IBM

IBM Cloud Pak for Data as a Service

Integrated data and AI
services, fully managed
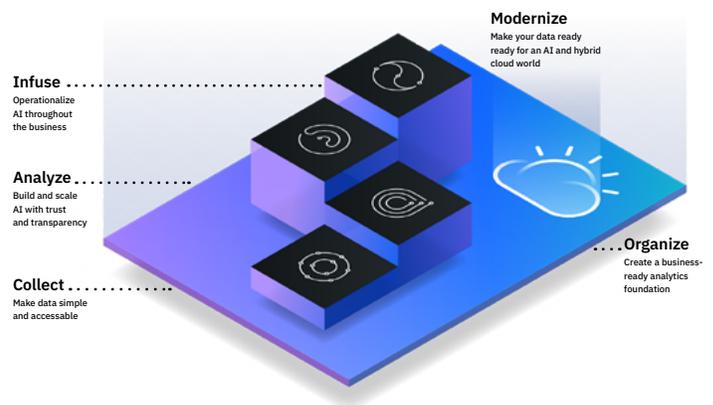on the IBM Cloud

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Highlights

– The value of managed
  services on IBM Cloud
  Pak for Data

– Use cases: Govern the AI
  lifecycle with as-a-Service

– Use cases: Optimize
  DataOps with as-a-Service

– Run data and AI
  workloads where they
  make the most sense

– Getting started with
  IBM Cloud Pak for
  Data as a Service

Enterprise data and AI, as-a-Service

In order to navigate the abundance of data in complex, distributed environments, organizations need a solid data foundation and strategy. Through over 30,000 AI engagements, IBM has developed a prescriptive approach to build this foundation and help clients accelerate their journey to AI—The AI Ladder™. This approach helps clients overcome the traditional IT challenges of complex and disparate tools and data sources, talent scarcity, and lack of trusted data in order to turn AI aspirations into real business outcomes.

The AI Ladder consists of four components:
1. **Collect**: Make data simple and accessible
2. **Organize**: Create a business-ready analytics foundation
3. **Analyze**: Build and scale AI with trust and transparency
4. **Infuse**: Operationalize AI throughout the business

IBM Cloud Pak® for Data is a platform that encompasses the entire AI Ladder through an open, cloud-native information architecture that can be deployed on the cloud of your choice, whether public, private or on-premises. It allows organizations to unify market-leading services spanning the entire analytics lifecycle: from data management, DataOps and governance to business analytics, data science and automated AI.

Since the release of IBM Cloud Pak for Data more than two years ago, IBM has continued to advance new features and additional deployment and consumption models. From its inception, IBM Cloud Pak for Data has been available as a client-managed software platform, but IBM realized that each organization is different and may need an "out-of-the-box" solution that can be stood up in a matter of hours. Therefore, 2019 saw the introduction of a second deployment option: IBM Cloud Pak for Data System, a pre-configured, hyper-converged system that combines storage, compute, networking and software into plug-and-play nodes and reduces private cloud deployment times to a matter of hours.

The third and most recent deployment option for the platform addresses some of the critical barriers to entry when deploying AI, with a fully managed "as-a-Service" experience. Delivering a set of the IBM Cloud Pak for Data services, fully managed on IBM Cloud® infrastructure, IBM Cloud Pak for Data as a Service eliminates underlying IT management challenges and helps organizations quickly scale the tools and processes as needed for enterprise AI in the cloud. Integrated with IBM Cloud Satellite™ services, IBM Cloud Pak for Data as a Service delivers a unified analytics experience across distributed cloud environments.

In this white paper, you'll discover the value of managed services on IBM Cloud Pak for Data, the key use cases and challenges that IBM Cloud Pak for Data as a Service resolves, and how you can get started on your journey to successful AI for free today.

The value of managed services on IBM Cloud Pak for Data

Modernizing your data estate for AI often requires costly resources—from talent and skills to infrastructure implementation and management. Although achieving AI is a widespread goal, many business leaders are finding that they are being forced to digitally transform far faster than originally planned. Global revenues for AI software, hardware and services were expected to total USD 156.5 billion in 2020, an increase of 12.3% over 2019.[1]

The concept of "as-a-Service" refers to software available as an on-demand licensing and delivery model basis. The benefits include scalability of the services you need, when you need them, so you can "pay as you go" to reduce costs and optimize usability. With the IBM Cloud Pak for Data as a Service subscription specifically, customers are able to select the services they need to achieve their desired data and AI outcomes and flexibly make adjustments along the way. With a subscription plan, customers can select the services of their choice available within the IBM Cloud and IBM Cloud Pak for Data catalog of offerings, and can easily spin up or spin down each service based on when they need to use it.

Fully managed on the IBM Cloud, IBM Cloud Pak for Data as a Service eliminates the traditional IT complexity of delivering critical data and AI services at scale, and offers:

– Simplified IT management
  Access a set of IBM Cloud Pak for Data services on the cloud (services listed on the right), within a fully managed and integrated, AI-infused platform and experience.
– Increased speed and agility
  Seamlessly plug software as-a-Service into your current architecture and adapt to your changing business needs.
– Proven trust and compliance
  Benefit from encryption, threat management, private endpoints and configurable access; IBM has you covered with the key enterprise governance capabilities to secure your data and AI workloads.

In the initial release of IBM Cloud Pak for Data as a Service, customers will be able to work with the following services listed below.

Collect services
IBM® Db2® Warehouse, Db2, Analytics Engine, PostgreSQL, Cloud Object Store, MongoDB, Cloudant®

Organize services
IBM Watson® Knowledge Catalog, Streaming Analytics, Events Streams, SQL Query

Analyze services
Watson Studio, Watson Machine Learning, Cognos® Dashboard Embedded, Explainable AI

Infuse services
Watson Assistant, Watson Discovery, Watson APIs

In future releases, additional core data and AI services will be available as-a-Service on IBM Cloud Pak for Data, including Cognos Analytics, Data Virtualization, Auto Discovery and Data Quality in Watson Knowledge Catalog, and DataStage® in 2021.

Use cases: Govern the AI lifecycle with as-a-Service

Building on the IBM Cloud Pak for Data as a Service foundation, the platform helps you automate the analytics lifecycle at scale with an integrated set of capabilities for AI model creation and lifecycle management, through a collaborative, self-service environment.

DataOps is a must-have if businesses want to succeed with their AI mission; it provides a business-ready data foundation for AI initiatives. To this end, IBM Cloud Pak for Data as a Service includes a set of cloud data management services, including Watson Knowledge Catalog as well as services spanning storage and data management, ingestion and governance for efficient self-service access to data and other key AI assets.

The platform helps you with these key 4 areas in DataOps and AI implementation:

Prep
Prepare and innovate for self-service data discovery and activation. Watson Knowledge Catalog allows users to access, curate, categorize and share data and assets wherever they are, through intelligent cataloging backed by active metadata and policy management.

– An implementation of data and AI in an enterprise-wide data operations program yielded results, such as 90% reduction in cycle time and USD 27 million in productivity savings due to metadata and policy management.[2]

Build
Solve business problems by predicting and optimizing your outcomes using Watson Studio, which provides you with the environment and tools you need to build AI models anywhere using open source code or visual modeling.

– Visual modeling in Watson Studio on IBM Cloud Pak for Data preserves investments in current skills and offers a projected 40% higher efficiency.[3]

Run
Deploy and run custom ML models in production, across any cloud, whether in an application or business process. With Watson Machine Learning, streamline model management and deployment end-to-end, and make predictions for your business.

– Watson Machine Learning can accelerate the time to value of any model, with a projected ROI of 459% over 3 years and payback in less than 6 months.[4]

Manage
Operationalize, automate and govern the management of models and tools across your business with model monitoring on IBM Cloud Pak for Data, which helps to reduce bias and explain AI outcomes.

– Model monitoring on IBM Cloud Pak for Data reduces monitoring effort by a projected 35% to 50%, allowing companies to develop between 1.5x and 2x more AI and ML models.[5]

These individual cloud services integrate cohesively in IBM Cloud Pak for Data as a Service to help businesses get started quickly, with less effort.

Use cases: Optimize DataOps with as-a-Service

Analytics and AI are only as powerful as the data fueling them. By combining data management, integration, cataloging and self-service, IBM Cloud Pak for Data as a Service offers clients the critical capabilities required to build a DataOps information architecture in the cloud, including:

Data storage and management

Modernize and extend your online transaction processing (OLTP) databases and data warehouses to a cloud-native architecture. Store large volumes of diverse data to process and analyze across multiple platforms and languages. Make it easy to get fast queries directly on your cloud data lake storage, coupled with an IT-governed, self-service experience for data consumers to find and use data. IBM Cloud data services enhance data management by working with existing IBM Cloud investments for security, management and compliance.

Data cataloging and prep

With integrated tools and cataloging capabilities, you can provide a single place for users to view and easily find all data assets across different departments. This consolidated view empowers team members with self-service data search so they can quickly find and share insights that can improve the business. The integrated quality and governance solutions also help manage data, protect it from misuse and ensure proper metadata tags and lineages are in place. The platform also integrates with other IBM Cloud data services, resulting in the hybrid, open source-based approach that application developers, data scientists and IT architects seek to address their data-intensive needs.

Data governance and security

Ungoverned sensitive data can lead to massive regulatory penalties. Overcome the burdens of growing data privacy regulations by looking more holistically at how you store and use data. IBM Watson Knowledge Catalog is a core solution within IBM Cloud Pak for Data as a Service and can help automate the classification and profiling of data assets and automatically enforce data protection rules established to anonymize and restrict access to sensitive information. More importantly, if something goes wrong, controls allow you to rapidly respond to an issue, whether that means flagging sensitive data, identifying and remediating issues, or collecting information in response to an audit.

Run data and AI workloads where they make the most sense

85% of enterprises already operate in multicloud environments, and those that don't currently, will soon. By 2021, 98% of companies plan to use multiple hybrid clouds.[6] Although IBM Cloud Pak for Data as a Service is fully managed on IBM Cloud, IBM also recognizes that customers may have data spread across distributed environments.

With an increasing number of enterprises taking advantage of distributed IT architectures that utilize multiple cloud providers and environments, it's more crucial than ever before to provide seamless access to all enterprise data while ensuring a consistent experience. IBM Cloud Pak for Data as a Service breaks down organizational silos with secure connection points that provide access to enterprise data across locations or clouds. Building on these secure connections is the integration with IBM Cloud Satellite.™ Using IBM Cloud Pak for Data as a Service with IBM Cloud Satellite, organizations can securely run their managed data and AI workloads across distributed IT environments. The joint solution helps you run critical data and AI workloads next to your data on clouds in various global geographies, with the initial roll-out in North America, and extending to other regions throughout 2021. By allowing data scientists to deploy and execute their notebooks and jobs locally in environments outside of IBM Cloud, IBM Cloud Satellite will eliminate the need to move or copy data for analysis and help maintain existing compliance with data locality and data sovereignty policies.

IBM Cloud Pak for Data as a Service with IBM Cloud Satellite enables users to benefit from a seamless and unified data analysis experience across environments, further empowering them to efficiently build machine learning models in the cloud, and run those models in the same cloud region where data is stored. Data scientists and developers can now speed time to insight so their organization can stay innovative and keep up with the pace of today's market.

Getting started with IBM Cloud Pak for Data as a Service

IBM Cloud Pak for Data as a Service provides an integrated set of IBM Cloud Pak for Data services fully-managed on the IBM Cloud. Accelerate your journey to successful AI while benefiting from simplified IT management, increased speed and agility, and proven trust and compliance.

This initial release is just the beginning of the journey for IBM Cloud Pak for Data as a Service, with the ultimate end state encompassing the full breadth and depth of the services IBM has to offer in IBM Cloud Pak for Data. Take the next steps by looking at the resources available below, including a free trial of IBM Cloud Pak for Data as a Service.

Resources and next steps

– Register for a free IBM Cloud Pak for Data as a Service trial
– Have a question and want to speak to an expert?
– Watch the IBM Cloud Pak for Data as a Service webinar

1   IDC Worldwide Semiannual Artificial Intelligence Tracker, Aug 4, 2020

2   Inderpal Bhandhari, Accelerating Digital Transformation with DataOps. IBM THINK Blog, 23 March 2020.

3   Forrester Research, New Technology: The Projected Total Economic Impact™ Of Explainable AI And Model Monitoring In IBM Cloud Pak For Data, 2020.

4   Forrester Research, The Total Economic Impact of IBM Watson Studio and Watson Knowledge Catalog, 2018.

5   Forrester Research, New Technology: The Projected Total Economic Impact™ Of Explainable AI And Model Monitoring In IBM Cloud Pak For Data, 2020.

6   Steve Cowley, Lynn Kesterson-Townes, Arvind Krishna and Sangita Singh, Assembling your cloud orchestra: A field guide to multicloud management. IBM, 2018.