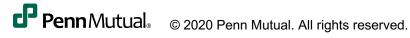
# PM AWS API Gateway Notes

Jan X, 2021



#### **Attack Plan**

- So you want to consider using AWS API Gateway
  - Features Review
  - Assumptions/Questions to ask your project
  - Open Questions from Infra perspective (and others)



## **AWS API Gateway – Features/Benefits**

Feature	Comments
APIs (stateful, stateless)	Rest APIs, HTTP APIs, WebSockets
Authentication	IAM, Lambda authorizers, Cognito
Payload Manipulation	Modelling, Validation, Transformation, Mocking
Service Integrations	AWS Services, VPC services, "anything" HTTP (e.g. PM data center)
API Definition/Management	Open API, CLI, Management console, SAM, CDK, Cloud Formation
Routing/Load balancing	Path based routing, request balancing, automatic autoscaling
Logging/Monitoring	Cloud Trail, Cloud Watch, X-Ray
Security/Firewall/Limits	AWS WAF, Resource policies, Throttling limits, Certificate management, Private API GW, etc.
Deployment	Canary, Edge optimized, Regional, Private
API Lifecycle Management	Stages (DEV,MOD,PRD) (v1, v2, etc.)
Developer Portal	Catalog APIs for external development needs



### **AWS API Gateway – Questions for projects**

Feature	Questions/Assumptions
APIs (stateful, stateless)	Assume Rest APIs (HTTP API N/A)
Authentication	What do we use here? Lambda authorizer calls back to PM service? Some other integration possible?
Payload Manipulation	<ul> <li>Can we use this for validating requests? Saves backend call costs.</li> <li>Can we transform requests to legacy system calls? Removes need to write delegates</li> <li>Can we use to establish common error response patterns (legacy, new stuff)?</li> <li>Do we want to create mocks for services not implemented yet?</li> </ul>
Service Integrations	<ul> <li>Do we need to natively invoke other AWS Services via HTTP?</li> <li>Do we need to use other VPC services?</li> <li>Can we use this to navigate back to PM for PCS securely?</li> <li>Lambda invocations use proxy vs. integration?</li> </ul>
API Definition/Management	<ul> <li>Use Open API to define/document?</li> <li>Use SAM/CloudFormation?</li> <li>Who's responsible for API gateway entries? Developers, DevOps, Linux admins?</li> </ul>



### **AWS API Gateway – Questions for projects**

Feature	Questions/Assumptions
Routing/Load balancing	<ul> <li>What is our routing requirements?</li> <li>North to South? East to West?</li> <li>East back to Penn Mutual Data center? Assume not all service invocations are in AWS?</li> <li>What does our service to service calls look like?</li> </ul>
Logging/Monitoring	<ul> <li>Assume we need integration into Cloud Watch</li> <li>What is our tracing requirements? Gateway through to?</li> </ul>
Security/Firewall/Limits	<ul><li>What should we use here?</li><li>Resource policies? Throttling limits?</li></ul>
Deployment	<ul><li>What do we want here?</li><li>Assume private? Or do we need regional? Private link multi-account?</li></ul>
API Lifecycle Management	<ul> <li>Assume we don't need to use stages if separating environments via AWS accounts</li> <li>Do we need API versioning for internal development?</li> </ul>
Developer Portal	Assume we're not publishing APIs to outside world so not required



#### AWS API Gateway –Questions (Infra/Other)

- Who defines what in the gateway?
  - Devs do ?, Dev ops does ? What about any "PUBLIC" APIs?
- How many API gateways do we need to define?
  - 1 per account used for both Backend/Frontend? Backend service only? Is so who defines what where?
- Multi-account integration
  - What works here? What doesn't?
- What happens to our ALB?
  - Which use cases can we remove the ALB? Which ones not (e.g. VPC link to ECS)?
- Are there AWS limits we need to consider?
  - Payload size (10 MB)? URL Length?
- What is the estimated AWS cost?
  - Private link, caching? API requests?



# Thank you.

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