



Aviatrix Cloud Controller Getting Started Guide For AWS

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1 Overview

Aviatrix is a next generation cloud networking solution built from the ground up for the public cloud. It simplifies the way you enable site to cloud, user to cloud, and cloud to cloud secure connectivity and access. The Aviatrix solution requires no new hardware and deploys in minutes.

The Aviatrix solution comprise of two components – Aviatrix Gateway and a Controller.

This start up guide provides step by step instructions on how to deploy the Aviatrix Controller. Once the controller is deployed then you can deploy Aviatrix Gateways to connect your users to your VPC, VPC to VPC or sites to VPC.

1.1 Aviatrix Features

Aviatrix is a scale out VPC peering solution for AWS, Azure and Google Cloud. It offers encrypted peering across regions and clouds and remote access to VPC from any device running OpenVPN clients. Aviatrix Gateways offer the following functionality for your cloud:

- Complete replacement for Jump Hosts or Bastion stations to SSH into VPCs – convenience for developers that security teams would approve and is a cloud best practice.
- VPC Isolation and VPC internetworking– Expand to multiple VPCs, regulate access to VPCs and connect them securely with Private IPs addresses.
- Encrypted VPC peering across AWS regions and AZs and to Azure VNETs or branch offices – a full mesh encrypted Hybrid Cloud.
- Geo Aware SSL VPN solution that connects users securely to the nearest VPCs with support for latest SSL ciphers and MFA with Duo, Okta, Google and AD/LDAP.
- Scale Out solution integrated with ELB and all cloud native services – AWS S3, SQS, SNS, R53, CloudTrail.
- Ease of deployment making it simple to onboard users or environments with overlapping CIDRs.
- Access and Event logging for audit and compliance support – log forwarding to Splunk, Logstash and Sumo Logic.
- IAM and Billing Management, Notifications and Triggers across AWS and Azure accounts.
- Guarantees higher network uptime with high availability with failover.

2 Pre Deployment Checklist

Before deploying the Aviatrix Controller, make sure the following is completed.

Pre Installation Check List

1. Create an AWS account.
2. Create IAM Policies and Roles.
3. Check VPC settings.

These prerequisites are explained in detail below.

2.1 Create an AWS Account

An AWS account is needed in order to deploy the Aviatrix Controller in AWS. Please reference the following URL to create your AWS Account:

<http://aws.amazon.com/>

2.2 Create IAM Policies and Roles

The Aviatrix Controller (AC) uses native AWS API calls to manage networking between the controller and other entities (i.e. Aviatrix Gateway, on-site Gateway, etc.). As such, the AC requires two custom IAM roles.



Before launching the AC, these two roles and its associated policies must be created first.

Follow the instructions in [this link](#) to setup the IAM policies and roles.

Please note the ARN identifiers for the two roles. They will be needed for the AC onboarding process.

aviatrix-role-ec2 ARN:	
aviatrix-role-app ARN:	

2.3 Check VPC Settings

The VPC that the controller will be deployed in must meet the following conditions.

1. The VPC must have at least one public subnet (i.e. the subnet must be associated with a route table that has an IGW as its default gateway).
2. The VPC must have DNS enabled. This is enabled by default for all VPC.

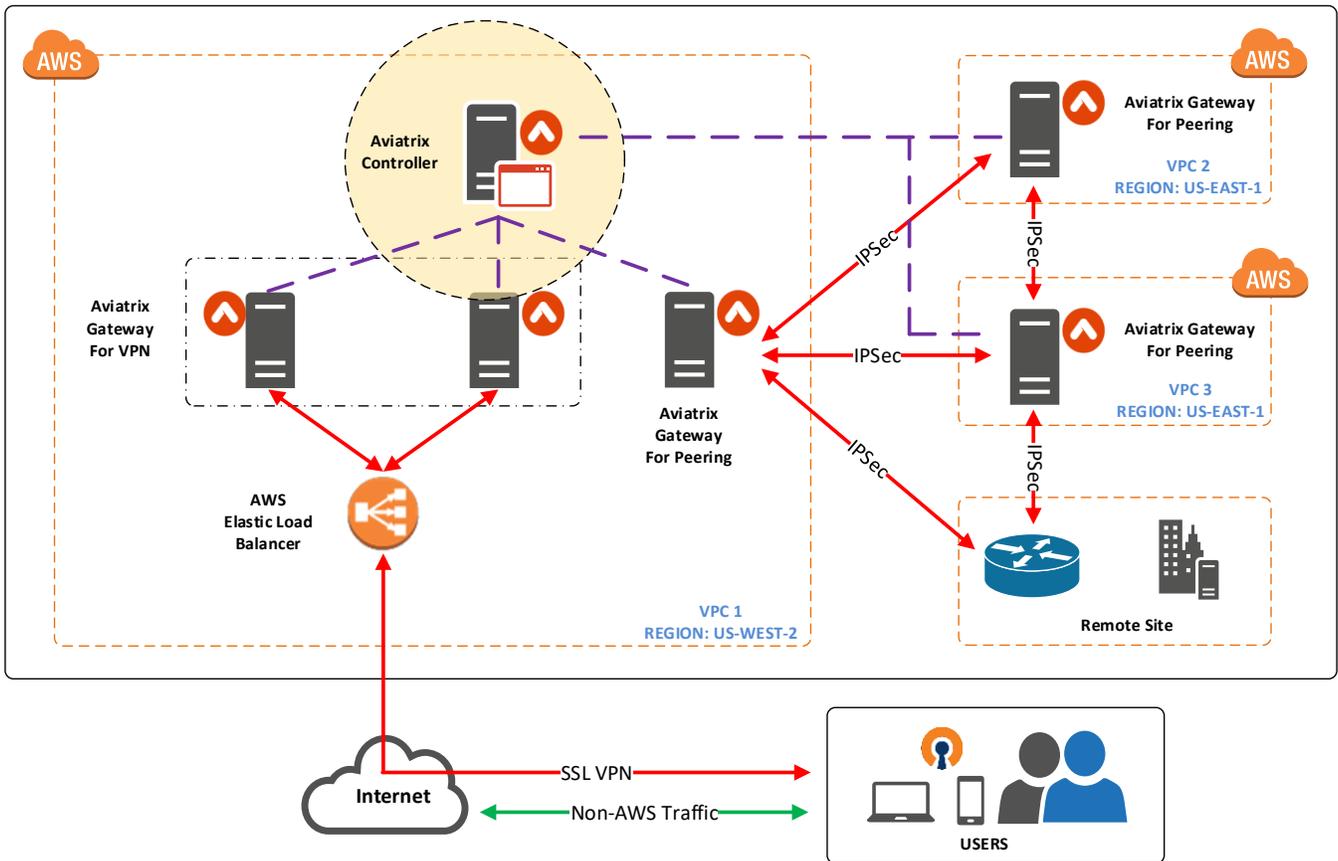
3 Deploying the Aviatrix Controller

The Aviatrix Controller exists in the form of an AMI in the AWS marketplace.

The follow instructions describe how to deploy the Aviatrix Controller.

note: Only one controller is needed to managed the entire Aviatrix solution.

Below is an architecture diagram of an AWS network with multiple regions and how the Aviatrix solution can connect each network. This guide is focus on deploying the controller only.



3.1 Launch the Aviatrix Controller

The Aviatrix Controller (AC) is available from the AWS marketplace and comes in two licensing models; BYOL and pay as you go. If you chose the BYOL model, make sure you obtain a license key (i.e. customer ID) from Aviatrix prior to deploying the AC. Please see support contact information in the appendix on how to connect with Aviatrix support.

Procedure:

1. Login to AWS.
2. Navigate to Services -> EC2.
3. Click "Launch Instance".
4. On the left hand side select "AWS Marketplace".
5. Search for "Aviatrix" and then select the desire Aviatrix image. Accept the License Agreement.
6. Select "Manual Launch" if this is the first time you're launching the Aviatrix Controller.

Launch on EC2:

Aviatrix Cloud Native Networking VPC Peering and Scale Out VPN - BYOL

1-Click Launch
Review, modify, and launch

Manual Launch
With EC2 Console, APIs or CLI

Launching Options

- You can click the "Launch with EC2 Console" buttons below and following the instructions to launch an instance of this software
- You can also find and launch these AMIs by searching for the AMI IDs (shown below) in the "Community AMIs" tab of the [EC2 Console](#) Launch Wizard
- You can view this information at a later time by visiting the Your Software page. For help, see [step-by-step instructions](#) for launching Marketplace Products from the AWS Console.

[Usage Instructions](#)

Select a Version

072116, released 07/28/2016

Region	AMI ID	Launch with EC2 Console
US East (N. Virginia)	ami-93f96c84	Launch with EC2 Console
US West (Oregon)	ami-2ad21d4a	Launch with EC2 Console
US West (N. California)	ami-a9f1b0c9	Launch with EC2 Console
EU (Frankfurt)	ami-241bef4b	Launch with EC2 Console
EU (Ireland)	ami-1ea7ca6d	Launch with EC2 Console
Asia Pacific (Singapore)	ami-72c71811	Launch with EC2 Console
Asia Pacific (Sydney)	ami-1c44717f	Launch with EC2 Console

Pricing Details

For region: US East (N. Virginia)

Bring Your Own License (BYOL)
Available for customers with current licenses purchased via other channels.

Hourly Fees
Total hourly fees will vary by instance type and EC2 region.

EC2 Instance Type	Software	EC2	Total
t2.micro	\$0.00/hr \$0.00/yr	\$0.013/hr	\$0.013/hr
t2.small	\$0.00/hr \$0.00/yr	\$0.026/hr	\$0.026/hr
t2.medium	\$0.00/hr \$0.00/yr	\$0.052/hr	\$0.052/hr
t2.large	\$0.00/hr \$0.00/yr	\$0.104/hr	\$0.104/hr
m3.medium	\$0.00/hr \$0.00/yr	\$0.067/hr	\$0.067/hr
m3.large	\$0.00/hr \$0.00/yr	\$0.133/hr	\$0.133/hr
m3.xlarge	\$0.00/hr \$0.00/yr	\$0.266/hr	\$0.266/hr
m3.2xlarge	\$0.00/hr \$0.00/yr	\$0.532/hr	\$0.532/hr
c4.2xlarge	\$0.00/hr \$0.00/yr	\$0.419/hr	\$0.419/hr
c3.large	\$0.00/hr \$0.00/yr	\$0.105/hr	\$0.105/hr
c3.xlarge	\$0.00/hr \$0.00/yr	\$0.211/hr	\$0.211/hr
c3.2xlarge	\$0.00/hr \$0.00/yr	\$0.422/hr	\$0.422/hr

EBS General Purpose (SSD) volumes
\$0.10 per GB-month of provisioned storage

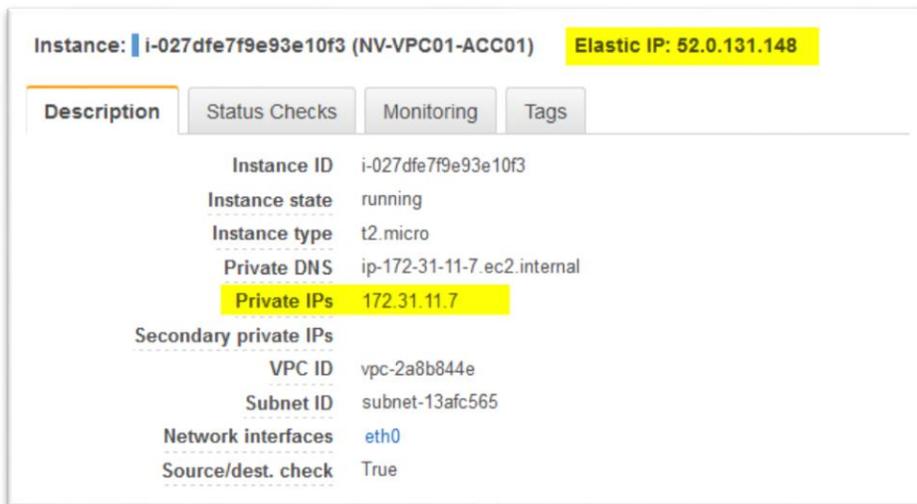
Assumes On-Demand EC2 pricing; prices for Reserved and Spot Instances will be lower. See pricing details.

7. Instance Properties:
 - a. Instance Type = T2.MEDIUM (or larger is recommended).
 - b. Network Information:
 - i. Network = Select the desire VPC.
 - ii. Subnet = Select a public subnet.
 -  iii. IAM role = select "aviatrix-role-ec2".
 - iv. Auto-assign public IP = disable (will assign a EIP later).
 - c. Storage = 16GB.
 - d. Tag Instance = Name is arbitrary (ex. Aviatrix Controller).
 - e. Security Group = Default (SSH and HTTPS).
8. Launch (it will take a few minutes for the controller to deploy).

9. Assign an EIP to the controller.
 - a. From the EC2 Dashboard -> Network & Security -> Elastic IPs.
 - b. Click "Allocate New Address".
 - c. Select the address that was allocated and click Actions -> Associate Address.
 - d. Under instance select the controller instance that was deployed.
 - e. Note the EIP. We will use this to access the controller dashboard later.
10. Done.

After the controller is deployed, note the private IP address that was assigned to the instance. Here is an example of how the Private and Elastic IP addresses are displayed on the EC2 dashboard.

Figure 1 - Instance Private and Elastic IP



3.2 Login to the Controller

The Aviatrix controller's dashboard can be accessed from a web browser. The default dashboard URL is:

https://controller_elastic_ip

The default login for the controller is as follow:

	Default	Note
Username	admin	--
Password	[private IP of instance]	Example: 172.31.11.7

You will be prompted to change the default admin password after you successfully login the first time.

3.3 Add AWS IAM Roles in Controller

For the Aviatrix controller to communicate with AWS, the AWS IAM roles must be added to the controller. This can be done from the “Onboarding” wizard or from the “Accounts > Cloud Accounts” menu.

From the Onboarding wizard:

1. Click “AWS”.
2. Step 1 – Enter Customer ID.
 - a. This is only needed for BYOL deployments. Click Save.
3. Step 2 – Create Account.
 - a. Account Name (this is an arbitrary value, ex. Devops).
 - b. Email: (set an email for the admin account).
 - c. Password (choose a password for the account).
 - d. AWS Account Number: (enter your 12 digit AWS account number).
 - e. Check “IAM role-based”.
 - i. AWS Role ARN (this is the aviatrix-role-app ARN from step 2.2).
 - ii. AWS Role EC2 (this is the aviatrix-role-ec2 ARN from step 2.2).
 - f. Click “Save”.

The basic Aviatrix Controller setup is now complete.

For instructions on how to configure peering (VPC to VPC) or user VPN access please reference:

1. [Configuring Use VPN for AWS](#)
2. [Configuring Peering for AWS](#)

4 Appendix 1 – AWS IAM POLICES

The Aviatrix controller requires two IAM roles, each with its own custom policy.

[Aviatrix Assume Role Policy](#)

[Aviatrix Role App Policy](#)

5 Appendix –Support

5.1 Aviatrix Support

Aviatrix Cloud Gateway (Scale Out VPC Peering and VPN)

Standard: 8x5 Enterprise Phone Support, email support, product-specific knowledge-base and user forum is included. For Additional levels of support and support offers please visit:

www.aviatrix.com/support

5.2 AWS Support

AWS Support is a one-on-one, fast-response support channel that is staffed 24x7x365 with experienced and technical support engineers. The service helps customers of all sizes and technical abilities to successfully utilize the products and features provided by Amazon Web Services. [Learn more](#)