



ActiveMargin™

Let us Redefine Portfolio Margining



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Product Features

- **Integrated Real-Time VaR based, pre-trade compliance system.**
 - **Validates orders against business rules across the hierarchy.**
 - **Computes the regulatory margin required across the hierarchy.**
 - **Computes the VaR margins required across each of the hierarchy.**
 - **Computes mark-to-market margins in real time.**
 - **Validates computed regulatory and VaR margins set margin limits for each entity level in real-time.**
 - **Raises various levels of alerts based on pre-set conditions.**

Product Features

- **Supports a wide variety of instruments.**
- **Supports multiple exchanges and multiple currencies.**
- **Provides controlled collateral fungibility across exchanges.**
- **User selectable methodologies for computation of VaR.**
 - **Monte Carlo Simulation**
 - **Historical Simulation**
 - **Hybrid Simulation (Historical adjusted for Volatility)**
 - **Grid Simulation (similar to SPAN of CME)**

Product Features Contd...

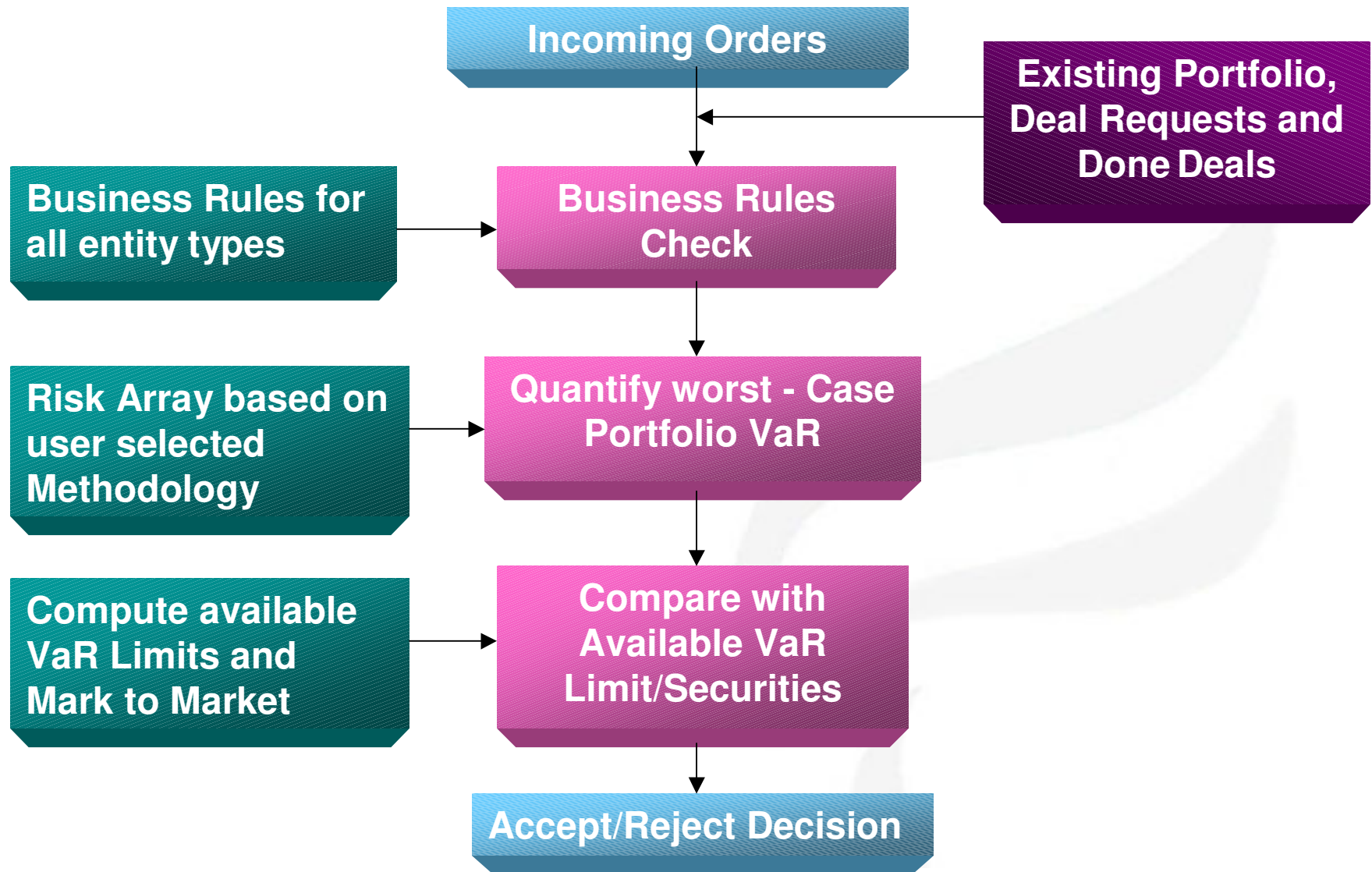
- **Provides comprehensive risk reporting and analytics across multiple dimensions.**
 - **Incremental VaR**
 - **Marginal VaR**
 - **What-if-analysis**
 - **Stress testing**
 - **Sensitivity analysis**
- **Logs all accept/reject decisions, facilitating full audit trail.**
- **Optimized for high speed performance.**

Supported Instrument Types

ActiveMargin™ computes risk exposure for the following instruments

- **Equities**
- **Stock & Index Futures**
- **Stock & Index Options**
- **Outright Forex Forwards**
- **Forex Options**
- **Bonds**
 - Zero Coupon Notes**
 - Fixed Income Bonds**
 - Floating Rate Notes**
- **Bond Futures**
- **Bond Options**
- **Forward Rate Agreements**
- **Swaps**
 - Interest Rate Swaps**
 - Currency Swaps**
 - ONIA Swaps**
- **Swaptions**
- **Caps, Floors & Collars**
- **Commodity Futures**
- **Exotics (Equities and Forex)**
 - Barrier Options**
 - Digital Options**
 - Look Back Options**

ActiveMargin™ Order Validation Flow



Pre-Trade Compliance

ActiveMargin™ ensures conformance to risk policies at three levels

- **Business Rules**
 - **Regulatory margins**
 - **VaR margins**
- Pre-Trade margin computation is performed on worst case portfolio basis.
 - Mark-to-market losses, if any, are added to the margins to arrive at the total requirement.
 - Ensures maximum trading space for a given risk budget – at times 100% more than conventional risk systems.
 - ActiveMargin™ can raise and broadcast alerts, including liquidation alerts, when margins reach pre-set levels.



ActiveMargin™ Pre-Trade Vs. Conventional Margining

Let us consider the following orders

A. Security A 3 month Future +1000 @ 4767.65

B. Security A 3 month OTM Call -1000 @ 460.35

Scenario

Only A gets executed

Only B gets executed

Both A & B get executed

Portfolio Margin

683440

388330

551260

#	Sequence of Events	ActiveMargin™	Convention Margin
1	Order A placed	683440	683440
2	Order B placed	683440	1071770
3	Order A executed	683440	1071770
4	Order A executed	551260	551260

ActiveMargin™ charges the worst case portfolio margins on a Pre-Trade basis which is much less than the Conventional margins for the same position.

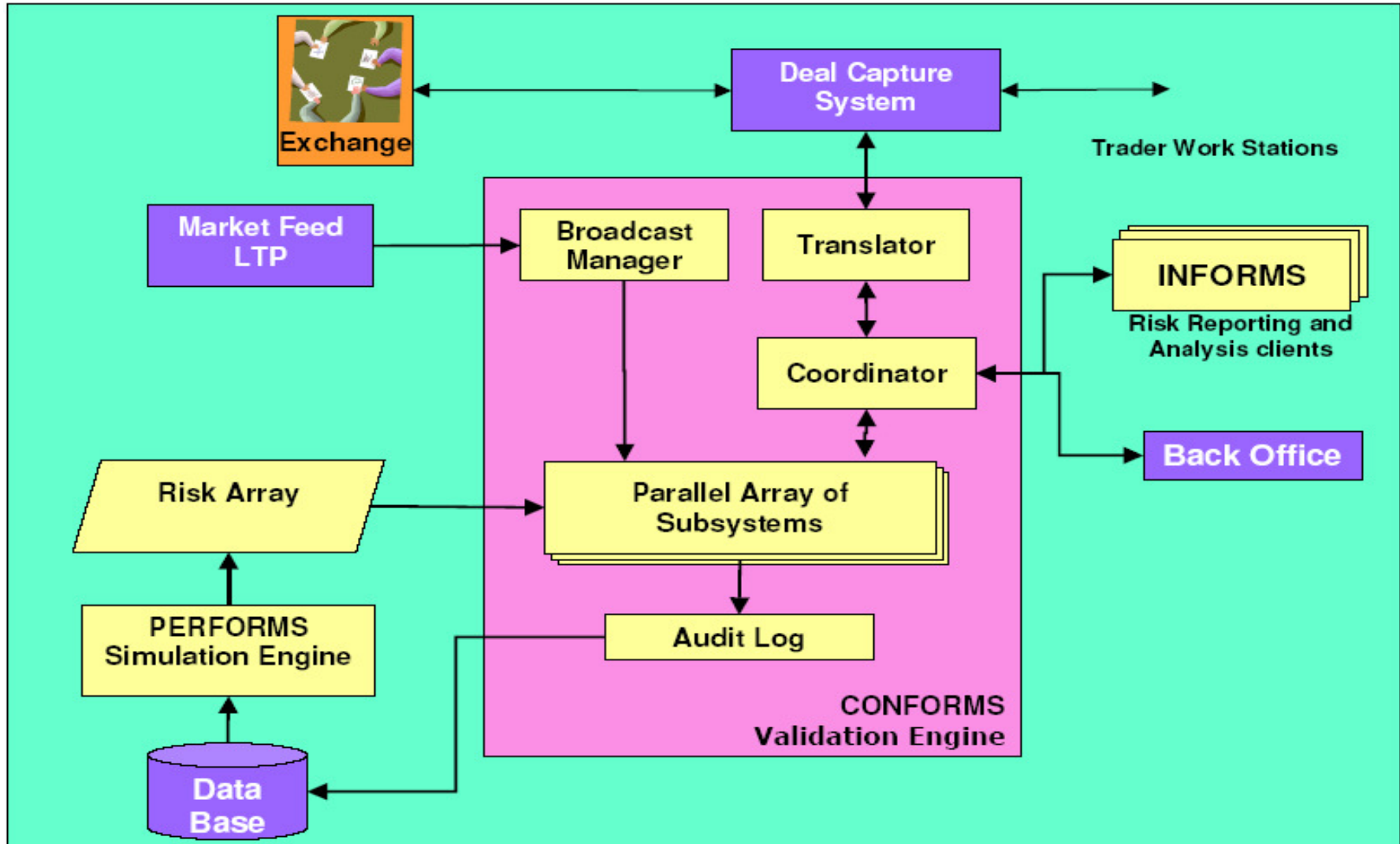
RMS as a Competitive Advantage

- **For a given level of margins, the ActiveMargin™ pre-trade compliance engine lets you trade far more than a conventional system.**
- **In the case mentioned, ActiveMargin™ required 36% less margins than a conventional portfolio based margining system.**
- **ActiveMargin™ does this without compromising on the safety of the broking enterprise.**

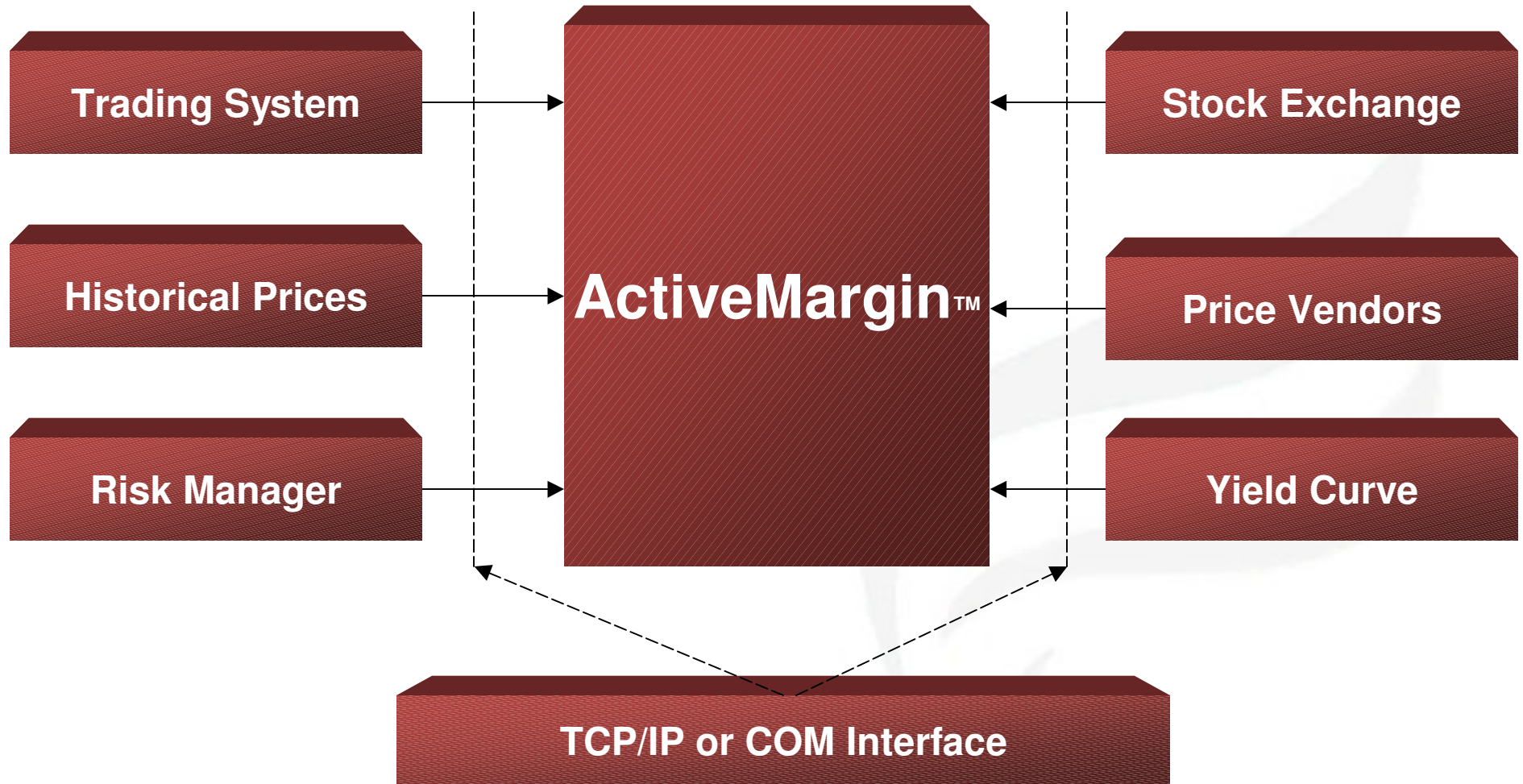
Performance and Scaling

- **Handles high trade intensity.**
- **Algorithms amenable to parallel processing.**
- **Can scale up and scale out to handle large increase in**
 - **Portfolios**
 - **Instruments**
 - **Scenarios**
 - **Concurrent queries**

Pre-Trade Compliance



Implementation of ActiveMargin™



Benefits of ActiveMargin™

- **Ensures optimal risk control while permitting maximum trading space for a given risk budget.**
- **Enables high speed, centralized, real-time risk management and control.**
- **Real-time risk analysis and reporting.**
- **Interface to Excel sheets and statistical packages as required.**
- **Standard interfaces to front office and back office systems.**
- **Fully customizable.**

Integrated Risk Management



Blue System Inc (BSI) is a regulated securities market intermediary in the US and UK. BSI brings together a cohesive network of brokers who can together offer trading access to each other's markets. A critical part of its offering is its Direct Market Access platform – Blue™. As a unique proposition, BSI offers the technology platform on a pay-per-use basis, with zero upfront cost. BSI intends to provide market access to over 40 exchanges across the globe.

Business Challenge

- Integrated risk management system supporting multiple asset classes.
- Ability to handle large transaction volumes on real-time pre-trade basis.
- Need for SPAN™ and VaR based margining.
- A system that will seamlessly integrate with the trading platform through open interfaces.

Solution offered

- Forms@risk management system supporting VaR and SPAN™ based margin computations.
- Integration through TCP / IP based standard API's.
- Solution will compute margins for equity, futures and options and foreign exchange segments.

Result

- Integrated system with ability to margin orders over 40 global exchanges.
- Single margin for multiple asset classes – margin fungibility across exchanges / assets.
- User gets a single view of the actual risk and the exchange margin obligations in real-time, on pre-trade basis.

Thank You

