

UAT Thought Document

..... A Higher Standard



Harness The Power™

**A Description of The UAT System:
Meeting Today's Higher Standard
of Fiduciary Oversight**

UAT, Inc.

www.uatinc.com

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Executive Summary

Over the past 30 years, financial services organizations have hired external money managers to create “best of breed” investment platforms, thereby creating in a \$3.5 TR externally managed or sub-advised market. At the same time, though, this externally managed and sub-advised market has lacked effective controls over external money managers, resulting in *three significant issues*: Inadequate transparency, inadequate oversight, and unnecessarily high brokerage costs.

Responding to the needs created by the recent Financial Crisis, the patented UAT System* provides a higher standard of fiduciary oversight for the externally managed and sub-advised market through:

- **Real-Time Transparency** across holdings, orders, violations and brokerage costs.
- **Real-Time Oversight** that prevents trading violations by money managers.
- **Real-Time Control Over Brokerage** that creates 5 to 8 bps in annual savings.

***The UAT System
comprehensively
addresses
longstanding, and
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The UAT System meets today’s ***higher standard of fiduciary oversight*** by comprehensively addressing longstanding, and previously unsolvable, deficiencies. In the end, the adoption of this higher standard of fiduciary oversight, in addition to benefitting all market participants, is quite simply, the right thing to do. In so doing, market participants are able to join our Cause to save \$1 Billion per year for U.S. fund shareholders and plan beneficiaries

* *United States Patent Number 7,685,057*

Introduction

For decades, public and private defined benefit plans, defined contribution plans, mutual funds, not-for-profit funds, variable insurance products, bank trust groups, endowments, foundations and trusts have hired external money managers to manage some or all of their investment portfolios. The use of external money managers has enabled these organizations to create “best of breed” investment platforms benefiting from the expertise of the finest money management firms in the industry.

As a result of these desirable benefits, the externally managed and sub-advised industry has grown to approximately \$3.5 trillion dollars in assets. At the same time, though, externally managed and sub-advised Plans, Trusts and Funds have lacked effective controls over external money managers, resulting in *three significant issues*:

Externally managed and sub-advised Plans, Trusts and Funds have lacked effective controls over external money managers, resulting in three significant issues.

- **Inadequate Transparency** – Current technology does not provide real-time reporting to address critical events, issues and needs. The financial crisis, however, has dramatically demonstrated the need for real-time transparency across an entire investment platform, the external money managers, the accounts or funds and the underlying holdings and activity.

- **Inadequate Oversight** — Current technology does not provide real-time supervision over the trading activity of external money managers. Yet there is clearly a fiduciary and/or regulatory obligation to implement systems, policies, and procedures to properly supervise trading activity and prevent violations by external money managers.

- **Unnecessarily High Brokerage Costs** — Current technology does not provide real-time control over trading costs incurred by external money managers. These brokerage costs: often add an additional 10 to 15 basis points in expenses on top of disclosed asset management and operating expenses; are several times higher than necessary; and can result in tens of millions of dollars annually in unnecessary costs for larger externally managed or sub-advised platforms.

A Higher Standard of Fiduciary Oversight

Responding to the needs created by the recent Financial Crisis, the UAT System enables organizations to meet today's higher standard of fiduciary oversight for Plans, Trusts and Funds in the externally managed and sub-advised market. Thus, the UAT System enables powerful and comprehensive real-time control by Plans, Trusts and Funds over their money managers.

The patented UAT System* is comprised of award-winning, integrated software components that provides externally managed and sub-advised Plans, Trusts and Funds with:

- **Real-Time Transparency** on holdings, orders, violations and brokerage costs by account, fund, manager model, model program and the investment platform.
- **Real-Time Oversight** through a centralized, real-time, rules-based pre- and post-trade compliance supervision platform. The highly automated UAT System, through an exception-based process, identifies and prevents transactions by external money managers that are prohibited, violate regulatory rules, or violate account restrictions.
- **Real-Time Control Over Brokerage** that creates 5 to 8 bps in savings, resulting in improved investment performance, new operating revenue and new expense offsets. Through UAT's patented process, our Cause is to save \$1 Billion per year for U.S. fund shareholders and plan beneficiaries.

The UAT System also enhances operational efficiency by increasing transparency, improving process and lowering costs for governance reporting, manager replacement, model portfolio rebalancing, social exclusions, target date funds, securities lending, risk management hedging programs, and asset segregation reporting. All together, the UAT System enables Plans, Trusts and Funds to address newly emerging standards of fiduciary oversight through the provision of real-time transparency, real-time oversight, substantial cost savings and increased operational efficiency and.

The UAT System provides a higher standard of fiduciary oversight for Plans, Trusts and Funds in the externally managed and sub-advised market.

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Real-Time Fiduciary Oversight and Supervision

SEC Rules Mandate Prevention of Sub-Adviser Violations

Existing SEC Rules (see below) require SEC-registered Advisers to implement systems, policies, and procedures to properly supervise activity and prevent violations by external money managers, as follows:

- **SEC Rule 38a-1:** Boards and Funds must have written policies and procedures to prevent violations of securities laws and appoint a Chief Compliance Officer (CCO) to certify in writing the Fund did not violate the securities laws.
- **SEC Rule 203e-6:** The Adviser may suffer censure, suspension or revocation due to a failure to reasonably supervise a person or contract to prevent violations, unless established procedures and systems are in place to prevent such violations.
- **SEC Rule 206(4)-7:** The Adviser must identify conflicts and compliance factors creating risk exposure, including trading procedures and safeguarding client assets, and adopt policies and procedures to prevent violations by the Adviser or any supervised person.

The UAT System's Real-Time Oversight Capabilities

The UAT System's fiduciary oversight capabilities include a single, centralized pre- and post-trade Compliance Platform that:

- Conducts a highly automated, real-time and rules-based review of all orders placed by money managers prior to execution, thereby identifying and preventing violations by money managers of SEC laws, account restrictions and prohibited transactions.
- Highlights, as an exception-based process, only those transactions that represent potential violations. These transactions are stopped while emails are sent to pre-selected interested parties, depending on the severity of the potential violation.
- Provides pre- and post-trade transaction review while using account or multi-level account rules, including multi-manager funds

The UAT System enables SEC-registered Advisers, for the first time, to meet today's higher fiduciary standards for oversight and to properly comply with existing SEC supervisory requirements to identify and prevent violations by external money managers.

Substantial Brokerage Savings

UAT's Goal and Our Cause: Save \$1 Billion Annually for U.S. Fund Shareholders and Plan Beneficiaries

The UAT System enables Plans, Trusts and Funds, for the first time, to generate substantial and recurring brokerage savings that can ***improve investment performance, generate new operating revenue and create new expense offsets.***

The UAT System generates significant brokerage savings as UAT's patented HiLo (pronounced: high-low) Engine utilizes customizable rules, controlled by the money manager, to categorize orders as "high touch" or "low touch" in milliseconds. "High touch" orders, which generally comprise about 25% of all orders, represent orders that could impact the market price of the equity being traded, and thus need to be carefully "worked" by the money manager. The UAT System enables the external money manager to control the execution of these "high touch" orders, usually at 2 to 4 cents per share. "Low touch" orders, which comprise the remaining 75% or so of all orders, have little, if any, expected impact on market price. These all-electronic trades are executed by one computer talking with another computer, without human intervention, in milliseconds. These orders can be executed at one-half cent per share or less. And, experienced traders say it is almost impossible for them to add value in executing "low touch" orders.

The UAT System Generates 5 to 8 bps in Annual Cost Savings

The UAT System enables Plans, Trusts and Funds, as part of a fully automated, low latency process, to automatically route their compliance-approved "low touch" all-electronic orders to Low-Cost Execution Brokers. Brokerage costs for "low touch" orders drop from their current two and one-half to three cents per share to one-half cent per share or less. (See Appendix One) Importantly, the UAT System's brokerage savings become meaningful when considering that: Each \$20 billion in active equity assets under management represents about one billion shares of order flow per year at an average cost of two and one-half to three cents per share. Thus, saving two cents per share on 75% of this order flow (the "low touch" portion) generates approximately \$15 Million per year or 7.5 basis points (bps) in cost savings per \$20 Billion of active equity assets. UAT provides an interactive Savings Calculator on the UAT web site (www.uatinc.com) to illustrate potential brokerage savings for any level of assets under management.

Powerful Technology

The UAT System is implemented as an Application Service Provider (ASP) located in state-of-the-art SAS 70 Type 2 Production and Disaster Recovery data centers and incorporates award-winning and proven multi-user, multi-asset, multi-currency technology to create a truly outstanding, groundbreaking product, including:

- **HiLo Engine:** UAT’s proprietary and patented HiLo Engine (HLE) provides a private web services network that collects, in real-time, all orders entered by external money managers for execution in the market. These orders are routed to a real-time, rules-based Compliance system. The Plan, Trust or Fund conducts an exception-based, real-time Compliance review of each order. This process highlights orders that trigger a potential violation and stops such orders for further review by the Plan, Trust or Fund. Based on this review, an order may be: (1) released for execution by the Plan, Trust or Fund; or (2) canceled or canceled and replaced by the external money manager. For the first time, a Plan, Trust or Fund is able to prevent a trading violation by an external money manager.

The HLE employs a series of customizable rules, incorporating real-time and historical market data, to analyze the expected market impact of each order.

The HLE also employs a series of customizable rules, incorporating real-time and historical market data, to analyze the expected market impact of each order, in real-time, and categorize an order as “high touch” or “low touch.” Those orders that have significant expected market impact and require special handling—high touch—are routed back to the sub-adviser’s trading desk to be carefully “worked” as to minimize market impact and maintain anonymity. Orders that have little, if any, expected market impact and require no special handling—low touch—are immediately routed by the Adviser for execution through a low-cost brokerage network. These low touch orders are executed by one computer talking to another computer in milliseconds – and involve no human intervention. Low touch orders comprise the bulk, perhaps 75%, of a Plan, Trust or Fund’s order flow.

The HLE provides the external money manager with real-time control over the parameters for the rules utilized by the HLE to categorize an order as “high touch” or “low touch”. For example, a money manager may create (and change in real-time, as desired) a rule such that

orders whose number of shares exceed 4% of the last 30 days Average Daily Trading Volume (ADV) are categorized as “high touch” and “worked” by the money manager while orders whose number of shares fall below the 4% threshold are categorized as “low touch” and sent to low cost all-electronic execution. Linedata Services, Inc. www.ldsam.com provides hosting, support, service, development and customer service for the HiLo Engine.

- **Linedata Compliance:** Linedata Compliance is an award-winning, fully integrated, multi-user, rules-based, real-time compliance solution. This exception-based review module places all of a Plan, Trust or Fund’s external money managers on a single, centralized, pre- and post-trade compliance supervision platform.

- **Linedata LongView_{sm} Trading:** LongView_{sm} Trading is an award-winning, fully integrated, multi-currency trade order management solution for automated order routing and tracking. This module enables real-time trading across an account or group of accounts to enhance trading, operations and risk management.

- **Linedata LyNX:** LyNX provides electronic connectivity to executing brokers for automated trading of Low Touch orders. LyNX connects with UAT’s low cost execution network’s executing brokers or to any executing broker desired by a UAT client.

- **Linedata Reporting:** Linedata Reporting, a state-of the-art web-based, real-time reporting package, provides real-time reporting across positions, activity, violations and brokerage costs across managers, accounts or the Plan, Trust or Fund.

The HLE provides the external money manager with real-time control over the parameters for the rules utilized by the HLE to categorize an order as “high touch” or “low touch”.

Linedata Awards

Linedata has won numerous prestigious financial technology industry awards, including:

- Linedata Wins 2009 **Waters Magazine** Best Buy-Side OMS Award
- Linedata Named 2008 Best Buy-Side OMS
- Linedata Named 2008 Best Buy-Side Technology Provider
- Linedata Wins 2008 **Waters Magazine** Best Buy-Side OMS Award

Business Efficiency

Real-Time Data Increases Operational Alpha

The UAT System's provision of sophisticated capabilities and real-time data to externally managed and sub-advised platforms provides, for the first time, efficiencies that increase operational alpha by strengthening control, improving productivity, lowering costs and reducing risk. These benefits include:

- **Governance Reporting:** The UAT System provides the state-of-the-art in real-time reporting on holdings, orders, violations and brokerage costs, enabling an organization to slice and dice their data by account, manager, model, model program and the investment platform. Organizations can view, for example, which accounts hold a security, the most often occurring violation by type of violation, account or manager or the brokerage costs for a security, account or manager for user-selected time periods (including today's trading activity up to the time the report is requested).

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- **Manager Replacement:** With real-time holdings, the capability exists to compare the former and new managers portfolios to: (1) determine the necessary trades to align the current portfolio with the desired new portfolio; (2) prior to replacing a manager, determine the total brokerage costs of the manager replacement process; and (3) if desired, execute some or all of the trades through low cost executing brokers.

- **Model Portfolio Rebalancing:** With real-time holdings, a comprehensive model program view of holdings and a sophisticated trading platform available through the UAT System, organizations can implement crossing trades when rebalancing activity is occurring (under SEC Rule 17a-7). For example, if the rebalancing process across several models requires the purchase of 300,000 shares of IBM along with the simultaneous selling of 400,000 shares of IBM, the current process results in transaction costs of several cents per share for 700,000 shares. With the UAT System, the 300,000 buys and 300,000 sells can be internally crossed (at the close or mid-point and without any brokerage commission) while 100,000 sells are sent to the market for execution.

- **Social Exclusions:** The UAT System enables socially responsible Plans, Trusts and

Funds to prevent transactions that violate social exclusions by company, country, sector and other such criteria.

- **Target Date Funds:** The UAT System enables intraday review of portfolio asset allocation strategies in target funds across multiple external money managers based on real-time holdings. As such, the UAT System provides a powerful real-time tool for compliance personnel responsible for supervision over target date funds' adherence to glide paths as investors are protected from undesirable asset allocation exposure caused by sudden shifts in market values and/or money manager activity.

- **Securities Lending:** The UAT System enables proper supervision of securities lending activity through rules-based compliance over instrument and counterparty risk from collateral reinvestment by lending portfolios, with individual transaction, portfolio and aggregate data views.

- **Risk Management Hedging Programs for Annuity Guarantees:** At present, risk management hedging programs (for annuity guarantees) for sub-advised assets often rely on one to two day old holdings data and often do not have the means to generate the necessary portfolio statistics to optimize the proper strategies. The UAT System provides real-time portfolio statistics for risk management groups that enable risk management groups to implement intraday hedging strategies focused on sector exposure (as opposed to the S&P 500 Index).

- **Asset Segregation Reporting:** Advisers can automate their current manual, spreadsheet daily asset segregation calculation process for derivative and forward settlement exposure to an automated overnight report generation procedure. This report can be electronically distributed to interested parties.

The UAT System enables proper supervision of securities lending activity through rules-based compliance over instrument and counterparty risk.

Overall, the use of real-time data for externally managed and sub-advised asset management platforms provides, for the first time, long overdue efficiencies that increase operational alpha by strengthening control, enhancing governance, improving productivity, lowering costs and reducing risk.

Stakeholder Benefits

The UAT System provides significant benefits to a Plan, Trust or Fund's multiple stakeholders:

- **CEO** — The Chief Executive Officer realizes the following benefits from the UAT System including:
 - Superior compliance supervision and surveillance.
 - Real-time governance reporting.
 - Enhanced risk management.
 - Increased operating revenue.
 - Improved investment performance.
 - Lower operating costs.

- **Chief Financial Officer** — The Chief Financial Officer realizes the following benefits from the UAT System including:
 - Increased operating revenue and improved investment performance.
 - Lower costs through enhanced operational efficiencies.
 - Enhanced risk management.

- **Chief Administrative Officer** — The Chief Administrative Officer realizes the following benefits from the UAT System:
 - Superior compliance supervision and oversight of external money managers, including compliance with SEC Rules 38a-1, 206 (4) (7) and 203 (e) (6).
 - Real-time governance reporting across positions, open and filled orders, compliance violations and brokerage costs by account, fund, manager, model, model program and the investment platform.
 - Lower brokerage costs resulting in improved investment performance and increased revenue and/or expense offsets.
 - Lower operating costs related to improved business efficiency in model portfolio rebalancing, manager replacement, asset segregation reporting and risk management hedging programs.

- **Chief Compliance Officer** — The Chief Compliance Officer realizes the following benefits from the UAT System:
 - Superior compliance supervision and oversight of external money managers, including compliance with SEC Rules 38a-1, 206 (4) (7) and 203 (e) (6).
 - For the first time, the ability to identify and prevent violations in trading by external money managers.
 - Real-time governance reporting across positions, open and filled orders, compliance violations and brokerage costs by account, fund, manager, model, model program and the investment platform.

- **Board of Trustees** — The Board of Trustees realizes the following benefits from the UAT System:
 - Superior compliance supervision and oversight of external money managers, including compliance with SEC Rules 38a-1, 206 (4) (7) and 203 (e) (6).
 - For the first time, the ability to identify and prevent violations in trading by external money managers.
 - Real-time governance reporting across positions, open and filled orders, compliance violations and brokerage costs by account, fund, manager, model, model program and the Plan, Trust or Fund.
 - Lower brokerage costs resulting improved investment performance.
 - Lower operating costs related to improved business efficiency in model portfolio rebalancing, manager replacement, asset segregation reporting and corporate risk management hedging programs.

- **Chief Risk Management Officer** — The Chief Risk Management Officer realizes the following benefits from the UAT System:
 - Real-time governance reporting and portfolio statistics across positions, open and filled orders, compliance violations and brokerage costs by account, fund, manager, model, model program and the Plan, Trust or Fund.
 - Real-time portfolio statistics for risk management hedging programs for annuity guarantees provided by insurance companies.

- Intra-day hedging strategies focused on sector exposure (as opposed to the next day strategies focused on the S&P 500 Index)
- Superior reporting and supervision of derivative and forward settlement and asset segregation requirements.

- **Outside Counsel** — Outside Counsel realizes the following benefits from the UAT System:
 - Enhanced compliance with oversight requirements.
 - Real-time governance, supervision and risk management.
 - Additional protection from fraud, rogue traders and mismanagement.

- **External Money Managers** — External Money Managers realize the following benefits from the UAT System:
 - Enhanced compliance with SEC oversight requirements.
 - Greater focus on high-value 'high touch' orders.
 - Retain active management mandates.
 - Implementation of a new best practice that benefits all participants in the externally managed and sub-advised industry.
 - A powerful oversight tool for supervising external managers for their proprietary investment portfolios.

- **Regulators** — Regulators realize the following benefits from the UAT System:
 - An emerging best practice that creates a new and higher standard of governance, fiduciary oversight and transparency.
 - Enhanced compliance with existing oversight requirements.
 - Comprehensive and practical solution to address longstanding challenges in governance and fiduciary oversight.

- **Financial Advisers** — Financial Advisers realize the following benefits from the UAT System:
 - Improved investment performance in ‘best of breed’ multi-manager products.
 - Additional protection from fraud, rogue traders and mismanagement.
 - Lower costs and enhanced benefits through superior risk management.

- **Plan Members or Participants, Trust Beneficiaries and Fund Shareholders** — Plan Members or Participants, Trust Beneficiaries and Fund Shareholders realize the following benefits from the UAT System:
 - Lower operating costs and improved investment performance.
 - Superior protection from fraud, rogue traders and mismanagement.
 - Stronger governance and fiduciary oversight.

In total, the UAT System comprehensively addresses decades-old needs of externally managed and sub-advised Plans, Trusts and Funds through a new and higher standard of fiduciary oversight through real-time transparency, real-time oversight and significant cost savings.

Ten Key Considerations

For a Plan, Trust or Fund evaluating the UAT System, there are ten key considerations critical to proper understanding of the UAT System, its operation and benefits:

- #1: External money managers have a fiduciary obligation to follow a Plan, Trust or Fund’s compliance review and order routing directives, yet the UAT System also provides many desirable benefits to external money managers
- #2: External money managers retain control of all “high touch” orders, where they clearly add value in execution.
- #3: Money managers retain active management mandates as real-time data enables insurance companies to effectively hedge risk in their sub-advised portfolios.
- #4: SEC registered Advisers fulfill SEC Rule 38a-1, 206(4)-7, and 203e-6 oversight requirements.
- #5: Top-level reporting includes real-time holdings, orders, violations, and brokerage cost data across accounts, groups of accounts, models, Trust or Plan.
- #6: Implementation can be done gradually by money manager(s) or by fund(s).
- #7: Brokerage savings can be realized by the Plan, Trust or Fund as improved performance and new expense offsets.
- #8: Each money manager benefits from a single integration with the UAT System’s automated process to service all of their external asset management relationships.
- #9: Each Plan, Trust or Fund and each external money manager connect one-time to the UAT System’s central data hub to form a centralized and efficient communications network.
- #10: Plans, Trust and Funds cover all UAT System costs through a small percentage of their external money managers’ “low touch” trades.

Each money manager benefits from a single integration with the UAT System.

Most importantly, the UAT System does not impact the Portfolio Manager’s investment management process. Altogether, the UAT System enables a higher standard of fiduciary oversight, addresses practical implementation and integration needs, and enhances governance, improves productivity, lowers costs, improves investment performance, increases revenue, generates expense offsets and reduces risk.

The Next Step Forward

It can be said that the UAT System represents the *next step forward* in the natural progression of the sub-advised industry. This powerful technology meets today's ***higher standard of fiduciary oversight*** by providing, for the first time, real-time transparency, real-time oversight, substantial cost savings and new operational efficiency.

The UAT System represents the next step forward in the natural progression of the sub-advised industry.

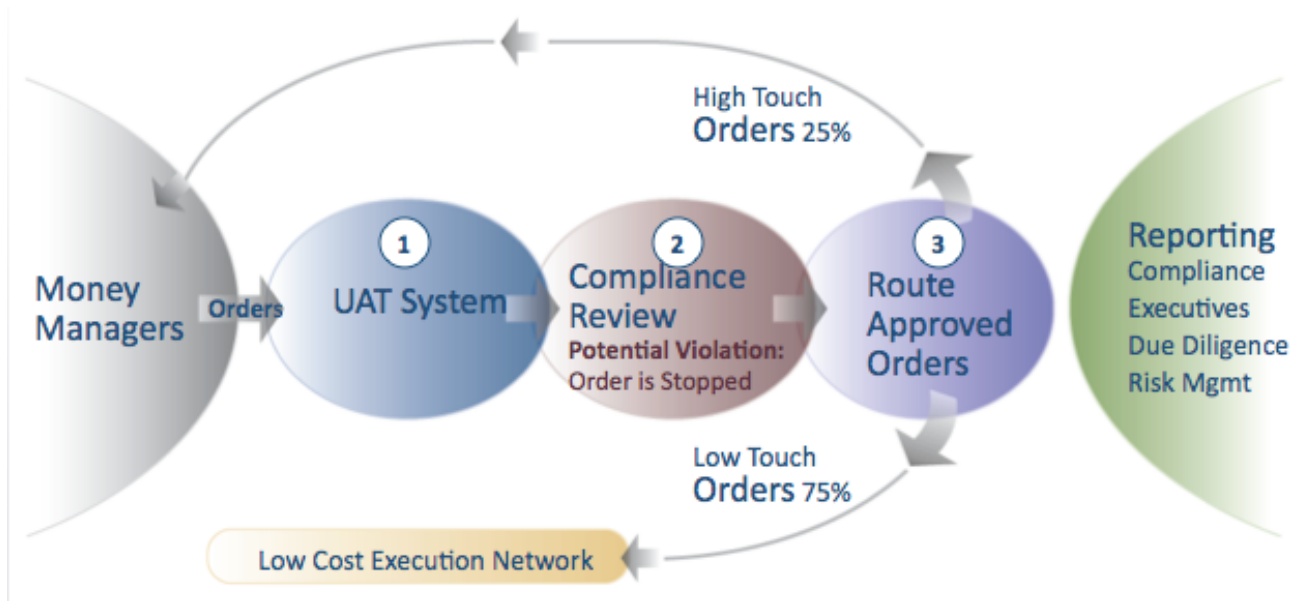
The UAT System's innovative technology and industry-wide collaboration provides an impressive array of benefits to Plans, Trusts and Funds and their external money managers. This collaboration between Plans, Trusts and Funds and their external money managers will go a long way toward positioning the entire externally managed and sub-advised industry on a solid foundation for a future with rapid growth both domestically and abroad. In the end, the adoption of this higher standard of fiduciary oversight, in addition to benefitting all market participants, is quite simply, the right thing to do. In so doing, market participants are able to join our Cause to save \$1 Billion per year for U.S. fund shareholders and plan beneficiaries

About UAT, Inc.

UAT, Inc. provides the externally managed and sub-advised industry's patented real-time transparency, supervision and brokerage cost savings system. For more information on the UAT System, please contact Tom Warren at tom.warren@uatinc.com or (303) 881-1825.

UAT, Inc.
7375 South Peoria, Bldg. 9, Ste. 206
Englewood, CO 80112
www.uatinc.com

Appendix One: METHODOLOGY – The Patented UAT System*



UAT's Three Step Process: Ultra High Speed

The UAT System utilizes an ultra high speed Three Step Process whereby Money Managers enter orders into their own trading systems:

- ① UAT System Captures The Orders.
- ② Product Sponsor's Automated, Rules-Based Pre-Trade Compliance Review:
If Potential Violations Are Detected: Orders are Stopped for Further Review.
- ③ Compliance-Approved Orders Routed For Execution:
High Touch Orders (25%) Routed to Money Managers to "Work".
Low Touch Orders (75%) Auto-Routed To Low Cost Execution Network.

Real-Time Web-Based Reporting Is Provided to User Groups.

* United States Patent Number 7,685,057