

Cloud Pak for Integration Overview

—
Developer Advocacy

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IBM Developer



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- What is Integration?
- Cloud Pak for Integration Overview
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What is Integration?

Provides:

1. Connectivity
2. Routing
3. Transformation

to **enable sharing of data** between applications and services **securely** irrespective of the data format and protocol that these system and services use between them



Traditional Integration

People & Process

Centralized
technology teams

Architecture

Centralized ESB

Technology

Nurtured
Environments

Business drivers

Innovation
and optimization

Outcomes

Development agility
Deployment agility
Operational agility



Agile Integration

People & Process

- Decentralized ownership
- Empowering teams
- Agile methods

Architecture:

- Fine-grained deployment
- API led
- Event-driven
- Microservices aligned

Technology:

- Cloud-native infrastructure
- Essential integration capabilities
- Unified security, governance and operations

Market Trends



Clients are building digital platforms to innovate faster & generate new streams of revenue. [Gartner, Forrester, 451, Deloitte, McKinsey and others]



Most CIO and CEO sponsored initiatives generate additional integration use cases [Forrester, Gartner]



Hybrid models cause stress around speed, cost, security, operations, skills, supporting new architectures, cloud native apps, and migrating legacy systems.

What is Cloud Pak for Integration?

Welcome to IBM Cloud Pak for Integration

[Show more](#)

Create instance

View instances



API Connect

Create, manage and secure your APIs

[Create instance](#)



App Connect

Unlock the power of your data to drive new opportunities

[Create instance](#)



Aspera

Quickly and reliably transfer files and data sets of any size

[Create instance](#)



DataPower

Leverage the IBM DataPower Gateway directly deployed on its own, or embedded in API Connect

[Create instance](#)



Event Streams

Apache Kafka for the Enterprise

[Create instance](#)



MQ

Proven, enterprise-grade messaging that moves data to where it is needed

[Create instance](#)



Tracing

Quick diagnosis of errors and performance issues across product instances by providing end-to-end data tracing

[Create instance](#)



Asset Repo

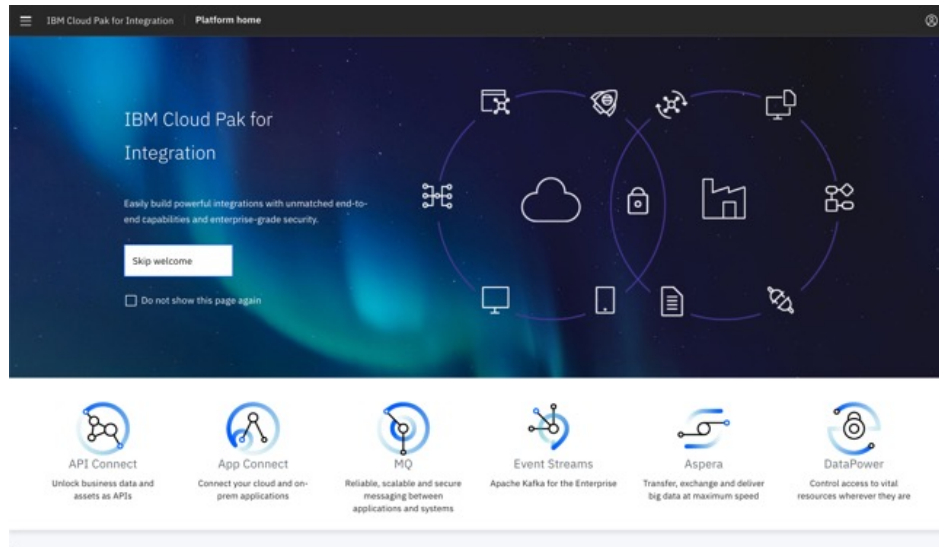
Accelerate building new workflows via design time collaboration and active re-use of existing integration assets and skills

[Create instance](#)

A collection of software to **create, manage, secure, and re-use** integration assets

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IBM Cloud Pak for Integration (CP4I)



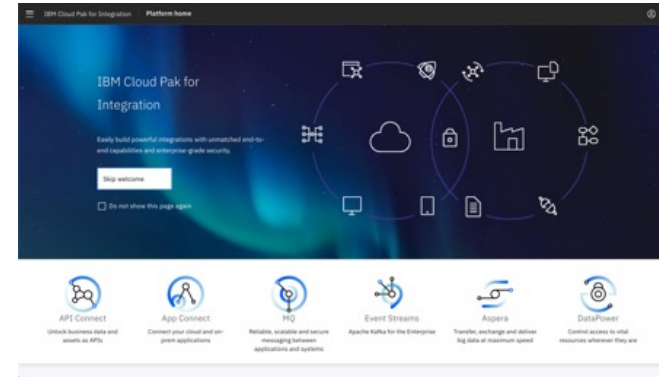
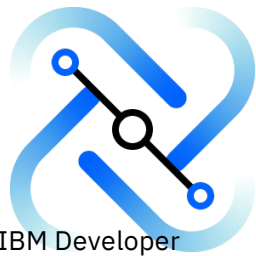
IBM Cloud Pak for Integration
Multi-Cloud, Secure, Enterprise-proven Platform

- **Create** all types of Integrations *quickly* using *simple* tools following modern development practice
- **Manage** secure integration deployments across any cloud leveraging cloud-native practices & architecture, consistent operational services.
- **Re-use** integration assets, skills to speed up development and time-to-market maintaining the right governance



CP4I Cloud-Native Architecture

- **Cloud agnostic** to run virtually anywhere on Red Hat OpenShift.
- Unmatched **scalability and resiliency** through container and microservices based design
- Development and operations **Agility** through consistent deployment onto Red Hat OpenShift Kubernetes



Capabilities

Low code: Use built-in features, such as templates, pre-built connectors, and an asset repository.

Agile DevOp: Use tools that support test-driven development and automated CI/CD pipelines.

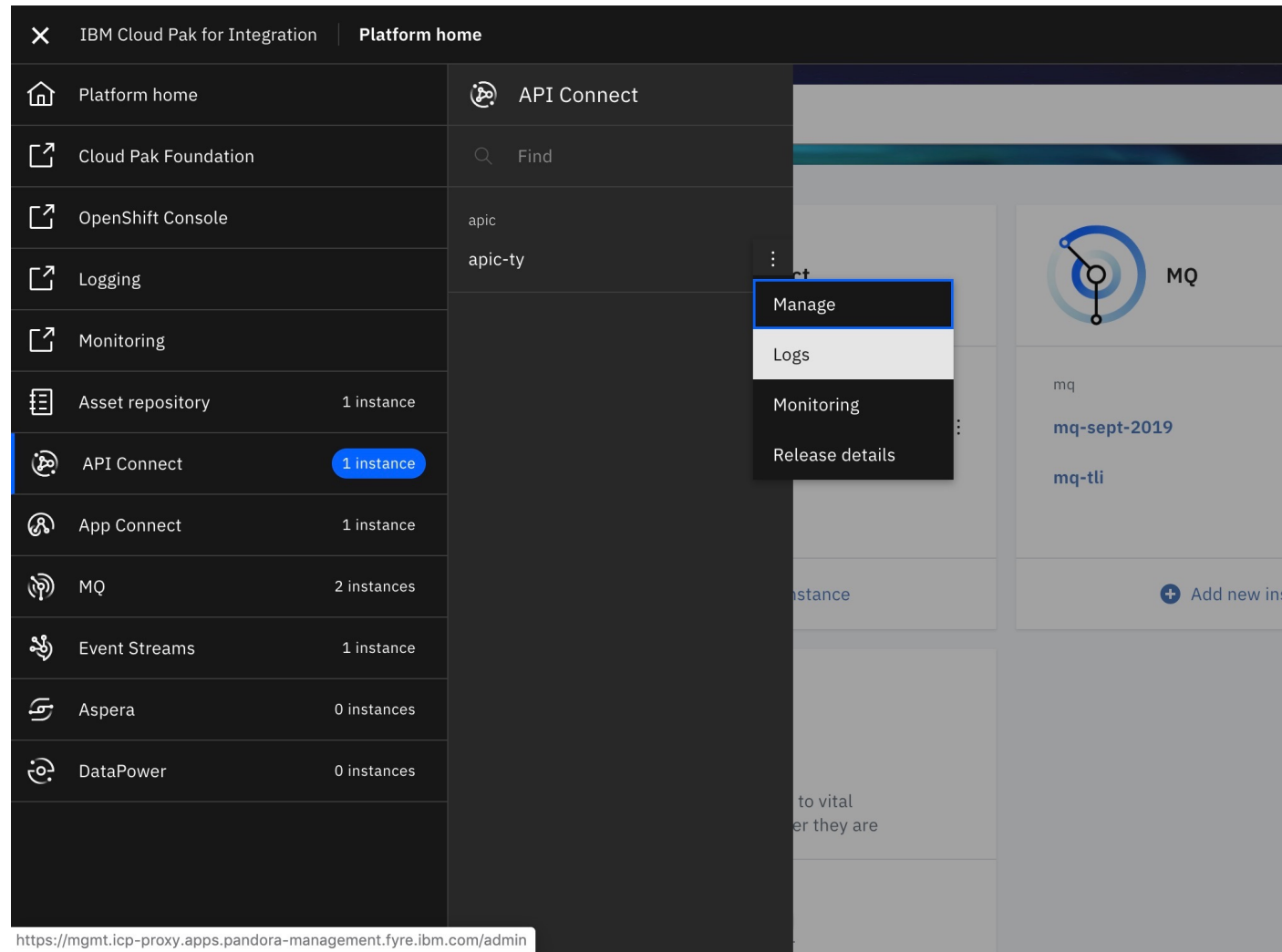
Distributed component-based architecture: Take advantage of lightweight, fine-grained integration services that enable microservices and on-demand runtime application-level development.

Open: Build on open standards with assured compatibility across diverse environments.

Integration patterns: Use a range of integration styles that include APIs, message queues, and emerging capabilities, such as event-driven architecture and high-speed data transfer.

Components Walk through

1. **Platform Navigator** unified user interface with custom developer flows
2. **Asset Repository** with **Git** integration
3. Consistent **monitoring and metering** across capabilities
4. End to end **Tracing**



Key Components

API Lifecycle



IBM API Connect is industry's first multicloud API solution delivering high scalability & performance.

Application & Data Integration



IBM App Connect delivers breadth of application integration needs across a modern digital business.

Messaging & Events



IBM MQ is the proven and trusted market leader.

IBM Event Streams delivers real-time Kafka event interaction.

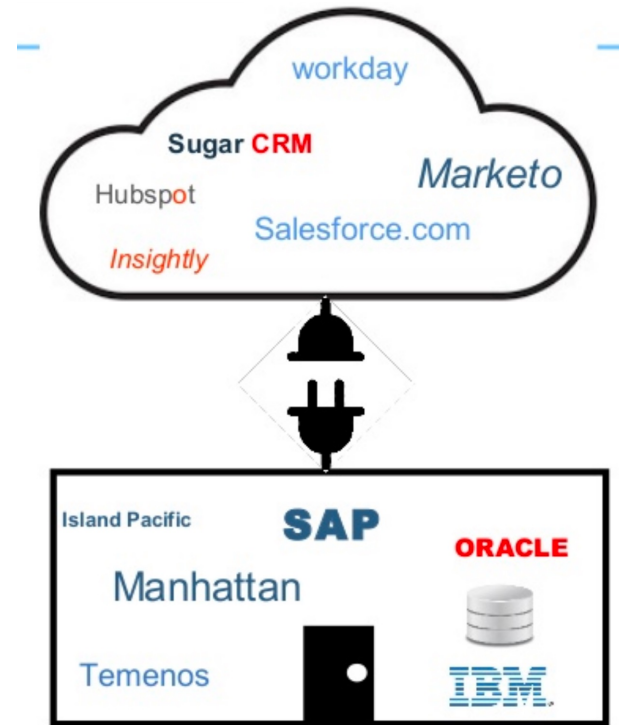
High Speed Data Transfer



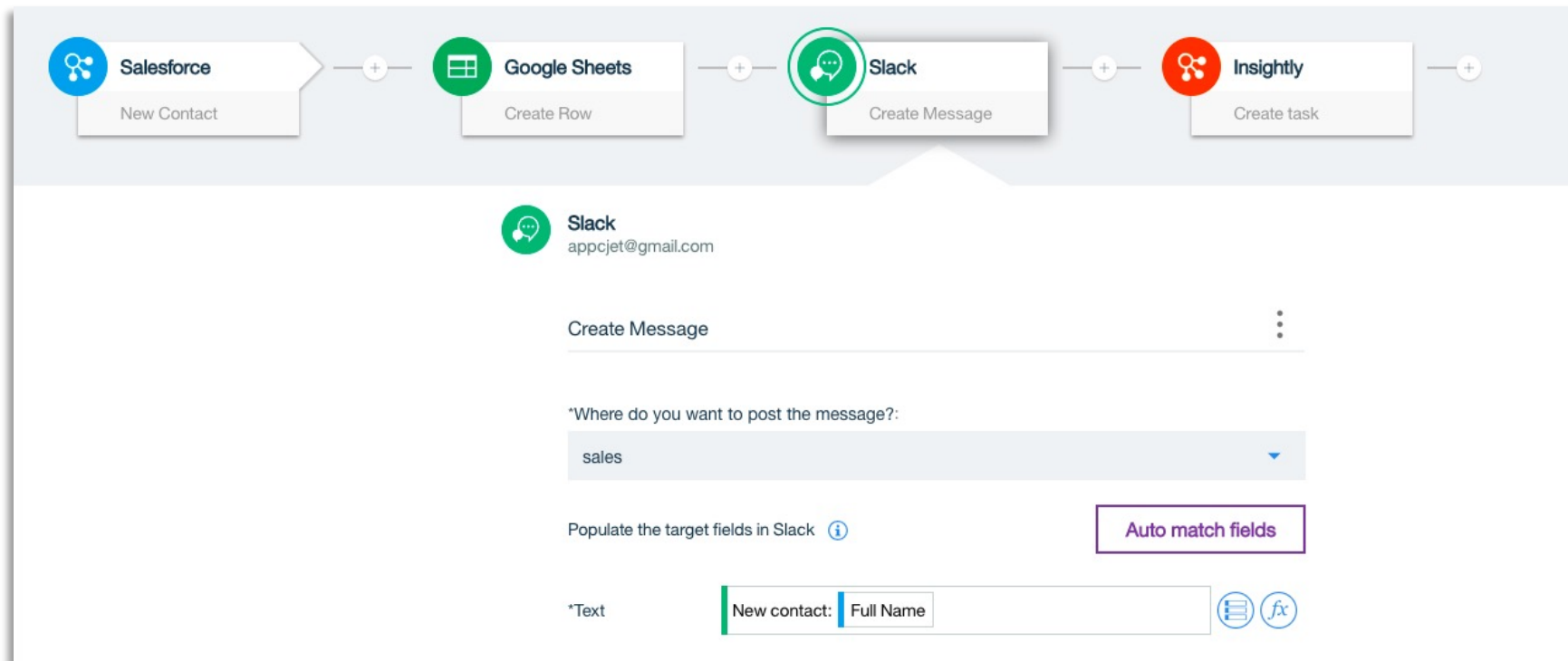
IBM Aspera to send, share, stream and sync large files and data sets more securely, reliably and at maximum speed over global IP networks.

IBM App Connect

- ✓ App awareness allows you to connect your apps in minutes
- ✓ Automation of manual tasks – notifications, events and updates
- ✓ Connect your applications wherever they are (cloud or local)
- ✓ Keep customer and other data in sync between multiple apps
- ✓ Build new connections quickly – tooling for your tech support team to connect to the apps you about in hours



Cloud Pak for Integration: App Connect



Set up flows to connect different applications to automate workflows and business logic

API Connect



IBM API Connect

The Scalable Multi-Cloud API Platform

A complete, modern and intuitive API lifecycle platform to create, securely expose and manage APIs across clouds to power digital applications



Create

Automatically create and test APIs to expose data, microservices, enterprise applications and SaaS services.



Secure

Easily apply built-in and extensible policies to secure, control and mediate the delivery of APIs with unmatched scale.



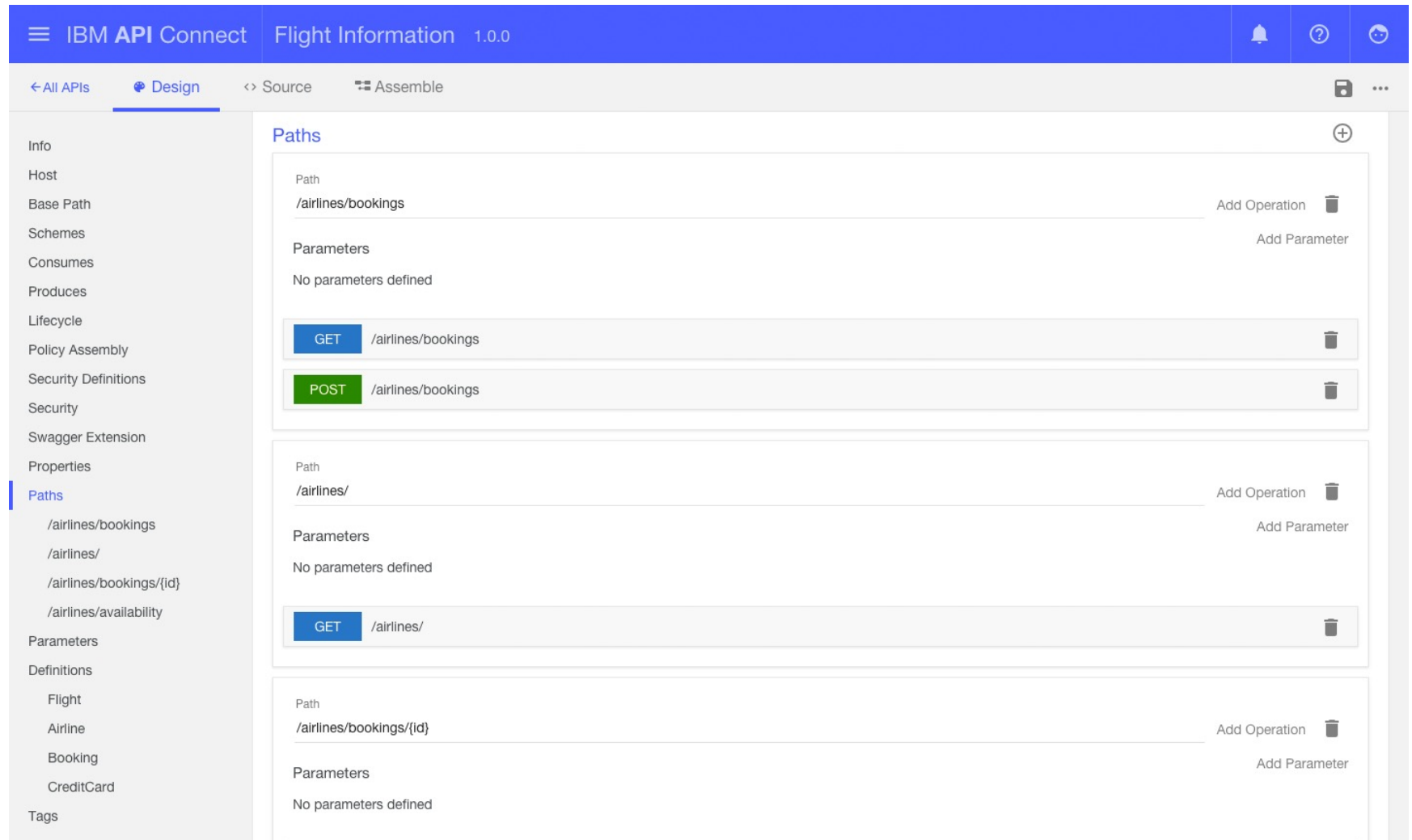
Manage

Rapidly publish, lifecycle govern, socialize, analyze, monitor and monetize APIs with built-in capabilities.

Cloud Pak for Integration: API Connect

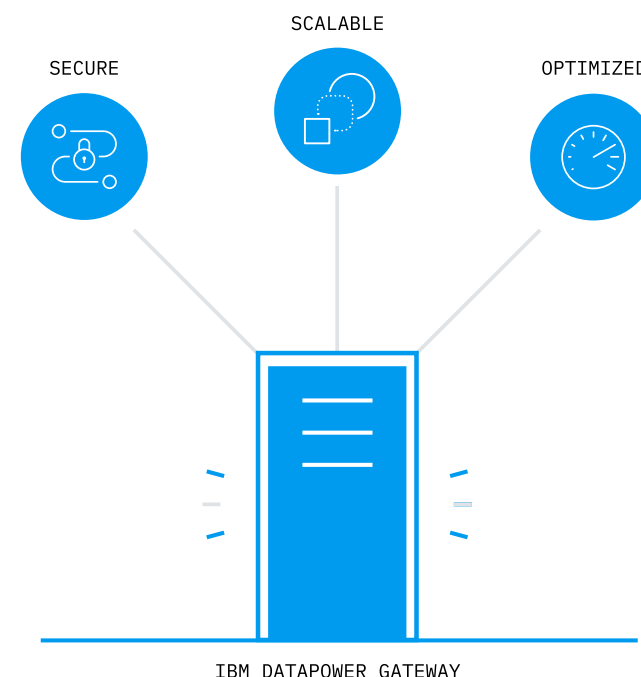
a comprehensive
end-to-end API
lifecycle solution
that enables the
automated
creation of APIs

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Enterprise Security and Control with Industry leading API Gateway

- **Secure to the core** with signed, encrypted gateway image without external software dependencies to minimize risk
- **Proven API security policies** at runtime to quickly protect services and data across multi-clouds
- **Performant & scalable architecture** to help meet SLAs and improve client user experience
- **Optimized drag & drop built-in policies** for security, traffic management & mediation to accelerate time to value
- **Flexible and extensible** to align with enterprise requirements and the need for custom policies



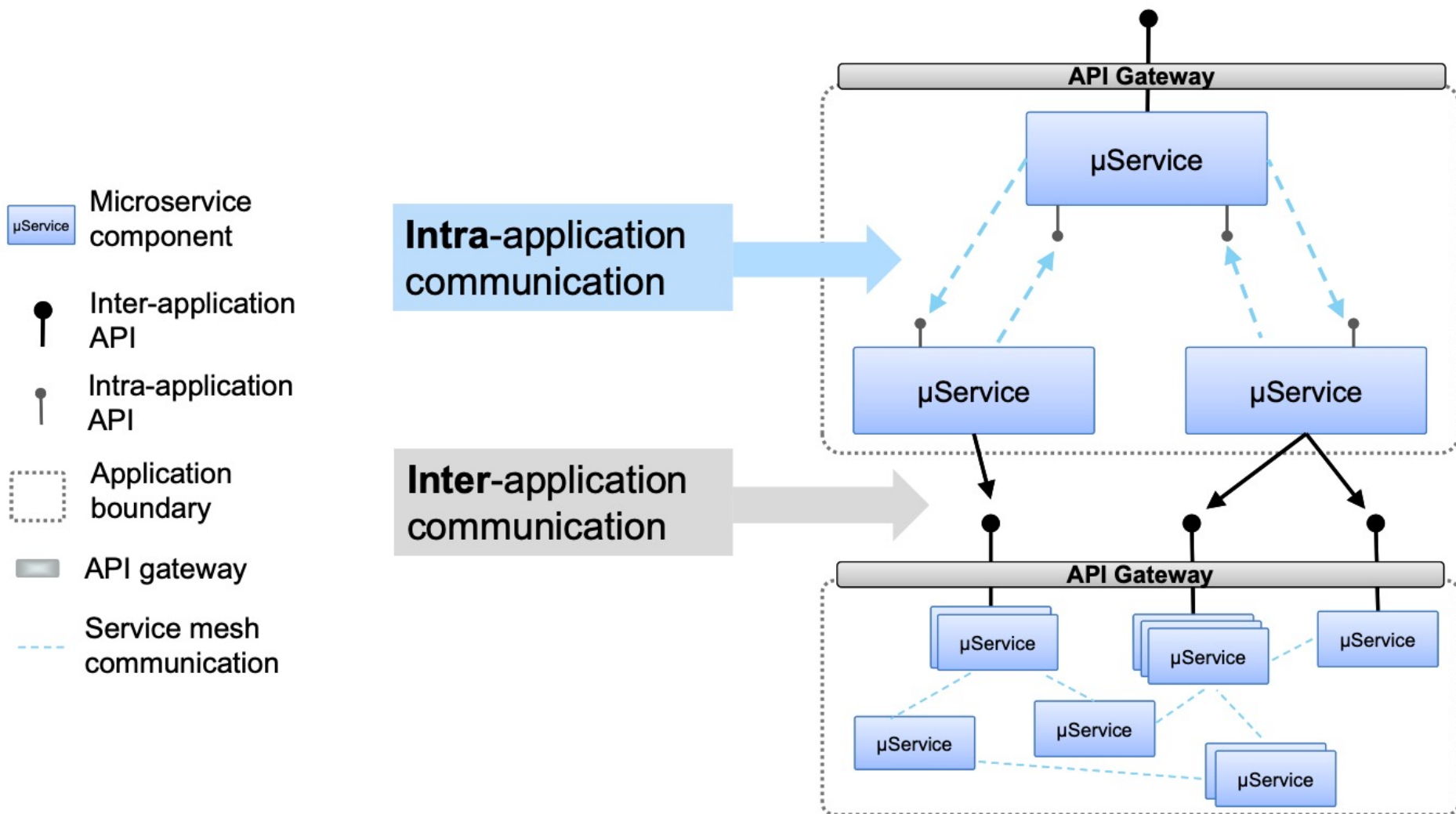


Figure 4.10 Intra-application versus inter-application communication

Application Messaging Options

IBM MQ Point to Point (P2P):

- Enables applications and services to communicate reliably without calling each other directly
 - Reliable communication “black box”
 - Supports once and only once message delivery

Event Streams (Pub/Sub):

- Distributed streaming platform that enables the development of real-time, event-driven applications.
 - Enables applications to respond to data or events in real-time.

Project vs Product



Production-Grade Open Source Project
Build and deploy on your own
Community support
Releases every 4 months



IBM Event Streams

Production-Grade Open Source based Product
Based on Apache Kafka
Enterprise support
Offered via SaaS


Cloud Pak for Integration: Event Streams

Manage

Service credentials

Connections

Resource list /

 Event Streams-1j

Resource group: default Location: Dallas [Add Tags](#)

Getting started

Topics

[Connect to this service](#)

🔍 Type to search topics

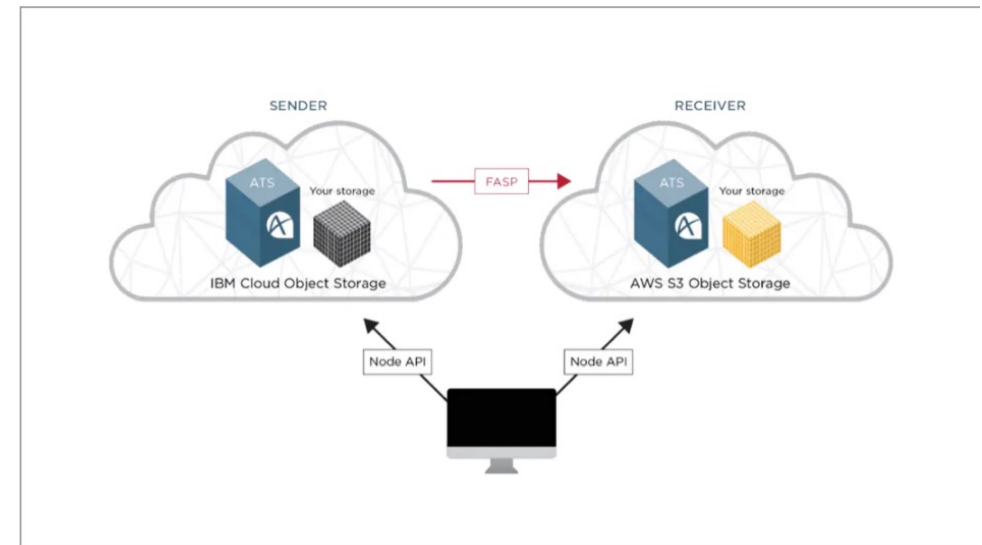
Create topic +

Name	Partitions	Retention (time)	Retention (size)	
Topic1	1	1 day	1.07 GB	<div></div>
Topic2	1	1 day	1.07 GB	<div></div>
Topic3	20	4.29 wk	1.07 GB	<div></div>
Topic5	1	1 day	1.07 GB	<div></div>
Topic6	1	1 day	1.07 GB	<div></div>

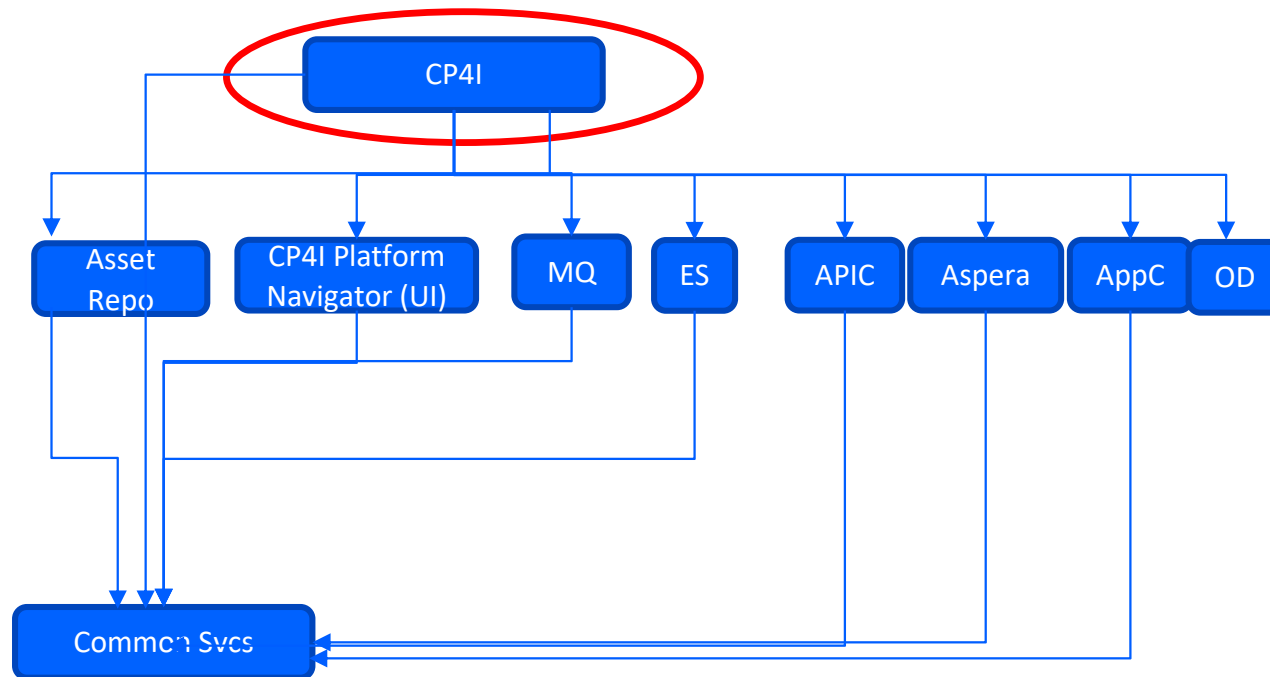
IBM Event Streams is a high-throughput message bus built with Apache Kafka

high-speed data transfer(Aspera)

- FASP transport technology
- Adaptive rate control
- Data transfer security
- Automation and scheduling
- Robust set of RESTful APIs



Install Everything



Install Just Navigator and one component

