

USE CASE

SD-WAN Propels U.S. Civilian Agency's Network Modernization Initiatives

Riverbed Technology and RavenTek Facilitate
First Agency SD-WAN Deployment



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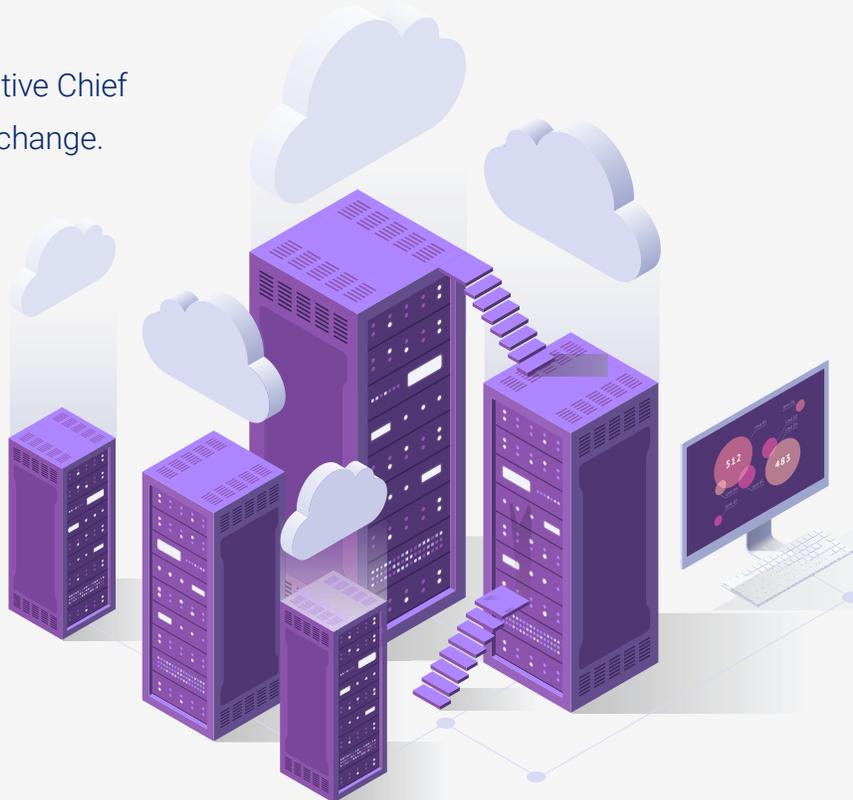


Background

A federal civilian agency that serves tens of millions of customers across an extensive network of approximately 100 locations wanted to streamline its business processes and improve the customer experience for clients, employees, and public and private partners. The agency also needed to improve its cloud migration and oversight controls in risk management, security, data mobility and IT investments to meet federal guidance and standards, and most importantly, deliver on its mission.

Although commercial enterprises are reaping the benefits of software-defined wide area network (SD-WAN) technology – including high availability, quality of service and cost savings compared to expensive and complex alternatives like multiprotocol label switching and virtual private networks (MPLS VPN), federal agencies have been slow to adopt SD-WAN due to the government’s stringent security requirements.

Under the direction of this agency’s innovative Chief Technology Officer (CTO), that is about to change. This public-facing civilian agency is taking the initiative with Riverbed Technology and its delivery partner, RavenTek, to deploy an enterprise-wide SD-WAN solution that integrates best-in-class routing, application acceleration, network visibility and built-in security services. Best of all, the agency is scaling a modern solution that will enhance the end-user experience for the many customers it serves.



The Challenge

Delivering Improved Agility, Performance and Security

To make a discernible difference in how customers interact with and receive services from the agency, improve their cybersecurity posture, and meet federal requirements, the agency's CIO began an aggressive move to the cloud several years ago. Like many other organizations who are moving more and more applications to the cloud and Software-as-a-Service (SaaS) platforms, the agency focused on network performance as part of its overall IT modernization initiative.

With an initial focus on effectively connecting branch offices and sites using Microsoft Azure, integration with Azure and the Zscaler cloud security platform played a key role in determining the agency's network modernization requirements. As the agency moved further along in its cloud journey, the IT team required more agility, performance and security, leading them to consider SD-WAN. Struggling to manage an increasing number of dynamic workloads and cloud-based applications, the agency found SD-WAN to be a vital solution to boost the performance of their networks and the applications that run across them.



Challenges

- Improve cloud migration
- Deliver network agility and performance
- Reduce cost of MPLS
- Enhance security



Riverbed SD-WAN Solution

- Complies with federal security requirements
- Integrates with Microsoft Azure and Zscaler
- Consolidates IT infrastructure components
- Addresses routing, multicasting and support of IPv6
- Diversifies network and delivers business-class internet connectivity



Benefits

- Reduces costs
- Expands network capacity
- Deploys in minutes
- Provides policy-based automation
- Optimizes user experience
- Generates insight into real-time network activity
- Secures network with government-specific safeguards

The Solution

Riverbed's SteelConnect EX

As a trusted advisor with demonstrated success from previous collaboration with the agency, RavenTek worked closely with the agency's IT Manager and Infrastructure Team to identify the right SD-WAN solution. In keeping with a challenge that every IT team faces, the agency needed to achieve IT modernization with minimal disruption to its business operations. Given the agency's existing technology stack, RavenTek understood that Riverbed's SD-WAN was a natural consideration since Riverbed's SteelHead WAN optimization solution was already an integral component of the agency's network infrastructure. Along with its seamless integration capabilities with Azure and Zscaler, Riverbed's SD-WAN will also allow the agency to consolidate IT infrastructure components and diversify its telecommunications carrier network infrastructure.

As a result, the agency procured Riverbed's SteelConnect EX, a powerful enterprise SD-WAN solution to address the growing list of agency requirements, such as enterprise routing, multicasting and support for Internet Protocol version 6 (IPv6). Typically, in an MPLS environment, organizations have a provider edge router, owned by the telecom carrier, and a

“With Riverbed's SD-WAN capability, agencies can streamline the network infrastructure and management functions while reducing the overall cost and complexity of network operations.”

Mort Batchelder
Solutions Engineer, Riverbed

customer edge router, owned by the agency. Both are costly pieces of hardware that require expensive support services to rip and replace. With Riverbed's SD-WAN router, agency network operators will no longer have to add new expensive routers as they pull equipment from the network – directly leading to cost savings and a positive return on investment.

The agency can also minimize its dependency on expensive MPLS while diversifying its network and delivering business-class internet connectivity. With Riverbed's SD-WAN solution, the agency will be positioned to “save lots of money by chipping away at the infrastructure and the related costs,” said Mort Batchelder, Solutions Engineer with Riverbed. This cost savings was a key factor in the agency's SD-WAN requirements.

Setting Up for Success

Tighter Security

Although the agency's network operations team is leading the SD-WAN implementation effort with support from Riverbed and RavenTek, their cloud and cybersecurity teams play an instrumental role in addressing security and how network transformation impacts their domains. The ability to consolidate network firewalls with SD-WAN differentiates Riverbed from other SD-WAN solutions on the market.

For example, Trusted Internet Connection (TIC) policy governs how federal agencies connect to the internet through current cloud, mobile and emerging technologies. As the agency moved to the cloud, departmental decision makers re-evaluated the alignment of their cybersecurity posture with TIC 3.0.

TIC requires that a localized firewall and intrusion prevention system (IPS) is implemented when an internet connection is dropped into an agency site. Riverbed's SteelConnect EX has a native next-generation firewall functionality that provides malware protection and unified threat management.



Security Certifications

Government agencies have been slow to deploy SD-WAN due to stringent security certification requirements, especially in the Department of Defense (DoD) where both software and hardware need to be certified, Batchelder said. To operate in the government, SD-WAN solutions need to comply with certifications such as Federal Information Processing Standard (FIPS) 140-2, Common Criteria, TIC 3.0 and a host of other security requirements, as well as interoperate with an agency's existing security tools.

SD-WAN vendors that provide solutions to the commercial sector have had difficulty re-architecting their solutions for the public sector, adding to the limited federal adoption. Riverbed's SD-WAN complies with government cybersecurity requirements and centralizes the management of network firewalls and internet traffic.

Additional Benefits

Once fully deployed and operational, Riverbed's SD-WAN can deliver additional benefits that will help the agency manage and control network complexity, including:

Central Management

SD-WAN helps IT get control of complex networks and respond faster to changing operational needs. IT teams can design, deploy and manage new equipment from a central location.

Analytics

Through Riverbed's built in analytics cluster, network operations teams can leverage enhanced troubleshooting capabilities with a comprehensive view of traffic on all links, dropped packets and utilization of certain applications. The analytics cluster will give network operations integrated visibility across the agency's 100 sites.

Change Management

Riverbed's SD-WAN platform allows for template configurations to be used across multiple sites - making changes easier, such as QoS or traffic steering adjustments. Network administrators can change templates at a global level, and from a maintenance window, update all gateways to new template settings. By receiving the analytic cluster metric information in real time, the network team will have greater visibility across their infrastructure.

Service Chains

A unique feature of SteelConnect EX provides a modular way to add additional services to the SDWAN devices as needs require.

Riverbed's SD-WAN platform offers a high-level of interoperability, easily pairing up with routers or router protocols at the network layer which provides more flexibility. From a cloud perspective, the centralized management layer, analytics cluster, and controllers that disseminate information to network gateways can be deployed on Azure, allowing the agency to move away from localized data centers.

Summary

A Benchmark for Wider SD-WAN Adoption

The agency's forward-looking vision to implement SD-WAN to drive its cloud deployment, consolidate infrastructure and modernize their network serves as an innovative use case for other agencies. As federal IT managers evaluate SD-WAN solutions, they must determine if the functions can be tightly integrated and how well these solutions interoperate with current network stacks. Working in partnership with RavenTek, the agency identified Riverbed SteelConnect EX as the SD-WAN solution to meet their unique functionality, cybersecurity, consolidation and cost savings requirements.

The agency is now well-positioned to navigate the complicated undertaking of transitioning from legacy systems to a new network paradigm, while implementing a solution that provides reliability, scalability, connectivity and control over a hybrid environment.

Working in conjunction with RavenTek – a small consultancy that offers government agencies agility, responsiveness and innovation – and choosing a vendor like Riverbed that provides the right combination of features to meet an agency's unique requirements, ensures that an SD-WAN implementation delivers on its promise.

“Understand your requirements and ensure you have a partner that can provide all of this with seamless integration,” Batchelder advised. “That is the key to success.”

About RavenTek and Riverbed

Riverbed understands that every agency is on a digital journey and that every journey is unique. With a proud heritage of technology leadership and proven expertise maximizing performance and visibility for the world's largest organizations, we can help agencies reach the full potential of their network and application investments today and in the future.

Learn more at www.riverbed.com.

RavenTek recognizes that in today's challenging fiscal environment, federal agencies need the right partner who can help them advance mission goals through efficient and innovative IT, engineering, administrative, and program management solutions.

Learn more at www.raventek.com.

