VIAVI Solutions

Frequently Asked Questions (FAQs)

TeraVM
Fortinet VPN Client Emulation with TeraVM

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Fortinet VPN Client Emulation	Response	Additional Information
What product is used to emulate the Fortinet VPN clients?	TeraVM	TeraVM is a virtualized test solution, which is used to test both physical and virtual devices
What device types may be tested?	Fortigate	TeraVM is used to emulate stateful Fortinet VPN clients
What versions of Fortinet VPN are available to test with?	FortiClient	FortiClient SSL VPN Client
What VPN specific performance metrics are available in the product?	Unique metrics for FortiClient	See Chapter 2
What else can TeraVM be used for?	Network and Application Performance Testing	TeraVM is used to analyze the performance limitations and capabilities of a wide variety of security and networking devices including VPN/Firewall, vSwitch, DPI or IPS/IDS, vLoad Balancer and video infrastructure.

Configurable TeraVM Fortinet VPN Client parameters

Fortinet VPN Client Emulation	Response
What VPN types are supported?	SSL/TLS
What authentication mechanisms are supported?	X.509 Digital Certificates, User name and password
Do i need a separate Certificate Authority commence testing?	TeraVM is capable of generating and signing certificates/keys for test entities
What encryption algorithms are supported?	DES, 3DES, AES
What applications can be secured via Fortinet VPNs?	Voice (SIP& RTP), Video (RTSP), Data (HTTP, SMTP, POP3)
Do you support IPv6?	Yes, support testing with mixed IPv4 and IPv6 tunnel configurations.
Are there any VPN debug tools?	Yes, unencrypted packet capture - users can obtain an unencrypted packet capture of the interactions with a VPN appliance, this implies that the capture from an encrypted tunnel can now be opened directly in tools like Wireshark.
Do you support per VPN flow performance measurements?	Yes, TeraVM offers per VPN session establishment metrics.
Do you support performance measurements of applications in the FortiClient VPN?	Yes, TeraVM provides tunnel based metrics and application specific metrics on each and every application running in the secure tunnel.

Fortinet VPN SSL/TLS performance metrics

Fortinet FortiClient SSL VPN	Description
Client Out Tunnel IP Bit/s	Number of bits/second sent out by this Client
Client Out Tunel IP Packet/s	Number of packets/second sent out by this Client
Client In Tunnel IP Bit/s	Number of bits/second received by this Client
Client In Tunnel IP Packet/s	Number of packets/second received in by this Client
Client Tunnels Attempted/s	Number of attempted tunnels per second
Client Tunnels Attempted	Number of Attempted
Client Tunnels Established/s	Number of established tunnels per second by Client
Client Tunnels Established	Number of established tunnels by Client
Client Tunnels Rejected/s	Number of tunnels/second that were rejected by Client
Client Tunnels Rejected	Number of tunnels rejected by the Client
Client Tunnels Errored/s	Number of tunnels/second that failed to be established by the Client
Client Tunnels Errored	Number of tunnels that failed to be established by the Client
Client Tunnels Completed/s	Number of tunnels/second that were completed by the Client
Client Tunnels Completed	Number of tunnels completed by the Client
Mean Tunnel Establishment Time	The time (ms) to establish a tunnel
Out Tunnel Control Packets	The number of Tunnel Control Packets sent by the Client
In Tunnel Control Packets	The number of Tunnel Control Packets received in by the Client

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