

# Getting complex

New interfaces are making CEP more widely accessible.

Words: David Bannister

**There is something about the outer reaches of technology, where much of the innovation is driven by academically-minded or technically curious people: the inhabitants tend to know each other, know each other's work, and have strong points of view.**

This is certainly the case in the world of complex event, or stream processing, which has rapidly come under the spotlight over the past few years as an increasingly mainstream approach to dealing with the large volumes of high-frequency data that are generated in the capital markets.

Part of the reason that CEP has risen to prominence is that the marketing industry has jumped on the bandwagon, and any analytic application capable of calculating moderate matrix manipulations was being branded as CEP.

High up in the Technosphere, this was greeted by the Keepers of the True Flame as risible, and they turned their attention to being rude to each other and concentrating on the religious schisms of their faith.

On the blogs, harsh words were being bandied around and positions were being struck.

A year on, things seem to be sweetness and light among the main players, though there are more claimants to the CEP throne and the hype has not died down.

What has changed? Nothing that special, say participants, just that a new level of maturity has overtaken the market and there has been a realisation that there is plenty of room for everyone.

Looking closer, it is clear that there is one area that has changed, and it is probably the thing that is going to be responsible for more sales of real and

so-called CEP systems than any marketer could dream of: they are getting easier to use.

Not so very long ago, CEP was a seriously techie area and to implement systems required a great deal of expertise. This is increasingly no longer the case.

"Some vendors have put a nice GUI on the front and it has become more accessible," says Simon Garland, chief technology officer at Kx Systems. "That has moved the whole thing closer to the trader, so they can develop applications more quickly. It is certainly a good thing."

Mark Palmer, who recently joined StreamBase as president and chief operating officer, was one of the high-profile figures in the vendor and systems religious wars when he was general manager of StreamBase's rival, Progress Apama.

His appointment at StreamBase earlier this year attracted a not-surprising level of attention, not least because he'd seemed to attack his new company very publicly during his time at Progress Apama.

"Hilarious ... I wonder what Mark thinks of StreamSQL now?" wrote one blogger on the Complex Event Processing Blog [thecepblog.com], referring to Palmer's outspokenness in his earlier incarnation.

In fact, Palmer had been on sabbatical from Apama for the best part of a year and when he decided to return to the industry, he says that a lot of the religious fervour had gone out of his thinking.

Replying to the blog mentioned earlier, he wrote, "... just for the record, I never actually said SQL was bad/wrong. I was consistent simply in stating that there were many valid ways of expressing a CEP language, SQL was

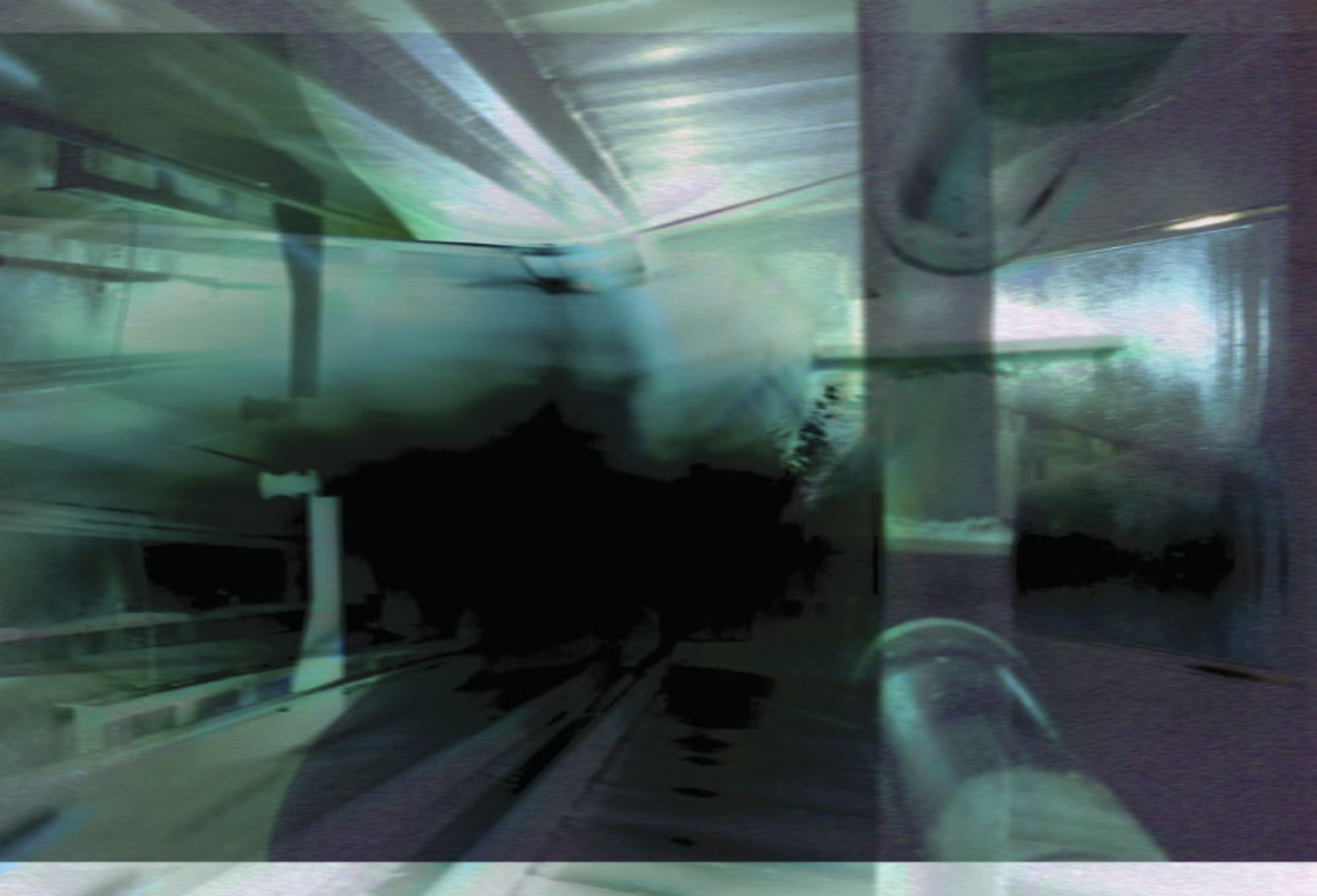
one of them, and objected to the notion, often pushed by StreamBase, that SQL was pre-ordained to be the obvious choice/standard. I still hold the same opinion."

That said, he also says that the fact that StreamBase uses the widely-known SQL query language upholds Garland's point that CEP is becoming easier to deploy, and that this is a good thing. "People used to write in assembler language, but we've moved on," he says.

Two things are driving this, according to Palmer: the first is the ease of use argument; the second is more general. "CEP is expanding, into other areas of capital markets, such as the back office, and into other industries," he says.

"It is interesting that CEP was chosen by the Financial Services Authority for its anti-fraud systems," he says. "True CEP is essentially pattern-matching within the stream."

This fact is also making CEP attractive outside the capital markets industry, or the financial sector more widely. "Capital markets has the right attitude and culture to adopt new technology just to get a market edge, but CEP is not just for time-series data, as sometime people seem to think."



That said, the new easy-to-use CEP systems bring another benefit that relates to Garland's point about moving development closer to the trader, which is the reduction in time to market with new applications. "It used to be about feeds and speed, but now it comes back to the interface and how that can give you a development window that means that you can be making alpha sooner," says Palmer.

Traditionally, if that's the word, CEP is often linked to algorithmic trading, but it has applications beyond that. On his StreamBase blog [streambase.typepad.com], Palmer writes: "What's new and different is the wide variety of use cases, far beyond algorithmic trading: crossing engines, real time P&L, smart order routing, more generic, supporting applications in the trading space like trade signalling, alerting, and monitoring ... market data cleansing and optimisation. And, since StreamBase has historically been a horizontal, general purpose platform, the applications outside capital markets in the government space, such as intelligence and defence applications, are fascinating as well."

He continues: "The core value of CEP is that it empowers business users.

Graphical tools allow a business analyst, or even a pure business person, to quickly express their "secret sauce" – their knowledge of how they might best react and capitalise on changing business conditions. CEP empowers business users to make better decisions, more quickly than ever before, more quickly than their competition, and more intelligently than the next guy."

There remain dangers that there will be users caught up in the hype, and that some will get their fingers burnt playing with more complex systems than they ought to, or having too much faith in systems that they don't fully understand.

"For a second tier hedge fund with no IT expertise, it is going to be snake oil," says Garland. "You should be excited by the possibilities of the technology, but you have to be careful if you're not a sophisticated shop."

On a wider scale, there is the possibility that the ease-of-use of CEP could lead to complacency in the way models are created and used, particularly regarding risk.

"For a long time, people said that you needed complex models to calculate Value at Risk because there wasn't enough volatility in the market

to use naive models, but the last six months have seen more than enough volatility for everyone, and you can now use naive models," says Garland.

With GUIs and other ease-of-use features of the modern CEP environment, that means that there will be people who develop such models and start to base their business decisions on them.

"What then happens in six months or a year, or whenever the volatility goes back to previous levels?" he asks. "People aren't going to go back, and that will mean that their models are not working the way they think they are."

It's an important point, and one that the business side should pay attention to as their traders and risk managers develop the increasing enthusiasm for CEP implementation that flows from the ability to glean business advantage.

"I'm seeing customers quickly imagine, express, test, deploy, and evolve their most innovative ideas, ideas that can help them better understand and react to what's happening now while the opportunity to seize the advantage still exists," he says. "That's an important answer to the question: 'so what?' And I'm finding it's an answer any business person can appreciate." **bt**