



Enterprise Visibility
and Performance

Riverbed's Latest SSL Client Streamlines Civilian Agency's Migration to the Cloud

RavenTek and Riverbed Technology Accelerate
Application Performance While Simplifying
Workload Migration



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Background

Cybersecurity breaches have increased by 67% since 2014 while the number of applications that use the HTTPS protocol has increased by 60%. In this instance, the evolution of application security from HTTP to HTTPS presents a unique challenge for many agencies that make up the federal government. With the evolution of cybersecurity threats, at least 95% of organizations now utilize SSL (Secure Socket Layer) and TLS (Transport Layer Security) protocols which adds a layer of complexity to accelerating application performance.

A large civilian agency within the US federal government aims to migrate its application workloads from a local private data center to Microsoft Azure. With the agency's workforce being geographically dispersed across the country, network latency was a concern and so the agency sought to mitigate the disparity with a solution that could help them optimize applications and networks. To achieve this, the agency leaned on RavenTek for its proven experience tackling difficult and complex application and network performance challenges.

While SSL/TLS protocols bolster cybersecurity by providing the necessary encryption and authentication measures, they make it more challenging for agencies to accelerate application performance due to a host of private keys, licenses, and certificates (PKI). A federal IT team would have to access these PKIs just to optimize one of the hundreds of apps in an agency's ecosystem.

The agency needed a solution that would streamline the lengthy process of accessing PKIs and credentials. Along with this, RavenTek understood the need to ensure that the solution would not increase the attack surface on the network. With these layers of complexity, RavenTek recommended Riverbed's latest SSL SteelHead Client solution as the agency had the advantage of having already installed Riverbed's Steelhead product for network optimization. The SSL Client operates from a secure device (the Client) - bypassing the need to obtain a private key or certificate to "join the SSL/TLS conversation." This latest solution from Riverbed supports accelerated application performance without requiring the IT team to track down hundreds if not thousands of PKI credentials to optimize SSL protocols.



The Challenge

While enterprise applications become more secure with enhanced encryption suites, optimizing and accelerating application performance on network traffic has become more complicated.

SSL and TLS provide the required encryption and authentication to make secure transactions possible. These protocols are critical for cybersecurity, however, they can also complicate an agency's digital transformation efforts. Whether it's setting up new data centers or migrating application workloads to the cloud, accelerating application performance requires access to hundreds, if not thousands of private

servers, keys, licenses, and certificates for each application. This is a time intensive process that is too cumbersome to take on for most agencies that have 500 or more applications in their IT ecosystem.

The civilian agency in question has at least 4500 clients, making this process seem even more implausible.

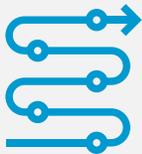


On average, for each federal agency's application is a two-month project cycle to optimize and accelerate just that one application."

Marlin McFate

Public Sector Chief Technology Officer,
Riverbed Technology

The primary challenge of optimizing and accelerating application performance on networks with SSL/TLS protocols is fourfold:



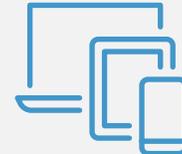
Exhaustive risk assessment process to optimize and accelerate each application on network traffic with SSL/TLS protocols



Lengthy IT project cycles to accelerate just one application



Difficulty accessing multiple IT teams, certificates, and keys amid 4500 clients



Lack of visibility into PKI certificate management (at least 67% of organizations don't even know how many digital keys they have)



The Solution

Simplify the Workflow to Accelerate SSL Traffic

Riverbed's SSL Client works in tandem with Riverbed Steelhead to accelerate app performance on SSL servers and streamline the agency's workload migration from their local private data center to Microsoft Azure

Riverbed's SSL Client overcomes the need for:

- ▶ Tracking down private keys and certificates to access the servers
- ▶ Creating new certificates for the servers, loading them on devices and configuring optimization rules
- ▶ Attempting to join the SSL/TLS conversation by running on an agency's secure devices (the Client) which are already part of the conversation

Riverbed's SSL Client eliminates the concern for increased network vulnerability because it only requires a handle to the session key (which is unique and randomly generated for each communication session). This ultimately reduces the attack surface, decreasing potential exposure to servers as well as the likelihood of a breach.

By using Riverbed's SSL Agent combined with Riverbed Steelhead, the agency can reduce their cybersecurity risk while enjoying up to 99% data reduction, accelerated application performance for end users and up to 33 times faster application performance.

Riverbed Steelhead products and solutions offer four benefits in the hybrid world of cloud workloads, SaaS applications, Internet Broadband and

1 Accelerated application performance and reduced bandwidth consumption -

- ▶ Reduces bandwidth utilization by up to 95% deferring costly network bandwidth upgrades.
- ▶ Increases performance by up to 100 times for on-premises applications.
- ▶ Leverages application awareness to distinguish between mission and non-critical network traffic to select optimal acceleration path.

2 Integrated visibility -

- ▶ Provides visibility into network response time and analysis.
- ▶ Validates QoS classifications and acceleration benefits.
- ▶ Improves network troubleshooting capabilities through enhanced packet capture for analysis.

3 Enhanced control and management -

- ▶ Discovers and reports on applications in use across the agency.
- ▶ Leverages configuration with REST API for hybrid features- path selection, QoS, and secure transport- and custom API scripts for monitoring.



The Results

Application Optimization and Acceleration Without Sacrificing Security

Riverbed's SSL Client provides a simplified workflow to optimize SSL traffic while eliminating the need for private keys as well as the complex, time-consuming workflow of placing a private key on another device besides the server.



Ensure Network Security

By eliminating the need to load the private key anywhere except the server, the SSL Client provides a unique and superior level of security to other solutions available today.



Automatically Accelerate App Performance

The agency can automatically optimize as many applications as desired at one time rather than having to go through the painstaking process to optimize and accelerate each one, saving significant time and costs.



Bypass the Need to Join the SSL/TLS Conversation

During a data center migration to a cloud service provider, apps are either migrated or rebuilt. This typically involves creating new certificates for the servers, loading them on devices and configuring optimization rules. With the SSL Client, the agency and Riverbed no longer need to worry about certificates or asking to "join the SSL/TLS" conversation because the SSL Client is running on the client, which is already part of the conversation.



Simplify Application Optimization and Acceleration

On a complex network that provides its users with access to services via various transports and optimization methods, the SSL Client drastically simplifies optimizing enterprise applications by eliminating the need to deal with certificates. Additionally, the Client works on private networks and Internet-based transport networks.

With Riverbed's SSL Client, the agency can look forward to streamlining encryption access requirements and speed up application performance for a faster, easier migration to Microsoft Azure and two-to-three times more network capacity.



Summary

An Easier Way to Boost App Performance Without Sacrificing Security

As SSL/TSL and network security grow increasingly sophisticated, the methods in which agencies optimize their networks and accelerate application performance doesn't have to grow increasingly complicated.

Application performance directly impacts the federal workforce in terms of productivity, collaboration, and mission-critical success. Failing to empower the federal employee with fast performing networks and apps means failing to deliver citizens and warfighters the services they need.

By partnering with RavenTek and Riverbed, the agency now has an easier path to optimizing their networks and accelerating application performance through the SteelHead SSL Client. At the same time, the agency is able to reduce its attack surface to the network by limiting exposure to private keys or servers, ensuring a more secure, streamlined and agile cloud migration.

About 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.

About RavenTek

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.

