INFLUENCER

Man of events

For the first year after David Luckham's book, *The Power of Events*, was published in 2002, it did what most technical books do: disappeared into the academic ether. The publishers, he says, didn't promote it at all, and its technical nature put it beyond the reach of most readers.

As a result, it looked like the 'event-driven revolution', of which the Stanford University Emeritus Professor is the leading and most passionate advocate, would be postponed for a few years more.

But then, in mid-2003, two important US technical journals gave the book highly positive reviews, and interest began to grow. Sales began to rise, at first slowly, then dramatically. Luckham started to see one or two people reading it on airplanes, software companies started to order 30 or 40 copies at a time, and analysts began to cite his work. "It's not a bestseller like JK Rowling," he says, "But it seems to have become a cult book."

As a result, Luckham, who has been both a distinguished academic and a software entrepreneur in his long career, has suddenly found himself the centre of attention, enabling him to embark on a new career. Speaking and consulting invitations have poured in, and he has found himself now advising both established and start-up software companies on what they must do to ensure that their products are able to exploit or drive the emerging world of Complex Event Processing (CEP).

This is important for them and for their customers, Luckham believes. CEP is technically complex if done properly (which it sometimes isn't), but Luckham argues it will deliver huge business benefits across all kinds of industries. "This is the next step in software. It has to happen," he says.

Luckham is not alone in this belief. At recent conferences, the Gartner Group has described its slant on CEP – the Event-Driven Architecture (EDA) – as "the next big thing" in software, and has advised its clients to start preparing for it now. It warns that a huge wave of hype around EDA is about to break as suppliers rush to embrace the technology and the vision. As they do so, they will undoubtedly turn to Luckham's book for a grounding in the design principles.

The Power of Events is based on years of research work at Stanford and two years as CTO of a software start-up working in the field. The book is a technical manifesto for CEP – the ability of systems to recognise and respond to complex, inter-related events in real time.
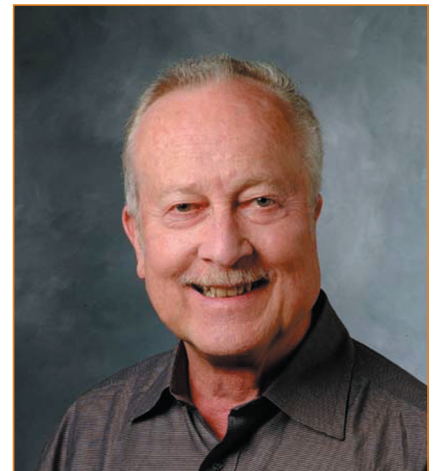
Luckham has spent 22 years as a Professor of Electrical Engineering at Stanford, and many years before that doing ground-breaking work at Harvard, Stanford, UCLA and MIT. But his presentations, and the first half of his book, at least, are in plain English, full of clear examples of why CEP will soon be so important.

Luckham's interest in this field goes back a long way. During the 1970s, he was funded by the Defense Advanced Research Projects Agency (DARPA) as a lead developer for the robust, object-oriented programming language Ada. Not only did this enable him to develop compiler technology with which he co-founded Rational Software, but he first began to design defence systems that could react quickly to events.

This eventually led, many years later, to the creation of Rapide – a high-level modelling toolset for building systems that can recognise complex patterns of events. Although this was originally developed for simulating integrated circuits, one of Luckham's conceptual leaps was to apply it to distributed enterprise systems. A perfect platform, for example, was Tibco's publish-and-subscribe integration bus.

Luckham stresses that CEP is not exactly the same as EDA – the Gartner term that describes an underlying infrastructure that has the capability to distribute and manage event information. CEP concentrates on ordering and making use of complex patterns and hierarchies of event information once it becomes available.

Already, dozens of software companies are working in the field. But Gartner stresses that only one general business application area – business activity monitoring (BAM) – can so far really be described as a form of CEP. Luckham sees BAM as a beginning of commercial CEP development with more sophisticated uses of CEP to come further down the line.

From its deeply technical background, EDA and CEP is about to hit the corporate mainstream. Luckham, in conjunction with Roy Schulte, the Gartner Group analyst who coined the term EDA, have slashed the time they think it will take for a radical new event-driven architecture to take hold in the business world at large. "At first, progress was slower than we expected. Then it was faster. Now we think it will it take six to eight years." And their advice is to start planning for it now. ⓘ

• *David Luckham is the keynote speaker at Information Age's XML and Web Services conference in London on 29 & 30 September 2004. To register for a free place, visit* **www.xmlwebservices.co.uk.**

Stanford University Emeritus Professor **David Luckham** has spent decades studying event processing. Now the importance of his work is being recognised.

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