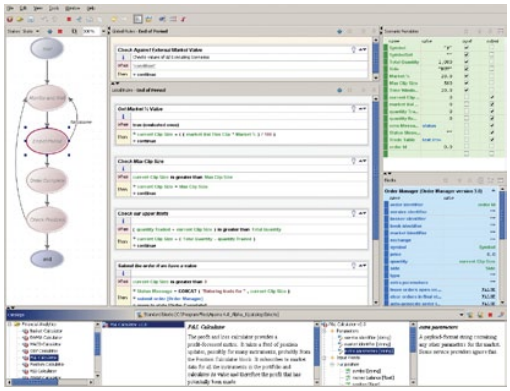
PROGRESS® APAMA®

ALGORITHMIC TRADING PLATFORM

CREATE, DEPLOY AND MANAGE UNIQUE ALGORITHMIC STRATEGIES

The Progress® Apama® Algorithmic Trading Platform is the securities industry's leading platform for applying the power of complex event processing (CEP) to algorithmic trading, market aggregation, smart order routing, real-time pricing, market surveillance and related applications. Progress Apama enables sell-side and buy-side firms to quickly develop and deploy proprietary algorithmic techniques, achieving dramatic advantage over commoditized "black box" offerings. With the Apama "white box" platform, firms can rapidly develop and implement differentiated strategies that leverage their own ideas.

The Apama Event Modeler provides graphical development for business users



KEY FEATURES

- *Graphical tools empower traders, quants to create strategies*
- *"SmartBlocks" encapsulate trading logic for use in new strategies*
- *Powerful event-processing language for creating trading rules*
- *Graphical, easily customized dashboards*
- *Support for all asset classes, individually and in cross-asset strategies*
- *Flexible backtesting and analytic tools*
- *Patented event-processing engine with sub-millisecond execution*
- *Connectivity to financial data sources via extensible integration framework*

The Progress Apama platform implements a patented CEP architecture that can monitor market data (both market feeds and related information, like electronic news). The sub-millisecond responsiveness of Apama is sustainable when market data volumes reach the tens of thousands of events per second and when concurrent strategies number in the thousands. With its combination of development ease and deployment power, Apama is unmatched in the industry.

DEVELOPMENT TOOLS FOR BUSINESS USERS AND IT—APAMA STUDIO

Apama uniquely supports both business users and IT within a comprehensive development environment, Apama Studio. For business users, the Progress® Apama® Event Modeler provides a graphical development environment that traders or quants can use to develop and deploy algorithmic strategies. The specification of the complete trading scenario—inclusive of conditions that trigger a trading action and the action to be taken—is done via a point-and-click interface that reduces development cycles from weeks or months to days, if not hours.

For software developers within the organization, Apama Studio offers a Developer perspective that provides direct access to the Progress Apama market-leading CEP engine. The Apama event-based language (MonitorScript) provides a concise, powerful mechanism to define highly sophisticated strategies. MonitorScript can also be used alongside standard Java to provide maximum flexibility.

To further enhance rapid application development, the tools also include Progress® Apama® SmartBlocks™. SmartBlocks are prepackaged components that can encapsulate trade analytics, order management functions, and integration operations, thus making them easily incorporated into different applications. SmartBlocks can be inserted "as is" or modified to address new requirements. In addition to SmartBlocks that are bundled with the product, developers can exploit a BlockBuilder capability, available within both the Event Modeler and the Developer environment, to create their own custom versions.

The Apama Studio environment also includes a number of sample applications. Developers can explore the composition of these samples (business logic, dashboard interfaces, and related elements), modify different aspects, and redeploy the application to learn how Apama can address their own application requirements. Also provided are a series of tutorials that instruct developers in how to build an Apama application from the ground up, exploring the features of Apama in a more guided, step-by-step process.

TESTING AND ANALYSIS—APAMA RESEARCH STUDIO

Progress Apama Research Studio includes a sophisticated backtesting and analysis environment to both test new strategies and analyze those in production. Research Studio acts on market data and trade analytics captured in Progress® Apama® EventStore, a high-performance, time series data store. Users can interactively test and analyze prospective strategies against user-specified periods of historical market data with flexible control over replay speeds. Research Studio can also audit the performance of "in production" strategies to determine how and why algorithms executed in the manner they did.

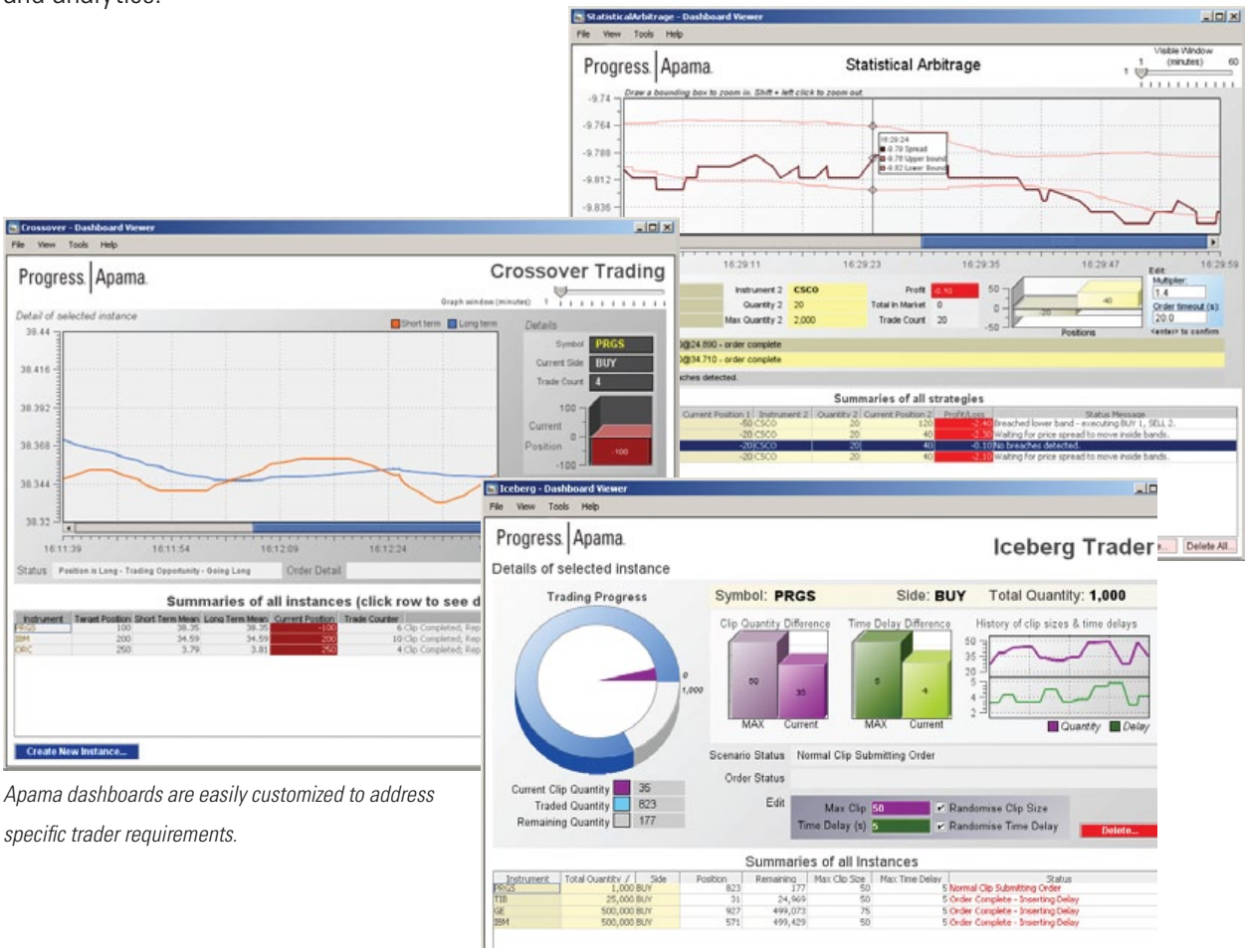
APPLICATION EXECUTION—APAMA CORRELATOR

Apama strategies execute within the Apama Correlator, which employs a patented, multi-dimensional filtering architecture to detect patterns and identify appropriate actions, in under a millisecond. The Apama Correlator offers tremendous scalability with flexible configuration options that support various designs for load balancing and fault tolerance. Unlike single-purposed CEP engines, the Apama Correlator can support thousands of discrete strategies executing simultaneously with no performance degradation.

Additionally, the Apama high-availability (HA) architecture incorporates a "cluster" model that enables recovery of failed nodes such that they can re-synchronize with redundant nodes and commence operation with no impact on performance.

TRADER DASHBOARDS—APAMA DASHBOARD BUILDER

Apama Dashboard Builder, also included within Apama Studio, offers a richly graphical, highly customizable interface for building the end-user dashboard interfaces. With an intuitive drag-and-drop interface, dashboards can be quickly prototyped against real market data prior to deployment. The development palette includes a wide range of visual objects for the representation of Apama strategies. Via the production dashboards, Apama users can initiate strategies, input parameters, and monitor strategy execution with both summary and drill-down views of the underlying streaming data and analytics.



Apama dashboards are easily customized to address specific trader requirements.

PROGRESS software

INTEGRATION ENVIRONMENT

Apama offers a broad range of packaged connectivity choices, with over 30 different adapters (a list of which are available on the Apama Web site.) In addition, the Apama Integrated Adapter Framework supports the building of new connections, either by the customer or the Apama professional services team. Apama also offers general infrastructure adapters, as well as plug-ins that are available for both Capital Markets and other applications.

Many of the adapters leverage the configurable Apama adapter for the Financial Information eXchange (FIX). The Apama FIX adapter supports order execution and/or pricing for connection to FIX destinations. Apama can also serve as a FIX destination. FIX 4.0–4.4 are supported, with custom fields easily configured.

In addition to integration with market data sources and trading destinations, the Apama development environment also supports a range of APIs that extend the Apama functionality via plug-ins of components for the support of specialized analytics or other functionality from third-party providers. APIs are also available to integrate Apama within existing application infrastructures.

MANAGEMENT CONSOLE

The Progress® Apama® Enterprise Monitoring and Management (EMM) environment includes a central graphical console for system administration across multiple components and multiple machines. Via the console, individual modules are configured, initiated and stopped. Additionally, components can be configured to be restarted automatically to recover from failures.

OPERATING PLATFORMS

- Apama Studio Components, EMM,
  - Windows 7, 2003, XP
- Apama Dashboards
  - Windows 7, 2003, XP
  - Java, AJAX
- Apama Correlator, EventStore, Research Studio IAF & Adapters
  - Redhat 4/5 Linux 32/6
  - SUSE 10 Linux 32/64
  - Solaris Sparc 10
  - Solaris X64 10*
  - Windows 7, 2003, XP

* EventStore support currently not available.

Visit: progress.com/apama/support/support_matrix for full platform details.

PROGRESS SOFTWARE

Progress Software Corporation (NASDAQ: PRGS) is a global software company that enables enterprises to be operationally responsive to changing conditions and customer interactions as they occur. Our goal is to enable our customers to capitalize on new opportunities, drive greater efficiencies, and reduce risk. Progress offers a comprehensive portfolio of best-in-class infrastructure software spanning event-driven visibility and real-time response, open integration, data access and integration, and application development and management—all supporting on-premises and SaaS/cloud deployments. Progress maximizes the benefits of operational responsiveness while minimizing IT complexity and total cost of ownership.

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