Red Hat Integration

Cloud-native connectivity for apps and systems

Features

▸ API-centric and event-driven application and data integration

▸ API management and security

▸ Streamlined integration, messaging, and data streaming capabilities with 200+ connectors

▸ DevOps-ready application deployment

▸ Hybrid cloud and container-native infrastructure

Product Overview

Red Hat® Integration provides developers and architects with cloud-native tools for integrating applications and systems. The product offers capabilities for application and application programming interface (API) connectivity, API management and security, data transformation, service composition, service orchestration, real-time messaging, data streaming, change data capture, and cross-datacenter consistency.

Red Hat Integration was built for cloud-native development, so developers can use the same advanced build, management, and runtime platforms to connect systems that they use for new service development and integration. The cloud-native tools create deployable artifacts for cloud-native platforms. Platforms can be combined for public cloud, private cloud, and on-premise environments for scalable, highly available microservices using powerful container management tools.

Red Hat Integration embeds intuitive IT productivity tools in the developer toolchain, improving integration and allowing microservice teams to participate in high-velocity development.

Table 1. Representative use cases of Red Hat Integration

|	
Software-as-a-Service (SaaS and cloud integration)	Connect data, processes, and policies across multiple SaaS applications or from SaaS to on-premise apps.
API-first development	Build applications with an API-first approach to deliver, scale, and share business services internally and externally.
Connect cloud-native applications	Build integrations between modern apps or data, which are built in the cloud using microservices architectures that use containers.
Real-time, event-driven applications	Build event-driven apps to respond and analyze business events in real-time, using technology like Apache Kafka.
Customer engagement hubs	Build unique, personalized customer engagements powered by real-time business events and situational awareness.
Artificial intelligence (AI) streams	Create real-time streams that inference engines can use for rules processing.

Benefits

- Connect applications in modern or legacy systems in any combination of public clouds, private clouds, or on-premise.

- Build and deploy applications with access to all the necessary digital assets.

- Gain more insight into data and deliver engaging customer experiences.

- Boost productivity with streamlined development of integration and messaging capabilities.

- Minimize time to market with support for modern agile development processes.

- Incorporate disparate database changes into streaming processing to create more complete datasets for applications.

Get started

Download and start developing with Red Hat Fuse, Red Hat 3scale API Management, or Red Hat AMQ.

https://red.ht/try_integration

Figure 1. Red Hat Integration capabilities
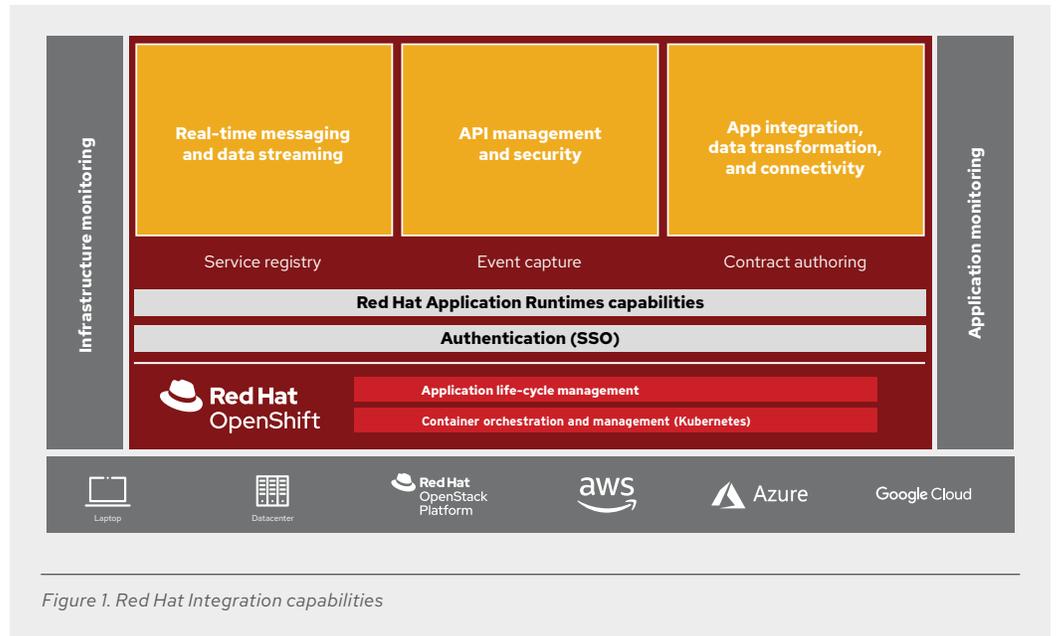
Features and benefits

Red Hat Integration is a comprehensive set of agile integration and messaging products that provide service composition and orchestration, real-time messaging, data streaming, and API management. Combined with a sophisticated container platform and cloud-native toolchain, Red Hat Integration lets developers connect applications and data with a variety of internal and external systems across hybrid architectures.

Table 2. Features and benefits of Red Hat Integration

Key features	Benefits
Pluggable connectors	Improve the capabilities of your applications and maximize the value of your digital assets by offering more than 200 options for connectivity between applications and modern or legacy systems
DevOps-ready application deployment	Supports sprints, rapid releases, microservices deployment, and agile processes to minimize time to market
	Allows microservices developers and DevOps teams to build and deploy applications with access to necessary digital assets—without requiring changes to the developer's schedule, tools, or practices
Hybrid cloud and container-native infrastructure	Provides scalability and high availability by using Kubernetes to create, extend, and deploy containerized integration services across hybrid cloud environments

Key features	Benefits
Streamlined integration, messaging, and data streaming capabilities	Boost productivity by unifying the development and management of integrated solutions across the enterprise and beyond
Self-service integration and messaging	Allows citizen developers from the business side to participate in the integration process, using low-code, web-based integration and messaging tools

Technical specifications

Red Hat Integration helps developers create, extend, and deploy container-based integration services across hybrid and multicloud environments. Developers can use these capabilities to connect and share data between the required applications and systems.

Table 3. Descriptions of Red Hat Integration products and components

Components	
Application runtimes	**Red Hat Runtimes** is a set of products, tools, and components to develop and maintain cloud-native applications. It offers lightweight runtimes and frameworks for highly distributed cloud environments (such as microservices), in-memory caching for fast data access, and messaging for quick data transfers that support existing applications.
API management	**Red Hat 3scale API Management** is an infrastructure platform on which to share, distribute, control, monetize, and provide security for APIs.
Integration	**Red Hat Fuse** is a distributed, cloud-native integration solution that lets users access a range of design patterns and connectors and choose their own programming language, containers, and deployment preferences—including on-premise, in public and private clouds, or as a hosted service. Red Hat Fuse also provides a cloud-hosted integration toolchain and runtime, available directly from a browser. Users can deploy integration without installation.

Components

Events and messaging	**AMQ streams** is a Java™ and Scala publish-subscribe-based messaging broker that allows microservices and other application components to exchange data with high throughput and low latency.
	AMQ broker is a pure-Java multiprotocol message broker with persistence and advanced high-availability modes.
	AMQ interconnect is a high-speed, low-latency Advanced Message Queuing Protocol (AMQP) 1.0 message router on which to build a fault-tolerant messaging network to connect clients and brokers.
	Red Hat AMQ Online is a self-service messaging platform that offers end users access from an intuitive browser console. Users can provision messaging without installation, configuration, or maintenance.
Change data capture	**Change data capture** provides agents that convert changes to disparate databases into events that can flow where they are needed, when they are needed. Red Hat Integration also offers transformation and routing capabilities based on the Apache Camel technology inside the streams.
Service registry	The **service registry** contains contracts and metadata definitions for all streaming and synchronous traffic. This critical information is collected and distributed to developers to help participants correctly interpret data.
Contract and metadata authoring and life cycle management	The **API designer**, based on the open source Apicurio community, provides an interface for building, sharing, and discovering contract metadata. Apicurio can maintain the full life cycle of the artifacts and ensure that security is enforced.

Components

Authentication (SSO)	Based on the Keycloak project, **Red Hat's single sign-on (SSO) technology** allows customers to make web applications more secure by providing web SSO capabilities based on popular standards such as Security Assertion Markup Language (SAML) 2.0, OpenID Connect, and OAuth 2.0. The SSO server can act as a SAML or OpenID Connect-based identity provider, integrating your enterprise user directory or third-party SSO provider for identity information with your applications via standards-based tokens.

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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