Messaging and Event Processing Buyers Guide

Software Provider and Product Assessment

ISG Research

Messaging and Event Processing

The starting point for a real-time data strategy is the ability to capture and communicate information related to business events as they occur. As applications and devices record events, enterprises must capture the relevant information and ensure it is conveyed to any dependent applications, devices or systems to trigger required actions.

ISG Research defines messaging and event processing as the capturing of events and the sharing of information between applications, devices and systems about events as they occur.

ISG Research defines messaging and event processing as the capturing of events and the sharing of information between applications, devices and systems about events as they occur. Messaging and event processing are the essential foundations of an event-driven architecture and enablers of streaming data processing and streaming analytics.

Messaging has been an important enabler of communication between computer systems for decades. It relied on proprietary protocols that enabled communication within and between homogenous systems. The development and proliferation of open standards more than a decade ago allowed communication within and between heterogeneous systems.

The terms "message" and "event" are often used interchangeably. While the two concepts are closely related, they do have distinct definitions. An event is a thing that happens—such as a sensor identifying a new temperature reading, a person making a purchase or a supplier updating inventory. Messaging is the sharing of information between applications, devices and systems about events.

Messages contain the data generated by the event plus metadata related to the application that generated it, the classification of the message (known as a topic) and how and where the message will be routed. Individual messages can be published sequentially as message queues, while a continuous flow of event messages is a stream (or event stream).

Key capabilities of messaging include the definition of message topics, as well as publish and subscribe messaging. This ensures the device, system or application receiving the message (the subscriber, consumer or event sink) is updated constantly with the latest messages generated by the source device, system or application (the publisher, producer or event source). Messages from a single producer can be received by a single consumer (point-to-point messaging) or multiple consumers (in groups). Request-reply messaging enables bi-directional communication between producers and consumers.

A critical enabler of messaging is the event broker, a message-oriented middleware responsible for handling and routing messages. Event brokers facilitate communication between applications, cloud services and devices in a distributed architecture without requiring messaging producers and consumers to be tightly coupled by direct integration. The importance of event brokers can be overlooked as mere plumbing. However, they are the fundamental enablers of event-driven architecture—the software design pattern organizations use to take advantage of events and deliver real-time business processes. There are many benefits to using EDA, including a cultural shift away from batch processing towards real-time analysis and decision-making.

EDA encompasses publish and subscribe processing of individual events, complex event processing (which involves aggregation of multiple events) and data streaming. We assert that by 2027, more than one-half of enterprises will invest in functionality to discover, catalog, monitor and govern events and event flows to generate greater business value from event-driven architecture.

EDA is enabled by a network of event brokers (sometimes known as an event mesh) and event management software for discovering, cataloging, governing, securing and monitoring events and event-driven applications, including schema and data quality management. Key capabilities associated with event management include event routing, event filtering, event prioritization and access control.

Success with messaging and events relies on the configuration of event brokers to ensure adequate scalability to meet performance, high availability and disaster recovery requirements. The proliferation of cloud computing—combined with ongoing reliance on on-premises infrastructure—makes it essential that EDA spans multiple cloud providers and hybrid architectures.

Additionally, the low-latency performance characteristics of real-time workloads often make them better suited to data processing where data is generated rather than in a centralized on-premises or public cloud environment. Edge computing refers to a combination of connected Internet of Things devices along with local servers, networking equipment and regional data centers.

IoT data processing typically includes real-time monitoring and processing of key metric data to identify and provide alerts on anomalies, as well as filtering, transformation and batch or stream transfer of data to on-premises or cloud data centers for long-term storage,

processing and analysis. Messaging is a critical component of edge computing workloads that enable the orchestration of data processed in multiple locations to deliver low-latency response times and minimize the unnecessary movement of data to on-premises or cloud data centers.

In addition to communicating messages across different computing environments, integration between different event broker technologies also delivers compatibility between applications, devices and systems. This avoids risks associated with vendor lock-in.

Capabilities for event and message monitoring are also essential, including status and performance monitoring, visualization and alerts. Although monitoring of event-based messages naturally needs real-time updates as messages flow across the enterprise, event management software also needs to facilitate the analysis of historical event logs to track performance over time and identify anomalies as they occur. Support for distributed event tracing is also a growing requirement for observing messages as they flow through a distributed architecture, providing integration between event management software and architecture observability products.

In addition to the operational aspects of managing the delivery and orchestration of message queues and streams, event management also provides the basis for extracting meaningful and actionable information from streams of event messages through stream processing and streaming analytics.

The ISG Buyers Guide™ for Messaging and Event Processing evaluates products based on core capabilities such as messaging, event management and event monitoring. To be included in this Buyers Guide, products must include functionality for messaging, event management and event monitoring. Our assessment also considered whether the functionality in question was available from a software provider in a single offering or as a suite of products or cloud services.

This research evaluates the following software providers that offer products that address key elements of messaging and event processing as we define it: Aiven, Alibaba Cloud, AWS, Broadcom, Cloud Software Group, Cloudera, Confluent, Google Cloud, Huawei Cloud, IBM, Microsoft, Oracle, Redpanda, Solace and Tencent Cloud.

Buyers Guide Overview

For over two decades, ISG Research has conducted market research in a spectrum of areas across business applications, tools and technologies. We have designed the Buyers Guide to provide a balanced perspective of software providers and products that is rooted in an understanding of the business requirements in any enterprise. Utilization of our research methodology and decades of experience enables our Buyers Guide to be an effective method to assess and select software providers and products. The findings of this research undertaking contribute to our comprehensive approach to rating software providers in a manner that is based on the assessments completed by an enterprise.

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The ISG Buyers Guide™ for Messaging and Event Processing is the distillation of over a year of market and product research efforts. It is an assessment of how well software providers' offerings address enterprises' requirements for messaging and event processing software. The index is structured to support a request for information (RFI) that could be used in the request for proposal (RFP) process by incorporating all criteria needed to evaluate, select, utilize and maintain relationships with software providers. An effective product and customer experience with a provider can ensure the best long-term relationship and value achieved from a resource and financial investment.

In this Buyers Guide, ISG Research evaluates the software in seven key categories that are weighted to reflect buyers' needs based on our expertise and research. Five are product-experience related: Adaptability, Capability, Manageability, Reliability, and Usability. In addition, we consider two customer-experience categories: Validation, and Total Cost of Ownership/Return on Investment (TCO/ROI). To assess functionality, one of the components of Capability, we applied the ISG Research Value Index methodology and blueprint, which links the personas and processes for messaging and event processing to an enterprise's requirements.

The structure of the research reflects our understanding that the effective evaluation of software providers and products involves far more than just examining product features, potential revenue or customers generated from a provider's marketing and sales efforts. We believe it is important to take a comprehensive, research-based approach, since making the wrong choice of messaging and event processing technology can raise the total cost of ownership, lower the return on investment and hamper an enterprise's ability to reach its full performance potential. In addition, this approach can reduce the project's development and

deployment time and eliminate the risk of relying on a short list of software providers that does not represent a best fit for your enterprise.

ISG Research believes that an objective review of software providers and products is a critical business strategy for the adoption and implementation of messaging and event processing software and applications. An enterprise's review should include a thorough analysis of both what is possible and what is relevant. We urge enterprises to do a thorough job of evaluating messaging and event processing systems and tools and offer this Buyers Guide as both the results of our in-depth analysis of these providers and as an evaluation methodology.

How To Use This Buyers Guide

Evaluating Software Providers: The Process

We recommend using the Buyers Guide to assess and evaluate new or existing software providers for your enterprise. The market research can be used as an evaluation framework to establish a formal request for information from providers on products and customer experience and will shorten the cycle time when creating an RFI. The steps listed below provide a process that can facilitate best possible outcomes.

1. Define the business case and goals.

   Define the mission and business case for investment and the expected outcomes from your organizational and technological efforts.
2. Specify the business needs.

   Defining the business requirements helps identify what specific capabilities are required with respect to people, processes, information and technology.
3. Assess the required roles and responsibilities.

   Identify the individuals required for success at every level of the enterprise from executives to frontline workers and determine the needs of each.
4. Outline the project's critical path.

   What needs to be done, in what order and who will do it? This outline should make clear the prior dependencies at each step of the project plan.
5. Ascertain the technology approach.

   Determine the business and technology approach that most closely aligns to your enterprise's requirements.
6. Establish software provider evaluation criteria.

   Utilize the product experience: Adaptability, Capability, Manageability, Reliability and Usability, and the customer experience in TCO/ROI and Validation.
7. Evaluate and select the technology properly.

   Weight the categories in the technology evaluation criteria to reflect your enterprise's priorities to determine the short list of software providers and products.
8. Establish the business initiative team to start the project.

   Identify who will lead the project and the members of the team needed to plan and execute it with timelines, priorities and resources.

The Findings

All of the products we evaluated are feature-rich, but not all the capabilities offered by a software provider are equally valuable to types of workers or support everything needed to manage products on a continuous basis. Moreover, the existence of too many capabilities may be a negative factor for an enterprise if it introduces unnecessary complexity. Nonetheless, you may decide that a larger number of features in the product is a plus, especially if some of them match your enterprise's established practices or support an initiative that is driving the purchase of new software.

Factors beyond features and functions or software provider assessments may become a deciding factor. For example, an enterprise may face budget constraints such that the TCO evaluation can tip the balance to one provider or another. This is where the Value Index methodology and the appropriate category weighting can be applied to determine the best fit of software providers and products to your specific needs.

Overall Scoring of Software Providers Across Categories

The research finds Google Cloud atop the list, followed by AWS and Solace. Providers that place in the top three of a category earn the designation of Leader. Oracle has done so in six categories; Microsoft in five; Google cloud in three; AWS and Solace in two; Confluent, Redpanda and Tencent Cloud in one category.

The overall representation of the research below places the rating of the Product Experience and Customer Experience on the *x* and *y* axes, respectively, to provide a visual representation and classification of the software providers. Those providers whose Product Experience have a higher weighted performance to the axis in aggregate of the five product categories place farther to the right, while the performance and weighting for the two Customer Experience categories determines placement on the vertical axis. In short, software providers that place closer to the upper-right on this chart performed better than those closer to the lower-left.

Messaging & Event Processing

Overall

Providers	Grade	Performance
Google Cloud	A-	*Leader* 83.2%
AWS	A-	*Leader* 82.8%
Solace	B++	*Leader* 79.2%
Microsoft	B++	78.6%
IBM	B++	77.9%
Cloudera	B++	77.1%
Oracle	B++	76.3%
Confluent	B+	74.6%
Redpanda	B+	73.7%
Alibaba Cloud	B+	72.1%
Tencent Cloud	B+	71.0%
Huawei Cloud	B+	69.4%
Aiven	B	67.8%
Broadcom	B	67.4%
Cloud Software Group	B	64.3%

Source: ISG Research
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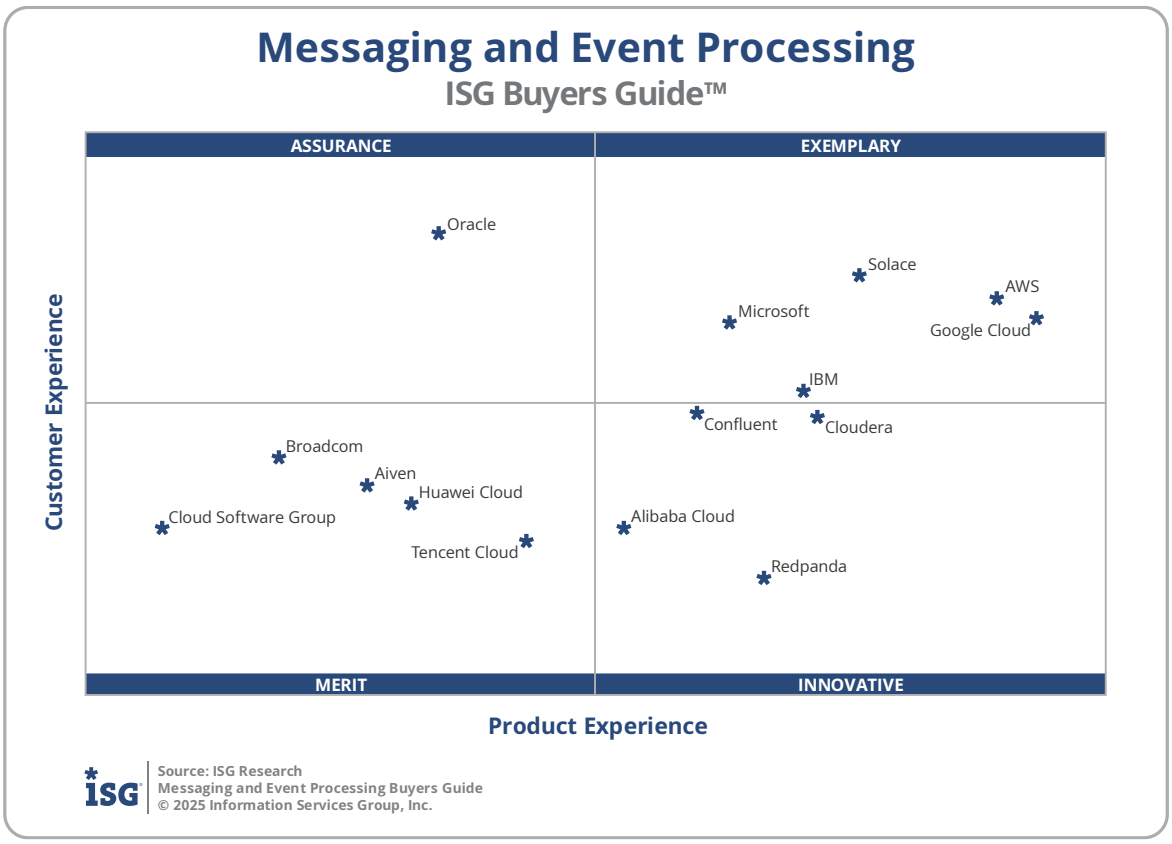
The research places software providers into one of four overall categories: Assurance, Exemplary, Merit or Innovative. This representation classifies providers' overall weighted performance.



Exemplary: The categorization and placement of software providers in Exemplary (upper right) represent those that performed the best in meeting the overall Product and Customer Experience requirements. The providers rated Exemplary are: AWS, Google Cloud, IBM, Microsoft and Solace.

Innovative: The categorization and placement of software providers in Innovative (lower right) represent those that performed the best in meeting the overall Product Experience requirements but did not achieve the highest levels of requirements in Customer Experience. The providers rated Innovative are: Alibaba Cloud, Cloudera, Confluent and Redpanda.

Assurance: The categorization and placement of software providers in Assurance (upper left) represent those that achieved the highest levels in the overall Customer Experience requirements but did not achieve the highest levels of Product Experience. The provider rated Assurance is: Oracle.

Merit: The categorization of software providers in Merit (lower left) represents those that did not exceed the median of performance in Customer or Product Experience or surpass the threshold for the other three categories. The providers rated Merit are: Aiven, Broadcom, Cloud Software Group, Huawei Cloud and Tencent Cloud.

We warn that close provider placement proximity should not be taken to imply that the packages evaluated are functionally identical or equally well suited for use by every enterprise or for a specific process. Although there is a high degree of commonality in how enterprises handle messaging and event processing, there are many idiosyncrasies and differences in how they do these functions that can make one software provider's offering a better fit than another's for a particular enterprise's needs.

We advise enterprises to assess and evaluate software providers based on organizational requirements and use this research as a supplement to internal evaluation of a provider and products.

Product Experience

The process of researching products to address an enterprise's needs should be comprehensive. Our Value Index methodology examines Product Experience and how it aligns with an enterprise's life cycle of onboarding, configuration, operations, usage and maintenance. Too often, software providers are not evaluated for the entirety of the product; instead, they are evaluated on market execution and vision of the future, which are flawed since they do not represent an enterprise's requirements but how the provider operates. As more software providers orient to a complete product experience, evaluations will be more robust.

Messaging & Event Processing
Product Experience

Providers	Grade	Performance
Google Cloud	A-	Leader 67.4%
AWS	A-	Leader 66.7%
Solace	B++	Leader 64.0%
Cloudera	B++	63.1%
IBM	B++	63.0%
Redpanda	B++	62.5%
Microsoft	B++	61.9%
Confluent	B++	61.3%
Alibaba Cloud	B+	60.0%
Tencent Cloud	B+	58.3%
Oracle	B+	56.9%
Huawei Cloud	B+	56.3%
Aiven	B+	55.4%
Broadcom	B	53.9%
Cloud Software Group	B	51.7%

Source: ISG Research
Messaging and Event Processing Buyers Guide

The research results in Product Experience are ranked at 80%, or four-fifths, of the overall rating using the specific underlying weighted category performance. Importance was placed on the categories as follows: Usability (10%), Capability (40%), Reliability (10%), Adaptability (10%) and Manageability (10%). This weighting impacted the resulting overall ratings in this research. Google Cloud, AWS and Solace were designated Product Experience Leaders. While not Leaders, Cloudera and IBM were also found to meet a broad range of enterprise product experience requirements.

Customer Experience

The importance of a customer relationship with a software provider is essential to the actual success of the products and technology. The advancement of the Customer Experience and the entire life cycle an enterprise has with its software provider is critical for ensuring satisfaction in working with that provider. Technology providers that have chief customer officers are more likely to have greater investments in the customer relationship and focus more on their success. These leaders also need to take responsibility for ensuring this commitment is made abundantly clear on the website and in the buying process and customer journey.

The research results in Customer Experience are ranked at 20%, or one-fifth, using the specific underlying weighted category performance as it relates to the framework of commitment and value to the software provider-customer relationship. The two evaluation categories are Validation (10%) and TCO/ROI (10%), which are weighted to represent their importance to the overall research.

The software providers that evaluated the highest overall in the aggregated and weighted Customer Experience categories are Oracle, Solace and AWS. These category leaders best communicate commitment and dedication to customer needs.

Messaging & Event Processing
Customer Experience

Providers	Grade	Performance
Oracle	A-	*Leader* 16.8%
Solace	A-	*Leader* 16.3%
AWS	B++	*Leader* 15.9%
Google Cloud	B++	15.6%
Microsoft	B++	15.6%
IBM	B+	14.5%
Confluent	B+	14.3%
Cloudera	B+	14.3%
Broadcom	B	13.7%
Aiven	B	13.3%
Huawei Cloud	B	13.0%
Alibaba Cloud	B	12.7%
Cloud Software Group	B	12.7%
Tencent Cloud	B	12.5%
Redpanda	B-	12.0%

Source: ISG Research
Messaging and Event Processing Buyers Guide

Software providers that did not perform well in this category were unable to provide sufficient customer references to demonstrate success or articulate their commitment to customer experience and an enterprise's journey. The selection of a software provider means a continuous investment by the enterprise, so a holistic evaluation must include examination of how they support their customer experience.

Appendix: Software Provider Inclusion

For inclusion in the ISG Buyers Guide™ for Messaging and Event Processing in 2025, a software provider must be in good standing financially and ethically, have at least $20 million in annual or projected revenue verified using independent sources, sell products and provide support on at least two continents and have at least 50 employees. The principal source of the relevant business unit's revenue must be software-related, and there must have been at least one major software release in the past 12 months.

The product must enable the publishing, processing and management of event-based messages. To be included in the Messaging and Event Processing Buyers Guide requires functionality that addresses the following sections of the capabilities model:

- Messaging
- Event management
- Event monitoring

The research is designed to be independent of the specifics of software provider packaging and pricing. To represent the real-world environment in which businesses operate, we include providers that offer suites or packages of products that may include relevant individual modules or applications. If a software provider is actively marketing, selling and developing a product for the general market and it is reflected on the provider's website that the product is within the scope of the research, that provider is automatically evaluated for inclusion.

All software providers that offer relevant messaging and event processing products and meet the inclusion requirements were invited to participate in the evaluation process at no cost to them.

Software providers that meet our inclusion criteria but did not completely participate in our Buyers Guide were assessed solely on publicly available information. As this could have a significant impact on classification and ratings, we recommend additional scrutiny when evaluating those providers.

Products Evaluated

Provider	Product Names	Version	Release Month/Year
Aiven	Aiven for Apache Kafka	March 2025	March 2025
Alibaba Cloud	ApsaraMQ for Kafka	February 2025	February 2025
AWS	Amazon MQ Amazon Managed Streaming for Apache Kafka	February 2025, November 2024	February 2025, November 2024
Broadcom	Tanzu RabbitMQ	4.0.8	April 2025
Cloud Software Group	TIBCO Enterprise Message Service	10.4.0	February 2025
Cloudera	Cloudera DataFlow Cloudera Data Flow for Data Hub	2.9.0-h5-b2 7.3.1	February 2025 December 2024
Confluent	Confluent Cloud	February 2025	February 2025
Google Cloud	Google Cloud Managed Service for Apache Kafka Google Cloud Pub/Sub	December 2024 March 2025	December 2024 March 2025
Huawei Cloud	Huawei Distributed Message Service (DMS) for Kafka	September 2024	September 2024
IBM	IBM Event Streams	11.6.0	January 2025
Microsoft	Azure Event Hubs Azure Event Grid	December 2024 February 2025	December 2024 February 2025
Oracle	Oracle Cloud Infrastructure Queue	February 2024	February 2024
Redpanda	Redpanda Cloud	March 2025	March 2025
Solace	Solace Platform	March 2025	March 2025
Tencent Cloud	TDMQ for CKafka	January 2025	January 2025

Providers of Promise

We did not include software providers that, as a result of our research and analysis, did not satisfy the criteria for inclusion in this Buyers Guide. These are listed below as "Providers of Promise."

Provider	Product	Annual Revenue >$20m	Operates on 2 Continents	At Least 50 Employees	GA or Current Product
DataStax	Astra Streaming	Yes	Yes	Yes	No
StreamNative	StreamNative Cloud	No	Yes	Yes	Yes
Ververica	Ververica Unified Streaming Data Platform	No	Yes	No	Yes

About ISG Software Research and Advisory

ISG Software Research and Advisory provides market research and coverage of the technology industry, informing enterprises, software and service providers, and investment firms. The ISG Buyers Guides provide insight on software categories and providers that can be used in the RFI/RFP process to assess, evaluate and select software providers.

About ISG Research

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About ISG

ISG (Nasdaq: III) is a global AI-centered technology research and advisory firm. A trusted partner to more than 900 clients, including 75 of the world's top 100 enterprises, ISG is a long-time leader in technology and business services sourcing that is now at the forefront of leveraging AI to help organizations achieve operational excellence and faster growth. The firm, founded in 2006, is known for its proprietary market data, in-depth knowledge of provider ecosystems, and the expertise of its 1,600 professionals worldwide working together to help clients maximize the value of their technology investments.