

BoundaryRider Credit Application



The BoundaryRider Credit Limit Application is an innovative solution to financial markets credit exposure calculation and limit management. BoundaryRider combines portfolio based analytics with real-time limit monitoring. BoundaryRider uses high performance computing to achieve Monte Carlo results in seconds.

LIMIT WORKFLOW

BoundaryRider's major advantage over other risk systems is its speed. This opens the door to more accurate exposure measurement in real-time.

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

Limit intervals are user-definable. The user can control granularity by defining the time interval covered by each limit bucket and the number of time-buckets in the limit profile. Limits can be created against all counterparty, product, and trader details, or any combination of these details. Typical limits include:

- Potential Future Exposure
- Daily Settlement Risk
- Country of Location and Ultimate Risk
- Product, Book, Industry, Region, Rating

Credit mitigation techniques supported by the system include: closeout netting, collateral, right-to-break, payment netting and credit derivatives.

Credit risk regulatory capital is calculated on the fly with the credit risk exposure calculations.

PRODUCT COVERAGE

The BoundaryRider Vectorised Pricing Library has hundreds of financial functions for valuing financial securities and derivatives. The library is vectorised for performance. Products include:

- FRAs, Swaps, Vanilla and Exotic IROs
- Notes, MTNs, Bonds
- FX Forwards, Vanilla and Exotic FXOs
- Equity and Commodity derivatives
- Credit Derivatives

The financial functions can be called in an Excel spreadsheet to speed-up testing and validation.

RISK ENGINE

The risk engine is also vectorised for performance. Two credit risk exposure methods are supported:

- RiderNet is a fast calculation method which utilises approximate analytic techniques to deliver very fast exposure results with Monte Carlo quality. RiderNet provides a reliable and super-fast option for exposure calculations.
- MonteCarlo is a fully-fledged Monte Carlo simulation. This allows full monitoring of portfolios through time including path dependent trades.

The risk engine also measures the expected potential exposure (EPE) required to qualify for Basle II internal modelling of credit capital.

TECHNOLOGY

BoundaryRider is an n-tier solution consisting of:

- Windows GUI interfaces targeted at specific user groups (Traders, Credit administrators, System Administrators)
- A central application server containing the limits processing code incorporating an API for direct limit checking from front office systems.
- A central risk engine written in managed C++ for speed. The risk engine exposes web services that are called by the application server to perform credit exposure calculations.
- An open and logical RDBMS data model (using Microsoft SQL Server) that captures all static data, trades and market rates and maintains an audit trail of activity in the system.