Data Platforms Buyers Guide

Software Provider and Product Assessment

ISG Research

Data Platforms

It is no exaggeration to state that today's enterprises—and society as a whole—are completely dependent on data platforms. Without 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. Without data platforms, complemented by data operations and data intelligence platforms and tools, there would be no enterprise or consumer applications, no social media, no digital commerce and no artificial intelligence.

Without 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 data platforms as providing an environment for organizing and managing the storage, processing, analysis and presentation of data across an enterprise. Data platforms play a critical role in operational efficiency, supporting and enabling operational applications that run the business, as well as analytic applications that evaluate the business.

Since the 1980s, the 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 using key-value, document and graph models, as well as data processing frameworks and object storage.

One approach does not suit all use cases, however, and enterprises use a variety of data platforms to fulfill the spectrum of requirements for myriad applications. While most data platforms were traditionally deployed on-premises, enterprises are increasingly deploying data platforms on cloud infrastructure or consuming data platform functionality via managed cloud services. More than one-half (58%) of participants in ISG's Market Lens Cloud Study are using cloud for the majority of data platforms.

At the heart of any data platform is the storage and management of a collection of related data. This is typically provided by a database management system (more commonly referred to simply as a database) that provides the data persistence, data management, data processing and data query functionality that enables access to and interaction with the stored data. The adoption of cloud computing environments has also led to the widespread use of object stores as a data persistence layer, with query engines such as Apache Spark, Apache

Presto and Trino adding the data management, data processing and data query functionality required of a data platform.

In addition to this core persistence, management, processing and query functionality, data platforms also provide additional capabilities targeted at workers in multiple roles, including database administrators, application developers, data engineers and data architects. These roles are typically part of the technology organization rather than business users or managers, but data platforms must increasingly support a range of users with differentiated responsibilities and functional requirements.

When selecting a data platform, there is one fundamental consideration that comes before all others: Is the workload primarily operational or analytic? The data platforms sector has traditionally been segmented between operational data platforms deployed to support applications targeted at business users and decision-makers to run the business and analytic data platforms typically supporting applications used by data and business analysts to analyze the business. Operational data platform workloads include finance, operations and supply chain, sales, human capital management, customer experience and marketing applications. Analytic workloads include decision support, business intelligence (BI), data science and artificial intelligence and machine learning (AI/ML).

> **The increasing importance of intelligent operational applications driven by AI is blurring the lines that have traditionally divided the requirements for operational and analytic data platforms.**

The increasing importance of intelligent operational applications driven by AI is blurring the lines that have traditionally divided the requirements for operational and analytic data platforms. Consumers are increasingly engaged with data-driven services that are differentiated by personalization and contextually relevant recommendations. Worker-facing applications are following suit, targeting users based on their roles and responsibilities. The shift to more agile business processes requires ML for more responsive data platforms and applications.

The need for real-time interactivity has significant implications for the data platform functionality required to support these 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 operational and analytic workloads to run concurrently without adversely impacting each other, protecting the performance of both.

Over time, dedicated analytic data platforms have also evolved differentiated architectural approaches designed to improve query performance. Intelligent applications, while operational in nature, rely on real-time analytic processing to deliver functionality, including contextually relevant recommendations, predictions and forecasting driven by ML, generative AI and agents. Data-driven enterprises continue to use specialist analytic and data science platforms to train models offline, but the need for real-time online predictions and recommendations requires operational data platforms that support ML inferencing. We assert that through 2027, data platform providers will prioritize the development of hybrid operational and analytic processing functionality to meet the requirements of intelligent applications driven by GenAI.

The popularization of GenAI has had a significant impact on the requirements for data platforms over the past two years, particularly in storing and processing vector embeddings. These multi-dimensional mathematical representations of features or attributes of raw data are used to support GenAI-based natural language processing (NLP) and recommendation systems. Vector search can also improve accuracy and trust with GenAI via retrieval-augmented generation, which is the process of retrieving vector embeddings representing factually accurate and up-to-date information from a database and combining it with text automatically generated by a large language model (LLM).

Our Data Platforms Buyers Guide is designed to provide a holistic view of a software provider's ability to serve a combination of both operational and analytic workloads with either a single data platform product or set of data platform products. As such, the Data Platforms Buyers Guide includes the full breadth of operational and analytic functionality, considering the analytic processing capabilities of operational data platforms and vice versa. 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. Software providers that primarily serve and provide only analytic or operational capabilities are represented in separate Buyers Guide research reports.

The ISG Buyers Guide™ for 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 Data Platforms Buyers Guide, a product must be marketed as a general-purpose data platform, database, database management system, data warehouse, data lake or data lakehouse. 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) and/or analytics workloads (business intelligence, artificial intelligence or data science).

This research evaluates the following software providers offering products that address key elements of data platforms to support a combination of both operational and analytic workloads: Actian, Aiven, Alibaba Cloud, AWS, Broadcom, Cloudera, Couchbase, EDB, Google Cloud, Huawei Cloud, IBM, InterSystems, MariaDB, Microsoft, Neo4j, Oracle, Percona, PingCAP, Progress Software, Salesforce, SAP, SingleStore, Tencent Cloud and Vast Data.

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 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 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 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 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 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 data platform 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 Oracle atop the list, followed by InterSystems and Google Cloud. Providers 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, IBM and SAP in two; and AWS, Microsoft and Salesforce in one category.

Data Platforms
Overall

Providers	Grade	Performance
Oracle	A	*Leader* 88.7%
InterSystems	A-	*Leader* 86.9%
Google Cloud	A-	*Leader* 86.8%
IBM	A-	86.5%
Microsoft	A-	85.8%
AWS	A-	85.3%
SAP	A-	83.1%
Cloudera	B++	78.7%
Progress Software	B++	78.0%
Couchbase	B++	77.8%
Actian	B++	76.7%
Broadcom	B+	74.5%
Salesforce	B+	73.1%
Alibaba Cloud	B+	72.9%
EDB	B+	72.5%
Huawei Cloud	B+	71.3%
SingleStore	B+	70.3%
MariaDB	B+	70.1%
Tencent Cloud	B+	69.3%
Aiven	B+	69.1%
Neo4j	B	67.8%
PingCAP	B	64.7%
VAST Data	B	63.2%
Percona	B-	58.3%

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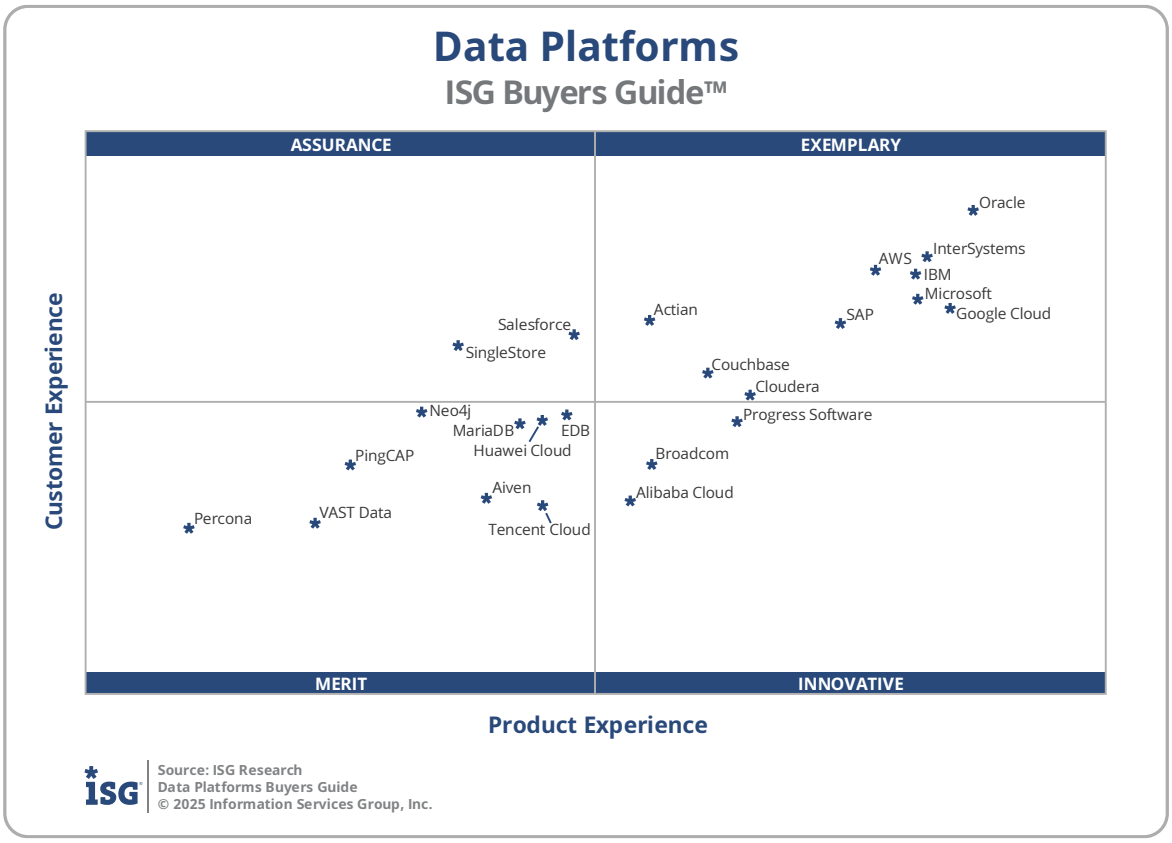
Source: ISG Research
Data Platforms Buyers Guide

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.



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, Oracle and SAP.

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: 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 provider rated Merit are: Aiven, EDB, Huawei Cloud, 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 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 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.

Data Platforms
Product Experience

Providers	Grade	Performance
Oracle	A	*Leader* 71.4%
Google Cloud	A	*Leader* 70.7%
InterSystems	A-	*Leader* 69.9%
Microsoft	A-	69.6%
IBM	A-	69.5%
AWS	A-	68.6%
SAP	A-	67.4%
Cloudera	B++	64.0%
Progress Software	B++	63.5%
Couchbase	B++	62.6%
Broadcom	B++	60.7%
Actian	B++	60.7%
Alibaba Cloud	B++	60.0%
Salesforce	B+	58.1%
EDB	B+	57.9%
Tencent Cloud	B+	57.1%
Huawei Cloud	B+	57.1%
MariaDB	B+	56.4%
Aiven	B+	55.3%
SingleStore	B	54.3%
Neo4j	B	53.1%
PingCAP	B	50.7%
VAST Data	B-	49.6%
Percona	B-	45.4%

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

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.

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%
SingleStore	B++	15.7%
Couchbase	B++	15.3%
Cloudera	B+	14.9%
Neo4j	B+	14.7%
EDB	B+	14.7%
Huawei Cloud	B+	14.6%
MariaDB	B+	14.6%
Progress Software	B+	14.5%
Broadcom	B+	13.9%
PingCAP	B+	13.9%
Aiven	B	13.4%
Alibaba Cloud	B	13.3%
Tencent Cloud	B	13.3%
VAST Data	B	13.0%
Percona	B	12.9%

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Source: ISG Research
Data Platforms Buyers Guide

Appendix: Software Provider Inclusion

For inclusion in the ISG Buyers Guide™ for 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 past 12 months.

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To be included in the Data Platforms Buyers Guide, the product must support worker- and customer-facing operational applications (such as financial, resource planning, human resources, customer management/experience, ecommerce or supply chain) and/or analytics workloads (business intelligence, artificial intelligence or data science).

The product must be marketed as a general-purpose data platform, database, database management system, data warehouse, data lake or data lakehouse 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 data platform 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
Actian	Actian Data Platform Actian Ingres	630.0.18 12.0	April 2024 May 2025
Aiven	Aiven for ClickHouse Aiven for PostgreSQL	24.8 17.5	March 2025 May 2025
Alibaba Cloud	Alibaba Cloud MaxCompute Alibaba Cloud PolarDB for PostgreSQL	N/A 2.0.16.8.3.0	March 2025 April 2025
AWS	Amazon SageMaker Unified Studio Amazon Redshift Amazon RDS for PostgreSQL	N/A patch 190 17.5	May 2025 May 2025 May 2025
Broadcom	VMware Tanzu Greenplum VMware Tanzu for Postgres	7.4.1 v. 17.4	April 2025 May 2025
Cloudera	Cloudera on cloud	N/A	April 2025
Couchbase	Couchbase Capella	N/A	May 2025
EDB	EDB Postgres AI	Q1 2025	March 2025
Google Cloud	Google BigQuery Google AlloyDB for PostgreSQL	N/A N/A	May 2025 May 2025
Huawei Cloud	Huawei Cloud Data Warehouse Service Huawei Cloud Relational Database Service for PostgreSQL	N/A N/A	February 2025 February 2025
IBM	IBM watsonx.data IBM Db2	2.1.2 12.1.1	April 2025 March 2025
InterSystems	InterSystems IRIS	2025.1	May 2025
MariaDB	MariaDB Enterprise ColumnStore MariaDB Enterprise Server	23.02.13 11.4.5-3	March 2025 March 2025

Microsoft	Microsoft Fabric Data Warehouse Microsoft Azure SQL	N/A N/A	April 2025 May 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
Salesforce	Salesforce Data Cloud	Summer '25	May 2025
SAP	SAP Business Data Cloud SAP HANA Cloud	1.0 QRC 1/2025	May 2025 March 2025
SingleStore	SingleStore Helios	N/A	May 2025
Tencent Cloud	Tencent Cloud TCHouse-C TencentDB for PostgreSQL	N/A N/A	February 2025 February 2025
VAST Data	VAST Data Platform	5.3.0 -SP8	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
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

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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.