

DEPLOYMENT GUIDE

USING ARUBA SD-WAN WITH AWS TRANSIT GATEWAY NETWORK MANAGER

SIMPLIFYING AND AUTOMATING BRANCH OFFICE AND CLOUD CONNECTIVITY

INTRODUCTION

Aruba, a Hewlett Packard Enterprise company, and Amazon Web Services (AWS) have collaborated to deliver a fully automated, scalable, and software-defined experience to easily connect branches to the AWS Transit Gateway Network Manager. This partnership, utilizing Aruba SD-WAN for the branch solution, enables secure branch-to-AWS connectivity, and branch-to-branch connectivity, across the vast, congestion-free AWS global network.

The integration utilizes Aruba Cloud Connect, a service within Aruba Central. Using Cloud Connect, Aruba branch gateways can establish secure connectivity with third-party service endpoints acting as headends. This allows connectivity from Aruba gateways for future integration with any hosted cloud service. Cloud Connect orchestrates connectivity from Aruba gateways into third-party cloud services such as AWS Transit Gateway Network Manager, Palo Alto Prisma Access, and Zscaler Internet Access.

ABOUT AWS TRANSIT GATEWAY NETWORK MANAGER

AWS Transit Gateway Network Manager (*Figure 1*) is a service that provides customers with simplified connectivity into AWS and leverages the AWS Transit Gateway Network Manager to route traffic around the globe.

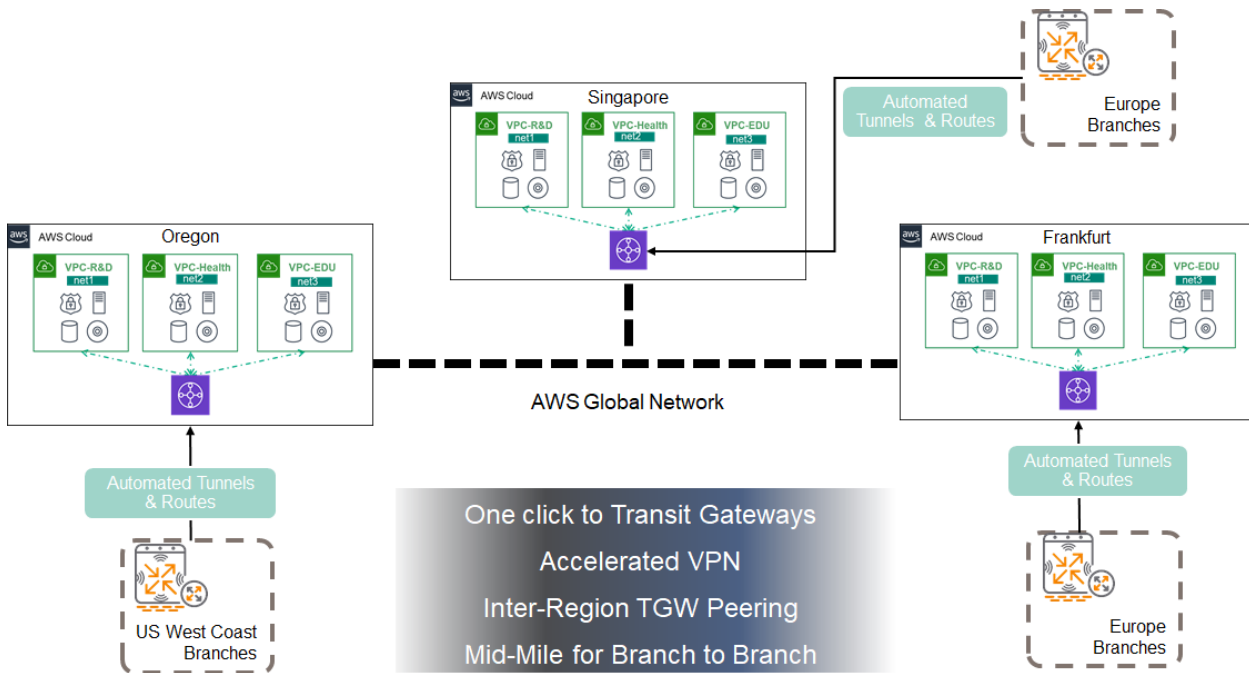


Figure 1: AWS Transit Gateway Network Manager

AWS Transit Gateway Network Manager reduces the operational complexity of connecting remote locations, third party networking appliances and cloud resources.

With Transit Gateway Network Manager, a global view of the distributed enterprise, including the cloud network, can be set up by importing existing AWS objects and defining on-premises resources. The end-to-end network can then be monitored and managed via a centralized operational dashboard.

Transit Gateway Network Manager seamlessly integrates Aruba SD-WAN with AWS services, making it easy to view them through a single, unified, automated interface. Transit Gateway Network Manager and the Aruba Central dashboard provide visibility into network changes, events and health telemetry.

USE CASES AND BENEFITS

The integrated solution between Aruba SD-WAN and AWS Transit Gateway Network Manager provides:

- Simplified deployment of large-scale, secure and optimized branch connectivity across the global AWS network
- Optimized routing between branch offices and AWS-hosted workloads in any region with secure connectivity using orchestrated IPsec tunnels and automated route exchange
- Secure and optimized branch-to-branch connectivity leveraging the global AWS network in the same or multiple regions
- Accelerated VPN to connect to the Transit Gateway at the closest edge location to the SD-WAN branch by leveraging anycast over the global network

DEPLOYMENT STEPS

The first step is to add your account into Aruba Central for AWS (Figure 2).

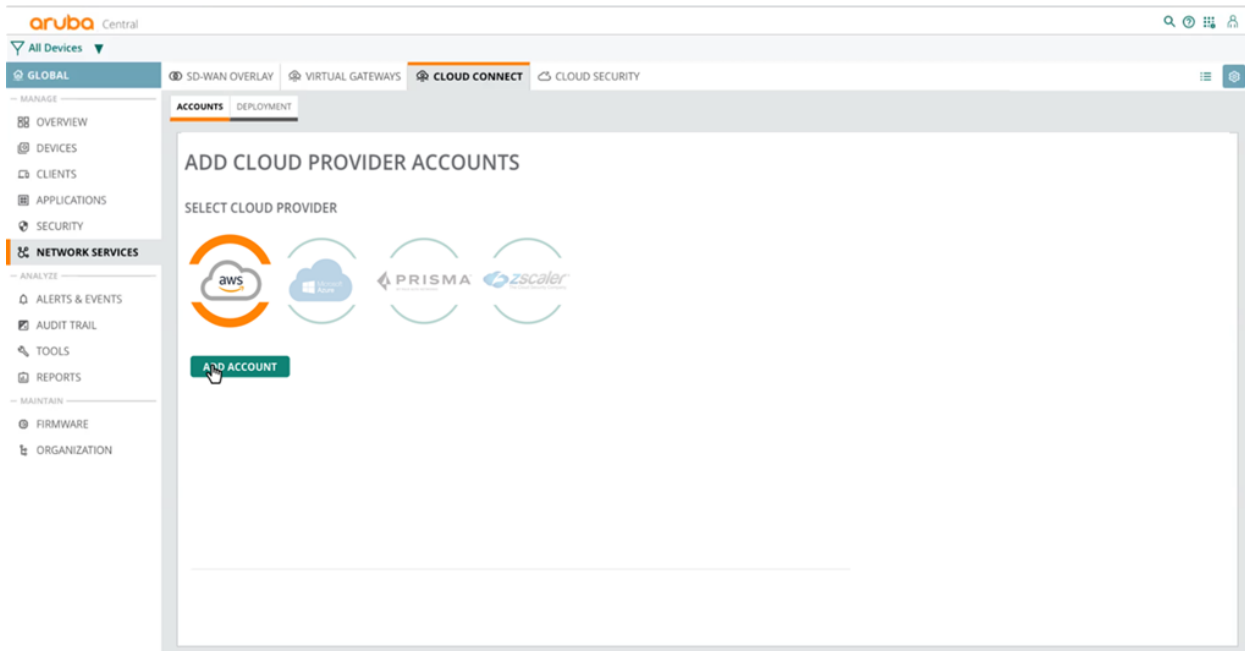


Figure 2: Add Account for AWS

Provide an account name, the IAM role and account identifier and an external identifier to access the AWS account (Figure 3).

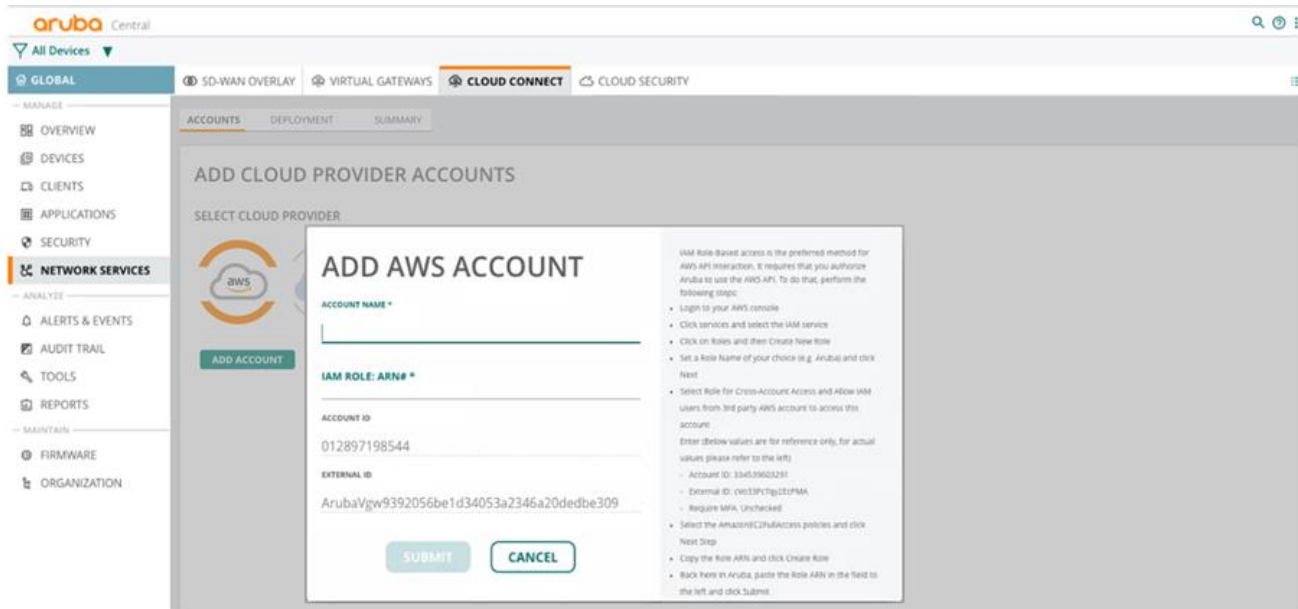


Figure 3: Add AWS Account

The Cloud Connect application will then discover the Transit Gateways for the account and display them in the deployment table. Resources such as Transit Gateways must be created using the AWS portal.

If multiple accounts are selected, upon selecting the specific accounts all the Transit Gateways show up in the topology along with the region.

Select a branch group¹ from the list and map it to the Transit Gateways. You could optionally select Accelerated VPN in order to connect to the closest edge location (*Figure 4*).

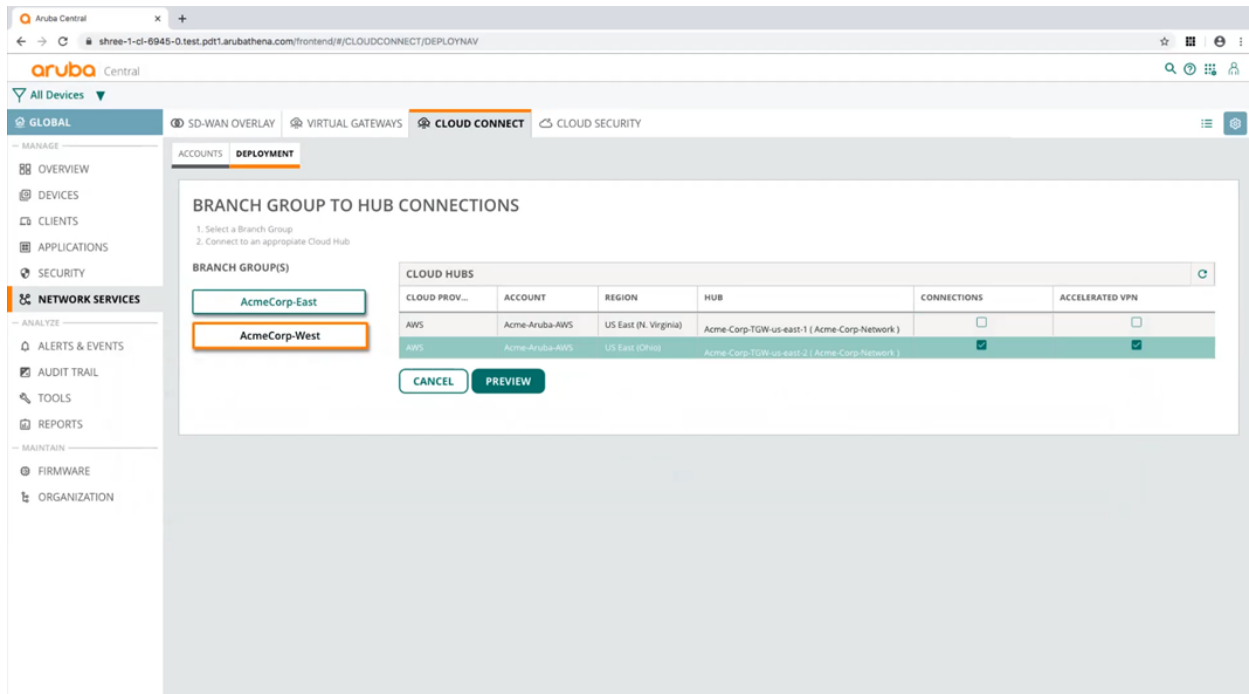


Figure 4: Connecting Branch Groups to the List of Transit Gateways

Then, once the connections are set, all of the branch gateways (within in the group) are securely connected to the Transit Gateways.

You can log into AWS Global Network Manager Dashboard and check the new branch sites that were created, along with IP addresses, VPN tunnels and routes, and their statuses (*Figure 5*).

¹ Each branch group in Aruba Central represents a group of branch gateways that share a common configuration and policy.

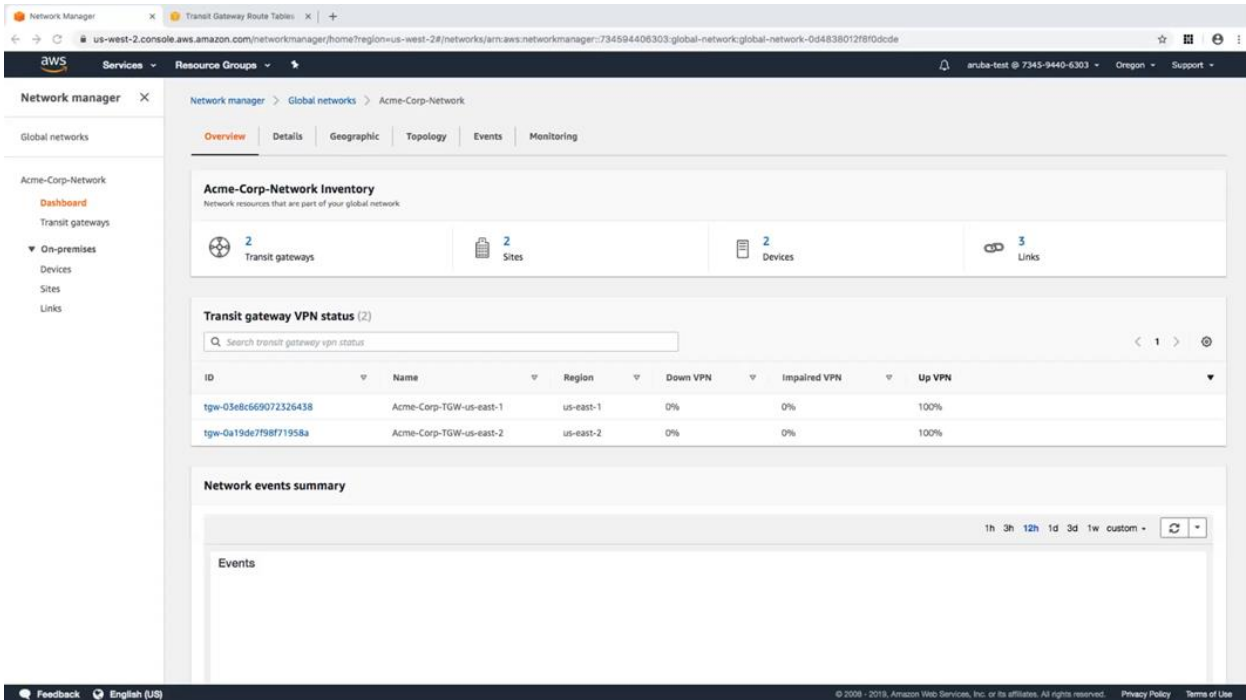


Figure 5: Verification of correct mapping via the Microsoft Azure Portal

In the AWS Network Manager Dashboard, Aruba SD-WAN branches automatically appear along with the connection details to the AWS Transit Gateway and their interconnections (Figure 6).

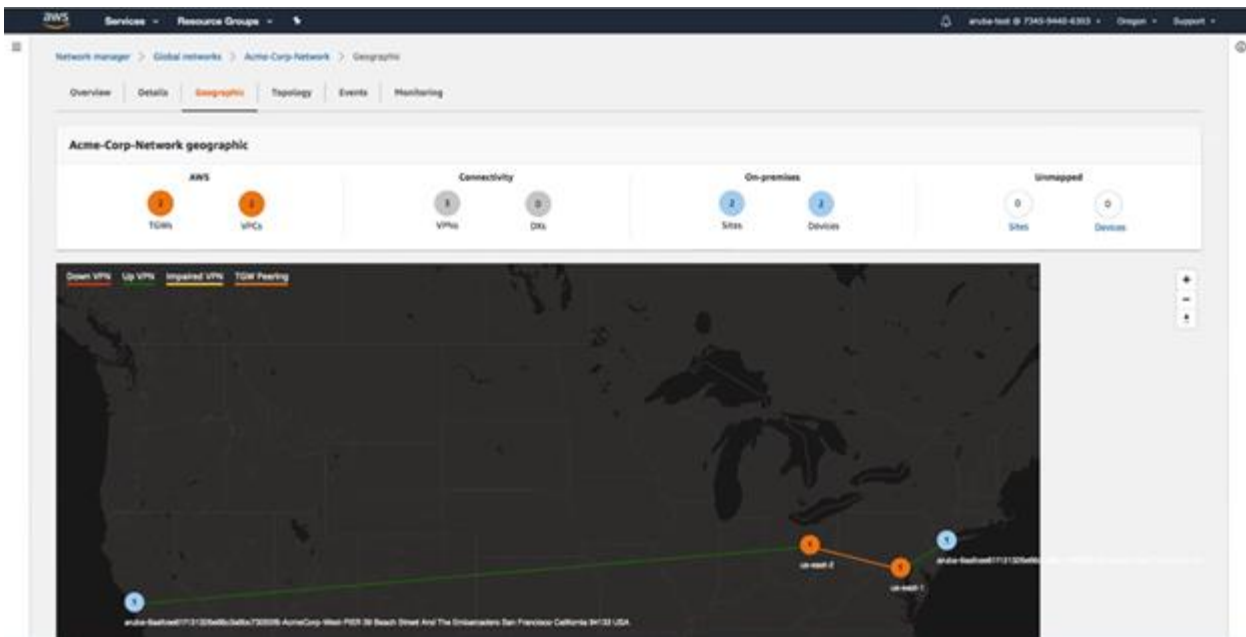


Figure 6: End to End View of Branches, Transit Gateways and the AWS Global Network

Aruba Central provides visibility and monitoring for tunnels created from all the branches to the AWS Transit Gateways (Figure 7).

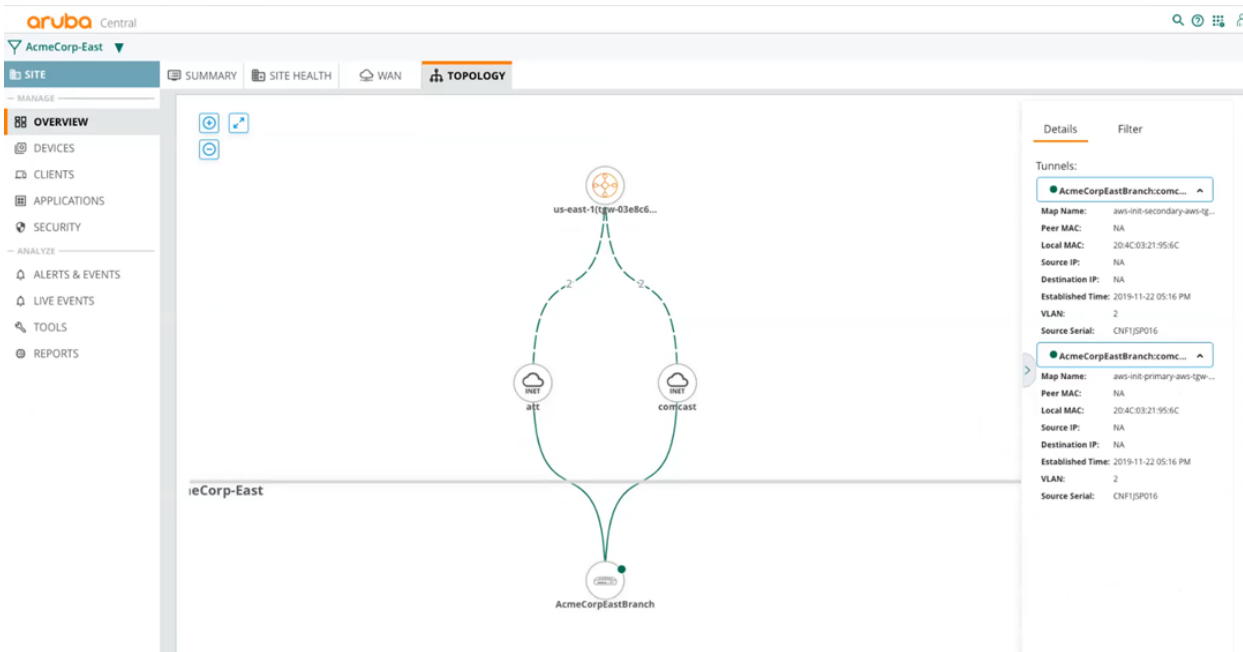


Figure 7: End to End Topology View from Aruba Central

From any branch gateway, you can view tunnel details to the AWS Transit Gateway (Figure 8).

The screenshot shows the 'TUNNELS' tab in the Aruba Central interface for gateway 'GW-Oakmead-01'. It includes a 'TUNNELS SUMMARY' table and a 'TUNNELS DETAILS' table.

| TOTAL | UP | DOWN | PEERS |
|-------|----|------|-------|
| 6 | 2 | 4 | 2 |

| TUNNEL | STATUS | SOURCE | DESTINATION | LOSS | LATENCY | AVAILABILITY |
|--------------------------------|--------|-------------|-------------|------|---------|--------------|
| gw-oakmead-01-5ast-enc-LINK... | Up | 192.168.1.1 | 192.168.1.2 | 0% | 10ms | 100% |

Additional details for the selected tunnel include: WAN IP: 0.0.0.0, UPLINK PORT: GE0/0/0, UPTIME: 21 hours 21 minutes, PEER IP: [redacted], and VLAN ID: 4094. The status is 'Up' and the last change reason is 'Tunnel not established'. The availability bar is at 100%.

Figure 8: Tunnel details for Branch Gateway into Azure Virtual WAN

CONCLUSION

This collaboration between Aruba SD-WAN and AWS Transit Gateway Network Manager provides secure branch-to-AWS connectivity, and branch-to-branch connectivity, across the AWS global network. Using Aruba Cloud Connect, third-party

service endpoints act as headends for Aruba branch gateways to establish secure, high performance connectivity. Furthermore, Aruba gateways can then be easily integrated with any hosted cloud service within AWS.

RESOURCES

The following resources are available for more information:

- [Aruba SD-WAN Home Page](#): Functionality and benefits of Aruba's SD-WAN solution
- [Aruba SD-Branch Home Page](#): Functionality and benefits of Aruba's SD-Branch solution
- [Aruba SD-WAN Datasheet](#): Includes ordering information for Aruba Virtual Gateways
- [Aruba SD-WAN Gateways Ordering Guide](#): Includes ordering information for Aruba hardware gateways
- [AWS Transit Gateway Main Page](#): Includes instructions to create objects in AWS
- [AWS Network Manager Main Page](#): Includes details about AWS Global Network Manager