The Applications

Technology

CRS have built a number of applications based around its powerful real-time analytic engine.

The technology has been chosen to target the specific requirements of different modules. The analytic engine is written in C++ for speed and compatibility with existing pricing libraries. The user applications are built in PowerBuilder 9, and hosted on EAServer for scalable 3-tier deployment with industry standard failover features. The BoundaryRider database can be deployed on Sybase or Microsoft SQL Server.

CRS is currently developing a Web Service interface to the risk engine to enhance interoperability with other credit limit and market risk systems.

Credit Risk

BoundaryRider Credit Risk has an intelligent hierarchy structure so exposure is recorded against the correct entities within corporate structures while allowing limits to be shared, managed and aggregated in a flexible way.

The system provides time-stepped counterparty, group, country, industry and ratings limits. Users can also create their own limit types based on virtually any information stored in the database. User-defined limits avoid the need to create artificial relationships between counterparties. All limits are automatically incorporated in the system's real-time limit checking process and all have messages that will be shown to the trader prior to dealing.

The system allows for a single counterparty view across the organization even when limit management and reporting is separated across regional or legal sub-groups.

The Applications

Market Risk

BoundaryRider Market Risk combines state of the art quantitative methods with clear-cut user defined pricing, product and reporting delivering a fully integrated Value at Risk system. BoundaryRider Market Risk meets the needs of both regulators and management. Yet, the system is straightforward to install, simple to maintain and easy to use.

BoundaryRider's flexibility and speed ensures complex analytic scenarios and quantitative outcomes are reduced to readily understood graphical or tabular reports suitable for distribution at all levels of risk and operational management. There is a facility for batching the daily reporting of all VAR, stress and BPV scenarios.

BoundaryRider Market Risk calculates market risk VAR in a way that is consistent with credit risk exposure by using the same pricing, market rates, correlations and volatilities as the credit risk calculation. Calculation methods available include Historic Reporting, Monte Carlo and RiderNet (a fast proprietary method which is much more adept at handling products with non-linear payoffs than the traditional variance-covariance methods).

Collateral

BoundaryRider adjusts exposure to reflect the details of a collateral agreement with a counterparty and collateral posted. This allows traders to use the limit freed up by collateral agreements on a real-time basis.

Collateral agreements define the circumstances under which collateral is to be paid from one counterparty to another. BoundaryRider calculates the amount of collateral required and alerts the user of the need to call for an additional collateral payment. If a collateral alert has been issued but collateral has not been received within the payment window (eg 72 hours) then an excess record is created.

Specific collateral details can be entered which enable the collateral to be revalued under assumptions that are consistent with the counterparty portfolio. Alternatively the total cash value can be entered directly. BoundaryRider Collateral has an interface to Sungard's Sentry product.

The Applications

Give-Ups

BoundaryRider Give-Up Monitoring combines credit risk, settlement risk and limit monitoring in a small self-contained application directed at the risk management of Give-Up Agreements. It gives traders real-time responses on limit availability for trading under Give-Up Agreements. Risk managers have the flexibility to implement their own exposure methods and monitor excesses. Credit officers can set limits by counterparty, or group, against Net Open Position Risk, Pre-settlement Risk and Settlement Risk.