IaC and Network Insights API

ACE Team

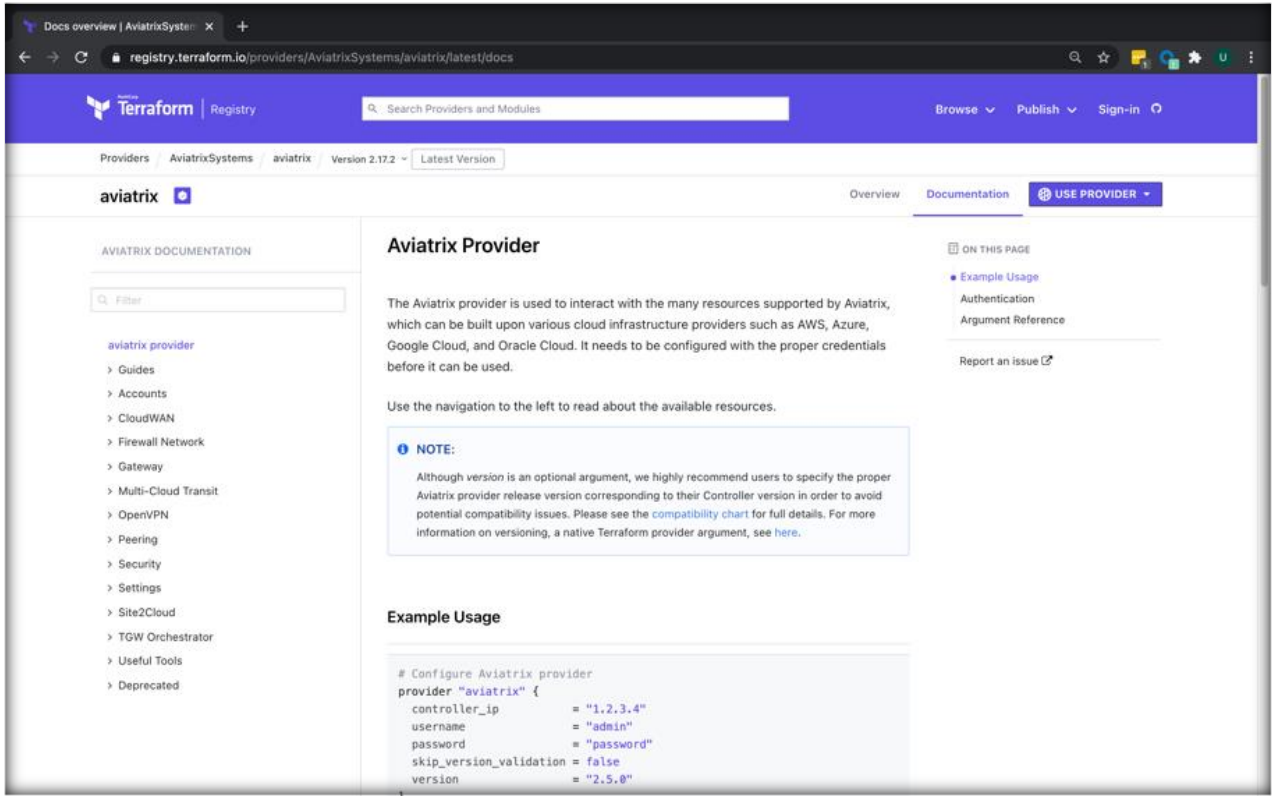
Infrastructure as Code

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 Terraform Resources – Examples

- # Create an Aviatrix AWS Gateway

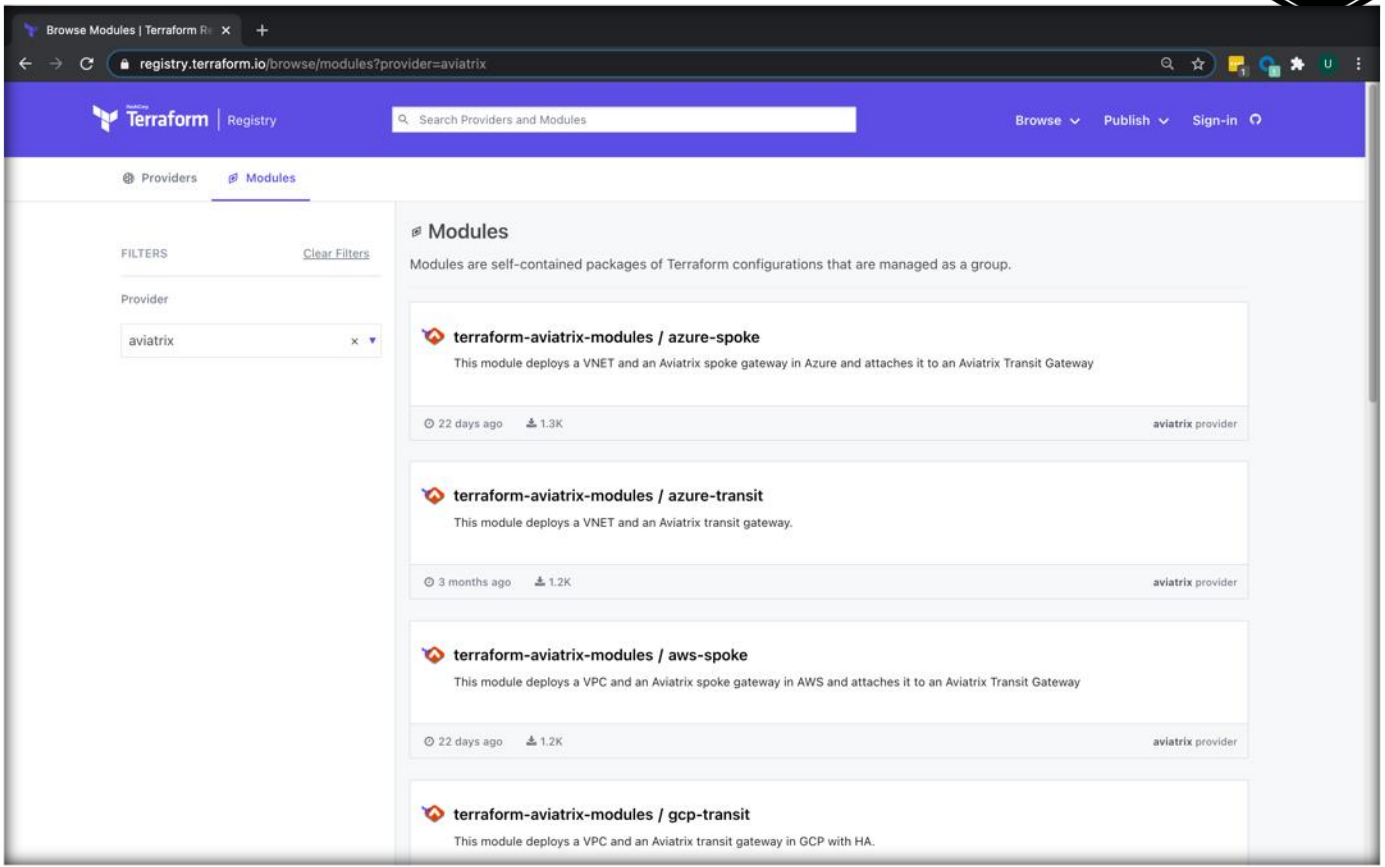
```
resource "aviatrix_gateway"
"test_gateway_aws" {

   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

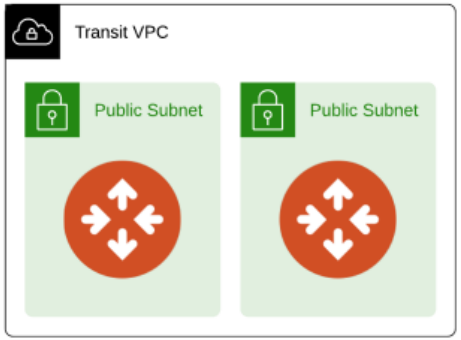
- ***"Repeatable++"***
- Similar to the concepts of libraries, packages, or modules found in most programming languages
- Provide many of the same benefits
- ~10X reduction in lines of code
- Can be found on Terraform Registry



Aviatrix Terraform Module – Example

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

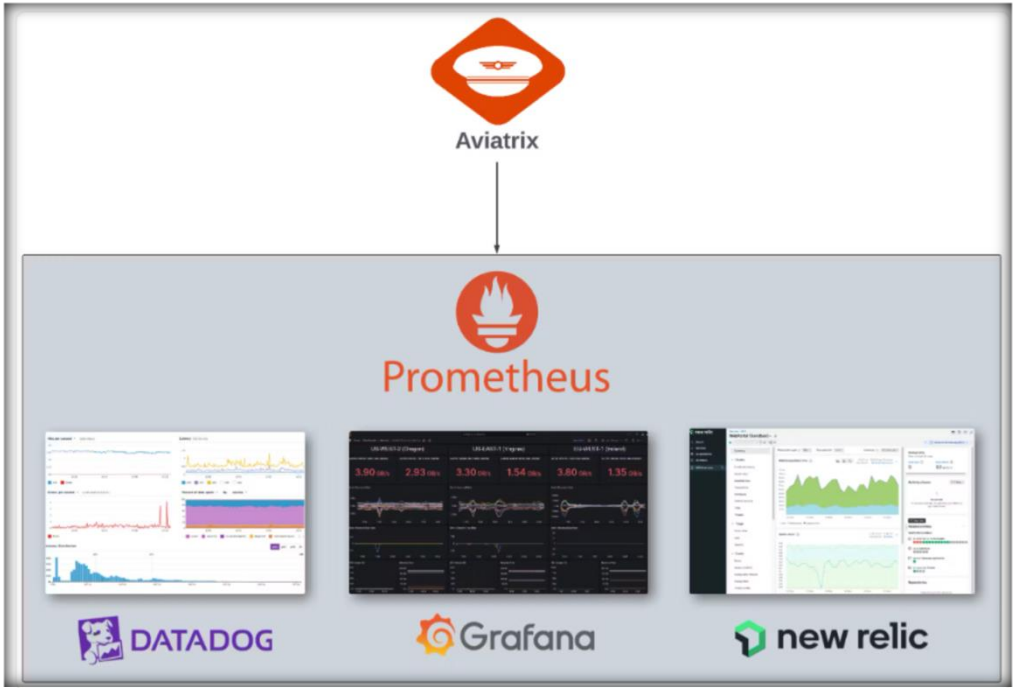
```
module "transit_aws_1" {

  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
```



Network Insights API

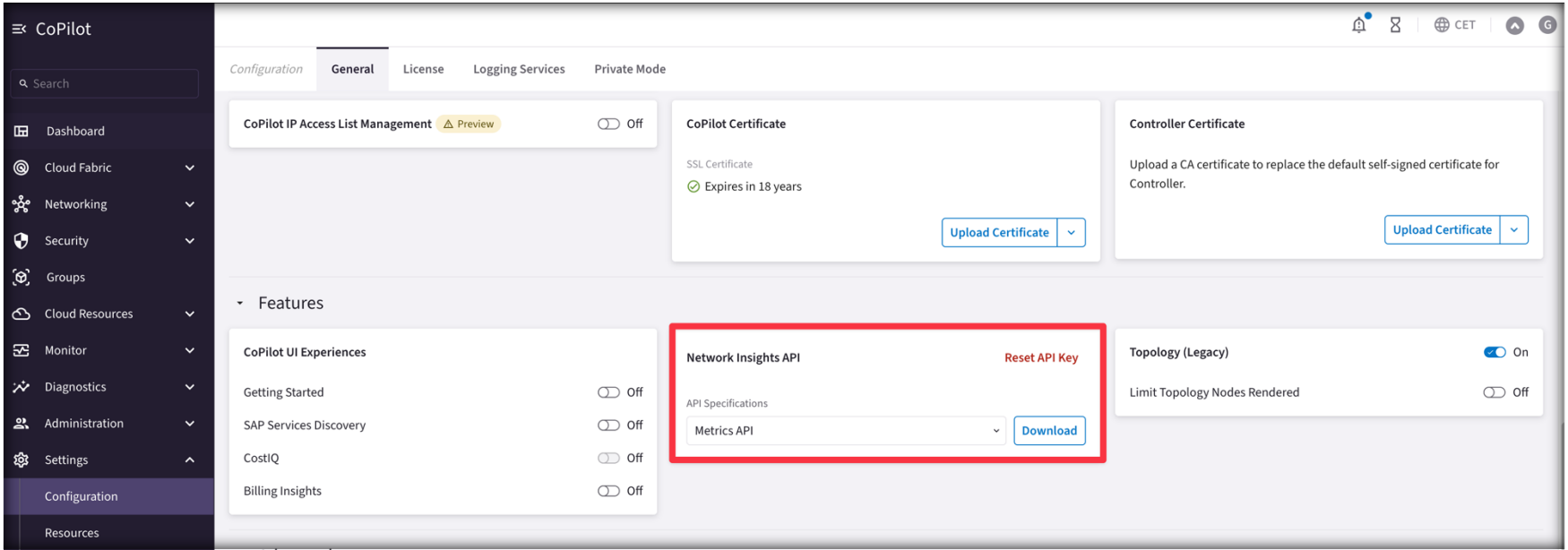
Network Insights API (part.1)

- 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.



Next: Lab 11 - Terraform and Network Insights API