

KastleTM
Secure Banking Solutions

Risk Management

KASTLETM Risk Management - Formerly RiskFreeTM

3i **Infotech**
Innovation • Insight • Integrity

KASTLE™ Risk Management

The Risk Return Tradeoff

In the complex world of banking, finance and, especially, treasury and risk management, risk of loss, or the potential of loss, is the single-most predominant consideration.

Banking and financial institutions make investments in diverse markets, including Equity Bonds, Forex, Derivatives and Commodities. In spite of this diversification, each avenue of investment, in fact every deal, impacts the bank's overall risk.

There are several measures that can be used to individually report risk for transactions across markets. Value at Risk, or VaR, is the only integrated risk measure to measure market risk. It has the unique ability to be used across market segments and can provide, with a reasonable amount of accuracy, a measure of potential loss from an unlikely, adverse event in a normal, everyday market environment.

Measuring Market Risk

KASTLE™ Risk Management is a web-enabled multi-entity risk management engine that facilitates

- ▶ An understanding of risks taken by an institution
- ▶ A measure of risk exposure faced by the organization at various levels
- ▶ Control risk by implementing suitable strategies

It interfaces with the banks' treasury system to pick up transactions / cash flows and calculates a VaR number, which can be used by the organization's management and regulators to clearly understand and interpret risk faced by the organization.

In a nutshell, **KASTLE™ Risk Management** allows the organization to take informed decisions about its current exposures while maximizing profit opportunities and minimizing costly positioning mistakes.



Product Features

Markets & Instruments

Capability of providing a VaR number, covering Forex, Fixed Income, Money, Equities markets and their related derivative instruments.

VaR Computation Methodologies

Depending on the type of position, various methodologies can be applied to arrive at a VaR number. In case the positions are Linear, as in the case of plain vanilla, Equities, Money Market, and Forex, the Risk Metrics methodology can be used. In cases where the position is Non-Linear, as in the case of derivative-based positions, experience dictates use of Simulation Methodologies.



J P Morgan's Risk Metrics

With Risk Free, the VaR number, as the measure of risk is called, can be arrived at using Risk Metrics, which is a VaR model devised by J P Morgan.

▶ Simulation Methodologies

As an alternate, RiskFree, has the capability to compute VaR, using Simulation Methodologies.

Historic Simulation

The underlying assumption in Historic Simulation is that over a period of time, history will repeat itself. Therefore, under this method, possible future prices are generated based on historical data. Each return is calculated as that which could be earned on a portfolio as on current date, if a day in the history of the market were to repeat itself.

Monte Carlo Simulation

The basis of the Monte Carlo Simulation method is the same as the Historic process, except that this approach attempts to generate many more paths or scenarios. The returns are obtained by choosing the rates and prices at random.

Parameterization

With most of the factors parameterized, it allows for easy customization across different organizations and financial markets.



Interface

Easy, swift and seamless interface with the treasury system, which allows daily upload of cash flow positions from the treasury to the risk management solution.

Confidence Levels and Time Horizons

User definable confidence levels and time horizons for VaR computation.

Selection Criteria

Ability to select transactions / positions in respect of which VaR period can be computed.

Hedge Deals and Incremental VaR

Ability to determine the effect of hedge transactions in reducing the VaR, coupled with the capability to calculate the incremental VaR due to certain transactions.



Category	Entity	Entity	Product	Product	Value
CCC	USA	AAA	100	100	1,000,000.00
CCC	USA	AA	100	100	1,000,000.00
CCC	USA	A	100	100	1,000,000.00
CCC	USA	BBB	100	100	1,000,000.00
CCC	USA	BBB-	100	100	1,000,000.00
CCC	USA	BBB	100	100	1,000,000.00
CCC	USA	BBB-	100	100	1,000,000.00
CCC	USA	BBB	100	100	1,000,000.00
CCC	USA	BBB-	100	100	1,000,000.00
CCC	USA	BBB	100	100	1,000,000.00

Simulated VaR

As a pre-trade feature, it is possible to calculate the VaR on a simulated transaction in order to assimilate its impact on the organization VaR.

Back Testing and Stress Testing

The system provides the ability to undertake Back Testing in order to test suitability of the model, and enables Stress Testing so as to determine VaR under abnormal circumstances.

Scenario Generation

KASTLE™ Risk Management features the capability of generating possible scenarios and conducting an analysis, based on the generated scenarios.

Risk Attribution

Using this feature, it is possible to attribute risk to the various risk assets that contribute to the overall VaR number.

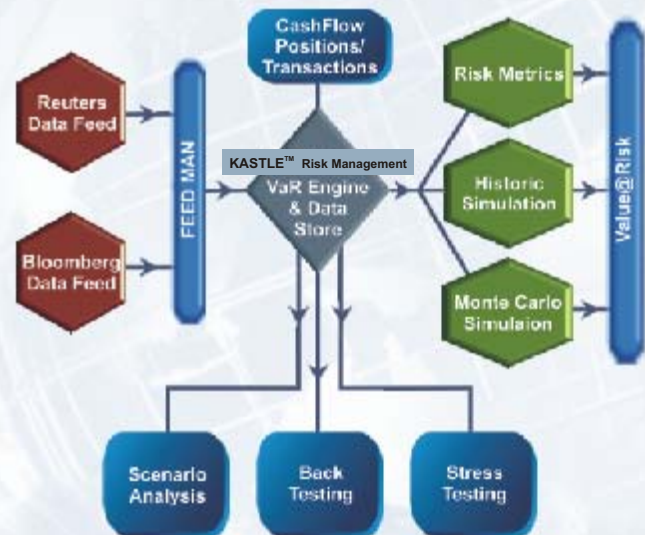
Drill Down Capability

Capability to view risk by unit, trading entity, product, portfolio, dealer up to the individual transaction level.

Pre-Defined Data Sets

Facility to use pre-defined data sets distributed by J P Morgan, to measure VaR, using the Risk Metrics methodology, or compute VaR using the Scenario generation feature.

KASTLE™ Risk Management - Process Flow Schematic



Technology

- ▶ **KASTLE™ Risk Management** has been designed keeping in mind growing needs of organizations that have branches across the globe.
- ▶ A three-tier architecture, with a user-friendly front end has been developed using Active Server Pages (ASP), Java Script and HTML.
- ▶ Business Logic has been developed in Pro C, which ensures optimized use of memory and security.
- ▶ The architecture has been designed with an Oracle database, ensuring stability and security.



About 3i Infotech

- Global Information Technology company providing Banking, Finance, Insurance, ERP and Technology related solutions
- One of the top 5 Indian software product companies*
- The fastest growing Indian software product company in 2004-05, with respect to both domestic and overseas software product sales*
- Winner of Frost and Sullivan Award for Growth Strategy Leadership for India ERP Software for SMB
- Winner of Asia Insurance Industry Award for Service Provider of the Year, 2005
- One of the top 3 ERP vendors in the Middle East & North Africa (MENA) region **
- SEI CMM Level 5 for its software services and ISO 9001:2000 for its Infrastructure and BPO Services
- Over 500 customers in 45 countries
- Over 2300 employees
- Offices in 14 cities across 9 countries in 5 continents
- State of the art development and delivery centres in Mumbai, Chennai, Bangalore, Kuala Lumpur, Dubai, New Jersey

* Source: Dataquest Special Issue: Industry Overview (July 15, 2005)

** Source: IDC report, 2005



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