

CEP03 – Brad Bailey, Aite Group (part 1)

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**Announcer:** Hello, and welcome back to "The Complex Events Podcast", brought to you by Voices in Business and sponsored by BEA Systems. Today, Brad Bailey, Research Analyst with Aite Group, joins Vicki Zesses of Voices in Business and Ross Hamilton and Daniel Chait of Lab49 to discuss recent trends in Complex Event Processing. Brad shares his thoughts on the trends that occurred during 2007, where early adopters of CEP used it as a solution for strategy and algorithmic trading.

Moving into 2008, Brad believes that a sea change will occur, where CEP will be used to manage the overwhelming amounts of data flowing into the market from the dual forces of ever increasing volumes from algorithmic trading and the new regulatory regimes of Reg NMS in the U.S. and MiFID in Europe.

**Vicki Zesses:** Today, with us are Ross Hamilton, Director of Client Engagements at Lab49; Daniel Chait, Managing Director and Co-founder of Lab49; and Brad Bailey, Senior Analyst of Aite group, a Boston-based research and advisory firm.

Ross, let me hand it to you to kick off.

**Ross Hamilton:** Thanks, Vicki. Hey, Daniel.

**Daniel Chait:** Hey, Ross.

**Ross:** How are you doing?

**Daniel:** Good, thanks.

**Ross:** Good. Why don't you tell the audience a little bit about yourself and why what we do at Lab49 is relevant in this CEP space and capital markets.

**Daniel:** Sure. Again, I'm Daniel Chait, Managing Director and one of the Co-founders of Lab49. We're a consulting company that builds custom new applications within financial services. A lot of what we focus on are areas where interesting new technologies are creating opportunities for firms in the space to invest in systems that can provide them with a competitive advantage.

Certainly, CEP is one of those areas that we've seen a tremendous amount of adoption in, and we've partnered with a number of the firms in the space. We've seen a number of

customers who've been building systems on top of CEP. So, we've really got a lot of firsthand insight into what people are doing.

**Ross:** Great. Hi, Brad.

**Brad Bailey:** Hi. How are you, Ross?

**Ross:** Good. Why don't you tell everyone a little bit about yourself and the work that you and your group have been working on?

**Brad:** Absolutely. I'm a Research Analyst at the Aite Group. We're a Boston-based advisory firm. We do a lot of work around the capital markets vertical. We've been looking at the evolution of electronic trading and various aspects of the trading infrastructure.

We spend a lot of time developing relations between market structure and the technology, as well as the regulatory and technology that evolves. We became interested in the CEP space quite some time ago, and I've been looking at its rapid rise, and the implications that it has in a number of areas in the capital markets.

**Ross:** So, you've been looking at it both from the business side as well as the technology side.

**Brad:** Absolutely. Primarily, our clients are various types of buy- and sell-side institutions that are looking for solutions in a very challenging technology environment.

**Ross:** What general trends have you been seeing during your analysis over the last few years with respect to complex event processing and capital markets?

**Brad:** When we first became introduced to it, a lot of what we saw was around specific applications: around trading (strategy trading and algorithmic trading). Since that time, there have been parallel tracks evolving. One is the overwhelming amount of data from the new market structure--I'll call it the new market structure, or the new regulatory regimes--that has been put in place here in the U.S. and Europe, as well as the rise of electronic and algorithmic trading. It started in equities, but it's spreading to a variety of asset classes. CEP is something that people are looking at as a solution to this overwhelming wave of data that people are dealing with.

**Ross:** Yeah, it's very much looking at the technology innovation and how that can be leveraged for these advances in the marketplace.

**Brad:** Absolutely.

**Ross:** A question I did have was, we've certainly seen the buy side driving a lot of that innovation--is that something that you've seen as well?

**Brad:** That's part of a very interesting trend. One of the bigger trends that has existed on Wall Street in the last several years is the buy side taking control. Whereas several years ago, say, putting in an order in an equity market was very much a function of connecting with the sell side, putting that order in. The buy side has taken that responsibility, whether it means developing or utilizing an algorithm that's provided to them or something they develop.

But it really is a much bigger responsibility for maintaining the best execution for their clients, for the buy side's clients, for maintaining the compliance that is in place for searching out liquidity in a very fragmented, and continually fragmenting, equity market here in the U.S.

**Ross:** Of the people you've been talking to, how many market participants would you say actually know about complex event processing and/or are trying it out for real?

**Brad:** That's a great question. I think there's been a sea change. One of the first major reports we put out on the space was a year ago, specifically looking at the general picture. I think that over 2007, as these challenges came and people in various parts—business-functions, trading heads--various people on the business side, as well as IT folks, trying to understand how to solve certain solutions, I think there became much more awareness around CEP.

At this point, I think by and large that most of the large sell-side institutions and most of the technology savvy buy-side institutions, whether they're hedge funds or traditional asset managers, are quite aware of this. I've been talking to a more and more diverse group.

I think over 2007 there have been some major initiatives by some of the real innovators to think about how they can leverage this technology to give them an edge in speed to market with products, taking in all the data and looking at how things are evolving in a quicker way.

**Ross:** And presumably looking for more complex and subtle opportunities in the market place, as well. It's the complex part of the event processing, right?

**Brad:** Absolutely. When we look at that and just look at one proxy: the amount of capital that has been allocated to quantitative strategies of various timeframes, some of which have very short temporal/time ranges for very short opportunities, where they constantly have to evolve these strategies.

The amount of money has driven tremendous competition for these opportunities, whether the timeframe is very short, medium or longer term, and I think that has driven a lot of people to think, "How can we get a model in place? Can we keep this model operating and tweak it to work?"

**Ross:** A lot of it is about how adaptive these algorithms can actually be to changes in the market conditions.

Daniel, what has been your experience in that regard?

**Daniel:** I definitely agree with Brad's characterization. I would say that at the beginning of 2007, it was really very much an early adopter kind of technology. Here in the beginning of 2008, it's crossed the chasm.

What I've seen is that the early adopters who were on board at the beginning of 2007 with their initial point solutions in algo trading or some other particular application, have now moved on and they're starting to consider it as more of an enterprise-wide platform for building a host application on top of. I'd say the vast majority of firms, the bulk of the industry, are now starting to look at those initial applications in some of the key driver areas like market data analysis and algo trading.

**Ross:** In terms of the trends of the market participants, the actual suppliers into this marketplace, what's been your view on the vendors themselves--how they've evolved and where they're coming from?

**Brad:** Certainly the initial catalyst and the point were specific CEP solutions around algorithmic trading, as we were saying. That's migrated from that point, the evolution of strategies, of algorithms for execution to very sophisticated techniques for sourcing liquidity, and we've migrated away from that to a number of areas in the front office.

I think, as Daniel was just saying, that when you look at what the vendors are offering, various point solutions that are still doing quite well, I think those point solutions were specific, say, in equity.

That has evolved to different asset classes as electronic liquidity is available in these other asset classes. I think one of the big things that I saw over 2007 was, as Daniel pointed out, that we have all these point solutions, and we've seen various desk heads and specific desk IT people looking there trying to use CEP. Then it's gone up to an enterprise level, where we're building this functionality for equity, why can't we template out and build something that can be used by equity, by FX, by options, and possibly certain parts of fixed income?

**Ross:** I guess there is a natural question there, for both of you, is, do you really see this stuff being adopted across the enterprise, how "early stages" is it? And as a second part question, is, what are these enterprise architects really looking for in the modern trading rooms, in terms of the infrastructure that might complement CEP technologies?

**Daniel:** I will let Brad answer the first part, as far as where it is being adopted, how quickly is it moving to an enterprise level from a desk level. To the second point, what are architects and what are developers looking for from these systems? I think as they have started to become more prevalent and people are starting to do more sophisticated

solutions on top of them, they are starting to see a lot of the same kind of things that they want from the rest of their application development stack.

So they want a better debugging. They want ability to host simulated development, testing as well as production systems, that parallel each other very closely, but that will let you plug in different external data sources and providers. You are starting to see more user oriented tools, such as dashboards, and other kinds of simple Excel interaction, web-based dashboards, kind of quick builder type toolkits to let sophisticated business users take advantage of the functionality without having to involve IT.

**Ross:** Right.

**Brad:** Absolutely. Just before I go to the first point, certainly around as we looked, people have been investigating this, early adopters. I think one of the driving forces is, several desks will come and say, we want to use a certain software. And it led to various types of testing and thinking about how to leverage resources better in the actual acquisition of technology.

I think some of the other things regardless of what they are doing or the ease of integration, trying to integrate various parts of the firm, because I think some of the challenges that people have seen in certain parts of this, and maybe we can talk specifically around the market data infrastructure and how -- I mentioned briefly about the challenge in 2007 saw a rapid acceleration of that data.

Systems were overwhelmed. Systems were red-lining, we could say. And people were thinking, how can we quickly use this more data, all the ancillary data that is associated with algorithmic trading, all the cancels and modifications of orders. How can we look at this information, the various liquidity sources, how can we actually just monitor what is happening?

**Ross:** One of the other problems, of course, is some of the regulatory things like best execution. The need to store and save, and record the supporting data to these transactions, is a big deal, right?

**Brad:** There is a lot of that data. That is then, doing that inline has been a real challenge. In other words, getting that as it is coming in, any type of pre-trade analytics, pre-trade compliance, using that data both for storage, and that fits very much into - we are now going into almost a year of trial, six months or so of Reg NMS, and MiFID has come into play in Europe.

I think we are very much in early days in MiFID, in terms of how various institutions across asset classes, a broad based initiative looking at how in various firms are going to show that they are doing best execution. And the landscape is changing.

If you look on the equity side in Europe, there is tremendously interesting initiatives around creating order books across various venues. Fragmentation of liquidity has

already started. It will be interesting. There will be a certain phase lag between what's been evolving in the US and in Europe, but I think things will happen faster in Europe, because it is the second time around.

**Ross:** One of the things we actually talked about in our previous podcast, was this whole dynamic between innovation and advancing trading systems, versus control systems. So things like, being able to know what your market and credit risk is. Obviously credit has been a big deal in the last year, in terms of your exposure to counter parties, and how you actually understand the dynamics and the makeup of your credit portfolio.

**Brad:** That's an absolutely excellent point. I would say that when you look at -- something else we haven't really mentioned yet, but I think it is extremely germane, very topical, when you look, despite a lot of conversations around risk management and the control of risk, credit risk, market risk, some specific technologies evolved on the desk level, but as you broaden that out to enterprise level, to see the various risks that exist, I think some of the events of '07 have shown that this could be an area of improvement.

Some major firms have discussed this. We have some interesting things happening on the real time risk analytics. CEP will play a pivotal role in that, if you pick an area of supreme importance for 2008, CEP's place in real time risk analytics.

**Ross:** A question for you Daniel, just going back, related to risk and specifically the operational risk, being able to keep systems up and running, keeping people available in the marketplace, etc., and the importance that CEP we think will play in being available and competitive in the marketplace: How mature are these products? The CEP vendors themselves, how good are they to do some of these things that they are going to be used for?

**Daniel:** They are getting better. They are starting to be seen much more by themselves as well as by their customers as capable enterprise class of high-availability systems. So they are incorporating things like failover and redundancy. They are incorporating things like authentication and integration with those kinds of systems too, that we need.

So certainly from a standpoint of keeping the systems up and running, and competitive in the market, they are really taking up that challenge, and I think quite seriously. At the same time, they play a secondary role in that same problem space, in building actual systems to do this kind of monitoring and some operational management processing.

CEP actually has an application there as well, and we are starting to see systems being built to do that kind of monitoring with these actual applications.

**Ross:** So it is a bit of a holistic approach, meaning these will be enterprise platforms for the big guys, right?

**Brad:** I think there is a lot of thinking in that way. When you look at where we are, this is emerging technology. It has come a long way, and we have seen some real validation

just by some of the major players that have come into this space.

When you look, for instance, at last spring BEA came into the space. I think there was a lot of excitement around that, a major player with a very large footprint in the middle and back office, coming into the Complex Events Processing space.

IBM had initiatives just this week. Just yesterday they acquired Absoft, which is a very interesting CEP vendor. And of course, Oracle will now be taking over BEA. It is very interesting when we see what this is going to mean as part of a very holistic large software type...

**Daniel:** Absolutely, And at the same time, you have seen a tremendous blossoming of innovation from some of the smaller and more nimble companies in this space too, who really pioneered a lot of this technology, and I don't think they are standing still either. So it would be interesting to see, in 2008 and beyond, how the competitive landscape changes and whether the numbers collapse or continue to...

**Ross:** I think that's always the challenge of innovation of the startups and emerging companies against the standardization, and the platform approaches of maybe some of the larger players, right?

**Announcer:** That was the first part of an interview with Brad Bailey of Aite Group. Brad was speaking with Daniel Chait, co-founder and managing director of Lab49, and Ross Hamilton, the company's Director of Client Engagements. Hosting the interview was Vicki Zesses of Voices in Business.

The next episode of the Complex Events Podcast will feature the second part of that interview. For more information on Aite Group, Lab49 and BEA Systems, who are sponsoring this series, go to our website, [www.complexeventspodcast.com](http://www.complexeventspodcast.com), where you will find details of how to subscribe to the podcast, and how to get in touch if you want to leave comments or feedback.

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