CRO CYBER RATINGS.ORG

DATA SHEET

SSE Spot Check

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v1.0

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Overview

Security Service Edge (SSE)

Security Service Edge (SSE) solutions leverage the cloud's scalability, flexibility, and operational benefits to deliver security – Access Control, Authentication and Identity, Data Loss Prevention (DLP), DNS Protection, Encryption (TLS/SSL), Exploit Detection and Prevention, Malware and Phishing Protection (including via Browser Isolation), Cloud Access / Application Control (CASB), and the ability to implement Zero Trust Network Access (ZTNA).

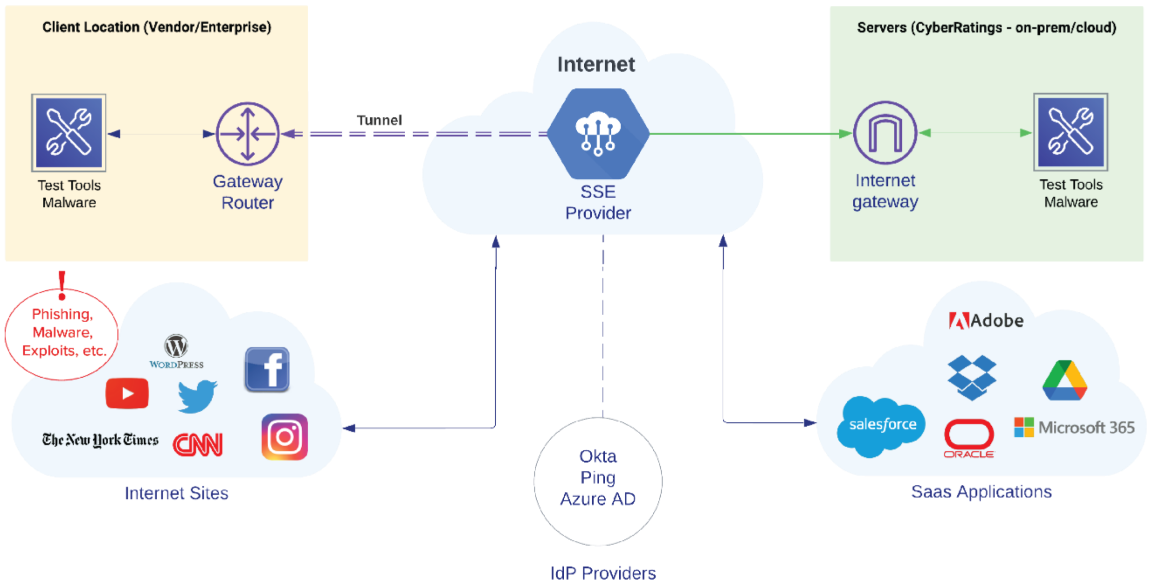
"Spot Check" is designed to answer the question, "***How do you know?***" by assessing the ability of a Security Service Edge (SSE) to block exploits and malware downloads, while remaining resistant to evasions.

What Will Be Checked?

The scope of the spot check includes:

- Basic TLS/SSL Functionality
- Protection vs. Exploits
- Protection vs Malware Download
- Resistance to Evasions
- False Positive Rate

Secure Service Edge (SSE) - Malware Downloads
SSE Test Topology



How Does It Work?

Spot Check is a virtual user that inherits the SSE policy being used by an organization. If the organization has multiple policies based on roles (e.g., Sales, Marketing, Engineering, Accounting, Executives) we recommend doing a spot check for each user type.

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Spot Check Parameters

Cipher Suite Support

To provide visibility into potential threats that are encrypted using TLS/SSL, the SSE is expected to support a wide range of commonly used cipher suites. Cipher suites are selected based on the published current frequency of use[1] and security status[2].

Table 1 – Selected Cipher Suites[3]

Version	(Value)	Cipher Suites	Prevalence
TLS 1.3	(0x13, 0x02)	TLS_AES_256_GCM_SHA3	66.51%
TLS 1.2	(0xC0, 0x30)	TLS_ECDHE_RSA_WITH_A	11.85%
TLS 1.2	(0xC0, 0x2F)	TLS_ECDHE_RSA_WITH_A	9.26%
TLS 1.3	(0x13, 0x01)	TLS_AES_128_GCM_SHA2	8.07%
TLS 1.2	(0xCC, 0xA8)	TLS_ECDHE_RSA_WITH_C	1.72%
TLS 1.2	(0xC0, 0x28)	TLS_ECDHE_RSA_WITH_A	0.68%
TLS 1.3	(0x13, 0x03)	TLS_CHACHA20_POLY130	0.55%
TLS 1.2	(0xC0, 0x2C)	TLS_ECDHE_ECDSA_WITH	0.42%
TLS 1.2	(0xCC, 0xA9)	TLS_ECDHE_ECDSA_WITH	0.27%
TLS 1.2	(0xC0, 0x2B)	TLS_ECDHE_ECDSA_WITH	0.20%

False Positives

False positives are legitimate, non-malicious traffic that the SSE perceives as malicious and blocks. The ability to correctly identify and allow legitimate traffic while maintaining protection against attacks is a key to effective protection. False positive tests examine the ability of the SSE to block attacks while permitting legitimate traffic.

Ongoing check – legitimate traffic, documents, and files

Since SSE is a cloud offering that, in some cases, utilizes machine learning to modify/tune settings in real-time, testing for false positives requires legitimate traffic and documents to be included when testing the SSE offering's ability to block attacks. CyberRatings will introduce legitimate traffic, documents, and files into the malware download and exploit protection tests. Testing may include but is not limited to: HTML, .exe, .jar, .xlsm, .css, .pdf, .ppt, .pptx, .doc, .docx, .zip, 7zip, gzip, .DLL, .js, .xls, .xlsx, .chm, .rar, .Ink, .cur, .tar, .xrc.

Exploit Protection

An exploit is an attack that takes advantage of a vulnerability in a protocol, product, operating system, or application. CyberRatings verifies that the Security Service Edge can detect and block exploits while remaining resistant to false positives by attempting to send exploits through the SSE and verifying that the malicious traffic is blocked.

[1] Published international daily cipher suite usage can be found at https://crawler.ninja/files/ciphers.txt

[2] A list of cipher suites and associated attributes including security ratings can be found at https://ciphersuite.info/cs/

[3] Cipher suite descriptions and associated value codes for testing are from https://www.iana.org/assignments/tls-parameters/tls-parameters.xhtml.

The CyberRatings exploit repository contains exploits covering a wide range of protocols and applications. Exploit sets are selected based on CVSS score (how widely used is an application + what can an attacker do?), use case, and customer relevance.

Malware Protection

Malware is malicious software that is intentionally designed to cause harm to targeted computers. CyberRatings verifies that the Security Service Edge can detect and block malware while remaining resistant to false positives by attempting to send malware through the SSE and verifying that the malicious file is blocked.

CyberRatings maintains relationships with other independent security researchers, professional networks, and security companies from which we obtain and catalog malware. Malware sets are selected based on platform, freshness, impact, and customer relevance.

Resistance to Evasions

Threat actors use evasion techniques to disguise and modify attacks at the point of delivery to avoid detection by security products. It is imperative that a firewall correctly handles evasions since just one successful evasion technique can enable an attacker to compromise systems undetected.

CyberRatings first verifies that the firewall detects and blocks a collection of baseline exploits and malware. Next, CyberRatings applies evasion techniques to the baseline exploits and malware and validates the execution of the exploit's payload or the malware's delivery. Wherever possible, the firewall is expected to successfully normalize the evaded traffic to provide an accurate alert relating to the original attack, rather than alerting purely on anomalous traffic detected because of the evasion technique itself.

Supported Systems

SSE Providers

Spot Check supports all popular SSE providers via IPSEC or GRE tunnels.

SAML Authentication

Spot Check supports all popular SAML providers (Microsoft AD, Okta, Ping, etc.).

Contact Information

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