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Misys Opics Risk Plus

Risk Analytics

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What is Opics Risk Plus?

Opics Risk Plus is a risk analytics engine used by risk managers within their treasury and trading operations.

As a fully integrated risk management component within Opics Plus, enabling true straight through processing from front to back office, it reduces TCO (Total Cost of Ownership) for treasury and trading operations.

Opics Risk Plus delivers:

+ real-time position updates covering all capital markets, derivatives and treasury instruments
+ full range of Value at Risk (VaR) methodologies and backtesting
+ credit loss simulation including Incremental Risk Charge (IRC) calculation
+ extensive stress testing and sensitivity analysis
+ portfolio benchmarking and performance analysis
+ volatility and correlation estimation from times series data
+ risk reporting integrated with front and back office information for complete risk transparency
+ additional accounting valuation methods

What are the challenges facing a risk manager today?

It is more imperative today than ever for senior managers and stakeholders to have a comprehensive view of risk across all asset classes within treasury and capital markets.

Demonstrating accurate and reliable risk exposure numbers not only aids risk reporting but also ensures institutions are operating efficiently and profitably. The risk manager needs to be confident that the analysis they are conducting is exhaustive enough to comply with their internal appetite for risk.

Key challenges:

+ Time delays in getting accurate risk numbers
+ Operational risk from running spreadsheets
+ Multiple data source challenges leading to reconciliation issues
+ Lack of transparency across the operation and lack of drill-down capabilities into the sources of risk

The solution to this is an automated sophisticated risk system which has the capability of covering multiple asset classes and the flexbility to expand to perform additional risk calculations or support expansion of the bank's operations into other asset classes as required by the financial institution.

A truly integrated treasury and risk solution eliminates manual workarounds and time delays associated with generating excel spreadsheet reports. Having access to real-time position updates is crucial. The ability to run extensive portfolio risk analysis and view not only top level risk but to drill down to various hierarchical levels ensures risk managers, heads of deptartments and clients all have adequate transparency on risk.

Financial insitutions can gain from an overall low Total Cost of Ownership (TCO) by having their treasury and risk management sytems integrated. Misys provides a single vendor relationship with the treasury and risk applications utilising a single data source ensuring no need for data replication.

It also means overall implementation time is extremely short compared to a stand alone risk system so a bank can get up and running rapidly.

Opics Risk Plus is an integral component within the Opics Plus front-to-back treasury solution. It runs a full analysis on portfolios so financial institutions can make better decisions, faster.

How are Financial Institutions using Opics Risk Plus today?

Financial institutions use Opics Risk Plus as their integrated risk platform for the following areas:

+ Automation of Monte Carlo Value at Risk (VaR) on a global portfolio across multiple assets and strategies, combining FX, Futures on FX, soft commodities, bonds, short-term interest rate and energy as well as exotic over-the-counter options.
+ Corporate treasury performing cash flow analysis
+ Full market risk VaR and backtesting for internal and regulatory compliance
+ Bank branch level producing sensitivity analysis and distributing results to the central head office risk system in an automated and efficient process
+ Central bank performance and attribution processes.
+ Hedge funds producing VaR reports for their customers
+ IRC calculation capabilities in line with Basel II requirements
+ Integrated credit and market risk exposure on portfolios

Opics Risk Plus has been implemented in a low risk, short timeframe at over 60 financial institutions globally. Our clients have benefited from strong API and interface capabilities

Functional overview of Opics Risk Plus

VaR: Riskmetrics:

Opics Risk Plus utilises the basic Riskmetrics methodology, allowing daily and/or monthly volatilities and correlations to be imported. Users define time horizons and confidence levels and can see their diversified and un-diversified risk as well as cash flows. Near-real-time VaR monitoring allows users to view the movements of a portfolio's position as it changes in a graphical view.

VaR: Monte Carlo Simulation

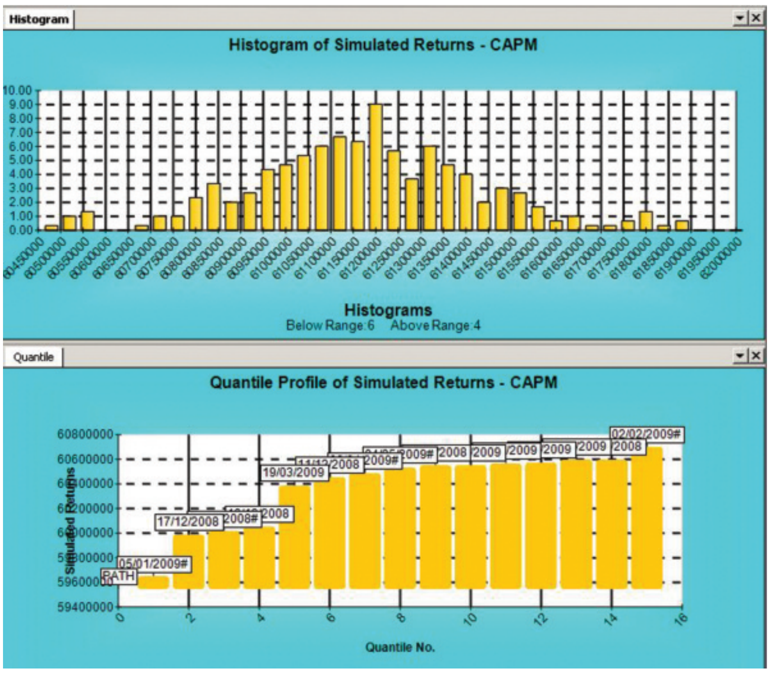
Monte Carlo simulation creates a distribution of portfolio returns over user specified time periods by valuing the portfolio using simulated risk drivers in Opics Risk Plus. The simulation of the risk drivers is parameterised by estimating the model of the underlying stochastic process.

Users can specify drift settings for the underlying risk drivers, and numerous random number generation methodologies hold specific underlying risk drivers constant to isolate risks and record risk driver results for analysis and auditing.

VaR: Historical simulation

Historical simulation is a Value at Risk measure that complements the Monte Carlo Simulation and delta-normal methods in Opics Risk Plus. Historical simulation values the portfolio against known historical returns in the risk drivers. Users can create their own data sets.

Historical simulation



> **Opics Risk Plus can perform** parallel and nonparallel shifts on interest rates, FX rates and volatility surfaces. In addition, the solution provides near-real time VaR monitoring across all supported instruments.

> **Using the VaR methodologies,** users can define an almost unlimited set of hierarchies resulting in displays of top level risk, with further drill down to view the risk and correlations.

Attribution / performance measurement

Opics Risk Plus provides attribution, also known as performance measurement, by breaking down the return of a portfolio of transactions with reference to a base portfolio. The return is split into a number of factors including duration, yield curve, spread, time, currency, residual and interaction. It clearly defines, for chosen portfolios, the return due to foreign exchange movements and interest rate movements.

P&L or return attribution can be performed on any deal or position. P&L is provided real time; the position blotters allow users to filter the data and drill down to view the details of the selected positions and P&L. The process stores positions, rates and P&L and allows users to perform "what-if" scenario analysis as well as stress testing and back testing for any type of variable / filter. Risk can be aggregated across specified time periods and/or shifts in yield curve slides.

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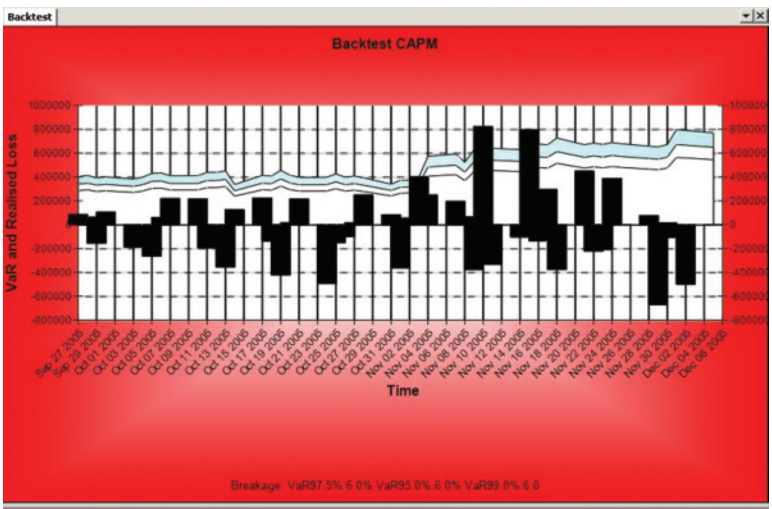
Backtesting

Opics Risk Plus has a completely automated backtesting facility. The backtesting facility creates a snapshot of today's portfolio and VaR calculation for analysis on the next trading day. On day two, the day one portfolio is valued using the day two market data and the difference in P/L is compared with the day one VaR to see the accuracy of the prediction. If the change in portfolio values is greater than the VaR, a breach is recorded. All the results are stored in the database and reported using our backtesting report. The report shows the VaR at all the levels in the defined hierarchy and at the portfolio level. A graph tracks the individuals VaR and P/L results so the user can easily see the history of back test results

Backtesting



Scenario Analysis

Sensitivity Analysis

Opics Risk Plus offers sensitivities calculated on an analytical basis and perturbation-basis for portfolio level sensitivities. The perturbation-based sensitivities allow the user to measure delta, gamma, duration and convexity on a portfolio level or on each individual market data point for each defined level in the risk hierarchy.

Opics Risk Plus can be integrated with other Misys solutions to enhance risk analytics.

Portfolio benchmarking

Opics Risk Plus offers benchmark versus portfolio comparisons, relative portfolios and flexible trade selection filter, and usage of various time intervals and market data. Users can define and manage hedging strategies to more carefully define and manage interest rate risk.

The portfolio benchmarking function allows users to readily compare the risks between two groups of portfolios and this can be used for comparing asset vs. liabilities; investments vs. hedges; assets vs. external benchmarks and treasury vs. internal benchmarks.

Scenario Analysis

Opics Risk Plus supports an advanced scenario analysis methodology. Scenarios can vary from simple parallel shifts of the curve to shifting individual points to multiple market data shift scenarios involving FX, IR, security prices, volatilities and equities prices. For the shift themselves the user has a number of options for determining the types of shift including relative, absolute, fixed, standard deviations and confidence intervals.

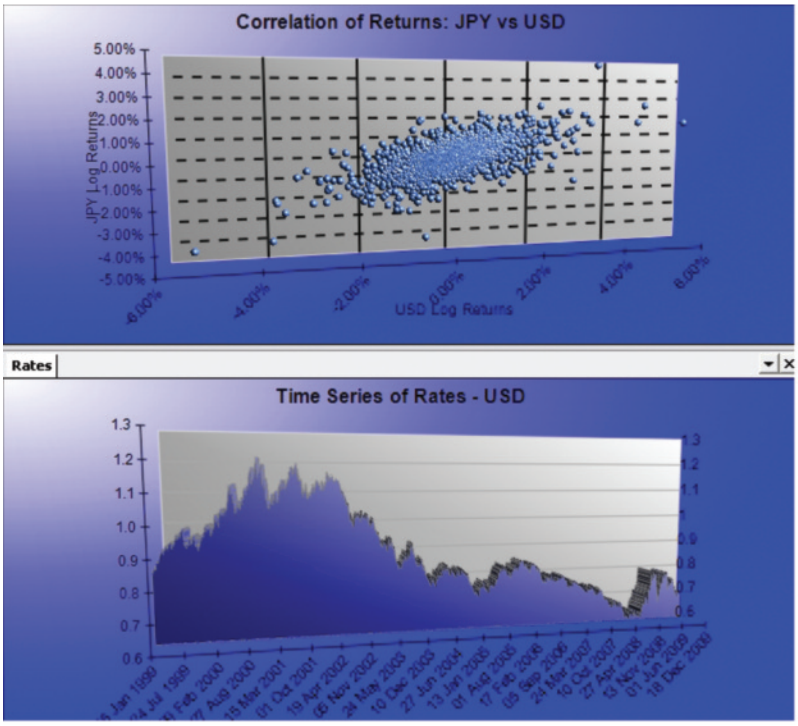
Risk reporting

The module offers real-time, preconfigured and user-definable inquiries with drill-down facilities. It is linked to Crystal reports and has extensive graphing facilities for curves, cashflows, VaR and other functions.

Monitoring and Controls

Misys Eagleye is fully integrated with Opics Risk Plus for true monitoring in real-time and expansion of risk capabilities. Misys Eagleye is an extensible rules based application enabling both monitoring of controls and exceptions as well as distributing this information via alerts and dashboards around the bank. Financial institutions typically use Eagleye for GAP monitoring (FX, IR, liquidity), counteparty exposure/limits monitoring, market risk monitoring, collateral vs credit utilisation and pre-deal checking.

Time Series



What is unique about Opics Risk Plus?

Opics Risk Plus is a sophisticated risk engine covering almost all risk methodologies and calculations required by risk managers. It helps operations to become more efficient as it is fully integrated with the Opics Plus treasury solution. Opics Risk Plus can handle multiple financial instruments from FX, MTM, Fixed Income to Derivatives.

Risk can be consolidated across multiple data inputs & departments. Multiple hierarchies of risk can be viewed and buckets of instruments can be sliced and diced to view particular risk exposures.

What is so good about Opics Risk Plus?

It is flexible and versatile in the way it can be hooked up to a variety of data sources. The risk engine has a modern user interface with intuitive drag and drop capabilities enabling easy configuration of risk calculations and graphical representation of data.

Key features

+ Instrument coverage across capital markets, treasury and derivatives
+ Full aggregation and dissection of many risk measures
+ Extensive stress testing, scenario analysis, "What If" analysis and expected P&L capability
+ Cash flow generation and analysis
+ Market risk statistics, credit and exposure management
+ Hedging strategies
+ Live rates, historical pricing feeds and market rate modeling
+ Portfolio optimisation and portfolio re-weighting
+ Portfolio benchmarking and performance analysis
+ Customisable portfolio hierarchies
+ Value at Risk (VaR) including Riskmetrics, Monte Carlo and Historical Simulation
+ Detailed histograms, quantile graphs and risk exposure profiles, graphs of historical returns and auto correlations
+ VaR Statistics including Normal VaR, Quantile VaR, Return Mean, Cornish-Fisher VaR, Quantile-Quantile graphs, many others
+ Use of time series market data to generate input data for VaR calculations

For more information on Opics Risk Plus please contact your account manager or email risk@misys.com