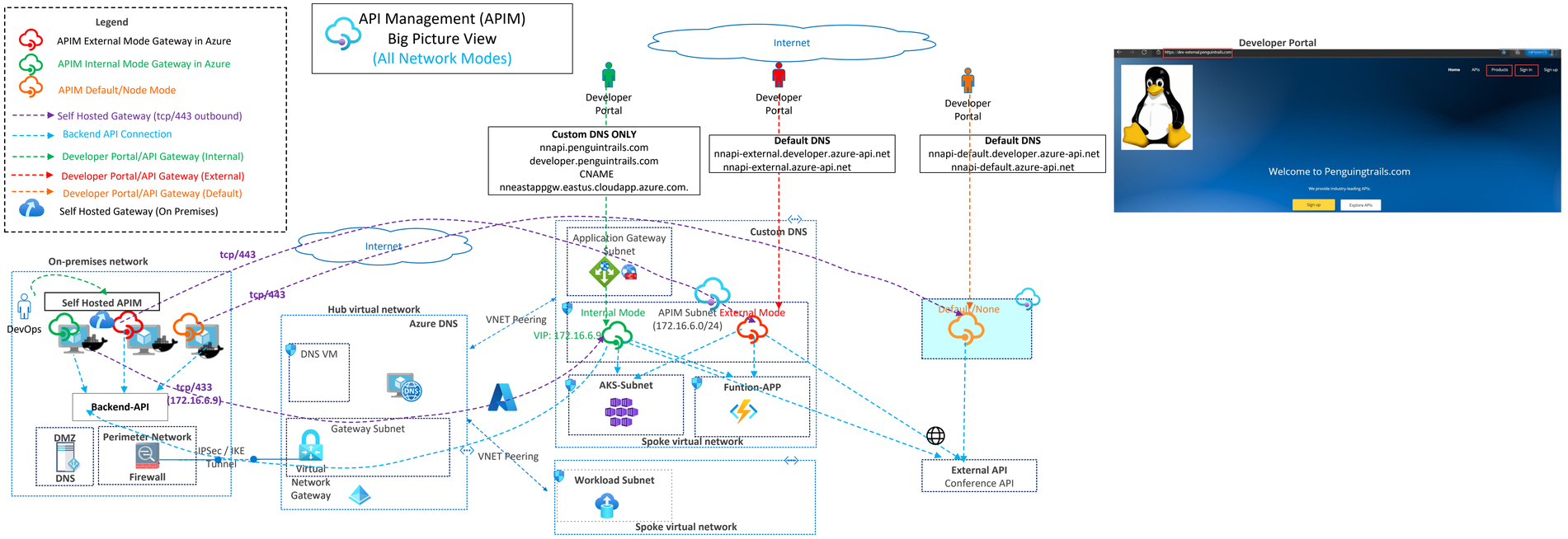
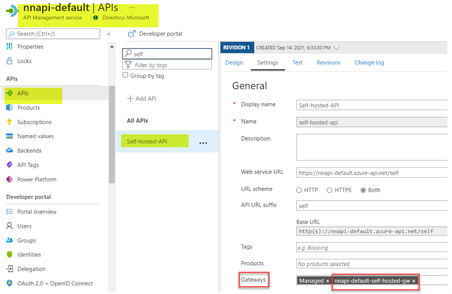

Legend
APIM External Mode Gateway in Azure
APIM Internal Mode Gateway in Azure
APIM Default/Node Mode
Self Hosted Gateway (tcp/443 outbound)
Backend API Connection
Developer Portal/API Gateway (Internal)
Developer Portal/API Gateway (External)
Developer Portal/API Gateway (Default)
Self Hosted Gateway (On Premises)
API Management (APIM)
Big Picture View
(All Network Modes)
Internet
Developer Portal
Developer Portal
Developer Portal
Custom DNS ONLY
nnapi.penguintrails.com
developer.penguintrails.com
CNAME
nneastappgw.eastus.cloudapp.azure.com.
Default DNS
nnapi-external.developer.azure-api.net
nnapi-external.azure-api.net
Default DNS
nnapi-default.developer.azure-api.net
nnapi-default.azure-api.net
Developer Portal
Welcome to Penguingtrails.com
Custom DNS
Application Gateway Subnet
Internet
On-premises network
tcp/443
tcp/443
Self Hosted APIM
DevOps
Hub virtual network
Azure DNS
VNET Peering
Internal Mode
APIM Subnet
(172.16.6.0/24)
External Mode
VIP: 172.16.6.9
Default/None
DNS VM
tcp/433
(172.16.6.9)
Backend-API
AKS-Subnet
Funtion-APP
DMZ
Perimeter Network
Gateway Subnet
IPSec / IKE
Tunnel
DNS
Firewall
Virtual
Network
Gateway
VNET Peering
Spoke virtual network
Workload Subnet
External API
Conference API
Spoke virtual network



Default Domain

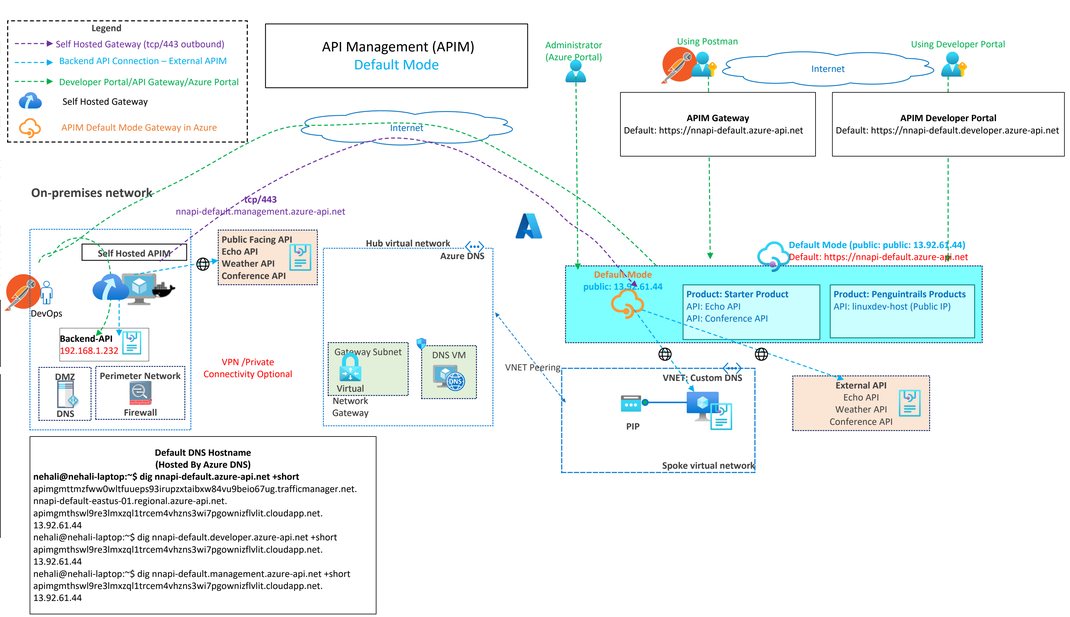
curl --location --request GET 'https://127.0.0.1:9002/echo/resource?param1=sample' \
--header 'Ocp-Apim-Subscription-Key: XXXX601'

APIM Self Hosted Gateway (Default Mode)

env.conf

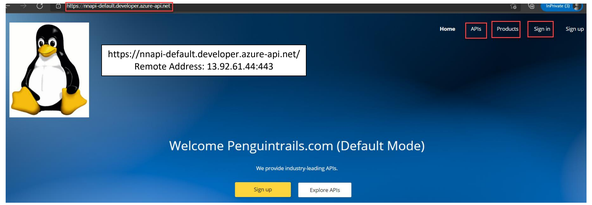
config.service.endpoint=https://nnapi-default.management.azure-api.net/subscriptions/XXXX/resourceGroups/nn-api-rg/providers/Microsoft.ApiManagement/service/nnapi-default?api-version=2021-01-01-preview
config.service.auth=GatewayKey nnapi-default-self-hosted-gw&202110XXXXX

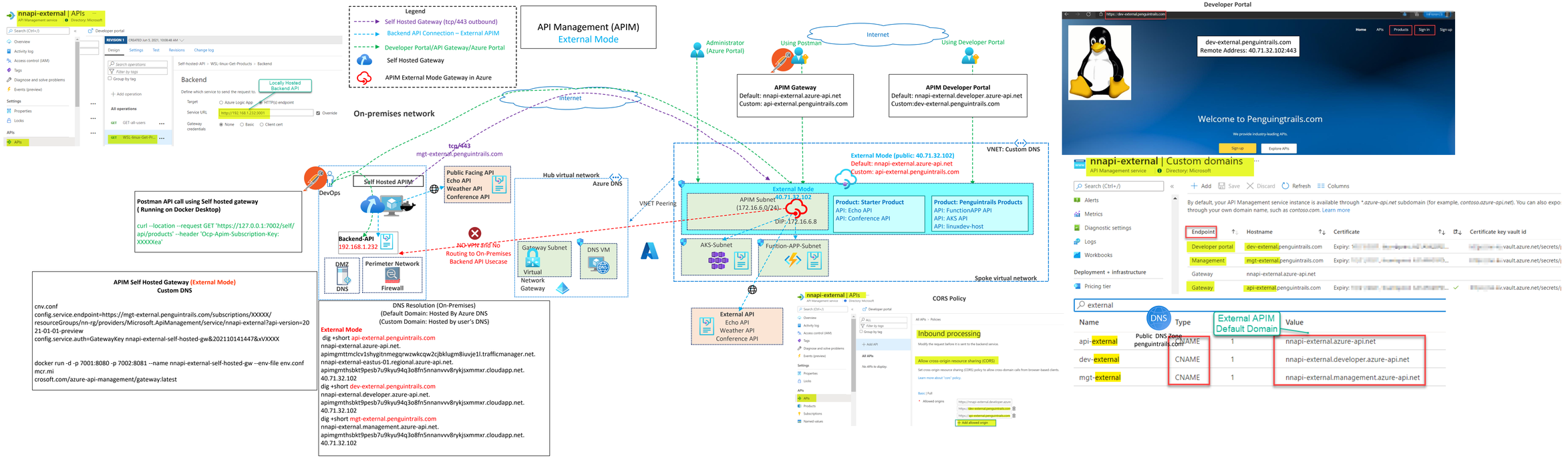
docker run -d -p 9001:8080 -p 9002:8081 --name nnapi-default-self-hosted-gw --env-file env.conf mcr.microsoft.com/azure-api-management/gateway:latest

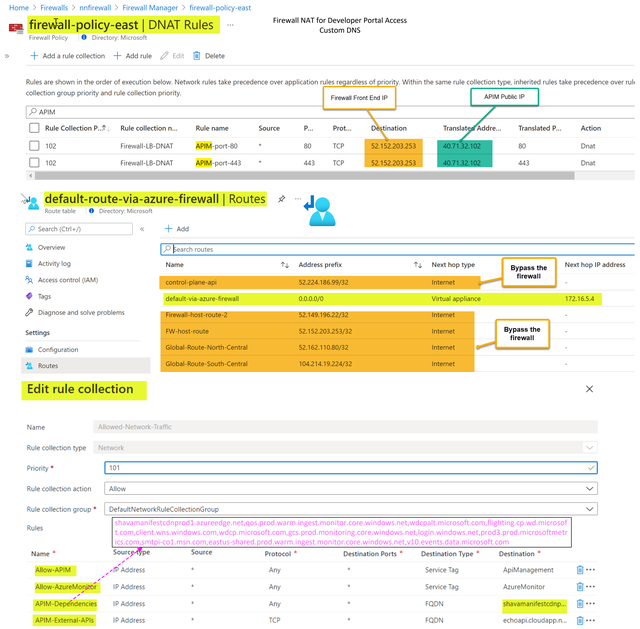


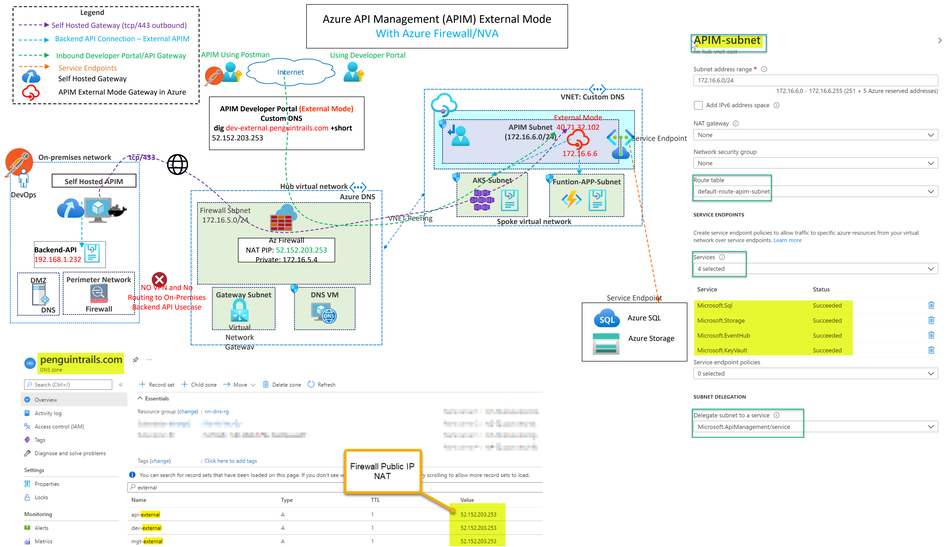
Default DNS Hostname
(Hosted By Azure DNS)

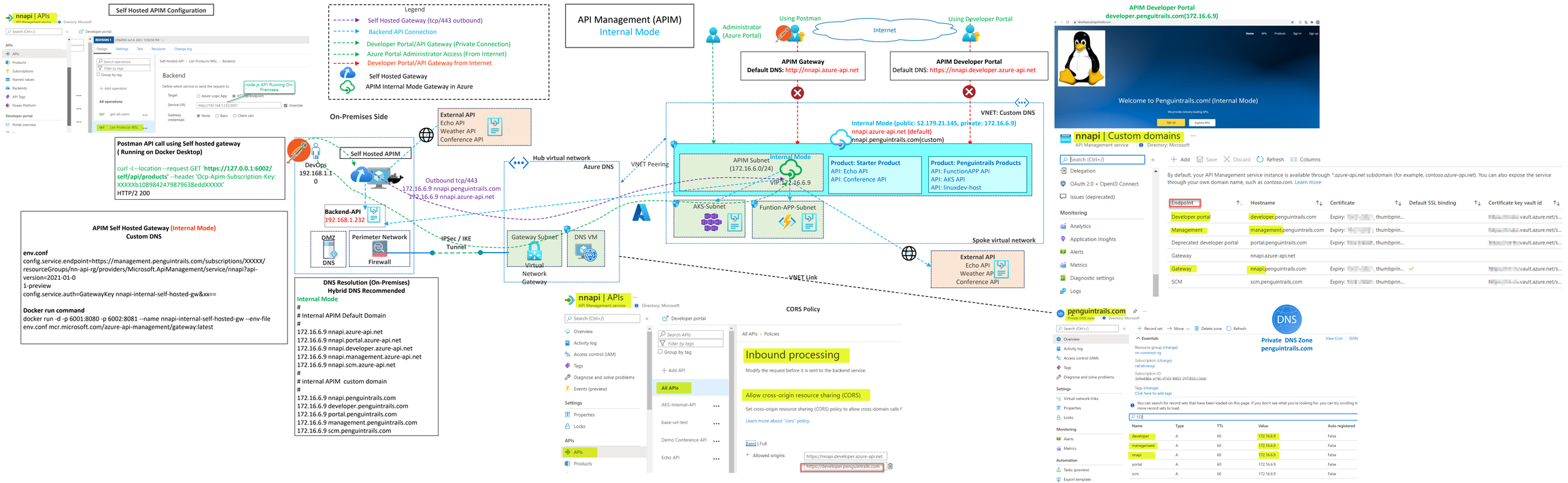
nehali@nehali-laptop:~$ dig nnapi-default.azure-api.net +short
apimgmttmzfww0wltfuuepss93irupzxtaibxw84vu9belo67ug.trafficmanager.net.
nnapi-default-eastus-01.regional.azure-api.net.
apimgmthswl9re3lmxzql1trcem4vhzns3wi7pgownizflvlit.cloudapp.net.
13.92.61.44
nehali@nehali-laptop:~$ dig nnapi-default.developer.azure-api.net +short
apimgmthswl9re3lmxzql1trcem4vhzns3wi7pgownizflvlit.cloudapp.net.
13.92.61.44
nehali@nehali-laptop:~$ dig nnapi-default.management.azure-api.net +short
apimgmthswl9re3lmxzql1trcem4vhzns3wi7pgownizflvlit.cloudapp.net.
13.92.61.44




nnapi-external | APIs
API Management service
Directory: Microsoft
Search (Ctrl+/)
Developer portal
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Events (preview)
Settings
Properties
Locks
APIs
APIs
REVISION 1
CREATED Jun 5, 2021, 10:08:48 AM
Design
Settings
Test
Revisions
Change log
Search operations
Filter by tags
Group by tag
Add operation
All operations
GET GET-all-users
GET WSL-linux-Get-Pr...
Self-hosted-API > WSL-linux-Get-Products > Backend
Backend
Define which service to send the request to.
Locally Hosted Backend API
Target
Azure Logic App
HTTP(S) endpoint
Service URL
http://192.168.1.232:3001
Override
Gateway credentials
None
Basic
Client cert
Legend
Self Hosted Gateway (tcp/443 outbound)
Backend API Connection – External APIM
Developer Portal/API Gateway/Azure Portal
Self Hosted Gateway
APIM External Mode Gateway in Azure
API Management (APIM)
External Mode
On-premises network
Internet
tcp/443
mgt-external.penguintrails.com
Self Hosted APIM
DevOps
Public Facing API
Echo API
Weather API
Conference API
Backend-API
192.168.1.232
DMZ
DNS
Perimeter Network
Firewall
Hub virtual network
Azure DNS
Gateway Subnet
Virtual Network Gateway
DNS VM
NO VPN and No Routing to On-Premises Backend API Usecase
VNET Peering
Administrator (Azure Portal)
Using Postman
Internet
Using Developer Portal
APIM Gateway
Default: nnapi-external.azure-api.net
Custom: api-external.penguintrails.com
APIM Developer Portal
Default: nnapi-external.developer.azure-api.net
Custom:dev-external.penguintrails.com
VNET: Custom DNS
External Mode (public: 40.71.32.102)
Default: nnapi-external.azure-api.net
Custom: api-external.penguintrails.com
External Mode
40.71.32.102
APIM Subnet
(172.16.6.0/24)
DIP: 172.16.6.8
Product: Starter Product
API: Echo API
API: Conference API
Product: Penguintrails Products
API: FunctionAPP API
API: AKS API
API: linuxdev-host
AKS-Subnet
Funtion-APP-Subnet
Spoke virtual network
External API
Echo API
Weather API
Conference API
nnapi-external | APIs
CORS Policy
Inbound processing
Allow cross-origin resource sharing (CORS)
Postman API call using Self hosted gateway
(Running on Docker Desktop)
curl --location --request GET 'https://127.0.0.1:7002/self/api/products' --header 'Ocp-Apim-Subscription-Key: XXXXXea'
APIM Self Hosted Gateway (External Mode)
Custom DNS
cnv.conf
config.service.endpoint=https://mgt-external.penguintrails.com/subscriptions/XXXXX/resourceGroups/nn-rg/providers/Microsoft.ApiManagement/service/nnapi-external?api-version=2021-01-01-preview
config.service.auth=GatewayKey nnapi-external-self-hosted-gw&202110141447&xVXXXX
docker run -d -p 7001:8080 -p 7002:8081 --name nnapi-external-self-hosted-gw --env-file env.conf mcr.mi
crosoft.com/azure-api-management/gateway:latest
DNS Resolution (On-Premises)
(Default Domain: Hosted By Azure DNS
(Custom Domain: Hosted by user's DNS)
External Mode
dig +short api-external.penguintrails.com
nnapi-external.azure-api.net.
apimgmttmclcv1shygitnmegqrwzwkcqw2cjbklugm8iuvje1l.trafficmanager.net.
nnapi-external-eastus-01.regional.azure-api.net.
apimgmthsbkt9pesb7u9kyu94q3o8fn5nnanvvv8rykjsxmmxr.cloudapp.net.
40.71.32.102
dig +short dev-external.penguintrails.com
nnapi-external.developer.azure-api.net.
apimgmthsbkt9pesb7u9kyu94q3o8fn5nnanvvv8rykjsxmmxr.cloudapp.net.
40.71.32.102
dig +short mgt-external.penguintrails.com
nnapi-external.management.azure-api.net.
apimgmthsbkt9pesb7u9kyu94q3o8fn5nnanvvv8rykjsxmmxr.cloudapp.net.
40.71.32.102
Developer Portal
https://dev-external.penguintrails.com
dev-external.penguintrails.com
Remote Address: 40.71.32.102:443
Home
APIs
Products
Sign in
Sign up
Welcome to Penguingtrails.com
We provide industry-leading APIs.
Sign up
Explore APIs
nnapi-external | Custom domains
API Management service
Directory: Microsoft
Search (Ctrl+/)
Add
Save
Discard
Refresh
Columns
Alerts
Metrics
Diagnostic settings
Logs
Workbooks
Deployment + infrastructure
Pricing tier
By default, your API Management service instance is available through *.azure-api.net subdomain (for example, contoso.azure-api.net). You can also expo
through your own domain name, such as contoso.com. Learn more
Endpoint
Hostname
Certificate
Certificate key vault id
Developer portal
dev-external.penguintrails.com
Management
mgt-external.penguintrails.com
Gateway
nnapi-external.azure-api.net
Gateway
api-external.penguintrails.com
external
DNS
Public DNS zone
penguintrails.com
External APIM
Default Domain
Name
Type
Value
api-external
CNAME
1
nnapi-external.azure-api.net
dev-external
CNAME
1
nnapi-external.developer.azure-api.net
mgt-external
CNAME
1
nnapi-external.management.azure-api.net


Home > Firewalls > nnfirewall > Firewall Manager > firewall-policy-east
firewall-policy-east | DNAT Rules
Firewall Policy
Directory: Microsoft
Add a rule collection
Add rule
Edit
Delete
Rules are shown in the order of execution below. Network rules take precedence over application rules regardless of priority. Within the same rule collection type, inherited rules take precedence over rule collection group priority and rule collection priority.
APIM
Rule Collection P...
Rule collection n...
Rule name
Source
P...
Prot...
Destination
Translated Addre...
Translated P...
Action
102
Firewall-LB-DNAT
APIM-port-80
*
80
TCP
52.152.203.253
40.71.32.102
80
Dnat
102
Firewall-LB-DNAT
APIM-port-443
*
443
TCP
52.152.203.253
40.71.32.102
443
Dnat
Firewall Front End IP
APIM Public IP
default-route-via-azure-firewall | Routes
Route table
Directory: Microsoft
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Configuration
Routes
Add
Search routes
Name
Address prefix
Next hop type
Next hop IP address
control-plane-api
52.224.186.99/32
Internet
default-via-azure-firewall
0.0.0.0/0
Virtual appliance
172.16.5.4
Firewall-host-route-2
52.149.196.22/32
Internet
FW-host-route
52.152.203.253/32
Internet
Global-Route-North-Central
52.162.110.80/32
Internet
Global-Route-South-Central
104.214.19.224/32
Internet
Bypass the firewall
Bypass the firewall
Edit rule collection
Name
Allow-Network-Traffic
Rule collection type
Network
Priority *
101
Rule collection action
Allow
Rule collection group *
DefaultNetworkRuleCollectionGroup
Rules
shavamanifestcdnprod1.azureedge.net,qos.prod.warm.ingest.monitor.core.windows.net,wdcpalt.microsoft.com,fighting.cp.wd.microsoft.com,client.wns.windows.com,wdcp.microsoft.com,gcs.prod.monitoring.core.windows.net,login.windows.net,prod3.prod.microsoftmetrics.com,smtipi-co1.msn.com,eastus-shared.prod.warm.ingest.monitor.core.windows.net,v10.events.data.microsoft.com
Name *
Source type *
Source *
Protocol *
Destination Ports *
Destination Type *
Destination *
Allow-APIM
IP Address
*
Any
*
Service Tag
ApiManagement
Allow-AzureMonitor
IP Address
*
Any
*
Service Tag
AzureMonitor
APIM-Dependencies
IP Address
*
Any
*
FQDN
shavamanifestcdnp...
APIM-External-APIs
IP Address
*
TCP
*
FQDN
echoapi.cloudapp.n...
Firewall NAT for Developer Portal Access
Custom DNS


Legend
Self Hosted Gateway (tcp/443 outbound)
Backend API Connection – External APIM
Inbound Developer Portal/API Gateway
Service Endpoints
Self Hosted Gateway
APIM External Mode Gateway in Azure
Azure API Management (APIM) External Mode
With Azure Firewall/NVA
APIM Using Postman
Internet
Using Developer Portal
APIM Developer Portal (External Mode)
Custom DNS
dig dev-external.penguintrails.com +short
52.152.203.253
VNET: Custom DNS
External Mode
APIM Subnet 40.71.32.102
(172.16.6.0/24)
172.16.6.6
Service Endpoint
On-premises network
tcp/443
DevOps
Self Hosted APIM
Hub virtual network
Azure DNS
AKS-Subnet
Funtion-APP-Subnet
Spoke virtual network
Firewall Subnet
172.16.5.0/24
Az Firewall
NAT PIP: 52.152.203.253
Private: 172.16.5.4
VNET Peering
Backend-API
192.168.1.232
DMZ
DNS
Perimeter Network
Firewall
NO VPN and No
Routing to On-Premises
Backend API Unreable
Gateway Subnet
Virtual
Network
Gateway
DNS VM
Service Endpoint
Azure SQL
Azure Storage
APIM-subnet
vnet-hub-vnet-east
Subnet address range *
172.16.6.0/24
172.16.6.0 - 172.16.6.255 (251 + 5 Azure reserved addresses)
Add IPv6 address space
NAT gateway
None
Network security group
None
Route table
default-route-apim-subnet
SERVICE ENDPOINTS
Create service endpoint policies to allow traffic to specific azure resources from your virtual network over service endpoints. Learn more
Services
4 selected
Service
Status
Microsoft.Sql
Succeeded
Microsoft.Storage
Succeeded
Microsoft.EventHub
Succeeded
Microsoft.KeyVault
Succeeded
Service endpoint policies
0 selected
SUBNET DELEGATION
Delegate subnet to a service
Microsoft.ApiManagement/service
penguintrails.com
DNS zone
Search (Ctrl+/)
Record set
Child zone
Move
Delete zone
Refresh
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Properties
Locks
Monitoring
Alerts
Metrics
Essentials
Resource group (change) : nn-dns-rg
Tags (change) : Click here to add tags
external
Name
Type
TTL
Value
api-external
A
1
52.152.203.253
dev-external
A
1
52.152.203.253
mgt-external
A
1
52.152.203.253
Firewall Public IP
NAT
Public DNS Zone


Self Hosted APIM Configuration
Legend
Self Hosted Gateway (tcp/443 outbound)
Backend API Connection
Developer Portal/API Gateway (Private Connection)
Azure Portal Administrator Access (From Internet)
Developer Portal/API Gateway from Internet
Self Hosted Gateway
APIM Internal Mode Gateway in Azure
API Management (APIM)
Internal Mode
Administrator (Azure Portal)
Using Postman
Internet
Using Developer Portal
APIM Gateway
Default DNS: http://nnapi.azure-api.net
APIM Developer Portal
Default DNS: https://nnapi.developer.azure-api.net
VNET: Custom DNS
Internal Mode (public: 52.179.21.145, private: 172.16.6.9)
nnapi.azure-api.net (default)
nnapi.penguintrails.com(custom)
On-Premises Side
External API
Echo API
Weather API
Conference API
Self Hosted APIM
DevOps
192.168.1.10
Postman API call using Self hosted gateway
(Running on Docker Desktop)
curl -I --location --request GET 'https://127.0.0.1:6002/self/api/products' --header 'Ocp-Apim-Subscription-Key: XXXXXb1089842479879638eddXXXX'
HTTP/2 200
Outbound tcp/443
172.16.6.9 nnapi.penguintrails.com
172.16.6.9 nnapi.azure-api.net
Backend-API
192.168.1.232
DMZ
DNS
Perimeter Network
Firewall
IPSec / IKE Tunnel
Hub virtual network
Azure DNS
VNET Peering
Gateway Subnet
DNS VM
Virtual Network Gateway
APIM Subnet
(172.16.6.0/24)
Internal Mode
VIP: 172.16.6.9
Product: Starter Product
API: Echo API
API: Conference API
Product: Penguintrails Products
API: FunctionAPP API
API: AKS API
API: linuxdev-host
AKS-Subnet
Funtion-APP-Subnet
Spoke virtual network
External API
Echo API
Weather API
Conference API
VNET Link
APIM Self Hosted Gateway (Internal Mode)
Custom DNS
env.conf
config.service.endpoint=https://management.penguintrails.com/subscriptions/XXXXX/resourceGroups/nn-api-rg/providers/Microsoft.ApiManagement/service/nnapi?api-version=2021-01-0
1-preview
config.service.auth=GatewayKey nnapi-internal-self-hosted-gw&xx==
Docker run command
docker run -d -p 6001:8080 -p 6002:8081 --name nnapi-internal-self-hosted-gw --env-file env.conf mcr.microsoft.com/azure-api-management/gateway:latest
DNS Resolution (On-Premises)
Hybrid DNS Recommended
Internal Mode
#
Internal APIM Default Domain
#
172.16.6.9 nnapi.azure-api.net
172.16.6.9 nnapi.portal.azure-api.net
172.16.6.9 nnapi.developer.azure-api.net
172.16.6.9 nnapi.management.azure-api.net
172.16.6.9 nnapi.scm.azure-api.net
#
internal APIM custom domain
#
172.16.6.9 nnapi.penguintrails.com
172.16.6.9 developer.penguintrails.com
172.16.6.9 portal.penguintrails.com
172.16.6.9 management.penguintrails.com
172.16.6.9 scm.penguintrails.com
CORS Policy
Inbound processing
Modify the request before it is sent to the backend service.
Allow cross-origin resource sharing (CORS)
Set cross-origin resource sharing (CORS) policy to allow cross-domain calls f
Learn more about "cors" policy.
Basic | Full
Allowed origins
https://nnapi.developer.azure-api.net
https://developer.penguintrails.com
APIM Developer Portal
developer.penguintrails.com(172.16.6.9)
Welcome to Penguintrails.com! (Internal Mode)
nnapi | Custom domains
API Management service
Endpoint
Hostname
Certificate
Default SSL binding
Certificate key vault id
Developer portal
developer.penguintrails.com
Management
management.penguintrails.com
Deprecated developer portal
portal.penguintrails.com
Gateway
nnapi.azure-api.net
Gateway
nnapi.penguintrails.com
SCM
scm.penguintrails.com
penguintrails.com
Private DNS Zone
Private DNS Zone
penguintrails.com
Name
Type
TTL
Value
Auto registered
developer
management
nnapi
portal
scm

Application Gateway Configuration

Front End IP

Type	Status	Name	IP address	Associated listeners
Public	Configured	appGwPublicFrontendIp	52.142.39.37 (nn-east-waf-pip)	nn-listener-443, 12 more
Private	Configured	appGwPrivateFrontendIp	172.16.253.11	private-listener

Listeners

Application Gateway provides native support for WebSocket across all gateway sizes. There is no additional configuration required to enable or disable Web
support. If a WebSocket traffic is received on the Application Gateway, it is automatically directed to the WebSocket enabled backend server using the apprc
backend pool as specified in application gateway rules. Learn more about listeners and WebSocket support.

apim

Name	Protocol	Port	Associated rule	Host name
apim-nnap-gatewaylistner	HTTPS	443	apim-gatewayrule	nnapi.penguintrails.com
apim-nnapi-portallistner	HTTPS	443	apim-portalrule	developer.penguintrails.com
apim-nnapi-management-listener	HTTPS	443	apim-managementrule	management.penguintrails.com

Backend Pool

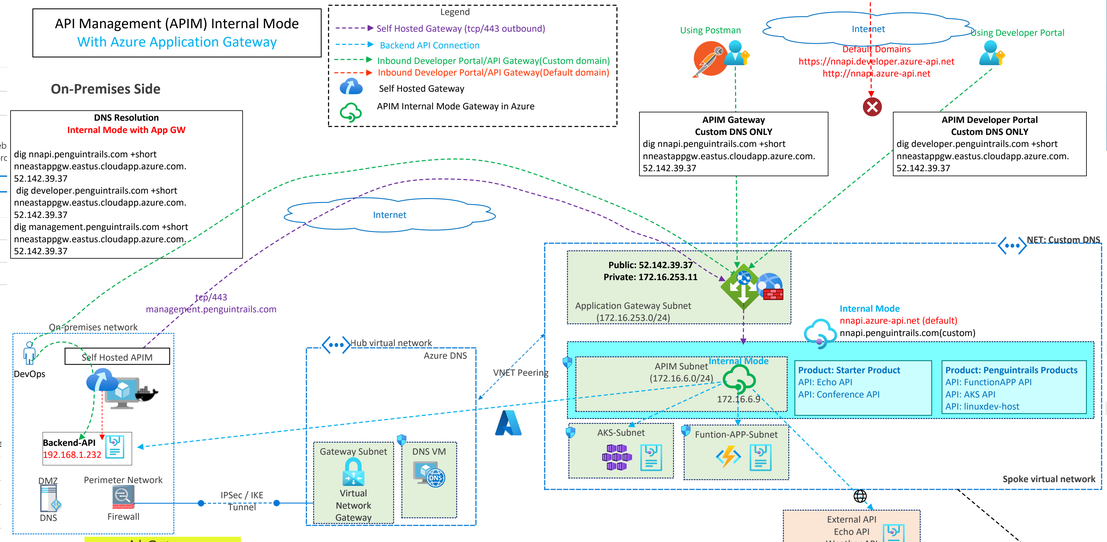
Name	Rules associated	Targets
apim-gatewaybackend	1	1
apim-portalbackend	1	1
apim-managementbackend	1	1

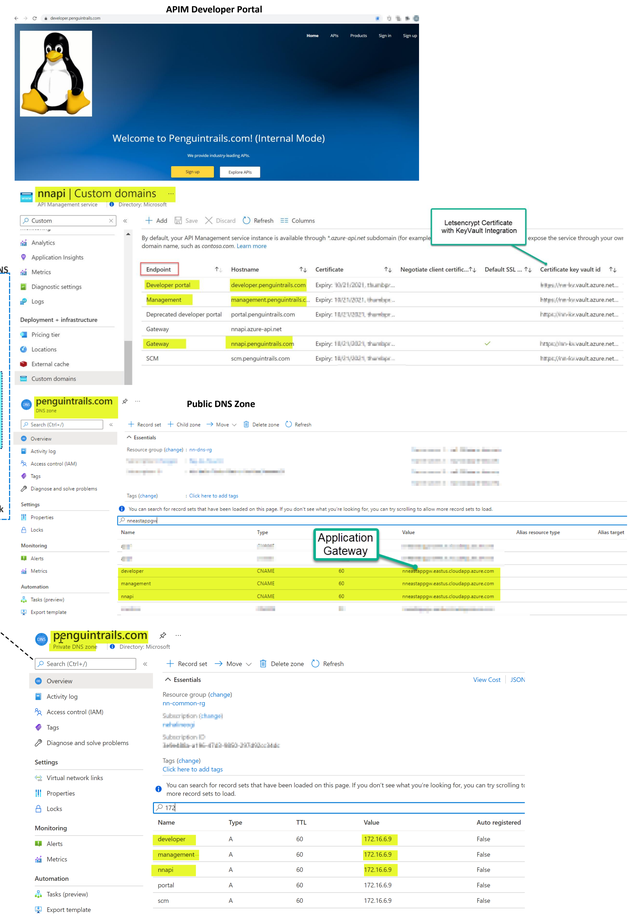
Health Probes

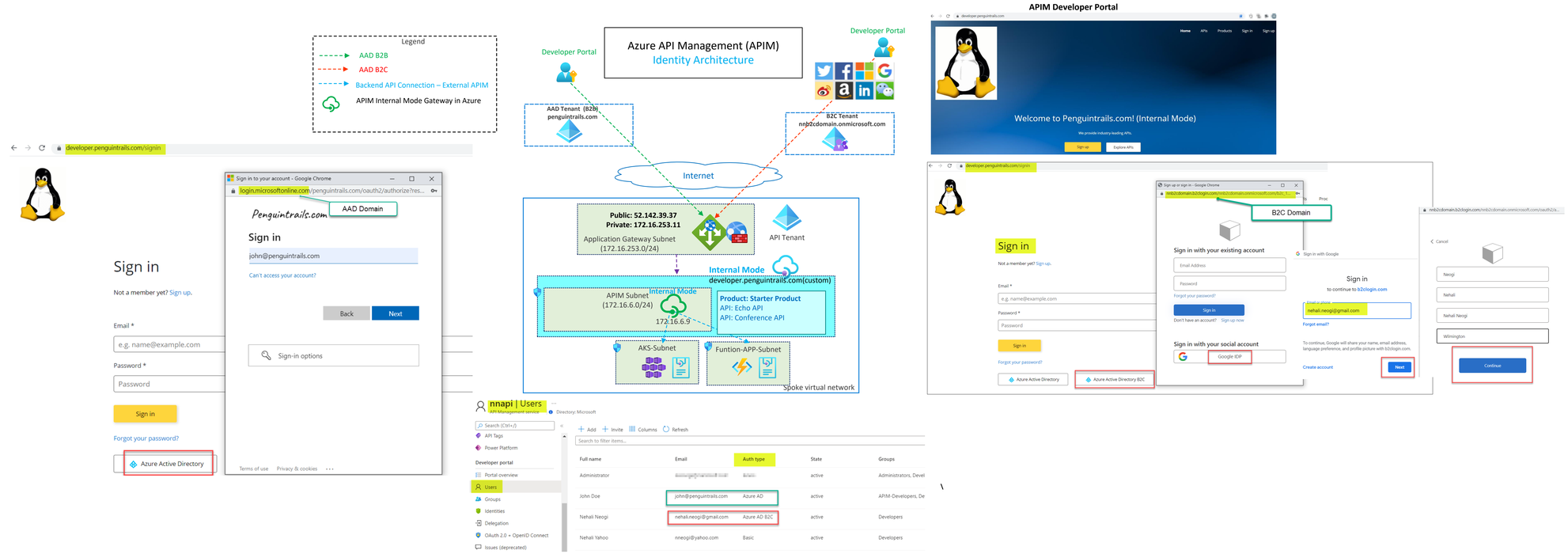
Name	Protocol	Host	Path	Time
apimgatewayprobe	Https	nnapi.penguintrails.com	/status-0123456789abcdef	30
apimportalprobe	Https	developer.penguintrails.com	/signin	30
apimmanagementprobe	Https	management.penguintrails.co...	/ServiceStatus	30

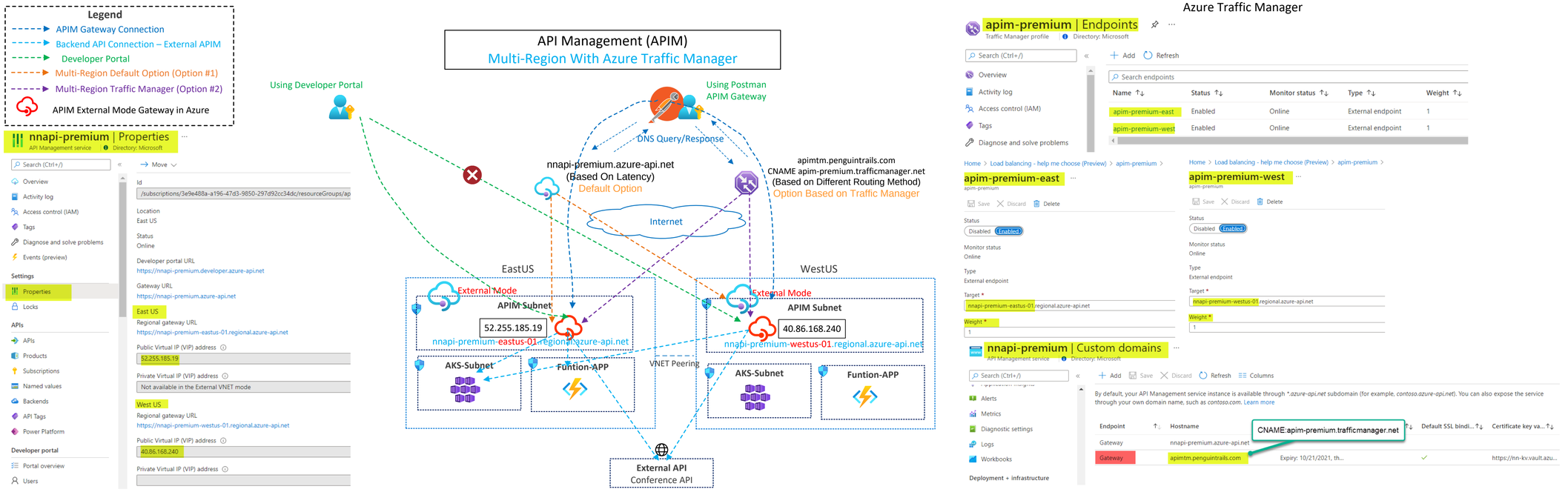
Rules

Name	Type	Listener
apim-gatewayrule	Basic	apim-nnap-gatewaylistner
apim-portalrule	Basic	apim-nnapi-portallistner
apim-managementrule	Basic	apim-nnapi-management-listener






Legend
AAD B2B
AAD B2C
Backend API Connection – External APIM
APIM Internal Mode Gateway in Azure
Azure API Management (APIM)
Identity Architecture
Developer Portal
Developer Portal
AAD Tenant (B2B)
penguintrails.com
B2C Tenant
nnb2cdomain.onmicrosoft.com
Internet
Public: 52.142.39.37
Private: 172.16.253.11
Application Gateway Subnet
(172.16.253.0/24)
API Tenant
Internal Mode
developer.penguintrails.com(custom)
APIM Subnet
(172.16.6.0/24)
Internal Mode
172.16.6.9
Product: Starter Product
API: Echo API
API: Conference API
AKS-Subnet
Funtion-APP-Subnet
Spoke virtual network
APIM Developer Portal
Welcome to Penguintrails.com! (Internal Mode)
developer.penguintrails.com/signin
Sign in
Not a member yet? Sign up.
Email *
e.g. name@example.com
Password *
Password
Sign in
Forgot your password?
Azure Active Directory
Sign in to your account - Google Chrome
login.microsoftonline.com/penguintrails.com/oauth2/authorize?res...
Penguintrails.com
AAD Domain
Sign in
john@penguintrails.com
Can't access your account?
Back
Next
Sign-in options
Terms of use
Privacy & cookies
B2C Domain
Sign in with your existing account
Email Address
Password
Forgot your password?
Sign in
Don't have an account? Sign up now
Sign in with your social account
Google IDP
Sign in with Google
Sign in
to continue to b2clogin.com
nehali.neogi@gmail.com
Forgot email?
To continue, Google will share your name, email address, language preference, and profile picture with b2clogin.com.
Create account
Next
Azure Active Directory
Azure Active Directory B2C
nnb2cdomain.b2clogin.com/nnb2cdomain.onmicrosoft.com/oauth2/a...
Cancel
Neogi
Nehali
Nehali Neogi
Wilmington
Continue
nnapi | Users
API Management service
Directory: Microsoft
Search (Ctrl+/)
API Tags
Power Platform
Developer portal
Portal overview
Users
Groups
Identities
Delegation
OAuth 2.0 + OpenID Connect
Issues (deprecated)
Add
Invite
Columns
Refresh
Search to filter items...
Full name
Email
Auth type
State
Groups
Administrator
active
Administrators, Devel
John Doe
john@penguintrails.com
Azure AD
active
APIM-Developers, De
Nehali Neogi
nehali.neogi@gmail.com
Azure AD B2C
active
Developers
Nehali Yahoo
nneogi@yahoo.com
Basic
active
Developers



Azure Traffic Manager