A10 Networks SSL Insight for Bivio Networks Cybersecurity Application Platforms

Uncover Cyber Attacks Hidden in SSL Traffic

Challenge:

To stop cyber attacks concealed in SSL traffic, Bivio Cyber Security Application Platforms require full visibility into encrypted traffic.

Solution:

A10's SSL Insight technology empowers Bivio Networks' customers to eliminate SSL blind spots in their defenses by intercepting and decrypting SSL traffic, then sending it to the Bivio Cyber Security Application Platform to detect and block threats. Bivio then directs traffic to SSL Insight for re-encryption and forwarding it to the intended destination; return traffic is similarly inspected. SSL Insight enables data privacy and adherence to compliance mandates.

Benefits:

• Decrypt SSL traffic at high speeds to identify threats in encrypted traffic

• Prevent costly data breaches by consolidating key cybersecurity and threat intelligence applications

• Process advanced threat analysis and cyber event monitoring for in-depth situational awareness

• Maximize uptime and scale using best-in-class load balancing and clustering

A10 Networks and Bivio Networks collaborate to detect and stop attacks hidden in encrypted traffic, without compromising on performance. A10 Networks SSL Insight®️ decrypts SSL traffic and sends it to Bivio Cyber Security Application Platforms for detection and mitigation. Together, A10 and Bivio deliver complete visibility into network activity, including encrypted traffic, to: uncover attacks and infiltrations; defend computers, mobile devices and virtual environments from malware; and deliver a safe and secure experience to their users.

The Challenge

Encryption Creates a Blind Spot in Defenses

An increasing number of applications are encrypting data to prevent third parties from accessing sensitive information. Application owners are leveraging Secure Sockets Layer (SSL) and its successor, Transport Layer Security (TLS), to protect Web traffic. Today, many of the most popular websites encrypt every Web request and response.

To protect applications and data however, organizations must inspect all traffic, even when it is encrypted. Unfortunately, many security devices cannot inspect encrypted traffic. Those that can decrypt SSL on their own suffer a major performance degradation necessitating additional hardware to meet bandwidth requirements. Failure to decrypt can create dangerous gaps and blind spots in corporate defenses.

A10 SSL Insight Technology

Uncover Threats Concealed in Encrypted Traffic

A10 Networks has partnered with Bivio Networks to effectively mitigate attacks hidden in encrypted traffic — without compromising performance. Bivio Cyber Security Application Platforms deliver cyber-specific multi-application capabilities to enable the virtual consolidation of proven network security and analysis applications.

This consolidation is critical for cyber analysts and security operations teams to monitor, secure and control network traffic in large enterprise and carrier-class networks. Common cyber security elements include intrusion detection and prevention (IDS/IPS), anti-malware, network threat assessment, analysis and detection, network flow analysis and metadata extraction.

When deployed in conjunction with A10 Thunder®️ CFW or SSLi®️ appliances leveraging SSL Insight, Bivio Cyber Security Application Platforms deliver the visibility and control to mitigate sophisticated threats and advanced malware. A10's SSL Insight decrypts SSL and TLS traffic, enabling Bivio cyber security platform solutions to inspect all communications and inspect users, applications and devices to identify threats.

A10 SSL Insight is an industry-leading, high-performance solution that decrypts SSL traffic and sends it to the Bivio Cyber Security Application Platform for inspection. It then re-encrypts the traffic and forwards it to the intended destination. A10's advanced technology enables organizations to use 100 percent of the Bivio platform's capacity to protect network traffic without needing to perform computationally intensive SSL encryption and decryption processes.

SSL Insight functions as an SSL proxy in order to intercept SSL traffic. From both the client's and the server's point of view it is transparent; there still is an end-to-end encrypted session that is only decrypted within the client's network, in a contained environment.

Scale Security Capacity with Integrated Load Balancing

In addition to security device scaling delivered by integrated load-balancing, Thunder CFW and SSLi appliances also provide high availability functionality, enabling organizations to deploy multiple Bivio platforms. It allows organizations to easily increase security capacity, enabling more security blades and supporting increased traffic throughput.

Supporting a range of load-balancing algorithms, Thunder CFW and SSLi scale Bivio platform security deployments and allow organizations to keep up with growing bandwidth requirements.

Protect Perimeter and Data Center Scenarios

Bivio platforms, in conjunction with A10 Thunder CFW or SSLi appliances, can be deployed in a variety of ways to support various use cases and security needs. For maximum efficiency, both inbound traffic to corporate-owned servers and outbound traffic from internal users can be secured using one set of Bivio Networks and A10 Thunder appliances.

In a typical scenario, a single Thunder SSLi appliance, using Application Delivery Partitions (ADPs) (or a pair of the appliances), decrypts the SSL traffic and forwards it to the Bivio Cyber Security Application Platforms for multi-layer protection. Thunder SSLi then re-encrypts the traffic and sends it to the intended destination. As shown in Figure 1, for each SSL session, the following steps take place:

1. A10 Thunder SSLi decrypts the SSL traffic and sends it to one or more Bivio platforms.
2. Bivio Cyber Security Application Platforms inspect the traffic for malicious activity and, if the traffic does not violate a security policy, forwards it back to A10 Thunder SSLi.
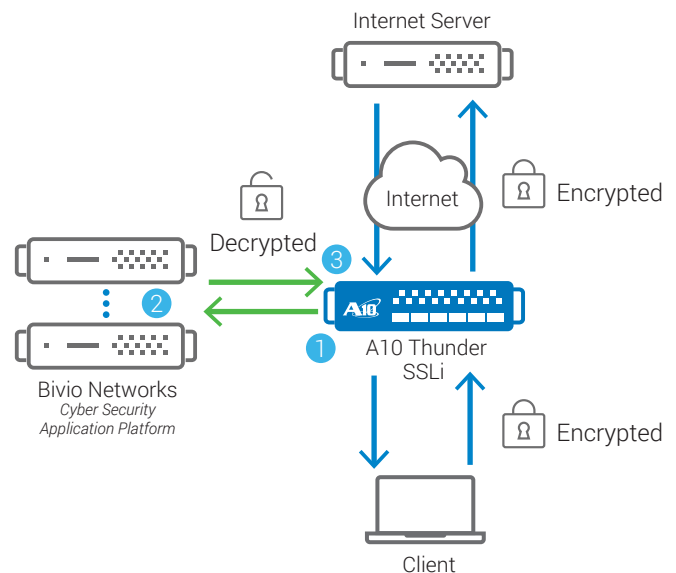3. A10 Thunder SSLi encrypts the traffic and sends it to the intended server or user.

Figure 1: A10 Thunder SSLi working together with Bivio Cyber Security Application Platforms.

High-Performance with Powerful SSL Security Processors

The initial SSL handshake is the most computationally demanding part of SSL encryption. Encrypting and decrypting the bulk data of a session is still CPU-intensive, but to a lesser degree. A10 SSL Insight is designed to manage many secure connections simultaneously.

Powered by the 64-bit A10 Networks Advanced Core Operating System (ACOS®), A10 Thunder CFW and SSLi appliances provide linear scalability and offer the maximum performance available from general purpose CPUs and dedicated security processors. Select hardware models include dedicated high-performance security processors that are exceptionally well suited for managing a high volume of concurrent SSL sessions.

Features and Benefits

A10 Thunder CFW and SSLi for Bivio Cyber Security Application Platforms:

- Decrypt SSL traffic at high speeds to identify threats in encrypted traffic
- Prevent costly data breaches by integrating real-time contextual awareness and full-stack visibility
- Defend computers, mobile devices and virtual environments from malware
- Maximize uptime and scale using best-in-class load balancing and clustering

A10 SSL Insight enables businesses to:

- Gain complete visibility into network activity, including encrypted traffic, to uncover attacks and infiltrations, and to deliver a safe and secure user experience
- Use Thunder CFW or SSLi appliances as a centralized point for load balancing and decryption, intercepting SSL traffic and sending it to multiple security devices, such as security analytics, data loss prevention (DLP), threat protection and intrusion detection appliances, for inspection
- Optionally bypass traffic to sensitive websites, such as communications to banking and healthcare sites, to prevent confidential data from being decrypted
- Future-proof investments as SSL usage expands and encryption key lengths increase

Summary

As organizations use SSL to encrypt an increasing percentage of data in transit, they create blind spots that can cripple network defenses. A10 Thunder CFW and SSLi appliances, combined with Bivio Cyber Security Application Platforms, offer organizations an ideal, easy-to-deploy and scalable solution for intercepting and securing encrypted traffic.

A10 Networks has successfully tested and validated interoperability between A10 Thunder CFW and SSLi appliances, and Bivio Cyber Security Application Platforms.

- Maximize performance, availability and scalability using A10's 64-bit Advanced Core Operating System and specialized security processors
- Integrate Thunder SSL Insight with advanced network security platforms, such as Bivio Networks, to identify and stop cyber attacks and malware
- Leverage integrated real-time awareness and intelligent security automation to protect their network from advanced threats

About Bivio Networks

Founded in 2000, Bivio Networks is dedicated to providing leading networking products that enable government agencies and service providers to control, monitor and secure critical network infrastructure. A leader in cyber intelligence, cyber security and network control solutions, Bivio has deployed its products in a wide range of environments. Bivio's global customer base includes leading defense department and intelligence agencies, service providers and enterprises. Bivio is privately-held and is headquartered in the San Francisco Bay Area. For more information, visit: www.bivio.net.

About A10 Networks

A10 Networks is a leader in application networking, providing a range of high-performance application networking solutions that help organizations ensure that their data center applications and networks remain highly available, accelerated and secure. Founded in 2004, A10 Networks is based in San Jose, California, and serves customers globally with offices worldwide. For more information, visit: **www.a10networks.com**

To discover how A10 Networks products will enhance, accelerate and secure your business, contact us at **a10networks.com/contact** or call to speak with an A10 sales representative.