



Simplifying WAN Architecture

CHALLENGES

Migrating without a network forklift upgrade

Phased approach with existing environment

Architecture and management complexity

Automation of deployment, management and maintenance

Meeting Application SLAs over any transport

App classification, dynamic steering, overcome link congestion and high latency

Difficulty With Service Chaining

Stitching different network services easily

Maintaining security and compliance

Securing distributed and cloud-based apps

SOLUTION

Migrate at Your Own Pace with a Simple and Elegant Solution

Flexible deployment and licensing model

Comprehensive Solution with Ease-of-Use

Centralized management and control, business intent overlay policy, consolidated network functions

Integrated Technologies to Enhance Security and Application Performance

Built-in performance and WAN optimization capabilities, orchestration of app-riven security policies

What's Driving WAN Architecture Simplification?

Digital transformation is radically impacting business and IT organizations. The speed of business digitization, changes in the application consumption model, including increasing use of the cloud and the continually growing bandwidth and application performance requirements, challenge current WAN architectures. This demand also presents enterprises with an opportunity to simplify their WAN architectures while improving the ability to drive digital transformation without compromise.

This means a rigid and complex architecture combined with inflexible management leading to long deployment times and higher bandwidth costs won't be acceptable in the digitized world. In addition, the need for application SLAs and security over multiple connectivity transports can't be ignored.

An automated, application-aware, policy-driven approach that can be deployed in both existing and new environments is a must to simplify the WAN architecture. This can be in the form of a SD-WAN overlay to an existing environment or a small footprint SD-WAN appliance with integrated network functions for new environments such as routing, SD-WAN, WAN optimization, stateful firewall, and service chaining.

CHALLENGES

Organizations need flexibility, simplicity and speed in deploying new WAN services while maintaining application performance running over different link types, but they are faced with the following challenges:

- **Migrating without a network forklift upgrade** - As most enterprises will be reluctant to replace their existing edge routers overnight, seamless integration and compatibility with existing routers

and WAN services becomes a key factor in choosing the right solution.

- **Complexity of architecting and managing** – Whether the environment is greenfield (new installation or expansion) or brownfield (existing installation), time is of the essence to automate the deployment, management, and maintenance of 100s or even 1000s of branch locations.
- **Meeting application SLAs over any transport** – It is key to classify and prioritize real-time, critical and SaaS applications based on business intent to ensure SLAs and user productivity. As customers start using broadband to augment or replace MPLS, application performance can suffer, especially for real-time apps like VoIP and video due to the typically higher packet loss and latency inherent to broadband services.
- **Difficulty with service chaining** – Application performance and security is a major concern for all organizations. The challenge is to easily stitch together the different network services and leverage existing and new appliances like WAN optimization, next-generation firewalls and DDI (DNS, DHCP, IPAM) services to secure apps whether hosted at the headquarters data center or in the cloud.
- **Maintaining security and compliance** – As applications become more distributed and hosted in the cloud, data centers and branch offices,

the challenge arises in securing and ensuring data integrity and compliance across all these types of apps.

REQUIREMENTS TO ADDRESS CHALLENGES

As organizations assess their challenges they need to evaluate and consider the following requirements:

- Flexible deployment models that can overlay any existing environment.
- A complete solution with integrated SD-WAN, routing, security, service chaining and application acceleration functions that reduces footprint in the branch office (greenfield).
- Intelligent, centralized orchestration that automatically configures business intent policies across the WAN.
- Automatic and granular Internet breakout based on application-specific policies.
- Improve quality of any transport, including consumer broadband, and address application acceleration requirements to ensure application SLAs.
- Service chaining enabled with a click of a button.

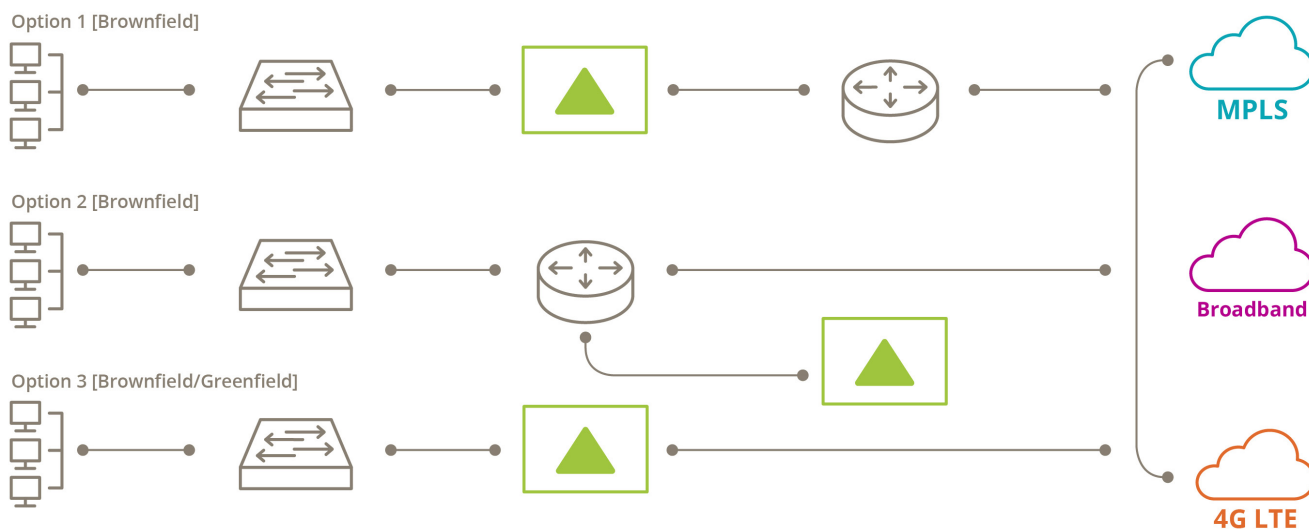


Figure 1

SILVER PEAK UNITY EDGECONNECT SD-WAN SOLUTION

Migrate at Your Own Pace with a Simple and Elegant Solution

- EdgeConnect allows you to migrate at your own pace by deploying alongside existing edge routers as an overlay, either in-band or out-of-band, minimizing network disruption and eliminating long deployment time (See Figure 1 on page 2: Options 1 and 2).
- EdgeConnect supports BGP routing, making it easier to replace existing routers to simplify the WAN architecture and to communicate with both SD-WAN-enabled branches and those that have not migrated yet (See Figure 1 on page 2: Option 3). Physical, virtual, cloud-based or NFV deployment models that fit any environment.
- A structured software subscription licensing model with easy upgrade options allows organizations to increase bandwidth and add WAN optimization for increased performance where and when needed (See Figure 2 above).

SaaS

SaaS optimization

Boost

WAN acceleration (by the Mbps)

Plus Upgrade

>200Mbps (unlimited) throughput

Base

ZTP, DCP and application overlays

Figure 2

Comprehensive Solution with Ease-of-Use

- A single integrated solution that includes routing, SD-WAN, WAN optimization and service chaining capabilities accelerates WAN service deployments while simplifying the WAN edge architecture (See Figure 3 below).
- Easily integrate into existing environment as an overlay that simplifies deployment, management and automates tasks.
- With a few simple commands and clicks in the Unity Orchestrator, business intent policies are defined and automatically distributed to all sites via a zero-touch provisioning model, enabling branch offices to be up and running in hours instead of weeks or months (See Figure 4 on page 4).

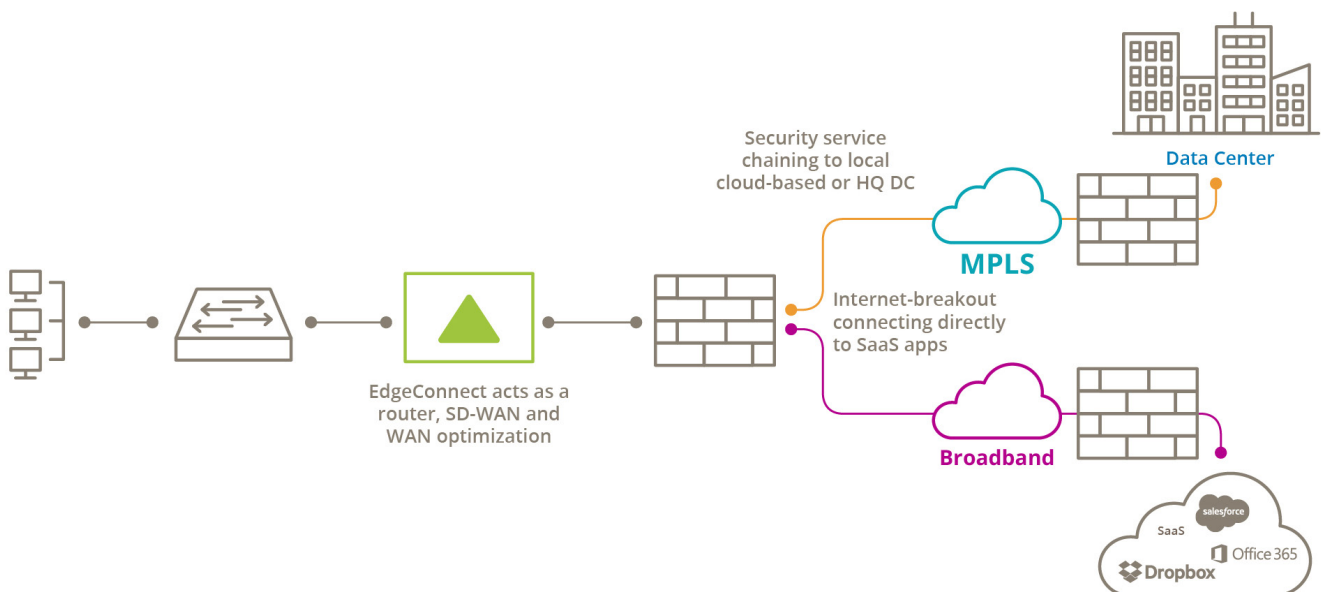


Figure 3

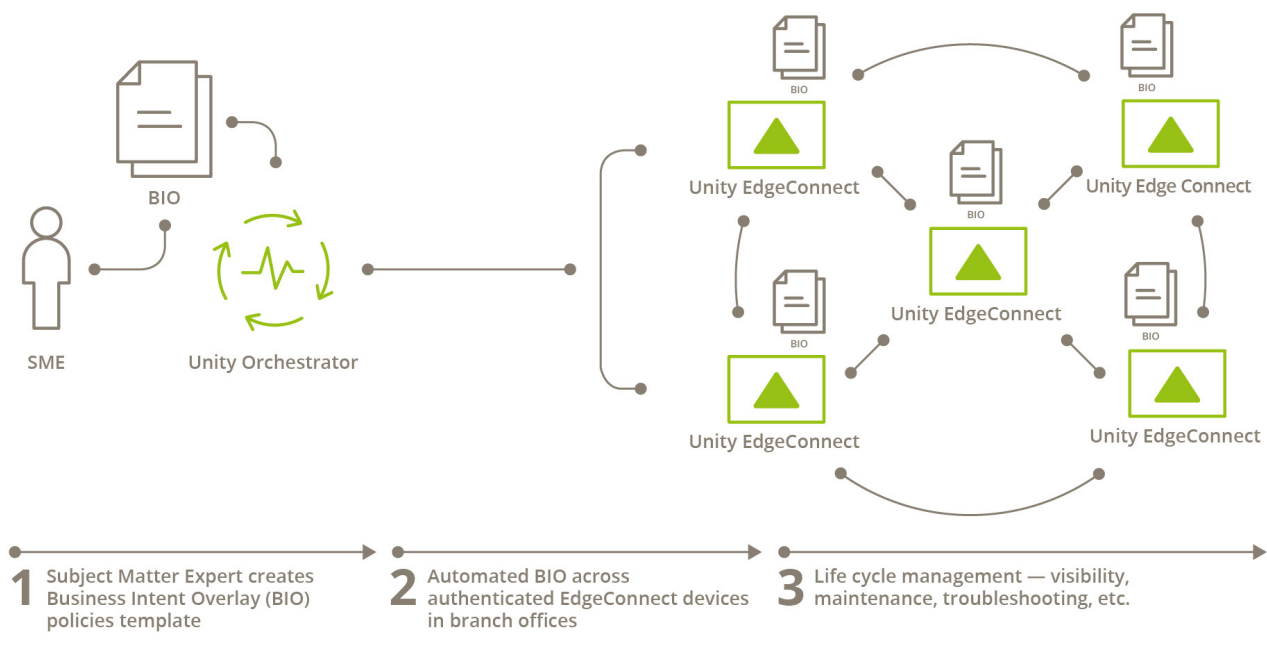


Figure 4

INTEGRATED TECHNOLOGIES TO ENHANCE SECURITY AND APPLICATION PERFORMANCE

➤ EdgeConnect forms the foundation for a complete security solution through AES-256 encryption, micro-segmentation, and service chaining across a wide range of next generation firewalls, cloud-based web gateways and DDI services (See Figure 5 below).

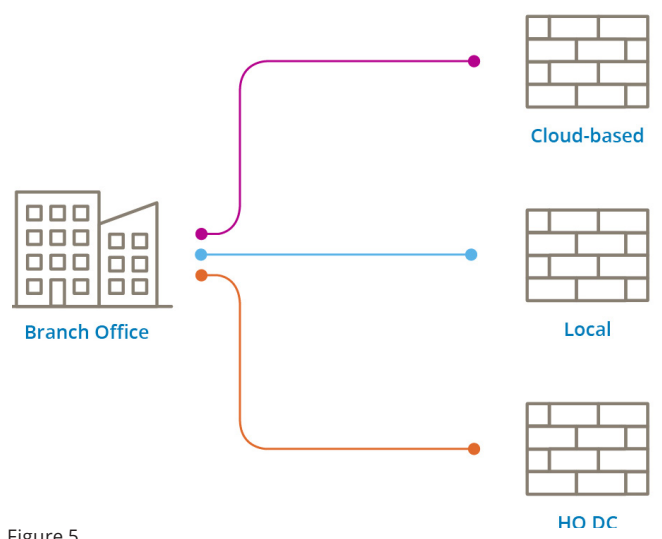


Figure 5

- Built-in path conditioning, which includes forward error correction and packet order correction and is included in the base EdgeConnect software license corrects for lost and out-of-order packets to achieve private line-like performance over broadband.
- With tunnel bonding, IT can create a virtual overlay tunnel that makes multiple connections operate as a single, higher bandwidth logical aggregated link where packets are dynamically distributed between paths as the traffic on the network changes improving application performance and user experience.
- Advanced WAN optimization capabilities in the optional Unity Boost performance pack accelerates performance of latency-sensitive applications and minimizes transmission of repetitive data across the WAN. Boost can be applied where and when you need it.
- Intelligent internet-breakout with a built-in stateful firewall to improve SaaS application performance while keeping branch offices safe.
- Optimized SaaS application steering directs traffic over the optimal path to reach cloud-hosted applications as efficiently as possible.

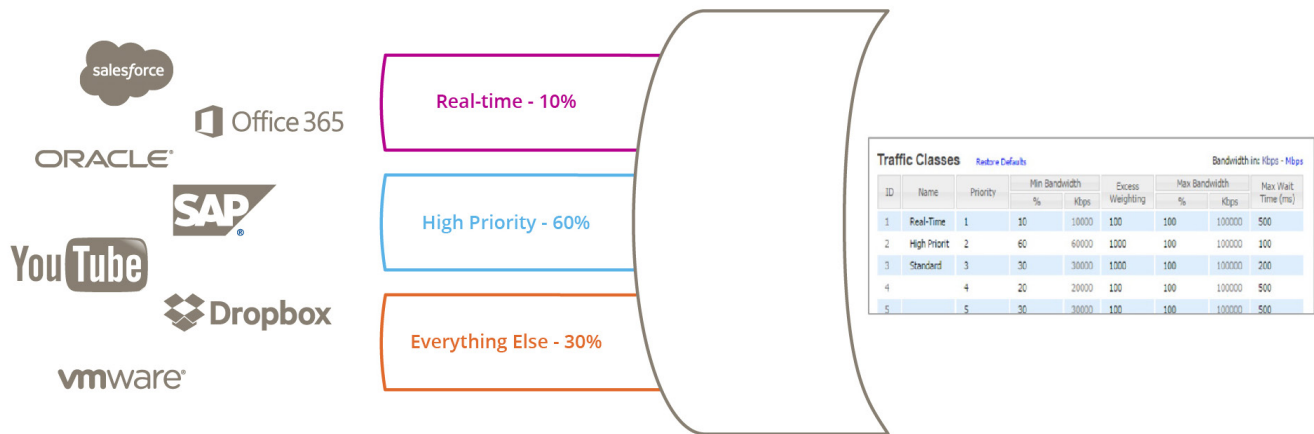


Figure 6


- Ingress and egress traffic shaping and QoS ensure that lower priority traffic doesn't impact the performance of critical business applications (See Figure 6 above).

BENEFITS AND BUSINESS OUTCOMES

Silver Peak EdgeConnect simplifies branch office deployments helping organizations to:


- Accelerate deployment by 100x across hundreds or thousands of sites through a centralized single pane of glass and zero touch provisioning (ZTP) bringing new branch offices online quickly.
- Improve application performance by 40x enhancing end-user satisfaction, productivity and reducing user complaints.

- Simplify and streamline the WAN architecture reducing CAPEX and lowering OPEX.
- Easily extend network functions by service chaining to security appliances and cloud services protecting the business from threats and vulnerabilities.
- Seamlessly integrate with edge routers, firewall appliances, and other network devices to protect investments in current infrastructure.
- Simplify operations with a single dashboard for monitoring applications in real-time accelerating troubleshooting, reducing maintenance and upgrade time.




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