

Azure API Management



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Agenda

What is API-Management and why do I need it?

Create & Configure

Products

Alternative Authentication

Delegation

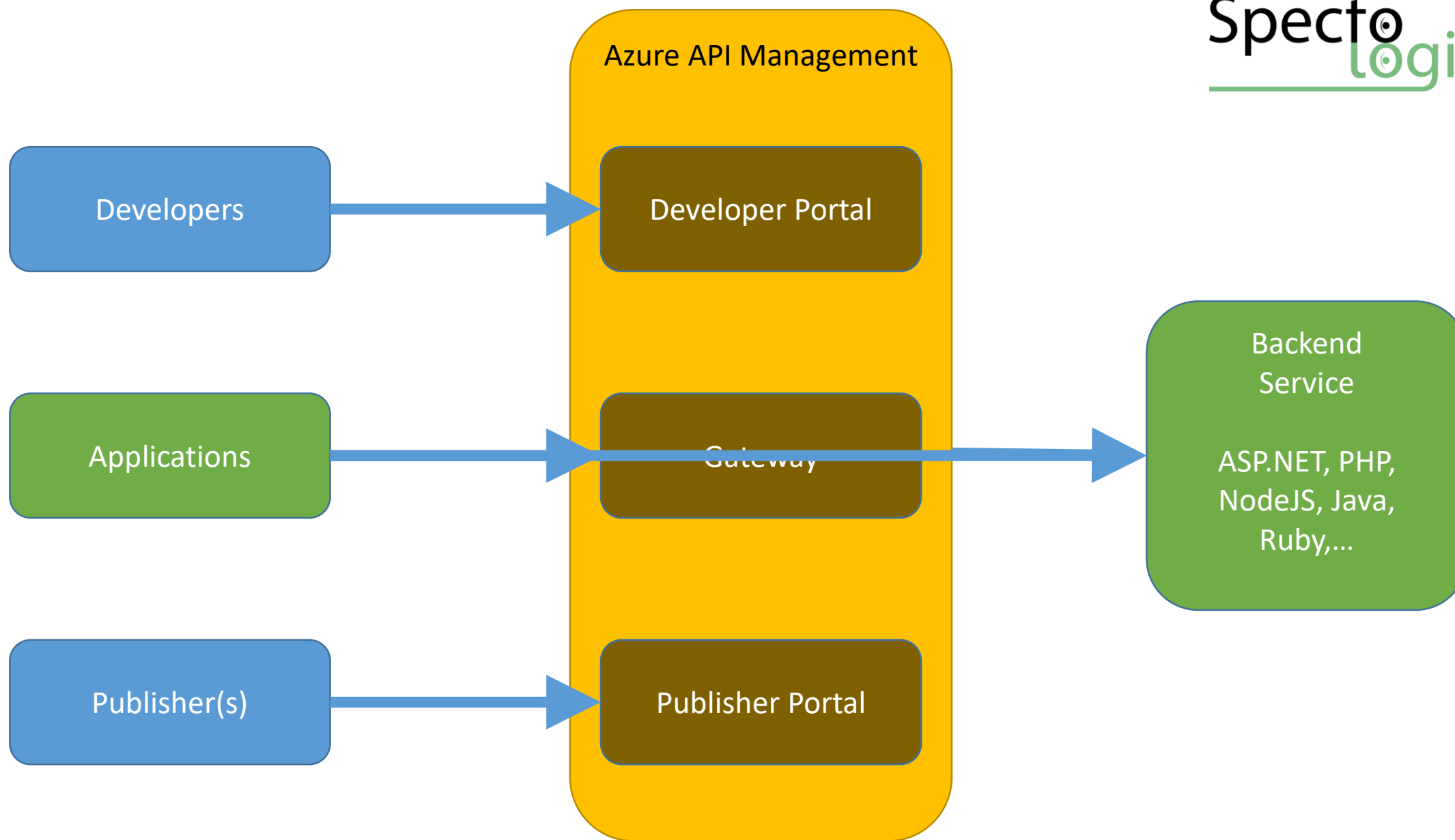
Policies & Security

Configuration versioning with GIT

Analytics & Reports

Pricing

What is API Management?



API Apps & API Management

API Apps

Hosting

Simple Access Control

CORS

Trigger/Action (Logic App)

API Management

Monitor

Throttle

Manipulate

Consolidating

DEMO

Create API Management

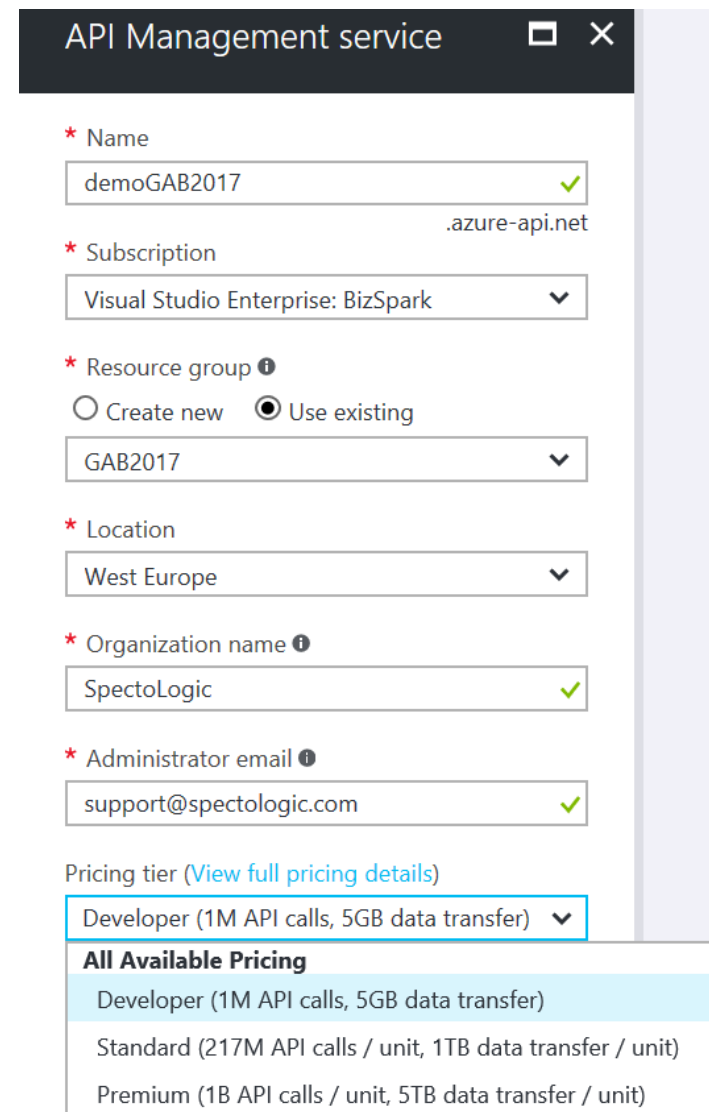
Up to 60 Minutes !

Proxy (name.azure-api.net)

Portal (name.portal.azure-api.net)

Management (name.management.azure-api.net)

SCM (name.scm.azure-api.net)



API Management service

* Name
demoGAB2017 ✓
azure-api.net

* Subscription
Visual Studio Enterprise: BizSpark ▼

* Resource group ⓘ
 Create new Use existing
GAB2017 ▼

* Location
West Europe ▼

* Organization name ⓘ
SpectoLogic ✓

* Administrator email ⓘ
support@spectologic.com ✓

Pricing tier ([View full pricing details](#))
Developer (1M API calls, 5GB data transfer) ▼

All Available Pricing

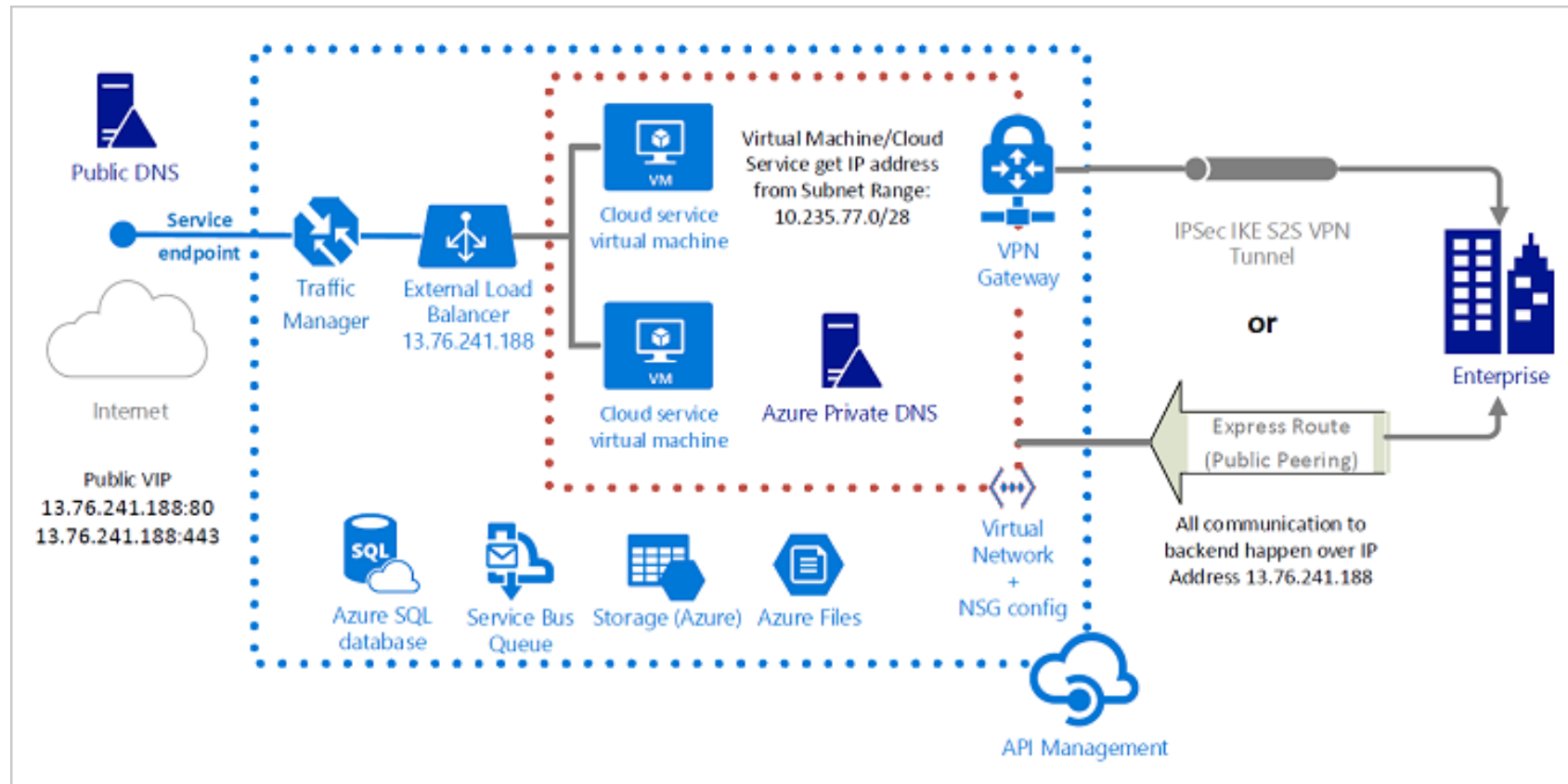
Developer (1M API calls, 5GB data transfer)
Standard (217M API calls / unit, 1TB data transfer / unit)
Premium (1B API calls / unit, 5TB data transfer / unit)

VPN Connection

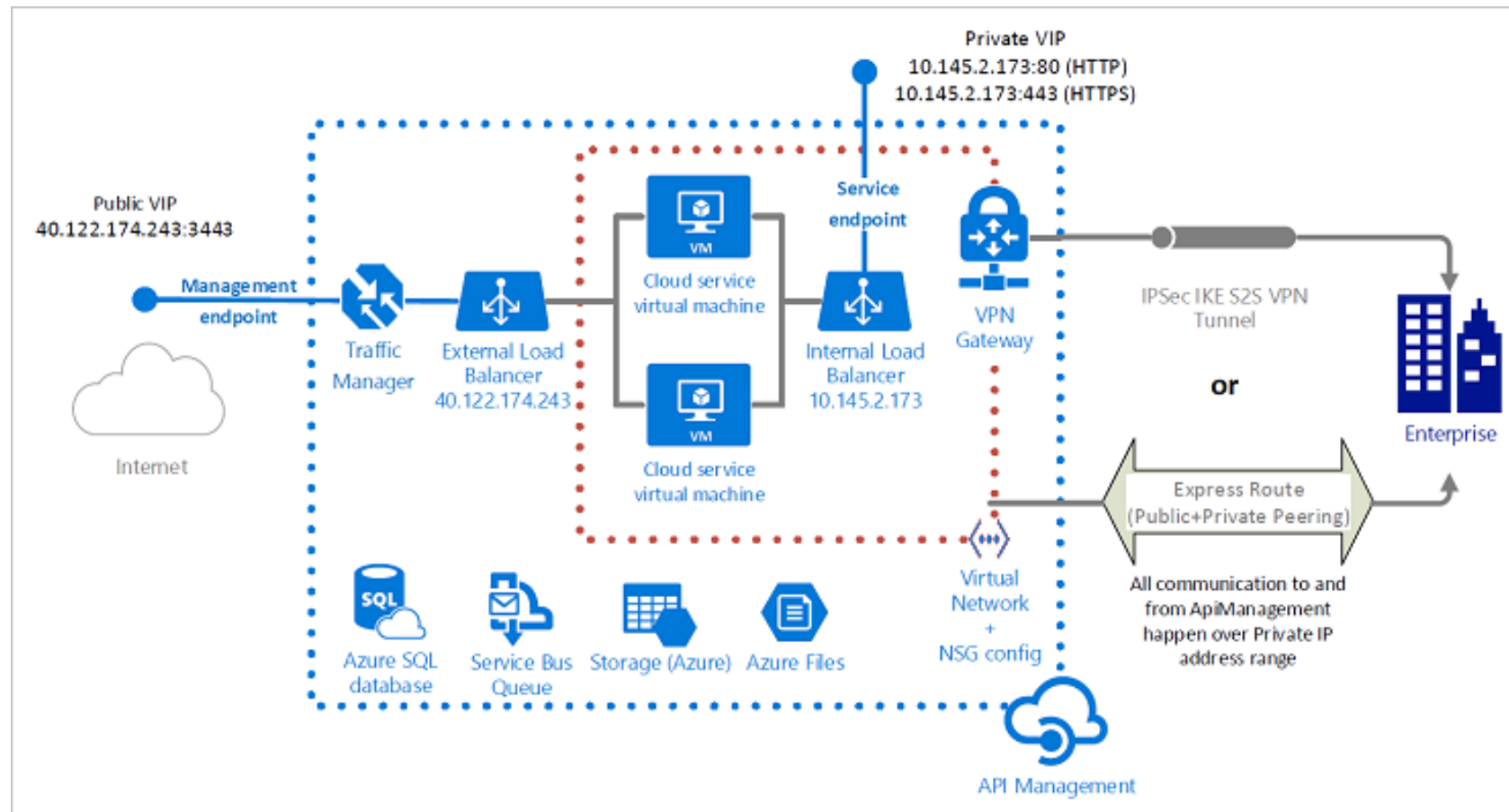
Virtual network Off External Internal

LOCATION	VIRTUAL NETWORK	SUBNET
West Europe	VNETAPI	<div style="border: 1px solid black; padding: 2px;"><div style="background-color: #0070C0; color: white; padding: 2px;">Subnet-1</div><div style="padding: 2px;">Subnet-2</div></div>

External VPN



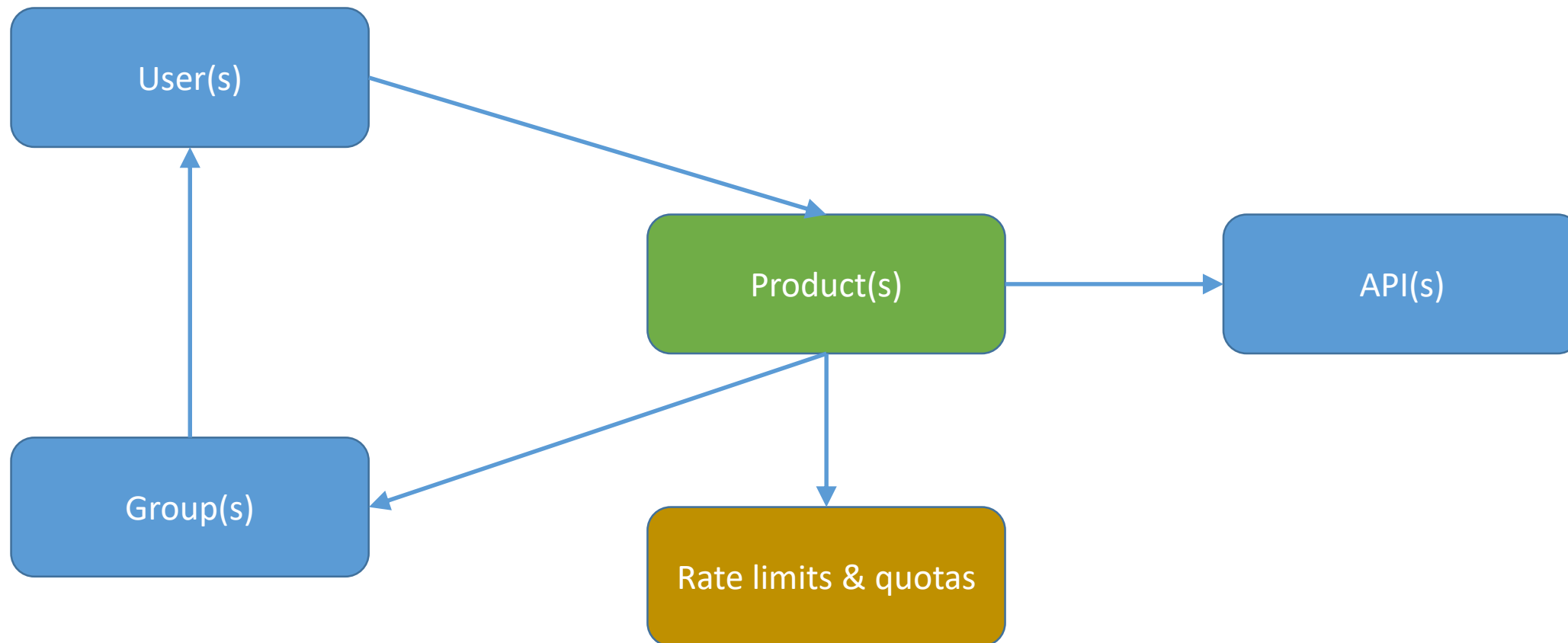
Internal VPN



DEMO

Add an API

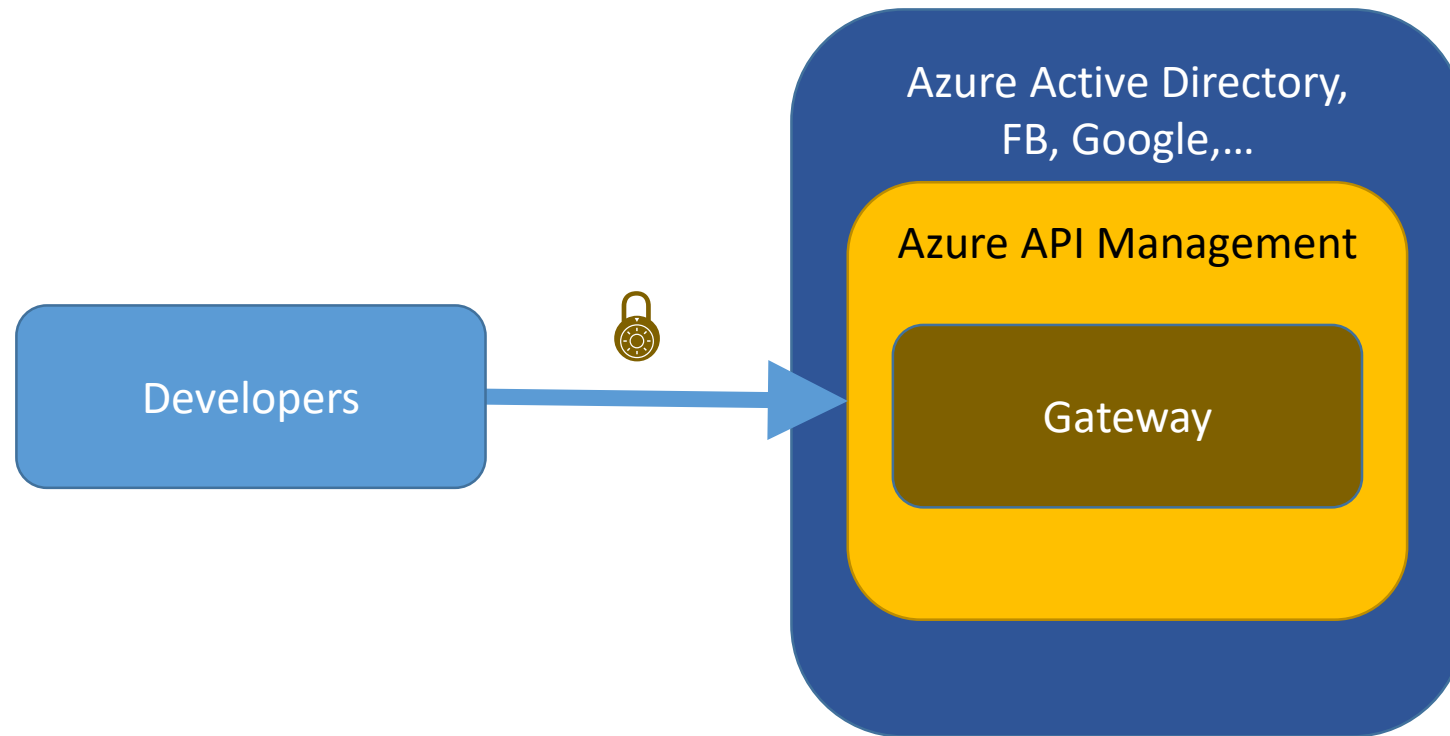
Products



DEMO

Create a product
Subscribe to a product

using Azure AD to sign up/in API Management

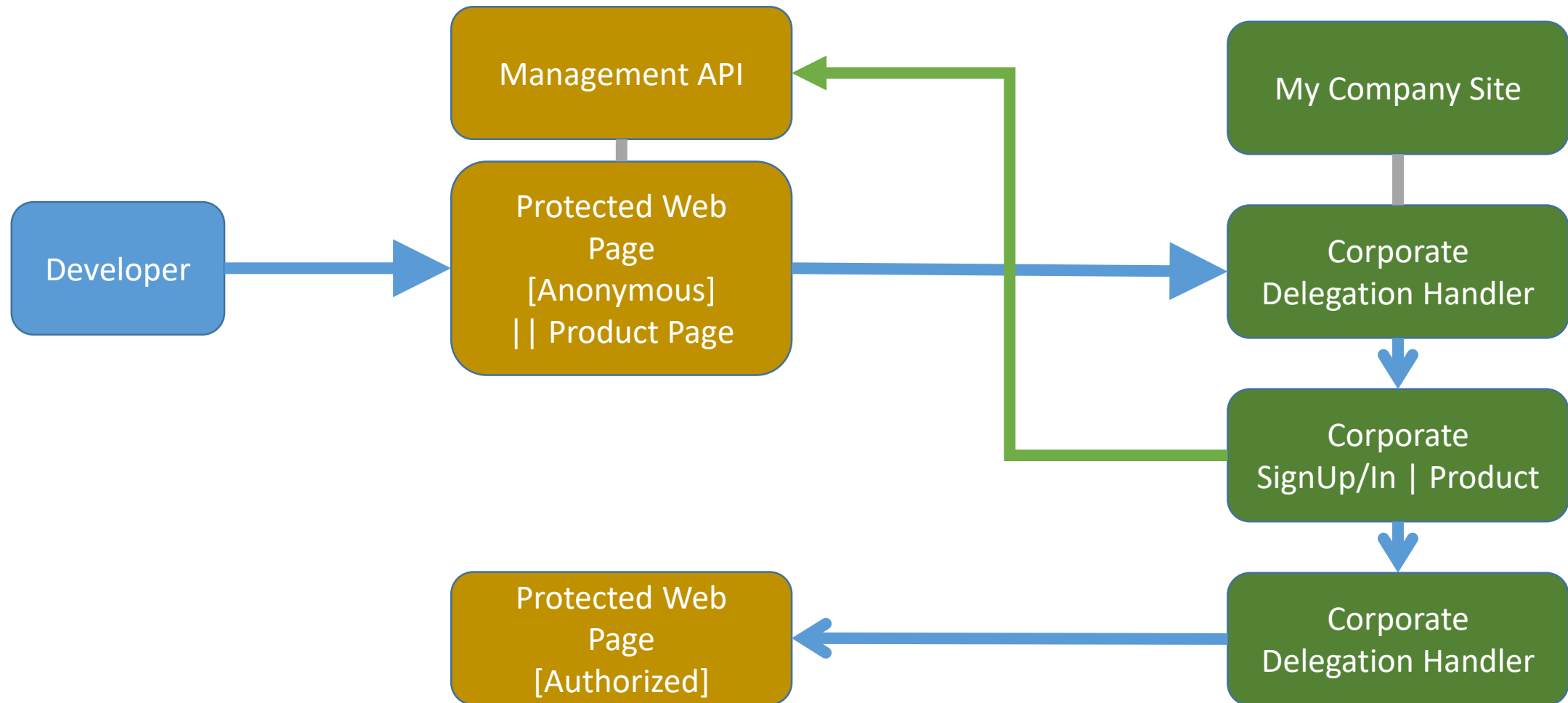


Delegation

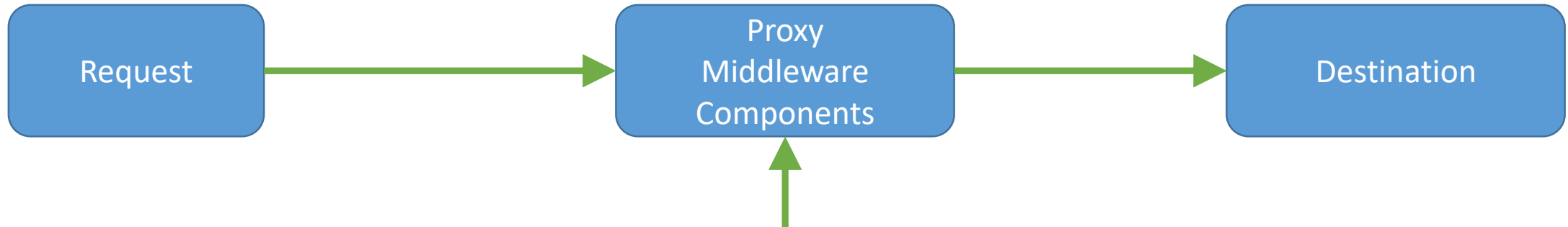
Handle Authentication (SignIn/Up)

Handle Product Subscription

Delegation Authentication Process



Policies



Policy scope

Product API of Calculator Professional 2016

Calculator Professional 2016 Calc

Operation of Calc

Calc_AddByab

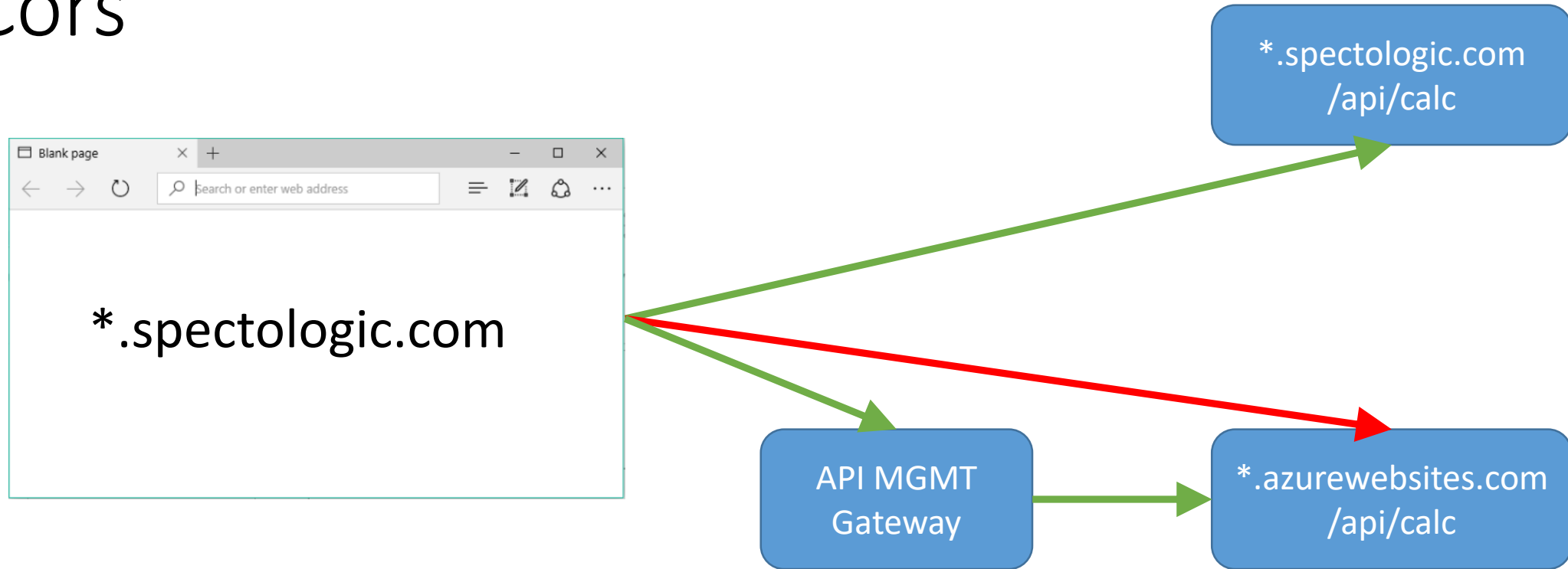
Product: Calculator Professional 2016 → API: Calc → Operation: **Calc AddByab**

Policy definition

 FULL SCREEN

Policy statements

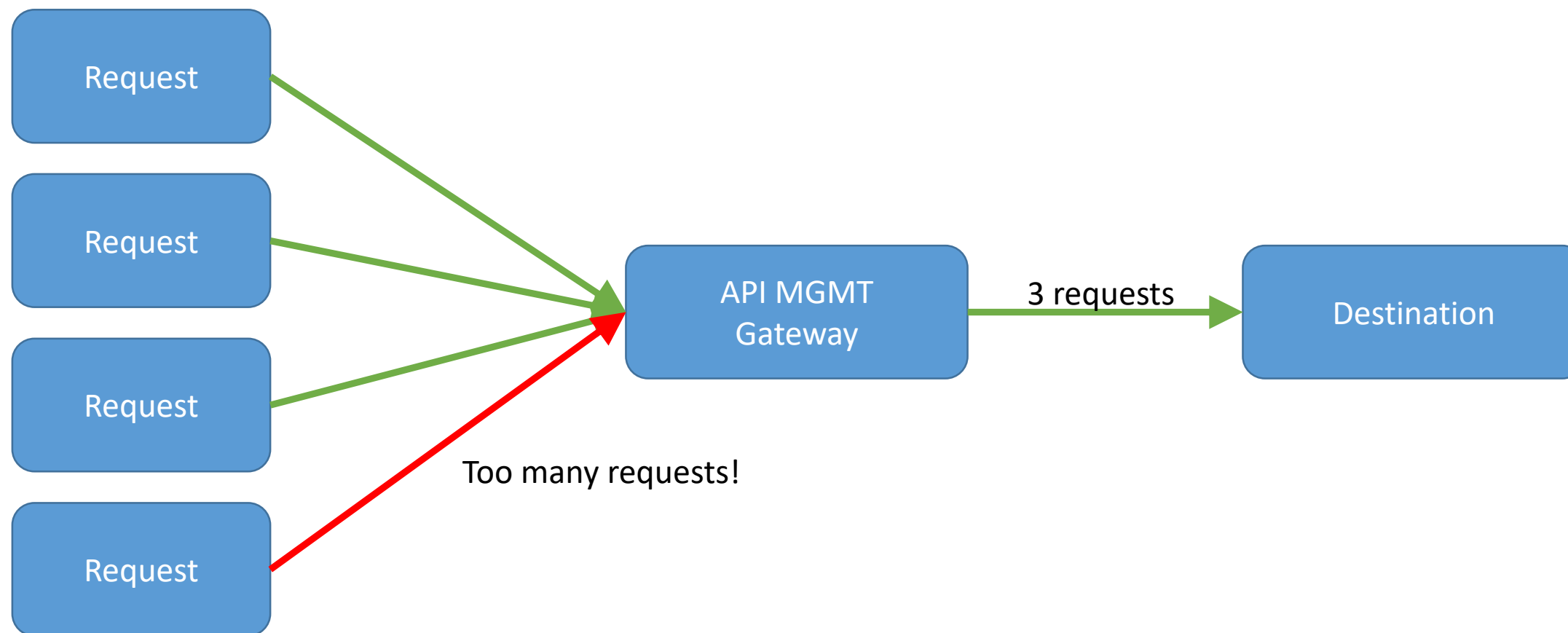
Cors



DEMO

Add a CORS policy

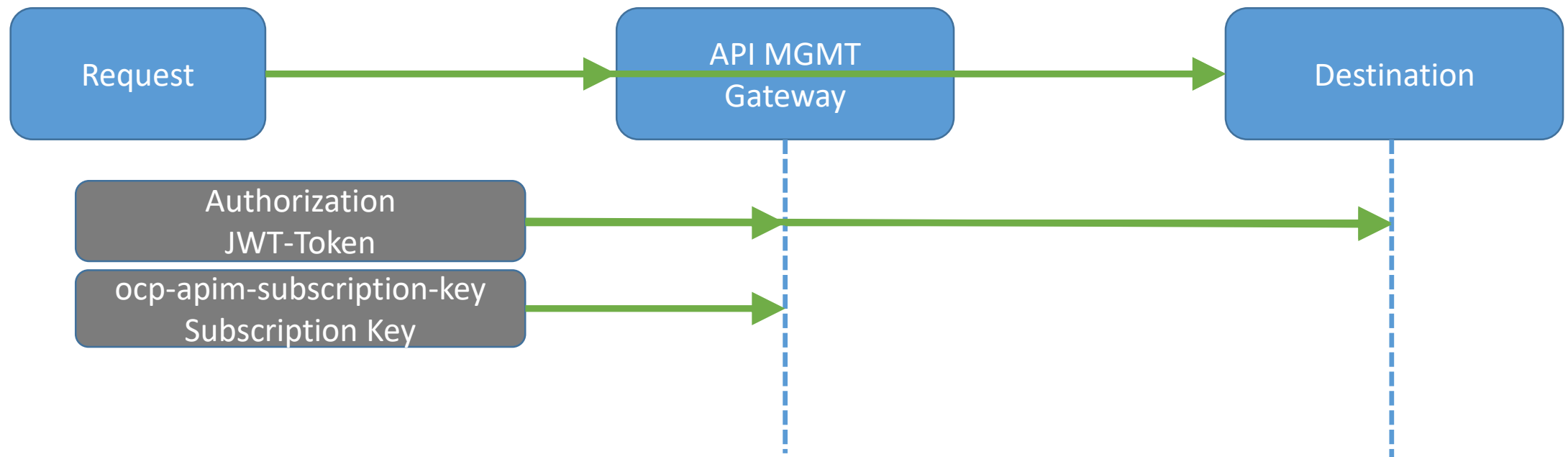
Request Throttling Policies



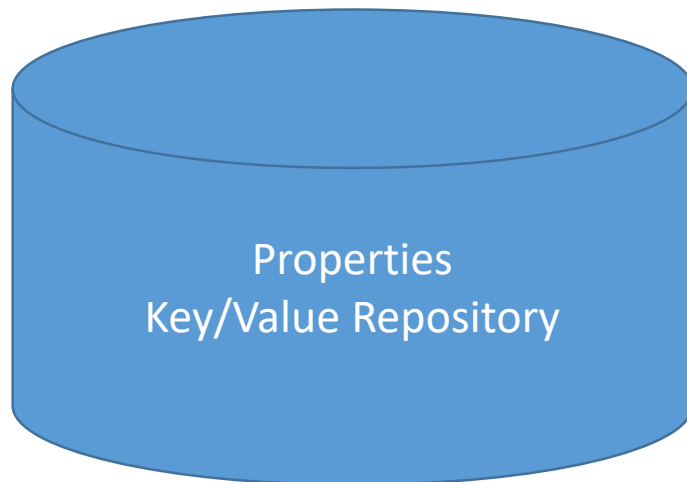
DEMO

Throttling Policy

Validating JWT-Tokens



Properties in policies



```
<validate-jwt header-name="Authorization"  
  <issuer-signing-keys>  
    <key>{{Calc_JWT-Token}}</key>  
  </issuer-signing-keys>  
<issuers>
```

DEMO

Validating JWT tokens

More access restriction policies

Set-Header

Check-Header

IP-Filter

```
200 OK
Pragma : no-cache
Cache-Control : no-cache
Date : Wed, 13 Apr 2016 09:20:51 GMT
Set-Cookie : ARRAffinity=c1bee124a9b239850
401483b50;Path=/;Domain=gab2016calc.azurew
X-AspNet-Version : 4.0.30319
X-Powered-By : ASP.NET
```

```
<outbound>
  <base />
  <set-header name="X-AspNet-Version" exists-action="delete">
</set-header>
  <set-header name="X-Powered-By" exists-action="delete">
</set-header>
</outbound>
```

HTTP-request policies

Send-One-Way-Request

Send-Request

Return-Response

Integrating with SLACK



support-bot BOT 1:02 PM

Add methods had an invalid JWT-Token :-P!

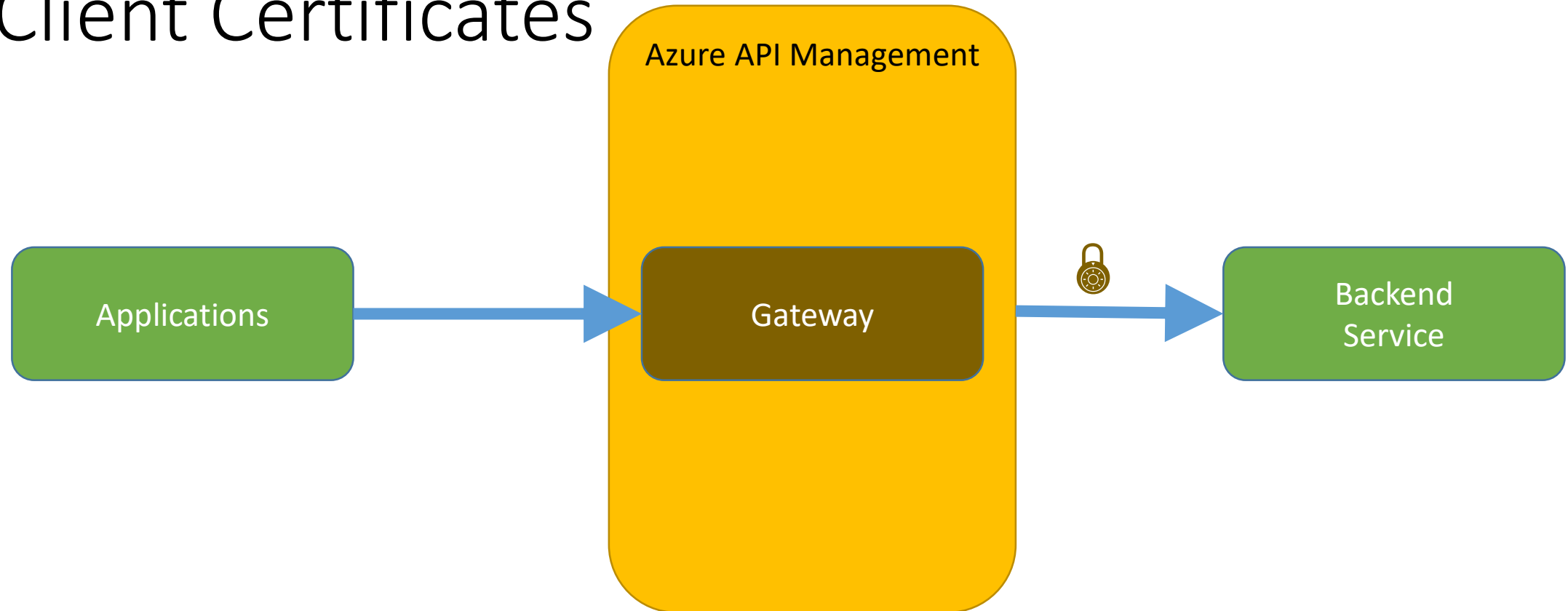


apollak 1:02 PM

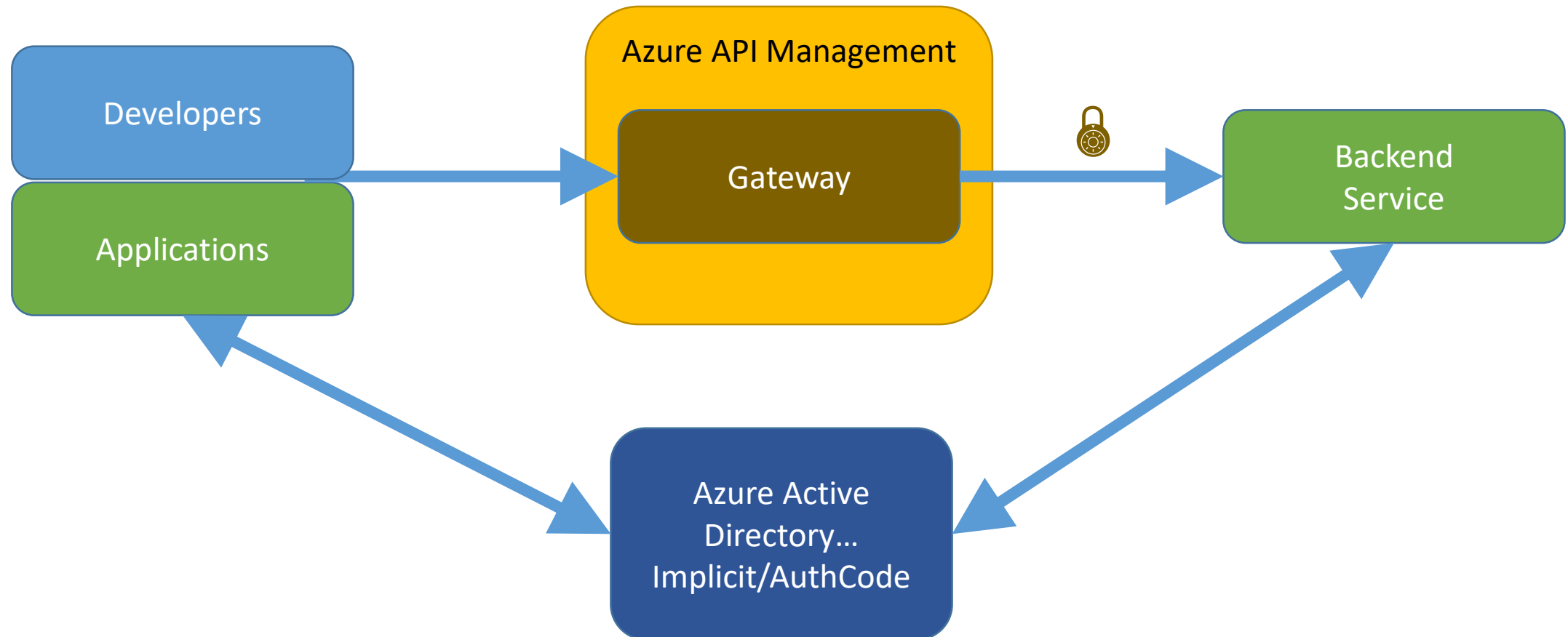


slackbot 1:02 PM Only you can see this message

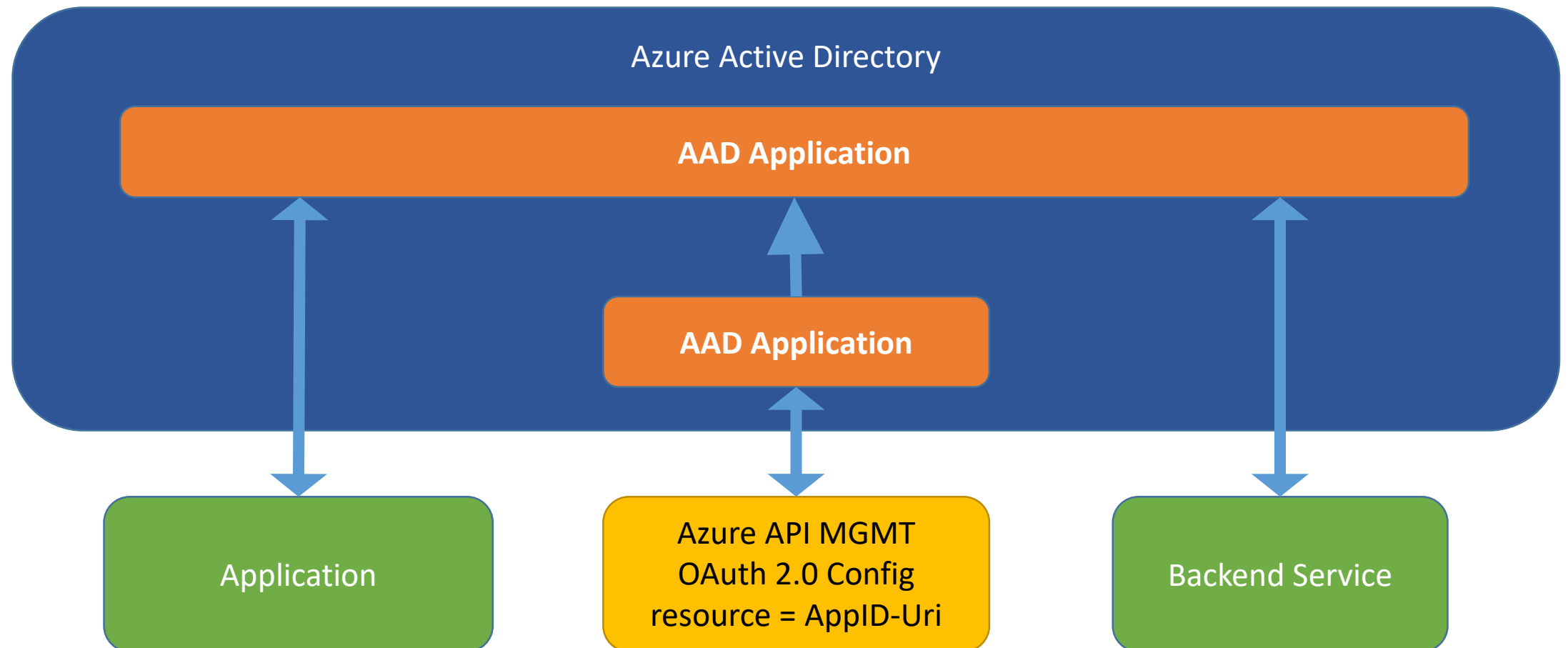
Securing the backend Client Certificates



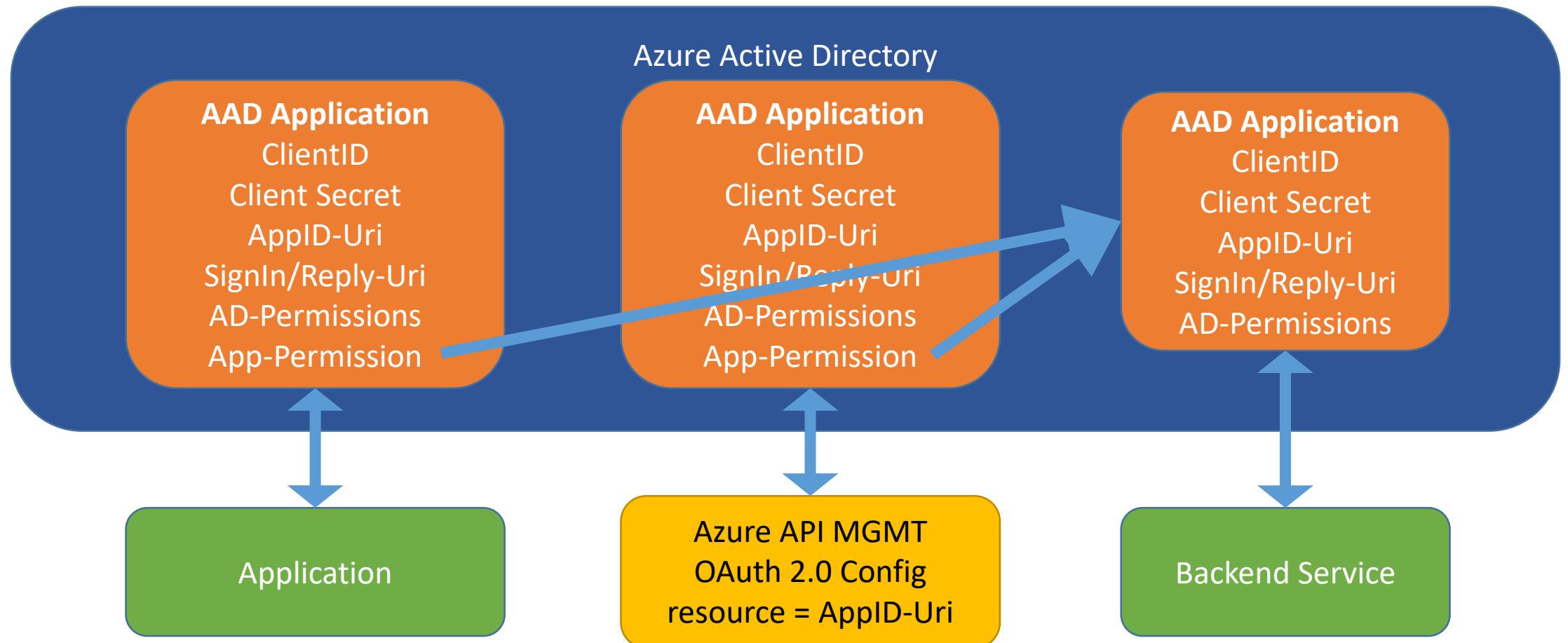
Securing APIs with OAuth2 / OpenID Connect



Securing APIs with AAD - OAuth2

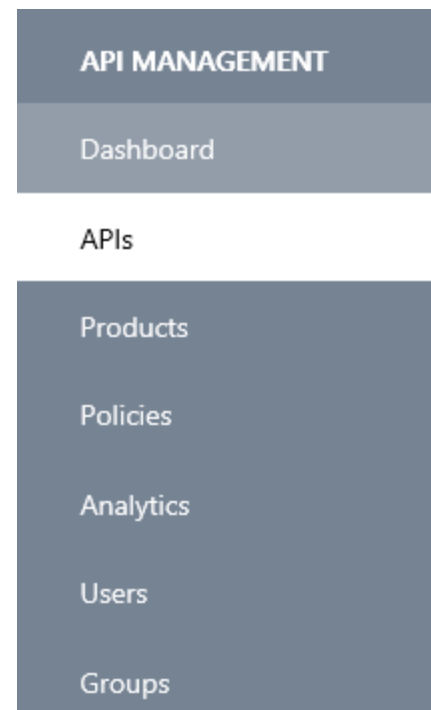


Securing APIs with AAD - OAuth2



Caching with API Management

Improving Performance



APIs - Calc

[Summary](#) [Settings](#) [Operations](#) [Security](#)

Operation - Calc_AddByab

[Signature](#)

[Caching](#)

Caching

Response caching can significan

Advanced Caching

Fragment Caching

<cache-lookup-value>

<cache-store-value>

API Management GIT-Configuration [Preview]

multiple configuration versions

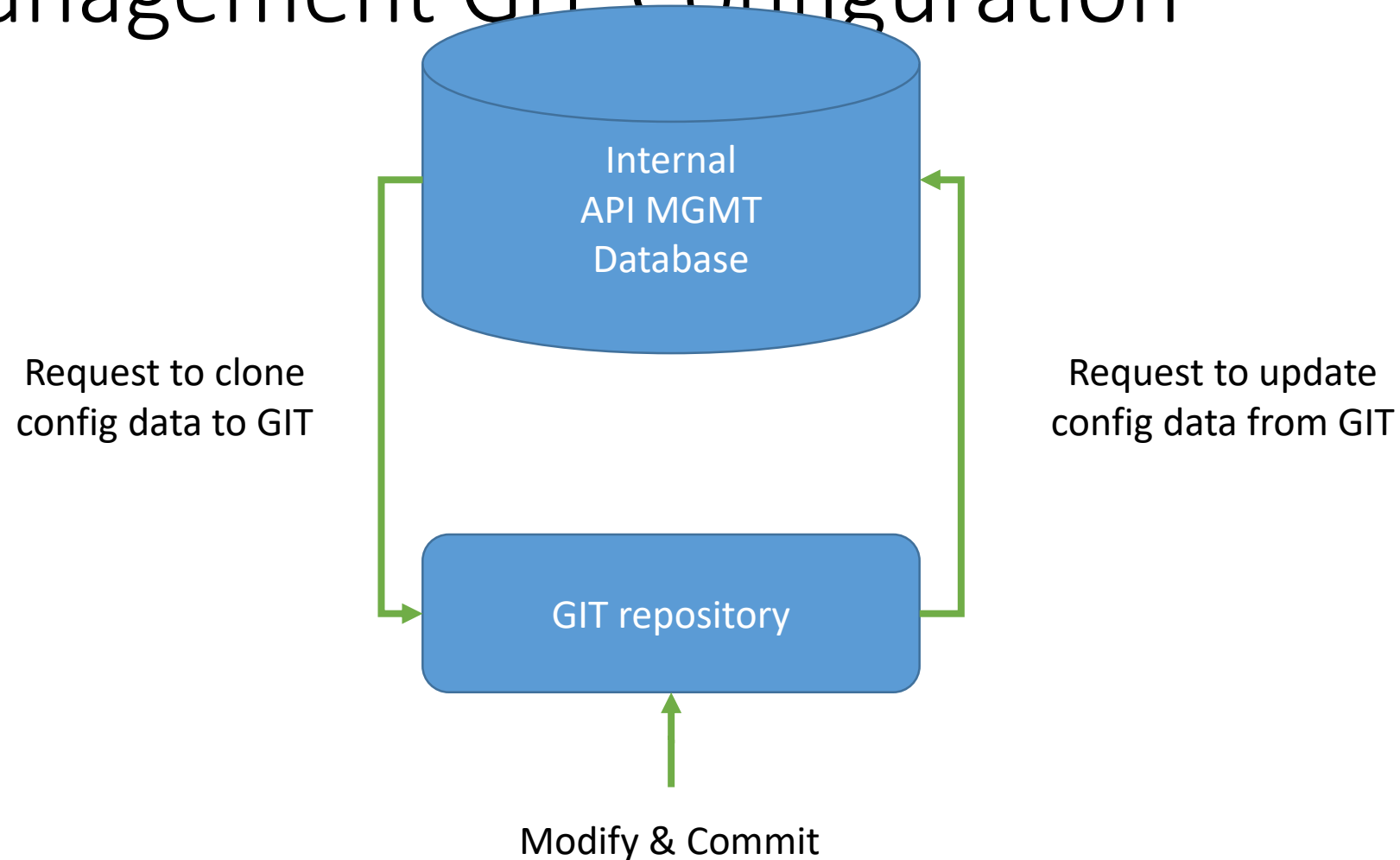
syncing of multiple tenants (Test → Production)

utilizing git workflow for collaborative editing

text-file based configuration

secrets from properties are kept in database only!

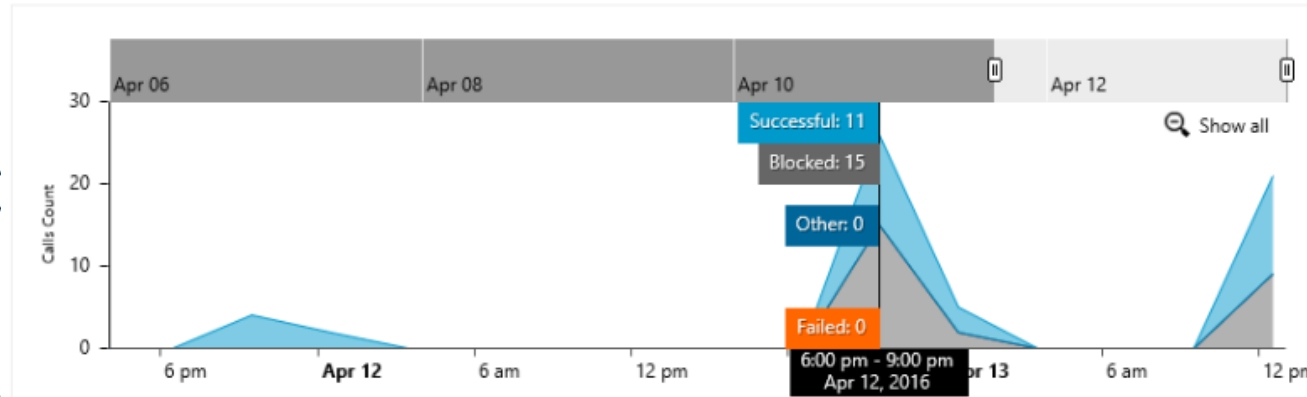
API Management GIT-Configuration



Analytics Status codes

Dashboard

APIs



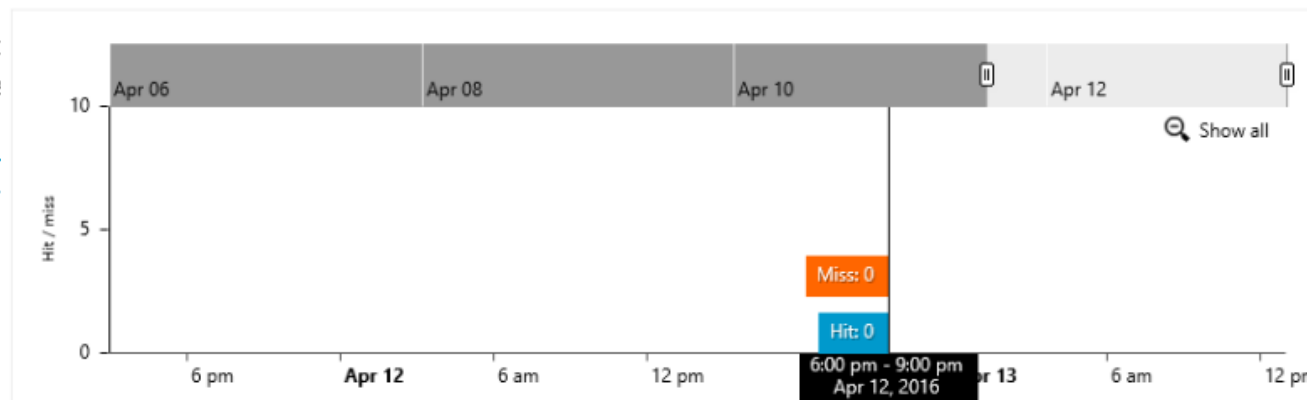
Last 90 Days

Calc

- Calls
- Errors
- Bandwidth
- Response

[VIEW DET](#)

Cache



0
0
0

Pricing

Pricing	Developer	Standard	Premium
Price	€1.34 / day (~€41.31 / mo)	€19.02/day per unit (~€ 589.51 / mo)	€77.50/day per unit (~€ 2,402.48 / mo)
API Calls (per unit)	32 K / day (~1 M / month)	7 M / day (~217 M / month)	32 M / day (~1 B / month)
Data Transfer (per unit)	161 MB / day (~5 GB / month)	32 GB / day (~1 TB / month)	161 GB / day (~5 TB / month)
Cache	10 MB	1 GB	5 GB
Scale-out	N/A	4 units Contact us for more	Unlimited
SLA	N/A	99.9%	99.95%
Multi-Region Deployment	No	No	Yes
Azure Active Directory Integration	Unlimited User Accounts	No	Unlimited User Accounts
VPN	Yes	No	Yes
Additional Data Transfers	Standard Data Transfers rates apply	Standard Data Transfers rates apply	Standard Data Transfers rates apply



THANK YOU

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Resources

Papers

[Whitepaper CITO Research –
Cloud-based API Management: Harnessing the Power of APIs](#)

[Harvard Business Review](#)

General

[APIM Overview](#)

[Configuration over GIT](#)

[Team-Blog of Azure API Management](#)

Logging

[How to log to Event Hubs](#)

[AAPIIM and Azure Event Hubs Integration](#)

Resources

Policies

[Send Request and Return Response Policies](#)

[Advanced Request Throttling with Azure APIM](#)

[APIM How to Policies](#)

[APIM Advanced Policies](#)

[CORS Policy](#)

Resources

Authorization & Delegation

[How to authorize developer accounts with AAD](#)

[Delegation Process](#)

Pricing

[Pricing](#)