.

As you drill down from level to level, always select the farthest “Account Level Code” column to the right. Otherwise, your columns will get out of order.

The number of drill down levels varies for each report. Some reports may only have two levels to drilldown and others may have three, four or five levels. Drilldowns are based on pre-established levels.



Expenditures by Account

ETL Run Date: 17-OCT-2015

\$2,859,925,641

Actual Expenditures

View By

Account Level 27 Description	Account Level 27 Code	Actual Expenditure
Continuous Charges	5015000_	\$407,054,286



Drilldowns (continued)

You can continue to drill down on the **Account Level 26 Code** until you reach **Account Level 25 Code**. Refer to the Job Aid on the Cardinal website under Cardinal BI for more detailed information about “Levels” and how they relate to Account, Program and Fund.

Expenditures by Account
ETL Run Date: 17-OCT-2015

\$2,859,925,641
Actual Expenditures

View By ▼

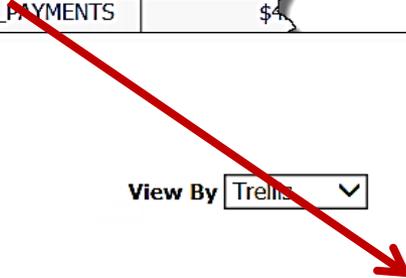
Account Level 27 Description	Account Level 27 Code	Account Level 26 Description	Account Level 26 Code	Actual Expenditure
Continuous Charges	5015000_	Cap Lease Pay	CAP_LEASE_PAYMENTS	\$428,600,000

Expenditures by Account
ETL Run Date: 17-OCT-2015

\$2,859,925,641
Actual Expenditures

View By ▼

Account Level 27 Description	Account Level 27 Code	Account Level 26 Description	Account Level 26 Code	Account Level 25 Description	Account Level 25 Code	Actual Expenditure
Continuous Charges	5015000_	Cap Lease Pay	CAP_LEASE_PAYMENTS	Building Capital Leases	5015250	\$428,600,000
Continuous	5015000_	Cap Lease Pay	CAP_LEASE_PAYMENTS	Equipment	5015240	\$428,600,000



Introduction

The screenshot illustrates the drilldown process in a financial reporting tool. It shows three summary cards for 'Expenditures by Account' with values \$2,859,925,641, \$407,834,288, and \$16,176,380. Red arrows indicate the drilldown path from the first card to a detailed table, and then from a specific row in that table to a second detailed table. A magnifying glass icon is visible at the bottom right of the screenshot.

In addition to drilling down on a hierarchical column (or hierarchy) based on the column heading, you can drill down on a specific code or description. This will show an example of using drilldown.

Please refer to the **Drilldown on Account Levels Job Aid** on the Cardinal website for additional information using the following navigation path:

Cardinal Website > Statewide Toolbox > Job Aids > Business Intelligence Reporting

Drilldown - Account Level 27

Drilldown - Account Level 26

Drilldown - Account Level 25



Guided Navigation

Guided Navigation is a type of navigation that allows you to move from one report to another report with selected information from the first report passed through to the second report.

- Any number that appears as a hyperlink signifies that it is possible to use this data to navigate to another dashboard or report.
- When clicking on the hyperlinked data, a button appears with the report name on it (e.g., **Expenditure by Account and Program**). Clicking this button allows the information from that cell to be passed to the next dashboard or report.

Expenditures by Account
ETL Run Date: 17-OCT-2015

\$2,859,925,641
Actual Expenditures

View By

Account Level 27 Description	Account Level 27 Code	Actual Expenditures
Continuous Charges	5015000_	\$407,054,286
Contractual Svcs	5012000_	\$566,100,437
Equipment	5022000_	\$17,888,257

Expenditures by Account
ETL Run Date: 17-OCT-2015

\$2,859,925,641
Actual Expenditures

View By

Account Level 27 Description	Account Level 27 Code	Actual Expenditures
Continuous Charges	5015000_	\$407,054,286
Contractual Svcs	5012000_	\$566,100,437

Expenditures by Account and Program

Click on image to enlarge



Guided Navigation (continued)

- Clicking on the report name opens another report that has the information that was passed on. For example, clicking on **Expenditure by Account and Program** button from the \$407,054,286 cell will take you to the **Expenditure by Account and Program** report with Fiscal Year, Secretariat, Agency Code and Dollar Amount passing through from the **Expenditures by Account** report.
- **Guided Navigation** allows you to navigate between dashboards or reports easily without having to input specific prompt criteria to find specific information.

The screenshot shows a dashboard with the following elements:

- Expenditures by Account** (ETL Run Date: 17-OCT-2015)
 - Actual Expenditures: **\$2,859,925,641**
 - View By: Trellis
- Expenditures by Account and Program** (Run Date: 17-OCT-2015)

Account Description	Account Code	Program Level 29 Description	Program
Chrg Crd Purch Continuous Chrg	5015090	Operatn Secure Correctionl Fac	3980_
Automobile Liability Insurance	5015120	Museum and Cultural Services	1450_
Automobile Liability Insurance	5120	Administrative Support Svcs	1990_
- Bottom table (Account Level 27):

Account Level 27 Description	Account Level 27 Code	Actual Expenditures
Continuous Charges	5015000_	\$407,054,286
Contractual Svcs	5012000_	\$566,100,437

Red arrows and boxes highlight the navigation path: from the \$407,054,286 cell in the bottom table to the 'Expenditures by Account and Program' report title, and from the gear icon in the bottom table to the same report title.

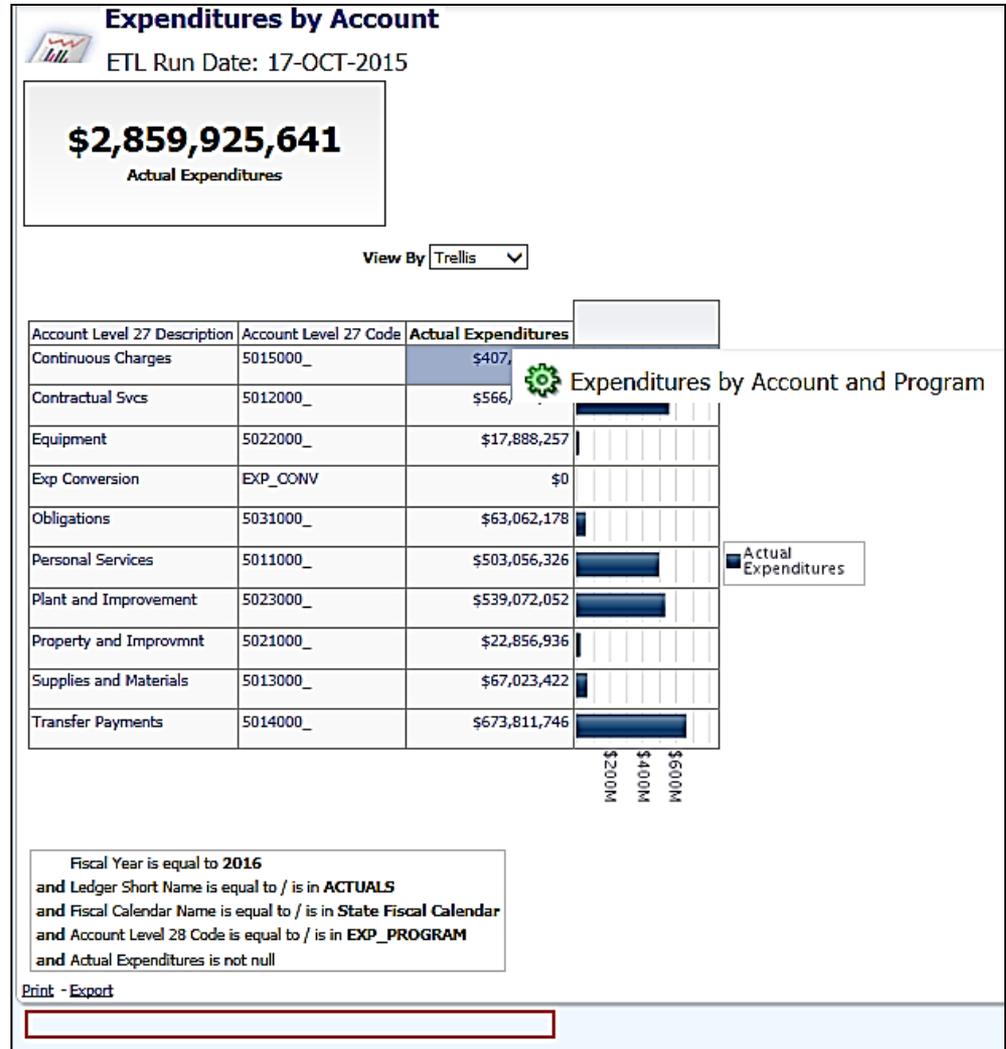
Click on image to enlarge



Navigating With Breadcrumbs

Breadcrumbs enable you to identify your current location in Oracle BI and to view the path that you used to get there. Breadcrumbs are active links that you can use to navigate back through to your original starting point.

In this example, **Expenditure by Account** is the first report so there are no breadcrumbs. Navigate to **Expenditure by Account and Program** and you will see the breadcrumbs.





Navigating With Breadcrumbs (continued)

Expenditures by Account and Program
ETL Run Date: 17-OCT-2015

Account Description	Account Code	Program Level 29 Description	Program Level 29 Code
Chrg Crd Purch Continuous Chrg	5015090	Operatn Secure Correctionl Fac	3980_
Automobile Liability Insurance	5015120	Museum and Cultural Services	1450_
Automobile Liability Insurance	5015120	Administrative & Support Svcs	1990_
Automobile Liability Insurance	5015120	Law Enforc Scientific Supp Svc	3090_
Automobile Liability Insurance	5015120	Legal Defense	3270_
Automobile Liability Insurance	5015120	Forest Management	5010_
Automobile Liability Insurance	5015120	Reg Horse Race/Pari-Mutuel Bet	5580_
Automobile Liability Insurance	5015120	Hwy Sys Maintenance & Operatns	6040_
Automobile Liability Insurance	5015120	Fire Training & Tech Supp Svcs	7440_
Automobile Liability Insurance	5015120	Enactment of Laws	7820_
Marine Insurance	5015150	Hwy Sys Maintenance & Operatns	6040_
Property Insurance	5015160	Museum and Cultural Services	1450_
Property Insurance	5015160	Administrative & Support Svcs	1990_
Property Insurance	5015160	Law Enforc Scientific Supp Svc	3090_
Property Insurance	5015160	Forest Management	5010_
Property Insurance	5015160	Reg Horse Race/Pari-Mutuel Bet	5580_
Property Insurance	5015160	Administrative & Support Svcs	6990_
Property Insurance	5015160	Fire Training & Tech Supp Svcs	7440_
Property Insurance	5015160	Enactment of Laws	7820_
Equipment Capital Leases	5015240	Supervsn-Offendr&Re-Entry Svc	3510_
Equipment Capital Leases	5015240	Hwy Sys Acquisitn & Constructn	6030_
Building Capital Leases	5015250	Museum and Cultural Services	1450_
Building Capital Leases	5015250	Administrative & Support Svcs	3990_
Building Capital Leases	5015250	Hwy Sys Maintenance & Operatns	6040_
Computer Rentals(Not Mainfrme)	5015310	Hwy Sys Maintenance & Operatns	6040_
Computer Software Rentals	5015330	Hwy Sys Maintenance & Operatns	6040_
Computer Software Rentals	5015330	Info Tech Developmnt & Operatns	8200_
Computer Software Rentals	5015330	Info Tech Planning &Qual Cntrl	8280_
Computer Software Rentals	5015330	Administrative & Support Svcs	8990_
Computer Software Rentals	5015330	Asct-Ed Non-C	9000_

Property Insurance | 5015160 | Reg Horse Race/Pari-Mutuel Bet | 5580_

General Ledger: Expenditures by Account > BI-R.GL.0008 - Expenditures by Account and Program

and Account Level 27 Code is equal to / is in 5015000_
and Account Level 29 Code is equal to / is in EXPENDITURES
and Program Level 31 Code is equal to / is in ALL_PROGRAMS
and Actual Expenditures is not null

Return - Print - Export - Create Bookmark Link

General Ledger: Expenditures by Account > BI-R.GL.0008 - Expenditures by Account and Program

In this example, we have navigated to the **Expenditures by Account and Program** report. The breadcrumbs are highlighted.



Return and Back Buttons

Return button – Use the **Return** button on a report page to display the original report or drill level that was in place before you started drilling. In the example below, if you click on the **Return** button while on **Account Level 25** then you will be taken back to **Account Level 28**.

Back button – as you drill down on a report you can click the **Back** button at the bottom of a report and you will be taken back one level. In the example below, if you drilled down to **Account Level 25**, click the **Back** button and you will be taken back to **Account Level 26**. If you click the **Back** button again then you will be taken back to **Account Level 27**.

Revenue by Account Budget vs. Actual
ETL Run Date: 17-OCT-2015

\$2,956,443,433 Budget Revenue	\$2,289,143,439 Actual Revenue
--	--

% of Fiscal Year Remaining: 69.67%

View By

Account Level 28 Description	Account Level 28 Code	Account Level 27 Description	Account Level 27 Code	Account Level 26 Description	Account Level 26 Code	Account Level 25 Description	Account Level 25 Code	Budget Revenue
Federal Grants	FEDERAL_GRANTS	Federal Grants	FED_GRNTS&CONTRACT	2nd Chce Act Prsnr Rentry Intv	4016812	2nd Chce Act Prsnr Rentry Intv	4016812	\$0
Federal Grants	FEDERAL_GRANTS	Federal Grants	FED_GRNTS&CONTRACT	American Battlefield	4015926	American Battlefield	4015926	\$0

Fiscal Year is equal to 2016
and Ledger Short Name is equal to / is in ACTUALS
and Fiscal Calendar Name is equal to / is in State Fiscal Calendar
and Account Level 29 Code is equal to / is in REVENUES
and Account Level 28 Code is not equal to / is not in MISC_REVENUE
and FILTER(Budget Revenue USING Budget Ledger Short Name = 'C_OFCREV_B') is not null
or Actual Revenue is not null

[Return](#) [Back](#) [Print](#) [Export](#)

Click on image to enlarge



Navigating Using the Light Bulb

Users can click on the light bulb  and navigate to another report. In this example, when you click on the light bulb for **William Howard Taft** then you navigate to the **Employee Expense by Expense Group** specifically for **William Howard Taft**.



Expenses by Employee

ETL Run Date: 17-OCT-2015

Click on  to see additional detail on employee's expenses.

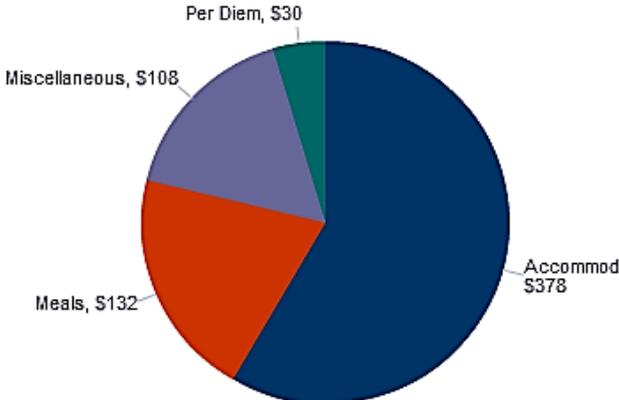
Employee Name		Employee Number	# of Approved Ex
Benjamin Harrison		987654321	
Grover Cleveland		987654322	
William McKinley		987654323	
Theodore Roosevelt		987654324	
William Howard Taft		987654325	
Woodrow Wilson		987654326	
Wren G. Harting		987654327	



Employee Expense by Expense Group

ETL Run Date: 20-JAN-2015

 Accommodations
 Meals
 Miscellaneous
 Per Diem



Per Diem, \$30
Miscellaneous, \$108
Meals, \$132
Accommodations, \$378

Actual Expense Date is between 07/01/2014 12:00:00 AM and 01/21/2015 12:00:00 AM
 and Expense Approval Date is not null
 and Employee Name is equal to ALLEN, MICHAEL S

[Print](#) - [Export](#)

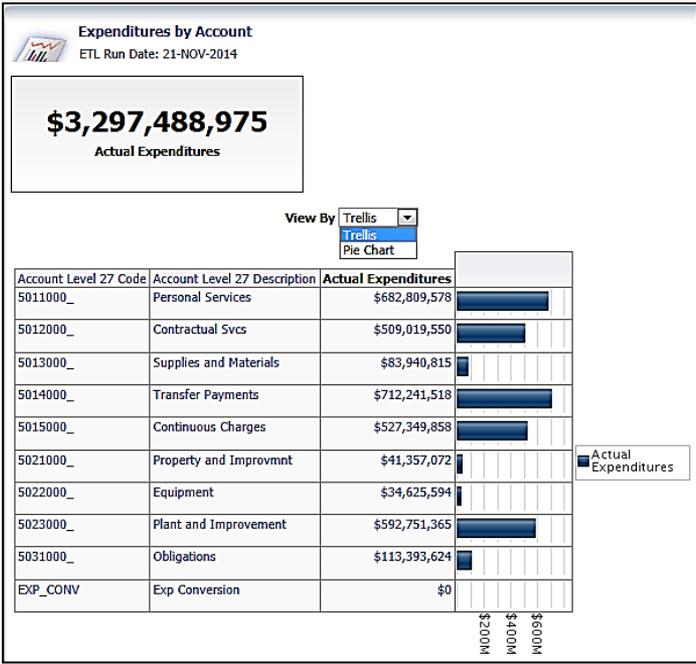


Reports: Tables and Visualizations

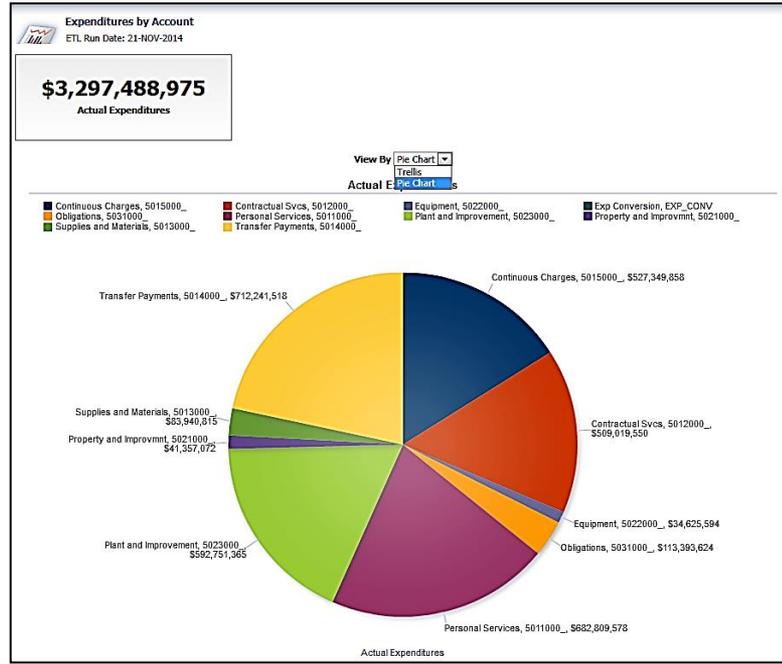
Cardinal BI reports can be displayed as tables, visualizations, or a combination of the two. **Visualizations** are graphs or charts on a report.

In the next few slides you will see different types of visualizations and tables.

Performance Tile & Trellis



Performance Tile & Pie Graph





Report Tables

Types of tables:

- **Table** - Displays results in a visual representation of data organized by rows and columns.
- **Pivot table** - Displays data similarly to a standard table, but can display multiple levels of both row and column headings. In the example below, **Fiscal Years** become columns.

Table

Fiscal Year	Secretariat Level Name	Actual Expenditures
2014	ADMINISTRATION	\$1,507,102,537
2014	AGRICULTURE_FORESTRY	\$29,608,339
2014	COMMERCE AND TRADE	\$100,834,802
2014	EDUCATION	\$177,196,296
2014	EXECUTIVE OFFICES	\$12,281,138
2014	FINANCE	\$52,614,014
2014	HEALTH AND HUMAN RES	\$28,312,033
2014	NATURAL RESOURCES	\$29,622,643
2014	PUBLIC SAFETY	\$1,379,419,168
2014	TECHNOLOGY	\$370,570,095
2014	TRANSPORTATION	\$5,073,573,150
2014	VET AFFAIR_HMLND SEC	\$14,165,841
2015	ADMINISTRATION	\$609,186,190
2015	AGRICULTURE_FORESTRY	\$10,279,733
2015	COMMERCE AND TRADE	\$52,473,233
2015	EDUCATION	\$76,813,781
2015	EXECUTIVE OFFICES	\$4,319,507
2015	FINANCE	\$14,062,907
2015	HEALTH AND HUMAN RES	\$11,410,495
2015	NATURAL RESOURCES	\$13,145,239
2015	PUBLIC SAFETY	\$552,607,283
2015	TECHNOLOGY	\$131,417,632
2015	TRANSPORTATION	\$1,780,849,714
2015	VET AFFAIR_HMLND SEC	\$497,527

Pivot Table

Secretariat Level Name	Actual Expenditures	
	2014	2015
ADMINISTRATION	\$1,507,102,537	\$609,186,190
AGRICULTURE_FORESTRY	\$29,608,339	\$10,279,733
COMMERCE AND TRADE	\$100,834,802	\$52,473,233
EDUCATION	\$177,196,296	\$76,813,781
EXECUTIVE OFFICES	\$12,281,138	\$4,319,507
FINANCE	\$52,614,014	\$14,062,907
HEALTH AND HUMAN RES	\$28,312,033	\$11,410,495
NATURAL RESOURCES	\$29,622,643	\$13,145,239
PUBLIC SAFETY	\$1,379,419,168	\$552,607,283
TECHNOLOGY	\$370,570,095	\$131,417,632
TRANSPORTATION	\$5,073,573,150	\$1,780,849,714
VET AFFAIR_HMLND SEC	\$14,165,841	\$497,527



Table Paging Controls

Cardinal BI defaults to show 30 rows of data on each table or pivot table. You can page through the table by using the arrow icons at the bottom of each report:

 takes you to the beginning of the table output

 takes you up a page

 takes you down a page

 displays maximum (500) rows per page



5012110	Express Services	Info Tech Developmnt & Operatns	8200_	\$3,026
5012110	Express Services	Service Center Administration	8260_	\$469
5012120	Outbound Freight Services	Museum and Cultural Services	1450_	\$60,617
5012120	Outbound Freight Services	Human Relations Management	1460_	\$232
5012120	Outbound Freight Services	Instruction	1970_	\$265
5012120	Outbound Freight Services	Residential Support	1980_	\$15
5012120	Outbound Freight Services	Administrative & Support Svcs	1990_	\$626
5012120	Outbound Freight Services	Law Enforc Scientific Supp Svc	3090_	\$34,913

    Rows 31 - 60



Table Functionality

Tables and pivot tables can be easily rearranged. When you **hover** over a column header a gray tab appears. You can then **click** on the gray tab and drag that column to any position on the report.

Fiscal Year	Account Description	Account Code	Budget Amount
2014	Chauffeurs & Mtr Veh Op Permit	4002123	\$0
	Clean Fuels License	4002206	\$0
	Clerical Services	5012630	\$615,520
	Cmptr Processor Install Prchse	5015620	\$86,191
	Coal	5013210	\$502

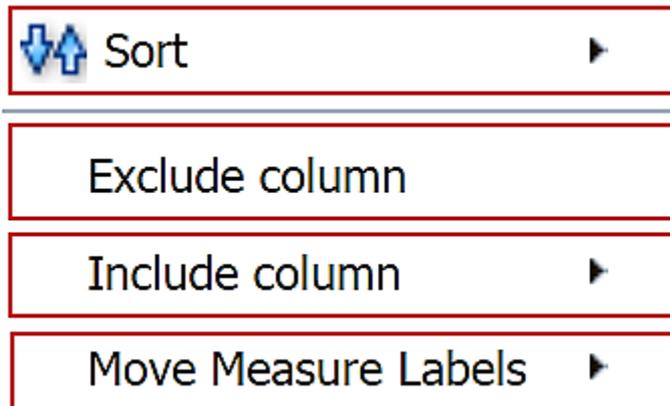
Fiscal Year	Account Description	Budget Amount	Account Code
2014	Chauffeurs & Mtr Veh Op Permit	\$0	4002123
	Clean Fuels License	\$0	4002206
	Clerical Services	\$615,520	5012630
	Cmptr Processor Install Prchse	\$86,191	5015620
	Coal	\$502	5013210



Table Functionality (continued)

You can also modify a table if you **right click** on a column header. The following options display, depending on the column properties:

- **Sort Column** – Provides options for sorting the selected column.
- **Exclude column** – Removes the column from the table completely. The data will no longer be broken out by this column header.
- **Include column** – Lists the columns available to add into the table. Including a column will break out the table values based on this column.
- **Move Column** – Allows you to manipulate the data and move a particular column to see the data in a different way. You can move the column within the table, make the column a prompt for the report, and create multiple table sections based on the column values.

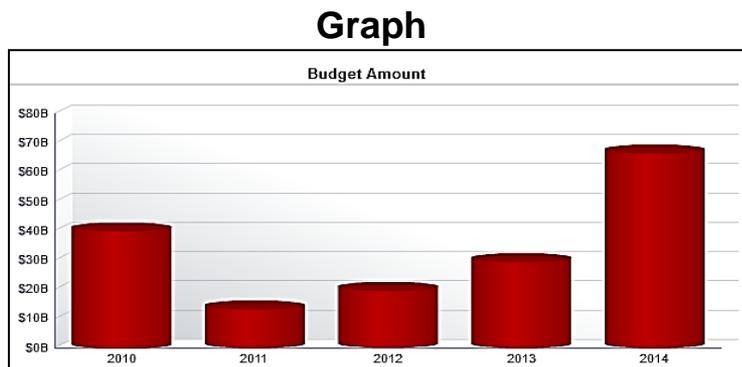




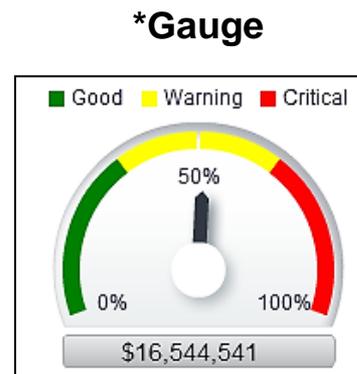
Report Visualizations

Visualizations available in Cardinal BI include:

- **Graph** - Displays numeric information visually, which makes it easier to understand large quantities of data. There are different kinds of graphs (e.g., Vertical, Horizontal, Stacked, Line, Area, Pie, Line-Bar, Time Series Line, Scatter, Bubble, Radar). Graphs are used most often and usually reveal trends or show quantities associated with categories (e.g., Budget Amount by Year, Actual Expenses by Department).



- ***Gauge** - Plots one data point, indicating whether that point falls in an acceptable or unacceptable range. There are different kinds of gauges (e.g., Dial, Horizontal bar, Vertical bar, Bulb). Gauges identify problems in data, making them very useful for showing performance against goals (e.g., Budget Expense Remaining for a Department.)



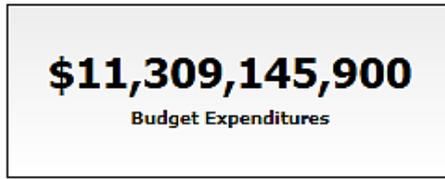
* Indicates not currently used in BI



Report Visualizations

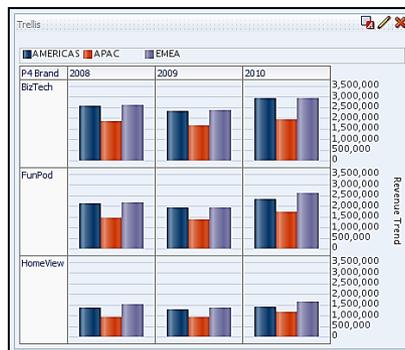
- **Performance Tile** - Displays a single aggregate measure value in a manner that is both visually simple and prominent, yet it immediately reveals summary metrics to the user that will likely be presented in more detail within a dashboard view.

Performance Tile



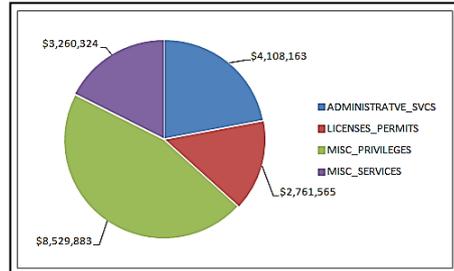
- **Trellis** - Displays multidimensional data shown as a set of cells in a grid, where each cell represents a subset of data using a particular graph type. Data can be represented with graphs, microcharts, and numbers.

Trellis



- **Pie Chart** - Shows data sets as dollar amounts or percentages of a whole. Pie charts are useful for comparing parts of a whole, such as expenditures by fund, program or account.

Pie Chart

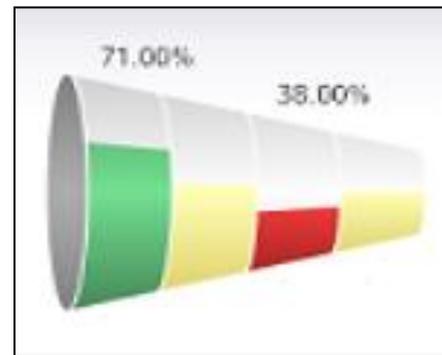




Report Visualizations

- ***Funnel** - Displays results as a three-dimensional graph that represents target and actual values using volume, level, and color. Funnel graphs are often used to represent data that changes over different periods. In funnel graphs, the thresholds indicate a percentage of the target value, and colors provide visual information for each stage (e.g., Actual Expenses compared to Budget Expenses shown per period).
- ***Map view**- Displays results on a map. Depending on the data, the results can be on top of a map as images, color fill areas, bar graphs, pie graphs, and variably sized markers. This visualization requires specific location for each data point (e.g., Actual Expenses per location).

***Funnel**



***Map View**



*** Indicates not currently used in BI**



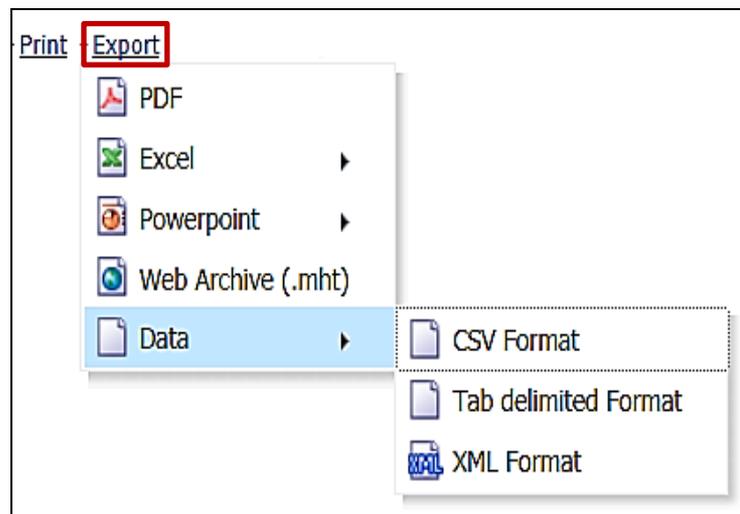
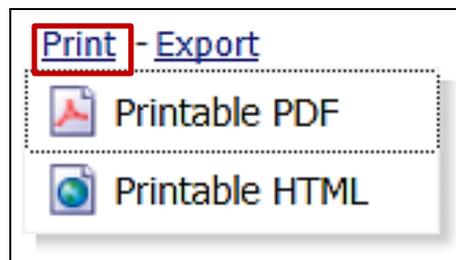
Exporting and Printing

At the bottom of each report, you can **Print** and **Export** data from that specific report.

- **Print** - Allows you to download as:
 - **Printable PDF**
 - **Printable HTML**

- **Export** – Allows you to export as:
 - **PDF**
 - **Excel**
 - **PowerPoint**
 - **Web Archive**
 - **Data** (CSV, Tab Delimited, or XML)

Note: Exporting data to a CSV file opens the file in Excel. You can then save the file as an Excel workbook.

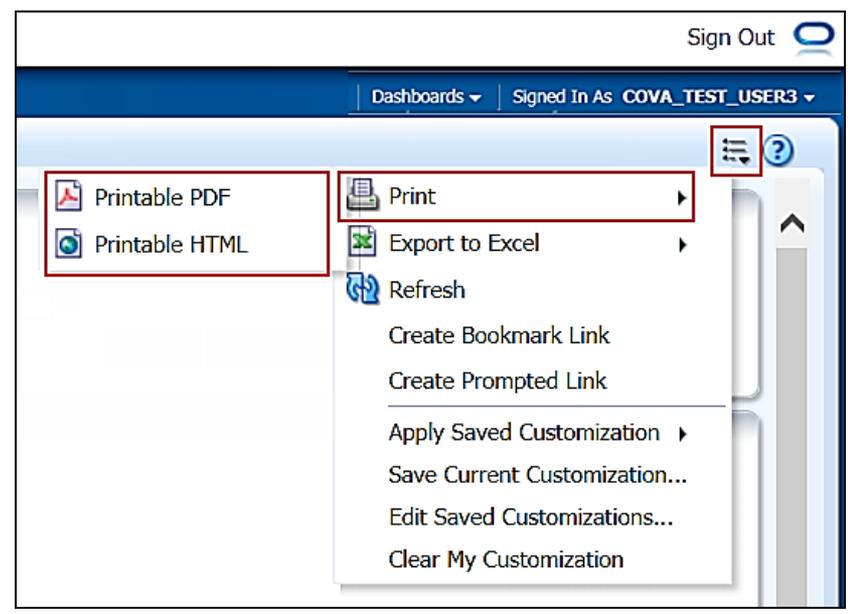




Exporting and Printing (continued)

You can also **Print** all the reports on a Dashboard Page at once.

- To print at the Dashboard Page Level, click on the **Page Options** button in the upper right corner of the dashboard. Select **Print** and then select either **Printable PDF** or **Printable HTML**. The dashboard is now ready to print.
- This is beneficial to see all reports on the dashboard page with the same prompt values associated to each.

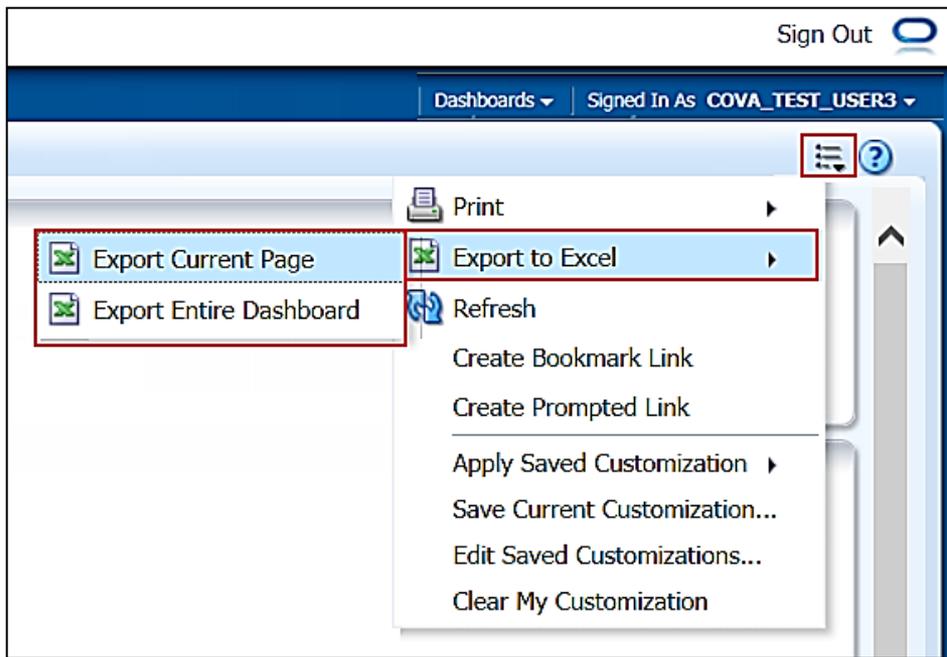




Exporting and Printing (continued)

You can also **Export** a current dashboard page or all dashboard pages to Excel.

- To export a current dashboard page or all dashboard pages to Excel click on the **Page Options** button in the upper right corner of the dashboard. Select **Export to Excel** and then select either **Export Current Page** or **Export Entire Dashboard**. The exported dashboard page(s) will open in an Excel file.





Lesson 2: Checkpoint

Now is your opportunity to check your understanding of the course material. Read the question, select your answer and click **Submit** to see if you chose the correct response.



The Dashboards link on the Global Header allows you to move to different Subject Areas that contain all Dashboard Pages and Reports.

- True
- False

If you change a prompt value, the reports on the Dashboard will automatically update.

- True
- False

A report can:

- Have hyperlinked values that lead to another report with the information associated
- Have a dropdown selection for different possible columns
- Have the option to drilldown on hierarchies to see information in a more detailed manner
- All of the above



Lesson 2: Summary

In this lesson, you learned:

- To navigate through Cardinal BI, use the Dashboards link on the Global Header. You can then use the tabs within each Dashboard to navigate from one Dashboard Page to another.
- Prompts are used on each Dashboard Page to filter the data into smaller increments.
- Report tables and pivot tables have many features that allow you to sort, rearrange columns, and modify the way the table displays the data.
- There are many different types of report graphics that are used to display data.
- There are different ways to print and export individual reports within Cardinal BI. You can also print a whole Dashboard Page with multiple reports.



Lesson 3: Personalization and Finding Help

In this lesson, you will learn about the following topics:

- Saved Customization
- Setting Landing Page
- Basic Troubleshooting
- Understanding Report Results
- Cardinal Statewide Toolbox



Saved Customization

You can customize a dashboard page to have certain prompt values automatically populated. This is called a **Saved Customization**. In this example, the **Saved Customization** sets the Fiscal Year prompt to include 2014 and 2015 for Agency 50100 on the **Trend Analysis** dashboard.

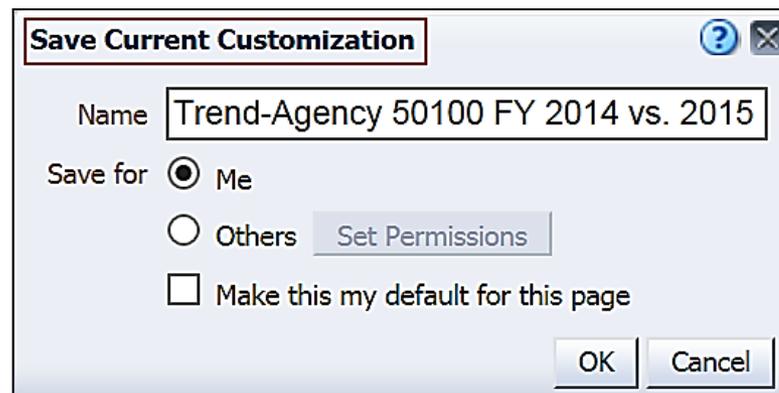
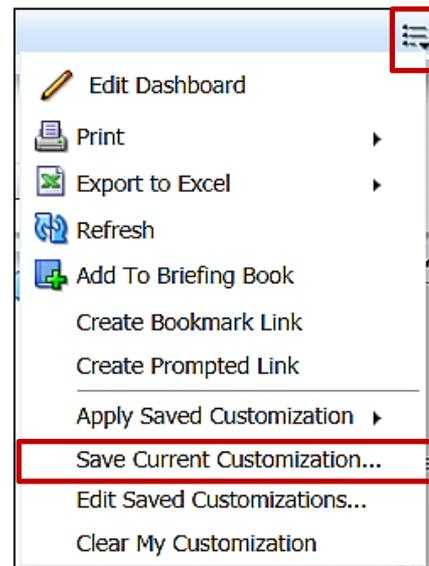
The screenshot shows a web application interface with a navigation bar at the top containing tabs: Expenditures by Program and Fund, Expenditures by Account, Expenditures by Project, Revenue by Fund, Revenue by Account, and Trend Analysis. The Trend Analysis tab is active. Below the navigation bar is a form with three main sections: *** Fiscal Year** with a dropdown menu showing '2014;2015', **Secretariat Level Name** with a dropdown menu showing '(All Column Value)', and **Agency Description** with a dropdown menu showing '50100'. There is also a checkbox labeled 'Select by Agency Code' which is checked. To the right of the form are 'Apply' and 'Reset' buttons. Below the form is a **NOTE:** section with the text: 'For performance purposes, please select only 2 fiscal years at one time to run the report.' Below the note is a section titled 'Revenue and Expenditures FY Trend Analysis' with a small bar chart icon and the text 'ETL Run Date: 17-OCT-2015'. At the bottom of the screenshot, a table header is visible with columns: Fiscal Year, Total Revenue, YTD Actual Revenue, Difference, Budget Expenditures, and Difference.



Saved Customization (continued)

To personalize a dashboard page:

- Navigate to the dashboard page you would like to personalize and input your desired prompts.
- Click the **Page Options** button in the upper right corner of the dashboard.
- Click **Save Current Customization**. **Save Current Customization** allows you to save the prompt values within a certain dashboard.
- Name the page.
- Check the **Make this my default for this page** if you want the customizations to be automatically in place when you navigate to the personalized dashboard.





Saved Customization (continued)

Once your customization is saved, you can create another **Saved Customization** with different prompt values. For example, if you are in charge of multiple agencies, then you can save multiple dashboard pages, each with a different agency prompted.

To apply another saved dashboard, select another agency and click on the **Apply Saved Customization** button.

Apply Saved Customization allows you to use a previously saved customization on the current dashboard page. In the example below, there are two different Saved Dashboards to choose from.

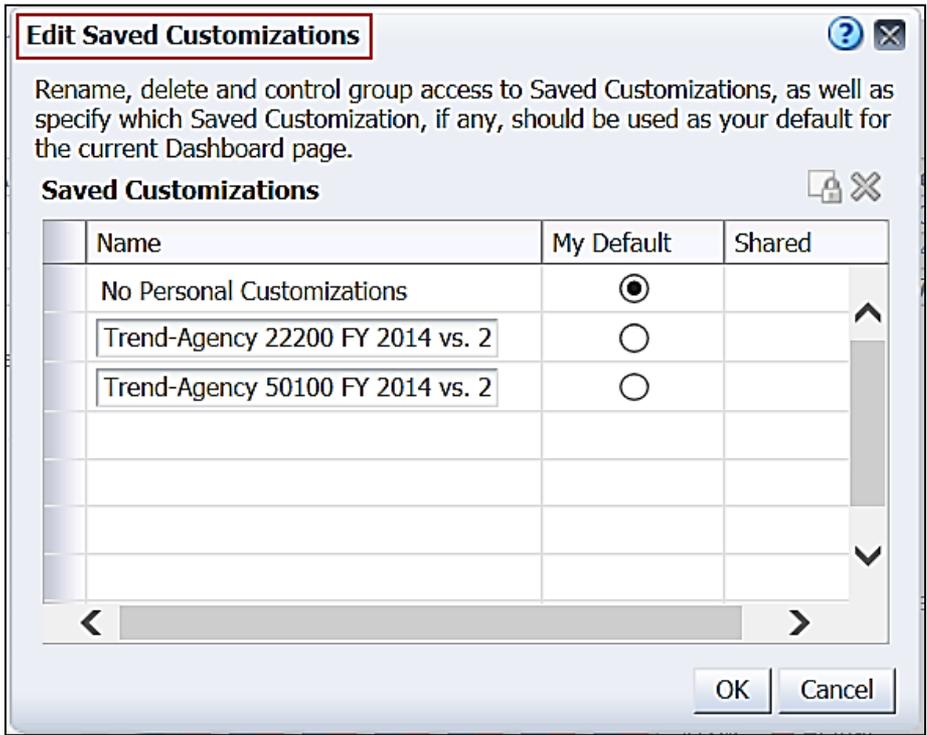
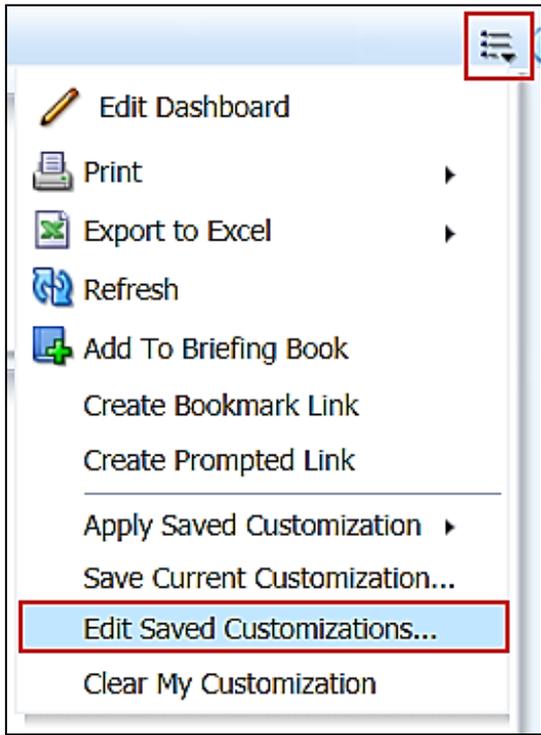
The screenshot shows a web application interface with a 'Trend Analysis' menu open. The menu includes options like 'Print', 'Export to Excel', 'Refresh', 'Create Bookmark Link', 'Create Prompted Link', 'Apply Saved Customization', 'Save Current Customization...', 'Edit Saved Customizations...', and 'Clear My Customization'. The 'Apply Saved Customization' option is highlighted with a red box. In the background, there is a form with a dropdown menu for 'Agency Description' set to '22200' and a checked 'Select by Agency Code' checkbox. Below the form, there is a table with two rows of saved customizations: 'Trend-Agency 22200 FY 2014 vs. 2015' and 'Trend-Agency 50100 FY 2014 vs. 2015'. The first row is also highlighted with a red box. The interface includes tabs for 'Expenditures by Project', 'Revenue by Fund', 'Revenue by Account', and 'Trend Analysis'. A note at the bottom left says 'only 2 fiscal years at one time'.



Saved Customization (continued)

You can modify your Saved Dashboards by using the **Edit Saved Customization** menu item.

Edit Saved Customizations allows you to rename and edit Saved Customizations. It also allows you to select which Page will be the Default.

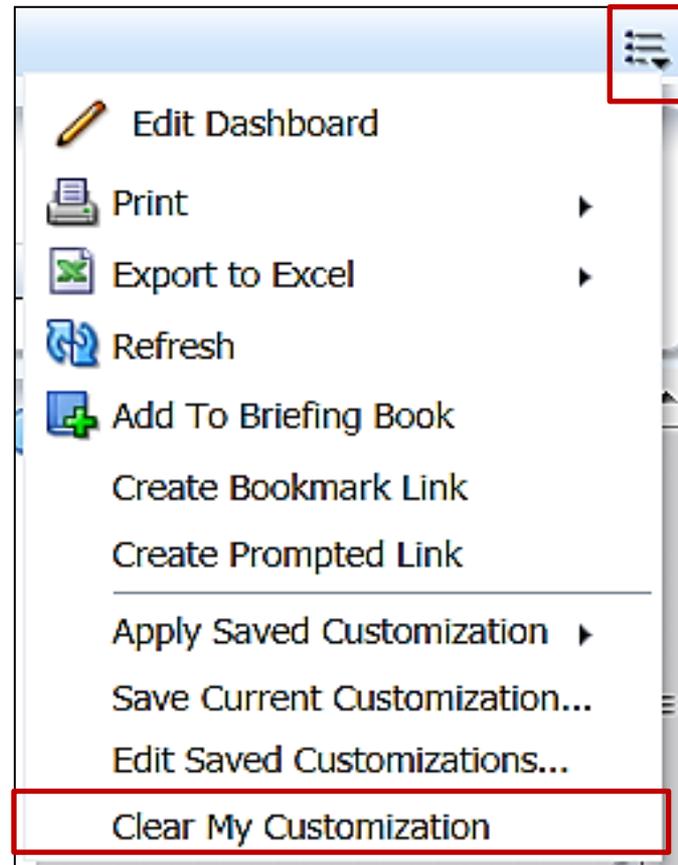




Saved Customization (continued)

To clear your customization and view the Cardinal BI default Dashboard page, use the **Clear My Customization** menu item.

Clear My Customization allows you to clear the current customization, resetting the current Dashboard back to its default state.

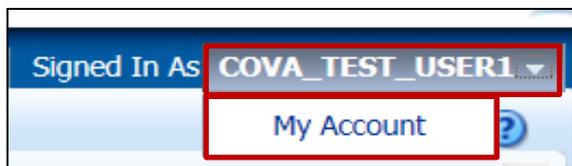




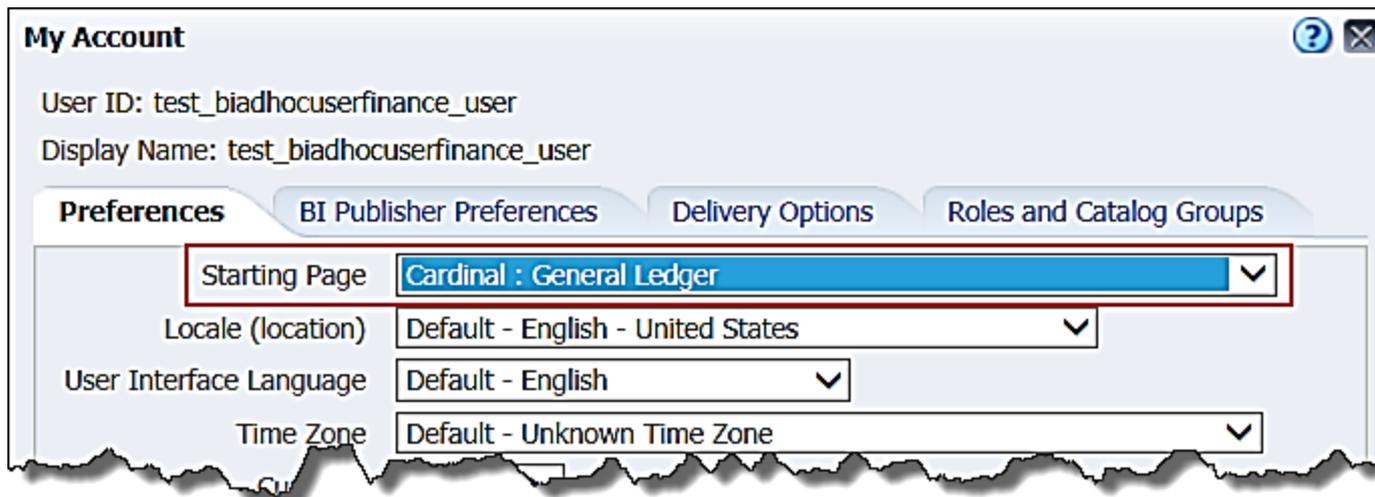
Setting Landing Page

It is possible to change the default landing page within Cardinal BI. This allows you to see your most important Dashboard page as soon as you log in.

- Click on your user name to the right of **Signed In As** in the upper right corner, then click on the **My Account** Link.



- Select your preferred Dashboard Page from the drop-down list entitled **Starting Page** and click **OK**.





Basic Troubleshooting

When working with Cardinal BI, keep in mind these helpful hints:

- The Cardinal BI Solution technology (OBIEE) is best optimized when used with:
 - Internet Explorer 7.x, 8.x, 9.x, 10.x
 - Firefox 3.5+, 6+, 13+
 - Chrome 19+
 - Safari 4.x, 5.x
- As with most internet sites, issues can often be fixed by simply clicking the refresh button on your browser.
- As with most internet sites, issues can often be fixed by clearing the cache on your browser.
 - To do this within an IE screen navigate to:

Tools > Internet Options > Browsing History > Delete > select Temporary Internet Files and Cookies > Delete

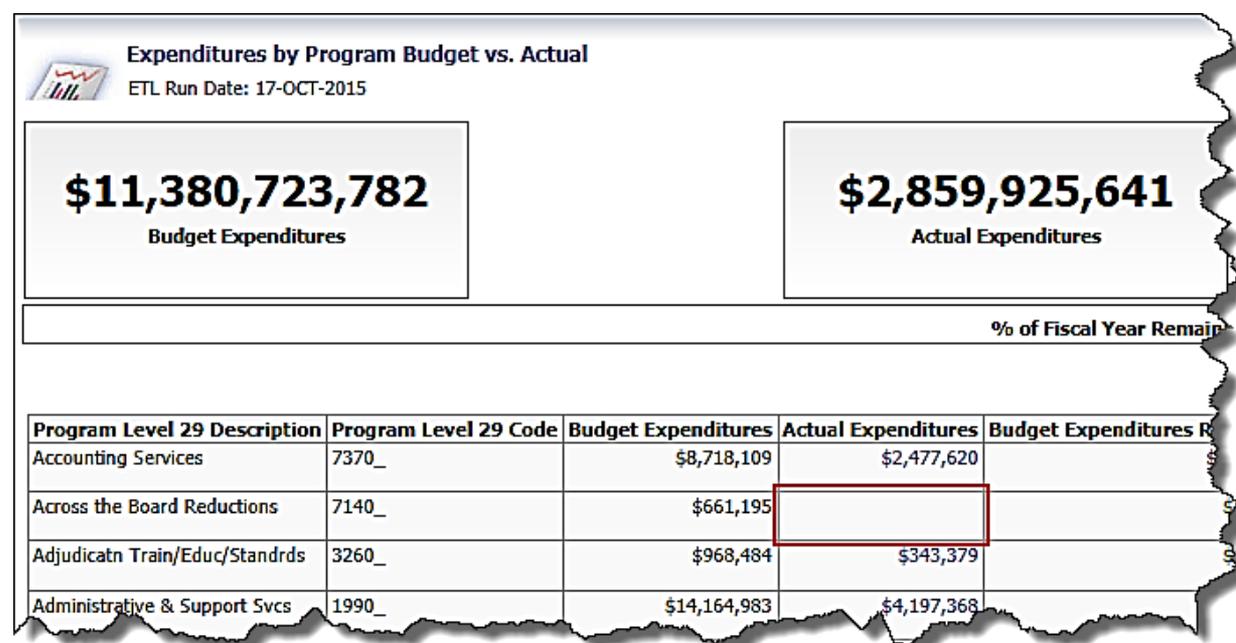


Understanding Report Results

If a report returns **No Results**, this means there is no data that matches your prompt criteria. Try expanding the prompt values to include a bigger dataset in order to see results within the report.

There are a few report values that may seem abnormal, but are expected. These do not signify that the information is incorrect, rather they are a result of the relationships within the data. The values are:

- Blank spaces – In the first example below, a ChartField cell contains a blank space. This signifies that no monetary transactions exist for that particular field. However, notice that other fields are populated with monetary amounts.





Understanding Report Results (continued)

- Not Applicable - In the second example below, several ChartField cells contain the word Not APPLICABLE. This signifies that no data exists for that particular ChartField.

Project Description	Project Code	Task Code	Cost Centers Code	Asset Code	Agency Use1 Code	Agency Use2 Code
0165-122-V04, P101, R201, C501	0000001765	__NOT_APPLICABLE__	__NOT_APPLICABLE__	__NOT_APPLICABLE__	__NOT_APPLICABLE__	00165
0165-122-V04, P101, R201, C501	0000001765	__NOT_APPLICABLE__	__NOT_APPLICABLE__	__NOT_APPLICABLE__	__NOT_APPLICABLE__	00165
0165-122-V04, P101, R201, C501	0000001765	__NOT_APPLICABLE__	__NOT_APPLICABLE__	__NOT_APPLICABLE__	__NOT_APPLICABLE__	00165
0165-122-V04, P101, R201, C501	0000001765	__NOT_APPLICABLE__	__NOT_APPLICABLE__	__NOT_APPLICABLE__	__NOT_APPLICABLE__	00165
0165-122-V04, P101, R201, C501	0000001765	__NOT_APPLICABLE__	__NOT_APPLICABLE__	__NOT_APPLICABLE__	__NOT_APPLICABLE__	00165



Cardinal Statewide Toolbox

The  link in the upper right corner opens the Cardinal Statewide Toolbox on the Cardinal website, providing a number of online tools such as job aids, training materials, forms, etc. to help you complete your task.



The Cardinal BI Job Aids and the BI Reports List are available on the Cardinal Website using the following path:

Cardinal Website > Statewide Toolbox > Job Aids > Business Intelligence Reporting



Lesson 3: Checkpoint

Now is your opportunity to check your understanding of the course material. Read the question, select your answer and click **Submit** to see if you chose the correct response



Using Customization settings allows you to create multiple customized dashboards with saved prompt values so that you do not have to search for the same prompts every time you navigate to that Dashboard.

- True
- False

If a report displays "No results" after you input your prompt values, the best option is to:

- Change the prompt values to include a smaller range of data
- Change the prompt values to include a larger range of data
- Clear all prompt values
- Navigate to a different report

If you need extra help with the Cardinal Business Intelligence Solution, you can find job aids and other training materials within the Cardinal Statewide Toolbox on the Cardinal website.

- True
- False



Lesson 3: Summary

In this lesson, you learned:

- To personalize individual dashboard pages, you can add default prompts so that whenever you navigate to that dashboard, the reports are already constrained by the prompt criteria.
- You can make any available dashboard page a personalized landing page so you don't have to navigate when logging into Cardinal BI.
- Personalization on a dashboard can be cleared by using the **Page Options** button.
- When working within the Cardinal BI Solution, it is helpful to use certain browsers, clear your cache, and refresh the page if having issues.
- Report results sometimes are Not Applicable, blank, or show no results.
- Additional reference materials for the Cardinal BI Solution can be found on the Cardinal website under the appropriate Cardinal Toolbox.



Course Summary

In this course, you learned:

- The purpose of Cardinal Business Intelligence
- The functionality of a dashboard and a report
- How to Log into Cardinal Business Intelligence
- The use of the Global Header
- Prompts and use prompt capabilities to filter report data
- Hierarchy drilldowns and navigation between dashboard pages
- Available report features
- Different report and graph types
- How to manipulate report columns on a dashboard
- Print and export options
- How to set default prompts on a dashboard page
- How to set a landing page
- Clear personalization
- How to find Cardinal Business Intelligence Help



Course Completion

You have completed the **BI101: Cardinal Business Intelligence Reporting Overview** course. Please use the evaluation link to assess the course:



Once you have completed and submitted the survey, close the survey window. To close the web based training course, click the '**X**' button in the upper right corner.

If you wish to view the Appendix section of this course, click the **Next** button.





Appendix

- Key Terms
- Drilldown Interaction
- Screenshot Enlargements



Key Terms

Cardinal Business Intelligence (BI) – A tool created using Oracle Business Intelligence Enterprise Edition (OBIEE). It focuses on easy access to information to improve information sharing across a wide range of audiences through self-service reporting and analysis. It is made up of Dashboards and Reports with analytical content.

Column Selector – A set of drop-down lists that contain pre-selected columns. You can dynamically select columns and change the data that is displayed in the views of the analysis.

Dashboard – A structure that organizes analytical content (e.g., reports, links, visualizations). The content on a Dashboard is usually displayed as a report targeted to users.

Funnel – A type of visualization that displays results as a three-dimensional graph that represents target and actual values using volume, level, and color.

Gauge – A type of visualization that plots one data point with an indication of whether that point falls in an acceptable or unacceptable range. There are different kinds of gauges, such as: Dial, Horizontal bar, Vertical bar, Bulb.



Key Terms (continued)

Global Header – A list of links at the top of Cardinal BI that is always available as you work. It allows you to easily access to Cardinal BI functionality. For example, you can access the Home page, access dashboards, open objects (such as analyses and dashboard prompts), and so on.

Graph – A type of visualization that displays numeric information visually, making it easier to understand large quantities of data. There are different kinds of graphs, such as: Bar (Vertical, Horizontal, Stacked), Line, Area, Pie , Line-Bar, Time Series Line, Scatter, Bubble, Radar.

Guided Navigation – A feature that allows you to navigate to another report with prompt values automatically enabled that correspond to the original report navigation hyperlink.

Hierarchal column – A column that can expand (or drilldown) into more specific information for a certain number of pre-established levels.

Map view – A type of visualization that displays results overlain on a map. Depending on the data, the results can be overlain on top of a map as images, color fill areas, bar graphs, pie graphs, and variably sized markers.



Key Terms (continued)

Oracle Business Intelligence Enterprise Edition (OBIEE) – The technology behind the Cardinal BI Solution.

Performance Tile – A type of visualization that displays a single aggregate measure value in a manner that is both visually simple and prominent, yet it immediately reveals summary metrics to the user that will likely be presented in more detail within a dashboard view.

Pie Chart – A type of visualization that shows data sets as dollar amounts or percentages of a whole. Pie charts are useful for comparing parts of a whole, such as expenditures by fund, program or account.

Pivot Table – A visual representation of data similar to a standard table. It can display multiple levels of both row and column headings, allowing you to view data in many different ways.

Prompt – A tool that allows you to filter the dashboard to smaller increments of data you want to see. Once a prompt is applied, the report for that dashboard will reflect the newly queried selections.

Report – An analysis displayed as a table or graphic based on a data set.



Key Terms (continued)

Subject Area – A logical grouping of similar content and information.

Table – A visual representation of data organized by rows and columns.

Trellis – A type of visualization that displays multidimensional data shown as a set of cells in a grid, where each cell represents a subset of data using a particular graph type. Data can be represented with graphs, microcharts, and numbers.

View Selector – A drop-down list from which you can select a specific view of the results from among the saved views.

Visualization – A graph or chart on a report. They include graphs, pie charts, gauges, funnels, performance tiles, trellis and map views.



Drilldown Interaction

Drilldown

Introduction



In addition to drilling down on a hierarchical column (or hierarchy) based on the column heading, you can drill down on a specific code or description. This will show an example of using drilldown.

Please refer to the **Drilldown on Account Levels Job Aid** on the Cardinal website for additional information using the following navigation path:

Cardinal Website > Statewide Toolbox > Job Aids > Business Intelligence Reporting

- Drilldown - Account Level 27
- Drilldown - Account Level 26
- Drilldown - Account Level 25

Image enlargement on next page



Drilldown – Account Level 27

Expenditures by Account
ETL Run Date: 17-OCT-2015

\$2,859,925,641
Actual Expenditures

View By

Account Level 27 Description	Account Level 27 Code	Actual Expenditures
Continuous Charges	5015000_	\$407,054,286
Contractual Svcs	5012000_	\$566,100,437
Equipment	5022000_	\$17,888,257

Expenditures by Account
ETL Run Date: 17-OCT-2015

\$407,054,286
Actual Expenditures

View By

Account Level 27 Description	Account Level 27 Code	Account Level 26 Description	Account Level 26 Code	Actual Expenditure
Continuous Charges	5015000_	Cap Lease Pay	CAP_LEASE_PAYMENTS	\$429,034
Continuous Charges	5015000_	Indirect Cost	CC_IDC_INT_AGY	\$1,626,795
Continuous Charges	5015000_	Install Purchase	INSTALLMENT_PURCHASE	\$1,118,150
Continuous Charges	5015000_	Insurance Fix Asset	INSURANCE_FIXED_ASSET	\$1,626,795
Continuous Charges	5015000_	Insurance Operatn	INSURANCE_OPERATN	\$17,272,530
Continuous Charges	5015000_	Misc	CC_MISC	(\$22)
Continuous Charges	5015000_	Operating Lease	OP_LEASE_PAYMENTS	\$6,884,735
Continuous Charges	5015000_	Pay St Emp Hlth Ins	PAY_ST_EMP_HLTH_INS	\$363,542,058
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	\$16,179,360

Expenditures by Account
ETL Run Date: 17-OCT-2015

\$16,179,360
Actual Expenditures

View By

Account Level 27 Description	Account Level 27 Code	Account Level 26 Description	Account Level 26 Code	Account Level 25 Description	Account Level 25 Code	Actual Expenditure
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Agency Service Charges	5015410	\$1,050
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	DGS Parking Charges	5015450	\$87
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Electrical Service Charges	5015420	\$6,383,500
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Electrical Svc Chrg-Buildings	50154201	\$1,459,700
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Electrical Svc Chrg-Roadways	50154202	\$2,090,000
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Private Vendor Service Charges	5015470	\$36,000
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Refuse Service Charges	5015430	\$88,000
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	SPCC And EDI Check Fees	5015460	\$0
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Sewer Service Charges	50154402	\$65,000
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Water & Sewage-Non Routine	50154401	\$269,000
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Water & Sewer Service Charges	5015440	\$3,830,000



Drilldown Interaction

Drilldown

Drilldown - Account Level 27

Drilldown - Account Level 27

Account Level 27 Description	Account Level 27 Code	Actual Expenditures
Continuous Charges	5015000_	\$407,054,286
Contractual Svcs	5012000_	\$566,100,437
Equipment	5022000_	\$17,888,257

In this example, we start on **Account Level 27** and will drill down by selecting **Continuous Changes**.

Drilldown - Account Level 26

Drilldown - Account Level 25

Image enlargement on next page



Drilldown – Account Level 27



Expenditures by Account

ETL Run Date: 17-OCT-2015

\$2,859,925,641

Actual Expenditures

View By

Account Level 27 Description	Account Level 27 Code	Actual Expenditures
Continuous Charges	5015000_	\$407,054,286
Contractual Svcs	5012000_	\$566,100,437
Equipment	5022000_	\$17,888,257



Drilldown – Account Level 26

Drilldown

Drilldown - Account Level 27

Drilldown - Account Level 26

Drilldown - Account Level 26

Expenditures by Account
 FY: Fall Date: 12/01/2022

\$407,054,286
 Actual Expenditures

View By: Table

Account Level 27 Description	Account Level 27 Code	Account Level 26 Description	Account Level 26 Code	Actual Expenditures
Continuous Changes	920000_	Cap Lease Pay	CAP_LEASE_PAYMENTS	\$40,024
Continuous Changes	920000_	Indirect Cost	CC_IND_COST	\$18,100
Continuous Changes	920000_	Install Purchase	INSTALLMENT_PURCHASE	\$1,030,125
Continuous Changes	920000_	Insurance Pre Asset	INSURANCE_PREED_ASSET	\$1,000,000
Continuous Changes	920000_	Insurance Operate	INSURANCE_OPERATE	\$1,175,000
Continuous Changes	920000_	Plan	CC_PLAN	\$500
Continuous Changes	920000_	Operating Lease	OP_LEASE_PAYMENTS	\$4,841,700
Continuous Changes	920000_	Pay St Emp With Inv	PAY_ST_EMP_WITH_INV	\$24,244,000
Continuous Changes	920000_	Service Charges	SERVICE_CHARGES	\$1,074,300

Account Level 26 displays showing all classifications under **Continuous Changes**. To drill down further, **Service Charges** is selected.

Image enlargement on next page

Drilldown - Account Level 25



Drilldown – Account Level 27-26

Expenditures by Account
ETL Run Date: 17-OCT-2015

\$407,054,286
Actual Expenditures

View By

Account Level 27 Description	Account Level 27 Code	Account Level 26 Description	Account Level 26 Code	Actual Expenditure
Continuous Charges	5015000_	Cap Lease Pay	CAP_LEASE_PAYMENTS	\$429,034
Continuous Charges	5015000_	Indirect Cost	CC_IDC_INT_AGY	\$1,621,500
Continuous Charges	5015000_	Install Purchase	INSTALLMENT_PURCHSE	\$1,118,150
Continuous Charges	5015000_	Insurance Fix Asset	INSURNCE_FIXED_ASSET	\$1,626,795
Continuous Charges	5015000_	Insurance Operatn	INSURANCE_OPERATN	\$17,272,500
Continuous Charges	5015000_	Misc	CC_MISC	(\$22)
Continuous Charges	5015000_	Operating Lease	OP_LEASE_PAYMENTS	\$6,884,736
Continuous Charges	5015000_	Pay St Emp Hlth Ins	PAY_ST_EMP_HLTH_INS	\$363,542,058
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	\$16,179,360



Drilldown – Account Level 26-25

Expenditures by Account
 ETL Run Date: 17-OCT-2015

\$16,179,360

Actual Expenditures

View By Trellis ▼

Account Level 27 Description	Account Level 27 Code	Account Level 26 Description	Account Level 26 Code	Account Level 25 Description	Account Level 25 Code	Actual Expenditure
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Agency Service Charges	5015410	\$1,060
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	DGS Parking Charges	5015450	\$87
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Electrical Service Charges	5015420	\$6,383.5
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Electrical Svc Chrg-Buildings	50154201	\$1,459.6
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Electrical Svc Chrg-Roadways	50154202	\$2,090
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Private Vendor Service Charges	5015470	\$36,300
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Refuse Service Charges	5015430	\$882
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	SPCC And EDI Check Fees	5015460	\$
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Sewer Service Charges	50154402	\$65
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Water & Sewage-Non Routine	50154401	\$269
Continuous Charges	5015000_	Service Charges	SERVICE_CHARGES	Water & Sewer Service Charges	5015440	\$3,830



Dashboard and Report Overview (continued)

CARDINAL Business Intelligence

General Ledger Home | Catalog | Favorites ▾ | Dashboard

Expenditures and Revenue Summary | Expenditures by Program and Fund | Expenditures by Account | Expenditures by Object Class

* Fiscal Year
 2016

Expenditures Budget vs. Actual
 ETL Run Date: 12-OCT-2015

\$5,267,876,794
Budget Expenditures

\$1,559,105,372
Actual Expenditures

% of Fiscal Year Remaining: 71.58%

Statewide Level Name	Budget Expenditures	Actual Expenditures	Budget Expenditures Remaining	% of Budget Expenditures Remaining
STATEWIDE	\$5,267,876,794	\$1,559,105,372	\$3,708,771,422	71.58%

Fiscal Year is equal to 2016
 and Ledger Short Name is equal to / is in ACTUALS
 and Fiscal Calendar Name is equal to / is in State Fiscal Calendar
 and Actual Expenditures is not null
 or FILTER(Budget Expenditures USING Budget Ledger Short Name = 'C_APPROP_B') is not null

[Print](#) - [Export](#)

Revenue Budget vs. Actual
 ETL Run Date: 12-OCT-2015

\$2,537,278,831
Budget Revenue

\$1,505,339,672
Actual Revenue

% of Fiscal Year Remaining: 71.58%

Click on image to return



Guided Navigation

Expenditures by Account
ETL Run Date: 17-OCT-2015

\$2,859,925,641
Actual Expenditures

View By

Account Level 27 Description	Account Level 27 Code	Actual Expenditures
Continuous Charges	5015000_	\$407,054,286
Contractual Svcs	5012000_	\$566,100,437
Equipment	5022000_	\$17,888,257

Expenditures by Account
ETL Run Date: 17-OCT-2015

\$2,859,925,641
Actual Expenditures

View By

Account Level 27 Description	Account Level 27 Code	Actual Expenditures
Continuous Charges	5015000_	\$407,054,286
Contractual Svcs	5012000_	\$566,100,437

 Expenditures by Account and Program

Click on image to return



Guided Navigation (continued)

Expenditures by Account
ETL Run Date: 17-OCT-2015

\$2,859,925,641

Actual Expenditures

View By Trellis ▾

Account Level 27 Description	Account Level 27 Code	Actual Expenditures
Continuous Charges	5015000_	\$407,...
Contractual Svcs	5012000_	\$566,100,437

Expenditures by Account and Program
Run Date: 17-OCT-2015

Account Description	Account Code	Program Level 29 Description	Program
Chrg Crd Purch Continuous Chrg	5015090	Operatn Secure Correctionl Fac	3980_
Automobile Liability Insurance	5015120	Museum and Cultural Services	1450_
Automobile Liability Insur...	5120	Administrative Support Svc	1900_

Expenditures by Account and Program

Click on image to return



Return and Back Buttons

Revenue by Account Budget vs. Actual
ETL Run Date: 17-OCT-2015

\$2,956,443,433

Budget Revenue

\$2,289,143,439

Actual Revenue

% of Fiscal Year Remaining: 69.67%

View By Trellis ▼

Account Level 28 Description	Account Level 28 Code	Account Level 27 Description	Account Level 27 Code	Account Level 26 Description	Account Level 26 Code	Account Level 25 Description	Account Level 25 Code	Budget Revenue
Federal Grants	FEDERAL_GRANTS	Federal Grants	FED_GRNTS&CNTRACT	2nd Chce Act Prsnr Rentry Intv	4016812	2nd Chce Act Prsnr Rentry Intv	4016812	\$0
Federal Grants	FEDERAL_GRANTS	Federal Grants	FED_GRNTS&CNTRACT	American Battlefield	4015926	American Battlefield	4015926	\$0

Fiscal Year is equal to **2016**

and Ledger Short Name is equal to / is in **ACTUALS**

and Fiscal Calendar Name is equal to / is in **State Fiscal Calendar**

and Account Level 29 Code is equal to / is in **REVENUES**

and Account Level 28 Code is not equal to / is not in **MISC_REVENUE**

and FILTER(Budget Revenue USING Budget Ledger Short Name = 'C_OFCREV_B') is not null

or Actual Revenue is not null

Return -
 Back -
 [Print](#) -
 [Export](#)

Click on image to return



End of Appendix Section

This is the end of the appendix section for the **BI101: Cardinal Business Intelligence Reporting Overview** course.



Click the 'X' button in the upper right corner of this page to exit the course.