

API Gateway Blueprint

Thor Chin

(thor.c@inwinstack.com)

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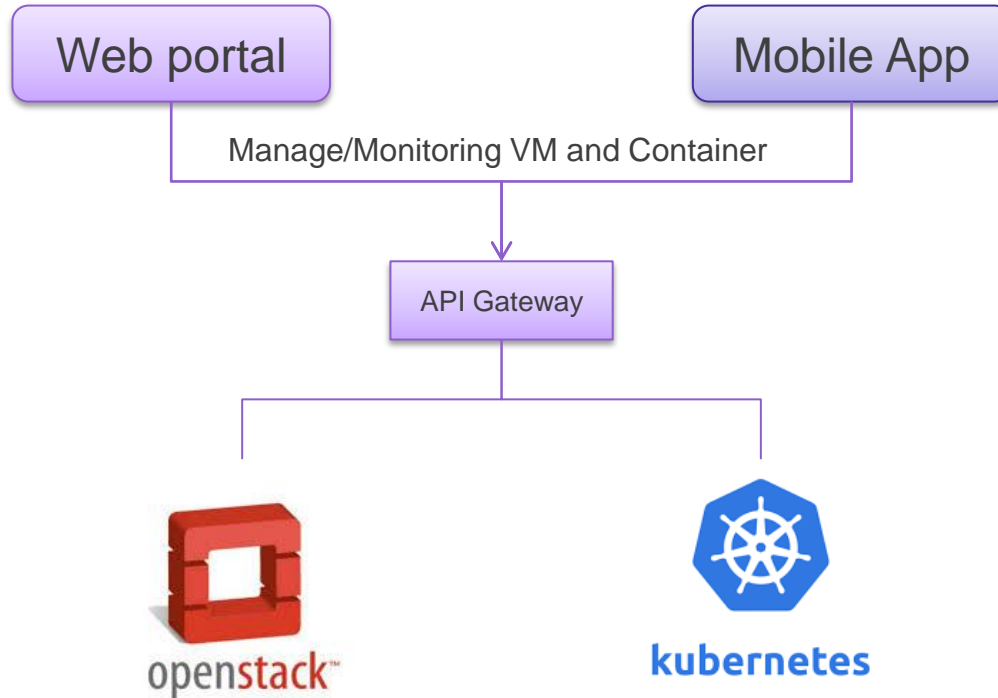
Blueprint Proposal: API Gateway

Case Attributes	Description	Informational
Type	New Blueprint	
Blueprint Family - Proposed Name	Not belong to blueprint family	
Use Case	Provide API Gateway for OpenStack, K8S and other platform or applications	
Blueprint proposed Name	API Gateway	
Initial POD Cost (capex)	1 node or 2 nodes for HA	
Scale & Type	Up to 2 Arm/x86 Servers	
Applications	API gateway for different platform integration. For example, api for create K8S containers and VMs.	
Power Restrictions	depends on hardware	
Infrastructure orchestration	OpenStack Queens or above - VM orchestration Docker 1.13.1 or above and K8s 1.10.2 or above- Container Orchestration OS - Ubuntu 16.04 Under Cloud Orchestration - Airship v1.0	
SDN	OVS, Calico	
Workload Type	Containers, VMs	
Additional Details	Kong	

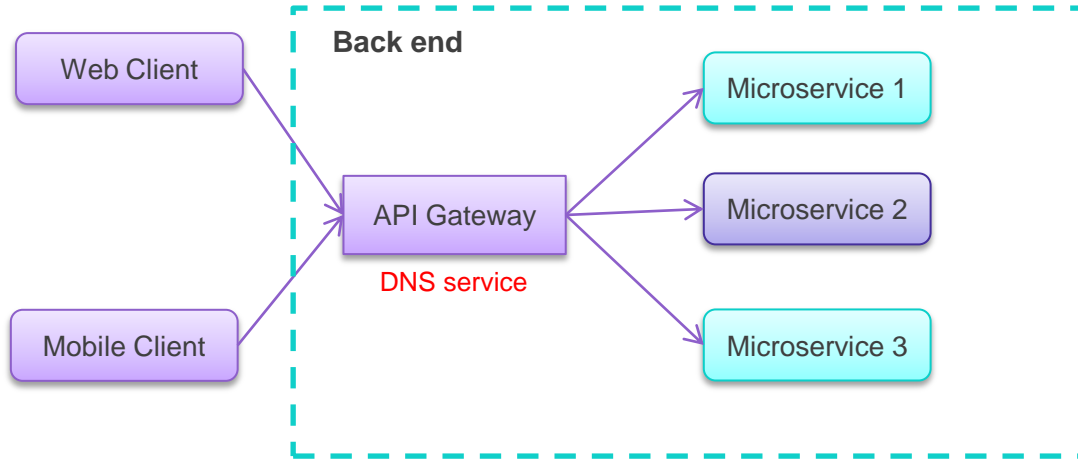
Motivation

- Complexity for client to connect to multiple microservices
- Mixing communication protocols such as REST, SOAP, XML-RPC
- Authentication and Authorization for multiple microservices
- Prevent DDoS or SQL-injection attack
- Monitoring for the API is used by whom and when or how
- Micro service IP may change and need to update all API connection info.

API Gateway Concept



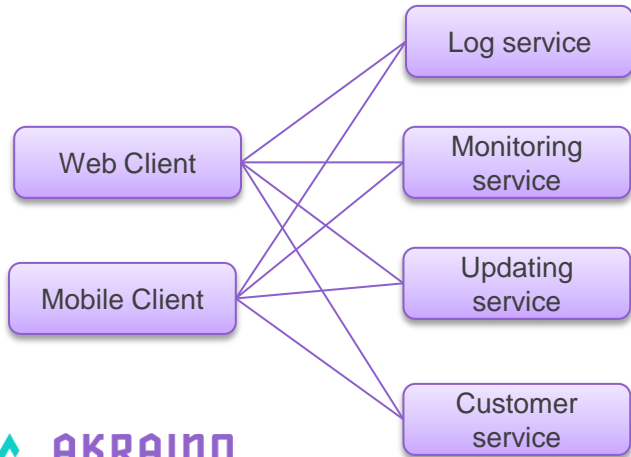
API Gateway Architecture



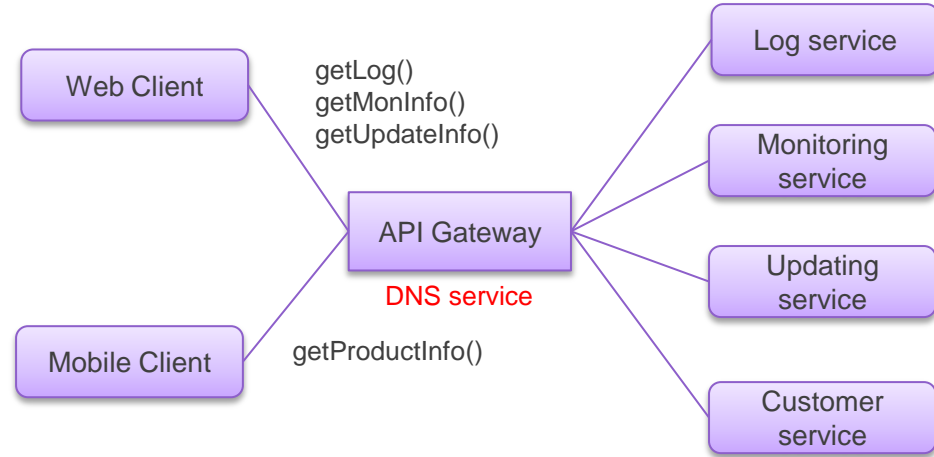
Benefits of API Gateway

- Security (Authentication and authorization)
- Load Balancing
- Lifecycle Management
- Ease to monitoring
- Service discovery (IP change Issue)

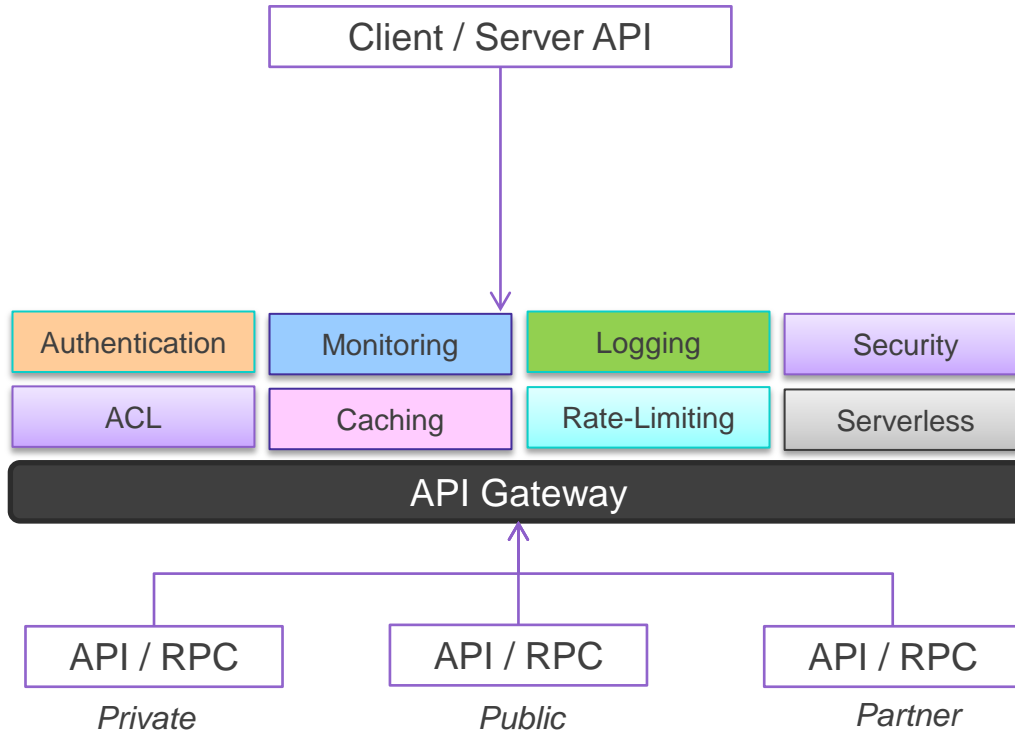
Before



After



Technical Architecture



*Can be set on Container / VM
/ x86 Server / ARM Server*