ENRICHED DATA FEEDS

Market prices, fundamentals, research and news are a good *start*. But data alone is not enough to trade and manage risk.

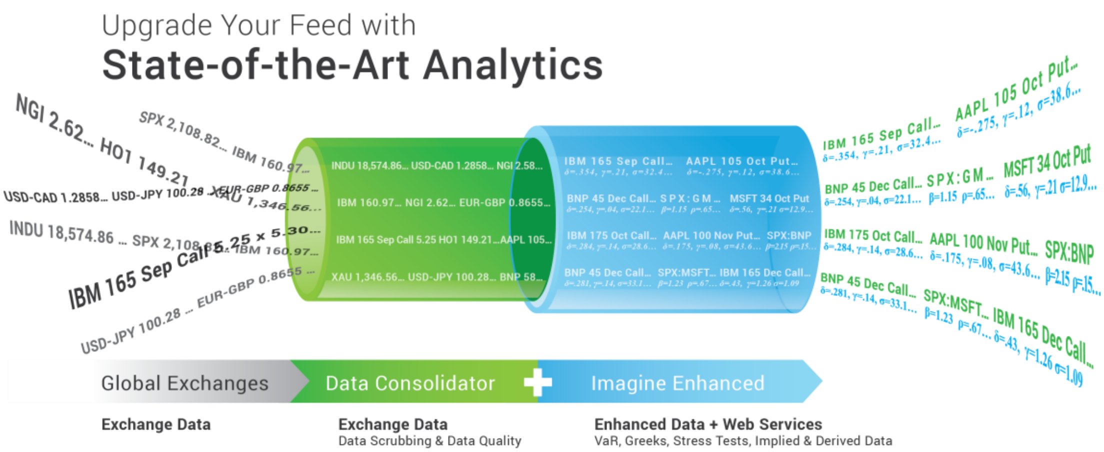
IMAGINE Delivers an Enriched Data Feed that Does it All

Real-time data feeds are business-critical for financial firms and consequently a necessary and significant expense. But data feeds can't manage risk: firms must then integrate feeds into a risk system that can provide the analytics required to properly manage portfolios. This additional step piles on **significant additional expenses** and another layer of operational complexity, but it has been the only option. *Until now.*

What if risk analytics were part of the data feed? Each position could receive not just market prices, but every analytic associated with that security: Greeks, betas, volatilities, underlying curve data, stress test results and more – transforming a position management system into a risk management system.

The cost savings alone would be enormous, and the wealth of instrument-level derived data and risk analytics provided by Imagine would provide a range of firm-wide benefits:

- **Adaptable risk analytics**, including stress tests, to help minimize the impact of market surprises – Brexit, elections, etc. – and better manage change.
- **Diverse multi-strategy, multi-asset analytics**, including multi-factor stress tests, Greeks, VaR, etc., provide the necessary context for all investment decisions.
- **Regulatory demands** are more easily managed with a centralized-model approach that dovetails with the trend towards standard approved models.
- **Internal software maintenance** becomes far simpler with fewer moving parts.



ENRICHED DATA FEEDS

Offer Your Clients Real-Time, Embedded Analytics as a Cutting-Edge Service

Imagine's state-of-the-art risk analytics can quickly transform a standard data feed into a powerful risk and analytics data feed. Data providers can transform their pages of market data into portfolio views with advanced analytics including VaR, stress tests and security-level sensitivities. FinTech providers such as portfolio management systems, order management systems and enterprise management systems can deliver the data that their clients need, right to the desktop they use every day.

All the real-time data, all the time.

Security-Level Greeks and Sensitivities

- Delta, gamma, vega, and theta
- Sensitivities: Interest rates, credit, inflation dividend & borrow rates
- Duration & convexity
- Yields: Yield-to-Maturity, Yield-to-Call, Yield-to-Put, Yield-to-Worst
- Convenience Yield
- VaR: Parametric, historical, Monte Carlo
- Expected Shortfall

New analytics can be added on the fly.

Centralized Valuation Models for all Asset Classes

- Commodity
- Convertible
- Equity
- Equity Derivatives
- Equity Exotic
- Currency
- Currency Derivative
- Currency Exotic
- Credit
- Credit Dervatives
- Financing
- Fixed Income
- IR Derivative
- Structure
- Volatility

Imagine supports all trading strategies.

Security Terms & Conditions

- Country
- Exchange
- Instrument Benchmarks
- Issuer Industry
- Classifications
  - Thomson Reuters
  - Bloomberg
  - GICS
- Ratings (S&P)
- Schedules
- Holiday Calendars

All the security & market attributes required for theoretical pricing.

Enhance Your Data Feed With Detailed Derived and Implied Data

Imagine's customized data feeds put critical derived and implied data right at the clients' fingertips to provide the information they need to perform a range of essential functions.

Yield Curve Data

- Sovereign curve data
- IBOR-style curve data
- OIS curve data

Implied Volatility Surfaces

- Interest rate
- Equity options
- Index
- Commodity

Realized Volatilities

- Equity
- Commodity
- Interest rate
- FX
- Index securities

Credit

- Issuer CDS curves
- Sector/Rating CDS curves

Dividend

- Stock, ADR, ETF
- Equity index

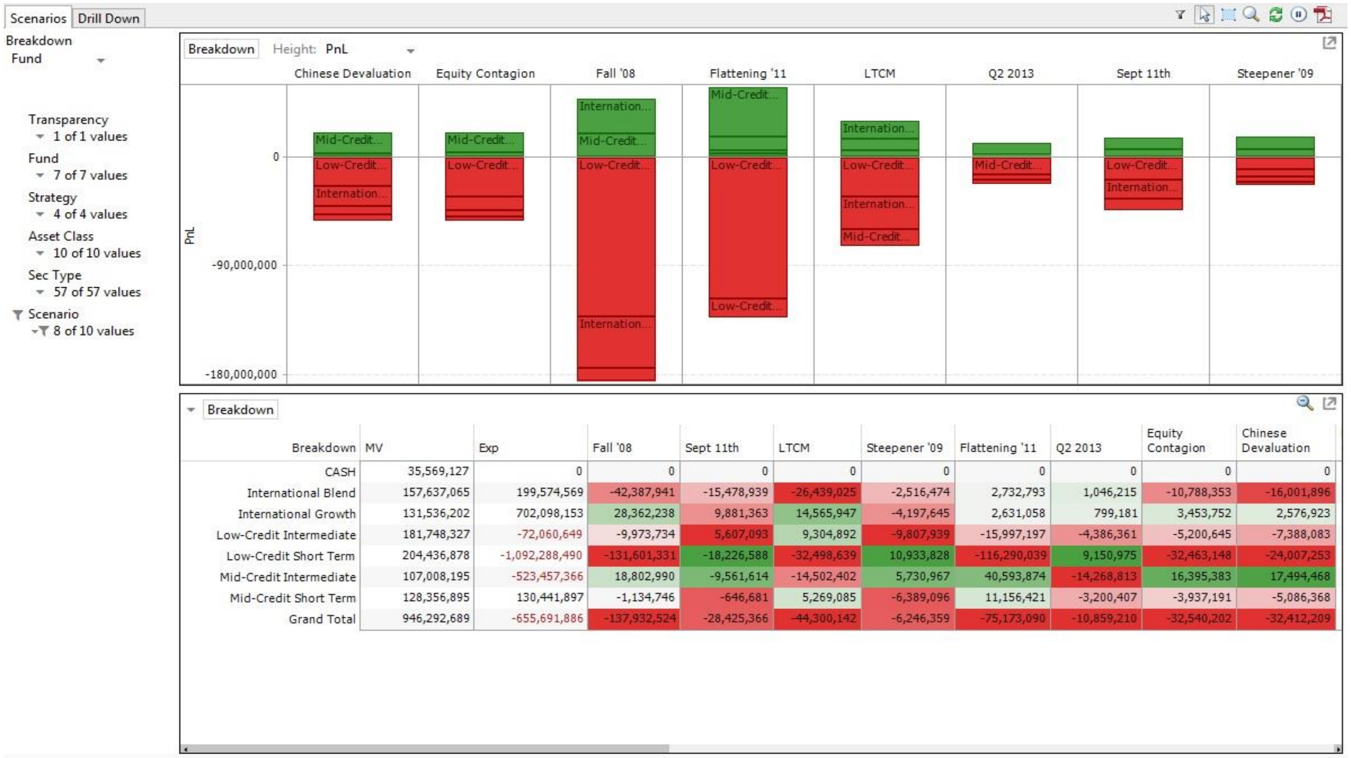
Correlations & Betas

- Equities = stock, ADR & ETF
- Index = equity and commodity indices
- FX = spot
- Credit = issuer, sector/rating
- Rolling futures indexed futures = key points from commodity forward curves.

Incorporate Historical Stress Testing

Historical analysis can be used at the security level to see how much the fair value of an instrument would have been impacted by a key historical event (expressed as a percentage change and/or monetary value).

Imagine provides data for the following key historical events, which may be used in historical simulation. We can calculate a pre-configured range of standardised stress tests across the various themes listed below, shocking multiple risk factors simultaneously (price movement, volatility, credit, rates, dividends, correlations, etc.) Imagine includes a range of standard stress tests in the feed, with the option for clients to customize any selections.



Breakdown	MV	Exp	Fall '08	Sept 11th	LTCM	Steepener '09	Flattening '11	Q2 2013	Equity Contagion	Chinese Devaluation
CASH	35,569,127	0	0	0	0	0	0	0	0	0
International Blend	157,637,065	199,574,569	-42,387,941	-15,478,939	-26,439,025	-2,516,474	2,732,793	1,046,215	-10,788,353	-16,001,896
International Growth	131,536,202	702,098,153	28,362,238	9,881,363	14,565,947	-4,197,645	2,631,058	799,181	3,453,752	2,576,923
Low-Credit Intermediate	181,748,327	-72,060,649	-9,973,734	5,607,093	9,304,892	-9,807,939	-15,997,197	-4,386,361	-5,200,645	-7,388,083
Low-Credit Short Term	204,436,878	-1,092,288,490	-131,601,331	-18,226,588	-32,498,639	10,933,828	-116,290,039	9,150,975	-32,463,148	-24,007,253
Mid-Credit Intermediate	107,008,195	-523,457,366	18,802,990	-9,561,614	-14,502,402	5,730,967	40,593,874	-14,268,813	16,395,383	17,494,468
Mid-Credit Short Term	128,356,895	130,441,897	-1,134,746	-646,681	5,269,085	-6,389,096	11,156,421	-3,200,407	-3,937,191	-5,086,368
Grand Total	946,292,689	-655,691,886	-137,932,524	-28,425,366	-44,300,142	-6,246,359	-75,173,090	-10,859,210	-32,540,202	-32,412,209

Use Imagine's data and powerful analytics to enhance your data feeds and upgrade your risk capabilities while *reducing costs*.

www.imaginesoftware.com