

Valoores Financial Services Asset Liability Management (ALM) helps financial services institutions measure and monitor interest rate risk, liquidity risk, and foreign currency risk. This solution measures and models every loan, deposit, investment, and portfolio individually, using both deterministic and stochastic methods. Valoores in'ALM is a next-generation solution fully integrated with Valoores Financial Services Analytical Applications and shares a common account level relational data model.

**You Have The Value
We Bring You The Added Value**

Key Features

- Robust and highly scalable analytical risk engines
- Customer relationship level data model
- Full integration with VALOORES Business Intelligence
- Integration of Risk, Performance
- Management, Customer Insight, and Financial Compliance

Monitoring the Complications

In these economic times more than ever, managing balance sheet risks is paramount. To consolidate the management of risks, the treasury department must have a consistent framework for gathering data, measuring risks, monitoring changes, and acting on decisions.

VALOORES in'ALM meets these challenges. First, VALOORES financial services data model provides a repository for capturing the true financial characteristics of each customer relationship. These characteristics drive the modeling and behavior of these relationships. Assumptions about ongoing business activities, such as behavioral models and prepayment assumptions are stored independently to separate today's risks from tomorrow's actions. In the process of simulating future activity, over 200 financial measures are produced for every item on your balance sheet.

VALOORES in'ALM also provides the high-end analytics necessary to meet all your risk management goals, including value-at-risk (VaR), earnings-at-risk (EaR), market value, duration/convexity, income simulation, liquidity and interest rate gap. You control the levels at which results are aggregated, both in terms of the time frequency (modeling buckets) and the product categorization.

Multicurrency

VALOORES in'ALM provides features that address both the operational and analytical complexities of operations in multiple currencies. You 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 attach exchange rate scenarios to interest rate forecasts. VALOORES in'ALM also provides rate 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 and accrual bases.

VALOORES in'ALM calculates and stores a variety of financial risk indicators:

- VaR, EaR, and probability distributions
- Static and dynamic market value, duration and convexity
- Static and dynamic gap (based on both repricing and liquidity)
- Income simulation

The system captures a wide range of information, from the VaR of the entire organization to the detailed daily cash flows on a single customer relationship. Income

Key Benefits

- Actively incorporate risk into decision making
- Promote a transparent risk management culture
- Deliver actionable customer and product profitability insight
- Deliver pervasive intelligence throughout the enterprise

cash flows are available on an actual as well as a transfer priced basis for any number of predefined rate paths. Gap results include principal runoff, repricing runoff, interest cash flows, and interest accruals.

Rigorous Calculations

VALOORES in' ALM is designed to operate on transaction-level data, using VALOORES highly accessible and flexible financial data model. Each account, as well as all forecasted new-business activity, is modeled independently on a daily cash flow basis.

VALOORES in' ALM generates market valuations of instruments with embedded options, VaR projections, and EaR projections using a highly tuned Monte Carlo simulation process. The Monte Carlo engine prepares the risk-free curve, using complex cubic or quartic spline smoothing techniques. 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/Discounted loans
- Compounding and interest credited

Liquidity Risk Modeling

Cash flow and liquidity gap modeling results are accumulated in daily, monthly, or yearly buckets to meet a variety of modeling needs, including liquidity and cash management tasks. You have full flexibility to configure your modeling buckets based on specific organizational reporting needs.

VALOORES in' ALM processes data at any level required, from the entire balance sheet to targeted portfolios defined by filtering on specific characteristics.

Multi-factor prepayment and early redemption behavior models are also provided, allowing users to build custom models or use embedded algorithms for estimating principal runoff behavior across a wide range of deterministic and stochastic scenarios. You configure your assumptions to reflect varying changes in your cash flow profiles due to changes in interest rates, economic drivers and other external factors.

Flexibility in Process Management

One of the most important aspects of an asset liability model is data integrity. Many models “assume away” data issues, severely restricting the level of accuracy available from the model. In VALOORES Financial Services applications, you use detailed customer information and control data quality 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

Related Products

The following products are also available from Valoores Financial Services Solutions:

- [Valoores in'Asset Liability Management Analytics](#)
- [Valoores in'Funds Transfer Pricing](#)

from forecast assumptions enables analysis of the new business impact on the balance sheet, comparison of various business strategies, and quick turnaround when assumptions change.

Flexibility in Assumption Management

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

All VALOORES in' ALM assumptions are completely separate from the detailed data. Each assumption is saved separately and distinctly. You create an unlimited number of assumption rules to provide a comprehensive review and thorough understanding of all likely rate risk situations.

A multifactor prepayment model can be specifically tailored to vary based on individual 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 VALOORES Financial Services ALM and are integrated with other modules within VALOORES Financial Services Analytical Solutions. The cash flow engine used to produce income simulation and gap results is also used during Monte Carlo simulation, cash flow transfer pricing for VALOORES Financial Services Funds Transfer Pricing, and budgeted cash flows for VALOORES in' Balance Sheet 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. The cash flow engine allows detailed cash flows to be output for individual accounts. You can output forecast exchange and 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 you can explore and verify the details whenever necessary.

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.

Enterprise-Wide Analysis and Reporting

VALOORES in' ALM leverages VALOORES state-of-the-art Business Intelligence technology to manage the information. ALM results are delivered through a unique Business Intelligence offering, VALOORES in' Asset Liability Management Analytics. This business intelligence offering fully leverages the key features, including Interest Rate Risk specific dashboards, standard monthly management and regulatory reports, and a robust environment for

Related Products

- Valoores in' Profitability Management
- Valoores in' Balance Sheet Planning
- Valoores in' Pricing
- Valoores in' Analytica

ad-hoc reporting. VALOORES in'Analytica controls the detail of the output information by showing you the big picture, as well as drilling down to reveal the impact of individual products on your risk profile.

Some of the many pre-built risk measures deployed specifically in context for ALM reporting include:

- Metrics for historical trends including month ago, quarter ago, year ago
- Ability to select benchmarks for processes, scenarios or rates
- Benchmarks for changes in value and relative percentage changes
- First, Last and Average results over time
- Functions for ranking results

Standard reports and dashboards are used to evaluate interest rate risk such as Market Value of Equity, Duration of Equity, Re-Pricing Gaps, Liquidity Gaps, Income Simulation results, Value at Risk and Earnings at Risk are all included as part of the reporting solution.

Architecting the Right Solution

VALOORES Financial Services applications are integrated solutions based on "industry best practice" components. Solutions are assembled with confidence because you know all of the pieces fit together: data, analytics, business rules, dimensions/hierarchies and reporting. Although designed to be delivered on an integrated basis, each of these product components can:

- Stand on its own as a best-of-breed solution
- Undergo implementation in any order and on either a simple / sophisticated basis
- Support ongoing evolution of analytical methodologies



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