

### **ONEVIEW GRAPH FRAMEWORK**

## WHAT IS A "REAL-TIME DEPENDENCY GRAPH FRAMEWORK"?

The Oneview Graph Framework provides the underlying "glue" that enables true realtime, event-driven performance in pricing, risk and P&L systems. A development platform based on a dependency graph technology for constructing distributed component-based systems, the graph allows business components to "discover" and "talk to each other."

At the core of the framework is a forwardpropagating dependency graph, where nodes contain units of work scheduled for execution, based on their ranking (ie. topologically sorted order) in the graph.

The streaming graph framework achieves "true" real-time performance through its efficient, intelligent and scalable design, triggering modules only if the data they depend on changes, resulting in continuous real-time updates to positions, P&L and other risk metrics.

#### CLIENTS LEVERAGING THE ONEVIEW GRAPH FRAMEWORK

#### <u>Banks</u>

- For a global fixed Income market making operation
- To conduct price generation, auto-hedging and execution

#### Prime Brokers

• Monitoring real-time exposure and margin on a client-by-client basis

#### **Global Macro & Fixed Income Hedge Funds**

- For risk real time risk, P&L, VaR, Expected Shortfall, stress testing, and attribution analyses
- Across asset classing including FX, interest rates, credit, commodities, equities & inflation
- In global locations including London, New York, Hong Kong, San Francisco, and others

# Building Real-Time Capital Markets Systems is Challenging

OTC markets are more competitive than ever and increasingly traded electronically, generating a need for platforms that provide **true real-time, event-driven pricing, risk, and P&L**.

Most commercial OTC trading and risk systems available on the market today are not adaptable to real time, event driven operation. Moreover, many middleware and CEP technology platforms have not been designed for capital markets participants and have severe limitations. And internally "built from scratch" trading technology is increasingly seen as a luxury that only the top three or four global banks could possibly afford.

The Oneview Graph Framework is a high performance dependency graph technology, designed and built by a team of experienced ex-bank professionals to provide a robust and scalable development framework designed specifically for capital markets participants. It provides an "ROI accelerator" development framework for real-time trading and risk management systems.

## What Can You Achieve with the Oneview Graph Framework?

#### **Enables Competitive Advantage**

Build dynamic real-time platforms that disrupt existing markets and provide a significant edge in increasingly competitive OTC markets.

#### Accelerate and Realize Greater Value from Development Teams

Empower system developers to focus on business functionality rather than infrastructure, resulting in accelerated development and faster ROI.

#### Extend The Life of Existing Solutions with a Real-time Overlay

Keep existing trading infrastructure and add the Oneview Graph Framework as a real-time pricing and risk overlay to provide a single event-driven view of pricing and risk.

#### **De-risk Development of Front Office Solutions**

Utilize an off-the-shelf, battle-tested solution to avoid development delays, cost overruns and even outright project failures when building real-time capable front-office systems.

### The Numerix Difference

### Discover what makes the Oneview Graph Framework unique in the industry:

#### Market-proven, production ready technology

A wide range of institutions in the hedge fund, banking and prime brokerage industries leverage the Oneview Graph Framework to power their mission-critical applications. With a 13-year track record in the capital markets, it has achieved unparalleled success as a leading real-time technology framework.

#### Developed specifically for the capital markets

The architects of the Oneview Graph Framework designed it specifically for capital markets use cases such as real-time trading, pricing, P&L and risk management. Moreover, additional out-of-the-box components from Numerix can be utilized to extend the framework quickly and easily for these use cases.

#### Built and supported by an expert team

The Oneview Graph Framework was developed by ex-bankers who successfully built and implemented real-time graph frameworks in both a bank and a hedge fund. These experts fully support and work alongside your development team as you integrate the framework into your own technology infrastructure.



# Designed to Be Fast & Robust for Capital Markets Firms

## The Oneview Graph Framework has been developed from the ground up with these key objectives:

- Handling of dynamic dependencies
- Enabling computational efficiency
- Ease of integration
- Enabling best practice design and "separation of responsibilities"
- Very high scalability
- Built-in fault tolerance

#### WHAT IS PROVIDED

The Oneview Graph Framework provides a complete development framework for implementation of components such as data feeds, price calculators, and user interfaces. Components advertise their capabilities to the graph and the framework dynamically and transparently manages the dependency relationships and inter-process communications.

Firms can develop all the components in-house, or leverage Numerix components.

#### ADDITIONAL COMPONENTS AVAILABLE FOR THE ONEVIEW GRAPH FRAMEWORK

Numerix can optionally deliver additional off-the-shelf components to further accelerate development ROI, including:

- Pricing and risk analytics covering all asset classes
- Trade feed integration
- Market data feed integration
- Position management
- Curve and volatility surface management