PM AWS API Gateway Notes

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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	• Can we use this for validating requests? Saves backend call costs. • Can we transform requests to legacy system calls? Removes need to write delegates • Can we use to establish common error response patterns (legacy, new stuff)? • Do we want to create mocks for services not implemented yet?
Service Integrations	• Do we need to natively invoke other AWS Services via HTTP? • Do we need to use other VPC services? • Can we use this to navigate back to PM for PCS securely? • Lambda invocations use proxy vs. integration?
API Definition/Management	• Use Open API to define/document? • Use SAM/CloudFormation? • Who's responsible for API gateway entries? Developers, DevOps, Linux admins?

AWS API Gateway – Questions for projects

Feature	Questions/Assumptions

Routing/Load balancing	• What is our routing requirements?
	  • North to South? East to West?
	  • East back to Penn Mutual Data center? Assume not all service invocations are in AWS?
	• What does our service to service calls look like?

Logging/Monitoring	• Assume we need integration into Cloud Watch • What is our tracing requirements? Gateway through to ?
Security/Firewall/Limits	• What should we use here? • Resource policies? Throttling limits?
Deployment	• What do we want here? • Assume private? Or do we need regional? Private link multi-account?
API Lifecycle Management	• Assume we don't need to use stages if separating environments via AWS accounts • Do we need API versioning for internal development?
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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