STAC® Summit

November 7, 2012
Doors open: 9:30am
Meeting starts: 10:00am
Reception: 4:45pm

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Great Eastern Room
40 Liverpool Street
London

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AGENDA

BIG WORKLOADS

STAC Update – Big Workloads [slides]

- *Peter Lankford, Founder & Director, STAC*

Peter will provide a brief update on the Council's activities related to big-data and big-compute workloads, including benchmarking.

Benchmark: Comparison of Two MapReduce Implementations [slides]

- *Simon Waterer, Senior Solutions Architect, IBM*
- *Peter Lankford, Founder & Director, STAC*

Performance of MapReduce applications is a topic of growing interest. STAC will describe a MapReduce performance benchmark project that it just completed comparing IBM Platform Symphony to Apache Hadoop using jobs based on production data from Facebook. The STAC Report is just about to be released. Simon will discuss trends and strategy, and Peter will detail the benchmark methodology and results.

Integration and Transformation of Front Office, High-Speed Applications and Market Data [slides]

- *Charles Hughes, Business Development Manager, Informatica*

Front office, high-speed applications and business processes have pushed the limits of data variety, volume, and velocity for a long time. In this session, Charles will discuss new capabilities that enable direct integration of these high-performance applications with data-integration infrastructure and non-SQL databases, leveraging Informatica's new Ultra Messaging connectivity. Charles will also demonstrate and benchmark parsing and processing of trade and market data on Hadoop.

Modeling the Big Data Beast [slides]

- *Niall Dalton, Chief Software Architect, Calxeda*

There are several workloads within trading organizations that meet the definition of "Big Data." These include big-but-structured tasks like market simulation/backtesting of potential trading algorithms, as well as unstructured or schemaless/schema-last data challenges like analyzing trade archives and system logs. A number of new software and hardware technologies may have potential to accelerate these tasks, reduce their cost, or both. But the industry lacks standard benchmarks that would enable solution providers to focus their engineering efforts and provide end users with meaningful test results. As a consequence, several Council members have asked for STAC Benchmarks for these kinds of workloads, and Calxeda have decided to propose a starting point. Niall will outline his proposal and solicit participation in a working group.

Innovation Roundup – Round 1

"Real world solutions for high-scale market data analytics" **[slides]**	*Glenn Wright, Systems Engineer, DataDirect Networks*
"Accelerating Financial Analytics and Simulation with Parallel I/O" **[slides]**	*Derek Burke, Director, Channel Marketing, Panasas*
"Tools and Libraries for the Intel® Xeon Phi™" **[slides]**	*Scott Lasica, VP, Products & Alliances, Rogue Wave Software*
"Arista Innovations in Big Data" **[slides]**	*Alex Nichol, Senior Systems Engineer, Arista*
"Accelerating Big Workloads with WAN-Optimized Data Grids" **[slides]**	*Benjamin Taieb, Senior Systems Engineer, Solace Systems*

Parallel Programming Case Study **[slides]**

- *Stephen Blair-Chappell, Technical Consulting Engineer , Intel*

An efficient parallel program utilizes all hardware parallel resources. Stephen will compare and contrast capabilities of task-parallel technologies and demonstrate the vectorization programming models across both the Intel Xeon (Sandy Bridge) and Intel Xeon Phi (MIC) product lines. Using a case-study approach, he will demonstrate the consistency of parallel programming in these environments.

Networking Luncheon

FAST WORKLOADS

STAC Update – Fast Workloads [slides]

- *Peter Lankford, Founder & Director, STAC*

Peter will provide a brief update on the Council's activities related to low-latency, realtime workloads, including benchmarking.

Post Card from the Future – The Very Visible Hand [slides]

- *David Litner, Director, EMEA Head of Quantitative Prime Services IT and Futures Execution IT, Barclays*

"Postcard from the Future" is a new, experimental session format at STAC Summits. Each presentation is intended to push the time horizon farther down the road than usual, in order to catalyze discussion of what may lie ahead for the markets and technology. Our presenter tells his story from the perspective of someone sitting years in the future.

The growing popular unease with automated trading is driving discussion and action in many regions of the world today. As the cycle of action and reaction plays out, how will trading firms ultimately satisfy regulators and long-term investors that flaws in a market participant's trading systems won't destabilize the market? In this Postcard from the Future, David will explore a world in which firms open up their technology in certain ways, even "plugging in" limit- and risk-management libraries mandated by regulators.

Quality Control of Trading Algorithms – panel discussion

- *Paul Marks, Director, Citi Futures and OTC Clearing*
- *Sam Tyfield, Partner, Katten Muchin Rosenman UK LLP*
- *Blake Stephenson, Regulation Manager, Futures and Options Association*
- *Paul Willis, Global Compliance Officer, ABN AMRO Clearing*

Recent rulings in Europe have put a lot of focus on controlling trading and matching algorithms. What is the regulatory reality? What should trading firms be doing today? What are the implications of circuit breakers, algorithm registration, and other mechanisms in this menagerie? What role should kill switches play? What are best practices for devops going to look like in the emerging environment? Our panel of experts will provide their views.

Innovation Roundup – Round 2

"Achieving true determinism for market data normalization, book building and distribution" [slides]	*Matthew Gadd, VP Sales and Operations, NovaSparks*
"Advancements in High Performance Enterprise Messaging" [slides]	*Vasil Kajcovski, Director, Messaging Business and Financial Markets, TIBCO*
"Delivering Sub-Microsecond Accurate Time to Linux Applications Around the World" [slides]	*Paul Skoog, Product Marketing Manager, Symmetricom*
"Optimizing Network Performance and Enabling Algorithm Refinements with FastStack™ DBL™ coupled with Sniffer10G™" [slides]	*Chris Hill, Senior Account Manager, Emulex*
"Less is More: Hardware Accelerated Filtering for Optimal Software Performance"	*Mohammad Darwish, CEO, AdvancedIO Systems*

Point of View: Sockets Acceleration in 2013 [slides]

- *Martin Porter, VP of Software Engineering, Solarflare Communications*

Solarflare spends a lot of time working with trading organizations on their requirements for faster sockets applications. In a use-case driven talk, Martin will present the trends that he sees and stake out a position on how the industry can best support customer needs.

Innovation Roundup – Round 3

"Network microbursts and switch queues-the hidden truth" [slides]	*Rony Kay, President & CTO, cPacket*
"Arista Innovations in Low Latency platforms" [slides]	*Alex Nichol, Senior Systems Engineer, Arista*
"Low latency, congestion avoidance enterprise networks" [slides]	*Fred Homewood, CTO, Gnodal*
"A Faster Trading Infrastructure" [slides]	*Asaf Wachtel, Director, Global FSI, Business Dev., Mellanox*
"Gaining a Competitive Advantage with the Cisco Nexus 3548" [slides]	*Will Ochandarena, Product Manager, Cisco*

Nearer to 'c' than Thee? – panel discussion

- *S. Jay Lawrence, CEO, NeXXCom* **[slides]**
- *Ed Kopko, CEO, ULL Networks* **[slides]**
- *Stephane Tyc, 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 (and fiberless) transport. What are the pros and cons of these approaches? What are the true capabilities of these providers? Where are things heading? After short vendor presentations, our panel will roll up its sleeves to debate.

Speaker Biographies – Feature Sessions

Stephen Blair-Chappell, Technical Consulting Engineer, Intel. Stephen has worked in the Intel Compiler Lab for the last 14 years. He is a regular speaker at technical conferences in Europe and the US. Prior to joining Intel, Stephen worked as a lecturer at Birmingham City University, specializing in Software Engineering and Embedded Systems. As an academic he developed and delivered CPU architecture programming courses for a number of silicon and software manufacturers. Stephen is author of the book "Parallel Programming with Intel Parallel Studio XE" (ISBN 9780470891650, Wiley, April 2012). Outside work, Stephen enjoys playing the pipe organ, and is an accomplished musical instrument restorer.

Niall Dalton, Chief Software Architect, Calxeda . Niall is an expert in algorithms and technology for low-latency, data-intensive systems in applications such as high-frequency trading. His 17 years of experience include working as Director of HFT at a Wall Street firm; CTO of Kx Systems, a leading vendor of high-performance column-oriented database software widely used on Wall Street; senior software engineer at NVIDIA; and CTO at X.R.N.D, a European vendor of high performance parallel data analysis software. He has enjoyed a variety of engineering and research positions in Europe and the US in areas such as language design and compilers for parallel computing, data-intensive distributed systems and non-traditional database internals. He currently serves on the advisory board of MemSQL, creators of a realtime in-memory MySQL compatible database, and Calxeda, designers of ultra-low power processors for hyperscale servers. Despite many publications and multiple degrees in Computer Science, Niall acquired the skills to swear fluently at multifarious hardware and software systems in a wide variety of common and obscure programming languages. He has never met an abstraction layer he didn't enjoy violating.

Charles Hughes, Business Development Manager, Informatica. Charles is a subject matter expert for Informatica's Ultra Messaging and B2B technologies and is responsible for driving adoption of integrated solutions based on real-time, event driven architectures. Charles has over 25 years of experience developing, deploying and supporting technology solutions in areas such as Message Oriented Middleware, Enterprise Application Integration and Business Process Management.

Ed Kopko, CEO, ULL Networks. Ed is an experienced telecom industry executive. Prior to becoming CEO of ULL Networks, a network services provider, Ed served for 23 years as Chairman and CEO of Butler International, a worldwide engineering and systems integration company with over 4000 employees. He has assisted carriers, equipment manufacturers, governments and enterprises design, build and manage networks internationally across numerous technologies throughout his career. Ed has been responsible for delivering over $6 billion of client projects in his career. He also serves as CEO of Mercury Z LLC, an international network systems integrator and a sister company of ULL Networks. A prolific writer on business matters as well, Ed's articles have appeared in The Wall Street Journal, Forbes, Detroit Free Press and Chief Executive Magazine. He holds an M.A. in Economics from Columbia University.

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.

David Litner, Director, EMEA Head of Quantitative Prime Services IT and Futures Execution IT, Barclays. Based in London, David is responsible for leading development of the flagship SubM product suite for the EMEA markets. David has been building enterprise class technology for 12 years. Prior to joining Barclays Capital, David was a Senior Vice President at NYSE Technologies where he led the software engineering team. David joined NYSE Group in 2007 when it acquired TransactTools, where he was Vice President of Engineering. Prior to joining TransactTools in 2000 David worked at Computer Sciences Corporation. David graduated from Boston University with a degree in History and Computer Science.

Paul Marks, Director, Citi Futures and OTC Clearing. Citi hired Paul in 2011 to join their rapidly growing Exchange Traded Derivatives and OTC Clearing business to help develop their flagship Citi Futures and Options Execution (CFOX) platform. As well as product, program and vendor management Paul has taken a leading role in regulatory affairs and is a founding member and ex-Chair of the FOA's eTrading/Risk working group. Paul helped lead this group in their efforts to publish the recent FOA Guidance on Systems and Controls for Electronic Trading, which looks at the responsibilities of the Buy Side, Sell Side, Venues and Vendors to minimise the risks posed by electronic trading. Subsequent to the publication of this guidance Paul has recently joined FIX Protocol Ltd's Risk Management Working Group and Global Derivatives Subcommittee with the aim of trying to garner support for the development of an industry standard protocol for managing risk limits and triggering kill switches in the listed derivatives space. Prior to this, Paul was with J.P. Morgan's Futures & Options business and moved from technology into the front-office, looking after eTrading Product for EMEA. Before JPMC, Paul was at UBS covering trade floor support for Cash Equities and Listed Derivatives as well as supporting the respective exchange market connectivity and trading platforms. Paul graduated in 2000 with a bachelors' degree in Mechanical Engineering.

Blake Stephenson, Regulation Manager, Futures and Options Association. At the FOA, Blake analyses regulatory developments (in particular in relation to MiFID/R, MAD/R and EMIR), and both influences European policy makers during the legislative process and supports member firms to implement change. Blake has worked in Financial Regulation since being Called to the English Bar in 2007. His primary focus has been on markets infrastructure regulation, having worked for SWX Swiss Exchange, and for the Markets Division of FSA, supervising key Exchanges and MTFs.

Stéphane Tyč, co-founder, Quincy Data. Stéphane received a PhD in Physics from Harvard University. He continued physics research at Thales where he earned multiple patents on power transistors for microwave radios and superconducting logic devices. Post Thales he began a 17-year career at BNP Paribas where he was Managing Director, Equity Derivative Quantitative Research and Development, Global Business Management, and Post Trade Services. He also served on the DTCC Warehouse Trust Company Board of Directors for two years.

Sam Tyfield, Partner, Katten Muchin Rosenman UK LLP. Sam focuses his practice on all aspects of financial services firms' business, including particularly proprietary trading firms (especially those in the high frequency or algorithmic trading space). Sam has been Chief Operating Officer and General counsel for a high frequency proprietary trader based in London, with operations in South East Asia. Recently, he has been involved in drafting industry best practice guidance for the electronic trading industry with the Futures and Options Association.

Simon Waterer, Senior Solutions Architect, IBM Simon has 15 years experience working with clients with a number of middleware technologies including distributed data caching, messaging middleware and event stream processing. For the last 6 years Simon has been a senior consultant with Platform Computing, now part a key of IBM's technical computing initiative. Simon has worked with clients in both the investment banking and insurance sectors helping them design and deploy grid applications and infrastructure. Prior to working as a technical consultant Simon worked at Barra developing and supporting trading and risk systems.