

Solution Overview

Scalable, Resilient Application Delivery with F5 and Arista in On-Premises Data Centers

Enterprises require the highest levels of connectivity resiliency to provide access to business-critical applications. Meet the needs of even the most demanding and dynamic data center environments with low-latency, scalable, and highly available link aggregation.



ARISTA



Key Benefits

Improved User Experience

Respond efficiently to customer queries and ensure greater reliability, performance, availability, and security for mission-critical applications.

Optimized Performance

Enable link resiliency and serve local traffic directly from the private data center with minimal latency.

Enhanced Scalability

Increase throughput with link aggregation and scalable overflow using public clouds.

Centralized Management

View and automate services for L2-L7 in a single console.

Avoid Access Disruption to Critical Business Applications

Your business applications must remain responsive under complex, variable conditions. Traffic spikes, hardware failures, and network congestion can significantly degrade application performance and user experience with traditional architectures. When local data centers experience congestion, conventional solutions typically lack the intelligence to automatically redirect traffic, creating operational inefficiencies and business disruption.

As the majority of organizations deploy applications across multiple environments—including private data centers and public clouds—you need solutions that intelligently balance traffic based on real-time health monitoring. By combining network routing intelligence with application-aware traffic steering, you can maintain optimal performance under all conditions, ensuring seamless failover between environments, prioritizing low-latency routing, and providing unified management across your entire application delivery infrastructure.

Improve Customer Experience and Scalability While Reducing Complexity

F5 and Arista have partnered to address these modern application delivery challenges. By combining F5's expertise in application security and delivery with Arista's industry-leading networking capabilities, you can increase application performance, reliability, and visibility.

The solution starts with F5® Distributed Cloud Customer Edge (CE), deployable software that extends the private F5 Global Network into your data center. It also enables F5® Distributed Cloud Services for application delivery and security, including globally distributed load balancing, WAF, API discovery and protection, bot defense, and DDoS mitigation, all managed through a single console.

Distributed Cloud CE clusters deployed in your local data centers integrate with Arista switches to enable industry-leading performance. Arista switches provide high-speed, resilient L3 connectivity between physical devices and Distributed Cloud CE clusters, offering Border Gateway Protocol (BGP) peering and equal-cost multi-path (ECMP) routing to ensure efficient traffic flow and failover among Distributed Cloud CE nodes.

To support application performance, the Distributed Cloud CE nodes provide L3-L7 load balancing, dynamic traffic steering, and secure connectivity across sites, including the ability for public cloud overflow when local resources are saturated. This integration ensures local traffic stays within the private data center for the lowest latency, while automatically bursting to public cloud during congestion for resiliency and scale.

Key Features

Local Data Plane Resiliency

Ensure local resiliency with three-node Distributed Cloud CE clusters that serve as the primary point of entry into the private data center.

F5/Arista BGP Peering

Enable dynamic route exchange between Arista switches and Distributed Cloud CE for efficient traffic handling.

Application Health Monitoring

Continuously monitor application health using HTTP/TCP probes and real-time traffic analysis.

Routing Policy Management

Define when and how to reroute traffic based on performance metrics and site priority.

Unified Load Balancing

Manage traffic across both local and public cloud sites for seamless failover with a single load balancer IP and URL.

ECMP Routing

Evenly distribute traffic across multiple Distributed Cloud CE deployments to maximize throughput and resilience.

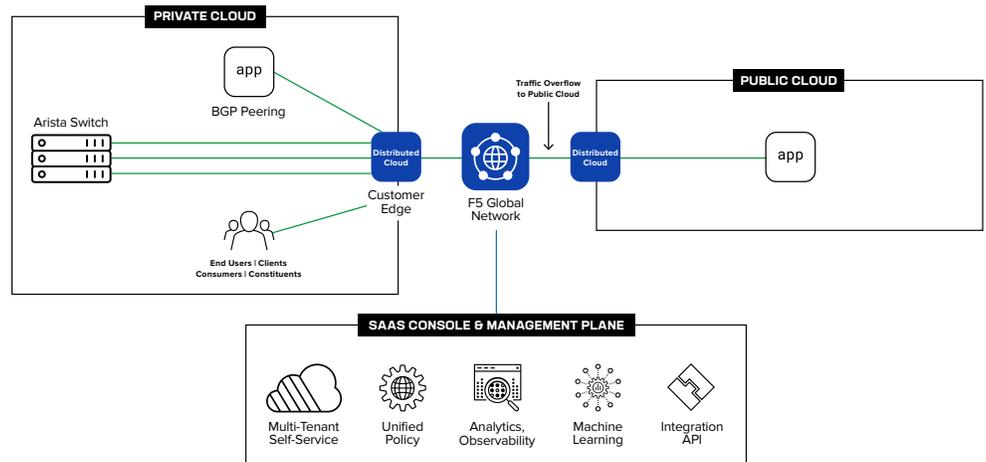


Figure 1: F5 and Arista reduce latency while increasing scale and resilience.

Simplify Hybrid Multicloud Complexity

Distributed Cloud Services provide a unified approach to managing applications across your entire hybrid infrastructure. Distributed Cloud CE can be deployed to on-premises data centers, private clouds, and edge locations, bringing F5 app delivery and security capabilities directly to your infrastructure. Bring the same capabilities to public cloud environments with SaaS-delivered Distributed Cloud services, creating a consistent operational experience regardless of where applications reside.

With this unified architecture, security and networking policies can be managed centrally through a single console, allowing you to easily create, modify, and deploy consistent policies to any environment in your network. This approach eliminates policy fragmentation and reduces management overhead while providing comprehensive observability into the health and security status of every application across your multicloud infrastructure. As your environment evolves, you can rapidly extend your application delivery fabric to new locations without compromising performance, security, or operational efficiency.

Enabling and Enriching Application Deployment and Private Connectivity

By integrating Distributed Cloud CE deployments with Arista switches, you can provide both low latency and high resiliency. Enable multiple use cases through intelligent traffic steering based on real-time performance metrics and the ability to overflow to a public cloud provider during peak demand. This architecture ensures that your applications remain available and responsive under all conditions.

Whether you're a network engineer, IT architect, or simply interested in modern infrastructure solutions, F5 and Arista can help you operate scalable, high-performance applications.

Learn more at f5.com.

