IaC and Network Insights API

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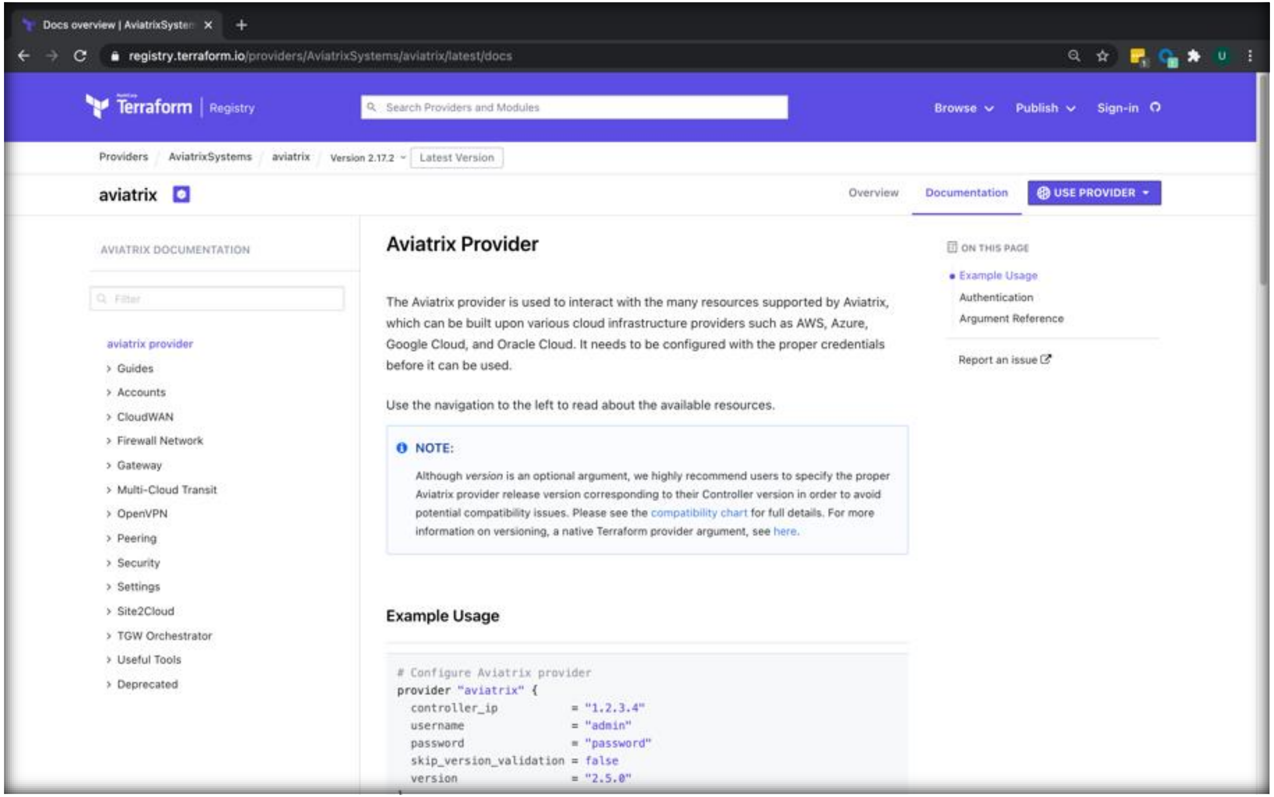
Infrastructure as Code

What it is

- Use Infrastructure as Code to provision and manage any cloud, infrastructure, or service
- Write declarative configuration files – define desired state
- Plan and predict changes
- Create reproducible infrastructure – if resource already exists, it won't recreate it
- Maintains knowledge of resources in a database called **State**
    - State maps config to real world

Aviatrix Terraform Provider

- Multi-lingual entity responsible for API interactions with CSPs
- Exposes resources in those CSPs for any account/subscription that has been onboarded
- Feature parity with Controller code



Aviatrix Provider

The Aviatrix provider is used to interact with the many resources supported by Aviatrix, which can be built upon various cloud infrastructure providers such as AWS, Azure, Google Cloud, and Oracle Cloud. It needs to be configured with the proper credentials before it can be used.

Use the navigation to the left to read about the available resources.

NOTE:

Although *version* is an optional argument, we highly recommend users to specify the proper Aviatrix provider release version corresponding to their Controller version in order to avoid potential compatibility issues. Please see the compatibility chart for full details. For more information on versioning, a native Terraform provider argument, see here.

Example Usage

```
# Configure Aviatrix provider
provider "aviatrix" {
  controller_ip           = "1.2.3.4"
  username                = "admin"
  password                = "password"
  skip_version_validation = false
  version                 = "2.5.0"
```

Aviatrix Terraform Resources – Examples

- # Create an Aviatrix AWS Gateway

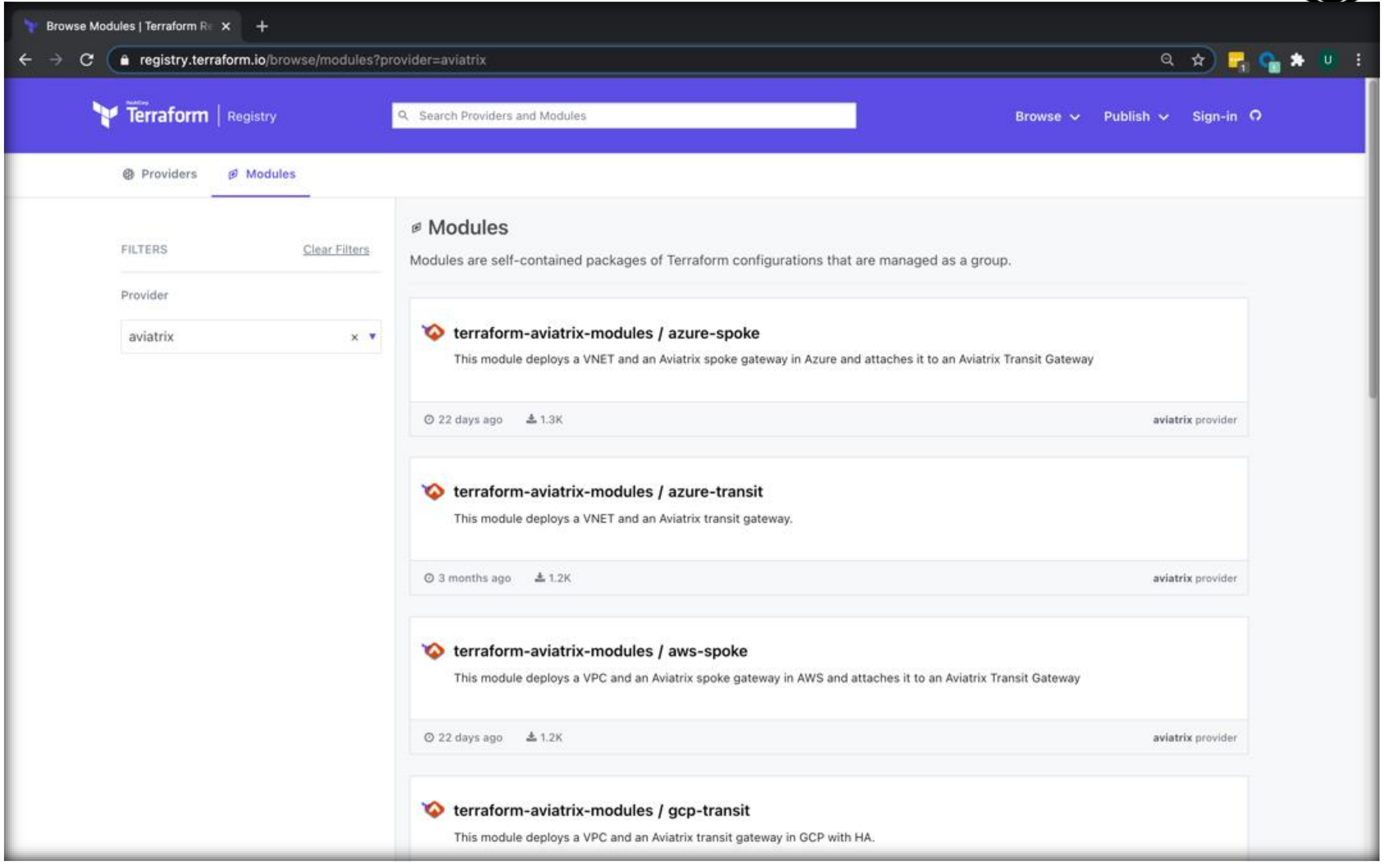
```
resource "aviatrix_gateway"
"test_gateway_aws" {

   cloud_type   = 1

   account_name = "devops-aws"

  gw_name      = "avtx-gw-1"

  vpc_id       = "vpc-abcdef"

  vpc_reg      = "us-west-1"

  gw_size      = "t2.micro"

   subnet       = "10.0.0.0/24"

}
```

- # Create an Aviatrix Azure Gateway

```
resource "aviatrix_gateway"
"test_gateway_azure" {

  cloud_type   = 8

  account_name = "devops-azure"

  gw_name      = "avtx-gw-azure"

  vpc_id       = "gateway:test-gw-123"

  vpc_reg      = "West US"

  gw_size      = "Standard_D2"

  subnet       = "10.13.0.0/24"

}
```

Aviatrix Terraform Modules

- ***“Repeatable++”***
- Similar to the concepts of libraries, packages, or modules found in most programming languages
- Provide many of the same benefits
- ~10X reduction in lines of code
- Can be found on Terraform Registry



Browse Modules | Terraform R
registry.terraform.io/browse/modules?provider=aviatrix
Terraform | Registry
Search Providers and Modules
Browse
Publish
Sign-in
Providers
Modules
FILTERS
Clear Filters
Provider
aviatrix

Modules

Modules are self-contained packages of Terraform configurations that are managed as a group.

terraform-aviatrix-modules / azure-spoke
This module deploys a VNET and an Aviatrix spoke gateway in Azure and attaches it to an Aviatrix Transit Gateway
22 days ago 1.3K aviatrix provider

terraform-aviatrix-modules / azure-transit
This module deploys a VNET and an Aviatrix transit gateway.
3 months ago 1.2K aviatrix provider

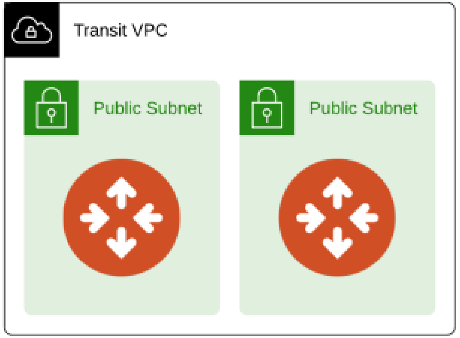
terraform-aviatrix-modules / aws-spoke
This module deploys a VPC and an Aviatrix spoke gateway in AWS and attaches it to an Aviatrix Transit Gateway
22 days ago 1.2K aviatrix provider

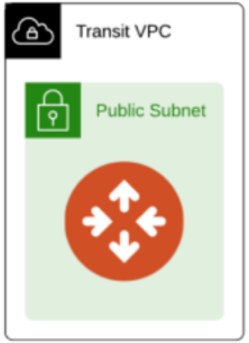
terraform-aviatrix-modules / gcp-transit
This module deploys a VPC and an Aviatrix transit gateway in GCP with HA.

Aviatrix Terraform Module – Example

- # Create a VPC and a set of Aviatrix transit gateways.

```
module "transit_aws_1" {

   source  = "terraform-aviatrix-modules/mc-transit/aviatrix"

   version = ”1.1.2”

   cloud   = “aws”

   cidr    = "10.1.0.0/20"

   region  = "eu-west-1"

   account = "AWS-account"

}

ha_gw set to true by default
```





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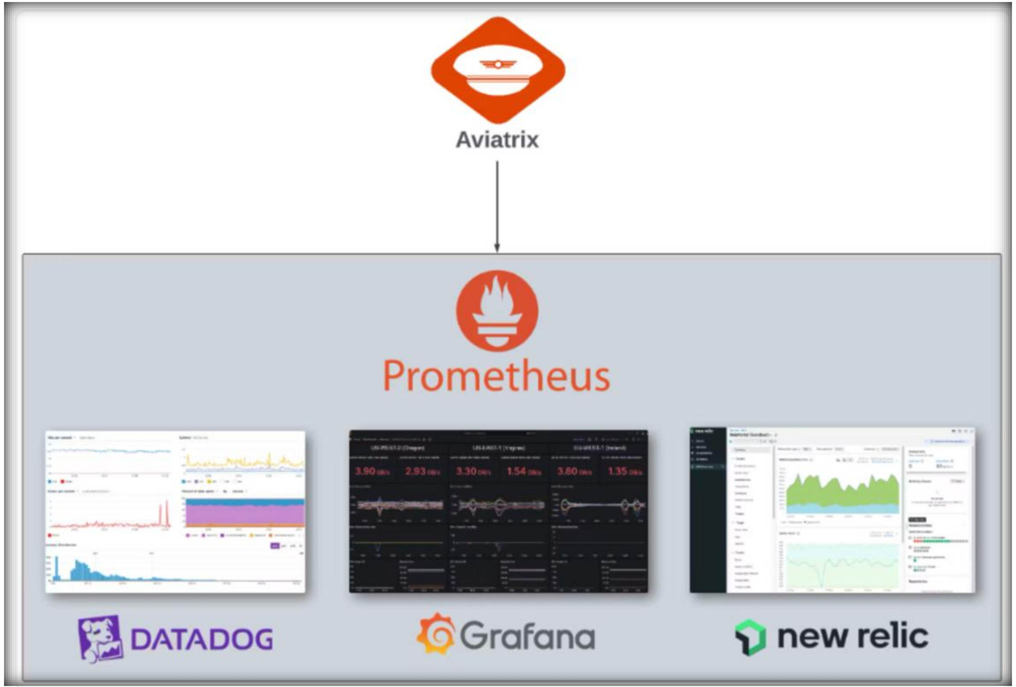
Network Insights API

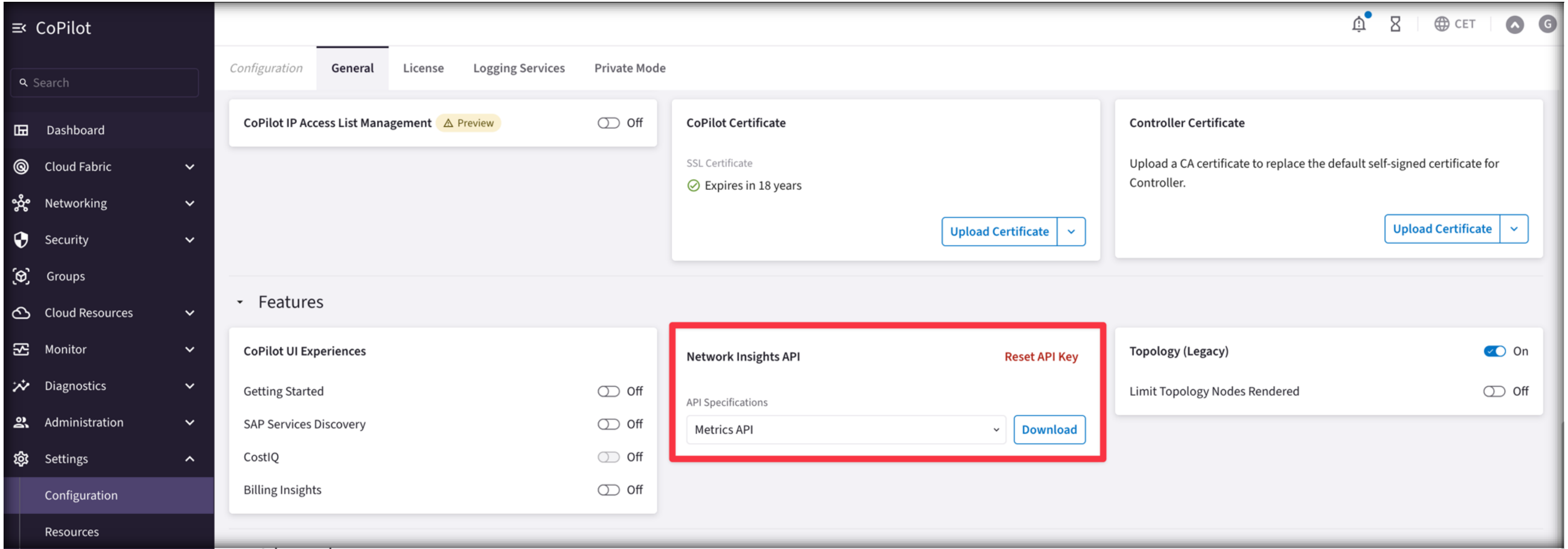
Network Insights API (part.1)

- The Aviatrix Network Insights API allows you to retrieve network metric and status data across your Aviatrix data plane. Using the metric and status APIs, you can integrate with ***third-party tools*** for data analysis and visualization of the performance and health of your Aviatrix-managed resources. The APIs also support data retention for compliance.



Network Insights API (part.2)

- The Network Insights API supports ***Prometheus*** and JSON formats. All data transmissions are encrypted using industry-standard protocols.
- An **API key** is used to authenticate requests for your Aviatrix services.
  - The Aviatrix API uses port 443, the same port as the CoPilot UI. Ensure that port 443 is accessible and not restricted by any Security Groups.



CoPilot IP Access List Management ⚠ Preview — Off

CoPilot Certificate

SSL Certificate

✓ Expires in 18 years

Controller Certificate

Upload a CA certificate to replace the default self-signed certificate for Controller.

CoPilot UI Experiences

Getting Started — Off

SAP Services Discovery — Off

CostIQ — Off

Billing Insights — Off

Network Insights API

API Specifications

Metrics API

Topology (Legacy) — On

Limit Topology Nodes Rendered — Off

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Next: Lab 12 - Terraform and Network Insights API