



STAC® Performance Summit

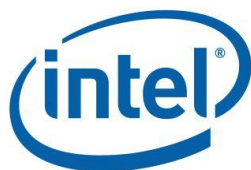
June 13, 2011

Doors open at 1:00pm / Meeting starts at 1:30pm
Meeting will be followed by cocktails

Barclays Capital

745 7th Avenue, ASK Auditorium
New York City

Gold Sponsors:



Interactive Data 7ticks

Corvil



IBM

corensic™

Solace Systems®

JUNIPER
NETWORKS



ORACLE®



CFN Services
Optimizing the power of your network

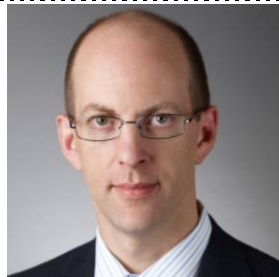
FINANCIAL SERVICES

INFORMATICA®
The Data Integration Company™

Opening Keynote:

Global market structure evolution and its impact on technology

In this talk, Thomas will examine key developments in the exchange and dark pool landscape, as well as new and proposed regulations such as 15c35 and MiFID II. He will consider the impact of such changes on trading firms in the US and abroad, with particular focus on the challenges and opportunities confronting trading technologists. [\[video/slides\]](#)



Thomas Chippas, Managing Director, Global Head of Quantitative Prime Services, Barclays Capital. Based in New York, Tom leverages his 16 years of experience to expand the firm's high frequency trading solutions for quant clients, including the low-latency SubMSM product and co-location options. Prior to joining Barclays Capital, Tom was at Deutsche Bank where he was Head of Equities Sales, North America, for Autobahn, Deutsche Bank's electronic distribution service. He previously held management positions at Bank of America and Macgregor, the trade order management firm.

Innovation Roundup – Round 1

- "How to detect and fix hard-to-find concurrency errors in multi-threaded systems" [\[video/slides\]](#)
- "The Performance Benefits of Optimizing Processor Cache" [\[video/slides\]](#)
- "Hybrid Instrumentation" [\[video/slides\]](#)

Eric Scollard, VP of Sales and Services, Corensic

Stephane Raynaud, Lead Principal Engineer, Rogue Wave

Henry Young, CEO, TS-Associates

Optimizing x86 Apps

Trading applications—whether written in C/C++, Java, or other languages—regularly need their latency reduced, their capacity increased, or both. But not all apps take full advantage of the x86 platforms on which they run, and the gap can widen with time as platforms add features and cores. What are the best practices for design, development, and testing of applications? What are the best choices of programming language, threading models, tools, and compilers? A panel of experts will tackle these issues and your questions. [\[video\]](#)



Zach Zimmerer, Head of Quantitative Prime Services IT, Barclays Capital. Based in New York, Zach leads the design and implementation of the high-frequency direct market access trading suite SubM. Zach leverages his past 11 years of building high frequency trading products to build a suite of solutions that not only addresses latency concerns but also provides a more complete offering. Prior to Barclays, Zach was at Lehman Brothers where he held a similar role, and before that he was a software developer at TransactTools. Before engaging in the financial industry, Zach spent his time on several start-ups in Silicon Valley. Zach graduated from Stanford University with degrees in Mechanical Engineering and Economics.



Niall Dalton, Director of High-Frequency Trading, Cantor Fitzgerald. Niall is an expert in algorithms and technology for low-latency data-intensive systems in areas such as high-frequency trading. Before Cantor Fitzgerald, Niall's roles have included CTO at Kx Systems, a leading vendor of high-performance column-oriented database software widely used on Wall Street, and CTO at X.R.N.D, a European vendor of high performance parallel data analysis software. In the last decade, he 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. Niall has several degrees in Computer Science and has never met an abstraction layer he didn't enjoy violating.

Panel description continued on next page



Michael McCool, Software Architect, Intel. Michael is a Software Architect with Intel working on Array Building Blocks (ArBB) and is an Adjunct Associate Professor with the University of Waterloo (Canada). In order to commercialize research into many-core computing platforms at Waterloo, in 2004 he co-founded RapidMind, which was acquired by Intel in 2009. Michael has research and application experience in the areas of languages and programming platforms for high productivity parallel computing, financial analysis, datamining, computer graphics, medical imaging, and signal and image processing. He has degrees in Computer Engineering (University of Waterloo, BAsC) and Computer Science (University of Toronto, M.Sc. and PhD.) with specializations in mathematics (BAsC) and biomedical engineering (MSc) as well as computer graphics and parallel computing (MSc, PhD). In addition to his university teaching, he has presented tutorials at Eurographics, SIGGRAPH, ICS, and SC.



Peter Godman, Founder & CEO, Corensic. Peter joined Corensic from Isilon Systems where, as Director of Software Engineering, he led development of several major releases of Isilon's award-winning OneFS distributed filesystem and developed around twenty patent-pending technologies. Prior to his six year tenure at Isilon, Peter led development of several generations of Linux-based client software at RealNetworks.



Stephane Raynaud, Lead Principal Engineer, Rogue Wave. Originally from France, Stephane Raynaud emigrated to North America in the early 1990's. In the years since, Stephane has become a skilled developer as well as an accomplished leader. Through his experience heading large scale software development and consulting projects, Stephane has developed an extensive expertise in software architecture. Currently Stephane is at Rogue Wave Software. His responsibilities include extensive work in the financial services markets in New York, Boston and Toronto as well as supporting architects in a broad range of systems from Quantitative Analysis to low-latency systems. Most recently Stephane has been focusing on how to better address CPU Cache optimization for multi-core processors.

Navigating Low-Latency Network Choices

If one word could summarize what trading organizations face when it comes to low-latency networking, it would be "choice." Choice of transport (Infiniband and Ethernet of various speeds). Choice of API (sockets, RDMA/verbs, and more). Choice of implementation (increasing variety of switch and NIC vendors focused on low latency). What should customers consider when making these choices? How do the solutions differ? Put your questions to some innovative vendors, who will make short presentations then sit together for a moderated Q&A. [\[video/slides\]](#)



Asaf Somekh, VP Solution Marketing, Mellanox Technologies. Asaf has served as Mellanox's vice president of solution marketing since February 2011. In his role Asaf leads the company's marketing activities for the financial services industry, Enterprise Data Center, Cloud and Web 2.0 Markets. Prior to Mellanox, Asaf Somekh served as vice president of marketing at Voltaire from 2009 to 2011, vice president of strategic alliances from 2006 to 2008, and was Director of Marketing from 2001 to 2005. Prior to Voltaire, Asaf was Director of Software Development at Nexus Telocation Ltd. from 1997 to 2000. Mr. Somekh holds a B.Sc. in Computer Engineering from The Technion, Israel Institute of Technology and an M.B.A. from IMD in Lausanne, Switzerland.



John Moore, Director, Financial Services Marketing, Juniper Networks. John sets strategy and direction for Juniper's message to Banks, Exchanges and Investment houses around in all theaters. In this role, John drives feature roadmaps, solutions development and field readiness to make sure that Financial customers have the products, solutions and services to use Juniper products for competitive advantage. John brings two decades of experience working with the financial sector in a career spanning Sun Microsystems, Cisco and Juniper Networks.



Vinit Jain, Architect, IBM Systems Networking. Vinit is an architect with IBM Systems Networking and works on networking solutions using the IBM BNT product portfolio with a focus on end-to-end system latency requirements. During the past 12 years with IBM, Vinit has led the delivery of several innovations in Networking and Virtualization products. Vinit has degrees from IIT-Delhi and the University of Maryland.



Nick Ciarleglio, System Engineer, Arista Networks. Nick arrived at Arista Networks in 2008 as the company's first System Engineer. In his current role, Nick is responsible for network architecture consulting in the financial services vertical, and he has specifically focused on end to end low-latency architectures. He also provides field feedback and "real world" expertise to the Arista development team. Prior to his arrival at Arista, Nick was a Senior Technical Consultant for Hewlett Packard.

COFFEE BREAK

The Future of Messaging Middleware

In the 1990s, as trading systems became distributed, messaging middleware became the arteries and veins of the organization. A decade later, as computers began to make trading decisions, communication was exposed as a bottleneck, creating an opening for new ultra-low latency middleware solutions. At the same time, applications throughout the enterprise continued to require greater capacity and more features from middleware. Well into its third decade, where is messaging middleware headed in the trading world? When and how does middleware add value to today's ultra-low-latency trading solutions? What are the key requirements for broader enterprise messaging today? Can any single vendor satisfy all the needs of an organization today, or is best-of-breed a better approach? Will messaging get subsumed by the network? Our team of thought leaders will offer their views. [\[video\]](#)



Alessandro Petroni, Director, Platform Services & Global Head of Messaging and Integration Services CoE, Deutsche Bank. Alessandro has over 25 years of hands-on, client-facing experience designing and implementing both low-latency and enterprise-wide integration solutions. He currently manages a global consulting and delivery team within Deutsche. Prior to Deutsche, Alessandro was principal owner of a consulting firm, helping top banks like Merrill Lynch, Citicorp, Lehman Brothers, and Societe Generale with SOA, BPM, B2B, ESB and Messaging-Oriented Middleware strategy and implementation. Prior to this, he was a Senior Architect at TIBCO Software and a visiting professor at University of Trento. In addition to finance, Alessandro has worked in several verticals, including education, transportation, and hospitality. Alessandro holds a Master Computer Science at University of Trento, Italy.



Shawn McAllister, CTO, Solace Systems. Shawn is responsible for deepening Solace's understanding of requirements and use cases across industries and organizations, evangelizing our unique approach and solutions, and working closely with our customers to identify ways of improving our technology and value proposition. Prior to joining Solace, Mr. McAllister led software, hardware, and test engineering teams at Newbridge Networks (later Alcatel Canada), where he was responsible for the development of features on ATM and Ethernet switches as well as the 7750 Multiservice IP Router. Mr. McAllister was a regular attendee and contributor to the ATM Forum and co-inventor of several patents in the telecommunications space. Mr. McAllister holds a Bachelor of Mathematics from the University of Waterloo, with majors in both Computer Science and Combinatorics/Optimization.



Todd L. Montgomery, VP of Architecture, Messaging Business Unit, 29West (part of Informatica). As the chief architect of Informatica's Messaging Business Unit, Todd is responsible for the design and implementation of the Ultra Messaging product family which has well over 150 production deployments within the financial services sector. In the past, Todd has held architecture positions at TIBCO and Talarian as well as lecture positions at West Virginia University, contributed to the IETF, and performed research for NASA in various software fields. With a deep background in messaging systems, reliable multicast, network security, congestion control, and software assurance, Todd brings a unique perspective tempered by 20 years of practical development experience.

STAC Update

Peter will review activity in a number of the STAC Benchmark domains: [\[video/slides\]](#)

- STAC-M1 (feed handlers)
- STAC-M2 (messaging middleware)
- STAC-M3 (tick databases)
- STAC-A2 (big analytic workloads)
- STAC-E1 (execution gateways)



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.

Whither Hardware Acceleration?

Off-loading the processing of network and trading-venue protocols to programmable hardware was once fringe and is now an accepted pattern. Where is it headed? How are hardware-oriented solution vendors continuing to add value? What are the roadmaps like for underlying components such as FPGA? Is I/O the only domain amenable to a hardware-based approach? What about trading algorithms? Leading vendors will make short presentations related to their offerings, then sit together to address these topics and questions from attendees.

[\[video/slides\]](#)



Scott Parsons, Chief Scientist and Architect, Exegy. Scott is responsible for the company's product development and architecture, embedding financial market intelligence into Exegy appliances and software. Scott came to Exegy from Reuters, where as Senior Vice President and Global Head of Platform Development, he was responsible for the development of Reuters' premier market data system platform and their next generation media platform. Before Reuters, Scott held senior engineering management positions, including Chief Scientist at Bridge Information Systems, where he was responsible for overall systems architecture and new product development.



Mark Skalabrin, Founder and CEO, Redline Trading Solutions. Mark is a 20-year veteran of the high-performance computing industry. Throughout his career, Mark has built engineering-centered businesses that combine leading-edge technology with application acceleration expertise to solve some of the most challenging computing problems across multiple markets. Before he founded Redline, Mark served eight years as General Manager and Corporate Officer at Mercury Computer Systems. He holds a BS degree in Electrical and Computer Engineering from Washington State University.



Yves Charles, CEO, NovaSparks. Yves Charles joined NovaSparks in January 2010 with responsibility for US business development. In October 2010, Yves was appointed CEO. Prior to joining NovaSparks, Yves was CEO of Sysload Corporation, a worldwide leader in systems management from 2007 to 2009. From 1996 to 1997, Yves was Chief Executive Officer of Quallaby a software editing firm in network performance management, a firm Yves founded in 1996. After moving Quallaby headquarters to the United States, Yves was responsible for running the International Operations until its acquisition by Micromuse in 2006. Earlier in his career in 1992, Yves founded Apogee Communications, a systems integrator in network and systems management and held the position of Chief Executive Officer until 1997. During this period the revenue of Apogee, grew from \$1 million to \$30 million.

Innovation Roundup – Round 2

<ul style="list-style-type: none"> • “Every nanosecond counts: aiming at nanosecond inter-machine messaging” [video/slides] 	Chris Kime, Solutions Architect, IBM
<ul style="list-style-type: none"> • “The Extreme Performance Platform for Trading and Risk” [video/slides] 	Ian Pearl , Global Lead, Capital Markets, Oracle Financial Services
<ul style="list-style-type: none"> • “Solarflare: The platform for precision timing” [video/slides] 	Steve Pope , CTO, Solarflare
<ul style="list-style-type: none"> • “When ultra-low latency is not fast enough: Monitoring at the speed of trading” [video/slides] 	Sharon Besser , VP of Technology, NetOptics

Managing Low-Latency Trading Infrastructure

A great deal of attention gets paid to building trading systems that minimize latency. But building the system is only the beginning. Keeping low-latency technology and connectivity running and optimized is a daily battle. Our panel will discuss what that battle is like today and what some of the best practices are for winning it. [\[video\]](#)



Scott Caudell, SVP, Global Architecture, Interactive Data 7ticks. Scott was a founding member of 7ticks, which was established in 2002. He designed and built 7ticks’ highly-scalable, carrier grade network infrastructure to provide one of the fastest and most reliable trading experiences for users on a variety of proprietary and third-party ISV trading solutions. He has overseen the growth of this design to handle a significant percentage of overall daily trading volumes on exchanges such as the CME and ICE. Scott has also had a visionary role in creating proximity networks to support ultra-low latency access and cross-connectivity between leading world exchanges.



Raymond Russell CTO & Co-Founder, Corvil. Raymond is one of Corvil’s founders and co-inventor of its core technology. Since joining Corvil in 2000 as Chief Technology Officer, Raymond has played an instrumental role in building a strong product suite around the core Corvil technology. As CTO, Raymond is focused on driving continued advancement and fulfillment of Corvil’s innovations with a focus on applications and infrastructure in capital markets.



Wil Tirado, VP of Network and Infrastructure Services, CFN Services. At CFN Services, Wil leads the technical design, network implementation and deployment of private networks in the US and internationally (Canada, UK, Germany, Japan and Brazil.) Prior to joining CFN Services, Wil held architecture and engineering positions involving both RF and optical networking at Procellux, FiberTower, XO Communications and Verizon. Wil has an MBA from Babson College and a BSEE from the University of Massachusetts at Amherst.

COCKTAIL RECEPTION