# REST API Design, Development & Management

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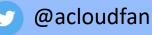
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This deck is part of a online course on Summary of a course that covers the A to Z of RESTful API. More information.

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# REST API Design, Development & Management

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## **API Management Scope**



Lifecycle

Security

Traffic

**Productize** 

Productivity

**Analytics** 

Monetization



IBM API Connect















# **API Management: Lifecycle & Productivity**



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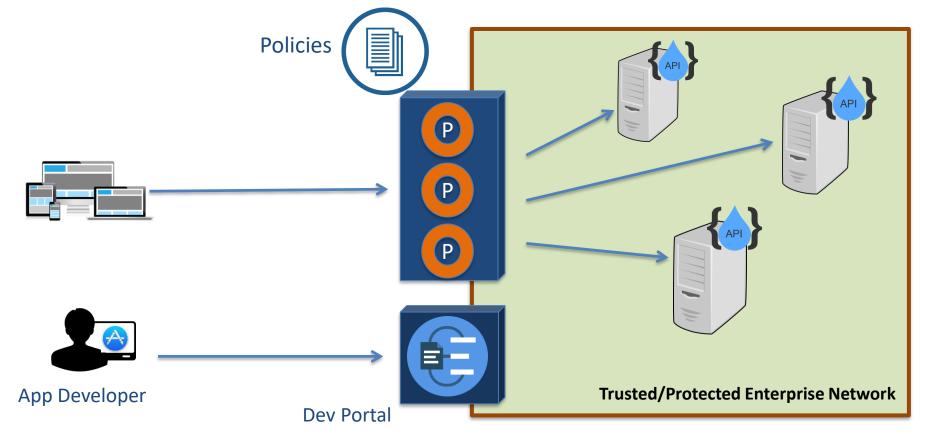
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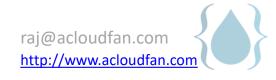
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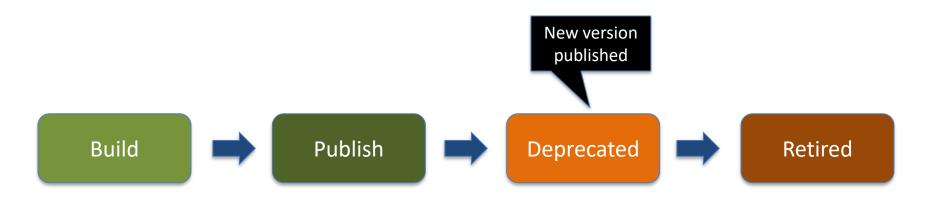
#### Proxy based (on premise)





## Lifecycle





- Establish processes, practices & roles
- Setup App developer communication

- Publish roadmap in advance
- Leverage and create tools

## Productivity







Self serve provisioning

Support





#### **API** Developer

- Development guidelines
- Frameworks
- Best practices



# **API Management : Security**



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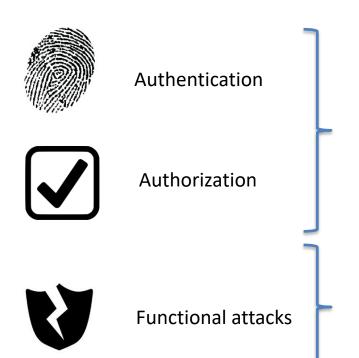
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Leverage API management platforms for security



**OAuth server** 

Key/Secret management

Protection from known threats

Future threats

## **API Security Practices**



- Educate the API developers
- Provide development guidelines on security

- Stay up to date on security threats
- Have a well defined security policy
- Develop a contingency plan
- Work with the other stakeholders to protect infrastructure



# API Management: Traffic



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## Traffic Management?



1. Response time consistency

2. Service Level Agreement (SLA)

3. Protecting the backend

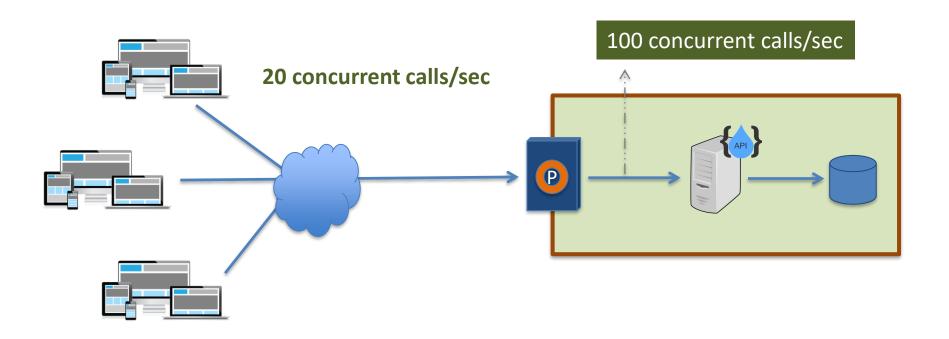
Defines Maximum # of calls per unit time

>>



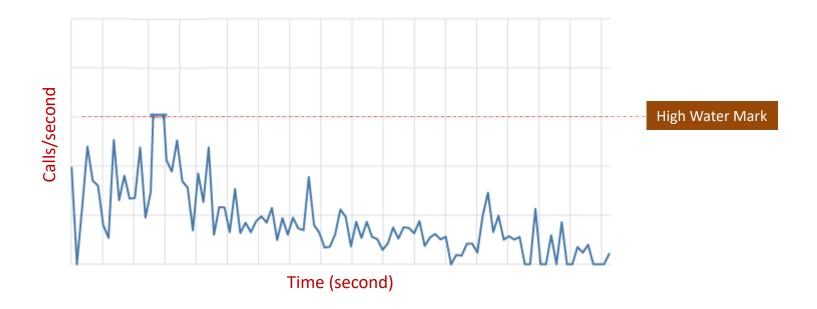
Limits number of concurrent connections to API

>>



>>

Prevents calls beyond high water mark from reaching the backend





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Response time

**API Errors** 

Calls / time

Throughput

**Backend errors** 

Response

Peaks/Valleys





#### Usage

>>









#### **Transactions**

- Specific to the implementation
- Logic built in the *proxy*



Origin of maximum sales?



# API Management : Productize & Monetize



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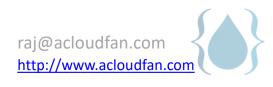
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## API = Product







You need to treat your API like a product

#### Monetization loudfa **Transaction** <u>ww.ac</u> **PayPal** Subscription salesforce Developer pays Pay as you go amazon **Expedia** Enterprise pays associates Models Linked in .. facebook Free apigee Freemium Google **IBM Watson**

## **Technology Considerations**



**Tiered Product Definitions** 

Usage metering

Reporting

Subscription management

Partner management