

Oracle Risk Manager is an asset/liability management model that employs account level data to support structured interest rate risk analysis, balance sheet forecasting, and market valuation. It measures and models every loan, deposit, investment, and portfolio security individually, using both deterministic and stochastic methods. Oracle Performance Analyzer is part of the Oracle E-Business Suite, an integrated set of applications, which is designed to transform your business to an e-business.

Table Dimensions

Row: **Expired Term (Months)** [Edit Dimension]

Column: **Original Term (Months)** [Edit Dimension]

Page: **Rate Difference** [Edit Dimension]

Select Page to View

1	-3.0000
2	-2.0000
3	-1.0000
4	0.0000
5	1.0000
6	2.0000
==>	3.0000

Enter Prepay Rates

		12	24	36	60
0	5.0000	6.0000	6.5000	6.5000	
1	5.2500	6.2500	6.6000	6.7500	
3	12.0000	8.0000	7.6000	7.5000	
6	12.5000	10.0000	10.0000	10.0000	
12	12.5000	20.0000	20.0000	22.0000	
24	12.5000	10.0000	25.0000	25.0000	
36	12.5000	10.0000	10.0000	30.0000	
48	12.5000	10.0000	10.0000	35.0000	
60	12.5000	10.0000	10.0000	35.0000	

Dimension Definition

Select Dimension Type: **Expired Term (Months)**

Lookup Method: Interpolate Range

0 [OK]

1 [Cancel]

3 [Add]

6 [Delete]

12

24

36

48

60

Prepayment Table ID

Enables you to specify assumptions about prepayment rates for individual financial instruments

Controlling the Complexities

Enterprise risk management is the goal of most treasury departments today. To consolidate the management of risks, the department must have a consistent framework for gathering data, measuring the risks, monitoring changes, and acting upon them.

Oracle Risk Manager meets these challenges. The Oracle data model provides a repository for account-level data, capturing true instrument characteristics. These characteristics drive the modeling of individual accounts. Assumptions about ongoing business activities are stored independently to separate today's risks from tomorrow's actions. In the process of simulating future activity, over 70 financial measures (financial elements) are produced for every item on your balance sheet.

Oracle Risk Manager provides measures to meet all of your risk management goals, including value-at-risk (VaR), earnings-at-risk (EaR), market value, income simulation, and gap. You control the level at which results are aggregated, both in terms of the time frequency (modeling buckets) and the product categorization.

Multicurrency

Oracle Risk Manager provides features to address both the operational and analytical complexities of multicurrency. You can define unique structural product characteristics, pricing methods, valuation, and new volume activity for every product and currency combination. To measure balance sheet sensitivity to currency fluctuation, you can attach exchange rate scenarios to interest rate forecasts in all scenario-based processes. Oracle Risk Manager also provides a series of conversion calculations to adjust to an internally consistent value irrespective of the initial quote basis. These rate conversions adjust for yield or coupon format, as well as different compound bases and accrual bases.

Wealth of Output Information

Oracle Risk Manager calculates and stores a variety of financial risk indicators:

- VaR, EaR, and probability distributions
- Static and dynamic market value
- Static and dynamic gap
- Income simulation

The system captures a wide range of information, from the VaR of your entire organization to the detailed daily cash flows on a single account. Income cash flows are available on an actual as well as a transfer pricing basis, for up to nine predefined rate paths. Gap results include principal runoff, repricing runoff, interest cash flows, and interest accruals.

Oracle Risk Manager uses the strength of the Oracle8i database and Oracle's state-of-the-art OLAP technology to manage the information. The system supports ad-hoc reporting and analysis as well as standard monthly management and regulatory reports. Oracle Risk Manager controls the detail of the output information by enabling you to see the big picture as well as drill down to truly understand individual product impact on your risk profile.

Rigorous Calculations

Oracle Risk Manager is designed to operate on transaction-level data. For faster processing, you can implement a customized aggregation of individual products. Each account, as well as all forecasted new-business activity, is modeled independently on a daily cash flow basis.

Oracle Risk Manager generates market valuations of instruments with embedded options, VaR projections, and EaR projections with a highly-tuned Monte Carlo simulation process. Within a Monte Carlo process, you can choose one of four term structure models, including Vasicek, Extended Vasicek (Hull and White), Merton, and Ho and Lee. State-of-the-art modeling techniques have been integrated into this process. The Monte Carlo engine prepares the risk-free curve, using a complex cubic spline-smoothing technique. For no-arbitrage models, the Monte Carlo engine constructs a Hull and White trinomial lattice for yield-curve calibration.

To optimize performance, random number generation methodologies are enhanced with low-discrepancy sequence techniques. This advancement from crude Monte Carlo enables you to improve time to convergence by a factor of 10-1 on average, while still maintaining the proper distribution of results necessary for at-risk analysis.

Rather than requiring you to specify a single confidence level, the VaR and EaR calculators provide a complete value probability distribution over the specified “at-risk” period, for individual portfolios as well as the entire balance sheet. If desired, system-generated rate paths are output and analyzed to better explicate the riskier scenarios.

Unique payment and repricing characteristics, captured directly from the data, can be modeled exactly, including:

- Unlimited repricing frequencies
- Caps and floors, both absolute and incremental
- Rate lags and minimum rate change requirements
- Teased loans
- Arrears and advance payments
- Compounding and interest credited

The model supports a wide range of amortization and repricing methods, including:

- Derivatives, including caps, floors, swaps, and FRAs
- Negative amortization mortgages
- Irregular payment and repricing schedules, for example on agricultural or construction loans
- Deferred principal and other irregular payment frequencies
- Conventional loans
- Step-up loans
- Balloons
- Bullet instruments

Oracle Risk Manager models servicing rights, both for retained servicing rights and sold servicing rights. Accurate treatment of premiums and discounts is modeled at the account level as well.

Flexibility in Process Management

One of the most important aspects of a cash flow model is the data integrity. Many models “assume away” data issues, severely restricting the level of accuracy available from the model. In Oracle Risk Manager, you control data massaging directly, so correction of inconsistent data can be tailored to your specific product characteristics.

Calculations on today’s balance sheet are processed and stored independently of new-origination modeling. The separation of current position results from forecast assumptions enable analysis of the new-business impact on the balance sheet, comparison of different business strategies, and quick turn-around when assumptions change.

Cash flow and gap modeling results are accumulated in daily, monthly, or yearly buckets to meet a variety of different modeling needs, including liquidity and cash management tasks.

Oracle Risk Manager processes data at any level required, from the entire balance sheet to targeted portfolios defined by filtering on specific instrument characteristics.

Flexibility in Assumption Management

Built-in models are designed to flexibly meet the needs of a variety of different products and markets, to provide a truly international solution.

All Oracle Risk Manager assumptions are completely separate from the detailed data. Each assumption is saved as a separate, distinct business rule. You can create an unlimited number of assumption business rules to provide you with a comprehensive review and thorough understanding of all likely rate risk situations.

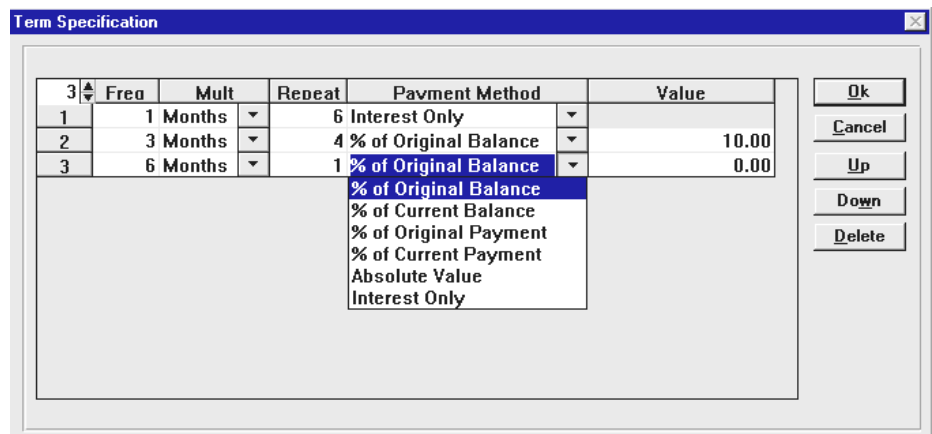
A multi-factor prepayment model can be specifically tailored to vary with up to nine different modeling and instrument characteristics, including seasonality, age, rate, and reprice information. You have complete control of complex calculations, including choice of term structure model, term structure parameters, use of quasi-random number generators, and smoothing techniques. New-business assumptions are defined and processed independently of current holdings, and their results stored separately.

Reliable, Verifiable Results

Calculation engines are common among all components of Oracle Risk Manager and are integrated with other modules within Oracle Financial Services applications. The cash flow engine that is used to produce income simulation and gap results is also used during Monte Carlo simulation, cash flow transfer pricing for Oracle Transfer Pricing, and budgeted cash flows for Oracle Budgeting & Planning. Using the same cash flow engine provides consistent and verifiable results that are difficult to capture in any other model on the market today.

Auditing capabilities within all modeling engines enable you to drill down to truly understand the model’s behavior. If desired, the cash flow engine allows detailed cash flows to be output for any individual account. You can output forecast exchange rates and forecast interest rates. Similarly, the Monte Carlo rate generator allows each individual rate path to be output and saved to the database. You avoid the “black box” feel of many models because the detail is available to explore and verify whenever required.

Ultimately, results analysis in asset/liability management is best presented at the highest practical level. To get behind that high level analysis, you need very detailed reports. That is why Oracle Risk Manager enables you to customize hierarchical roll ups of your chart of accounts.



Payment Pattern ID

Enables you to flexibly define the payment method

Architecting the Right Solution

For enterprise-level risk management, scalability of the solution is important, both in terms of processing efficiency and robust, extendible analytics.

Oracle Risk Manager engines are designed to run in a highly-optimized, multi-processing, 64-bit framework to maximize the hardware platform. Because it uses three-tier architecture, Oracle Risk Manager enables you to choose the level of server processing capacity. You decide how much power and speed you need, scaling the hardware up or down to match your requirements.

Analytical methodologies are appropriate to all types of products, from the simplest certificate of deposit to the most complex mortgage. By applying these methods of risk evaluation, the model provides you with a consistent framework for measuring your risks, tracking their changes, and evaluating the impact of your hedging activities.

Oracle E-Business—The Total Solution

Transform the way you conduct business with Oracle's internet-enabled e-business suite. Put your demand chain, supply chain, and internal operations online with Oracle's comprehensive and fully integrated solution. Combine the wide reach of the Internet with Oracle's fully globalized product to run your business consistently and accurately worldwide. Reduce costs and complexity by running on corporate Internets or the World Wide Web.

Oracle's revolutionary 8i database maximizes the emerging Internet computing technology. While using Oracle Risk Manger, you can select where and when to process results, based on your combination of business processes, data volumes, and technology infrastructure. The database and applications are "globally enabled" with multi-byte support.

As a provider of global consulting, education, and support services, Oracle provides the most complete e-business solution available.

The Oracle E-Business Suite: transforming your business into an e-business

Key Features

Product Modeling

- Standard and customizable repricing types
- Standard and customizable amortization types
- Account-level deferred income recognition
- Complex interest calculations
- Modeling off-balance sheet instruments
- Modeling of securitized loans

Prepayment Modeling

- Instrument-level prepayment assumptions
- Modular, re-usable prepayment tables
- Optional seasonality adjustment factors
- Sophisticated yield curve smoothing techniques
- Choice of term structure models
- Automatic calibration of no-arbitrage models
- Formula-based rate indices
- Optimized random number generation

Multicurrency

- Currency dimension in current balance sheet and assumptions
- Exchange rate forecasting
- Currency gain/loss calculations
- Detailed and consolidated results

Earnings at Risk

- Provides a more comprehensive view of income sensitivity
- Maintains a balanced balance sheet in all future time periods
- Can aggregate results with different levels of detail

Market Value

- Deterministic and stochastic valuation techniques

Dynamic market value

- Define unlimited forward valuation dates for deterministic valuation of balance sheet
- Incorporation of OAS

Present Value At Risk

- Monte Carlo valuation technique
- User-defined risk period
- Multi-level output

Customization and Control

- User-defined product categorization
- Customized aggregation
- User-defined processing criteria
- User-defined breakout of time buckets
- Customizable financial data output for targeted analysis

Assumption Management

- Unlimited sets of assumptions
- Assumptions combined at runtime
- Import and export of assumptions

Transaction Strategies

- Separate definition of exact transactions
- Unlimited transaction capabilities

New Volume Activity

- Level of new volume driven by interest rates
- Four methods of new volume definition on individual products
- Extensive roll-over capabilities
- Automatic balancing capabilities

New-business Characteristics

- Independent new-business characteristics
- Multiple maturity-mix tiers per product
- Variable pricing margin assumptions

Gap Analysis

- Static and dynamic gap modeling
- Independent time buckets
- Comprehensive gap result set

Forecasted Transfer Pricing

- Actual income and transfer pricing income results in a single process
- Integrated with Oracle Transfer Pricing results
- Forecasted complete transfer pricing view

Formula-based Modeling

- Relationships between products
- Non-maturity product modeling
- Complex product modeling
- Results override

Reporting and Analyzing Results

- Integrate with Oracle Discoverer tools
- Report at any level of detail
- Customizable hierarchical roll ups structures
- Editable standard reports

Integrated Solution

- Share common assumptions and IDs
- Feed results to and from other modules

Oracle Corporation
World Headquarters
500 Oracle Parkway
Redwood Shores, CA 94065
USA

Worldwide Inquiries:
650.506.7000
Fax 650.506.7200
<http://www.oracle.com/>

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