



Simplify deployment and operation of SAP Data Intelligence

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According to IDC, the amount of global data creation and replication will experience a compound annual growth rate of

23%

over the 2020-2025 forecast period.¹

With AI and ML capabilities, SAP Data Intelligence helps you turn your data into a valuable asset.

Red Hat provides a flexible, efficient, and security-focused hybrid cloud foundation for SAP Data Intelligence.

This foundation is simpler to deploy and works consistently and reliably across on-site, cloud, and edge infrastructure.

Modern business relies on data

In a digital world, your data can be a competitive advantage. And IDC predicts that the amount of global data creation and replication will experience a compound annual growth rate (CAGR) of 23% over the 2020-2025 forecast period.¹ Even so, collecting data is only the starting point—how you use your data is the real differentiator.

Artificial intelligence (AI) and machine learning (ML) technologies like SAP® Data Intelligence can help you turn your data into a valuable business asset. These technologies use data to deliver insight, automate tasks, and advance system capabilities.

However, successfully deploying a [container](#) foundation for SAP Data Intelligence can be a complicated and time-consuming task. The software runs only on select [Kubernetes-based](#) platforms and building an efficient, secure, and certified container foundation requires detailed knowledge and planning. And many organizations lack the time, resources, or experience to deploy Kubernetes and containers quickly and effectively.

Red Hat simplifies Kubernetes deployment and management with an integrated, consistent foundation for SAP Data Intelligence that works across on-site, cloud, and edge infrastructure.

Build a flexible, efficient, and security-focused foundation with Red Hat

Red Hat offers a complete Kubernetes-based, [hybrid cloud](#) foundation for SAP Data Intelligence deployment, operation, and maintenance. Each component of the foundation delivers essential capabilities within the solution.

- [Red Hat® OpenShift®](#) provides an enterprise-grade, Kubernetes-based hybrid cloud environment for running containerized workloads and developing AI workflows and applications.
- [Red Hat OpenShift Data Foundation](#) unifies structured and unstructured data onto a single persistent, scalable, software-defined storage platform that is integrated with Red Hat OpenShift.
- [Red Hat Advanced Cluster Management for Kubernetes](#) controls clusters and applications from a single console—with built-in security policies—to deploy applications, manage clusters, and enforce policies across clusters at scale.
- [Red Hat Integration](#) provides a comprehensive set of integration and messaging technologies—including [Red Hat AMQ](#) and [Red Hat AMQ streams](#)—to connect applications and data across hybrid infrastructures.
- [Red Hat Process Automation](#) offers products like [Red Hat Decision Manager](#) for intelligently automating business decisions and processes across hybrid environments.

SAP Data Intelligence integrates with both Red Hat OpenShift and Red Hat OpenShift Data Foundation to create a more streamlined environment.



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¹ IDC. "Data Creation and Replication Will Grow at a Faster Rate than Installed Storage Capacity, According to the IDC Global DataSphere and StorageSphere Forecasts," 24 March 2021.



100%

of commercial banks, airlines, healthcare companies, and telecommunications companies in the Fortune Global 500 rely on Red Hat technologies.²

Gain benefits across your organization

A Red Hat hybrid cloud foundation provides key features and benefits for your SAP Data Intelligence deployment as well as your organization.

- **Kubernetes leadership and expertise.** Take advantage of Red Hat's open source and Kubernetes experience and leadership to build and operate a reliable, efficient, and security-focused environment more quickly and easily.
- **Multiple storage formats.** Consistently deploy and manage both object and block storage for SAP Data Intelligence. Consolidate your storage onto Red Hat OpenShift nodes to reduce your hardware needs and increase efficiency.
- **Self-service capabilities.** Give data scientists and developers the resources they need to build data pipelines and models faster with automated catalogs and provisioning.
- **Support for edge use cases.** Take advantage of edge and Internet of Things (IoT) use cases with flexible deployment scenarios that help you gather data and train and deploy AI and ML models aligned with your infrastructure requirements.
- **Advanced, integrated security.** Protect your organization and assets with built-in security features and automated policy enforcement across your entire environment.
- **Included tools, languages, and runtimes.** Give data scientists and developers the tools, languages, and runtimes they want to use without worrying about compatibility issues.
- **Platform consistency.** Deploy and manage Red Hat OpenShift nodes and clusters in the same manner across on-site, cloud, and edge infrastructure. Run SAP Data Intelligence on Red Hat OpenShift on physical; virtual; private, public, and hybrid cloud; and edge infrastructure.
- **Automated management and operations.** Simplify installation, configuration, and maintenance with automated workflows and operations.
- **Self-healing design.** Improve reliability and uptime with Red Hat OpenShift [operators](#) and cluster health monitoring capabilities.

Take advantage of edge applications and use cases

Deploying SAP Data Intelligence on a Red Hat foundation lets you take advantage of data produced by devices at the [edge](#) in your AI and ML pipelines and models. With the Red Hat solution, you can choose from several deployment patterns to align with your organization's needs.

² Red Hat client data and Fortune Global 500 list for 2020.

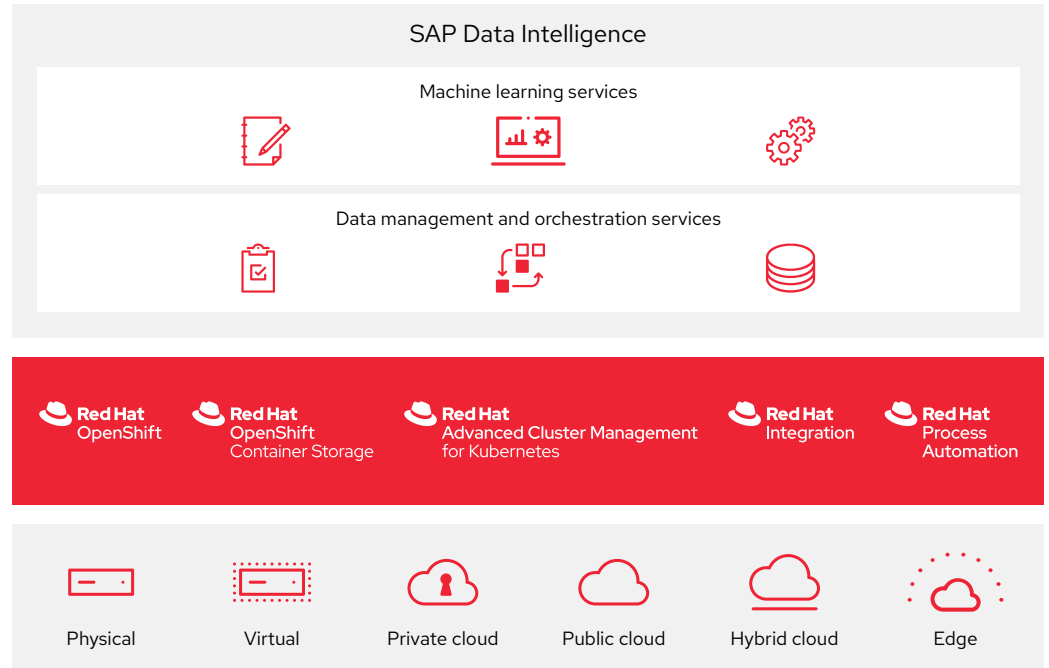


Figure 1. The Red Hat foundation for SAP Data Intelligence delivers consistently across on-site and cloud infrastructure.

Intelligent edge pattern

The intelligent edge pattern works well for edge installations that have a reliable connection to your datacenter. It uses gateway infrastructure at the edge to collect data from and deliver AI and ML outcomes to IoT devices and provide additional processing capabilities beyond your datacenter. The IoT gateway runs Red Hat OpenShift, Red Hat OpenShift Data Foundation, and Red Hat Middleware to store and act upon device data, execute business rules, and feed data to AI and ML models in SAP Data Intelligence in your datacenter. Once the data is analyzed, values and outcomes are returned to your IoT devices via the direct connection.

Hybrid pattern

The hybrid pattern allows you to operate a disconnected edge infrastructure. As in the intelligent edge pattern, a gateway infrastructure at the edge runs Red Hat OpenShift, Red Hat OpenShift Data Foundation, and Red Hat Middleware to store and act upon device data, execute business rules, and feed data to SAP Data Intelligence and AI and ML models running in your datacenter. However, the hybrid pattern also allows you to perform inferencing at the edge, removing the need for a continuous connection to your datacenter. You can employ machine learning ops (MLOps) to train AI and ML models in SAP Data Intelligence within your datacenter, commit production models to a repository, and execute those same models at the edge. MLOps also allows you to update your models more frequently.

Centrally managed pattern

The centrally managed pattern is ideal for edge locations with reliable connectivity to your datacenter and minimal hardware installations. You can deploy remote worker nodes at edge locations and manage them as part of your centrally located Red Hat OpenShift cluster. All data storage, AI and ML model training, and inferencing are performed in your datacenter. Calculated values and outcomes are delivered to your IoT devices via the direct connection.

Support DevSecOps with Red Hat

[DevSecOps](#) is an approach that connects development, security, and operations to speed processes and incorporate the needs of all three teams into streamlined, automated workflows. The Red Hat foundation for SAP Data Intelligence provides key features and benefits for each of the teams involved in these DevSecOps approaches.

Data scientists and developers

Red Hat solutions give you the tools and resources you need to create, test, and train AI and ML models quickly and efficiently.

Feature	Benefit
Self-service capabilities	Deploy tools, resources, and environments from a predefined, automated catalog so you can get started faster.
Included AI and ML tools	Choose the tools, languages, and runtimes you prefer without worrying about development or deployment compatibility.
IoT and edge support	Take advantage of data generated at the edge and deploy models to edge and IoT devices.
Built-in automation	Quickly build, test, and deploy data pipelines and AI and ML models using DevOps and continuous integration/continuous deployment (CI/CD) capabilities and best practices.

Infrastructure operations teams

Red Hat solutions streamline operations with automation and flexible deployment options.

Feature	Benefit
Flexible deployment options	Deploy and operate Red Hat solutions consistently across on-site, cloud, and edge infrastructure.
Built-in automation	Streamline installation, management, and updates with automated workflows and Kubernetes operators.
Consistent operation	Use the same tools and processes to maintain your environment across all footprints.



Security teams

Red Hat solutions help you improve security and protect your organization and assets.

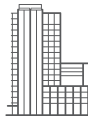
Read the [Take a layered approach to container and Kubernetes security detail](#) to learn more about securing your Red Hat OpenShift environment.

Feature	Benefit
Multitenant capabilities	Isolate and protect applications and workloads with role-based access controls (RBAC) and automatic network and security policy enforcement.
Automated policy enforcement	Automatically apply and enforce predefined security policies across your entire environment - from a centralized interface.
Detailed access controls	Define where applications can run and which data they can access on a detailed level.

Learn more

Data is a critical asset in a digital world. Red Hat helps you get more from your data with an agile, efficient, security-focused foundation for SAP Data Intelligence. Email sap@redhat.com or visit redhat.com/sap to learn how Red Hat can help you simplify deployment and operation of SAP Data Intelligence in your organization.

About Red Hat



Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.



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