

IBM Data Management

Seller presentation



Agenda



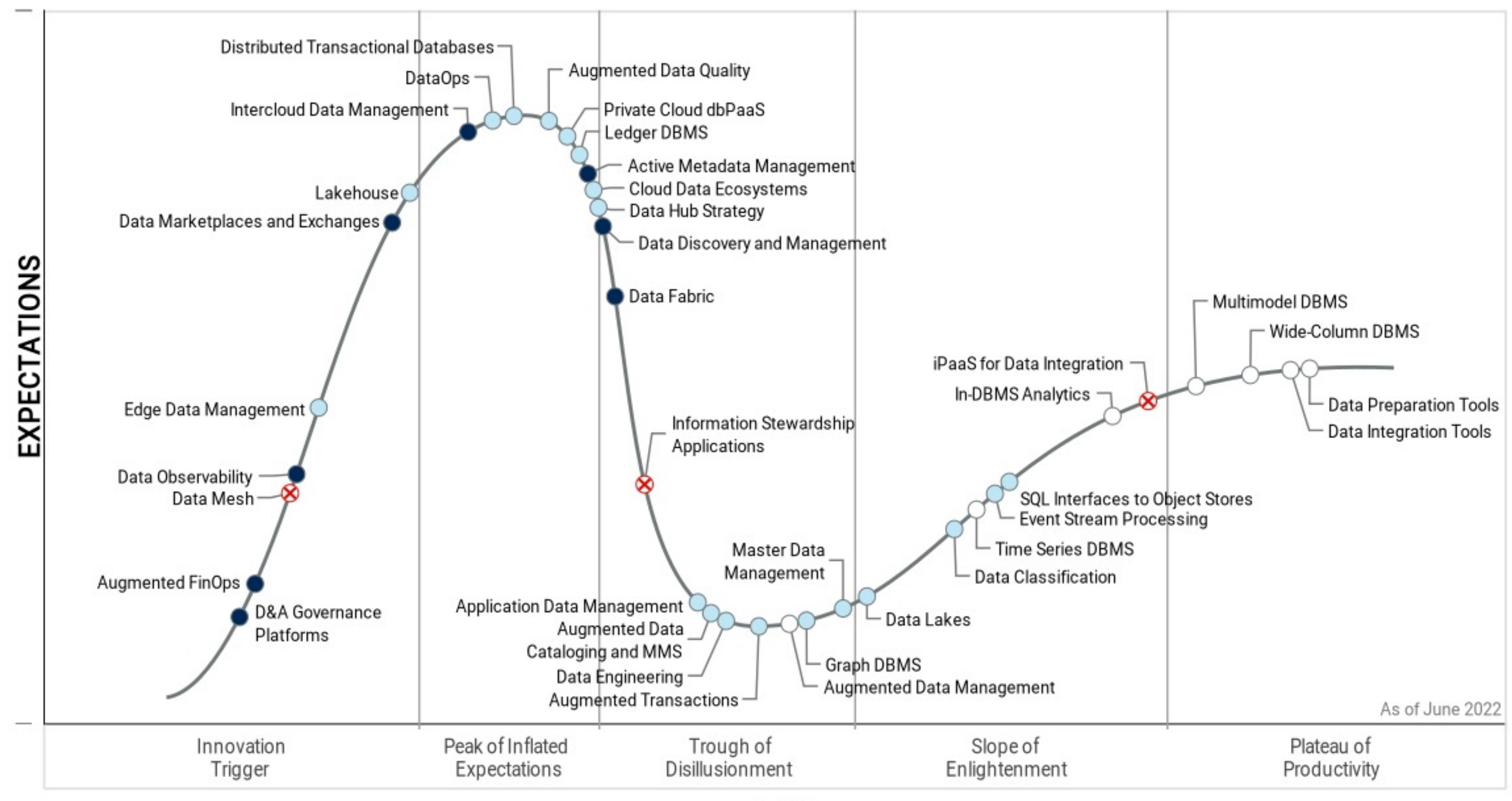
- Market trends
- Terminologies
- Key personas
- Portfolio overview
- Competitive view
- Resources

Gartner Hype Cycle of Data Management 2022

Data and analytics leaders must adapt to:

- Evolving requirements of digital business
- Deepening impact of cloud
- Increasing data complexity

Hype Cycle for Data Management, 2022



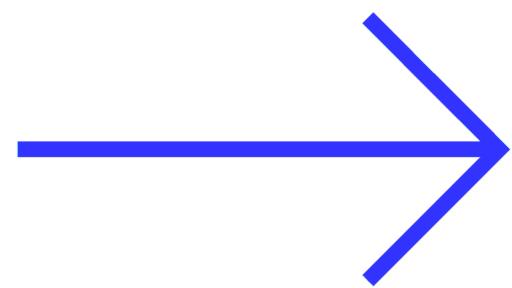
Gartner

Plateau will be reached: ○ <2 yrs. ● 2–5 yrs. ● 5–10 yrs. ▲ >10 yrs. ✗ Obsolete before plateau

Gartner

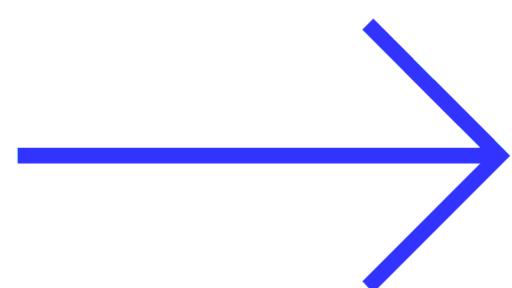
Trends in modernizing data management practices

Data strategy



- Support self-service exploration
- End-to-end governance of data and analytics
- Embrace open-source
- Flexibility and no lock-in
- Build a data fabric

Database selection



- Enterprise-grade capabilities to run any workload
- Flexible, containerized, and deployable on any cloud
- Hybrid form factors for public / private cloud
- Choices of database that fits the need
- Ability to store all types of data

Terminologies:

Data management disciplines

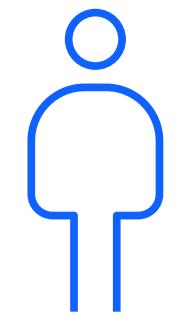
Terms	Descriptions
Data management	The practice of ingesting, processing, securing, and storing an organization's data, and then using that data for strategic decision-making to improve business outcomes.
Database management	Access, store, and maintain data to help organization drive value.
Master data management	Business and information technology (IT) users collaborate and innovate with a trusted 360-degree view of master data across the enterprise.
Data quality	Cleanse and manage data to support better decision-making.
Data integration	Transform structured and unstructured data from different sources into a trusted, unified view available to any system.
Data governance	Understand and govern all enterprise data to mitigate risk and accelerate insights.
Data virtualization	Gain a single view of disparate data without requiring data movement.
Data migration	The process of transferring data from one storage system or computing environment to another.
Data science	Combines math and statistics, specialized programming, advanced analytics, and/or artificial intelligence (AI)/machine learning (ML) with specific subject matter expertise to uncover actionable insights.

Terminologies:

Data architecture and concepts disciplines

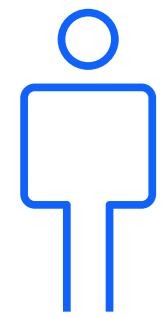
Terms	Descriptions
Data warehouse	Contains data pulled together from different sources into a single data repository, where the data is structured to answer specific queries from analytics applications like dashboards, reports, or machine learning (ML) training pipelines.
Data lake	A lower-cost system (than data warehouses) designed to store large volumes of data in different formats.
Data lakehouse	A cloud-based data architecture designed to support the best of both the data lake and data warehouse worlds: inexpensive, high-volume, flexible storage, and support for high-performance structured query language (SQL)-based workloads.
Data fabric	An architectural approach to simplify data access in an organization to facilitate self-service data consumption. This architecture is agnostic to data environments, processes, utility, and geography, all while integrating end-to-end data-management capabilities.
Data mesh	An approach centered on organizational processes to enable agile, domain-specific ownership and creation of reusable data products. It is technology agnostic and domain owners are responsible for the entire data lifecycle.
DataOps	Data operations (DataOps) is the orchestration of people, processes, and technology to deliver trusted, high-quality data to data citizens fast.

Key decision makers to data management conversations



Chief Data Officer

- Embed governance across the entire enterprise
- Simplify data access to all users
- Create an easy-to-use data marketplace
- Tap into data with full governance and trust



VP of Analytics

- Leverage quick access to data
- Improve decision-making processes
- Provide valuable insight from data dispersed on different platforms
- Reduce time finding and preparing data

Key **influencers** to data management conversations

Tech Operations Manager

Simplifies the technical process and operational integrity

Enterprise Architect

Maximize operational efficiencies and reduce costs and maintenance time

Data Engineer

Spend less time responding to incidents

Database Admin

Organize systems to secure a variety of data

Analytics Leader

Spend less time preparing data to deliver insights

Data Science Manager

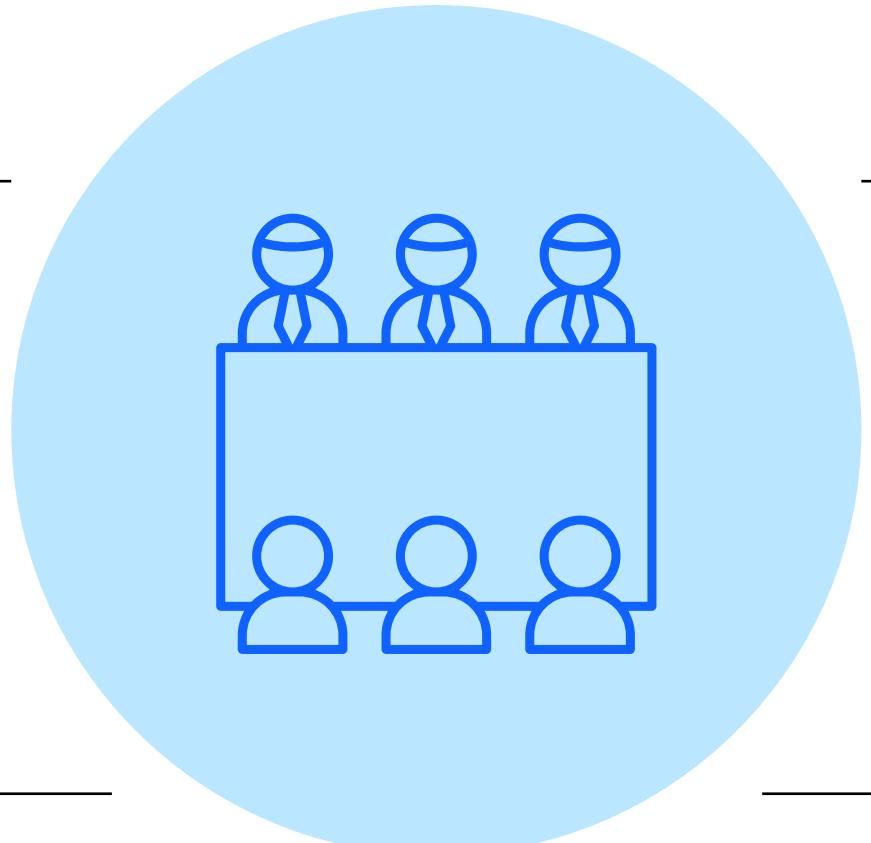
Provide valuable data direction and insight quickly

Data Scientists

Convert real, raw data into usable information for businesses to interpret

Compliance Officer

Ensure that data is unbiased and that businesses are keeping up with ever-changing legal regulations



IBM Data Management portfolio

Data Consumers

IBM data and AI

IBM Cloud Pak for Data

IBM DataStage

IBM Watson Knowledge Catalog

IBM Watson Query

IBM Watson Studio

Styles and method

Data Fabric

DataOps

Master data management

Data quality

Data integration

Data virtualization

Data preparation

Data science

Data lake

Data Warehouse

Data Mart

Operational Data Store

Transactional data systems

System of record

System of engagement

Edge Computing

Mobile Computing

IBM + IBM data eco-systems

Cloudera

SingleStore

MongoDB

EnterpriseDB

DataStax

IBM Netezza

IBM Db2 Warehouse

IBM Db2

IBM Db2 for z/OS

IBM Informix

Data types

Documents

Video / Audio

Logs: Web, email, systems, etc.

Relational data

Application data

Clickstream / Social media

Graphs and events

IoT / Telemetry

Geospatial / locational

Data Sources

IBM Db2

The database built to run mission-critical workloads

Multi-platform

Same database engine regardless of platform: on-premises, appliance, cloud, or containers

Transactional

Real-time execution of large volumes of database operations needed to support a business

Analytical

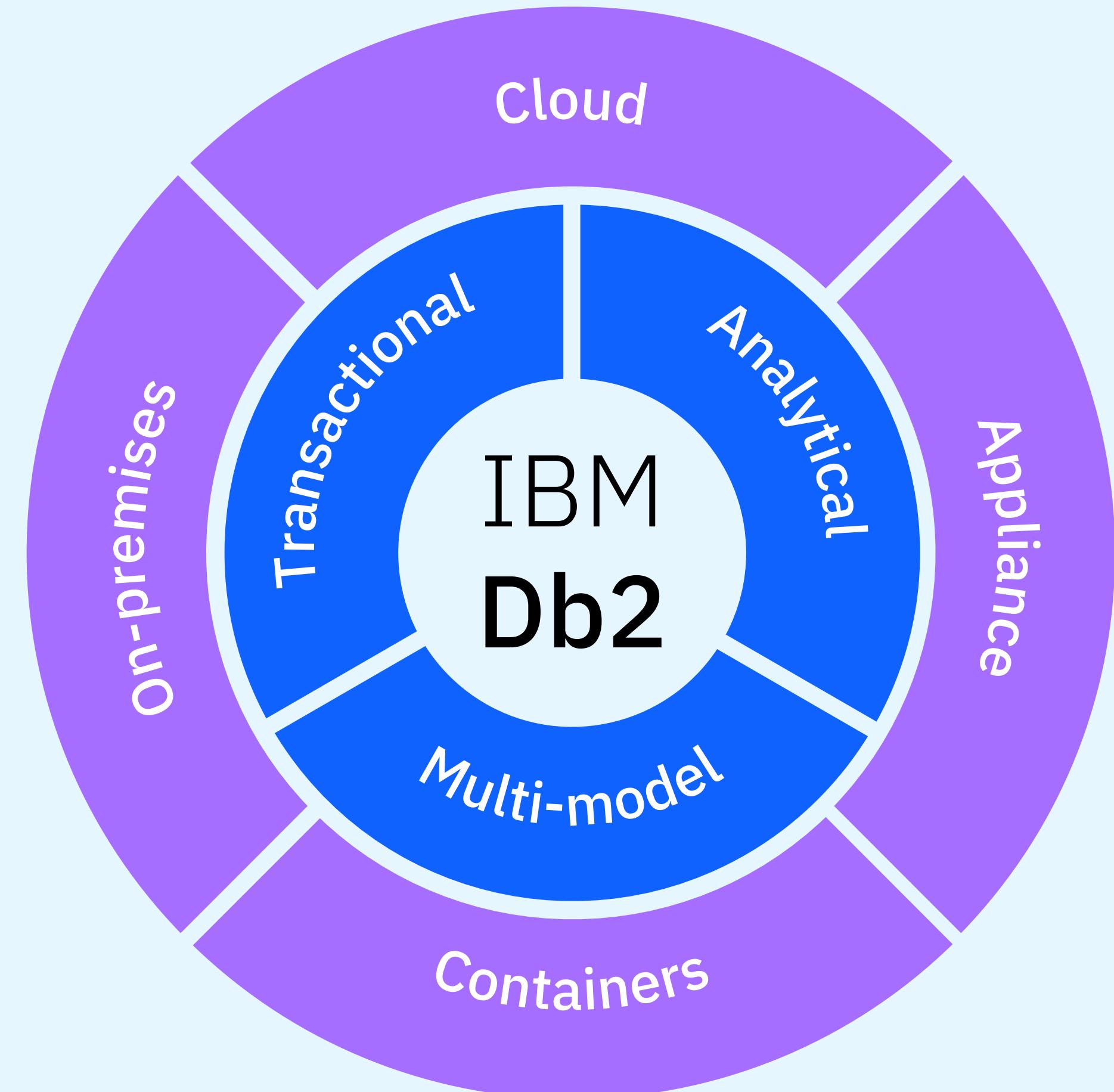
Multi-dimensional analysis on large volumes of data stored in a central location

Multi-model

Relational data, streaming data, graph queries, spatial analytics, and ML workloads

User driven

Consistent, persona-based (database administrator, developer, data scientist, etc.) experiences across all deployments



IBM Db2 on Cloud and IBM Db2 Warehouse on Cloud

Fully managed / Software-as-a-Service (SaaS)

Leave the information technology (IT) work to the cloud operations (CloudOps) team 24x7x365

Scalable, on-demand

Scale the environment as business grows

Highly available and reliable

Maintain business continuity with peace of mind

High performing and secure

Leverage blazing fast speed and enterprise-ready Db2 engine

Easy to use

Common interface makes it easy to work with the data and enables new users to analyze data quickly and efficiently

Rich developer ecosystem

Allow developers and business users to self-serve their needs

Integrated analytics

Run standard or custom predictive analytic models to quickly gain value from data



Db2 deployment options: On-premises and cloud

Activity	Db2 (on-premises)	Db2 (BYOL on IaaS)	Db2 Warehouse	Db2 on Cloud	Db2 Warehouse on Cloud
Provision hardware infrastructure		IaaS Vendor	Client or IaaS Vendor		
Manage hardware infrastructure					
Install Db2 software					
Create Db2 instance					
Create database(s)			IBM		
Configure database(s)	Client	Client	Client	IBM	IBM or AWS
Set up Db2 Native Encryption					
Backup and restore database(s)					
Maintain operating system					
Maintain Db2 software (i.e., install Mod/Fix Pack updates or upgrades)			IBM		
Manage database environment			Client		

Netezza Performance Server

A next-generation advanced data warehouse and analytics platform deployed on-premises or on cloud workloads

Purpose-built, standards-based data and AI system with in-database analytics

Speed

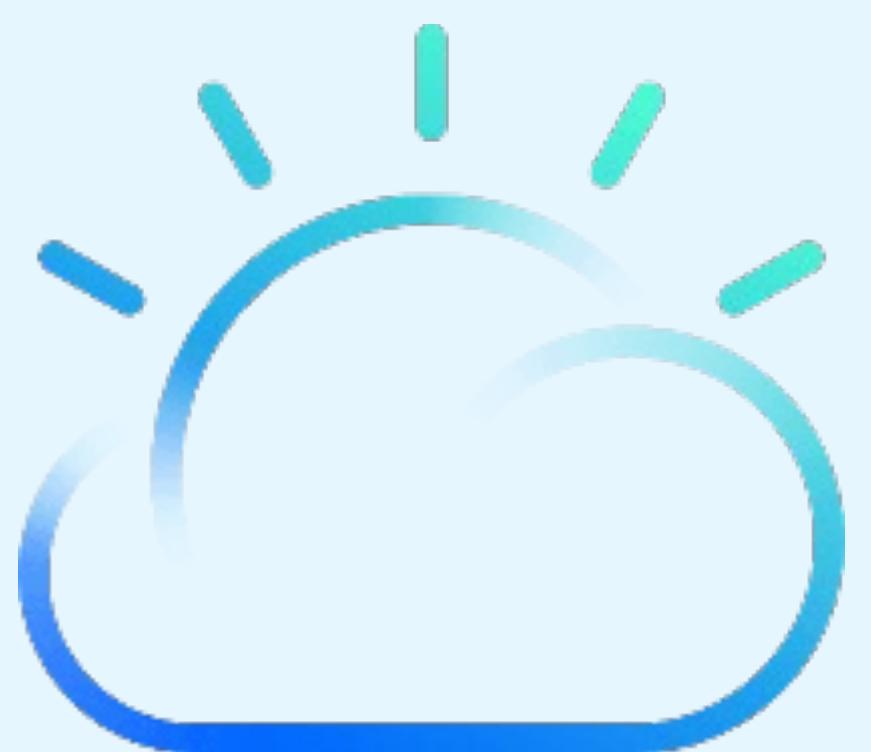
10 to 100x faster than traditional custom data warehouses with enterprise class workload management

Simplicity

“Load and go” data with no tuning required

Scalability

In-place scale-up configurations for on-premises deployments or dynamically scale up and down of compute in the public cloud

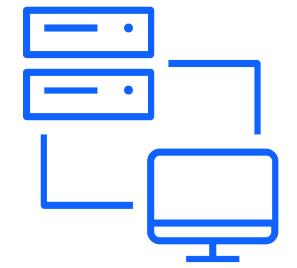


Netezza Performance Server as a Service (NPSaaS) highlights



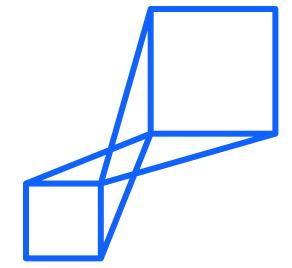
Enterprise asset management

Clients can manage their own data across multiple clouds to ensure flexibility and no cloud lock-in



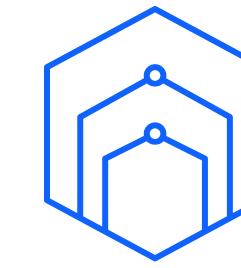
Facilities and real estate management

Workload contours allow clients to select compute and storage configurations that best suit their workload needs



Industry solutions

Compute can dynamically scale up and scale down in granular increments within a workload contour



Data lakehouse support

NPSaaS supports accessing Parquet files residing in cloud object storage as external tables

Informix

For the edge and beyond

Embedded integration

- Embedded integration
- Run in the smallest capacity devices and gateways
- Install footprint under 100MB running on ARM edge gateways
- Proven enterprise database for edge computing

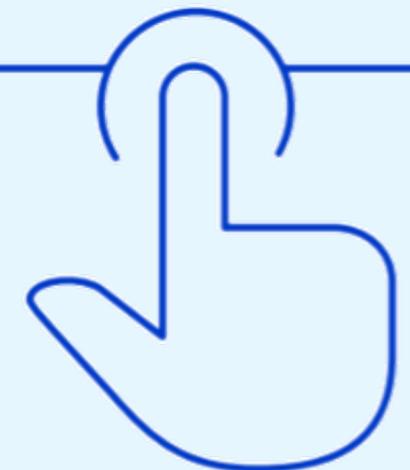
Distributed transactional processing

- Process 2M+ transactions per second with full consistency
- Seamless scalability from 700 to 75K concurrent users within 30 seconds
- Advanced resource utilization extract 10X per core performance

Business continuity

- Advanced data availability, active-active clustering, heterogeneous replication, and data sharing
- On-prem to cloud replication, point-in-time replication
- Cross geographic replication, edge computing replication, shared disk clustering

ibm.com/informix



Watson Query

Data virtualization to support data access and governance enforcement

Ease of use and self-service

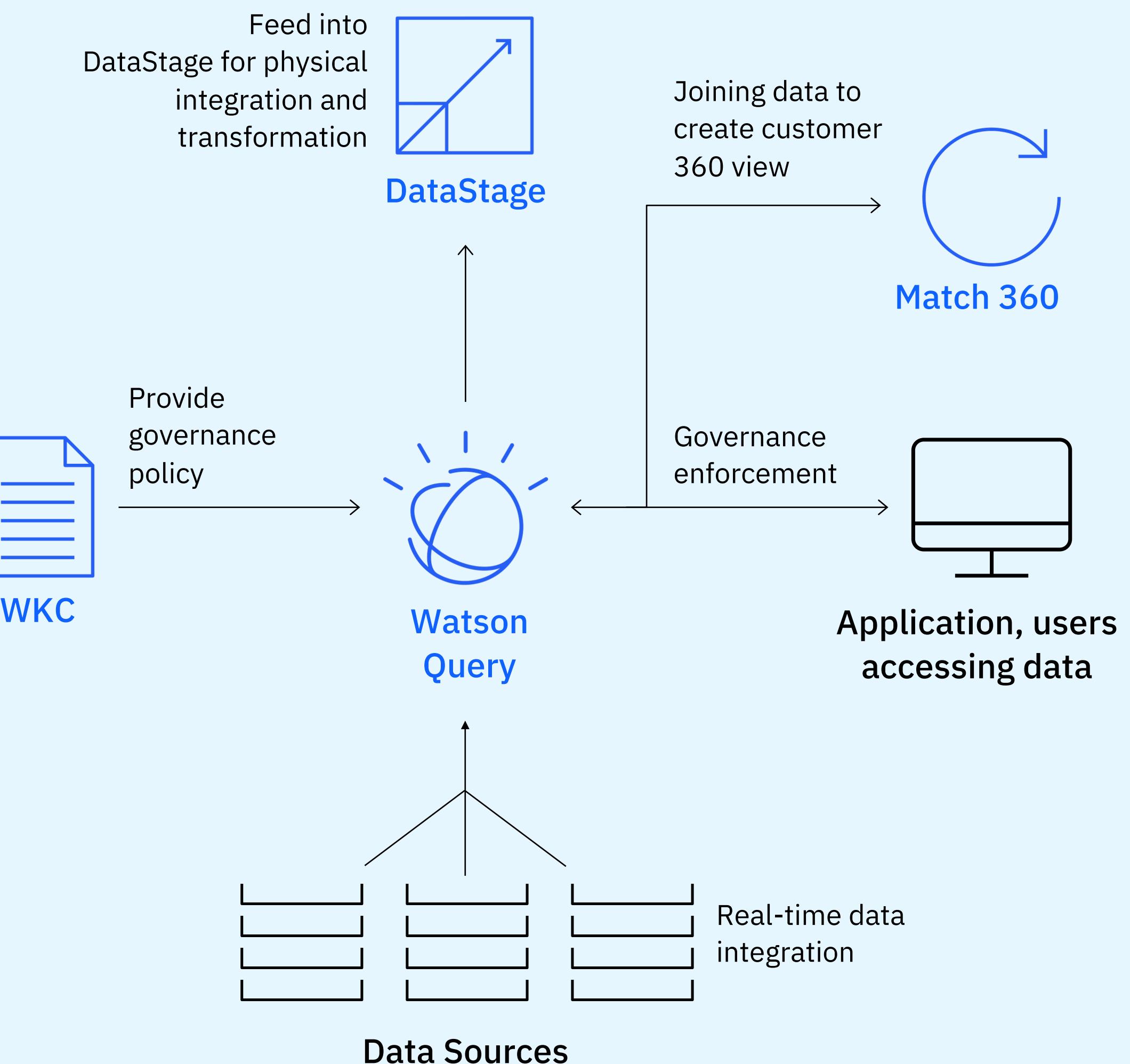
- Knowledge workers have self-service tools to find and match tables across systems to build custom virtual views
- Consumable from any analytics tool

Security and governance

- Centralized access control and data governance with fully encrypted communications
- Deep integration with WKC

Broad data source support

- Supports many data formats (relational, files, document, columnar), sources (databases, object storage, data lakes), and architectures (public/private cloud)



IBM value propositions for OEM database offerings

Long term strategic venture

Established industry leadership for enterprise open-source software

Best-in-class offerings

A wide range of market-leading offerings to suit client needs

Single source of support

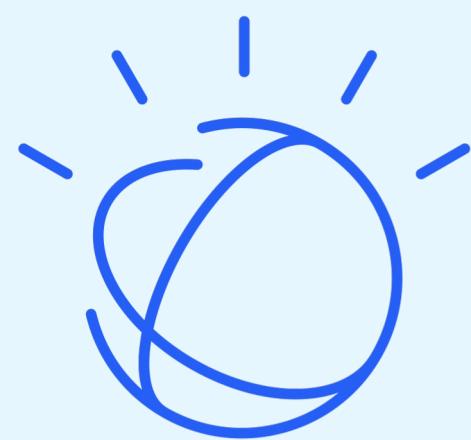
One support channel for IBM and OEM open-source software

Simplicity

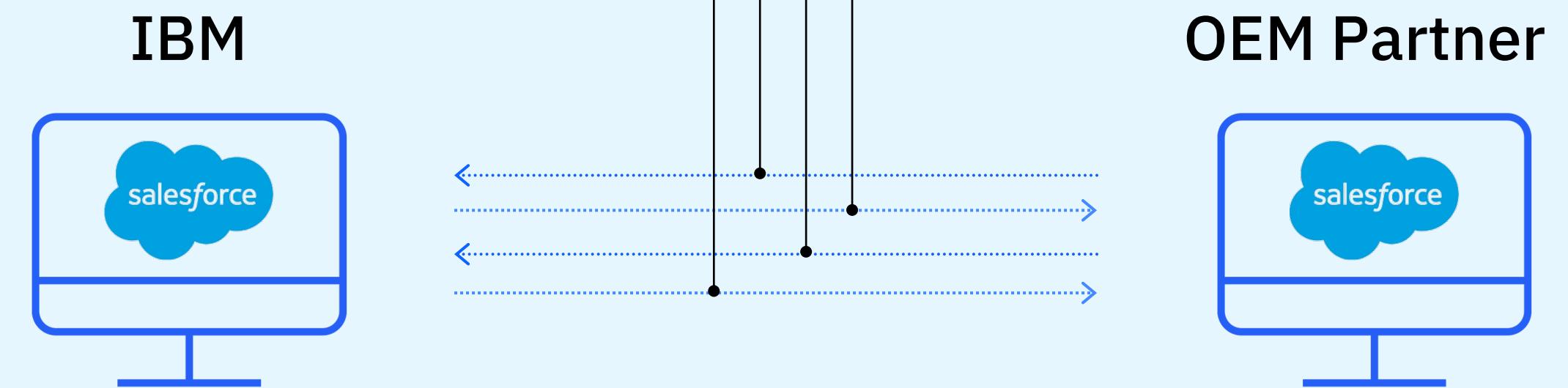
Multiple deployment options: private cloud or public cloud

On-ramp to AI and ML

Integration between OEM databases and AI analysis capabilities



Case attributes, comments and attachment flow automatically between Salesforce support instances



IBM L1 Support:
Acknowledges support incident and performs entitlement verification

Case enters OEM partner queue and is handled like direct client cases

IBM's market leading database partners portfolio

IBM OEM offerings consolidate and enhance procurement, support, and services and provide value-added integrations across the broader IBM portfolio



- #1 Open-Source relational database
- Leading contributor to PostgreSQL
- Proven Oracle compatibility

CLOUDERA

- #1 Open-Source Big Data Distribution
- Multi-function analytics on a unified platform
- IBM's advanced SQL engine for complex workloads

DataStax

- #1 Open-Source column-oriented database
- Distributed linear scalability and zero downtime
- Native support for CQL, JSON, REST and GraphQL application programming interfaces (APIs)



- #1 Open-Source NoSQL document database
- 80 Million plus developer downloads
- Support inclusive of System z

SingleStore

- Market leading HTAP
- Massive concurrency and low latency
- High-speed ingest
- 100X faster with 30% lower cost
- On-premises or hybrid
- Faster dashboard/Cognos
- "NewSQL" but MySQL wire compatible

Data management solutions and common workloads

Operational



Transactional relational database (extensive enterprise features and scalability)



Transactional relational database (extensive enterprise features, scalability, and embeddability)



Document database for systems of record and engagement
(OEM partnership)



Transactional, analytic, and operational relational database
(OEM partnership)

Analytics



Relational data warehouse (extensive enterprise features and scalability)



Columnar database for systems of record and engagement
(OEM partnership)



Distributed, relational, SQL database management system that features ANSI SQL support
(OEM partnership)

Big data



High performance SQL engine for data lakes



Data lake analytics platform
(OEM partnership)



Logical data warehousing with real-time data integration

Exploratory query

Common use cases and requirements

	Data lake	Data warehouse	Data mart	Operational data store	System of record	System of engagement	Edge computing	Mobile computing
Purpose	Data science, exploratory analytics	Analytics applications	Analytics applications	Support time-sensitive short-term decisions	Capture the state of the business	Website or social media back-end	IoT devices	Mobile apps, IoT devices
Volume	100TB+	50TB+	10TB+	10TB+	1-20TB	< 2TB	< 2TB	< 1GB
Operations	Read intensive	Read intensive	Read intensive	Read intensive	Read/write	Read/write	Read/write	Read/write
Database type	Relational, document, graph, +	Relational	Relational	Relational	Relational, document	Relational, document, graph, +	Relational, document, graph, +	Relational, document, graph, +
Data model	Dimensional, normalized	Dimensional	Dimensional	Normalized	Normalized	Normalized	Normalized	Normalized
Currency	Periodic refresh	Periodic refresh	Periodic refresh	Concurrent refresh	ACID transactions	ACID or BASE transactions	ACID or BASE transactions	ACID or BASE transactions
Scope	Multiple topics	Multiple topics	Single topic	Multiple topics	Single topic	Single topic	Single topic	Single topic

IBM named a leader in 2021
Gartner Magic Quadrant Cloud
Database Management Systems

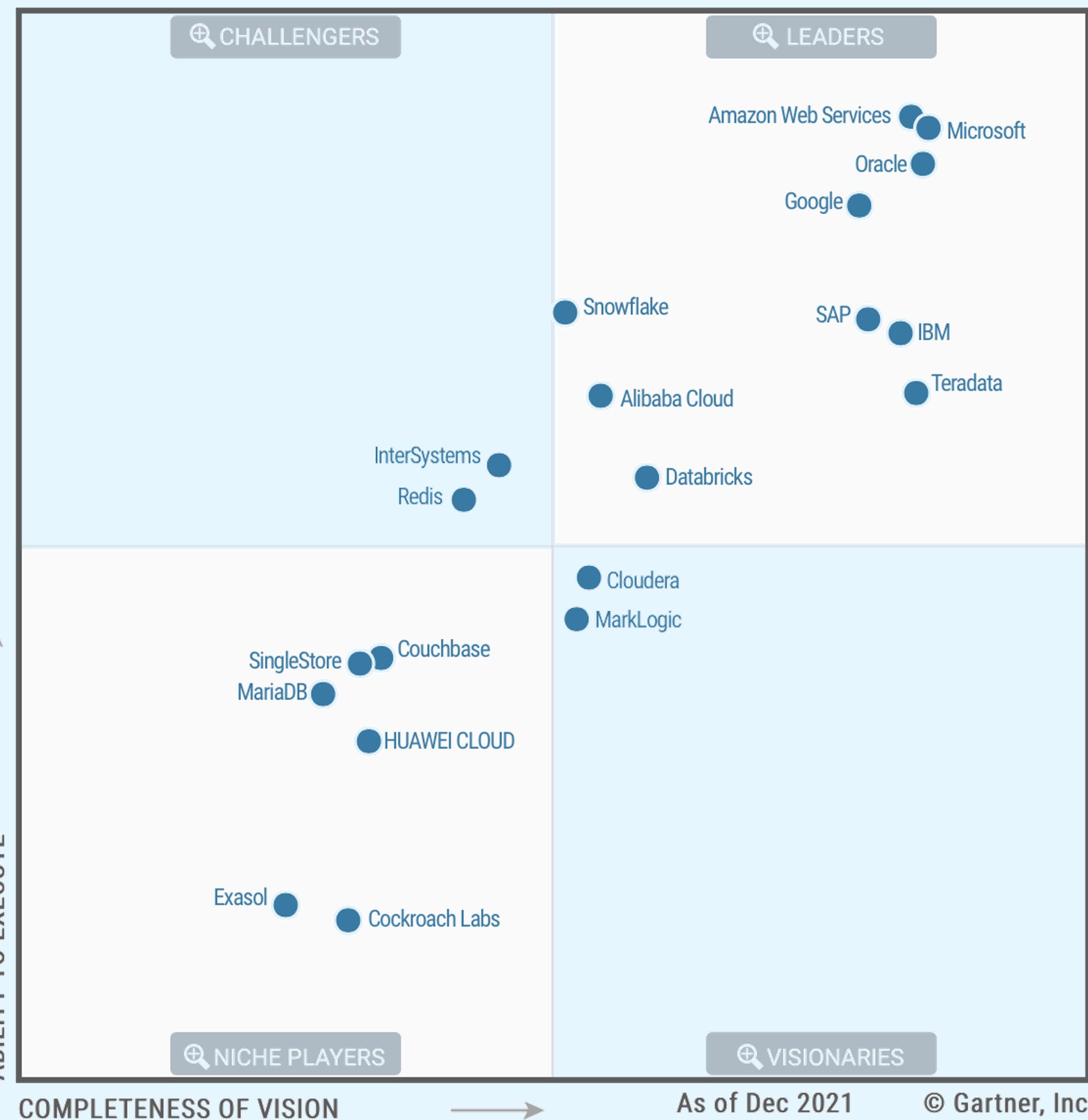
IBM's common competitors:

- Oracle
 - Microsoft
 - Amazon Web Services
 - Google
 - SAP
 - Teradata
 - Snowflake
 - Databricks

Gartner

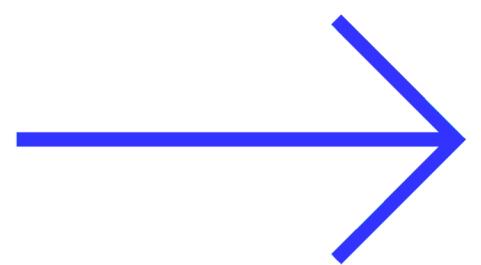
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2021 Magic Quadrant



Competitive advantages for IBM Data Management solutions

IBM competitive advantages



Watson Query/Data Virtualization

- A universal query engine that executes distributed and virtualized queries across data sources
- WQ with DV offers a single view of all data across data sources without data movement or replication

Industry-leading Workload Management (WLM) capabilities

- Ensures database resources are distributed among queries based on client priorities
- Consistent performance and effectively meet concurrency demands

Flexible, sensible scalability

- Easily scale out for on-premises deployments to meet client demands
- Scale up or scale down of compute in the cloud to optimize resources

End-to-end integrated data fabric solution

- Extend the client experience into IBM's Data Fabric to provide self-service data consumption
- Automates data discovery, governance, and consumption, enabling enterprises to use data to maximize their value chain

Analytics and AI technology and thought leadership

- Embedded analytics and AI/ML capabilities right where the data resides

Experts are available to help progress your deals

Tap into IBM expertise to build the AI skills required to successfully implement enterprise AI

01

[IBM Client Engineering →](#)
[\(IBM only link\) →](#)

Discovery workshops and consultation for planning an enterprise data fabric

02

[IBM Expert Labs →](#)

End-to-end model for accelerating digital transformation

03

[IBM AI Consulting →](#)

Expert AI consulting and design

04

[IBM Data and AI Community →](#)

Helping users become data-driven in everything they do



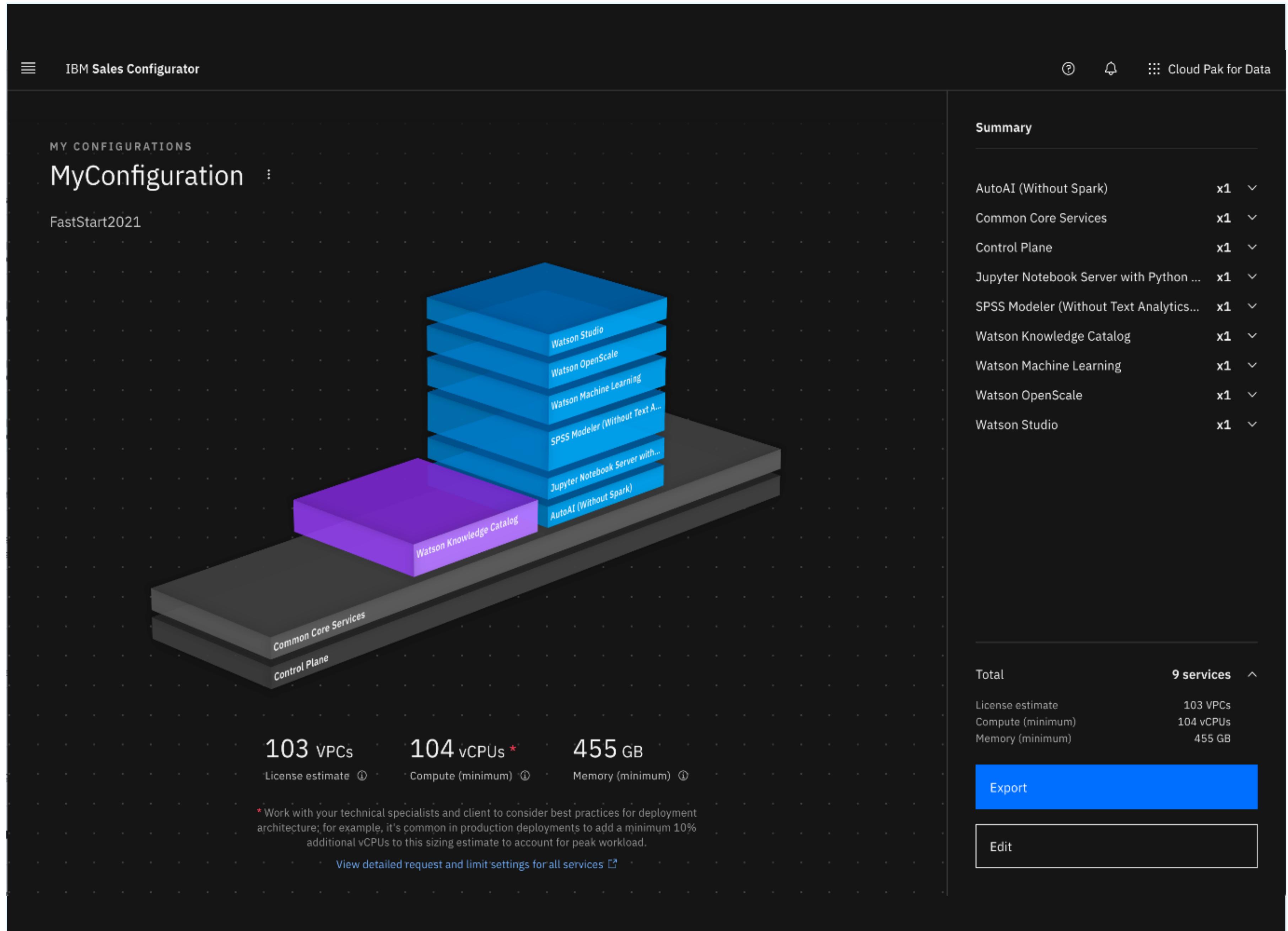
IBM Sales Configurator: Deal progression and closing tool

IBM Sales Configurator
tool generates a list of
parts for:

- IBM - SQO tool
- Business Partners -
Partner Guided
Selling Tool

[IBM Sales Configurator →](#)

NOTE: If you can't access the
Sales Configurator, request
access at the link above and
an admin will grant it within
24 hours



Resources

Demos

- [Cloud Pak for Data Outcomes Demos](#) →
- [Cloud Pak for Data Environments \(Asset Repo\)](#) →
- [Cloud Pak for Data as a Service](#) →

Seismic

- [Data and AI Home Page](#) →
- [Data Sources Solutions Sales Kit](#) →
- [Db2 Sales Kit](#) →
- [Netezza Performance Server \(NPS\) Sales Kit](#) →
- [Informix Sales Kit](#) →
- [OEM Strategic Partnerships Sales Kit](#) →
- [Technology Enablement courses for Data Management](#) →

Sales Tools

- [Sales Configurator](#) →
- [Key Contacts](#) →
- [IBM Client Engineering](#) →
- [IBM Data Science and AI Elite](#) →
- [Client Engineering Engagement Request \(IBM only\)](#) →
- [IBM Expert Labs](#) →
- [IBM AI Consulting](#) →
- [IBM Data and AI Community](#) →

