



CURRENCIES



INTEREST RATES



EQUITIES



COMMODITIES



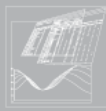
ENERGY



CREDIT

Common Challenges Associated with the Operations and Processing of Derivatives:

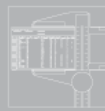
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REAL-TIME PRICING



RISK MANAGEMENT



REVALUATION



TRADING



MARKET DATA



CROSS-ASSET

Agenda:

- Common Challenges
- Potential Solutions
- Our Business Goals

Challenge 1: Operational Risk and Integration Barriers

- Back-Office Not Evolved
 - Manual intervention
 - “Work-arounds”
- Reliance on existing front office models for P&L
 - Lack of independence
 - Lack of checks and balances
- Reliance on Key Personnel for Production (P&L)
 - Lack of streamlined processes
 - Limited Decision Support
- “Best of Breed”: “Piecemeal” System Implementations
 - High Sunken Costs
 - STP not yet realized
 - Integration nightmares

Challenge 2: Lack of Independence from Front Office

- Allows for too much bias in P&L
- Allows for biased sources for market data (rates and volatilities)
- Lack of transparency for P&L.
- Independence is KEY.

Challenge 3: Data Mining and Reliable Data Sources

- Inherent problems in pricing by polling:
 - Allows for front office influence of marks.
 - Allows for dealer and market bias.
- Impact of Illiquid Markets:
 - Availability of Data
- Impact of Illiquid Structures (OTM Options):
 - Differences in Modeling
 - Difficulty in finding good OTM vols
- Lack of quality Volatility Surfaces for low Vega options:
 - Impacts P&L and Risk

Data Challenges: Cont.....

- Pricing the most illiquid products in illiquid markets.
- Pricing low Delta/low Vega options.
- Market Evolution: Ability to support emerging products/markets (ability to keep up with what is sexy).

Challenge 4: STP and Human Error

- Trade management reliant on manual intervention
 - Human Error: “Mark to Error.”
 - Trades are often booked against a F/O models for P&L at inception.
 - Event Management: Amended Trades, New Trades, and trade Lifecycle: High Margin of Human Error.

 - Worst scenario is long term land mines in portfolios.

Potential Solutions:

- Operational Risk:
 - Completely Independent F/O Trade Management and Pricing system: Cross-All Asset
 - Integration and Support: Web-Based, Flexible
- Independence F/O models:
 - Independent 3rd party Modeling
 - Calibration to Live Traded Prices
- Quality Data mining
 - Independent Data Mining, Cleansing, and Maintenance
 - Independent Modeling: Unbiased Modeling of Skew
- STP: Limiting the “Human Factor”
 - Integrated Front-End: Data and Analytics (Cross-Asset)
 - Trade Management, portfolio warehouse, B/O integration

Our Business Goals:

- Single point of entry for execution and booking for ALL asset classes
- Independent marks and P&L in real time for all asset classes
- Cross asset P&L
- Real time P&L and exposure by Greeks for all asset classes and currencies
- Real time/EOD, independent reval on request, for all asset classes and all products.

THANK YOU