



STAC[®] Summit

October 29, 2012

Doors open: 12:00pm

Meeting starts: 12:30pm

Reception: 4:15pm

Illinois Institute of Technology

Auditorium

565 W Adams Street

Chicago, IL 60661

Gold Sponsors:



AGENDA

STAC Update [\[slides\]](#)

- *Peter Lankford, Founder & Director, STAC*

Peter will provide a brief update on the Council activities, including benchmarking.

Quality Control of Trading Algorithms

- *Peter Nabicht, Executive Vice President, Business Development, Allston Trading*
- *Ben Van Vliet, Assistant Professor of Finance, IIT [\[slides\]](#)*

Recent events have focused attention on how algorithms are used within today's markets and how well automated trading systems protect the integrity of the market. Our panelists will provide their views on of this topic, from process maturity and kill switches to market simulation and visibility into the possible behavior of complex code. As part of this, Ben will give a high-level overview of AT 9000, an initiative to create an ISO 9000-style quality management system standard for the development, testing, deployment, control and monitoring of automated trading systems.

Innovation Roundup – Round 1

"Real world solutions for high-scale market data analytics" [slides]	<i>Glenn Wright, Systems Engineer, DataDirect Networks</i>
"Advances in scale-out computing and clustered file systems" [slides]	<i>Joshua Blumert, Certified IT Specialist, IBM</i>
"Redline & Intel: Optimizing the Tick-to-Trade Path with Mainstream Technology" [slides]	<i>Chris Karpinsky, Senior Engineer, Redline Trading Solutions</i>
"Achieving true determinism for market data normalization, book building and distribution" [slides]	<i>Olivier Baetz, VP Sales and Operations, NovaSparks</i>
"Advancements in High-Performance Enterprise Messaging" [slides]	<i>Bill McLane, Senior Product Architect, Messaging, TIBCO</i>
"Introducing AMPS and 60East Technologies" [slides]	<i>Brand Hunt, President, 60East Technologies</i>

Optimizing Java for Low-Latency Trading – panel discussion

- *Jesse Fugitt, Senior Software Systems Engineer, Informatica*
- *Gil Tene, CTO & Co-founder, Azul Systems*

A fact that gets little media attention is that there is a lot of Java code deployed in latency-sensitive trading. This means there is an important conversation to be had about how to optimize Java. What are some of the highly effective patterns of low-latency Java programming? Are innovations available in underlying technology that promise to help? What could vendors do that they aren't? More broadly, what role should Java play in low-latency trading today? What are the non-performance benefits (or drawbacks) to using Java in this kind of environment vs C/C++? Does making Java perform well mean giving up those benefits? Two experts who spend a great deal of their time working on exactly these questions will share their thoughts.

Innovation Roundup – Round 2

"Low latency, congestion avoidance enterprise networks" [slides]	<i>Jim Preasmyer, VP of US Sales , Gnodal</i>
"A Faster Trading Infrastructure" [slides]	<i>Jeffrey Margolis, Manager, Systems Engineer, Mellanox Technologies</i>
"Gaining a Competitive Advantage with the Cisco Nexus 3548" [slides]	<i>Nimish Desai, Technical Leader, Cisco</i>
"Arista Innovations in Low Latency platforms" [slides]	<i>Darrin Machay, Sr. Systems Engineer, Arista</i>
"Layer 3 -- How not to do it" [slides]	<i>David Snowdon, Principal – Hardware, Zeptonics</i>

Nearer to ‘c’ than Thee? – panel discussion

- *S. Jay Lawrence, CEO, NeXXCom* [\[slides\]](#)
- *Gene Callahan, CEO, CCSI*
- *Mike Schonberg, Director of Market Data Technology, Quincy Data* [\[slides\]](#)

The last several months have seen many new providers offering low-latency long-haul and metro connectivity to the trading market. Many of them claim to be able to reduce latency by huge amounts through use of wireless (fiberless) transport. What are the pros and cons of these approaches? What are the true capabilities of these providers? Where are things heading? Our panel of leaders will roll up their sleeves to debate.

Innovation Roundup – Round 3

"New Techniques and Product Architectures for Resilient Microwave Links: A Use Case for the Solarflare ApplicationOnload(™) Engine" [slides]	<i>Dave Parry, VP Engineering, Solarflare Communications</i>
"Optimizing Network Performance and Enabling Algorithm Refinements with FastStack™ DBL™ coupled with Sniffer10G™" [slides]	<i>Brian Grant, Senior Systems Engineer, Emulex</i>
"Less is More: Hardware Accelerated Filtering for Optimal Software Performance" [slides]	<i>Mohammad Darwish, CEO, AdvancedIO Systems</i>
"PHY latency. Breakdown and why it matters" [slides]	<i>Nikolaj Hermann, CTO, Fiberblaze</i>
"Tools and Libraries for the Intel® Xeon Phi™" [slides]	<i>Stephane Raynaud, Technical Sales Manager, Rogue Wave</i>

Improving Single-Thread Performance with Cilk(TM) Plus

- *Robert Geva, Parallel Programming Model Architect, Intel* [\[slides\]](#)

Cilk Plus is a C/C++ language extension available in Intel compilers and in the open source GCC. While it is mostly associated with parallel programming, Cilk Plus also provides new vector-programming syntax to improve single thread performance. Through code examples applicable to financial services, Robert will highlight the new language constructs.

Networking Reception

Speaker Biographies



Eugene Callahan, Partner, Callahan Communication Services, Inc. (CCSI). Gene is a founding partner of the wireless infrastructure company, CCSI. The Company designs, builds, operates and maintains wireless networks for telecom carriers, institutions, government agencies and private enterprises. CCSI provides turn-key solutions to its client base by utilizing in-house professionals for real estate, zoning, permitting, RF/MW design engineering and project management. In addition, the firm has its own civil, electrical, antenna/line and technical crews for facility construction, commissioning and maintenance. The CCSI management team has decades of wireless network and backhaul implementation experience which has enabled the firm to become a leader in the design, construction and operation of ultra-low latency microwave networks for customers in the financial industry.

Prior to founding CCSI, Gene was a Vice President in the Equities Division of Goldman Sachs. He has a BS from Fordham University and an MBA from Northwestern University's Kellogg Graduate School of Management.



Jesse Fugitt, Senior Software Systems Engineer, Informatica. Currently a part Informatica's Messaging Business Unit, Jesse Fugitt has worked with a number of technologies in the messaging space with a focus on object oriented languages such as Java and .Net. He has implemented solutions and functionality that provide low latency performance exposed via multiple APIs and programming languages. His professional experience also includes designing solutions in the telematics and GIS industries where web and mobile technologies were used to extend the reach of an innovative server and visualization platform.



Robert Geva, Parallel Programming Model Architect, Intel. Robert joined Intel in 1991 and has since developed an expertise in compilers and performance analysis and tuning for microarchitectures. Robert has worked on compiler optimizations for a variety of Intel microprocessor based systems, including the 80486, the Pentium, Pentium Pro, Itanium, Pentium 4 and Pentium M and core II Duo. Currently, Robert is an architect in the development products division responsible for driving language extensions and programming models for parallel and heterogeneous programming. Robert has been involved with the development of Intel Cilk™ Plus and the offloading model for Intel® Xeon® Phi™. Robert has BA and MSc from the Technion, Israel institute of technology.



Peter Lankford, Founder & Director, Securities Technology Analysis Center. Peter has overseen STAC since its birth in 2006. Before that, Peter was SVP of Information Management Solutions at Reuters, where he led the \$240M market data systems business. Peter's team led Reuters into the business of low-latency direct feeds and catalyzed the widespread adoption of Linux on Wall Street by making RMDS available on that platform. Prior to Reuters, Peter held management positions at Citibank, First Chicago Corp., and operating-system maker IGC. Peter has an MBA, Masters in International Relations, and Bachelors in Chemistry from the University of Chicago.



S. Jay Lawrence, CEO, NeXXCom. Jay is a seasoned executive and technologist with hands on experience leading enterprises in diverse domains of the telecommunications sector including real time control systems, semiconductor, system integration/networking and fixed broadband wireless. He has operated in these areas of business in a leadership role, globally, for over the past 20 years. Jay was appointed Chief Executive Officer of NeXXCom Wireless, LLC in January 2012 with the mission of setting the organization's technology and go-to-market strategy. NeXXCom has since positioned itself as a subject matter expert and thought leader in the area of high performance wireless broadband networking, aligned itself with fiber line based partners and has realized unprecedented growth. NeXXCom, under Jay's watch is assuming the lead position in wireless high frequency trading networks working with both private firms and service providers to provide lowest latency network capabilities.



Peter Nabicht, Executive Vice President, Business Development, Allston Trading. Since joining Allston in early 2004, Peter has had experiences in all technical aspects of the company. In his first two years he started the automation of back office processes and built a state of the art real-time operations desk that supported trading activities across all asset classes on 50+ endpoints. After being the Technical Lead on the Money Market, Fixed Income and Energy desks, Peter became the CTO of Allston Trading in September of 2008. In January of 2011, he was named Executive Vice President of Allston. While he still stays close to the technical side of trading he is now involved in everything ranging from regulatory concerns to business development to strategic decisions.



Mike Schonberg, Director of Market Data Technology, Quincy Data. Prior to joining Quincy Data in August of 2012, Mike worked at Wombat Financial Software and NYSE Technologies for over 10 years where he focused on API development and high performance messaging. He also played an instrumental role in releasing OpenMAMA, and is currently a co-maintainer for the OpenMAMA project.



Gil Tene, CTO & Co-founder, Azul Systems. Gil has been involved with virtual machine technologies for the past 20 years and has been building Java technology based products since 1995. He co-founded Azul Systems in 2002 with the goal of eliminating common Java responsiveness, performance, scale, and overall deployment barriers. Gil guides Azul Systems architectural vision and product design to align with business and market opportunity strategies. At Azul, Gil pioneered Pauseless Garbage Collection, Java Virtualization, and various managed runtime and systems stack technologies that combine to deliver the industry's most scalable and robust Java platform. Prior to co-founding Azul, Gil was Director of Technology at Nortel, Shasta Networks and Check Point, where he delivered several industry-leading traffic management solutions including the industry's first Firewall-1 based security appliance and the industry's first subscriber edge Broadband Service Node. Gil architected operating systems for Stratus, clustering solutions at Qualix/Legato, and served as an officer in the Israeli Navy Computer R&D unit. He holds a BSEE from The Technion Israel Institute of Technology, and has been awarded 28 patents in computer related technologies.



Ben Van Vliet, Assistant Professor of Finance, IIT. Ben is an Assistant Professor at the Illinois Institute of Technology's Stuart School of Business (IIT), where he also serves as the Associate Director of the M.S. Finance program. At IIT he teaches courses in quantitative finance, C++ and .NET programming, and automated trading system design and development. He serves also as series editor of the Financial Markets Technology series for Elsevier/Academic Press. Ben consults extensively in the financial markets industry, primarily on topics related to the mathematics, technology and management of trading systems. Ben is the author of three books on trading/investment: Quality Money Management with Andrew Kumiega, Modeling Financial Markets with Robert Hendry, Building Automated Trading Systems. He has also published several articles in the finance and technology, and presented at several academic and professional conferences.
