

# Cloud Area Networking

**Built in the cloud & delivered as a service.  
No hardware to buy or agents to install.**

On prem to Cloud • In the Cloud • Cloud to Cloud

**Alkira Cloud Area Networking is the industry's fastest way to unify clouds, sites, and users. And the only network architecture built 100% in the cloud. Agentless. And delivered as-a-service.**

## Overview

Simply auto-connect your clouds, sites, users, and even SD-WAN fabrics. Instantly deliver networking for site-to-site, Internet/SaaS applications, and to, within, and across clouds. All with single-pane visibility, HA, enterprise-grade routing, and segmentation. With full automation of routine networking tasks.

Immediately spin up and autoscale best-of-breed network services from your favorite vendor. They're fully integrated into your new network. No more complicated routing domains. No more overprovisioning. No more security compromises. And no costly colocation or DC build outs.

With Alkira Cloud Area Networking, you can deliver new networking in hours instead of months. One cloud or many. And for the first time, enjoy an elastic network that scales up and down based on business demand.

And the best thing about Cloud Area Networking? It's delivered as a service. No hardware to buy. No software to download. No cloud to learn. With Alkira your network team will move faster. Manage less. And save more.

**Welcome to Alkira Cloud Area Networking. The fastest way to the cloud.**

## Legacy and Cloud-Native Network Challenges

Cloud adoption continues to accelerate. Organizations are increasingly transitioning business critical applications from on-premise data centers to the public cloud and SaaS environments.

Compute and storage have moved beyond virtualization and automation to as-a-service offerings. Cloud architects and app developers simply choose the service attributes they want to consume, such as compute instances and storage volumes, rather than worry about implementation details. Complexity has been eliminated and cloud computing has become a business enabler for compute and storage.

In contrast, the network has not made a similar transition. Building a network in the cloud era exposes the following challenges:

## Agility

### Slow network and security change controls.

Network and security configuration changes require numerous change control “gates” and require many manual configurations, while compute, storage, and applications move at a much faster pace. Network and security provisioning has become the cloud adoption choke point instead of an accelerator.

### Complex network and security architecture.

Existing do-it-yourself (DIY) network and security architectures are not easily adaptable for the public clouds. Every cloud is different, and every vendor brings their own tools. This creates a patchwork of solution islands, and prevents end-to-end approaches to segmentation, failover, troubleshooting, and policy. Multi-cloud only compounds these gaps.

### Rigid colocation solutions.

Colocations require a lengthy hardware equipment and connection procurement cycle and complex manual configurations. Colocation projects often extend over many months or even years. Colocations also lack modern automation and require that all routing and services be set up and configured manually.

## Visibility

### Visibility blind spots.

Cloud-native capabilities do not provide an adequate level of visibility for applications and networks in other clouds or across the network. Public cloud network deployments turn into operational “blind spots”.

### Visibility islands.

Even these limited cloud-native tools are cloud unique, which creates additional operational islands. And precludes single pane visibility of the entire network footprint. Separate tools need to be purchased to aggregate multi-cloud views, further adding to tool and vendor sprawl.

## Scale

### Lack of uniform policies across on-premise and public cloud environments.

Migration of applications from on-premise data centers to single and multi-cloud environments requires maintaining the same hardened security posture and security controls, e.g., a mandate to use approved firewalls. But unique cloud-native constructs quickly create policy discrepancies between on-premise and cloud.

### Complicated network configurations.

Setting up resilient connections or disaster recovery often require lots of manual steps. And a lot of supporting infrastructure. This creates many opportunities for human error. Further, cloud-native approaches to resiliency create single points of failure in the event a cloud region goes down.

### Industry and regulatory compliance challenges.

Organizations bound by industry and regulatory compliances, such as HIPAA or PCI, struggle to adopt the cloud because of a lack of standardization and feature parity across network and security for on-premise and public cloud environments. And cloud providers do not offer the segmentation capabilities required for compliance.

The network is under ever-increasing pressure to provide an agile, elastic, performant, and cost-effective solution for the cloud era.

## Introducing the Alkira Cloud Area Network

Cloud Area Networking is a new architecture for deploying an entirely cloud-based network infrastructure. Designed for an era of highly distributed users and workloads. And deployed with the speed IT expects of hyper-automated systems. Cloud Area Networks are full stack, enterprise-grade networks with built-in routing and network services.

Enterprises use Cloud Area Networks to:

- Securely extend their on-premises network into new regions and single and multi-cloud environments
- Interconnect branch and data center locations across a global routed backbone
- Optimize distributed access to SaaS and Internet applications
- Enforce consistent network and security policies across the network footprint
- Provide secure remote access for teleworkers
- Provide global network governance, visibility, and troubleshooting

### Cloud Area Networking Architecture

The Alkira Cloud Area Networking architecture consists of only a few simple components:

- Alkira Cloud Exchange Points™ (CXPs)
- Alkira Cloud Backbone and Fabric
- Alkira Portal

### The defining characteristics of a Cloud Area Network include:



**As-a-Service delivery** enabling rapid deployment and maintenance-free operation. Cloud Area Networks are 100% cloud-built and cloud-delivered.



**Enterprise-grade networking** to support the most demanding environments through built-in high availability, advanced routing, and segmentation. Cloud Area Networks are full stack networks.



**Global reach** with networking placed close to users and workloads and interconnected through a low-latency, high speed cloud backbone.



**Elastic scale** allowing network capacity to expand and contract based on changing business needs.



**Integrated network services** insertion and autoscaling of best-of-breed firewalls, NAT, DNS, and more.



**Single point of control** and visibility with rich analytics and insights on network performance and security.



**Consistent operational model** across diverse network environments and cloud service providers.



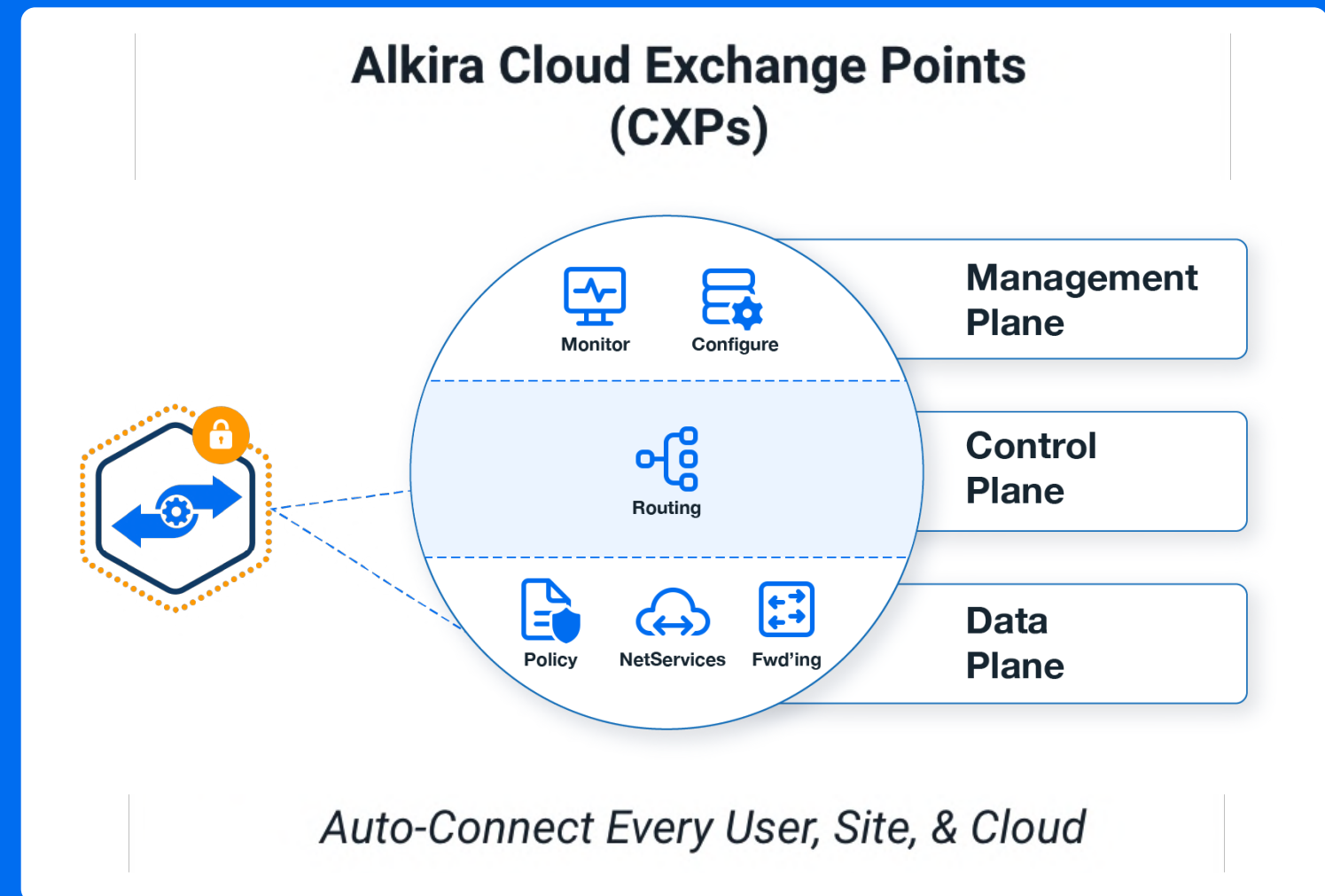
**Intuitive visual design** for immediate deployments without the need for cloud specific expertise.



**Hyper-automated** using industry leading tools and APIs, with full integration into your CI/CD pipeline. For faster rollouts. And streamlined operations.

## Alkira Cloud Exchange Points (CXPs)

Alkira Cloud Exchange Points (Alkira CXPs) are cloud-delivered, virtual points of presence with a full routing stack and integrated network services capabilities.



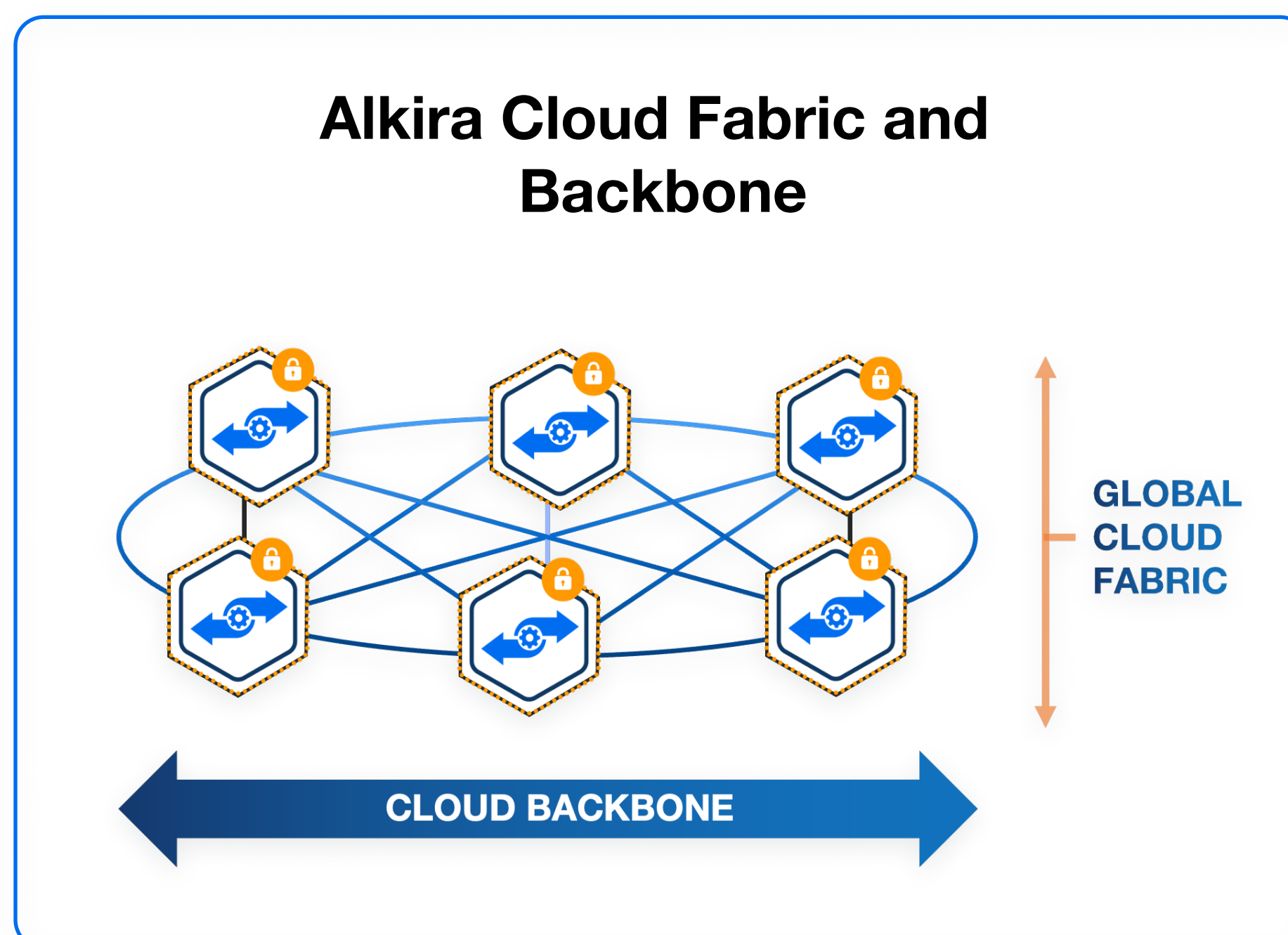
Alkira CXPs are available globally in every cloud region. They provide “plug-and-play” connectivity and network services insertion close to your users and workloads to eliminate backhauling and deliver optimized experiences. Users, sites, data centers, regional SD-WAN fabrics, colocations, public clouds, network and security services, and SaaS/Internet exit points simply connect to the global network through the geographically closest Alkira CXP.

Integrated stateful security services coupled with end-to-end segmentation capabilities allow enterprises to consistently secure on-premise, hybrid and multi-cloud environments.

## Alkira Cloud Fabric and Cloud Backbone

Alkira CXPs are connected together via the Alkira Cloud Backbone, providing high-speed, low-latency transport between remote users, on-premises sites and cloud instances. The Alkira Cloud Backbone is built upon the hyperscale public cloud infrastructure with access to virtually unlimited underlying resources.

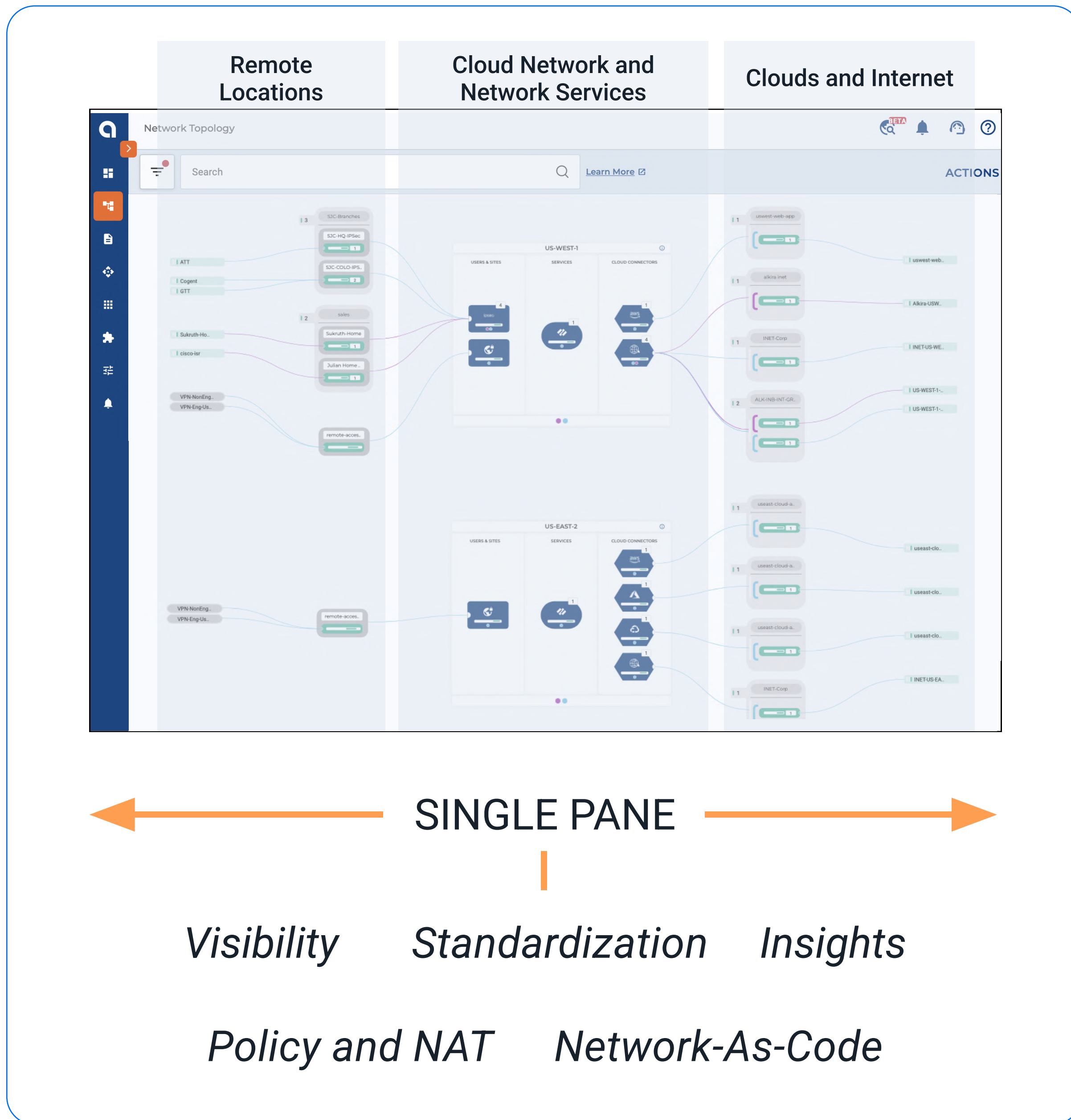
The resulting Cloud Fabric of interconnected CXPs delivers a truly unified network, with end-to-end segmentation, failover, visibility, and operations.



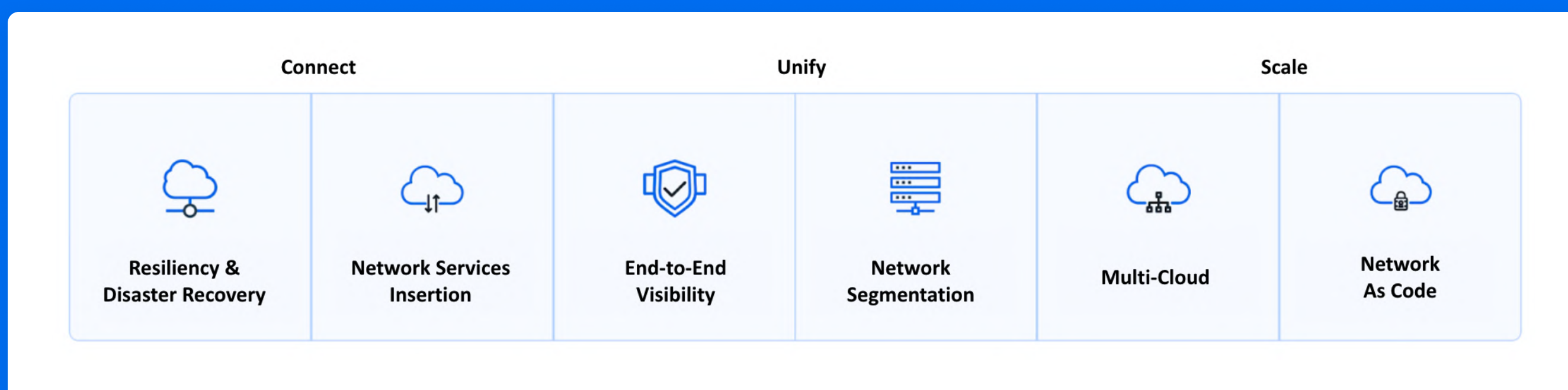
# Alkira Portal

The Alkira Portal offers a single pane and modern graphical interface for all design, provisioning, and day-2 operational needs. It automates most routine networking tasks (and network “plumbing”) for much faster time to service. And delivers a single control surface for integration into CI/CD pipelines and network-as-code automation.

Via the Alkira Portal, your cloud and multi-cloud network is offered as-a-service, on demand, when and where you need it. You do not need to procure any additional hardware equipment, install any additional software or learn any cloud architecture. Your entire global network is modeled through the intuitive Alkira Portal via simple point-and-click.



## Cloud Area Networking Top Use Cases



← Delivered As-a-Service →

# Connect Anything

Our regional Cloud Exchange Points (CXPs) provide universal, plug-and-play connectivity. Just auto-connect your users, data centers, colos, and SD-WAN fabrics. Connectivity models include:

## SSL VPN:

Organizations needing remote VPN access to cloud instances can leverage Alkira Secure Connect, our elastic zero trust network access solution. Remote users establish SSL VPN connection to the closest Alkira CXP where the service has been instantiated. Access policy is enforced at the point of connectivity through [micro] segmentation and optional firewall inspection. The Alkira solution minimizes the use of last-mile Internet by allowing remote VPN users to hop on Alkira's high speed low latency global cloud backbone at the closest location, which improves overall network performance and user experience.

## IPSec:

Organizations looking for the simplest method of connecting on-premises sites to public cloud resources can do so by leveraging IPsec tunnels over the Internet. IPsec tunnels are provisioned at each remote site router and terminated at the geographically closest Alkira CXP. The Alkira CXP auto-generates the required configuration to be applied to the remote site router.

## Regional SaaS/Internet Access:

Alkira offers regional Internet exit points for optimal access to Internet resources and SaaS applications. The exit points are distributed throughout the global reach of the Alkira Cloud Area Network. Organizations can decide on whether to allow or disallow SaaS/Internet access. If such access is allowed, it will be delivered at the geographically closest Alkira CXP where particular remote sites or public cloud instances are connected.

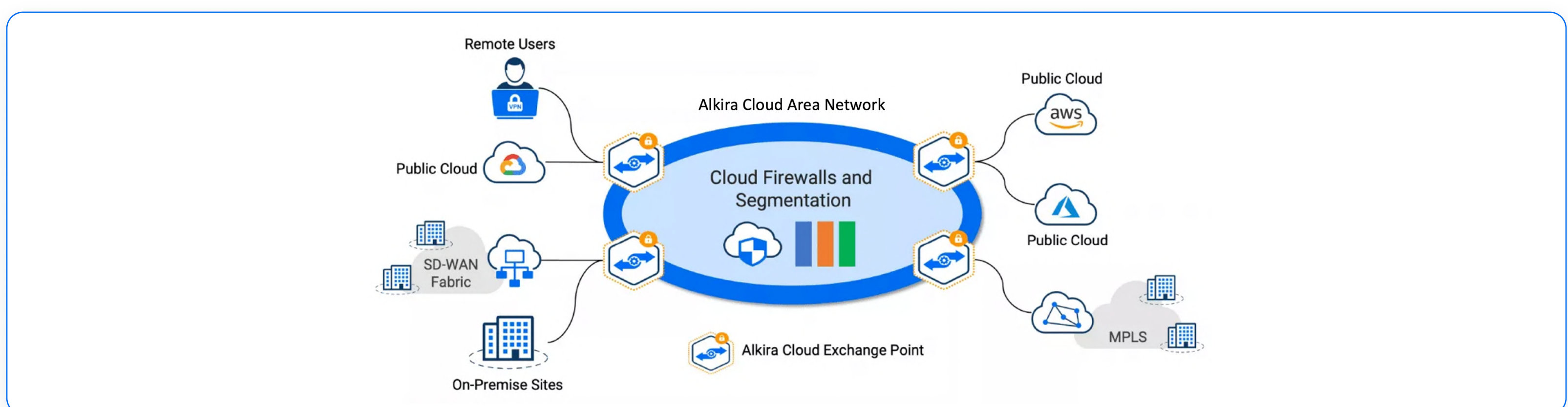
## SD-WAN:

Organizations with existing SD-WAN fabrics can leverage automated connectivity to public cloud resources through Alkira. The SD-WAN fabric is automatically extended into one or more Alkira CXPs of your choosing. This creates regional hand-offs between the SD-WAN fabric and the Alkira CXP to access the connected cloud instances. Alkira also supports connecting multiple regional SD-WAN fabrics from a single or different vendor, which expedites mergers and acquisitions or divestitures. SD-WAN segmentation is seamlessly extended into the Alkira Cloud Backbone, maintaining overall segmentation between SD-WAN connected on-premise sites and the public cloud instances, as well as between public cloud instances themselves.

## AWS Direct Connect and Azure ExpressRoute:

Organizations using colocations for cloud connectivity can leverage AWS Direct Connect and Azure ExpressRoute services to connect to the closest Alkira CXP. Once connected, organizations can access all cloud instances (AWS, Microsoft Azure, GCP, and OCI) globally connected to the Alkira Cloud Area Network.

Based on the specifics of the network design, network and security teams can leverage all methods of connectivity between remote users, on-premises sites and public cloud instances at the same time. Security in the form of encryption, end-to-end network segmentation and firewall service insertion is provided for all means of connectivity between remote users, on-premises sites and public cloud instances connected to the Alkira Cloud Area Network.

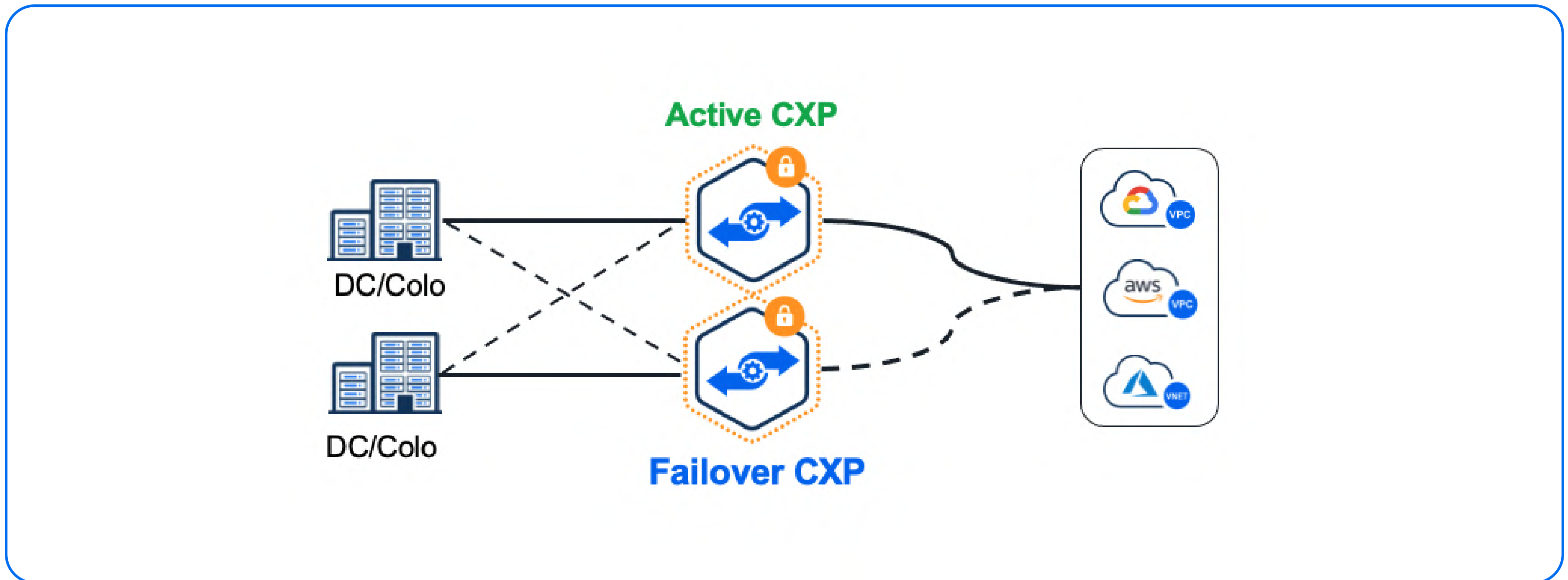


## Resiliency and Disaster Recovery

Legacy approaches to resiliency struggle in the cloud era. Because each CSP is unique, regional failover isn't natively provided and requires complex and risk-inducing manual configurations. And failover from one CSP to another is largely not possible with existing networks.

Alkira provides redundant connections to CXPs in a backup region of your choice. This can be in the same cloud or use a different CSP for maximum flexibility. These redundant CXPs deliver inter-region and inter-cloud redundancy without any manual configuration required. Just tick the option in the Alkira Portal.

Alkira commits uptime SLA (Service Level Agreement), RTO (Recovery Time Objective) and RPOs (Recovery Point Objective) to its customers. With Alkira, you can move from on-prem to the cloud with confidence. Minimize outages and MTTR. Across your entire footprint.



## Network Services Insertion

Organizations need to secure and provide network services for both their on-prem and cloud environment. The Alkira Portal can quickly help you configure best-of-breed network services and cloud firewalls of the customer's choice. Close to users and workloads.

Alkira supports best-of-breed network services of all types from leading vendors, including:

 **Cloud Firewalls**

 **NAT**

 **IDS/IPS**

 **Cloud DNS and DHCP**

This allows organizations to easily extend their existing network services investments and hardened policies from on-prem to cloud.

The Alkira Cloud Area Network also automates tough network service insertion challenges like auto-scaling and symmetric traffic steering across VPCs and clouds. Organizations can instantly scale to real-time capacity demand. Easily consolidate for maximum utilization. Deploy fewer devices and enjoy centralized lifecycle management. And only pay for what they use. Not by building complex infrastructure. Just by selecting a few options in our intuitive UI.



# Unify Everything

As organizations expand into new regions and clouds, they find their network increasingly siloed. There can be blind spot across clouds. Every vendor brings its own stand alone tools. Organizations require a single pane, network-wide approach, particularly for visibility and segmentation.

## End-to-End Visibility

Alkira Cloud Area Networking provides a single-pane view across on-prem and cloud. Alkira comes with built-in monitoring, alerts, packet capture, and insights. Network-wide. Across all connected IPsec sites, SD-WAN fabrics, Internet exit points and network services. And down into every AWS VPC, Azure VNet, and Google VPC. All in a single, intuitive pane within the Alkira Portal.

Visibility in the cloud can be particularly challenging. Alkira Cloud Area Networking comes with actionable insights built-in to close the gap. Use Alkira Cloud Insights to understand and improve your AWS & Azure usage. Organizations get recommendations on how to improve security, optimize spend, and boost performance. And flagging duplicate IP addresses, unused network and security resources, and unsanctioned internet access.

## End-to-End Segmentation

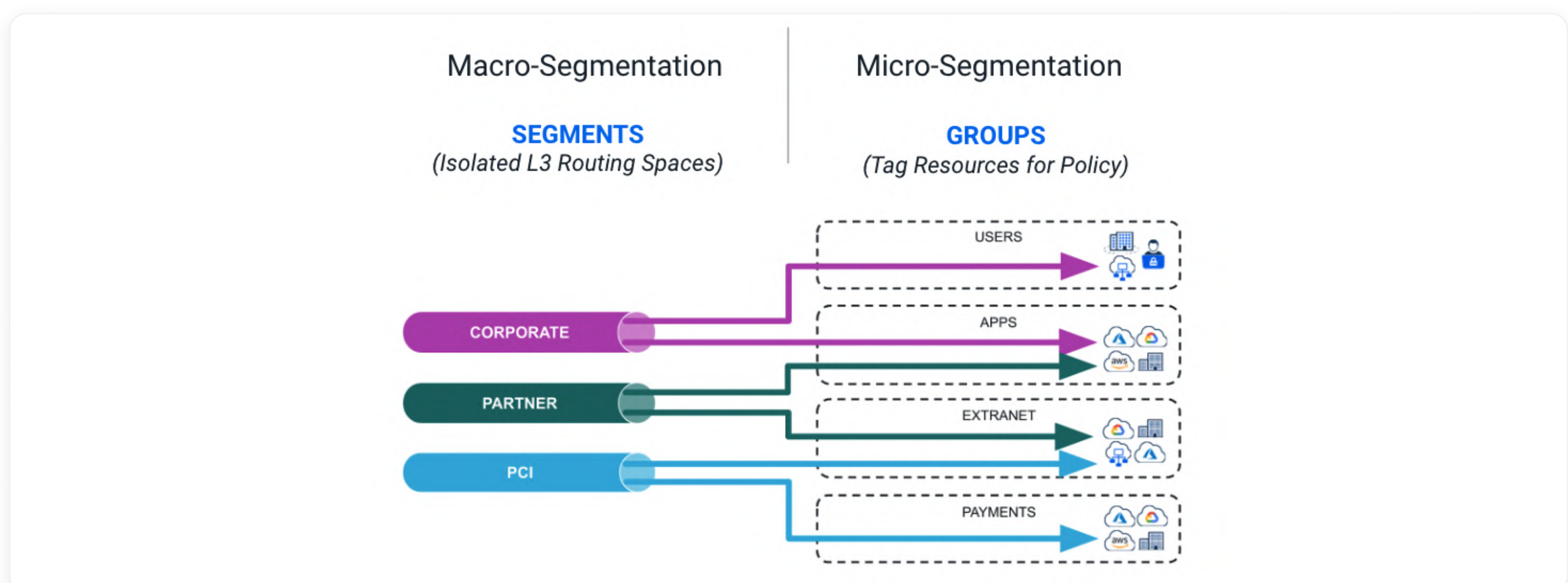
Organizations struggle with extending segmentation from on-prem to cloud. CSPs don't provide native segmentation, relying instead on weak L4 firewall constructs ("security groups"). And manually created boundaries. And these options are entirely cloud-bound, not network-wide.

Alkira Cloud Networking offers end-to-end network segmentation capabilities that group remote users, on-premises sites, public cloud instances, network services and SaaS/Internet exit points into specific network connectivity segments. Once defined, segments immediately span the entire global multi-cloud network provisioned across the Alkira Cloud Area Network.

All segments are fully isolated from each other, utilizing the same kind of L3 isolated routing space organizations enjoy with MPLS VPN. Design scenarios that call for inter-segment connectivity to accommodate application services shared across segments are also fully supported. (Typical use cases for inter-segment connectivity are mergers and acquisitions, divestitures, partner connectivity and IT-as-a-service).

For organizations leveraging SD-WAN solutions, SD-WAN segmentation can be seamlessly extended into the Alkira Cloud Area Network. It creates a contiguously segmented environment, even for cases where the SD-WAN fabric does not provide full end-to-end connectivity.

The concepts of segmentation are also extended to the network services nodes provisioned in the Alkira Cloud Area Network. This allows network services nodes, like the next generation firewalls to inspect the traffic within a given segment [micro-segmentation] or across multiple segments.





# Scale Everywhere

Organizations need a scalable way to build networks. One that is both automated and controlled. And simple enough they can empower their cloud and dev teams to perform routine tasks. But very little that is learned from on-prem networking carries forward into the cloud. So organizations build custom infrastructure for every use case. And every cloud.

## Multi-Cloud Adoption

Organizations look to multi-cloud for the optimum cloud constructs for specific applications. And to avoid cloud vendor lock-in, manage risk more efficiently, and get better pricing. But nowhere is scaling the network put to the test more rigorously than when adopting multi-cloud. And it isn't just the network under stress, but also the team, as expertise gaps are a major source of multi-cloud adoption stall.

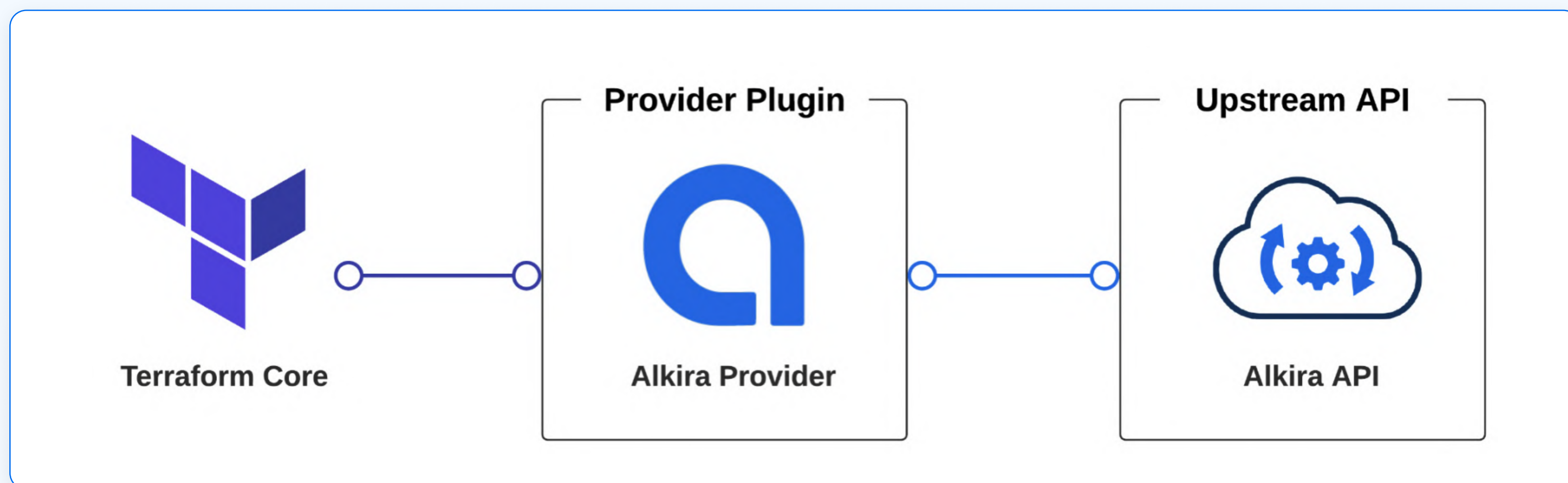
Alkira Cloud Area Networking lets organizations treat every cloud the same – they're just simple constructs in the Alkira Portal. No cloud to learn. No restrictive cloud limits to work around. Multi-cloud support is built-in. Adding a new cloud is as simple as drag-and-drop. Customers report that multi-cloud networking provisioning now takes them hours when it used to require months.

## Network Automation: Network-as-Code, Policy-as-Code

IT teams are increasingly turning to infrastructure-as-code to reduce the time taken to provision networking resources, rationalise the tools and methodologies used by network teams and replace outmoded change control methods.

The Alkira Cloud Area Network delivers a simple, single control surface that easily integrates into your CI/CD pipeline for maximum operational agility. And lets you empower your cloud and dev teams with easy to integrate APIs and network-as-code support. Support for Hashicorp Terraform and REST APIs is built into the platform. Alkira Cloud Area Networking automation provides:

- Consolidated interaction surfaces
- Reduced time to provision
- Minimized configuration drift
- Deliver a common toolchaing
- Deliver a standardized deployment workflow



Organizations have also found it is hard to scale without consistent traffic and security policies across on-prem and cloud (or clouds).

The Alkira Cloud Area Network lets organizations deliver a unified policy framework across their entire on-prem and cloud network. Now, they can easily segregate production and dev environments with traffic policy. Quickly resolve overlapping IP addresses with NAT policy. And quickly extend their hardened on-prem security posture and controls to the cloud. One cloud or many.

## Top Customer Benefits

Alkira Cloud Area Networking provides the connectivity, unification, and scale organizations require when moving to the cloud. Key benefits include:

### **Fastest time to cloud.**

Alkira Cloud Area Networking is 100% cloud-built and delivered as-a-service, reducing network deployment time from months to hours or even minutes. No hardware to buy, no software to install. No restrictive cloud limits to work around. One unified architecture across on-prem and cloud.

### **Improved operational efficiency.**

Free network and security teams from the time and stress of legacy and cloud-native network complexity. Including empowering IT teams and NOC to self-serve routine operations via simple integration into your CI/CD pipeline. Our as-a-service delivery model means paying only for what you need, when you need it, for maximum efficiency.

### **Reduced Risk:**

Reliably achieve IT delivery milestones by eliminating common bottlenecks such as cloud learning curve, cloud unique constructs and limits, and visibility gaps. And easily ensure compliance to both internal and external requirements.

## Summary

Alkira Cloud Area Networking is the fastest way to unify clouds, sites, and users. And the only network platform built 100% in the cloud and offered as a service. Gain end to end visibility & resiliency. Scale operations using automation. With Alkira your network team will move faster. Manage less. And save more.

**Alkira Cloud Area Networking. The Fastest Way to the Cloud.**