

Real-Time Data Buyers Guide

Software Provider and Product Assessment



EXECUTIVE
SUMMARY

***ISG** Research



Real-Time Data

As enterprises strive to be data-driven, making a higher proportion of decisions based on data becomes the norm. To differentiate from the pack, enterprises need to process and analyze more data and increase the frequency with which data-driven decisions are made by acting upon data in real time.

ISG Research defines real-time data as the sharing, processing and analysis of data communicated in messages and streams of messages generated by enterprise systems,

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devices and applications as business events occur.

Real-time data processing enables enterprises to operate at the speed of business by acting on events as they happen.

Despite the overwhelming reliance on batch data processing, it is an artificial construct driven by the historical limitations of computing capabilities to generate and process data at the same time without impacting performance. Real-time data processing has existed for years in industry segments with the most extreme high-performance requirements, such as financial services and telecommunications.

In other industries, however, the reliance on batch data processing is so entrenched that processing data in real time has primarily been seen as a niche requirement, separate from the default focus on batch

processing of data at rest. Less than one-quarter (22%) of enterprises participating in the ISG Research Analytics and Data Benchmark Research analyze data in real time.

Attitudes towards real-time data processing are changing as an increasing number of enterprises recognize that by failing to process and analyze data in real time, there is a risk of failing to operate at the pace of the real world. The pressure on enterprises to improve the ability to process and analyze data in real time is exacerbated by increased demand for intelligent operational applications infused with the results of analytic processes, such as personalization and artificial intelligence (AI)-driven recommendations. AI-driven intelligent applications require a new approach to data processing that enables real-time performance of machine learning (ML) on operational data to deliver instant, relevant information for accelerated decision-making.

Enterprises differentiate user experiences with real-time, AI-driven functionality. Doing so requires AI models to have access to up-to-date data via streams of events as they are generated in real time, as well as the ability to incorporate model inferencing into streaming analytics pipelines. Enterprises with an over-reliance on batch data processing will not match



those able to harness real-time data as it is generated. As demand for real-time interactive applications becomes more pervasive, processing real-time data becomes a more mainstream pursuit. This is aided by the proliferation of products capable of real-time data processing and

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analytics, which have lowered the cost and technical barriers to developing new applications that take advantage of data in motion.

Reliance on batch data processing is so pervasive that for many data practitioners and business executives, real-time data may be an alien concept that appears to have a language of its own. Terms such as messaging, event processing, stream processing and streaming analytics are often used interchangeably, and the nuances are not necessarily clear to the uninitiated. However, the core concepts of real-time data processing are proven and well-defined, and the technologies that implement them are mature and readily available.

The starting point for any real-time data strategy is the concept of an event. Simply put, an event is a thing that happens. In the context of an application, an event is a change of state, such as a sensor identifying a new temperature reading. Messaging is the sharing of information between applications, devices and systems about events. As an event occurs, the application, device or system generates a message about the event that is shared with other applications, devices and systems across the enterprise.

Direct communication between applications is enabled and managed by application integration, which supports the fulfillment of business processes and workflows that rely on multiple applications operating in concert. While application integration has traditionally relied on point-to-point integration between individual applications, today's application integration increasingly depends on application programming interfaces and API management.

In addition to communicating messages about events between applications, processing a continuous stream of event messages enables enterprises to act on the event data as it is generated and communicated. Stream processing encompasses the ingestion, filtering, integration, transformation, aggregation and enrichment of stream data, and the associated management and governance of stream processing.

Stream processing also forms the basis of stream analytics, which uses streaming compute engines to analyze streams of event data using SQL queries and real-time materialized views, including chart-based visualization of streaming data and, more recently, support for machine learning and generative AI model inferencing.



Processing and analyzing event data in isolation is valuable. Success with streaming data relies on the holistic management and governance of data in motion and data at rest. In recent years, traditional data processing providers have added support for continually processing streams of event data, while streaming and event specialist providers improve capabilities for the persistence of event data in a data warehouse, data lake or cloud storage for batch processing of historical event data. ISG asserts that by 2027, more than three-quarters of enterprises' standard information architectures will include streaming data and event processing, allowing enterprises to be more responsive and provide better customer experiences.

As more enterprises adopt event-driven architecture, capabilities for the persistence and processing of historical event data increase the potential for streaming and event specialists to stake a claim and be considered an enterprise's primary data platform provider rather than being utilized for a limited set of use cases.

The ability to execute at the speed of business by processing and acting on events as they occur will be the difference between competing and winning with analytics and data. Enterprises evaluating current and future data architecture requirements should consider real-time data technologies alongside more traditional batch-oriented data platforms to provide a holistic view of all data in motion and at rest.

The ISG Buyers Guide™ for Real-Time Data evaluates products based on core capabilities such as messaging and event processing, application integration, streaming data and streaming analytics. While products addressing these functional areas are valuable, an enterprise-wide real-time data strategy requires an event-driven architecture that delivers the full breadth of streaming and event functionality. To be included in this Buyers Guide, products must address at least two capabilities: messaging and event processing, application integration, streaming data and streaming analytics. Our assessment also considered whether the functionality 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 real-time data as we define it: Actian, Aiven, Alibaba Cloud, Altair, AWS, Cloud Software Group, Cloudera, Confluent, Cumulocity, Databricks, Google Cloud, GridGain, Hazelcast, Huawei Cloud, IBM, Informatica, Materialize, Microsoft, Oracle, Qubole, Redpanda, SAS, Solace, Striim and Tencent Cloud.

Streaming & Events

Market Assertion

By 2027, more than three-quarters of enterprises' standard information architectures will include streaming data and event processing, allowing enterprises to be more responsive and provide better customer experiences.

Matt Aslett

Director of Research, Analytics and Data



ISG Research



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



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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.

The ISG Buyers Guide™ for Real-Time Data 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 real-time data 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 real-time data 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 real-time data 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 real-time data 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 real-time data 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 AWS atop the list, followed by Google Cloud and Microsoft. Software providers that place in the top three of a category earn the designation of Leader. Oracle has done so in six categories, Informatica in five, Databricks and Google Cloud in three, Microsoft in two and AWS and Solace 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.

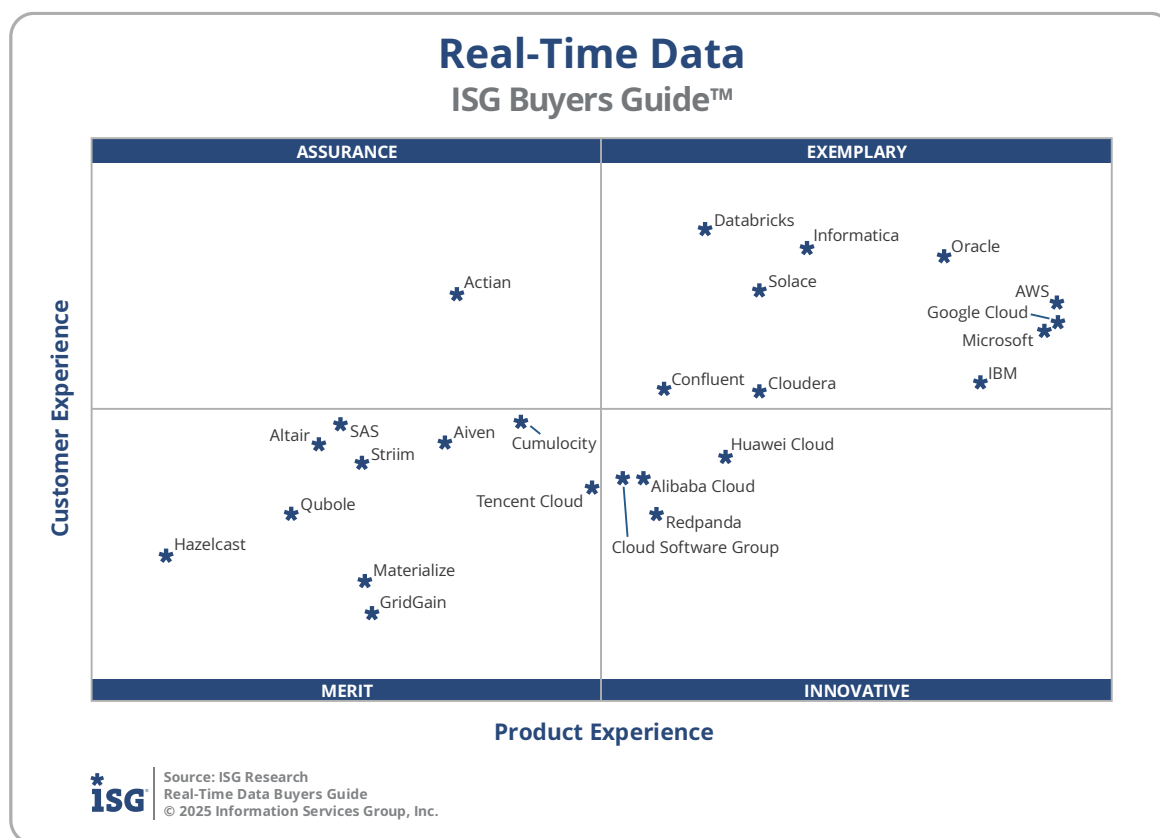
The research places software providers into one of four overall categories: Assurance, Exemplary, Merit or Innovative. This representation classifies providers' overall weighted performance.

Real-Time Data Overall

Providers	Grade	Performance
AWS	B++	Leader 80.2%
Google Cloud	B++	Leader 79.7%
Microsoft	B++	Leader 79.4%
Oracle	B++	77.1%
IBM	B++	76.4%
Informatica	B+	72.5%
Solace	B+	72.2%
Databricks	B+	70.0%
Cloudera	B+	69.2%
Huawei Cloud	B	67.4%
Confluent	B	67.1%
Cloud Software Group	B	64.6%
Alibaba Cloud	B	64.3%
Redpanda	B	63.7%
Tencent Cloud	B-	62.1%
Actian	B-	60.9%
Cumulocity	B-	60.6%
Aiven	B-	59.4%
SAS	C++	56.0%
Striim	C++	55.6%
Altair	C++	54.8%
Materialize	C++	53.8%
GridGain	C++	53.1%
Qubole	C++	52.6%
Hazelcast	C+	48.6%



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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, Cloudera, Confluent, Databricks, Google Cloud, IBM, Informatica, Microsoft, Oracle 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, Cloud Software Group, Huawei Cloud 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: Actian.

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, Altair, Cumulocity, GridGain, Hazelcast, Materialize, Qubole, SAS, Striim 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 real-time data, 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.

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 (12.5%), Capability (30%), Reliability (12.5%), Adaptability (12.5%) and Manageability (12.5%). This weighting impacted the resulting overall ratings in this research. AWS, Google Cloud and Microsoft were designated Product Experience Leaders.

Real-Time Data Product Experience

Providers	Grade	Performance
AWS	B++	Leader 64.9%
Google Cloud	B++	Leader 64.9%
Microsoft	B++	Leader 64.7%
IBM	B++	62.7%
Oracle	B++	61.7%
Informatica	B+	57.1%
Cloudera	B+	55.8%
Solace	B+	55.7%
Huawei Cloud	B	54.8%
Databricks	B	54.2%
Confluent	B	53.0%
Redpanda	B	52.7%
Alibaba Cloud	B	52.3%
Cloud Software Group	B	51.9%
Tencent Cloud	B	51.1%
Cumulocity	B-	48.8%
Actian	B-	46.6%
Aiven	B-	46.3%
GridGain	C++	44.3%
Materialize	C++	44.1%
Striim	C++	43.8%
SAS	C++	43.3%
Altair	C++	42.6%
Qubole	C++	41.4%
Hazelcast	C+	37.6%



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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 Databricks, Informatica and Oracle. These category leaders best communicate commitment and dedication to customer needs.

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.

Real-Time Data Customer Experience

Providers	Grade	Performance
Databricks	A-	Leader 17.5%
Informatica	A-	Leader 17.1%
Oracle	A-	Leader 16.8%
Solace	A-	16.3%
Actian	B++	16.1%
AWS	B++	15.9%
Google Cloud	B++	15.6%
Microsoft	B++	15.6%
IBM	B+	14.5%
Confluent	B+	14.3%
Cloudera	B+	14.3%
Cumulocity	B+	13.8%
SAS	B	13.7%
Aiven	B	13.3%
Altair	B	13.3%
Huawei Cloud	B	13.0%
Striim	B	12.8%
Alibaba Cloud	B	12.7%
Cloud Software Group	B	12.7%
Tencent Cloud	B	12.5%
Qubole	B-	12.4%
Redpanda	B-	12.0%
Hazelcast	B-	11.7%
Materialize	C++	11.2%
GridGain	C++	10.5%



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Appendix: Software Provider Inclusion

For inclusion in the ISG Buyers Guide™ for Real-Time Data 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 workers. 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.

Real-time data focuses on the sharing, processing and analysis of data communicated in messages and streams of messages generated by enterprise systems, devices and applications as business events occur. Real-time data processing enables enterprises to operate at the speed of business by acting on events as they happen.

To be included in the Real-Time Data Buyers Guide, the product must enable the sharing, processing and analysis of messages and streams of data generated by enterprise systems, devices and applications. It must be actively marketed as addressing at least two of the following functional areas, which are mapped into Buyers Guide capability model:

- Messaging and event processing
- Streaming data
- Streaming analytics
- Application integration

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 real-time data 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
Action	Action DataFlow	8.1	January 2025
Aiven	Aiven for Apache Kafka	March 2025	March 2025
	Aiven for Apache Flink	June 2024	June 2024
Alibaba Cloud	ApsaraMQ for Kafka	February 2025	February 2025
	Realtime Compute for Apache Flink	8.0.11	February 2025
Altair	Altair Panopticon	2025.1	2025
	Altair AI Studio	2025.0.1	February 2025
AWS	Amazon MQ,		
	Amazon Managed Service for Apache Flink	February 2025, 1.20	February 2025, September 2024
	Amazon Managed Streaming for Apache Kafka	November 2024	November 2024
	Amazon Data Firehose	November 2024	November 2024
	Amazon AppFlow	May 2024	May 2024
	Amazon API Gateway	March 2025	March 2025
	Amazon EventBridge	August 2024	August 2024
Cloud Software Group	TIBCO Enterprise Message Service	10.4.0	February 2025
	TIBCO Spotfire Data Streams	11.1.1	October 2024
	TIBCO Spotfire	14.4	June 2024
	TIBCO Cloud Integration	3.10.6.4	April 2025
Cloudera	Cloudera DataFlow	2.9.0-h5-b2	February 2025
	Cloudera DataFlow for Data Hub	7.3.1	December 2024
Confluent	Confluent Cloud	February 2025	February 2025
Cumulocity	Cumulocity Apama	10.15.5	June 2024
	Cumulocity Streaming Analytics	February	February 2025
Databricks	Databricks Data Intelligence Platform	April 2025	April 2025
Google Cloud	Google Cloud Managed Service for Apache Kafka	December 2024	December 2024
	Google Cloud Pub/Sub	March 2025	March 2025
	Google Cloud Dataflow	March 2025	March 2025
	Google Cloud Apigee	April 2025	April 2025
	Google Cloud Application Integration	April 2025	April 2025
GridGain	GridGain Platform	9.0.17	April 2025



Hazelcast	Hazelcast Platform	5.5.0	July 2024
Huawei Cloud	Huawei Distributed Message Service (DMS) for Kafka	September 2024	September 2024
	Huawei Data Lake Insight (DLI)	March 2025	March 2025
	Huawei Cloud ROMA Connect	April 2025	April 2025
IBM	IBM Event Streams	11.6.0	January 2025
	IBM Event Processing	1.3.0	January 2025
	IBM Cloud Pak for Integration	16.1.1	February 2025
Informatica	Informatica Data Engineering Streaming	10.5.8	February 2025
	Informatica Cloud Application Integration	April 2025	April 2025
Materialize	Materialize	0.137	March 2025
Microsoft	Azure Event Hubs	December 2024	December 2024
	Azure Event Grid	February 2025	February 2025
	Microsoft Fabric Real-Time Intelligence	January 2025	January 2025
	Azure Logic Apps	January 2025	January 2025
	Azure API Management	February 2025	February 2025
	Azure Stream Analytics	January 2025	January 2025
Oracle	Oracle Cloud Infrastructure Queue	February 2024	February 2024
	Oracle Integration	February 2025	February 2025
	Oracle Cloud Infrastructure (OCI) API Gateway	December 2023	December 2023
	Oracle GoldenGate Stream Analytics	19.1	November 2024
Qubole	Open Data Lake Platform	R64	March 2025
Redpanda	Redpanda	March 2025	March 2025
SAS	SAS Event Stream Processing	2025.03	March 2025
Solace	Solace Platform	March 2025	March 2025
Striim	Striim Cloud	5.0.6	February 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
DeltaStream	DeltaStream	No	Yes	No	Yes
Redpanda	Redpanda Cloud	Yes	Yes	Yes	No
RisingWave	RisingWave Cloud	No	Yes	No	Yes
StreamNative	StreamNative Cloud	No	Yes	Yes	Yes
Timeplus	Timeplus Enterprise	No	Yes	No	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

ISG Research provides subscription research, advisory, consulting and executive event services focused on market trends and disruptive technologies. ISG Research delivers guidance that helps businesses accelerate growth and create more value. For further information about ISG Research subscriptions, please visit research.isg-one.com.

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.