

Event Processing Market Pulse 2007

Funding for ebizQ's survey on Event Processing was provided by BEA Systems.

EXECUTIVE OVERVIEW

Over the last 6 months, the buzz around event-driven architecture has been increasing in both practitioner and vendor circles. Unlike many emerging technologies that are hailed as all encompassing replacement strategies, event-driven architecture is most often viewed as a complement to today's most popular enterprise strategies – service-oriented architecture and business process management.

To get the practitioner's point of view on event-driven architecture adoption and the state of the event processing market, ebizQ conducted an online survey during July and August 2007. This paper shares the results of the Event Processing Survey, along with ebizQ's observations on this emerging technology strategy.

The survey results revealed that while only 16% of respondents have event-driven solutions in production today, that number is expected to more than double in six months to 38%, and nearly quadruple in a year to 63%. The two-year outlook shows 90% of respondents having event-driven solutions in production.

Organizations are planning and employing event-driven solutions to provide real-time business activity monitoring, operational efficiencies, logistics management, management by exception and supply chain management.

Although the survey projects wide-ranging adoption of event-driven architecture, organizations are not relying on event-driven architecture to be their sole technology strategy. Over 70% of respondents are designing their event-driven architectures in conjunction with service-oriented architecture (SOA), business process management (BPM)

It is clear from the survey that event-driven architecture provides direct, measurable business value, and the event processing market, while nascent, is real. The rest of this report details the survey findings and relates them to market observations.

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The Insider's Guide to
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RESEARCH METHOD

During the months of July and August 2007, ebizQ hosted a fifteen-question online survey on Event Processing. The survey was open for four weeks from July 23, 2007 through August 20, 2007.

ebizQ promoted the survey to its members on its website and through newsletters and email blasts. Survey participants were eligible to win an iPhone. In addition, all survey participants received a notification of the availability of a white paper containing the survey results.

The initial minimum target for number of responses was 250, and we received over 400 responses to the survey. The survey data analysis was performed by analysts from ebizQ.

OVERVIEW OF RESPONDENTS

The survey population is comprised of 444 respondents from 33 industries. The top seven industries represented are computer services/consulting, software/technology development, financial services, computer manufacturing, insurance, federal government/military and telecommunications/utilities. Chart 1 depicts the respondent breakout by industry. The 'other' category aggregates industries with a representation less than 2 percent. This includes: agriculture/forestry, application service providers, automotive, business services, computer related retail/wholesale/distribution, construction/architecture, consumer goods manufacturing, data processing services, distribution, education, electronics, industrial goods manufacturing, legal, oil/gas/mining, publishing/broadcast/media, real estate, research and development lab, and travel/hospitality.

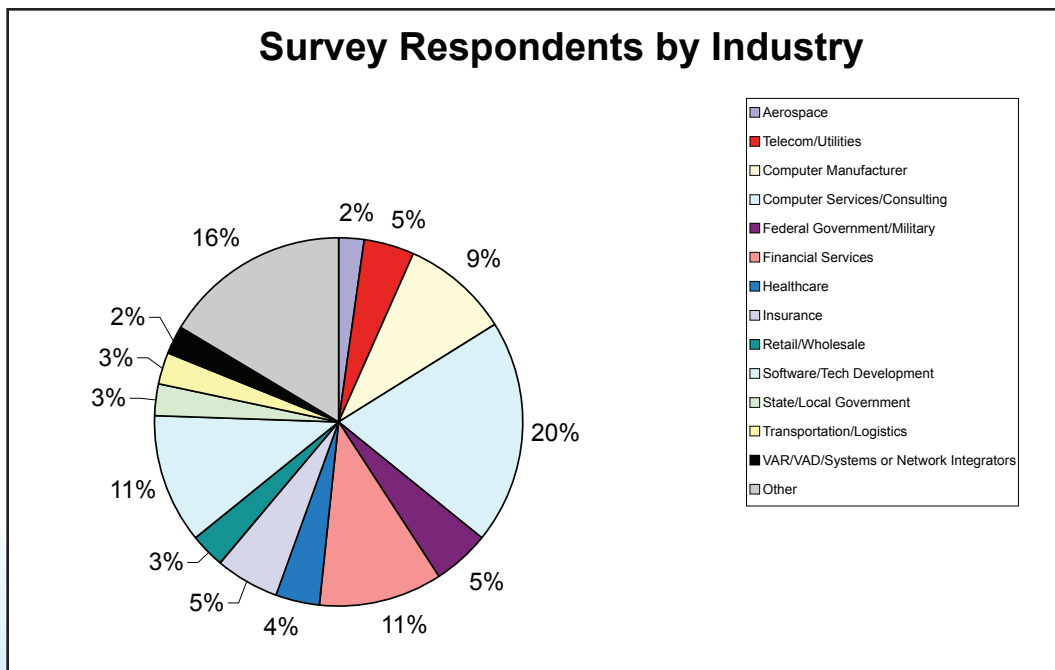


Chart 1: Survey Respondents by Industry.

CURRENT STATE OF THE EVENT PROCESSING MARKET

The Event Processing Survey was designed to assess the current state of the event processing market, and discover organizations current and future plans for employing event-driven architecture. The survey findings are reported in four categories: awareness, adoption, business alignment and technology.

Event Processing Awareness

Given the newness of the event processing market, the survey asked two general awareness questions. The first general awareness question asked respondents for their definition of event-driven architecture. The choices were:

- **Real-time event notification** – A business event occurs and those individuals or systems who are interested in that event are notified, and potentially act on the event.
- **Event stream processing** – Many instances of an event occur, such as a stock trade, and a process filters the event stream and notifies individuals or systems only about the occurrences of interest, such as a stock price reaching a certain level.
- **Complex event processing** – Different types of events, from unrelated transactions, correlated together to identify opportunities, trends, anomalies or threats.

As Chart 2 shows, the vast majority of respondents, 68%, indicated that event-driven architecture encompassed real-time event notification, event stream processing and complex event processing.

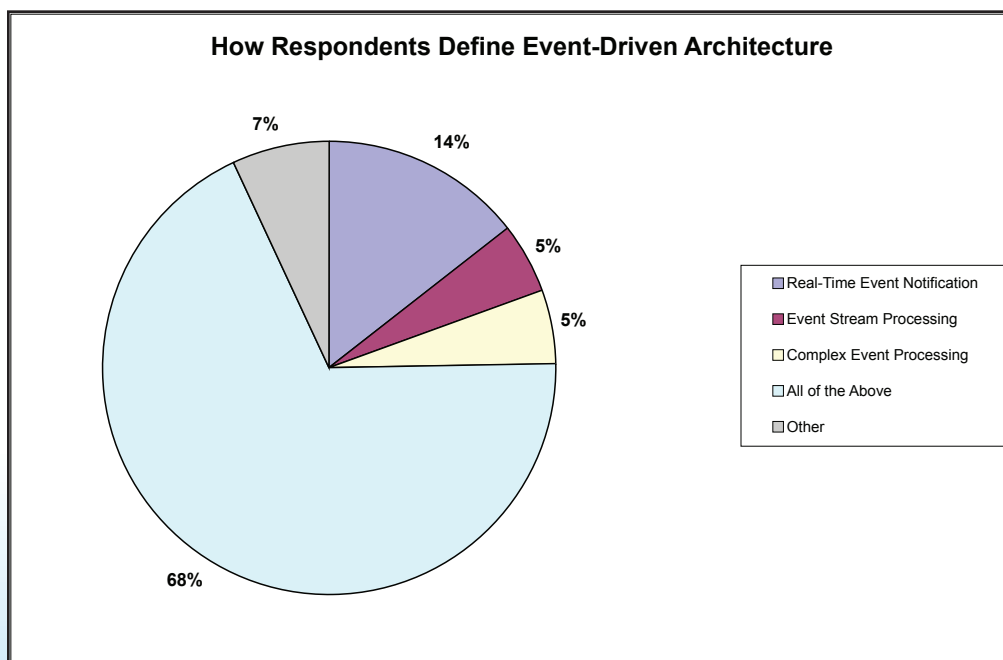


Chart 2: How Respondents Define Event-Driven Architecture

In the second general awareness question, respondents were asked to rank score the leading three event processing vendors out of a list of 24. The list contained the names of large application infrastructure vendors, event processing infrastructure specialists and event processing application providers. The event processing

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infrastructure specialists included two open source offerings.

Table A lists the 10 mind-share leaders. We calculated the position using a weighted scoring system, where a respondent's first place rank had more weight than a second place rank, and so on. The combined score of the top three vendors, IBM, BEA and TIBCO, was nearly double the combined score of the remaining 21 vendors. Of the niche event processing vendors, Progress' Apama was the clear mind-share winner.

Position	Vendor Name
1	IBM
2	BEA
3	TIBCO
4	Oracle
5	Microsoft
6	Apama (Progress)
7	Celequest (Congnos)
8	Streambase
9	Agent Logic
10	iSpheres (Avaya)

Table A: Top 10 Event Processing Vendors

Event Processing Awareness Observations

The strong agreement on, and chosen definition of, event-driven architecture bodes well for the future of the event-processing market. Respondents chose a definition that reflected the business lifecycle of events – occurrence, detection, handling and reaction -- rather than associating the definition to a particular product category, such as complex event processing.

At this early point in the event processing market, it is not surprising to see the big name application infrastructure vendors as top-of-mind in the event processing space. IBM and TIBCO have well established event-processing heritages, and BEA has recently announced a new event application server.

Over the course of the next 12-18 months, we expect the event processing specialists, such as Apama, Streambase and Coral8, to be more recognized. Beyond 18 months, natural market dynamics – merger and acquisition, technology partnerships, and competition – will *likely* reduce the candidate list from 24 to 12.

Event Processing Adoption

To gauge present and future event processing adoption, we queried respondents on current event processing efforts, future plans, the correlation of event processing initiatives to service-oriented architecture and business process management, and organizational barriers.

As Chart 3 illustrates, survey respondents are distributed across the event-driven solutions adoption stages, with the majority, 50%, in the investigative and technology evaluation stages. The percentage of respondents with no current plans to produce event-driven solutions, 25%, is equal to those with pilot projects or production

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solutions.

Industries with the highest percentages of production implementations, pilots and active technology evaluations include Aerospace, Computer Manufacturing, Federal Government/Military, Financial Services, Health-care, Insurance, Retail/Wholesale, Software/Technology Development and Transportation/Logistics.

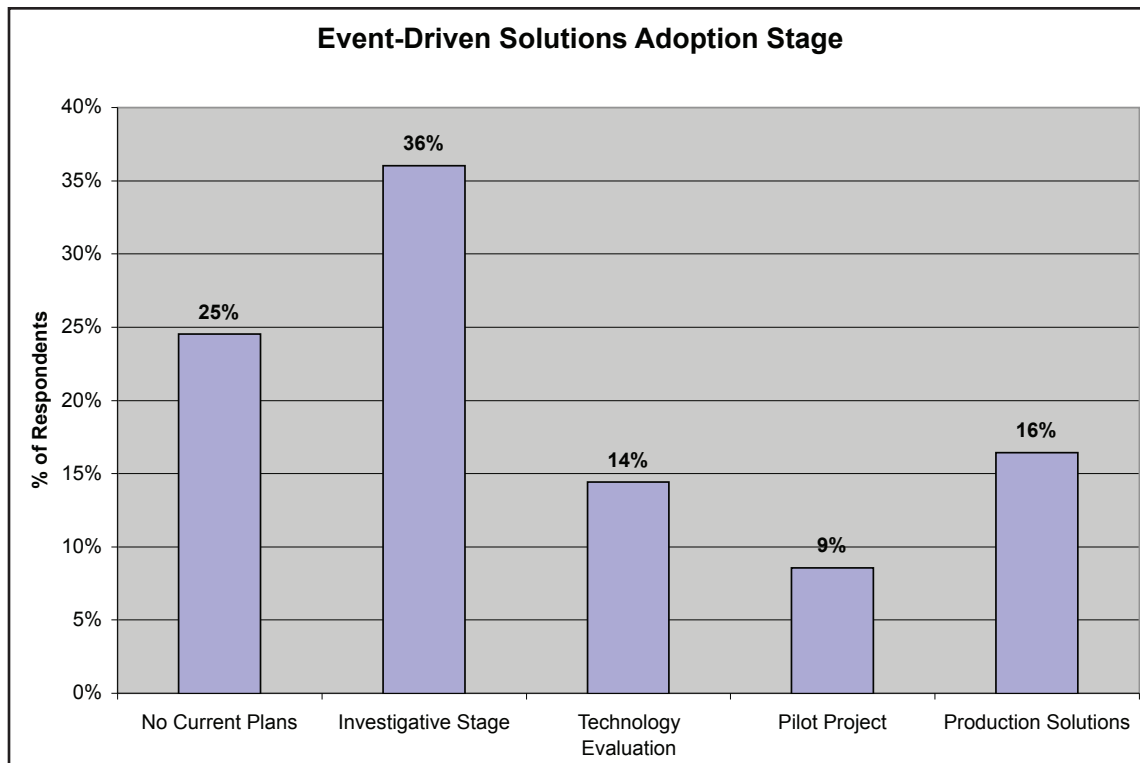


Chart 3: Event-Driven Solutions Adoption Stage

We were not surprised to see the wide range of industries that are early event-driven solution adopters. Although the most publicized event processing use cases are algorithmic trading and RFID based tracking, organizations employ event-driven solutions for common, fundamental business reasons, such as providing real-time visibility into business activities and creating operational efficiencies.

As Chart 3 shows, only 16% of respondents currently have event-driven solutions in production. However, as Chart 4 shows, a large number of respondents expect to implement event-driven solutions over the next 3-24 months. Specifically, the percentage of respondents with event-driven solutions is expected to more than double in 6 months to 38%, and nearly quadruple in a year to 63%.

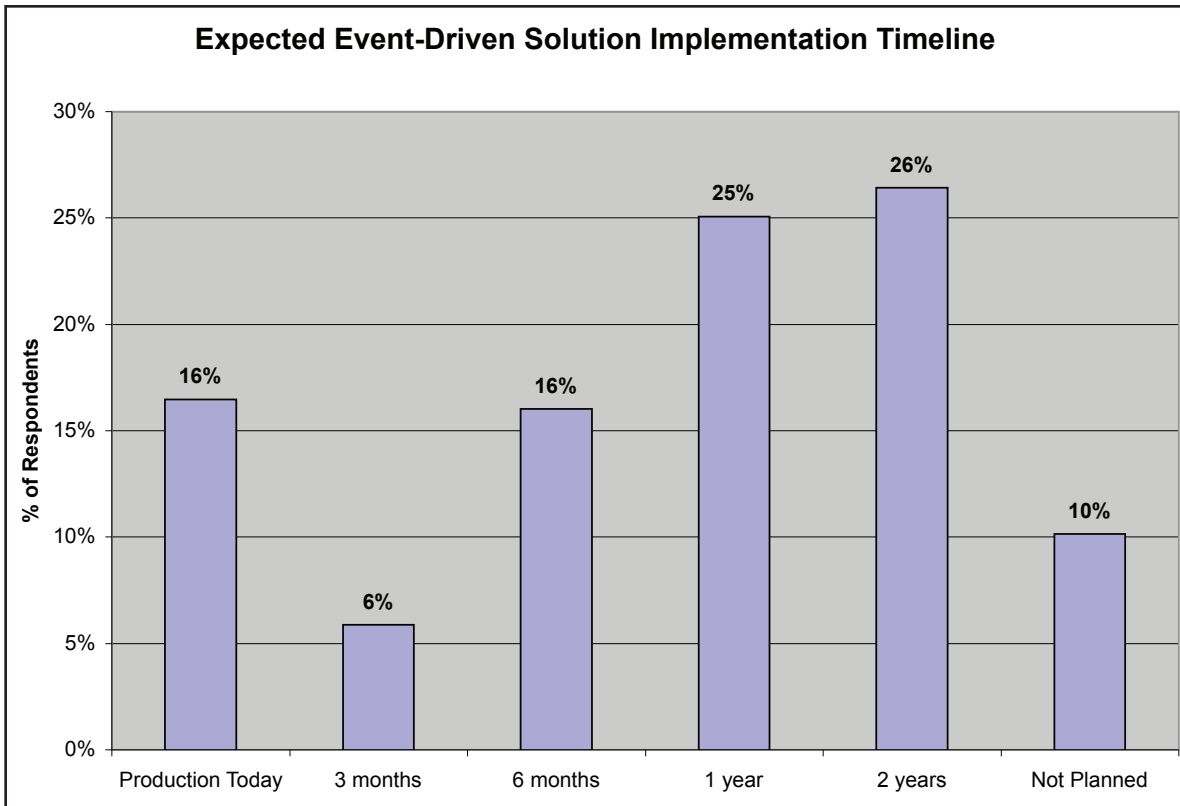


Chart 4: Expected Event-Driven Solution Implementation Timeline

Chart 5 stacks the individual timeline entries to show the cumulative view of production implementations over the next two years. In two years, 90% of survey respondents expect to have event-driven solutions in production.

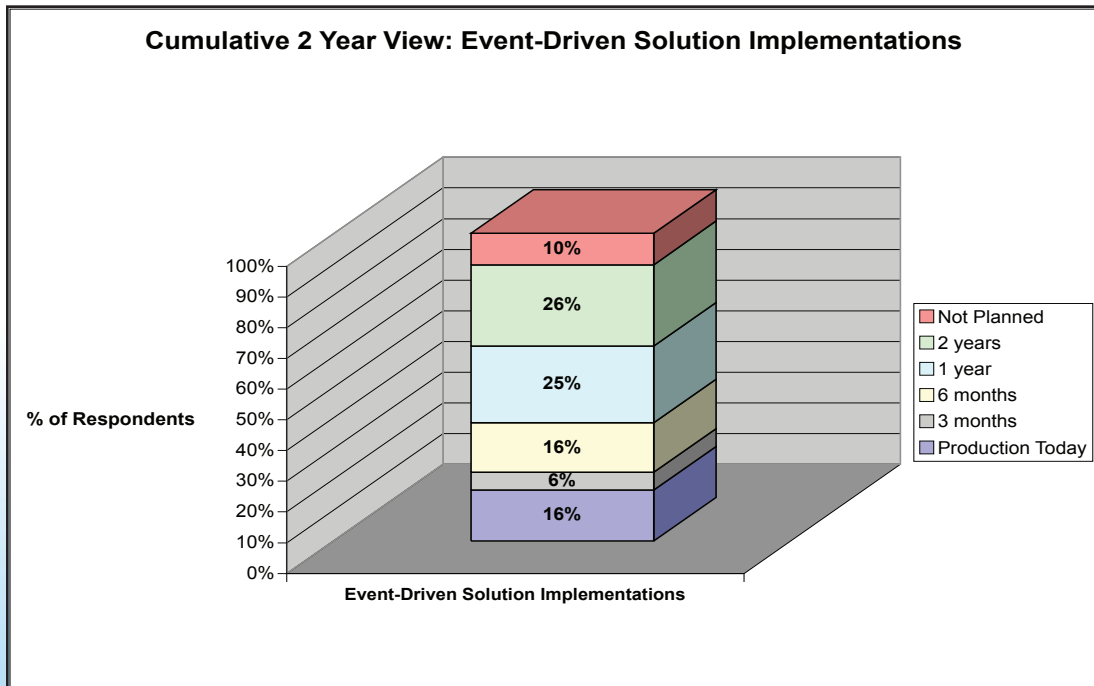


Chart 5: Cumulative 2 Year View of Event-Driven Solution Implementations

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While our survey results project wide-ranging adoption for event-driven architecture, event-driven architecture is not the only strategy that organizations are employing to deliver business solutions. As Chart 6 shows, over 70% of respondents are incorporating event-driven solutions into their service-oriented architecture (SOA), business process management (BPM) and/or business activity monitoring (BAM) initiatives.

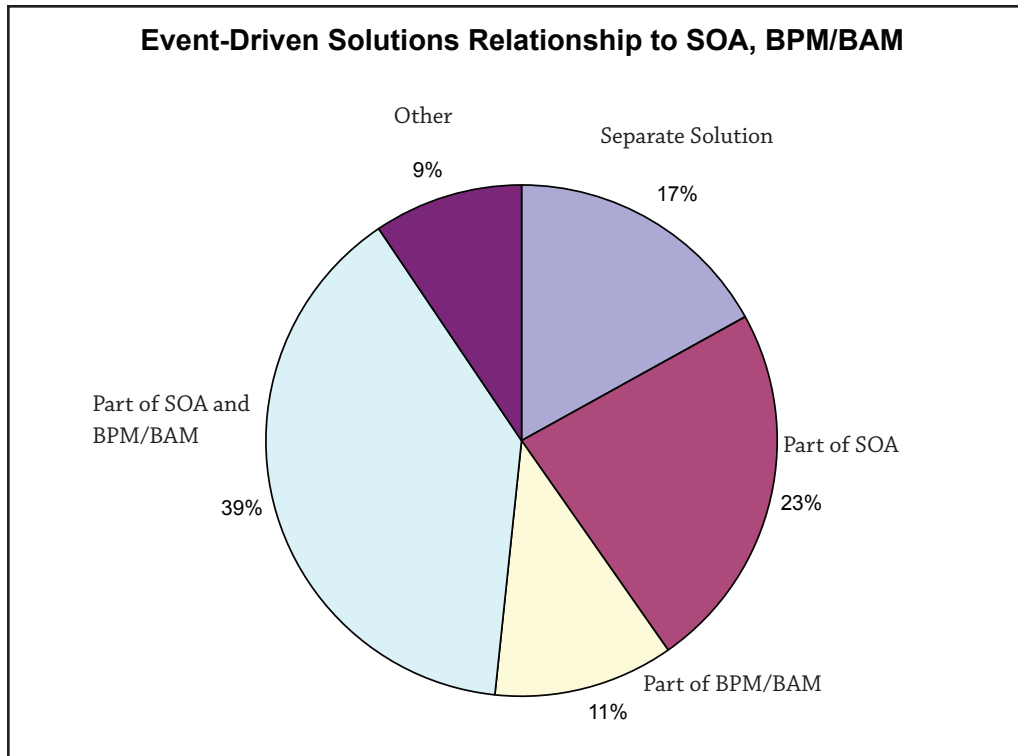


Chart 6: Event-Driven Solutions Relationship to SOA, BPM and BAM

This makes perfect sense. Real-world business scenarios are composed of processes, activities, services and events. In the specific context of event processing, business services and processes can be both event sources and sinks. Business activity monitors are typically event sinks that prepare information for human consumption. However, BAM applications can also be event sources, either directly, by outputting a new event as the result of event correlation and rule processing, or indirectly, as a result of a human interaction.

The “other” contingent on Chart 6 is mostly comprised of organizations still investigating the constituent strategies and the inter-relationships. One respondent indicated his event-driven solution provided extract-transform-load (ETL) functionality for a data warehouse.

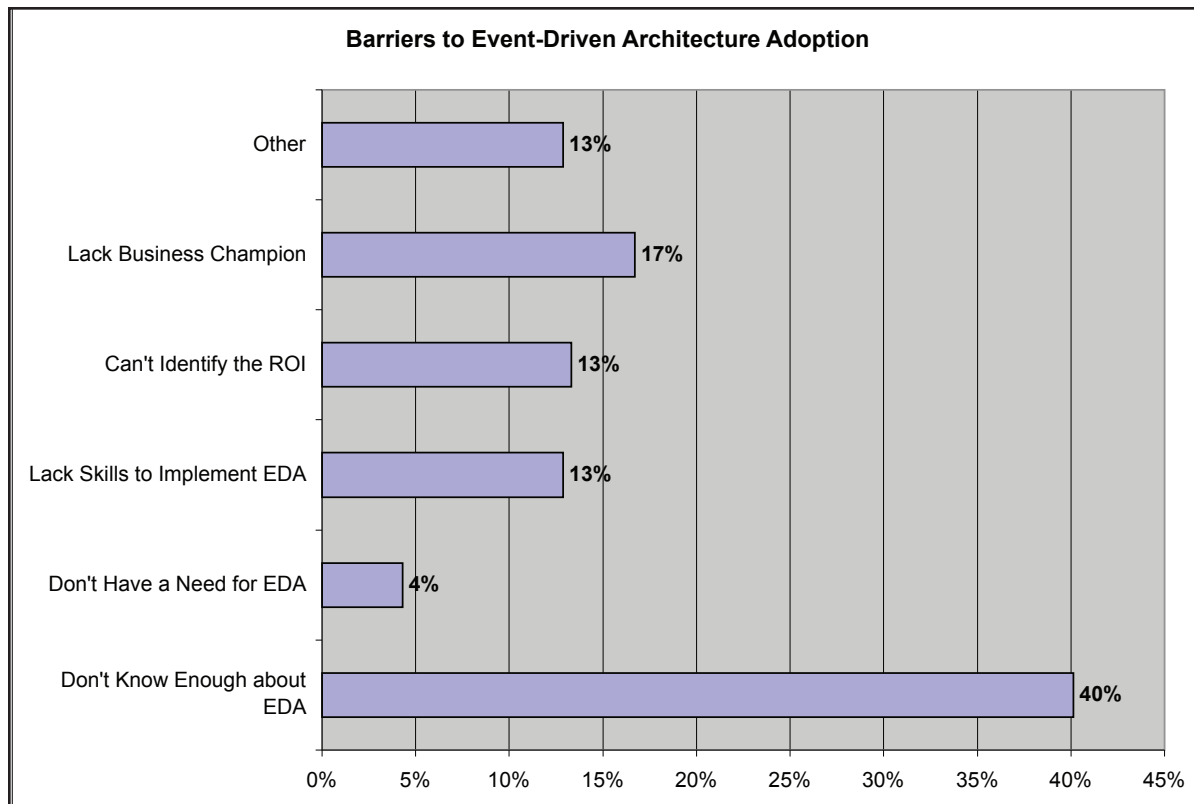


Chart 7: Barriers to Event-Driven Architecture Adoption

Finally, in respect to event-processing adoption, we asked respondents to identify barriers to adoption. As Chart 7 illustrates, 40% of the respondent population is facing the initial barrier, inadequate knowledge of event-driven architecture. Over the next year, as the body of knowledge on event-driven architecture increases, we expect organizations will face the next logical barriers, lack of skills and business champions.

Other barriers explicitly called out were budget and resource constraints, solution complexity, lack of value proposition awareness, and in two instances, lack of confidence in the available solutions.

Event Processing Adoption Observations

The survey results indicate that although event processing is still in its infancy, it is a real market that serves a multitude of industries. Twenty-five percent of respondents have event-driven solutions in pilot or production. Another 14% are actively evaluating event-processing technology. The two-year outlook shows 90% of respondents having event-driven solutions in production.

Event-driven architecture is viewed as a complement, rather than a competitor, to other emerging technology strategies such as service-oriented architecture (SOA), business processing management (BPM) and business activity monitoring (BAM).

Many respondents are still in an investigative stage and view inadequate knowledge of event-driven architecture as the greatest barrier. There is an opportunity for event-processing technology and service providers to educate, rather than hype, the marketplace to spur broader, successful adoption.

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Business Alignment

To understand whether event-driven architecture is perceived as a business enabler or just another IT strategy, we questioned respondents on event processing business drivers, budgets, champions, and measurements.

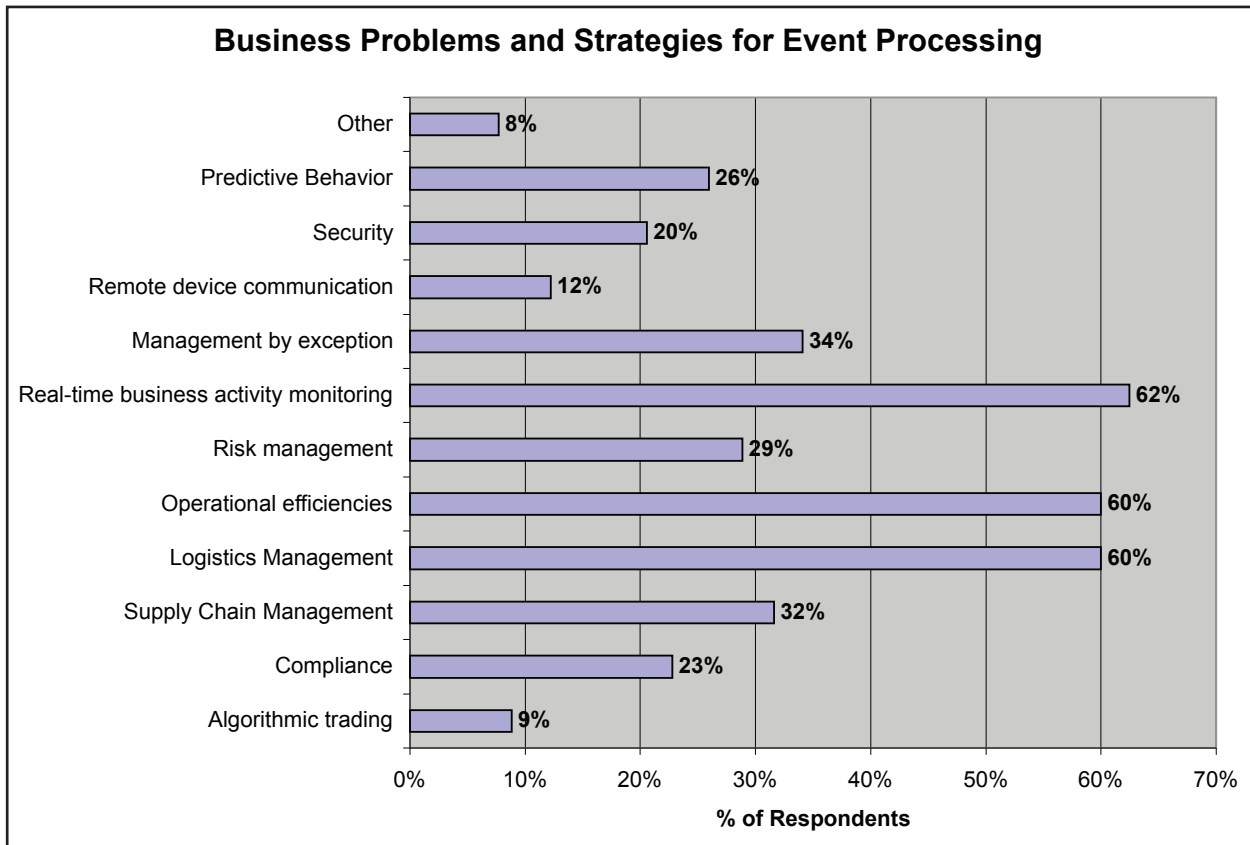


Chart 8: Business Problems and Strategies for Event Processing

As mentioned previously, the familiar use cases of algorithmic trading and RFID tracking are not the only business drivers for event processing. As Chart 8 shows, our survey respondents indicate the top five business drivers for event processing are real-time business activity monitoring, operational efficiencies, logistics management, management by exception and supply chain management.

Other business drivers cited were fraud detection, banking operations, customer service, telecom order processing and knowledge management and discovery.

Top business driver combinations are operational efficiencies and real-time business activity monitoring, management by exception and real-time business activity monitoring, operational efficiencies and management by exception, operational efficiencies and risk management, and supply chain and logistics.

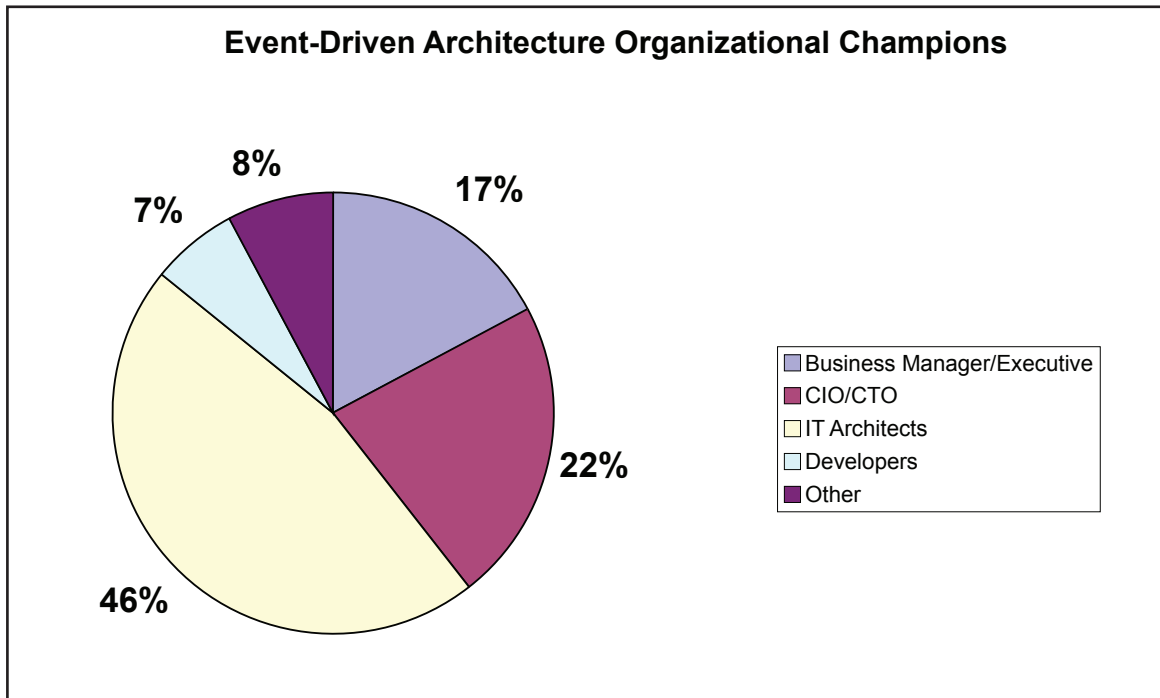


Chart 9: Event-driven architecture organizational champions

The primary champions of event-driven architecture reside in IT, typically in architect roles (46%) and to a lesser extent, executive positions (22%). As Chart 9 shows, IT champions outnumber business champions four to one.

From the champion data alone, one might assume that event-driven architecture is just another IT thing. However, the business driver responses above tell a different story. To gain a better understanding of the champion data, we correlated the responses with adoption stage. The result of that correlation is Chart 10. What we learned is, of the initiatives championed by business or IT executives, 47% are beyond the investigative phase, evaluating technology, conducting pilots, or running production systems. The bulk of initiatives championed by IT architects (43%) are in the investigative stage.

This indicates that IT architects are the early champions of event-driven architecture, but once the investigation is complete, executive support is garnered. With that executive support, either business or IT, focus shifts to business value generation. This finding is supported by two of the remaining questions in this section, regarding budget ownership and return on investment measures.

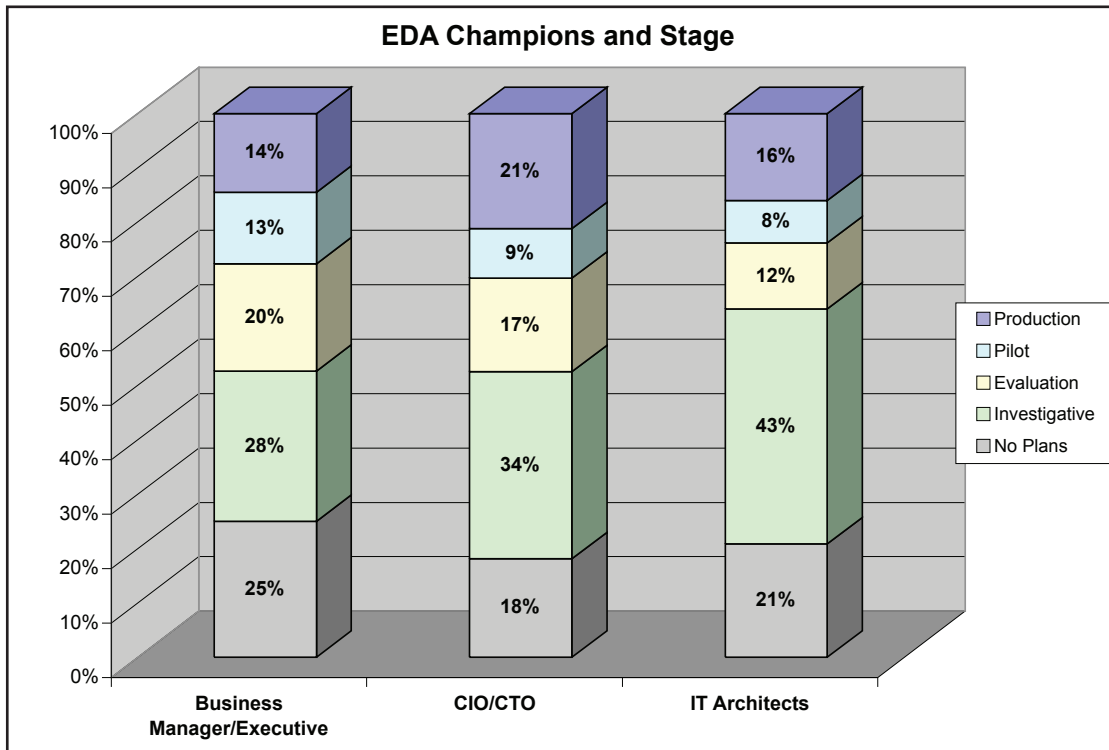


Chart 10: Event-Driven Architecture Stage Progression by Champion

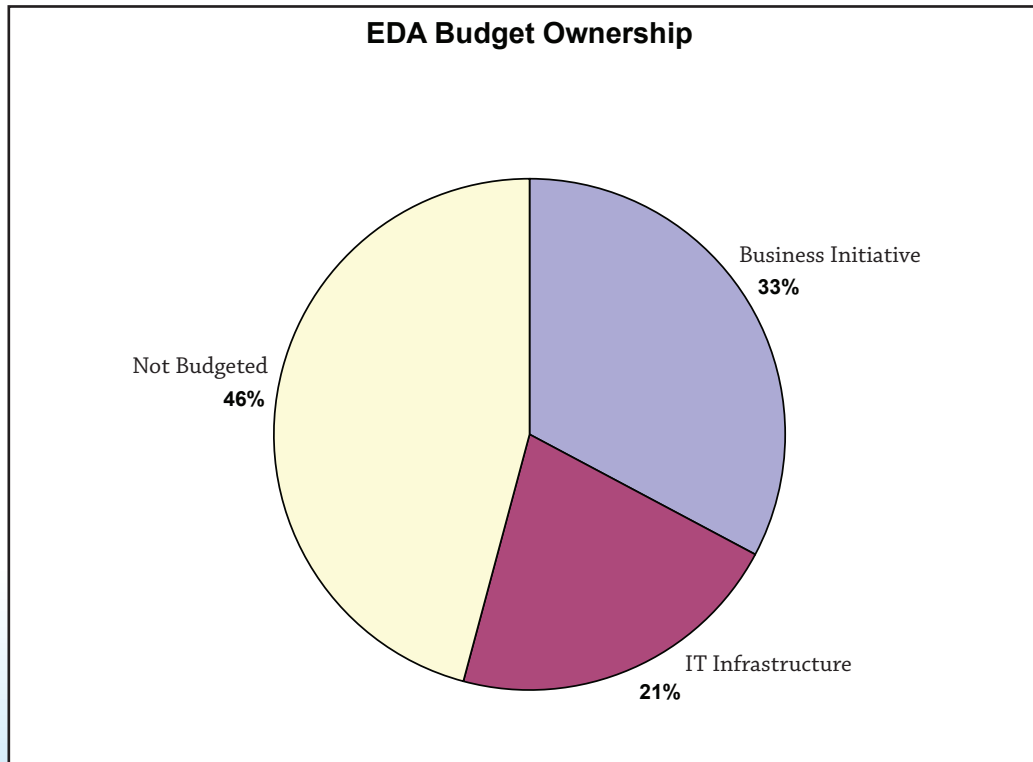


Chart 11: Event-Driven Architecture Budget Ownership

Supporting our finding that event-driven architecture is driven by business needs, business initiatives are 50% more likely to own the event-driven architecture budget than IT. (See Chart 11).

Not surprising, 25% of the survey respondents declined to provide budget specifics, because of confidentiality

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issues, or lack of visibility since event-driven architecture was budgeted within a larger business or IT budget. Of those respondents who did share budget information, the budget amounts were dispersed across our ranges, with slightly more respondents falling below \$250,000 than above. (See Chart 12) Many of the respondents in the less than \$100,000 group are in the early investigative stage.

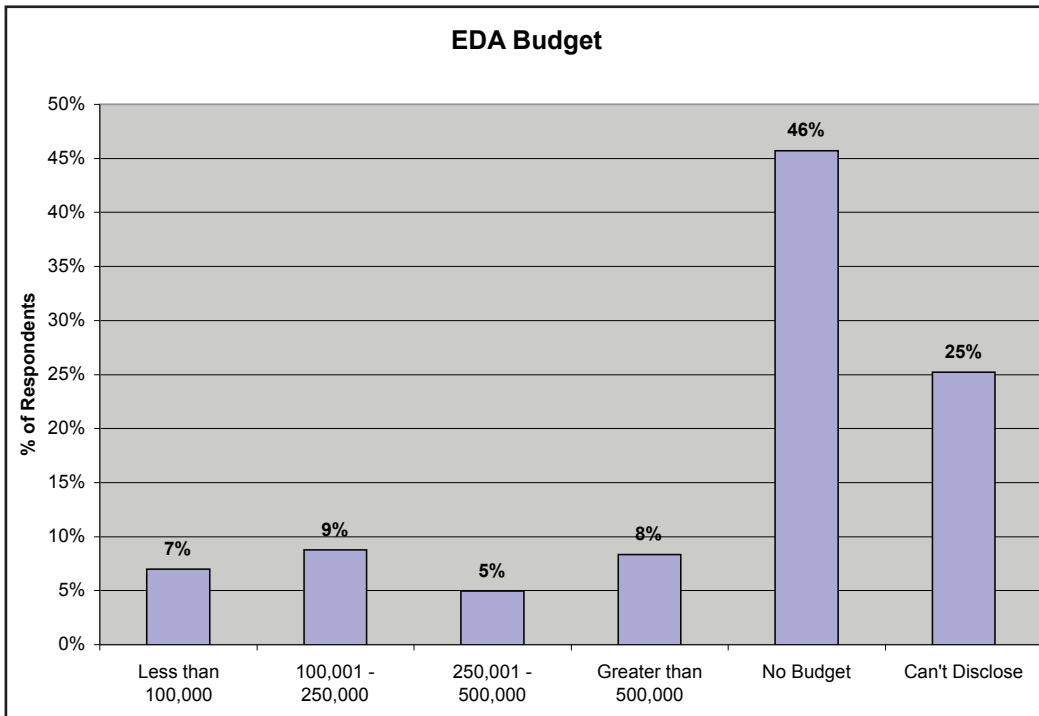


Chart 12: Event-Driven Architecture Budgets

The majority of our respondents, 66%, have identified metrics to determine the return on current and planned event processing investments. As Chart 13 shows, the top measures are increased business responsiveness to customers, partners or suppliers, increased visibility into business operations, and incremental business gains from real-time opportunity identification. These measures reflect the potential for event-driven solutions to positively impact an organization's top and bottom line.

The most popular measure combinations paired increased business responsiveness to customers, partners or suppliers with increased visibility into business operations and incremental business gains from real-time opportunity identification.

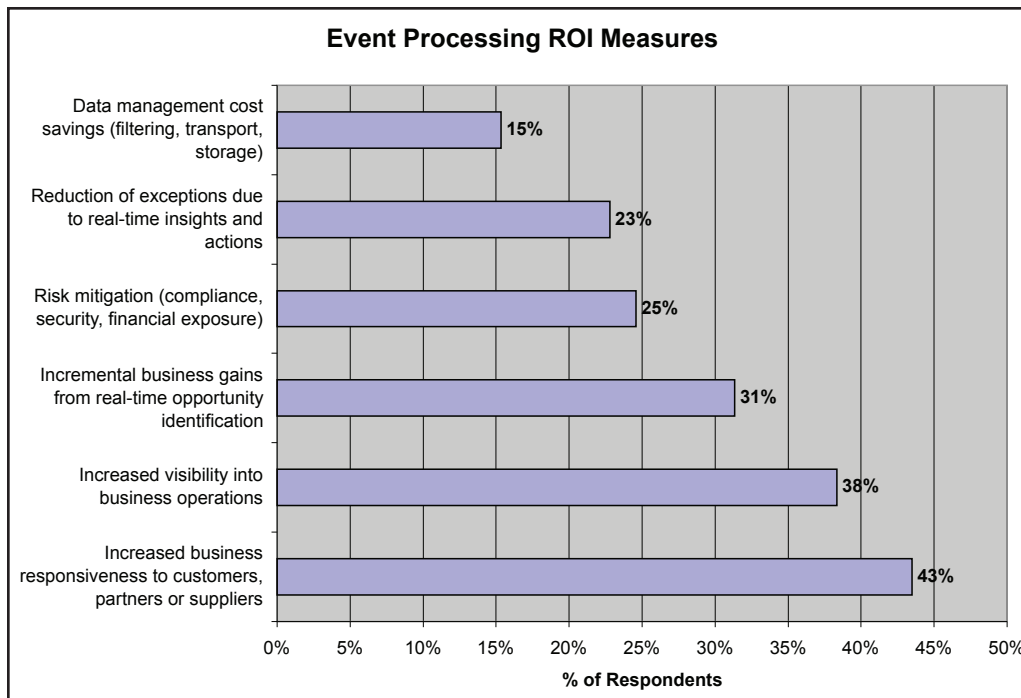


Chart 13: Event Processing Return on Investment Measures

Business Alignment Observations

The survey results indicate that the drivers, funding and measurement of event-driven architecture investments are business rather than technology-based. Event-driven architecture is being considered and pursued to improve business responsiveness in the value chain, increase business operations visibility and efficiency, and identify top-line business opportunities. Given the potential to positively impact the top and bottom line, the budget for event-driven solutions tends to reside in the business.

Although executives are championing event-driven architecture implementations, event-driven architecture finds its way into an organization via IT architects and developers. For the event-processing market to reach its potential, technology and solution providers must communicate the value proposition of event-driven architecture, and their particular solutions, to both IT and business constituencies.

Event Processing Technology

Lastly, to understand how organizations are, or envision, implementing their event-driven architectures, we asked respondents about event-processing technology features, product categories and end users.

As Chart 14 shows, survey respondents' foremost concerns are core event processing capabilities on a robust, interoperable infrastructure. In respect to core event processing capabilities, 77-78% of respondents require complex event processing, business dashboard creation, and both code and graphical rule definition. For robustness, 88% of respondents require high availability and/or scalability, while 83% of respondents are concerned with high volume, low latency event processing. As for interoperability, 83% of respondents require a technical fit with their current application infrastructures, and 87% are looking for interoperability with SOA,

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BPM and/or integration solutions.

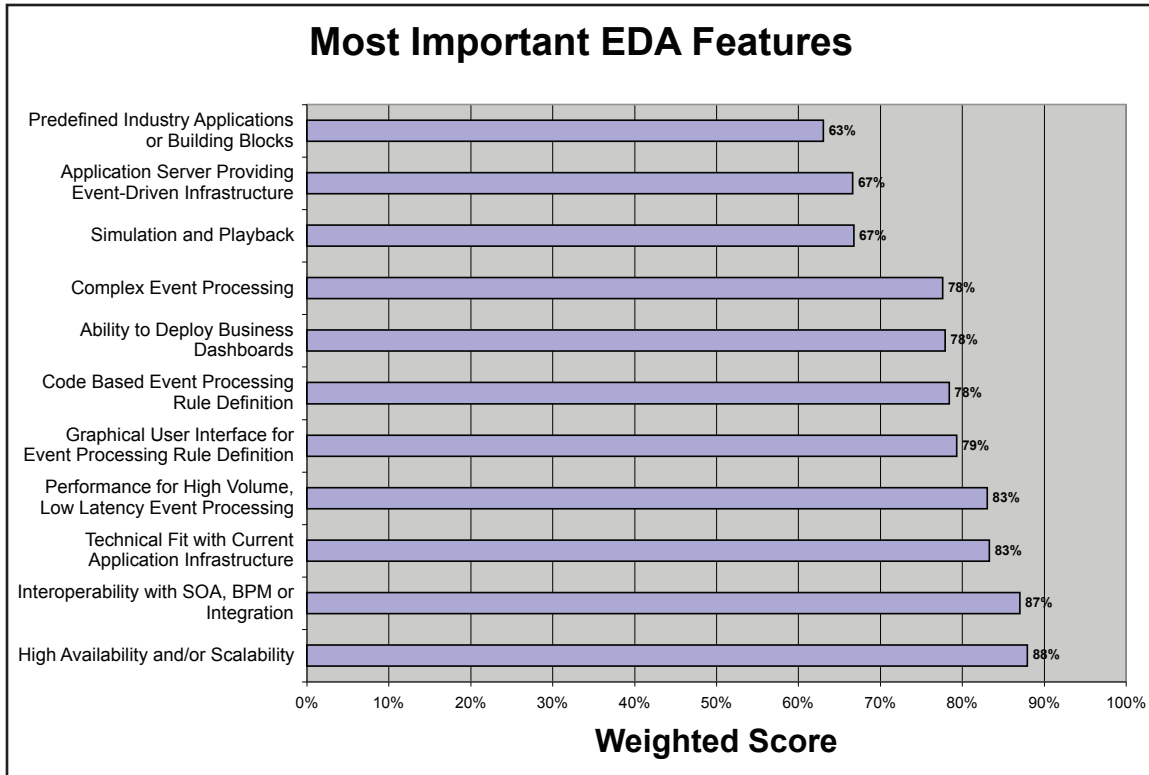


Chart 14: Most Important Event-Driven Architecture Features.

Chart 15 provides insight on the product categories respondents are investigating or implementing to acquire this functionality. The survey data shows that organizations are investigating and implementing a combination of technologies.

In the investigative and evaluation stages, organizations are comparing competing technologies, such as a rules engine versus a complex event-processing engine. Approximately 75% of the respondents investigating complex event processing engines are simultaneously investigating rules engines.

In the pilot and production stages, organizations are using complementary technologies, such as an event stream processor, complex event processing engine, and a business activity monitor. Over 65% of the respondents who are considering/using complex event engines or event stream processors are also considering/using business activity monitors. This is understandable as organizations look to build multi-faceted event-driven architectures that combine event-stream processing, complex event processing and real-time event notification.

The enterprise service bus, which was mentioned by 57% of respondents, appears to be playing the role of connector, providing the linkage and transport between event sources, processors and sinks. This finding is based on the data points that 69% of organizations using event stream processors, and 70% of organizations using complex event engines, are also using enterprise service buses.

Other product categories mentioned by respondents were data integration solutions, Java Spaces, business process management systems (BPMS), workflow engines and agent based solutions.

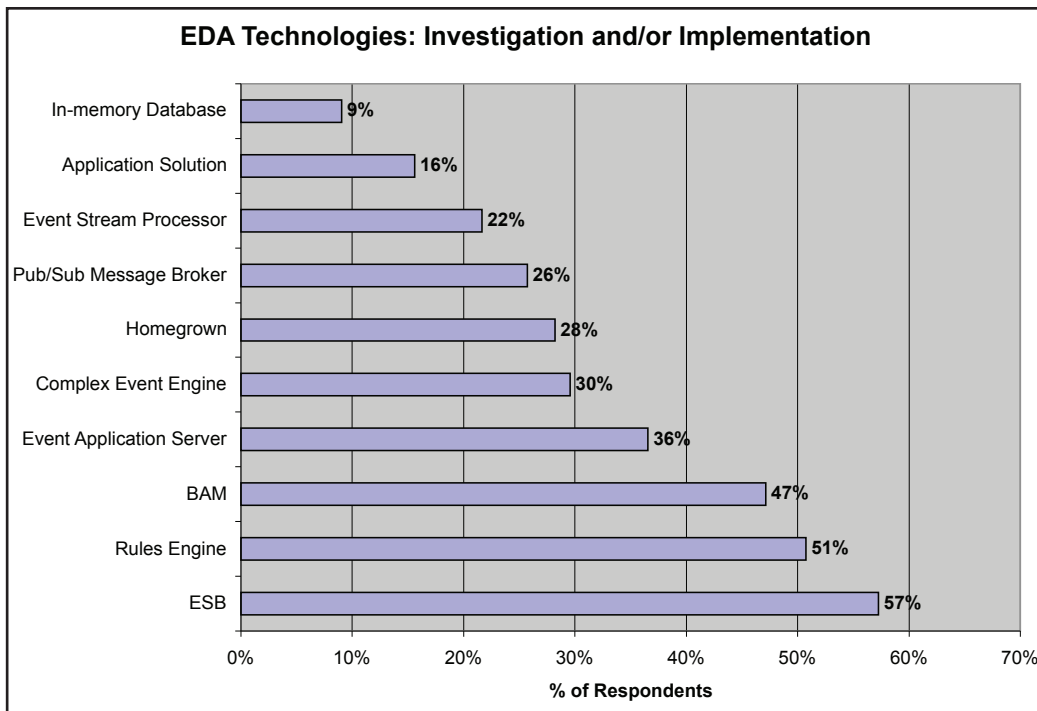


Chart 15: Event-driven architecture technologies under investigation or in use

Finally, we asked respondents who in their organizations would be defining the rules that filter, process and act on events. As Chart 16 shows, the resounding answer is event processing rule definition is not an IT development responsibility. Business analysts and business specialists, such as quantitative analysts, compliance analysts and risk managers, will define event-processing rules.

Although quantitative analysts typically have coding skills, many business analysts and specialists do not. This supports the virtual tie, 78% and 79% respectively, of the feature importance of code-based and graphical event processing rule definition.

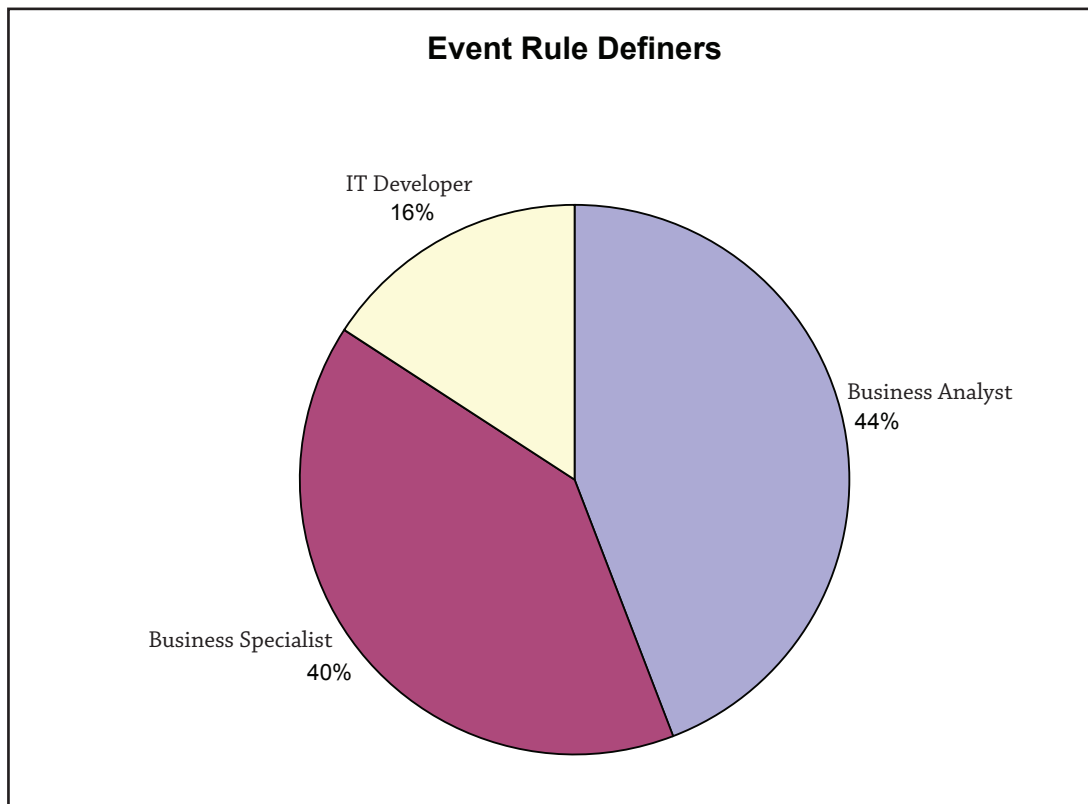


Chart 16: Event Rule Definers

Event Processing Technology Observations

The survey results indicate that organizations are looking to deliver core event processing capabilities on a robust and interoperable infrastructure. Respondents are not pre-disposed to any single product category, nor do they require an “all-in-one” solution. Rather, they are investigating, evaluating and implementing technologies that combine to provide the underpinnings of an event-processing network.

The resultant event-processing networks must interoperate with existing and planned SOA, BPM and integration solutions. Components of these solutions -- business processes, services, applications and datastores -- will participate in the event-processing network as event sources and event sinks.

Over the next 12-18 months, as the market moves beyond the early adopters, we expect organizations will demand more complete, single sourced event-processing offerings, rather than doing the majority of assembly themselves.

CONCLUSIONS

According to our survey respondents, event processing is a nascent, but real market that serves a multitude of industries. Although only 25% of survey respondents currently have event-driven solutions in pilot or production, the two-year outlook shows 90% of respondents having event-driven solutions in production.

Surprisingly, for an early stage market, survey respondents had strong agreement on the definition of event-

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driven architecture. Respondents define event-driven architecture in terms of the business lifecycle of events, rather than in product category terms.

Continuing this purpose theme, the survey results indicate that the drivers, funding and measurement of event-driven architecture investments are business, rather than technology, based. Survey respondents, representing 33 industries, are pursuing event-driven architecture to improve business responsiveness in the value chain, increase business operations visibility and efficiency, and identify top-line business opportunities.

In respect to technical implementation, organizations are foremost concerned with delivering core event processing capabilities on a robust and interoperable infrastructure. Respondents are not pre-disposed to any single product category, nor do they require an “all-in-one” solution. Instead, they are investigating, evaluating and implementing technologies that combine to provide the underpinnings of an event-processing network.

Collectively, the survey results bode well for the event processing market. For the event-processing market to reach its potential, technology and solution providers must communicate the fundamentals and the value proposition of event-driven architecture, and their particular solutions, to both IT and business constituencies.

Organizations pursuing event-driven architecture should follow the lead of our survey respondents, by implementing event-driven solutions that can be measured in terms of business value.

SURVEY AND RESEARCH SPONSORSHIP

Funding for ebizQ's Event Processing survey was provided by BEA Systems

BEA is the first large software infrastructure vendor with products focused on Event Processing. BEA WebLogic Event Server and BEA WebLogic Real Time form the cornerstone of an Event-Driven SOA (EDSOA) strategy. BEA offers a complete event processing infrastructure including an application server purpose-built for event processing, a state-of-the-art CEP engine, extreme transaction processing support, and supports microsecond response times. BEA's visionary EDSOA strategy and game-changing products will change the way you do business. To learn more about BEA's Event Driven SOA Strategy & products, visit www.bea.com/eventdrivensoa

