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**FINANCIAL SERVICES**

# ORACLE FINANCIAL SERVICES ANALYTICAL APPLICATIONS INFRASTRUCTURE

**KEY FEATURES**

- Rich and comprehensive business metadata allows business users to interact with financial services data model to configure and modify application data, rules and reports

- Centrally assemble, configure and manage baseline and simulation runs by modifying assumptions, parameters and rules for advanced analytical capabilities

- Configure and manage batch and real time runs with built in management or through external web services

- Manage and create aggregate data stores for analytics through an automated, metadata driven process

- Manage and create rules for data manipulation, classification and computations

- Define and execute data quality checks on incoming data

- Modify and configure forms and workflows to meet specific functional and organizational requirements

- Control system authentication and access by role and/or job function

- Provide secure and authorized access to analytical data by domain, segment and even business metadata

- Move and aggregate data between various analytical stores for use in any application

*Oracle Financial Services Analytical Applications Infrastructure powers the Oracle Financial Services Analytical Applications family of products. It performs the processing, categorizing, selection and manipulation of data and information needed to analyze, understand and report on specific performance, risk, compliance and customer insight issues.*

*With the need for discrete analytical disciplines firmly established in the financial services industry, it is now imperative to understand the significance of their intersections, dependencies and ultimately, their combinative impact on the enterprise. Institutions will find competitive advantage in an analytical applications infrastructure that addresses the needs of the business today, yet remains open and adaptable for the unforeseen needs of tomorrow.*

## Powering Oracle Financial Services Analytical Applications

Oracle Financial Services Analytical Applications Infrastructure provides the foundation for the entire family of Oracle Financial Services Analytical Applications across the domains of performance, risk, compliance, and customer insight, as illustrated below.
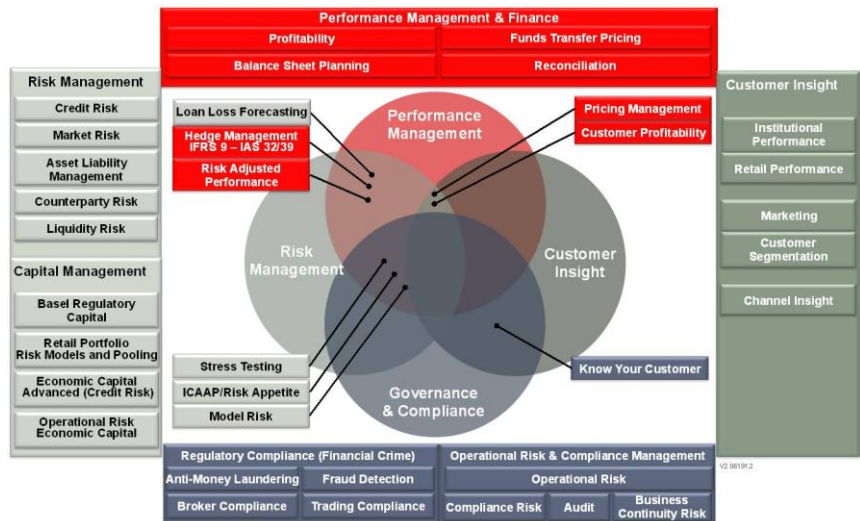


Figure 1 - Oracle Financial Services Analytical Applications

## Financial Services Analytical Applications Infrastructure

As depicted in Figure 2, the Infrastructure is comprised of a set of frameworks that operates on and with the Oracle Financial Services Analytical Applications Data Model. This infrastructure delivers unified metadata across the stack and provides a single set of computational engines, stochastic modeling methods and business rules to feed overlapping,

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- Centrally manage analytical applications on a single enterprise-wide infrastructure built specifically for financial services

- Provide one version of the analytical "truth" to business users throughout the entire enterprise

- Confidently manage performance, governance, risk and compliance with a single, transparent, auditable analytical platform

- Deliver pervasive and consistent business intelligence throughout the enterprise

- Perform concurrent, multijurisdiction, multi-ledger computations without performance impact or the need for additional hardware

- Minimize TCO across all financial services analytical disciplines with a single, unified platform investment

but independent, analytical business functions such as profitability, economic capital, FTP, and regulatory capital. Pre-integrated and extensible with common objects and dimensions, this infrastructure powers business user analyses with performance that scales to meet the demands of the world's largest institutions.

The individual Analytical Applications (referenced in Figure 1) provide domain-specific data and information, computed with and within the Infrastructure, to business users, management and even regulators, via corresponding sets of pre-built reports, alerts and dashboards. These "analytics" are delivered with Oracle's industry-leading Business Intelligence platform.
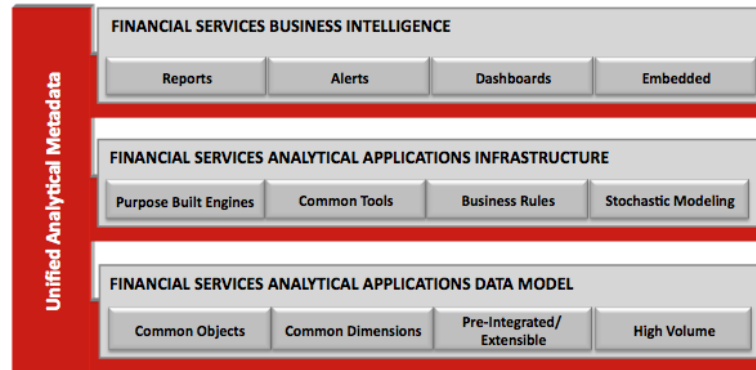


Figure 2 - Building Blocks: Shared Components Across Applications

## Frameworks Comprising the Financial Services Analytical Applications Infrastructure

Figure 3 below depicts the various frameworks and capabilities that make up the Oracle Financial Services Analytical Applications Infrastructure.
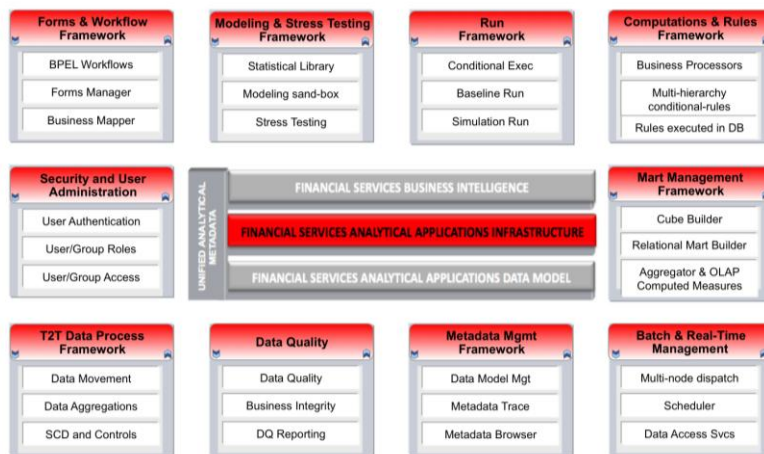


## Table to Table (T2T) Data Process Framework

The "T2T" framework allows customers to move data flexibly within the Oracle Financial Services Analytical Applications Data Model at different levels of granularity and at various stages of the process.

## Data Quality

This framework executes application specific data quality rules to verify physical attributes of

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incoming data and to perform initial business rules data checks such as those related to data completeness.

## Computations and Rules Framework

The Computations and Rules Framework enables the creation of rules to solve specific business problems. The infrastructure provides for three classes of rules:

- Data manipulation rules
- Data Classification rules
- Computational rules

These rules are used within the other frameworks to define the specific processes and ultimately run definitions needed within the various Oracle Financial Services Analytical Applications.

## Run Framework

In concert with the previously mentioned modules, the Run Framework allows for the definition and combination of various rules into business processes that define a "run." Runs can be defined as baseline, where known data and standard rules are applied to routine operations. Simulation runs can also be defined by varying certain assumptions in the rules and underlying data to perform advanced analytical processes like those required for stress testing. Pre-defined runs are delivered to Oracle Financial Services Analytical Applications customers "out of the box."  Examples of a run could include Return on Risk Adjusted Capital or even the calculation of capital.

## Batch and Real-Time Management

Once data stores are created and rules, processes and runs are defined, the timing and frequency of execution can be established. The scheduling of runs within the Oracle infrastructure can be managed on a real-time or batch basis. Batch processes can be established that run nightly, weekly, monthly, or to meet specific business needs. The management facility also provides the ability to run jobs in a manual or real-time basis, as required.  Existing investments in external schedulers can also be used to call web services within this infrastructure.

## Metadata Management Framework

One of the key capabilities of the Oracle Financial Services Analytical Applications Infrastructure is the rich business metadata layer that provides a common business language across the entire analytical applications footprint for business users to interact with. This metadata masks the complexity of the powerful and comprehensive underlying Financial Services Analytical Applications data model.  It allows for the rapid deployment of new or extended applications by implementing only those data elements that are required within a specific application or group of applications.

## Mart Management Framework

The Mart Management Framework enables the automated creation of aggregate data stores (relational or OLAP) through a meta data driven process that is easily manageable by business users. As a result, the aggregate structures are in sync with detailed data stores and fully traceable back to their origins.

## Forms and Workflow Framework

The Forms and Workflow Framework allows organizations a flexible and simple means of interaction between the system and business users. By leveraging metadata, forms and

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workflows can easily be modified and configured to meet specific functional, operational and organizational requirements within an application. This framework is available as an optional extension to the infrastructure.

### Modeling and Stress Testing Framework

The Modeling and Stress Testing Framework provides a centralized means to build and manage shocks, scenarios and statistical models across the entire enterprise as required. It ensures definitional consistency across all risk categories and provides the ability to understand the combined effects of these shocks and scenarios when computing required regulatory and economic capital or understanding customer behaviors. This framework is available as an optional extension to the infrastructure.

### Security and User Administration

Oracle Financial Services Analytical Applications Infrastructure provides a security model that can define users by role and function and easily integrates with LDAP, SSO and J2EE authentication engines. Access to data at any levels within the infrastructure can be controlled by information domain, segments or even business metadata.

| Key Architecture Features |
|---|
| Web-based, multi-tiered and standards-based architecture with support for WS2.0, SOA standards |
| Standards based web-container supports clusters on web-tier (IT user configurable) |
| Built-in, fail-safe architecture provides clustering, multi-instance, DB-cluster support |
| Business rule configuration via drag & drop wizards without custom coding. Extensive set of UI designers helps business and IT users configure and enhance system with predictable results |
| Processing engines translate business definitions (configured as "rules," "runs," etc.) into optimized SQL to fully leverage database server scalability and use standard database tools for additional tuning. |
| Multiple rules can run concurrently via multi-threaded architecture |
| Components run within standard containers and are changeable, tunable and scalable in the production environments by IT - without vendor support. |
| Use standard utilities and tools for performance & scalability tuning |
| "Click & choose" interface enables execution of rules related only to portfolios affected by changes when performing re-computations (like with RWA) |
| Linear scalability as data volume increases - proven benchmarks |
| Software-oriented, scalability architecture minimizes need for additional servers |
| End-user configurable rules, reports, etc., via web-based designers and business metadata |

Figure 4 - Key Architecture Features

### About Oracle Financial Services Analytical Applications

Oracle Financial Services Analytical Applications Infrastructure is part of the Oracle Financial

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Services Analytical Applications family of solutions for the global financial services industry.

Oracle Financial Services Analytical Applications are built upon a commonly available analytical infrastructure consisting of a unified financial services data model, analytical computations and the industry-leading Oracle Business Intelligence platform.

Oracle Financial Services Analytical Applications include award-winning solutions for Enterprise Risk Management; Governance, Risk, and Compliance (GRC); Enterprise Performance Management (EPM); and Customer Insight for financial services.

## Contact Us

For more information about Oracle Analytical Applications Infrastructure, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.

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

**Hardware and Software, Engineered to Work Together**

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