

## **Welcome**

Welcome to the Fundamentals of Datamart training. This introductory training is for employees who use the Department of Administrative Services (DAS) Datamart.

This training will cover the following topics.

- What is the Datamart?
- What statewide data is in the Datamart.
- A history of Business intelligence applications used with the Datamart.
- Tables within the Datamart.
- Connecting to the Datamart database.
- What is the Repository?
- Am I ready to work with the Datamart?
- What resources are available to help you.

Here are terms and acronyms we will be using frequently throughout this course. You can refer back to them at any time by clicking on Glossary.

- Department of Administrative Services (DAS)
- State Controllers Division (SCD)
- Statewide Financial Management Application (SFMA)
- Oregon State Payroll Application (OSPA)
- Position Information Control System (PICS)
- Oregon Relational Budget Information Tracking System (ORBITS)
- Oracle Business Intelligence Enterprise Edition (OBIEE or OB1)
- IBM DB2 Open Database Connection (ODBC)
- Open Catalog Extension (OCE)
- Agency Security Officer (ASO)
- Program cost account (PCA) type
- Relational Statewide Accounting & Reporting System (RSTARS)

## **What is the Datamart**

Let's start off by examining what is the Datamart.

A Datamart is a subset of a data warehouse focused on a particular line of business, department, or subject area. It makes specific data available to a defined group of users, which allows those users to quickly access critical insights without wasting time searching through an entire data warehouse.

In 1997, the then DAS State Controller's Division sponsored the creation of a Datamart. This initiative brought data from the primary transactional accounting and payroll systems SFMA and OSPA. This created the first relational database at DAS and it was called the Financial Datamart.

The main structure for the new Datamart was the creation of various tables to help separate and organize the data. This set-up allows users to easily query against the information using a business intelligence reporting tool.

If you were to summarize the DAS Financial Datamart, it is your one-stop warehouse for financial transactions, account balances, grant profiles, PCA information, payroll data and more allowing agencies to create reports for business information and decision making.

Initially, the Financial Datamart contained only accounting and payroll data; however, over time, other systems were brought on to provide even more data such as PICS, PPDB, and ORBITS. Due to the fact that there is so much data in one location, we currently have over 900 users who can access this data.

### ***Data Updates***

The DAS Datamart is updated with new data from different sources on a varying schedule. Click on each source to learn more.

#### **SFMA**

The accounting data is updated weekly with an extract from SFMA on Friday evening and an upload on Saturday, which finishes loading on Sunday. Data should not be pulled on the weekend.

During Month 13, which consists of mid-July through August some SFMA Datamart tables are updated three times per week. This can help accountants obtain data on a more frequent basis to help with such a crucial time of the year. In addition, the YE Active Accounting Event table is updated the last three Thursdays during Month 13.

#### **OSPA**

OSPA data, the States Payroll data, is updated monthly after the Final Run 2, which is approximately the 10th of each month. The data is available the morning after the leave accrual process has completed.

#### **ORBITS**

ORBITS, which is the budget data, is loaded weekly along with the normal SFMA load process.

#### **PPDB**

PPDB data and only includes data within the Datamart through February 2019. Any new position or personnel data is obtained from Workday which replaced PPDB as the system of record.

#### **PICS**

PICS data and only includes data within the Datamart through January 2020. All new position information can be obtained from ORPICS which replaced PICS as the system of record.

All the load dates are subject to change, therefore, make sure to review the Datamart Processing Calendar on the Datamart website, throughout the year.

### ***History of Business Intelligence Tools***

DAS has a long history of using business intelligence tools. It began with the creation of the Financial Datamart in 1997. Oregon state government has since come to rely on various business intelligence tools as its primary means of retrieving financial information.

The first major business intelligence application DAS obtained was called Brio and was used extensively throughout the state to access the Datamart. In 2003, Brio was acquired by the Hyperion Solutions Corporation and eventually was acquired by Oracle in 2007.

In May 2015, Oracle announced the end of life for this software. This meant that Oracle would no longer provide updates to the software. Therefore, DAS had to find a new tool. In August 2020, DAS moved to the Oracle Business Intelligence Enterprise Edition application.

### ***Financial and Profile Tables***

The Datamart was created to consist of tables separating the financial information to allow users to obtain the data more easily.

There are two types of tables on the Datamart: Financial and Profile. The main difference between the two is the financial tables contain financial information, such as general ledger balances and transaction amounts. While the profile tables provide titles for various data elements.

Due to limitations within the Datamart and the query tools, only the information currently provided on the financial tables is available and therefore agencies are not able to access additional data in the Datamart.

### ***Financial Tables***

The main tables in the financial Datamart are the SFMA Financial tables which include the Accounting Event, General Ledger, and Other Special Financial tables. Let's take a look at each of these financial tables.

The Accounting Event tables contain the lowest level of detail in the Datamart. All other financial tables are various summaries of this information. There are four Accounting Event tables, click on each one to learn more.

**Active Accounting Event:** The first is the Active Accounting Event. This table mirrors the data from the SFMA system. Data is reflective of the current 3 months of active transactions.

**All Accounting Event:** The second Accounting Event table is the All Accounting Event. This table, which is the most used table, mirrors the data from the SFMA system. Data is reflective of the current fiscal year and five prior years of transactions. This table may contain up to two years of additional information depending on the purge timetable.

**Archive Accounting Event:** The third table is the Archive Accounting Event. This table mirrors the data from the

SFMA system; however, data is reflective of the current fiscal year and seven prior years of transactions. This table may contain up to two years of additional information depending on the purge timetable. This table is only used when looking at very old data.

YE Active Accounting Event: The fourth Accounting Event table is the YE Active Accounting Event. Data is reflective of the current fiscal year of transactions. This table is updated on the last three Thursdays of the Month 13 additional accounting time period, which is during mid-July to the close in August. Outside of Month 13, this table contains zero data. The Month 13 table is provided because agencies use this additional accounting period to record year-end accruals and other financial statement adjustments.

The Datamart date fields are actual dates, while date fields in SFMA are text fields. This allows SFMA to contain dates not on a standard calendar. The best example of this would be Month 13, which is identified through the effective date field. In SFMA, Month 13 is identified as 6/31/YEAR. In the Datamart, date fields are not allowed to have dates not on the calendar, which is a data validation feature in DB2. In order to move data to the Datamart, some “data washing” has to be done. Dates like 6/31/YEAR are changed to 6/30/YEAR, a new data element is introduced called Batch Date Ci. The download program picks up the last digit in the month and records it in this field. Any time an incorrect date is entered into SFMA, it is corrected in the Datamart and an indicator is provided.

The next financial tables we’re going to discuss are the General Ledger tables, which mirror the data from the SFMA system. There are three tables within this group and they summarize general ledger balances, as well as, the Object and Agency Object levels. Click on each one to learn more.

The General Ledger Detail table contains five years’ worth of data.

The Archive GL Detail table contains up to 7 years of data; however, it is dependent on the date the agency started using SFMA.

The YE General Ledger Detail table is updated only during Month 13 close. This table is updated with the balances of the current fiscal year only. Once Month 13 is complete, this table will be cleared of data until the next Month 13.

The General Ledger Summary table is the first in another set of three tables in the Datamart. These tables mirror the data from SFMA and summarizes the General Ledger balances, but do not contain any object level detail.

The second in this set is the Arch GL Detail table. The time period of data in this table is dependent on the date the agency started using SFMA.

The final table in this set is the YE General Ledger Summary. This table is a bit different than the other two as it updates only during Month 13 close and at other times of the year, this table does not contain data. This table updates with the balances in the current fiscal year only.

Both sets of General Ledger and General Summary tables are a higher level of summarization than the

Accounting Event tables. Balances for the tables are by month, and are cumulative by month. This means that a balance in the M03 Balance GL field will contain the total of months one, two and three.

Now let's look at some Other Special Financial tables as there are quite a few within the Datamart. Each of these tables will match a screen in SFMA. You can get a complete listing of the SFMA Datamart Tables in the resources section of this training. Click on each table to learn more.

- The Appropriation Financial table provides information similar to the "62" screen on SFMA.
- The Contract Financial table provides information similar to the "68" screen on SFMA.
- The Grant Financial table provides information similar to the "66" screen on SFMA.
- The Project Financial table provides information similar to the "80" screen on SFMA.
- The Receipt Extra Sum table provides information similar to the "12 & 13" screens on SFMA.
- The Document Financial table provides information similar to the "64" screen on SFMA.
- The Archive Document Financial table provides information similar to the "64" screen on SFMA.
- The Payment Control table provides information similar to the "47" screen on SFMA.

### **Profile Tables**

The second type of table on the Datamart is Profile tables. The Profile tables provide RSTARS data going back to 1995. When using these tables you are looking for titles of information. Titles are only contained in the profile tables of the Datamart in order to save space on the servers.

Since titles are only within profile tables, a user must be able to join a financial and profile table together, within the desired Business intelligence program, to be able to view all the necessary data. Joining tables is done in various ways and it all depends on the product you are using. A user may need to review other training material to determine the best way to accomplish this task.

To view a complete listing of the current profile tables and the RSTARS screens they mirror go to the resources section of this training.

The OSPA tables contain data processed through the payroll system. Data is updated monthly after the close of the payroll month, which is around the 10th of the following month. You are able to check the Datamart Processing Calendar on the Datamart website listed in the Resources tab of this training.

The OSPA tables on the Datamart are each considered a flat-file. This means the tables were not meant to join together and need to be used on a stand-alone basis. This type of data is actually pulled together as a report output from behind the scenes. If these tables are being used by the Business Intelligence program improperly, then it can cause issues with the data, especially when trying to join two or more of the tables together. Due to this fact, it makes querying a bit more difficult, as you really have to know exactly what you are looking for, and where to find it.

There is data not available in the OSPA tables. This includes various confidential information, such as social security numbers, wage withholdings, garnishments, bank accounts, or certain insurance surcharges. In addition, the OSPA tables **do not** contain an employee's salary range, addresses, furlough savings, or detailed

daily time information. All of this data would need to be obtained from other systems, such as Workday.

Please remember, if you are working in a Business Intelligence program that allows for manual joining of tables, you should not join OSPA tables together.

For additional detailed information on OSPA tables and fields, visit the Datamart website listed in the Resources tab of this training.

There are six tables within the payroll Datamart and each contains four biennium's worth of data. Click on each one to learn more.

1. The OSPA Deductions table contains all the payroll deduction information.
2. The JS Lab Adjust table contains OSPA job status, labor and gross adjustments.
3. The Labor Cost table consists of all payroll costs of labor.
4. The Leave Accrual table displays the payroll leave data.
5. The Net Pay table consists of pay information.
6. The Work Schedule table is slightly different than the other tables because it does not contain four biennium worth of data. It only displays a user's current work schedule.

### ***Datamart Connection***

When working with a database, a user needs the ability to connect to the database server, whether on the same machine or not. A connection is required to send commands and receive answers, usually in the form of a result set.

The Datamart is no different and to connect to it, a user must have a DB2 connection.

In the current environment, OB1 connects to the Datamart directly and users access the data through OB1. Administrators set up the connections between OB1 and the Datamart. OB1 has the ability to pull data from the Datamart and organize it into what is called a Subject Area. A subject area is a logical grouping of tables related to a particular subject or application context.

Depending on what program is used to access the Datamart, the process for connecting to DB2 will be different. For example, when using Hyperion, a user must use an Open Catalog Extension or OCE to obtain data. Each OCE can be modified to fit what type of data a user can view within the Datamart.

To view the standard SFMA and OSPA OCE visit the Datamart website listed in the Resources tab of this training.

### ***Repository***

The Repository is a great tool to help share standard reports with users on a statewide level. The purpose of sharing these reports is to allow agencies to have an outlet to access reports created by many different users. The Datamart team cannot guarantee these reports will function exactly the way each agency desires, due to specific agency structures; however, agencies are able to make modifications as they see fit. Consider these

files as templates, which can help alleviate having to start from scratch. Click on each key point to learn more about the repositories.

The Repository contains many files, which access data from SFMA, ORBITS, and OSPA. Thanks to users throughout the state, we continually obtain more reports to help with our daily operations.

There are two Repositories. The original Repository, created in 1997, is located on the DB2 tables and can be accessed using Hyperion. The other repository, called the OBIEE repository, is used solely by the OBIEE application and is located within the OBIEE server. This repository was created in 2020 with the implementation of the OB1 application.

Both repositories are very similar by providing templates to users on a statewide level. However, they do have to be used separately and with only the specified programs.

Any user can create a template to be shared statewide and the Datamart team encourages this. To do so, email the Datamart support letting them know you created a file to share and provide detail about the report. The Datamart Administrator will share the file if approved.

### ***Resources***

There are several important resources where you can find information about the Datamart. Click on each icon to learn more.

The Datamart website is the main resource of information dedicated to providing valuable data on everything about the DAS Financial Datamart, as well as, the current reporting tool. To easily find the site, you can Google Oregon Datamart. It will be the first choice on the list. The link is provided in the Resources tab of this training. <https://www.oregon.gov/das/financial/acctgsys/pages/datamart.aspx>

The Datamart Maintenance website allows you to update your Datamart password, as well as, stop queries ran against the DAS Datamart. This site is for users who work with these business intelligence programs, Excel, Crystal Reports, Microsoft Access, and Hyperion. The link is provided in the Resources tab of this training. <https://datamartapp.dasapp.state.or.us/>

In order to log into OB1 there are two types of agencies, 'Sync' and 'Non-sync'. A 'sync' agency will use a password that is the same as they use for their work computer. If you update your work computer password then OBIEE will automatically sync and change as well. A 'non-sync' agency will use the password obtained from the OBIEE password manager. The Password Manager website allows a user to create a password and update it as well. The password will need to be updated every 90 days according to statewide policy. The link is provided in the Resources tab of this training. <https://pwm.ets.oregon.gov/PMUser>

The Datamart News List is a resource dedicated to providing users with up-to-date information on what is occurring with the Datamart. The information is provided by the Datamart team on a varying basis. To join the News List go to the Resources tab of this training. <https://www.oregon.gov/das/Financial/AcctgSys/Pages/newslists.aspx>

If you have any questions, suggestions, problems or comments about these resources or training, click on [Email Datamart Support](#).