ORACLE PUBLIC SECTOR
REVENUE MANAGEMENT ANALYTICS

As public sector agencies transform their business models to deliver a more customer-centric offering, the ability to collect, store and analyze customer data become critical. Oracle Public Sector Revenue Management Analytics helps public sector agencies better manage their operations, understand their risk due to fraud and compliance, and make more informed decisions that can lead to better service, improved operational efficiency, and increased collections and compliance.

The Solution
Oracle Public Sector Revenue Management Analytics is a pre-built Enterprise Data Warehouse solution. The pre-built content includes a Foundational Data Model, Data Marts, Predictive models for Compliance and Risk management, Operational reports, dashboards, metrics, Key Performance Indicators. This packaged solution includes all the components required to stand up a data warehouse solution quickly. It leverages the power of Oracle technology, lowering total cost of ownership and an assurance of a positive return on investment.

Oracle Public Sector Revenue Management Data Model
Based on Oracle’s leading data warehousing technology and reference architecture, the Oracle Public Sector Revenue Management Data Model provides a foundation layer, an analytical layer, and automatic data movement across these layers.

Foundation Layer: This normalized schema serves as a structured representation to hold transactional data of business processes internal to the public sector agency (e.g., registration, payments, accounting, collections, financial statements) as well as data that may be obtained from other sources (e.g., banks, insurance companies, credit bureaus, census, dept of motor vehicles, social networks) at the lowest level of detail. It is designed to integrated data from multiple heterogeneous sources.

Analytical Layer: Include models for Predictive Models and Data marts.

Predictive Models: The packaged predictive models analyze current and historical facts in order to make predictions about future events. The model empowers public sector agencies with insight into behaviors and motivations, and enables them to take the most effective compliance and risk management actions. The packaged models include

- the Beneish M-Score models that looks at financial statements, submitted in XBRL format, to identify business that are manipulating their earnings
- the Altman-Z-Score models that looks at financial statements, submitted in XBRL format, to identify business that might be bankrupt in the next couple of years
- the Debt Delinquency Risk models that looks at past behavior to predict the risk of debt delinquency in the future.

Data marts: These pre-built dimensional models support the pre-built best practice metrics/KPIs, reports and dashboards created in OBIEE. The models also allow OBIEE users to make adhoc queries, and create their own KPIs, reports and dashboards.
**KEY BENEFITS**

- Designed and optimized for Oracle database and Business Intelligence platform and technology.
- Support multiple heterogeneous source systems.
- Easy to extend and customize.
- Expeitious warehouse implementation with prebuilt components and embedded data warehousing best practices for public sector agencies.

**Pre-Built ETL:** Pre-built Oracle Data Integrator mappings enable the automatic movement of transformed data from the Foundation layer to the Analytical layers. Includes ODI Knowledge Modules designed specifically for extracting and transforming data from XBRL files to the foundation layer.

**Operationalized Performance Monitoring**

Agency Commissioners face unique challenges including the need to increase revenue without raising taxes, the need to improve and expand taxpayer and citizen services, and the need to run an efficient business operation that performs within budget. One challenge for Commissioners is measuring the performance of the tax authority. The performance monitoring functionality in Oracle Public Sector Revenue Management Analytics allows commissioners to specify their strategic objectives, decide which KPIs should be used to measure their performance, gather data, monitor performance and revise objectives based on results. This functionality brings together KPIs from multiple subject areas or department to present an agency wide performance reports to the executives. It also provides the ability to drill into individual department’s dashboards to better understand why an objective or KPI are above or below target.

Performance monitoring is a task that every agency performs today. The performance monitoring functionality in Oracle Public Sector Revenue Management Analytics automates this process making it possible to monitor continuously, get consistently accurate results, without IT intervention, without an army of business analyst manually calculating the KPI. Automation of the performance monitoring process makes:

- Calculations accurate and consistent across the agency
- Allow everyone to have access to the same information.
- Enables timely identification of issues

Making the entire process more efficient and effective.

**Licensing**

Oracle Public Sector Revenue Management Analytics license includes the pre-built Oracle Public Sector Revenue Management Data Model, and the pre-built operational dashboards, reports, metrics and Key Performance Indicators.

**Financial Statement (XBRL Data) Analytics**

Financial statements, submitted in XBRL format, are validated against a base taxonomy then loaded, stored and analyzed. Leverages the ‘XBRL Extension to the Oracle XML Database feature to load, store and query any XBRL taxonomy and instant documents. Pre-built ODI Knowledge Module transforms and loads XBRL data into Foundation layer. Pre-built Beneish M-Score and Altman Z-Score predictive models analyze the financial data to manage compliance and identify risks.

**Accounting Analytics**

These operational analytics on accounting data analyzes tax, penalty, fees, and interest assessments, waivers given, write offs made, payments, offsets, and any other credits allocated to assessments to respond to questions such as:

- Are assessed and collected revenues on target for this year? How does this year compare to last year? How do assessments compare to payment collections over the last 12 months?
- How do actual payments received compare to targeted payment collections? What is the percentage breakdown of payments by revenue type?
- What is the assessment balance? What is its age? What is the breakdown of the balance by revenue type, by geography, by entity type?
What are the top 5 reasons for Penalty, Interest, Waivers and Write Offs?

How many waivers were given over a certain amount? For what reason?

**Collections Analytics**
The Organization for Economic Co-operation and Development (OECD) references the set of *Fiscal Blueprints*, developed by the European Commission (EC) to guide EU candidate countries in the strengthening of their revenue bodies, as an example of work that “define the desirable features and characteristics of institutional arrangements appropriate for effective administration of a country's tax system.” The blueprints are described as a set of practical guidelines laying down clear criteria based on EU best practice, against which a tax or fiscal administration is able to measure its own operational capacity. The blueprints, while developed as a tool for EU candidate countries to enhance their administrative capacity in the field of tax administration, have broad international application.

The Performance Indicators and metrics of Collections Analytics are based on the Outstanding Debt definitions specified in the Fiscal Blueprints.

**Payments Analytics**
These operational analytics on payment data analyzes tax, penalty, fees, and interest payments by payment method, payment channel, payment status, payment suspense or cancel reason to respond to questions such as:

- Is the percentage of electronic payments increasing? How does it breakdown by revenue type or taxpayer type?
- What are the reasons for payment cancellation or suspense? Is a particular taxpayer segment cancelling more payments than others?
- What is the amount of payments in suspense? What is the age of the payments in suspense?
- What percentage of payments is on time? What percentage of payments is received within the grace period? How is payment compliance changing by revenue type?

**Registration Analytics**
Registration Analytics provide an agency with information to understand how their taxpayer base in changing. Typical questions answered by registration analytics are:

- How many new businesses registered this month? What is their primary industry segment?
- How many businesses closed this month? What was their industry segment? What was the reason for closure? How closed businesses are geographically distributed?
- For types of revenue are being registered?
- What is the percentage breakdown of businesses by Small, Medium Large?
- What are the demographics of the person taxpayers? Is the taxpayer population aging? What is the breakdown of the taxpayer population by tax area, or office?
- How many business taxpayers migrated from one tax are to another?

**Using the Latest Technology**
The Oracle PSRM Analytics solution includes features and technology from the same vendor. This simplifies
Consistent technology platform:
- Oracle Database
- XBRL Extension to Oracle XML DB
- Oracle Business Intelligence Foundation
- Oracle Data Integrator
- Oracle Data Mining (optional)
- Oracle Exadata (optional)
- Oracle Exalytics (optional)

Both installation and ongoing operations, lowering costs and easing maintenance burdens. The following technology components comprise the platform:

Oracle Database Enterprise Edition delivers industry leading performance, scalability, security and reliability on a choice of clustered or single-servers running Windows, Linux, and UNIX. It provides comprehensive features to easily manage the most demanding transaction processing, business intelligence, and content management applications. Oracle Database comes with a wide range of options to extend the world's #1 database to help grow your business and meet your users' performance, security and availability service level expectations.

Oracle Data Mining (ODM) provides powerful data mining functionality as native SQL functions within the Oracle Database. Oracle Data Mining enables users to discover new insights hidden in data and to leverage investments in Oracle Database technology. With Oracle Data Mining, you can build and apply predictive models that help you target your best customers, develop detailed customer profiles, and find and prevent fraud. Oracle Data Mining, a component of the Oracle Advanced Analytics Option, helps companies better "compete on analytics." The Oracle Data Miner “work flow” based GUI, an extension to SQL Developer, allows data analysts to explore their data, build and evaluate models, apply them to new data and save and share their analytical methodologies. Data analysts and application developers can use the SQL APIs to build next-generation applications that automatically mine star schema data to build and deploy predictive models that deliver real-time results and predictions throughout the enterprise. Because the data, models and results remain in the Oracle Database, data movement is eliminated, information latency is minimized and security is maintained. Additionally, Oracle Data Mining models can be included in SQL queries and embedded in applications to offer improved business intelligence.

Oracle Business Intelligence Enterprise Edition Plus (OBIEE+) is a comprehensive business intelligence platform that delivers a full range of analytic and reporting capabilities. Designed for scalability, reliability, and performance, OBIEE delivers contextual, relevant and actionable insight to everyone in an organization, resulting in improved decision-making, better-informed actions, and more efficient business processes. Oracle also provides the industry’s only multi-sourced BI applications, as well as market-leading performance management applications that are powered by this BI platform.

Oracle Data Integrator (ODI) is a comprehensive data integration platform that covers all data integration requirements: from high-volume, high-performance batch loads, to event-driven, trickle-feed integration processes, to SOA-enabled data services.

The following technology components are related and can significantly enhance the overall solution:

Oracle Exadata is an engineered system that includes servers, storage, networking and system software optimized to work together and deliver the highest performance at low costs.