

Cloud Pak for Integration - API Connect

Developer Advocacy

Tech Talk: Karan Chaturvedi

IBM Developer

IBM

Agenda

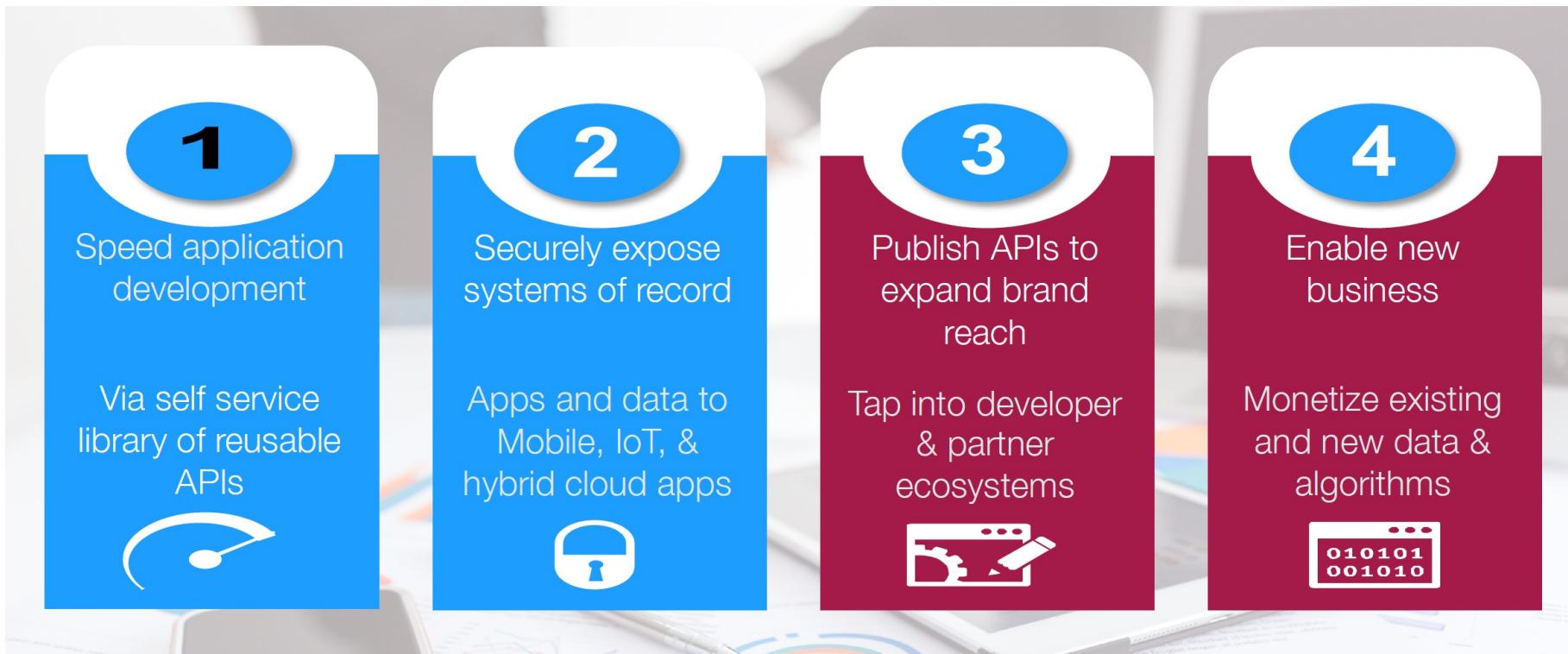
Why API Management

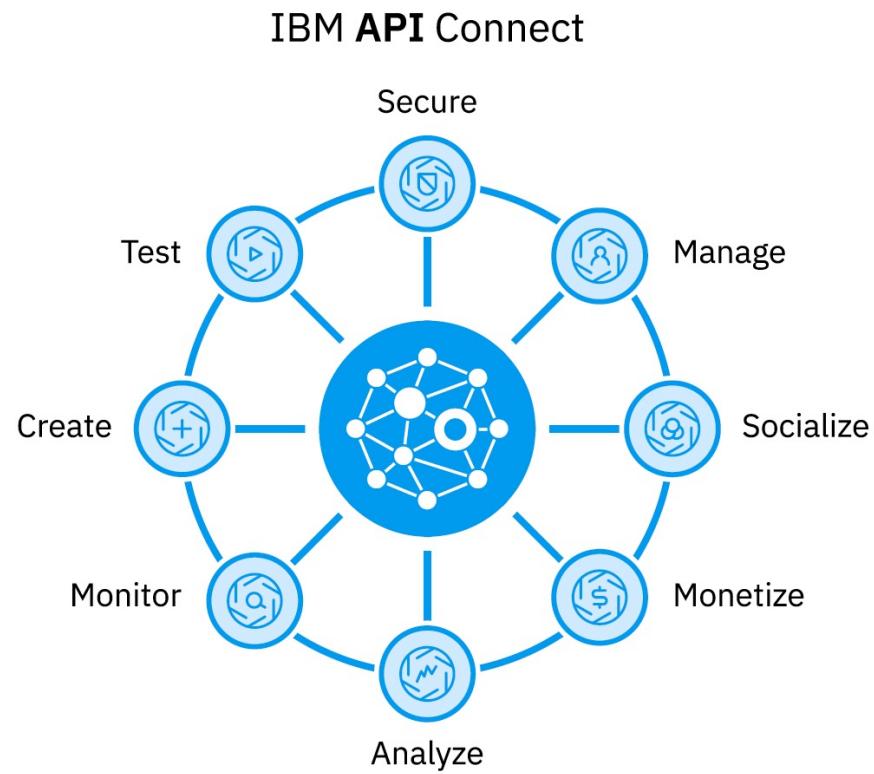
API Connect overview/intro

API Lifecycle

- Create
- Test
- Secure
- Manage
- Sozialize
- Monetize
- Analyze
- Monitor

An API Strategy To...



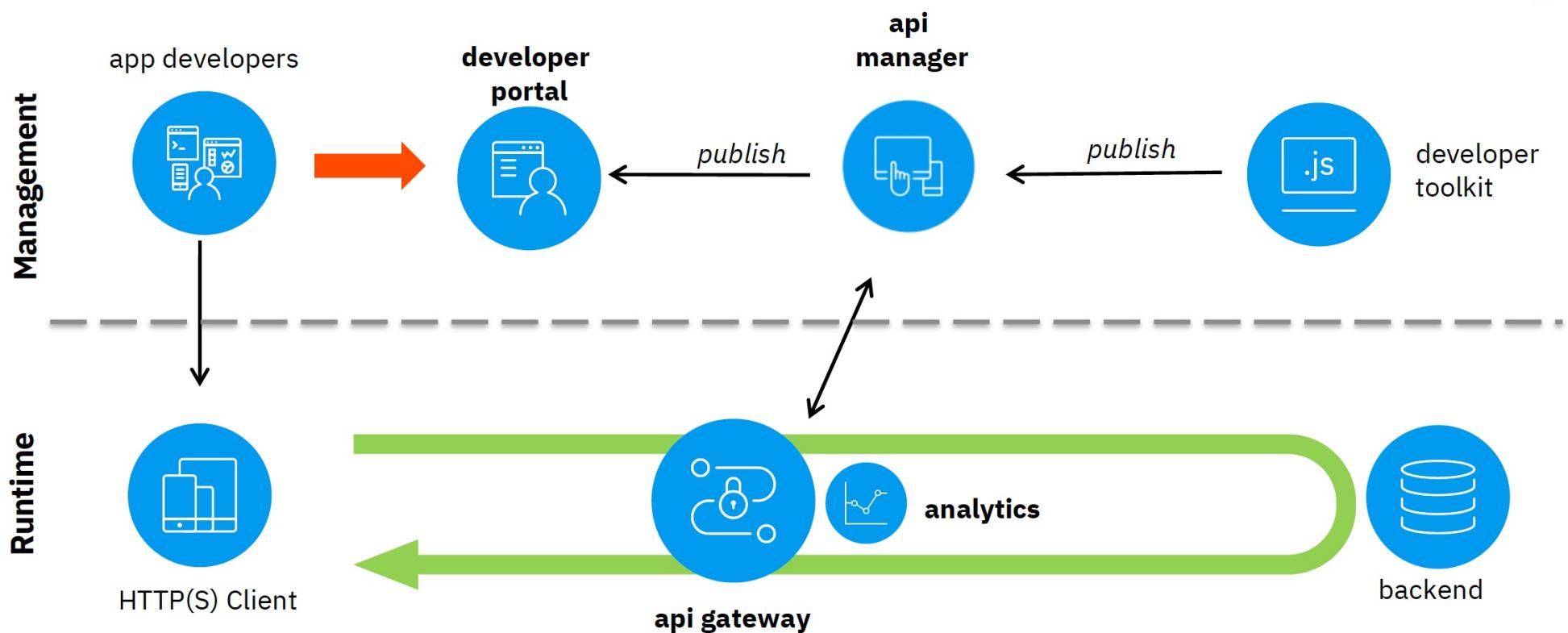
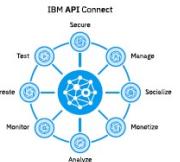


API Management

IBM API Connect

Overview

API Connect – Components



Components functionality



Gateway Instance

- API Policy Enforcement
- Security & Control
- Traffic control & mediation
- Workload optimization
- Monitoring/Analytics data Collection



Analytics Instance

- API Monitoring Analytics

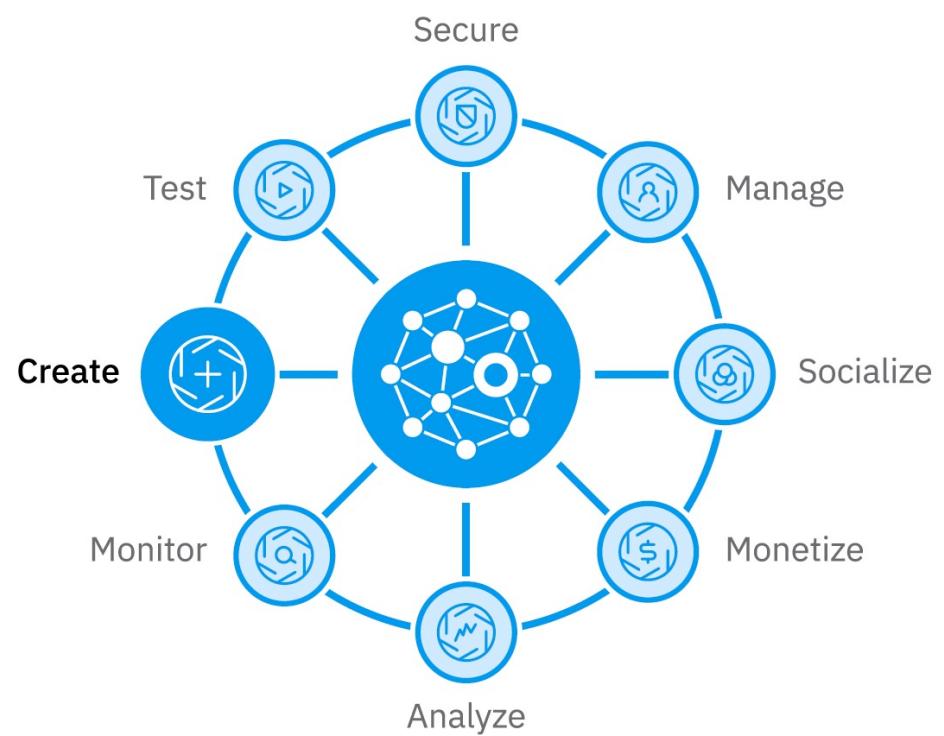


Management Instance

- API Discovery
- API Policy Creation
- Product Version & Lifecycle Management

Portal Instance

- Self-service App Developer Portal based on Drupal 8
- User Management
- Social Collaboration
- Subscription & Community Management



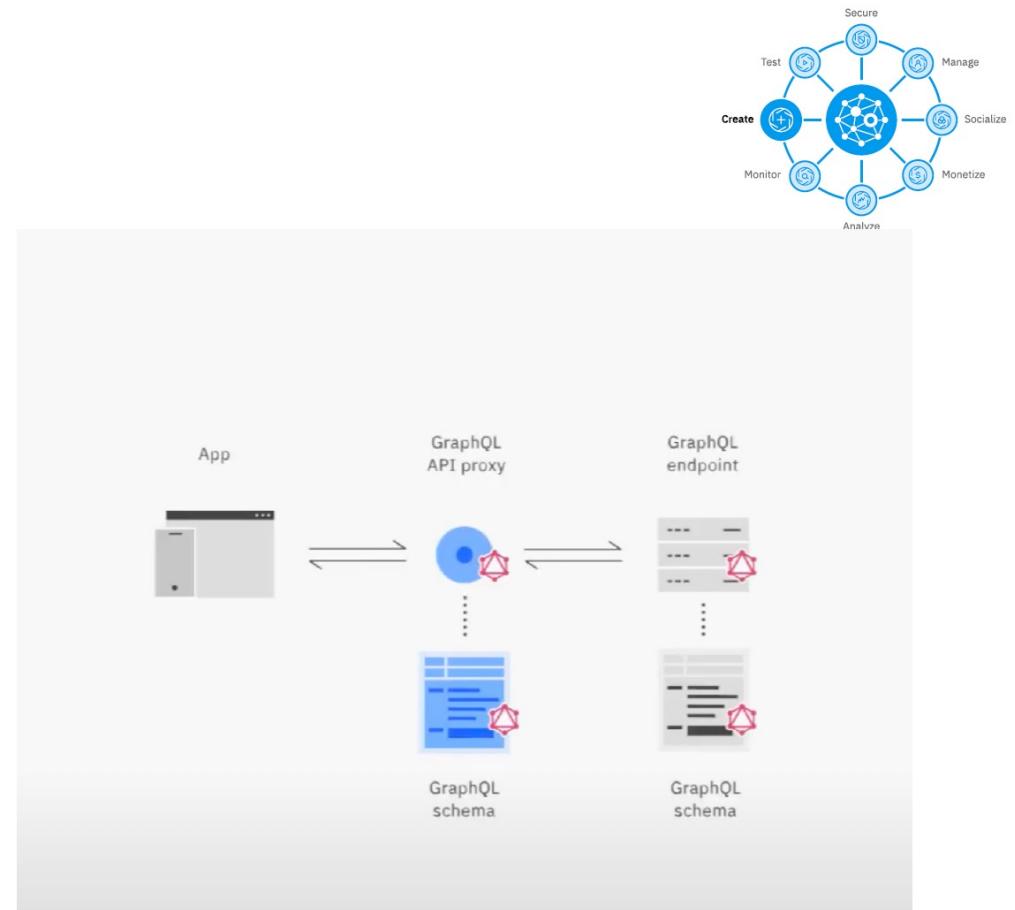
API Management
IBM API Connect
Create

Creating APIs

Select API Type

Create

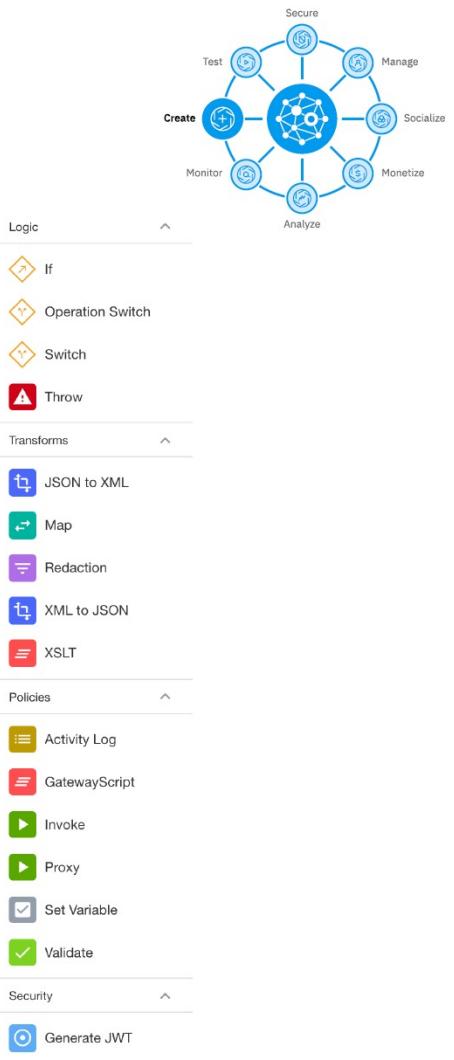
- From target service**
Create a REST proxy that routes all traffic to a target API or service endpoint
- From existing OpenAPI service**
Create a REST proxy based upon an OpenAPI described target service
- From existing WSDL service (SOAP proxy)**
Create a SOAP proxy based upon a WSDL described target service
- From existing WSDL service (REST proxy)**
Create a REST proxy based upon a WSDL described target service
- From existing GraphQL service (GraphQL proxy)** 
Create a GraphQL proxy based on a GraphQL service
- New OpenAPI**
Compose a new REST proxy by defining paths and operations

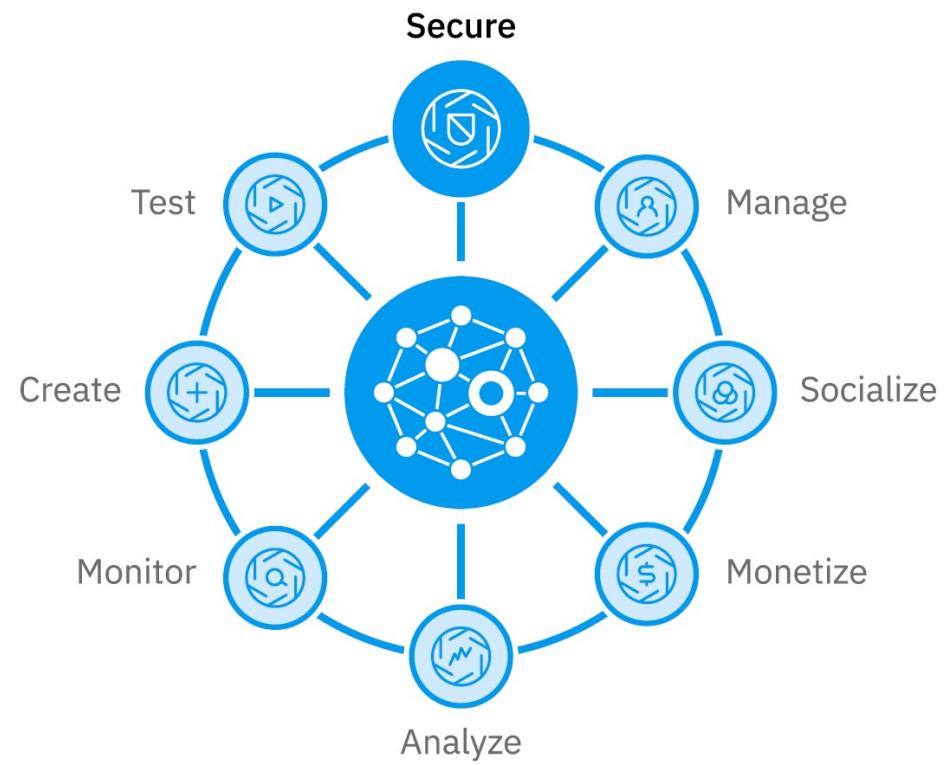


Three views – same source

The screenshot shows the 'Info' tab of the 'Climbing Weather API 1.0.0' in the IBM API Connect API Manager. The left sidebar has 'API Setup' selected. The main area contains fields for 'Title' (Climbing Weather API), 'Name' (climbing-weather-api), and 'Version' (1.0.0). A 'Description (optional)' field is present but empty. Below it, the 'Schemes' section shows 'HTTP' and 'HTTPS' selected. The right side of the screen displays the API's OpenAPI specification (YAML) code.

```
1. swagger: "2.0"
  2. info:
    3.   title: Climbing Weather API
    4.   description: /cloud/climbing-weather-api
    5.   version: 1.0.0
    6.   host: $catalog.host
    7.   schemes:
      8.     - https
    9.   basePath: /
    10.  produces:
        11.    - application/json
    12.  consumes:
      13.    - application/json
    14.  security:
      15.    - clientSecrets: []
        16.      clientIds: []
    17.  securityDefinitions:
      18.    clientSecrets:
        19.      type: apiKey
        20.      description: ''
        21.      name: X-IBM-Client-Secret
        22.      in: header
        23.      clientSecret: $catalog.clientSecret
        24.      type: apiKey
        25.      description: ''
        26.      in: header
        27.      name: X-IBM-Client-Id
        28.      x-ibm-configuration:
          29.        phases: realized
          30.        enforce: true
          31.        enforced: true
        32.      cors:
          33.        enabled: true
          34.        preflight: true
          35.        maxAge: 3600
          36.        authentication: false
        37.      assembly:
          38.        executor:
            39.          provider:
              40.            targetUrl: >
                https://api.us.ibm.com/api.cloud/api/v1/operations/woconnect/jobs(request,auth)(request,search)(client_id:$32e725h-d6d8-4ea-931f-412345678901)(request,search)
              41.            cacheKey: $request.search
              42.            cacheResponseTimeToLive
              43.            gateway: dispower-optimize
        44.      gateway: dispower-optimize
```





API Management
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Secure

Requirements for an API Gateway

An API Gateway needs to be



Secure



High performant



Customizable



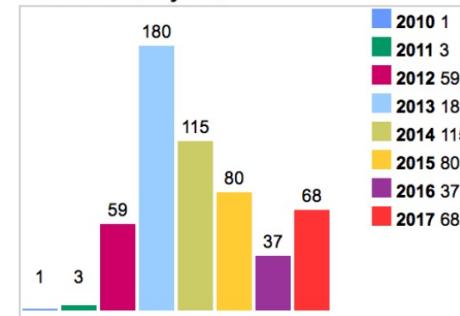
Robust

Some components, for example Java, require frequent patching, and very few vendors would recommend running them in the DMZ

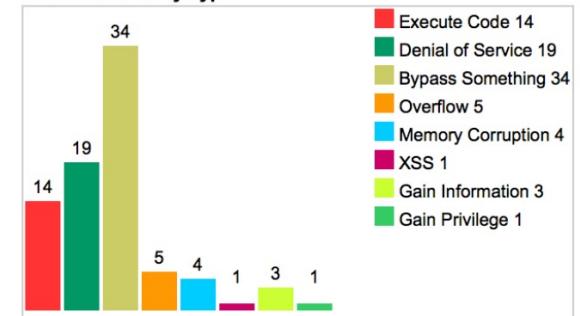
Would we run our App Server directly in the DMZ?

	Product Name	Vendor Name	Product Type	Number of Vulnerabilities
1	Linux Kernel	Linux	OS	1970
2	Mac Os X	Apple	OS	1915
3	Chrome	Google	Application	1523
26	JRE	Oracle	Application	543
28	JDK	Oracle	Application	532

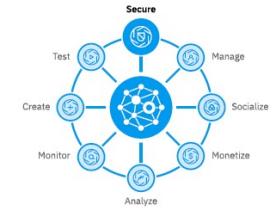
Vulnerabilities By Year



Vulnerabilities By Type



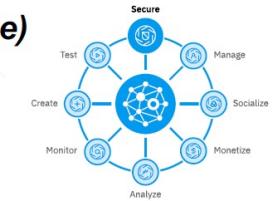
Source: https://www.cvedetails.com/product/19116/Oracle-JDK.html?vendor_id=93



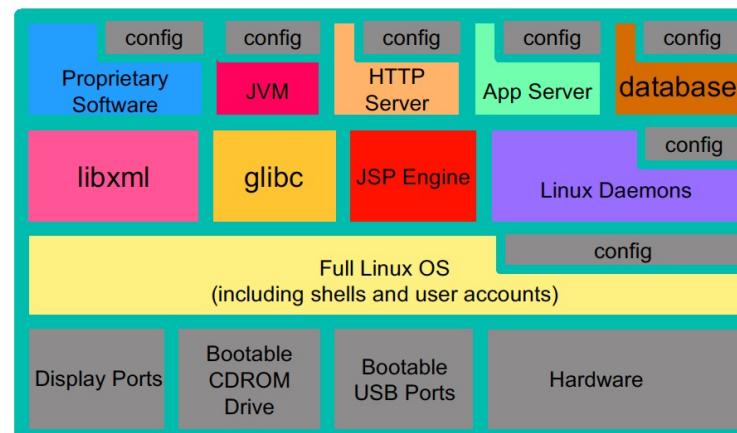
Simple & Secure Architecture

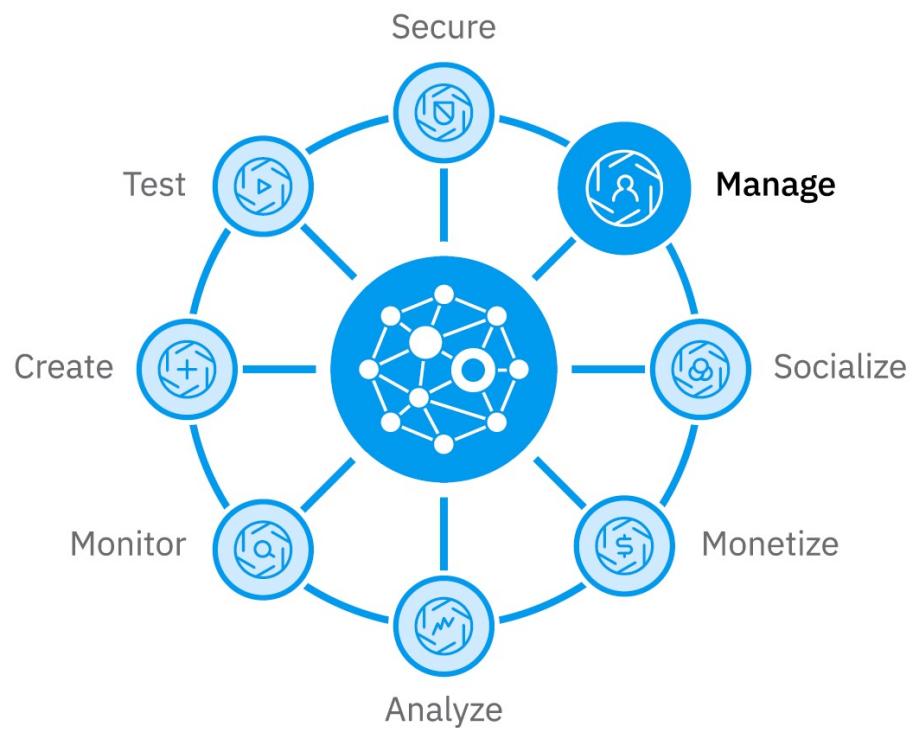
- How is API Gateway Gateway different?
Purpose-built, secure gateway platform
 - Complete gateway platform delivered as hardened image
- **Guiding philosophy is to centralize common security, traffic management, mediation, acceleration functions and optimize them** in a security-hardened gateway stack delivered in Docker container, Linux application, Virtual machine and Physical appliance form factors

API Gateway Gateways (*Secure & Easy to Manage*)



Commodity Gateways (*Insecure & Hard to Manage*)

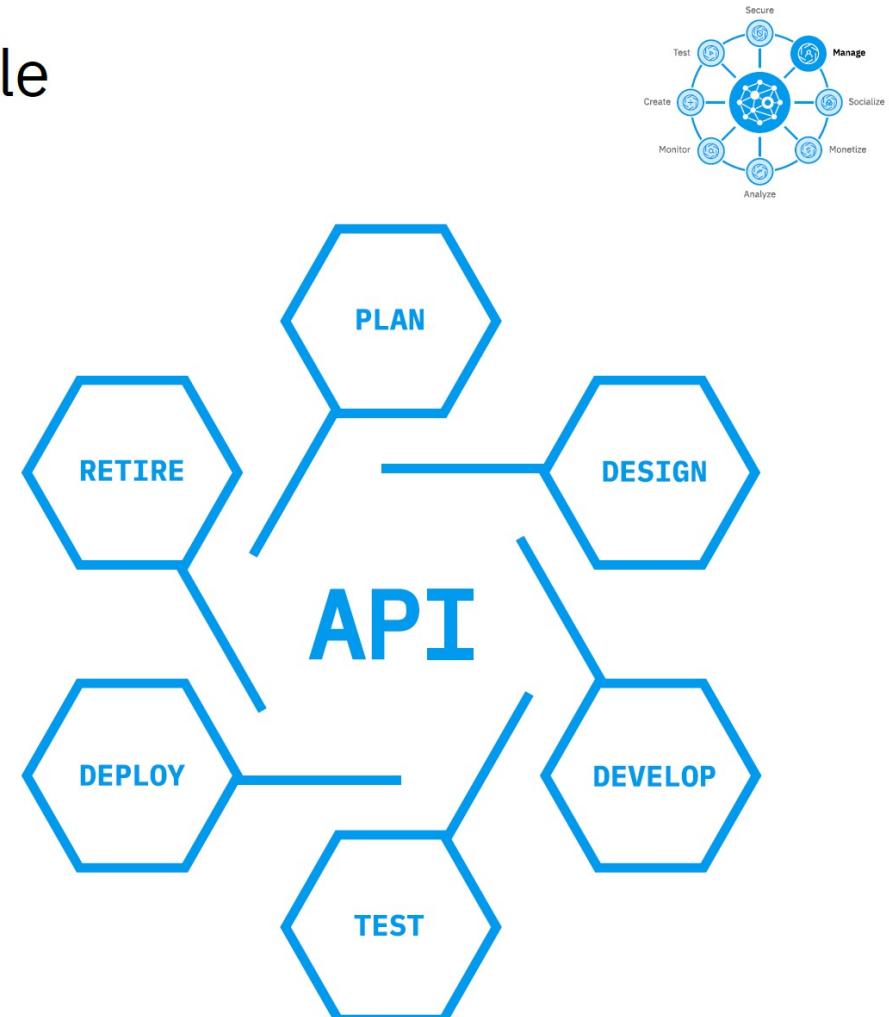




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Manage

Manage APIs through the API Lifecycle

- **Define & Import REST or SOAP APIs** to enable clients to evolve their SOA tier
- **Package APIs into Products** and tailor them to target specific consumer markets
- **Publish and Promote** across different environments to align with DevOps practices
- **Manage and Control API Lifecycle and versioning** from staging to deprecation to meet corporate governance needs
- **Subscription and Community management** to grow go-to-market channels

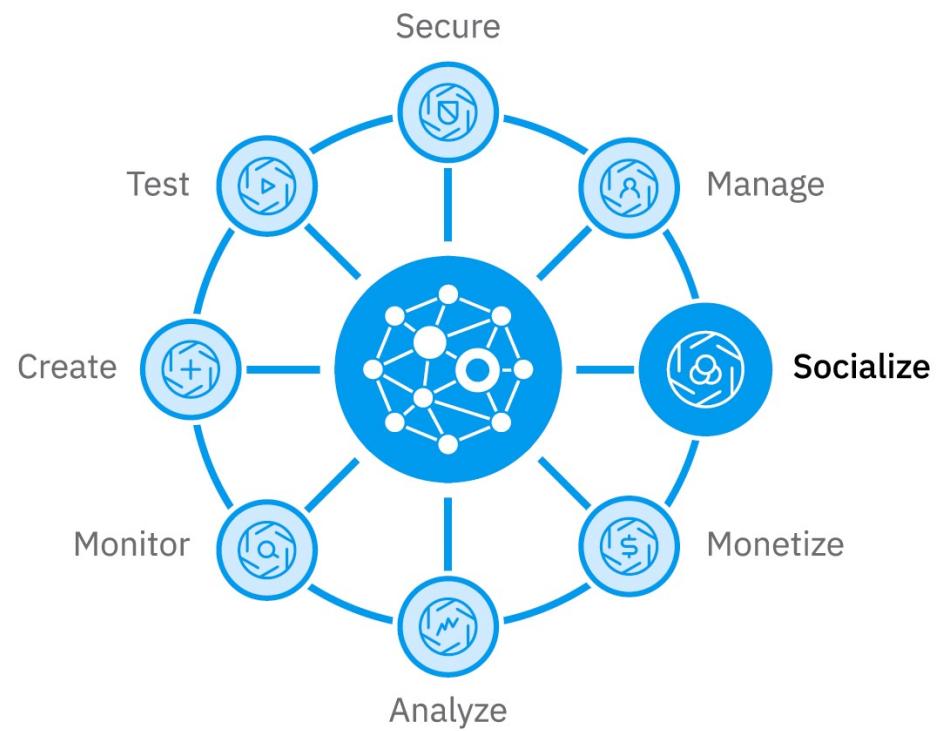


Enhanced API Publishing Control



- **Blue/Green deployment support** out of the box for new API versions with ease
- **Granular control to selectively publish APIs to specific gateways** providing flexibility for multiple line of business operation

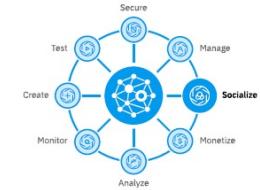
 Space 01- Space 02
- Space 03
- Space 04
- Space 05
- Space 06
- GATEWAY SERVICE**:
- Gateway Service US Main
- Gateway Service US West
- Gateway Service US Central
- Gateway Service US East



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Socialize

Developer Portal

- **Modern UI/UX design** based on customer and market feedback
 - **Simple, powerful and extensible** customizations built on open-source Drupal 8
 - **Fast track app creation** with a simple subscription wizard designed to reduce friction
 - **Delight and increase app developer productivity** with a first class Portal Analytics experience
 - **Effectively engage your developer community** with custom email support



IBM API Connect
Developer Portal

API Products Apps Blogs Forums Support

Search

Organization
Andre Developer

API Products

Filter by categories:

- Comments (9)
- Comments (9)
- Development (3)
- Security (1)
- API Management (1)
- IOT (1)
- Finance (1)
- DevOps (1)
- Integrate (1)
- Mobile (1)

Product 1.0.0

Spicy jalapeño bacon ipsum dolor amet prosciutto capicola tongue salami doner. Rump strip steak cupim, pork chop corned beef.

API 1.0

API 1.0

API 1.0

API 1.0

API 1.0 ...

Product 1.0.0

Spicy jalapeño bacon ipsum dolor amet prosciutto capicola tongue salami doner. Rump strip steak cupim, pork chop corned beef.

API 1.0

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API 1.0

API 1.0 ...

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API 1.0

API 1.0

API 1.0

API 1.0

API 1.0 ...

Product 1.0.0

Spicy jalapeño bacon ipsum dolor amet prosciutto capicola tongue salami doner. Rump strip steak cupim, pork chop corned beef.

API 1.0

API 1.0

API 1.0

API 1.0

API 1.0 ...

Pet Adoptions 1.0.0

Spicy jalapeño bacon ipsum dolor amet prosciutto capicola tongue salami doner. Rump strip steak cupim, pork chop corned beef.

Medical records 1.0

Swagger pet store 1.0

Volunteer work 1.0

View pricing plans

Product 1.0.0

Spicy jalapeño bacon ipsum dolor amet prosciutto capicola tongue salami doner. Rump strip steak cupim, pork chop corned beef.

API 1.0

API 1.0

API 1.0

API 1.0

API 1.0 ...

Product 1.0.0

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API 1.0

API 1.0

API 1.0

API 1.0

API 1.0 ...

Product 1.0.0

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API 1.0

API 1.0

API 1.0

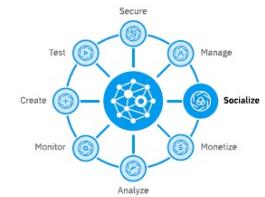
API 1.0

API 1.0 ...

Examples



A screenshot of the PSA developer support page. It features a navigation bar with links for Home, API Products, Support, and a search bar. The main content area is titled "Looking for help?" and includes sections for "Support", "Developer forum", "FAQ", "Support Tickets", and "Contact us". Each section contains a brief description and a "Visit" or "Raise" button.



A screenshot of the Royal Mail API Portal. The top navigation bar includes "Welcome to the API Portal", "Home", "Getting Started", "API Library", and "Logout". Below this, a section titled "Find an API for your business" lists several Royal Mail APIs: "Royal Mail API-Shipping V2 (SOAP)", "Royal Mail API-Shipping V2 (REST)", "Royal Mail Delivery Office Finder V1 (REST) API", "Royal Mail Tracking V1 (REST) API", "Royal Mail Tracking V1 (SOAP) API", "Royal Mail Local Delivery V2 (SOAP)", and "Royal Mail Local Delivery V2 (REST)". Each item has a brief description and a link to its documentation.

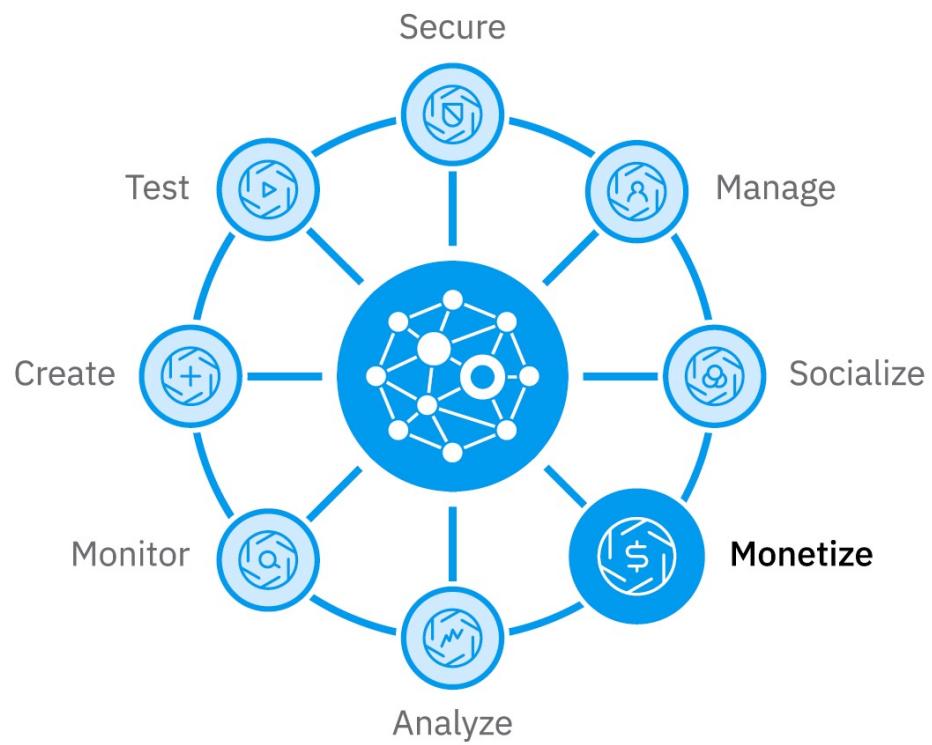


Your Perfect Business Partner

With Federal Bank APIs, you can meet all your business needs in a single platform. It is time for you to empower your customers in all walks of life. Create new business opportunities by integrating with us.

<https://developer.royalmail.net/api>

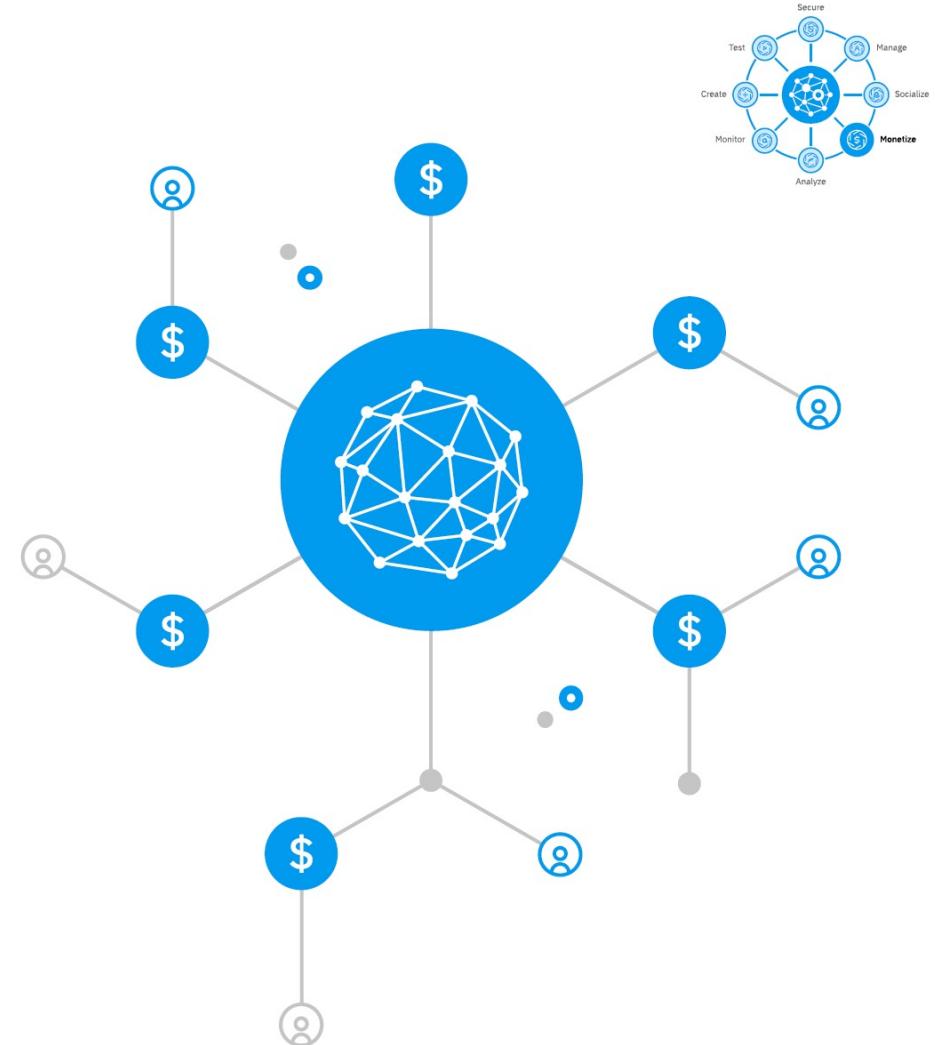
<https://developer.federalbank.co.in/>

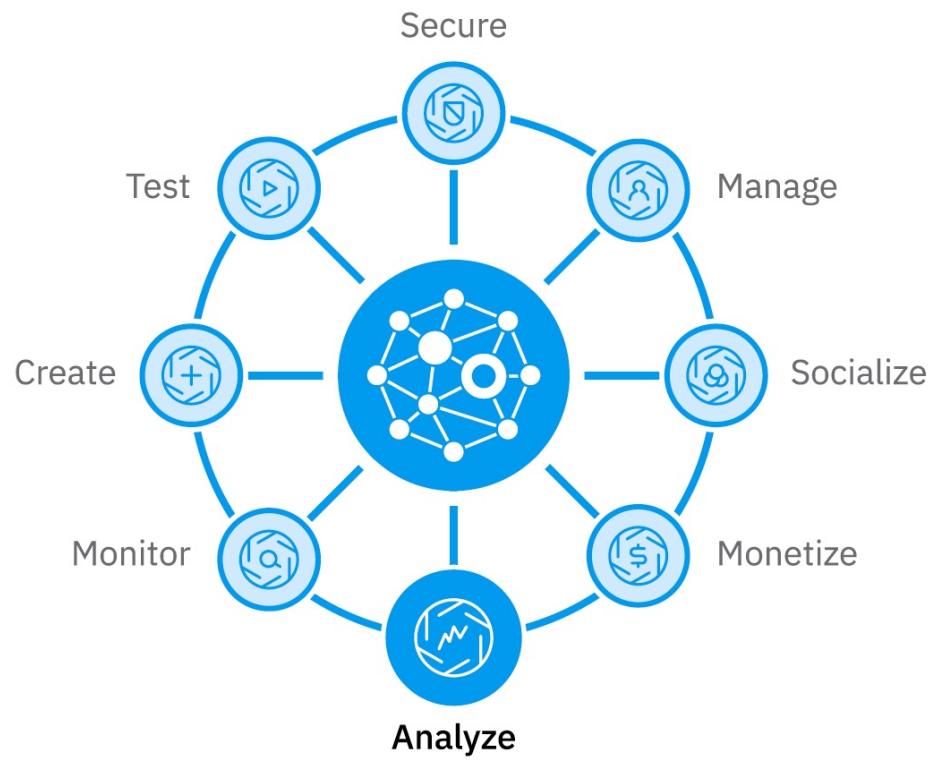


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Monetize

Monetize your API Calls

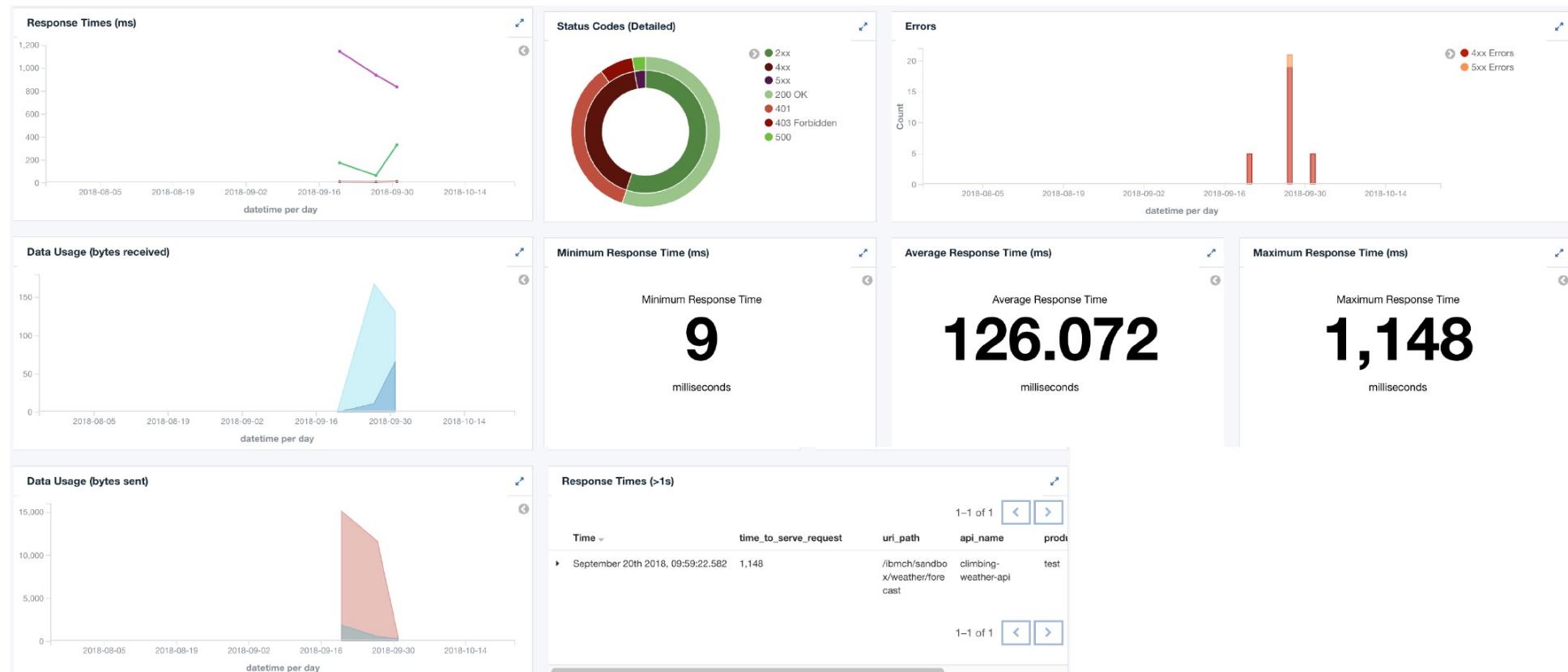
- **Modern approach & intuitive user experience** providing flexibility to define pricing details
- **Subscription pricing support** to enable recurring payments, popular in SaaS go-to-market strategies
- **Stripe integration OOTB** for smooth user-onboarding and payment collection
- **Analytics, customizable reports** for detailed insights into revenue, usage of monetized APIs
- **Offload API usage data** to existing enterprise tools to handle customized invoicing processes

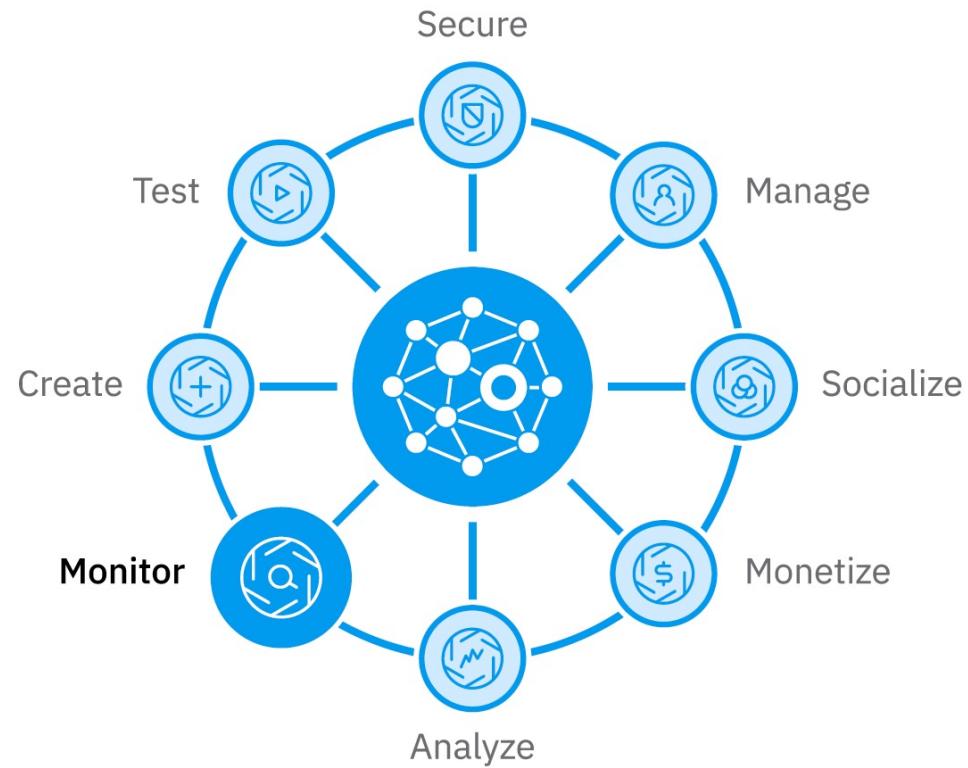




API Management
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Analyze

Dashboards – out of the box and custom





API Management
IBM API Connect
Test And Monitor

API Test and Monitor

