



ACE Professional

DAY 1

ACE Solutions Architecture Team

ACE Multicloud Networking Learning Paths

The industry's first and only multicloud networking certification



<https://aviatrix.com/ace/>

Standard Learning Path



Optional Specialty Trainings



4 Hours

Use IaC tools to build, enhance, and secure infrastructure



5 Hours

Use the Aviatrix backbone to build hybrid connections



16 Hours

Troubleshoot real-world Day 2 cloud issues



5 Hours

How to secure the network deployed inside the cloud



ACE Professional – Prerequisite and How to get certified

Prerequisite:

- ACE Associate

How to get certified:

1. It is necessary to complete at least **80%** of all Labs (~12 Labs!)
 - The automated script will evaluate the completion of each lab
2. Attend the entire course
 - You are expected to attend all class sessions. If you miss one day, it will be regarded as a “no-show” for the whole course.
3. Complete the final Survey.
 - It will take not more than 3 minutes

Certification will be then delivered after approximately seven business days!



ACE Associate is must to get certification

- You are welcome to attend the training, but the ACE Associate certificate is a must to get the ACE-Pro or ACE-Ops certificate
- If after successfully finishing this training, should you proceed to attain ACE-Associate certification, kindly reach out to ace@aviatrix.com to request your ACE-Pro or ACE-Ops certificate

It is a manual process and can take a minimum 5 business days a



LAB POD Policy

- LAB POD will be destroyed if a person doesn't show up on day1
- If a person shows up on day2, they can attend the training without the LAB POD
- They will not be issued ACE-Pro or ACE-Ops certification

ACE Multi-Cloud Networking – Professional Training

- Meet the Trainers



Joe Amendolara
Senior Solutions Architect

Past: Whirlpool, Huawei, Orange
<https://linkedin.com/in/joe-amendolara>



Shahzad Ali
VP Solutions Architect

Past: Cisco, VMware
2 x CCIE, VCDX, ACE-DE
<https://YouTube.com/netJoints>



Rizwan Jamal
Senior Solutions Architect

Past: Equinix, Microsoft, Cisco
linkedin.com/in/rizwan-j-35429723/

Agenda – Day 1

Topics	Approx. Duration	Start time CEST
Welcome / Logistics / Agenda / Intro	0:50	9:00 AM
CoPilot UI tour	1:00	9:50 AM
Break	0:15	10:50 AM
LAB 1: Create VPCs/VNet using CoPilot	0:30	11:05 AM
MultiCloud Network Architecture (MCNA)	0:20	11:35 AM
Transit Networking	0:50	11:55 AM
Lunch Break	1:00	12:45 PM
LAB 2: (MCNA) Transit Networking	0:55	1:45 PM
Network Segmentation	0:30	2:40 PM
LAB 3: Network Segmentation	0:30	3:10 PM
Break	0:15	3:40 PM
Role-Based Access Control - RBAC	0:15	3:55 PM
LAB 4: RBAC	0:25	4:10 PM
High Performance Encryption - HPE	0:25	4:35 PM
End		5:00 PM

Agenda – Day 2

Topics	Approx. Duration	Start time CEST
Day 1 Recap (Quiz)	0:20	9:00 AM
Multi-Region / Multicloud ActiveMesh	0:50	9:20 AM
LAB 5: HPE with ActiveMesh	0:50	10:10 AM
Break	0:15	11:00 AM
Security	0:40	11:15 AM
LAB 6: Egress	0:55	11:55 AM
Lunch Break	0:50	12:50 PM
Firewall Network - FireNet	0:50	1:40 PM
LAB 7: Firewall Network with PAN	0:45	2:30 PM
Break	0:15	3:15 PM
Site2Cloud	1:00	3:30PM
LAB 8: Site2Cloud	0:30	4:35 AM
END		5:00 PM

Note: Schedule might change if modules are running longer than expected.

Agenda – Day 3



Topics	Approx. Duration	Start time
Day 2 Recap (Quiz)	0:20	9:00 AM
LAB 9: Edge	0:20	9:20 AM
ThreatIQ and ThreatGuard	0:15	9:40 AM
LAB 10: ThreatIQ and ThreatGuard	0:30	9:55 AM
Break	0:15	10:25 AM
Distributed Cloud Firewall	0:50	10:40 AM
LAB 11: Distributed Cloud Firewall	0:55	11:30 AM
User VPN	0:20	12:25 PM
Lunch Break	0:55	12:45 PM
LAB 12: Terraform and NetworkInsight API	0:35	1:40 AM
Operations	0:30	2:15 PM
Design Exercise recap	0:20	2:45 PM
Break	0:15	3:05 PM
Let's Design Together! (breakout rooms)	1:00	3:20 PM
Design Presentations	0:30	4:20 PM
Survey + Closing	0:10	4:50 PM
End		5:00 PM

Note: Schedule might change if modules are running longer than expected.



Microphone check:
What is your desired outcome of this
training?



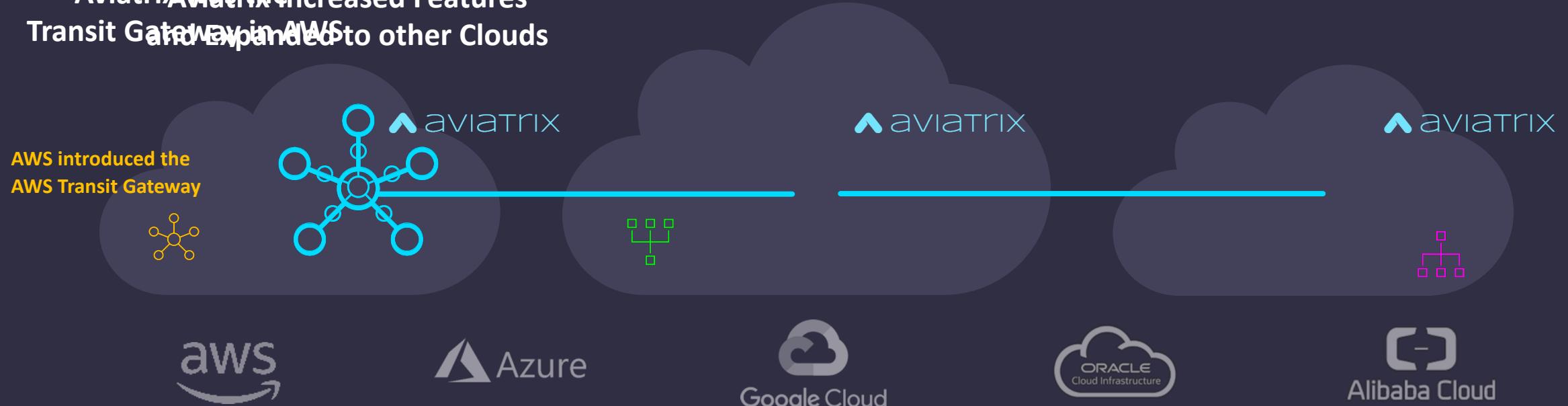
What is Aviatrix?



How Aviatrix Got Here | Founded in 2014

2018 2019 2020 **Secure Cloud Networking**

Aviatrix was the
first to introduce the
AWS Transit Gateway
and expanded to other clouds

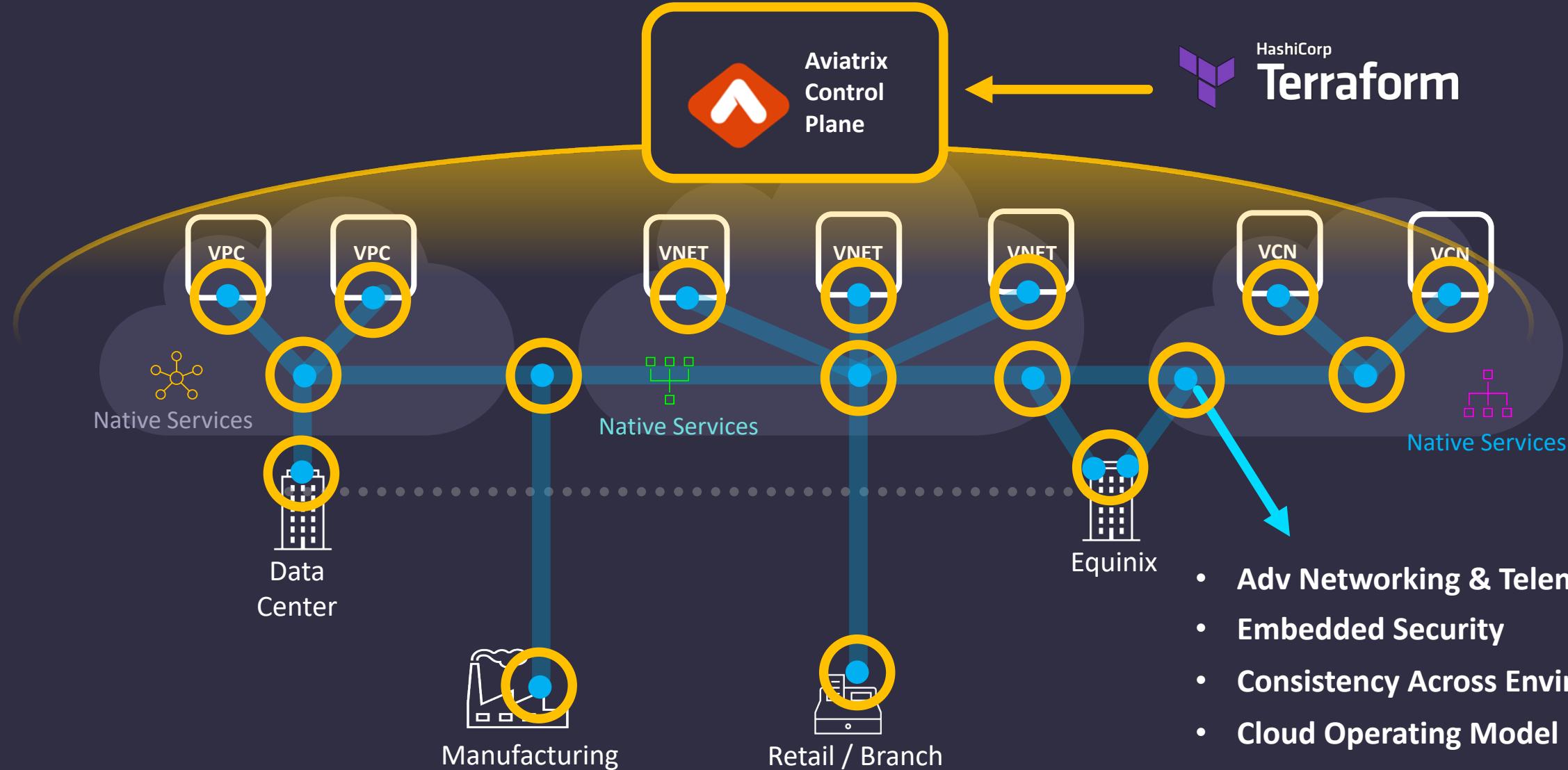


2024

- Over 500 Enterprise Customers
- Over 50 Fortune 500
- Over 25 Countries
- Ranging in size from 10 to over 5,000 VPCs/VNets

 Abbott	abbvie	 Adobe	 Aflac	 ABInBev	 APPTIO		 AVIS Budget	 BAKER HUGHES a GE company	 BankUnited
 BHP	 Biogen	 BNY MELLON	 CHOICE HOTELS	 CENTENE Corporation	 CHANGE HEALTHCARE			 Constellation Brands	
 Cummins	 DELL	 dōTERRA	 DXC TECHNOLOGY	 e.on	 FACTSET	 FEMA		 Genworth	 GN
 GUIDEWIRE	 Heineken®	 Home Office	 IHG®	 Informatica	 inmarsat	 Johnson Controls	 Jefferies	 Lufthansa Systems	 lululemon
 LG	 Mercedes-Benz	 NASA	 an amadeus company					 Raytheon Technologies	 RheinEnergie
 Roche	 salesforce	 SIEMENS	 splunk>			 UNITED AIRLINES			 YARA

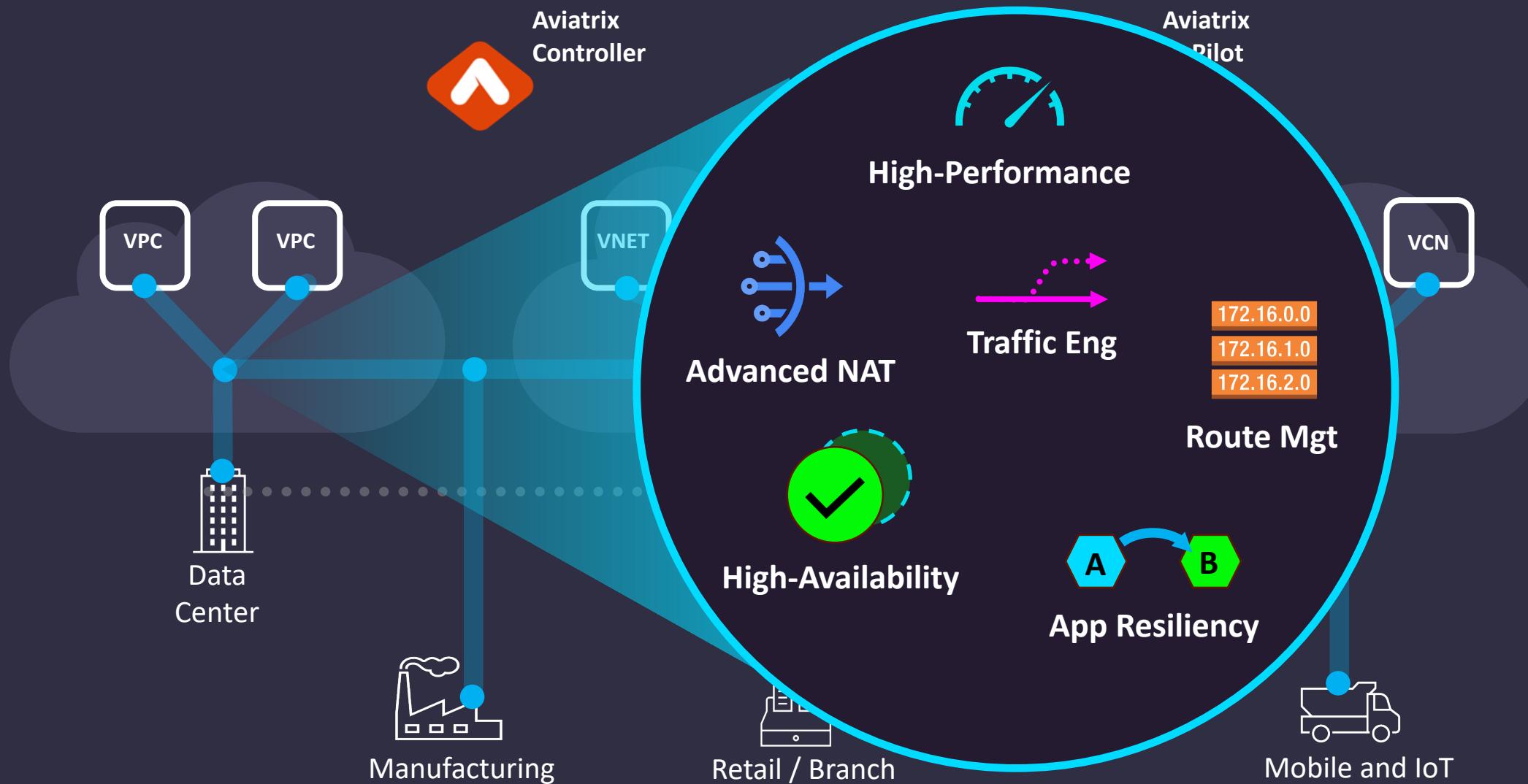
Aviatrix Secure Cloud Networking is a Programmable Distributed System



- **Adv Networking & Telemetry**
- **Embedded Security**
- **Consistency Across Environments**
- **Cloud Operating Model**
- **Proven at Scale**



Aviatrix Secure Cloud Networking | Simplified Networking Services

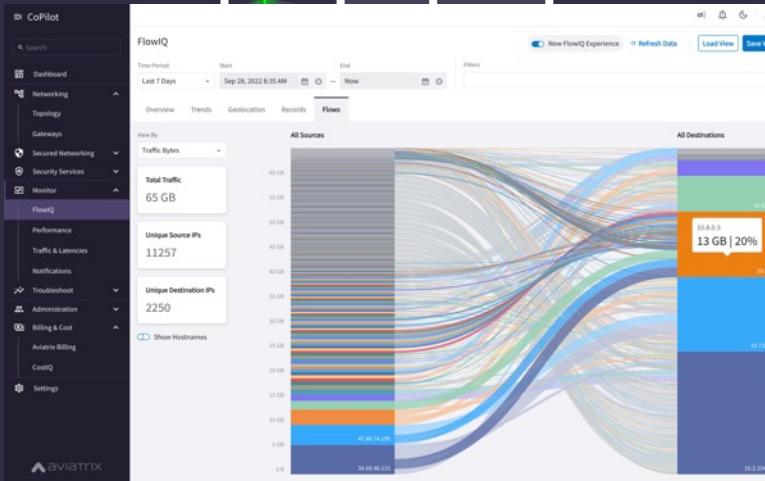


Aviatrix Secure Cloud Networking | Advanced Visibility & Control

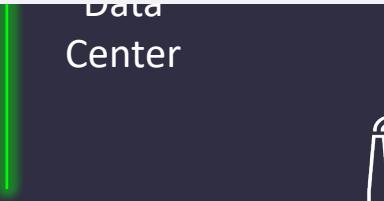


Embedded Network Telemetry

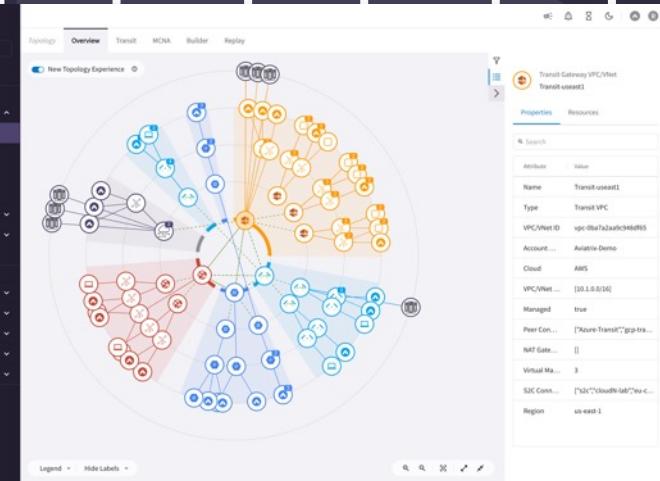
Aviatrix Controller



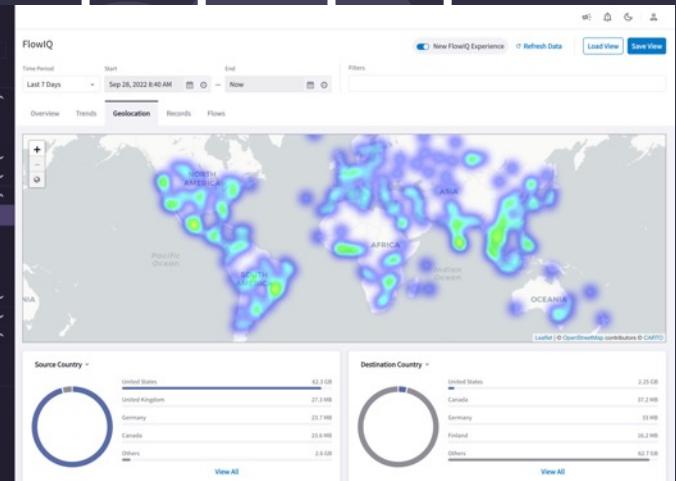
Data Center



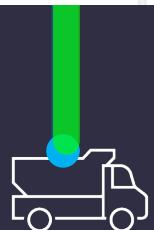
Aviatrix CoPilot



Aviatrix CoPilot

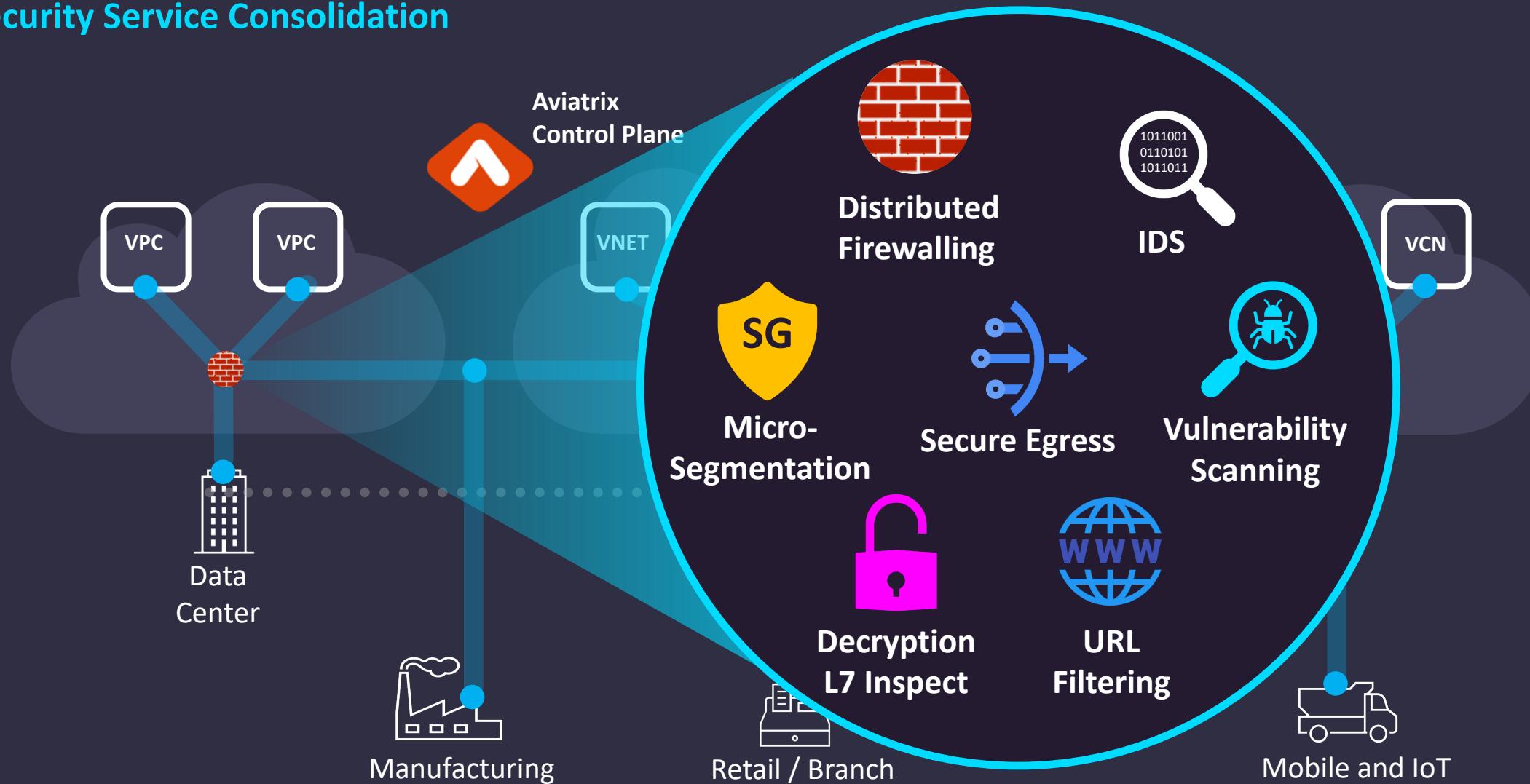


Mobile and IoT



Aviatrix Secure Cloud Networking | Distributed Cloud Firewall

Security Service Consolidation



Aviatrix Secure Cloud Networking | Advanced Visibility & Control



CoPilot

Search

Dashboard

PROGRAMMABLE INTENT

AirSpace

Topology

Gateways

Edge

Scaling

Networking

Security

SmartGroups

OPERATIONAL VISIBILITY

Cloud Resources

Monitor

Troubleshoot

Billing & Cost

Administration

Settings

FlowIQ

Time Period: Last 7 Days

Overview Trends

Total Traffic: 65 GB

Unique Source IPs: 11257

Unique Destination IPs: 2250

Show Hostnames

Aviatrix

Legend Hide Labels

Topology Overview MCNA Builder Replay

New Topology Experience

Properties

Search

Name: Transit-useast1

Type: Transit VPC

VPC/VNet ID: vpc-0ba7a2aa9c948df65

Account ...: Aviatrix-Demo

Cloud: AWS

VPC/VNet ...: [10.1.0.0/16]

Managed: true

Peer Con...: ["Azure-Transit","gcp-tra..."]

NAT Gate...

Resources

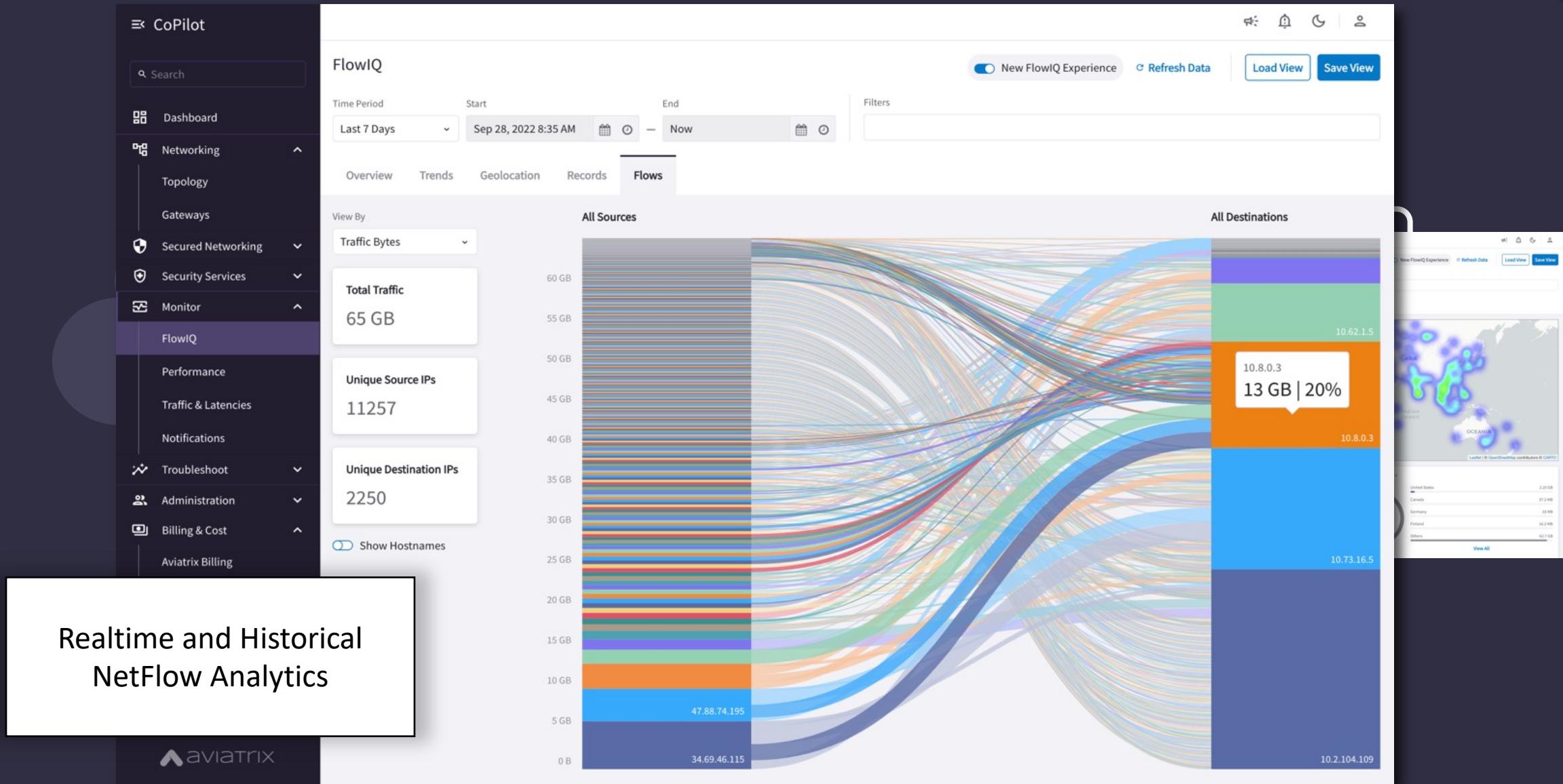
Search

Attribute Value

Map view showing traffic distribution across regions like Asia, Oceania, and North America.

Dynamic Multicloud Topology Mapping

Aviatrix Secure Cloud Networking | Advanced Visibility & Control



aviATRIX

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CoPilot

Search

Dashboard

Networking

- Topology
- Gateways

Secured Networking

Security Services

Monitor

- FlowIQ
- Performance
- Traffic & Latencies
- Notifications

Troubleshoot

- Administration
- Billing & Cost
- Aviatrix Billing
- CostIQ

Settings

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FlowIQ

New FlowIQ Experience Refresh Data Load View Save View

Time Period Start End Filters

Last 7 Days Sep 28, 2022 8:40 AM Now

Overview Trends Geolocation Records Flows

Leaflet | OpenStreetMap contributors © CARTO

Source Country

Country	Traffic Volume
United States	62.3 GB
United Kingdom	27.3 MB
Germany	23.7 MB
Canada	23.6 MB
Others	2.6 GB

View All

Destination Country

Country	Traffic Volume
United States	62.3 GB
Canada	27.3 MB
Germany	23.7 MB
Finland	23.6 MB
Others	2.6 GB

View All

Realtime and Historical NetFlow Geolocation

Aviatrix Secure Cloud Networking | Advanced Visibility & Control



CoPilot

Search

- Dashboard
- Networking
- Secured Networking
- Security Services

ThreatIQ

- Anomaly Detection
- Geoblocking

Monitor

Troubleshoot

- AppIQ
- Cloud Routes

Administration

Billing & Cost

FlowIQ

Performance

Traffic & Latencies

Notifications

Troubleshoot

Administration

Billing & Cost

ThreatIQ Overview Custom Threat List ThreatGuard

Start Time: Oct 18, 2022 12:58 PM End Time: Oct 19, 2022 12:58 PM Apply

NORTH AMERICA
SOUTH AMERICA
AFRICA
ASIA
Pacific Ocean
Indian Ocean

Leaflet | © OpenStreetMap contributors © CARTO

Automated Threat Detection and Mitigation

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Threat Severity

1 Total Major: 128

Threat Classifications

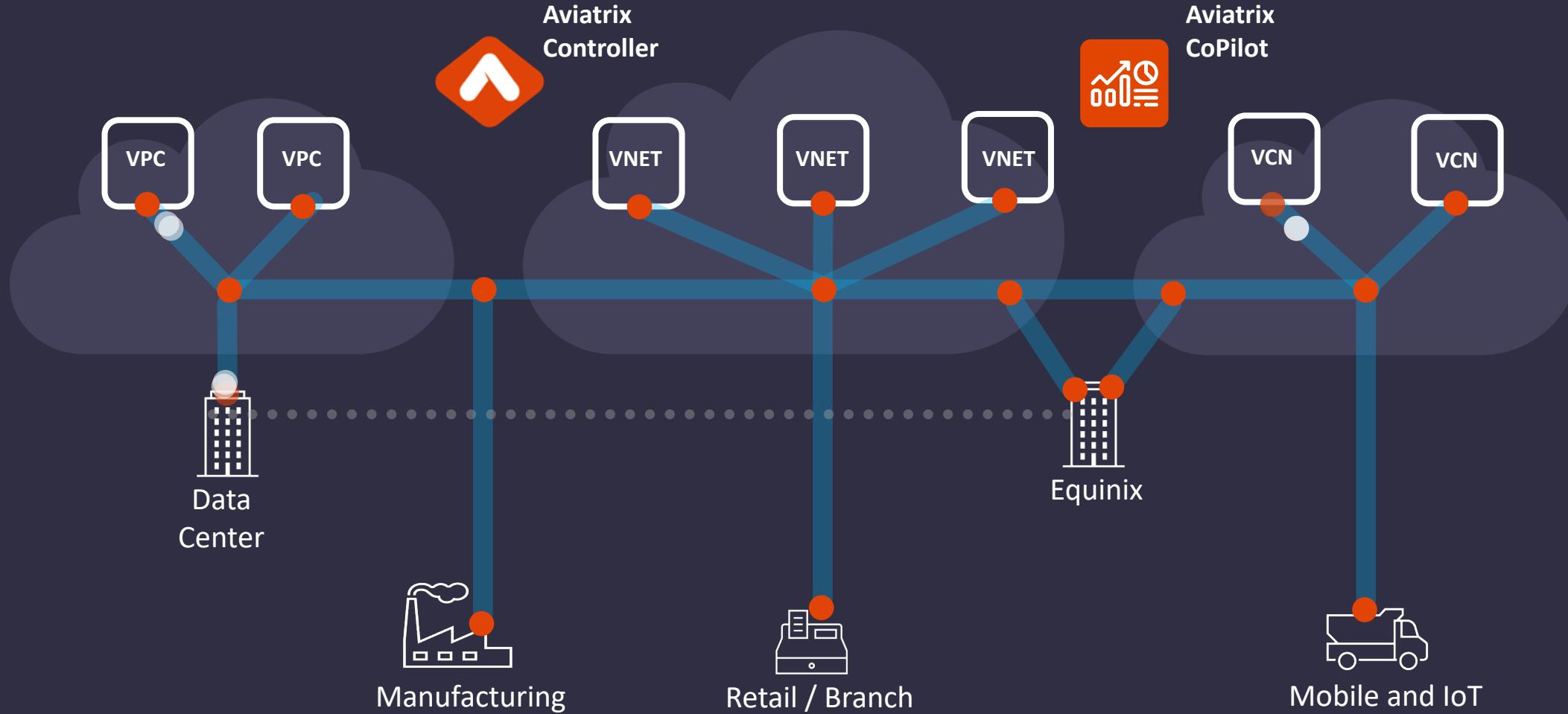
1 Total misc-attack: 128



Aviatrix Secure Cloud Networking | Distributed Cloud Firewall



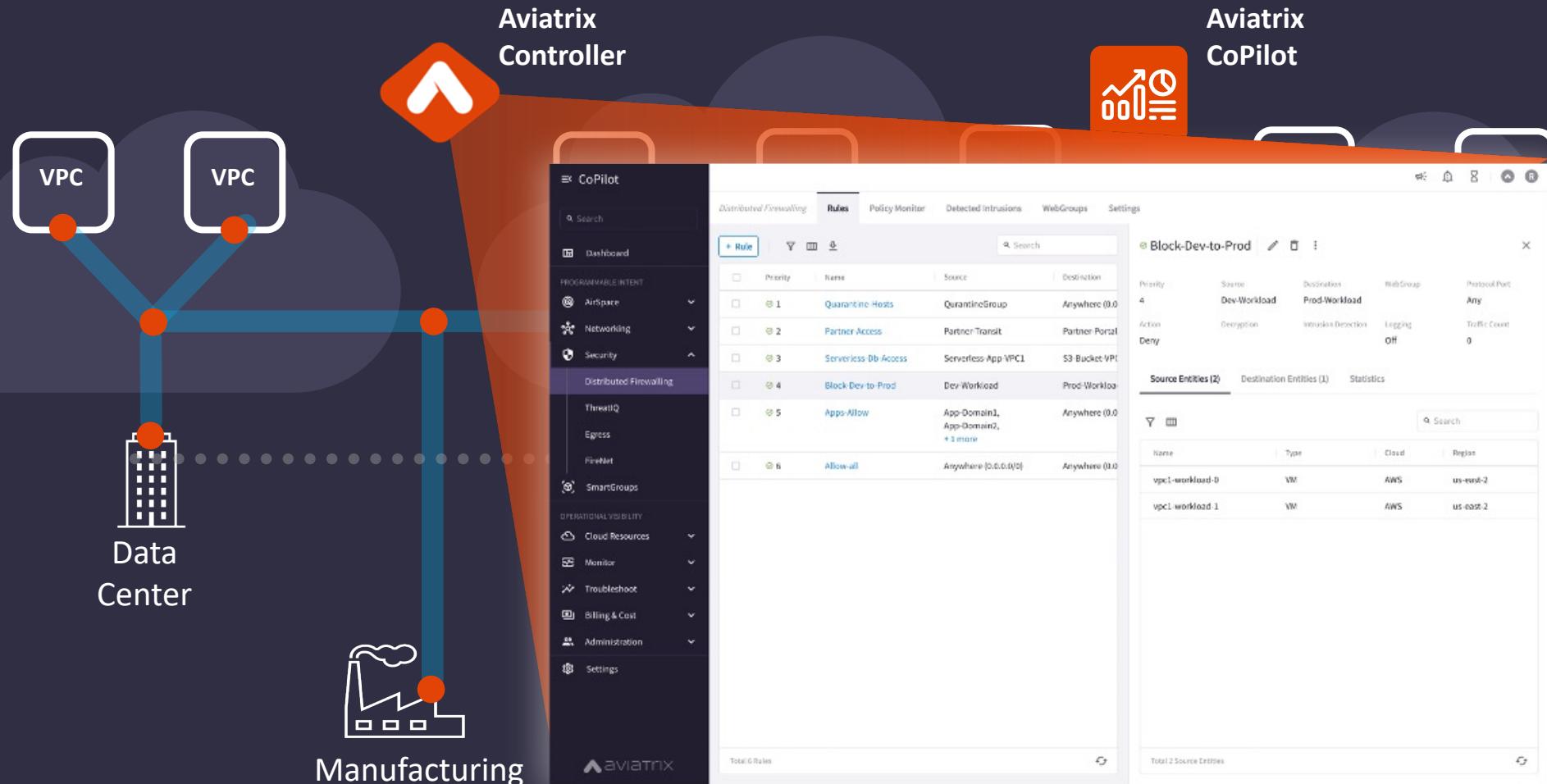
Embedded Security – The data plane sees every packet



Aviatrix Secure Cloud Networking | Distributed Cloud Firewall



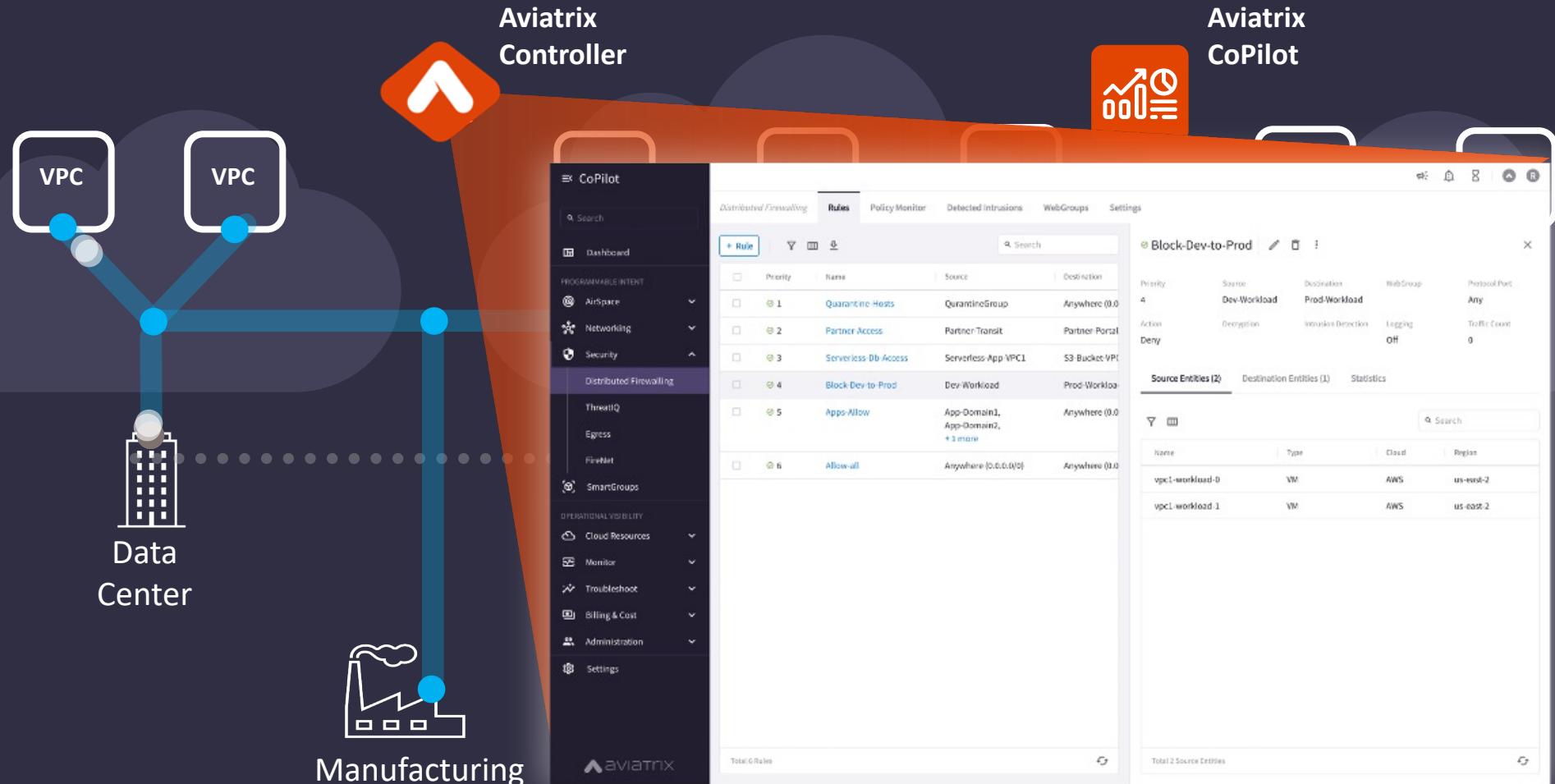
Centralized Policy Creation



Aviatrix Secure Cloud Networking | Distributed Cloud Firewall

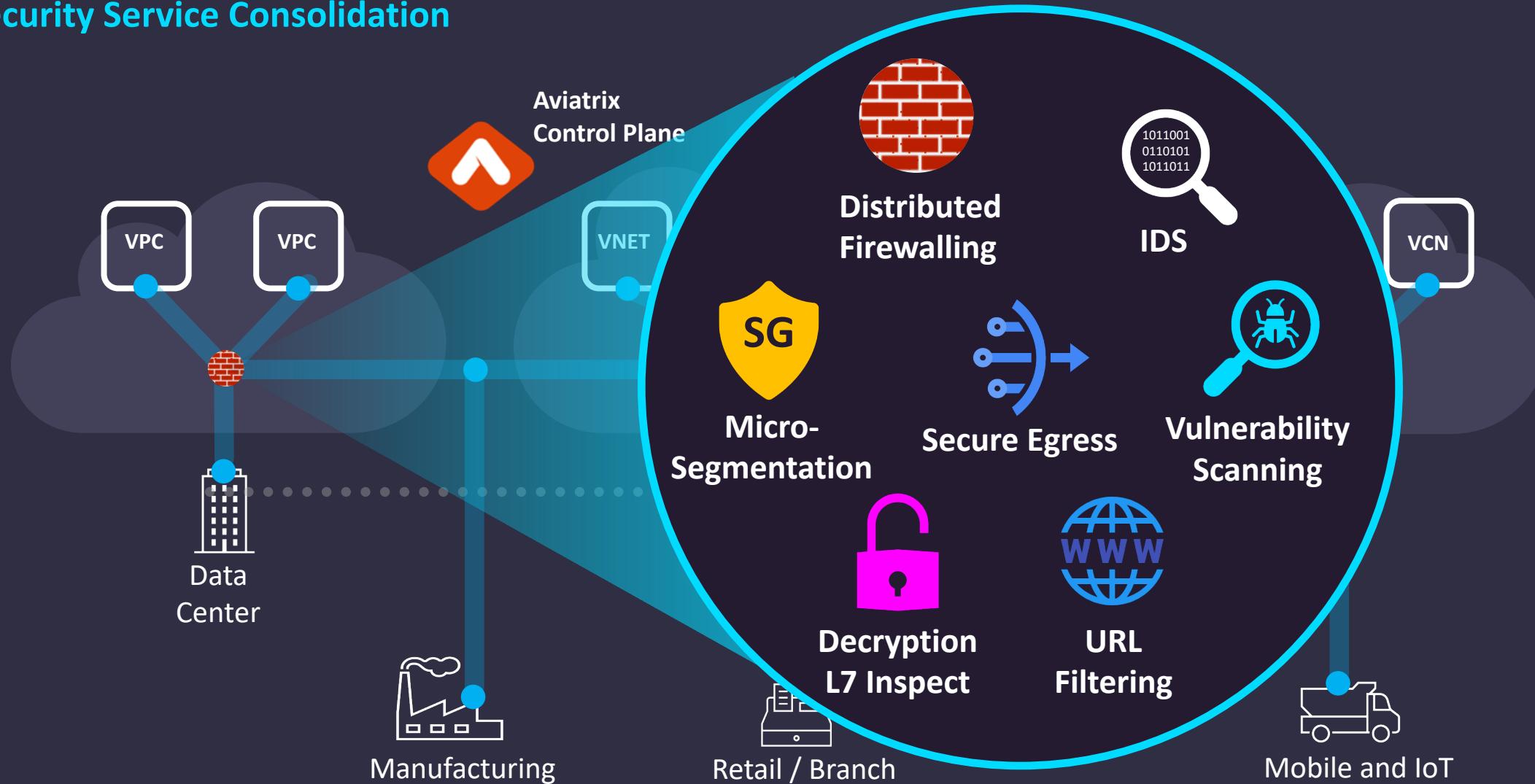


Distributed Inspection and Enforcement



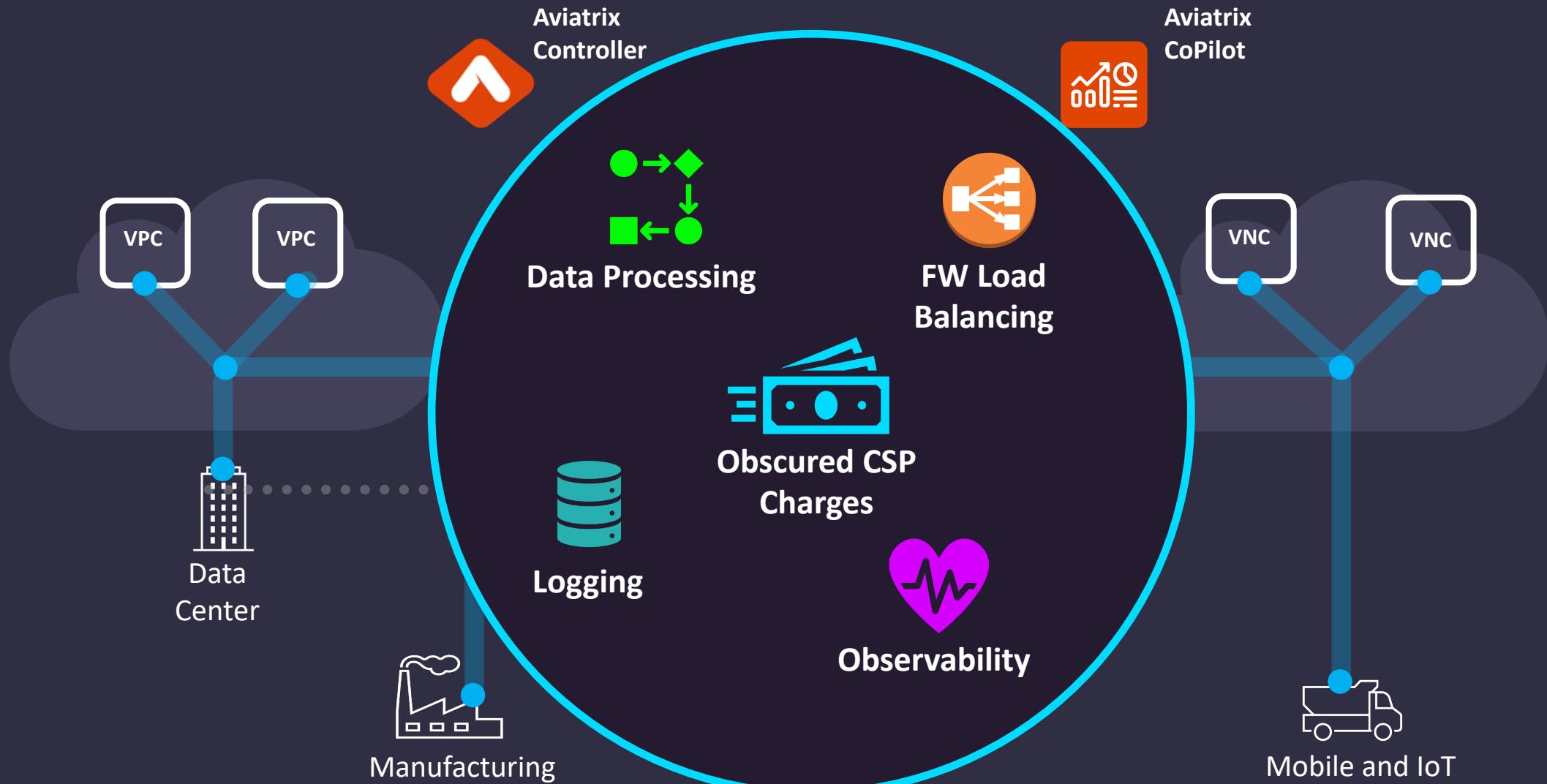
Aviatrix Secure Cloud Networking | Distributed Cloud Firewall

Security Service Consolidation





Aviatrix Secure Cloud Networking | Networking Cost Reduction

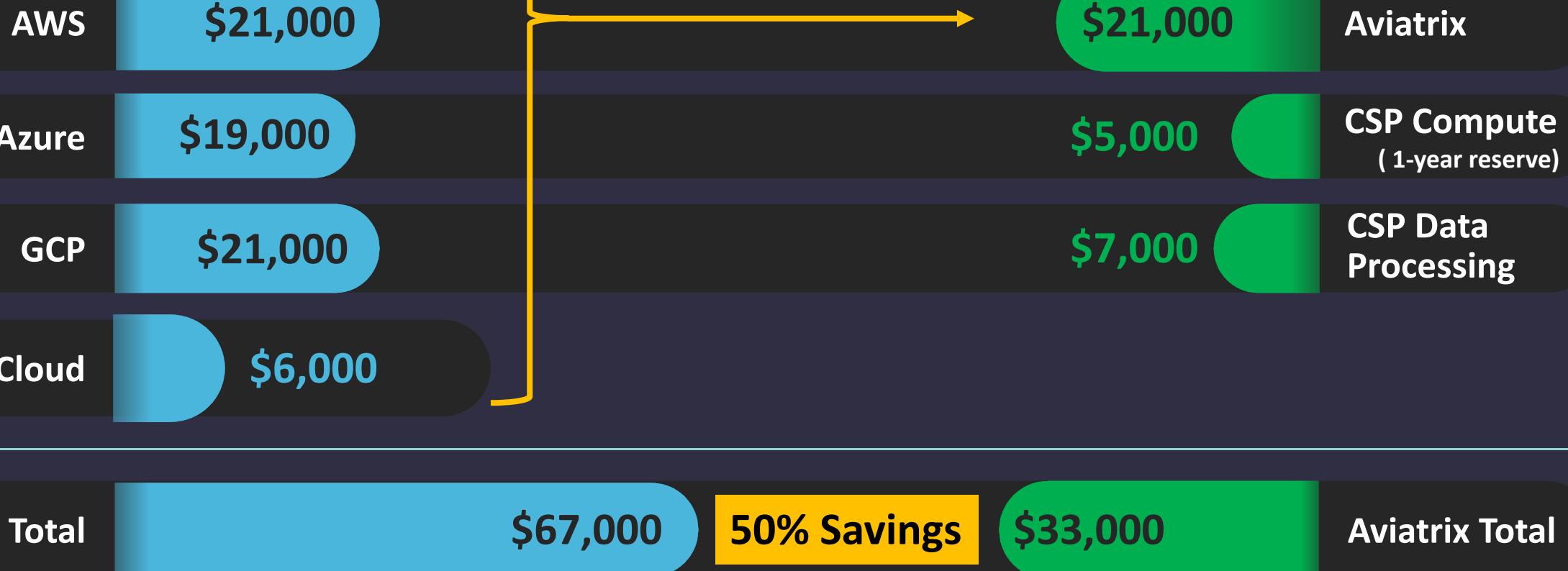


The **REAL** Cost of Native Cloud Networking and Visibility

Environment

20 VPCs in AWS
10 VNets in Azure
10 VPCs in GCP
2 Data Centers

Average VPC / VNet Traffic = 3 Mbps (Likely Double)
Average Inter-Cloud Traffic = 3 Mbps (Likely Double)
Average On Ramp (data center to cloud) = 2Mbps



Challenges

Complex Cloud Operations

- Low visibility & Disparate Tooling
- Complex Architecture at Scale
- Skills Gap
- High MTTD/MTTR

High Cloud Networking Costs

- Inefficient Data Transfer Charges
- VPC/VNET Sprawl
- Low Predictability Budgeting
- High NAT GW Costs

Outcomes

Improve Security & Reduce Business Risk

- Improve East & West Security Controls
- High Performing Encrypted transport
- Improve Egress Security
- Consistent Network Security Architecture

Drive Centralization and Simplicity

- Consistent Architecture and Tooling
- Centralized Visibility and Automation
- Multi-Cloud Agility
- Simplified B2B VPN Tunnel



