Operational Data Platforms Buyers Guide

Software Provider and Product Assessment

ISG Research

Operational Data Platforms

Operational data platforms include relational and non-relational databases (including NoSQL) as well as the increasing convergence of relational and non-relational approaches. Complemented by data operations and data intelligence platforms and tools, operational data platforms play a fundamental role in enabling enterprises to operate efficiently. Without operational data platforms, enterprises would be reliant on a combination of paper records, time-consuming manual processes and huge libraries of physical files to record, process and store business information. The extent to which that is unthinkable highlights the extent to which modern enterprises, and society as a whole, are reliant on operational data platforms.

Without operational data platforms, enterprises would be reliant on a combination of paper records, time-consuming manual processes and huge libraries of physical files to record, process and store business information.

ISG Research defines operational data platforms as environments for organizing and managing the storage and processing of data generated by applications targeted at business users and decision-makers to run the business, including finance, operations and supply chain, sales, human capital management, customer experience and marketing. In contrast, analytic data platforms are typically deployed to support applications used by data and business analysts to analyze the business.

Since the 1980s, the operational data platforms market has been dominated by the relational data model and relational database management systems. However, non-relational data models that pre-date relational, such as the hierarchical model, remain in use today. Recent decades have also seen the proliferation of non-relational data platforms as the use of NoSQL databases using key-value, document and graph models has increased.

Almost all enterprises will ultimately need to use a combination of operational data platforms. The initial adoption of non-relational database offerings is typically driven by the need to serve very specific requirements associated with the individual data model. As such, the various data models continue to be important considerations for non-relational database use cases. However, while a few specialist databases remain, a period of evolution and functional consolidation has resulted in most products supporting multi-model capabilities.

Many non-relational databases are now able to support a combination of data models, blurring the lines between the appropriate use cases. Additionally, non-relational database

software providers have also added capabilities and features that have previously been the preserve of the incumbent relational databases, including relational database concepts and even the SQL query language. Furthermore, we have seen adoption driven by requirements that transcend the data model. Developer agility is one such driver, as is horizonal scalability, which is increasingly important given the growing requirement for cloud-agnostic data platforms that support availability and scalability across multiple regions and data centers/cloud providers. One approach does not suit all use cases, and enterprises use a variety of operational data platforms to fulfill the spectrum of requirements for a myriad of applications.

While there have always been general-purpose databases that could be used for both analytic and operational workloads, traditional architectures have involved the extraction, transformation and loading of data from the operational data platform into an external analytic data platform. This enables the operational and analytic workloads to run concurrently without adversely impacting each other, protecting the performance of both.

This dynamic has been altered by the recent growth in the development of intelligent applications infused with contextually relevant recommendations, predictions and forecasting driven by machine learning (ML), generative AI (GenAI) and agentic AI. The emergence of these intelligent applications necessitates that operational data platforms support real-time analytic functionality, albeit without eradicating the need for complementary analysis of data in a separate analytic data platform. The need for real-time interactivity means that these applications cannot be served by traditional processes that rely on the batch extraction, transformation and loading of data from operational data platforms into analytic data platforms for analysis. Instead, they rely on analysis of data in the operational data platform itself via hybrid data-processing capabilities to accelerate decision-making or improve customer experience. We assert that by 2027, two-thirds of enterprises will have adopted new operational database products driven by the need to support the AI inferencing requirements of intelligent operational applications.

The Operational Data Platforms Buyers Guide assesses software providers and products positioned as operational data platforms on their ability to serve the specific requirements of operational use cases. Separately, we have also created the Analytic Data Platforms Buyers Guide, which excludes dedicated operational functionality and data platforms. Additionally, the Data Platforms Buyers Guide assesses a software provider's ability to serve a combination of both operational and analytic workloads with either a single data platform product or a set of data platform products, taking into account the analytic processing capabilities of

operational data platforms, and vice versa. Our assessments 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.

The ISG Buyers Guide™ for Operational Data Platforms evaluates software providers and products in key areas, including data persistence, data management, data processing and data query; database administrator functionality; developer functionality; data engineering functionality; and data architect functionality. To be considered for inclusion in the Operational Data Platforms Buyers Guide, a product must be marketed as a general-purpose data platform, database or database management system. The primary use case for the product should be to support worker- and customer-facing operational applications (such as financial, resource planning, human resources, customer management/experience, e-commerce or supply chain).

This research report evaluates the following software providers which offer products that are considered operational data platforms as we define it: Actian, Aerospike, Aiven, Alibaba Cloud, AWS, Broadcom, Cloudera, Cockroach Labs, Couchbase, EDB, Google Cloud, Huawei Cloud, IBM, IBM DataStax, InterSystems, MariaDB, Microsoft, MongoDB, Neo4j, Oracle, Percona, PingCAP, Progress Software, Redis, Salesforce, SAP, SingleStore, Tencent Cloud, VAST Data and Yugabyte.

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.

> **ISG Research has designed the Buyers Guide to provide a balanced perspective of software providers and products that is rooted in an understanding of business requirements in any enterprise.**

The ISG Buyers Guide™ for Operational Data Platforms 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 operational data platform 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 operational data platforms 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 operational data platform 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 operational data platform 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 operational data platforms 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 Oracle atop the list, followed by InterSystems and Google Cloud. Companies that place in the top three of a category earn the designation of Leader. Oracle has done so in six categories; InterSystems in four; Google Cloud in three; Actian and IBM in two; and AWS, MongoDB, Salesforce and SAP 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.

Operational Data Platforms
Overall

Providers	Grade	Performance
Oracle	A	Leader 89.1%
InterSystems	A-	Leader 87.3%
Google Cloud	A-	Leader 87.3%
IBM	A-	86.8%
Microsoft	A-	85.6%
AWS	A-	85.5%
SAP	A-	82.8%
MongoDB	A-	81.3%
Cloudera	B++	78.9%
Couchbase	B++	78.8%
Yugabyte	B++	78.4%
Progress Software	B++	78.1%
Actian	B++	77.6%
Broadcom	B+	74.9%
EDB	B+	73.1%
Alibaba Cloud	B+	72.7%
Salesforce	B+	72.1%
Huawei Cloud	B+	71.8%
SingleStore	B+	71.0%
Cockroach Labs	B+	71.0%
MariaDB	B+	70.9%
Tencent Cloud	B+	70.0%
Aiven	B+	69.8%
Neo4j	B	68.2%
IBM DataStax	B	67.9%
Aerospike	B	66.8%
PingCAP	B	66.3%
Redis	B	64.7%
VAST Data	B	64.2%
Percona	B-	59.6%

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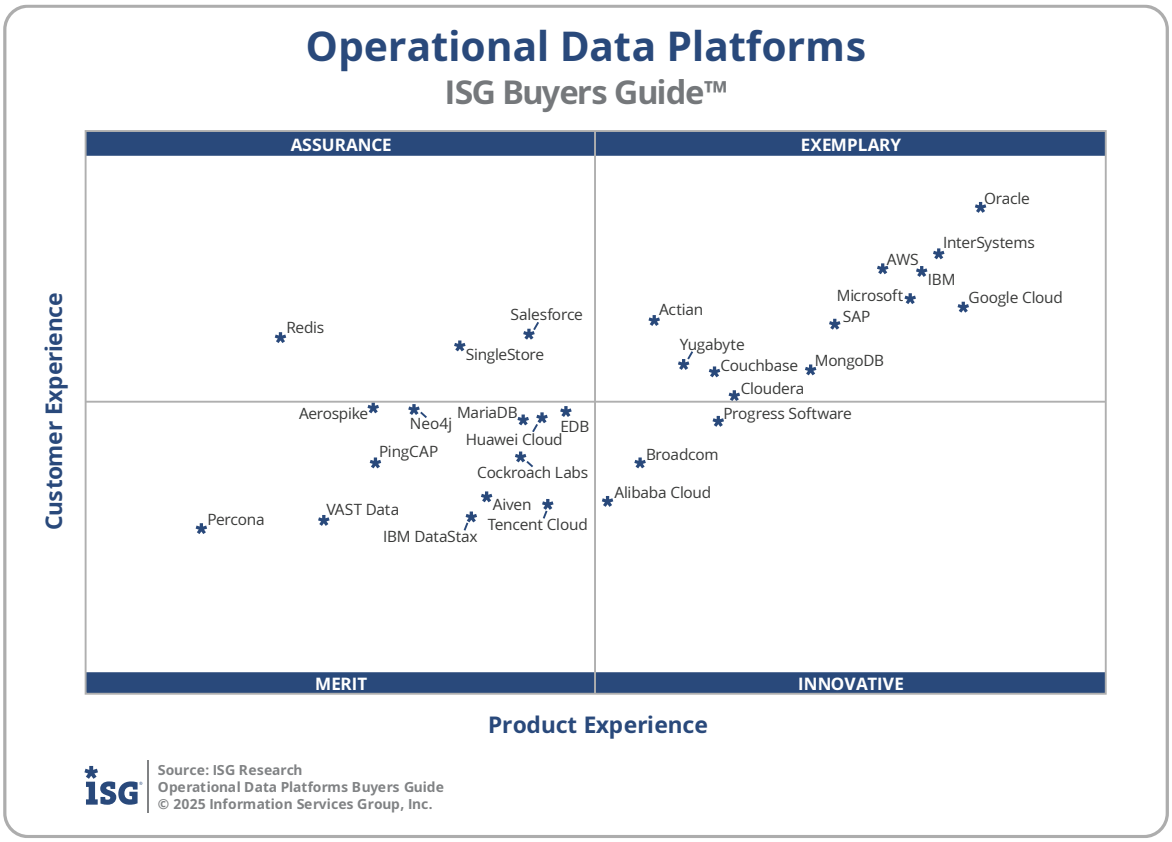
The research places software providers into one of four overall categories: Assurance, Exemplary, Merit or Innovative. This representation classifies providers' overall weighted performance.



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: Actian, AWS, Cloudera, Couchbase, Google Cloud, IBM, InterSystems, Microsoft, MongoDB, Oracle, SAP and Yugabyte.

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, Broadcom and Progress Software.

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 providers rated Assurance are: Redis, Salesforce and SingleStore.

Merit: The categorization of software providers in Merit (lower left) represents those that did not surpass the thresholds for the Assurance, Exemplary or Innovative categories in Customer or Product Experience. The providers rated Merit are: Aerospike, Aiven, Cockroach Labs, EDB, Huawei Cloud, IBM DataStax, MariaDB, Neo4j, Percona, PingCAP, Tencent Cloud and VAST Data.

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 operational data platforms, 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 lifecycle 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. Oracle, Google Cloud and InterSystems were designated Product Experience Leaders. While not a Leader, IBM was also found to meet a broad range of enterprise product experience requirements.

Operational Data Platforms

Product Experience

Providers	Grade	Performance
Oracle	A	*Leader* 71.8%
Google Cloud	A	*Leader* 71.1%
InterSystems	A	*Leader* 70.3%
IBM	A-	69.8%
Microsoft	A-	69.4%
AWS	A-	68.7%
SAP	A-	67.2%
MongoDB	A-	66.3%
Cloudera	B++	64.2%
Progress Software	B++	63.6%
Couchbase	B++	63.5%
Yugabyte	B++	62.5%
Actian	B++	61.5%
Broadcom	B++	61.1%
Alibaba Cloud	B+	59.8%
EDB	B+	58.5%
Tencent Cloud	B+	57.8%
Huawei Cloud	B+	57.6%
Salesforce	B+	57.3%
MariaDB	B+	57.0%
Cockroach Labs	B+	56.9%
Aiven	B+	55.8%
IBM DataStax	B+	55.3%
SingleStore	B	55.0%
Neo4j	B	53.4%
PingCAP	B	52.2%
Aerospike	B	52.2%
VAST Data	B	50.5%
Redis	B-	49.1%
Percona	B-	46.5%

Source: ISG Research
Operational Data Platforms Buyers Guide

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 lifecycle 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, InterSystems and AWS. These category Leaders best communicate commitment and dedication to customer needs. While not Leaders, IBM and Microsoft were also found to meet a broad range of enterprise customer experience requirements.

Operational Data Platforms

Customer Experience

Providers	Grade	Performance
Oracle	A	*Leader* 17.8%
InterSystems	A-	*Leader* 17.1%
AWS	A-	*Leader* 16.9%
IBM	A-	16.8%
Microsoft	A-	16.4%
Google Cloud	A-	16.3%
Actian	B++	16.1%
SAP	B++	16.0%
Salesforce	B++	15.9%
Redis	B++	15.8%
SingleStore	B++	15.7%
Yugabyte	B++	15.4%
MongoDB	B++	15.3%
Couchbase	B++	15.3%
Cloudera	B+	14.9%
Aerospike	B+	14.8%
Neo4j	B+	14.7%
EDB	B+	14.7%
Huawei Cloud	B+	14.6%
MariaDB	B+	14.6%
Progress Software	B+	14.5%
Cockroach Labs	B+	14.0%
Broadcom	B+	13.9%
PingCAP	B+	13.9%
Aiven	B	13.4%
Alibaba Cloud	B	13.3%
Tencent Cloud	B	13.3%
IBM DataStax	B	13.1%
VAST Data	B	13.0%
Percona	B	12.9%

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Source: ISG Research
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Software providers that did not perform well in this category were unable to provide sufficient customer case studies 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 Operational Data Platforms in 2025, a software provider must be in good standing financially and ethically, have at least $50 million in annual or projected revenue verified using independent sources, sell products and provide support on at least two continents, and have at least 100 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 last 12 months.

Operational data platforms provide an environment for organizing and managing the storage, processing, analysis, and presentation of data across an enterprise and play a critical role in operational efficiency, supporting and enabling operational applications that are used to run the business.

To be included in the Operational Data Platforms Buyers Guide, the product must support worker- and customer-facing operational applications (such as financial, resource planning, human resources, customer management/experience, e-commerce or supply chain).

The product must be marketed as an operational data platform, operational database or operational database management system and address the following functional areas, which are mapped into Buyers Guide capability criteria:

- Core database functionality (data persistence, management, processing and query)
- Database administrator functionality
- Developer functionality
- Data engineer functionality
- Data architect functionality

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 operational data platforms 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
Actian	Actian Ingres	12.0	May 2025
Aerospike	Aerospike Platform	8.0.0.7	April 2025
Aiven	Aiven for PostgreSQL	17.5	May 2025
Alibaba Cloud	Alibaba Cloud PolarDB for PostgreSQL	2.0.16.8.3.0	April 2025
AWS	Amazon RDS for PostgreSQL	17.5	May 2025
Broadcom	VMware Tanzu for Postgres	17.4	May 2025
Cloudera	Cloudera on cloud	N/A	April 2025
Cockroach Labs	CockroachDB	25.2.0	May 2025
Couchbase	Couchbase Capella	N/A	May 2025
EDB	EDB Postgres AI	Q1 2025	March 2025
Google Cloud	Google AlloyDB for PostgreSQL	N/A	May 2025
Huawei Cloud	Huawei Cloud Relational Database Service (RDS) for PostgreSQL	N/A	February 2025
IBM	IBM Db2	12.1.1	March 2025
IBM DataStax	DataStax Astra DB Serverless	N/A	May 2025
InterSystems	InterSystems IRIS	2025.1	May 2025
MariaDB	MariaDB Enterprise Server	11.4.5-3	March 2025
Microsoft	Microsoft Azure SQL	N/A	May 2025
MongoDB	MongoDB Atlas	23 April 2025	April 2025

Neo4j	Neo4j AuraDB	2025.05	May 2025
Oracle	Oracle Autonomous Database	N/A	May 2025
Percona	Percona Distribution for PostgreSQL	17.5.1	May 2025
PingCAP	PingCAP TiDB Cloud	N/A	May 2025
Progress Software	Progress MarkLogic Server	11.3.1	April 2025
Redis	Redis Cloud	N/A	May 2025
Salesforce	Salesforce Data Cloud	Summer '25	May 2025
SAP	SAP HANA Cloud	QRC 1/2025	March 2025
SingleStore	SingleStore Helios	N/A	May 2025
Tencent Cloud	TencentDB for PostgreSQL	N/A	February 2025
VAST Data	VAST Data Platform	5.3.0 -SP8	May 2025
Yugabyte	YugabyteDB	2024.2.3.0	May 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 >$50m	Operates on two continents	At least 100 employees	General Availability
ClickHouse	ClickHouse Cloud	No	Yes	No	Yes
Databricks	Databricks Data Intelligence Platform (Databricks Lakebase)	Yes	Yes	Yes	No
GridGain	GridGain Unified Real-Time Data Platform	No	Yes	Yes	Yes
Hazelcast	Hazelcast Cloud	No	Yes	Yes	Yes
Imply	Imply Polaris	No	Yes	Yes	Yes
PlanetScale	PlanetScale	No	Yes	No	Yes
ScyllaDB	ScyllaDB Cloud	No	Yes	Yes	Yes
Snowflake	Snowflake Platform (Snowflake Postgres)	Yes	Yes	Yes	No
TigerGraph	TigerGraph Cloud	No	Yes	Yes	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.