INFOSEC GLOBAL TESTS THEIR AGILESEC VPN SOLUTION IN THE CENGN CLOUD

Agilesec virtual private network (VPN) is a commercial, enterprise-ready VPN solution that is developed and supported by InfoSec Global (ISG). It allows customers to protect their networks with trusted sovereign or custom cryptographic algorithms, along with the strongest internationally standardized cryptography.

INFOSEC GLOBAL (ISG)

ISG is a cybersecurity company that is revolutionizing data protection with their cryptographic agility technologies. ISG offers a suite of products including cryptographic software development kits (SDKs) and network security appliances based on their Agilesec™ platform. These products help enterprises and governments futureproof their applications and networks against ever changing security requirements. InfoSec Global is headquartered in Toronto and has customers and offices in Canada, the United States, Europe and the Middle East.

Figure 1. The AgileSec Solution is available as a VPN hardware appliance and as a virtualized software solution

THE IMPORTANCE OF AGILESEC VPN TO THE ICT SECTOR

ISG provides solutions for sustainable data protection in a digital world. Its main focus is on various intelligent services such as security assessments, advisory services, compliance management, cryptography, and cybersecurity. ISG's Agilesec VPN is the first cryptographically agile solution to provide network traffic encryption between different office locations, remote users and offices, as well as Internet of Things (IoT) deployments like encrypting video streams from remote security cameras. This means that the customer can reconfigure the Agilesec VPN products to use their own cryptographic providers.

HOW IT WORKS

The Agilesec Platform is composed of a number of technologies that work together to dynamically and remotely update security features, including cryptography, in a way that is easy to use and is secure to operate.

During testing, Agilesec showcased real-time substitution of three different classes of cryptographic algorithms including controls used for key agreement, secure session establishment, bulk encryption, integrity checking, and random number generation.

CENGN MEMBERS

THE PROJECT
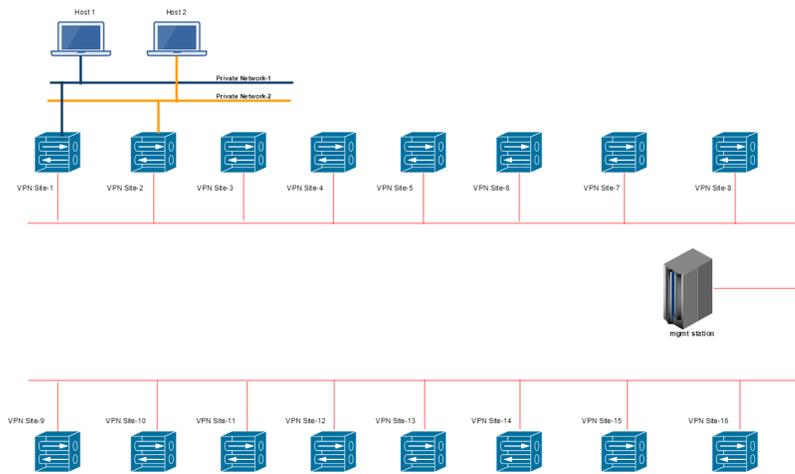
Figure 2. InfoSec's virtual site-to-site network project space

To test the scalability of their product, ISG deployed the required virtual machines (VMs) for the proof-of-concept (PoC) project, as well as implemented and tested the Agilesec VPN. This testing was completed through two different network types, a Full Mesh VPN and a Hub and Spoke VPN. Both tests were comprised of 16 VPN appliances (nodes), 2 host sites and 1 management station. For each installment, ISG pushed new algorithms from the management station to all the VPN nodes to test the network's success on CENGN's cloud infrastructure. Testing of both network types was based on three main qualifications:

1) All the VPN nodes are synced and using the algorithms pushed by management. This was verified by the tunnels turning green in the dashboard (see Figures 3 and 4).

2) Successfully sending traffic from Host 1 (connected to VPN node-1) to Host 2 (connected to VPN node-2) using the Agilesec secure VPN tunnel. In this environment, the two hosts are in separate subnets.

3) Determining that the key agreement used to establish the tunnel between Host 1 and Host 2 used the new algorithms. This was carried out by using Agilesec's connection status utility feature.
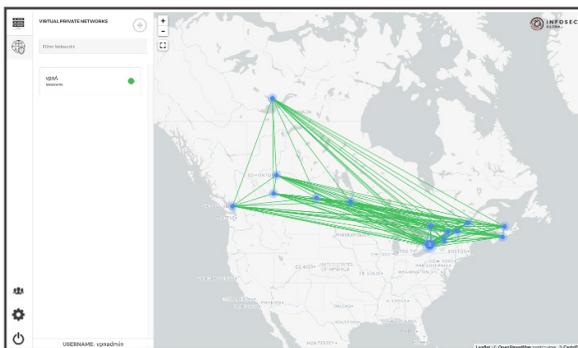
Figure 3. Full Mesh VPN network including all appliances
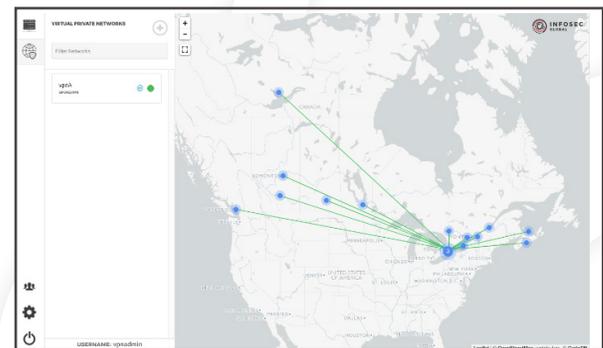
Figure 4. Hub & Spoke VPN including all Appliances

Once Agilesec was validated on both Full Mesh and Hub & Spoke VPN Networks, performance testing was conducted by passing traffic between all the VPN appliances. The testing was carried out by making one appliance the server and another appliance a client. Traffic was then passed between server-client pair appliances to test the throughput performance in every part of the network.

RESULTS

By obtaining quality assurance data from this project, ISG will be able to showcase their solution to a broad range of local and global customers who are interested in improving and modernizing their network security. Beyond this, ISG was able to use CENGN's expertise in deploying scalability tests for different network and cloud projects to reveal new areas of investigation for their organization. ISG's cutting-edge Agilesec VPN solution successfully passed all validation testing, proving it to be a truly forward-thinking innovative product for the ICT security sector.

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