

## Event-Driven Applications Deliver Agility to Enterprise IT

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Events are the fabric of business activity and of the daily life of individuals, yet most computer systems that model business processes have not focused on them, until now.

## ANALYSIS

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That you viewed this document is an event. It may be an irrelevant event or an event of note. If you are the thousandth reader to view this document in the last minute, an alert may be sent to the webmaster to elevate the document status. There are a countless number of events occurring in the real world every second. Only some of these events are of note in any given context. In business, a change in the state of the business is always a notable event, *although it is not always captured*. Some events require immediate attention; others are an indication of normal business operations. Capturing the events as they occur and interpreting their meaning in real time are the key capabilities of a real-time enterprise. With the increasing government regulation of business practices and new security requirements, monitoring events becomes not only a good competitive practice, but also a legal requirement.

Attention to notable events is essential for the survival of any business. Yet, computer systems are rarely deployed to help in monitoring and analyzing business events. Most computer systems are designed to help users document — after the fact — the events that occur in the real world, but they leave it to people to monitor and diagnose business events as they occur. (In contrast, at a more technical level, monitoring computer networks or keyboard actions is almost always based on the event model.)

In recent months, we have devoted a lot of our research to service-oriented architecture (SOA). SOA is a powerful way of designing composite and multichannel applications. However, as enterprises look for the increasing integrity and agility of a real-time enterprise, they will inevitably discover (and some have discovered this already) that, as powerful as it is, SOA alone is not sufficient to model the real-time operations of a business. Events are not services.

Some event-enabled infrastructure is already deployed in nearly all enterprises: integration brokers, message-oriented middleware, application servers — all are equipped to support simple event processing (using messaging and publish-and-subscribe middleware models). However, most enterprises do not recognize that the reality of business operations is as often event-driven as it is service-oriented; most software developers are not familiar with event-style programming. As enterprises run into the limitations of SOA, they will turn to the architecture of events to complement and enhance their software environment.

Event-based software architecture has great synergy with the patterns of the real-world business processes and, in combination with SOA, will be a solid foundation for the next-generation real-time application infrastructure.

Roy Schulte leads a team of Gartner analysts in introducing the field of event-based systems to Gartner's readers (see "The Growing Role of Events in Enterprise Applications"). This breakthrough set of research defines the architecture of events, compares it to service-oriented and other architectures, and looks at the business impact of events, as well as the growing interest in event processing by technology vendors. Events are not new to software systems, but the new business requirements and new technological conditions make them more essential and more accessible to a mainstream enterprise. As with the publication in 1996 of Schulte's research introducing message brokers, publication of this Spotlight is likely to set the stage for a new line of research at Gartner and beyond: a notable event in its own right.

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