

VIAVI TeraVM

TeraVM is a software based L2–7 test tool running on Cisco UCS and in the Cloud (Amazon, Azure, Openstack etc.), delivering a fully virtualized application emulation and security validation solution to test and secure devices, networks and their services.

Application Support

General	Ethernet Switch
System utilization reports (Location, User, Testbed, Licenses in use, Usage stats)	VLAN Tagging (up to 8 concurrent tags)
License check-in default timer	ACL, 802.1p, DSCP
Adaptive Engine - Dynamically and Automatically find the maximum capacity of Devices Under Test	Enable path MTU discovery
PCAPNG format support for troubleshooting TLS flows	Data Center
Same test profile can be used for multiple platforms	VxLAN, GRE, SR-IOV
Faster setup, faster testing, faster results	Automation
Distributed multi-cloud deployment support	REST, CLI, Perl, TCL, XML, Java API
Network Interface Support	Python, Jython
Support for 1/10/40/100 Gbps I/O	Cisco LaasNG, Qualisystems (CloudShell), Luxoft Software Defined Lab (SDL), Openstack, Cisco pyATS
Data	Replay Application Repository
Jumbo Frame support with max MTU/Segment configurable	Intelligent UDP and stateful TCP Replay: Ability to dynamically change content
TeraFlowUDP Out-of-Sequence Statistics, reverse flow support	Replay large PCAP files: TCP, UDP and raw data playback
Latency/TCP RTT distribution view with bucket configuration	IP Replay (w/ DHCP): multiple TCP/UDP streams
TeraFlow TCP/UDP, Ookla Speed Test, VR/Gaming (with Burst Profile)	Amplify and dynamically substitute data into PCAP files
CCDF plotting of TWAMP One Way Delay metric and per packet latency reporting	Video
HTTP, HTTPS, HTTP 2.0 ALPN, HTTP/3, HTTP over QUIC (per stream bitrate control and statistics)	CMTS, CDN, Multicast: IGMP v1/v2/v3 and MLD v1/v2
HTTP with SAML 2.0 authentication (IdP emulation)	Automatic Multicast Tunneling (AMT)
SMTP / POP3 (incl. file attachments)	Video on Demand (VoD)
FTP (Passive/Active), P2P applications, DNS	Adaptive Bit Rate (HLS, HDS, MPEG- DASH, Smooth)
FTP client session count limit	Video conferencing, WebEx, Telepresence
DNS client (w/ HTTP/S applications, incl. IP address resolution)	HTTP based video
DNS Server	H.265 codec support
Address Assignment	Voice
Configurable MAC	Secure VoIP and WebEx calls in HTML5 UI
DHCP, PPPoE (IPv4 and IPv6)	Dual-Stack VoIP Gateway emulation
Dual Stack (6RD, DS Lite)	Cisco CUCM, CUBE
	VoIP: SIP and RTP (secure and unsecure), SMS

VoIP client scaling with auto generated unique
VoIP with EVS (Enhanced Voice Services)
AKA authentication request per client
VoLTE Emergency calls support
Voice (continued)
Dual Hosted UACs, SIP Trunking
Voice and Video quality metric (MOS simultaneously supported)
EVS codec support, various bit rates, silence suppression
G.711 Support for SID – RFC3889
SIP Updates for IMS including PANI information
MCPTT group calls (including KPI support)
MCPTT Client and Application Server Emulation
Secure Access / VPN
SSLv2/3, TLSv1.0/1/2/3 and DTLSv1.0/2
TLS Client-side Cipher Suite Selection
Dynamic IPv6 Assignment for AnyConnect VPN Client
Clientless VPN (SSL/TLS/DTLS), IPsec (IKEv1/ v2 (DH groups 31 and 32)), Generic remote access, CSFR support
802.1x EAP-MD5, EAP and PEAP with MS CHAPv2 Authentication
RADIUS client EAP-TLS/EAP-FAST support with configurable custom AVPs
802.1X Accounting Start and Stop Records
Scalable Site to Site VPN - IPV6/V4
Additional security to limit access to public IP address assigned to TeraVM in public cloud environments
PPTP VPN Client and Server supported
Cisco AnyConnect SSL and Cisco AnyConnect IPsec VPN Clients
Cisco Umbrella SWG, session resumption
Cisco AnyConnect for Secure Firewall Cloud Native (SFCN)
Cisco AnyConnect SAML 2.0 authentication, SSO, AD based login
Cisco AnyConnect for VTK, Meraki with SAML
Cisco AnyConnect STRAP (Session Token Re-Use Anchor Protocol)
Cisco AnyConnect SSL and IKE certificate based authentication with multiple user provided ECDSA EdDSA certificates
PaloAlto GlobalProtect VPN emulation - SAML 2.0 authentication, certificate based authentication
PaloAlto GlobalProtect VPN portal and gateway with FQDN support
PaloAlto GlobalProtect VPN IPv6 support
PaloAlto GlobalProtect VPN Client NFPA (Next Gen Prisma Access) support
Security
40,000+ Malware attacks and Cybersecurity threats, updated monthly
Spam / Viruses / DDoS / Malware
Malware Application Profiles
TCP CUBIC congestion control

DDoS attack applications:
<ul style="list-style-type: none"> Flood: SYN, Reflective SYN, Reset, UDP, Ping, ARP Attacks: Teardrop; UDP Fragmentation; Configurable Rates, Start and Stop Spoof Mac addressing
Good and Bad mixed traffic flows
Statefully scale Cisco specific threats
Ability to use 3rd party threat libraries
Ability to turn on /off Extended Master Secret (RFC 7627) support flag to test Cisco FTD, ASA and other security solutions
Support for TLS 1.3, TLS 1.2 simultaneously on Client and Server
Configurable TLS record size
TCP delayed ack (timer based)
HTTP Strict Transport Security (HSTS) header support
TLS SNI support incl. unique certificate per FQDN
Chained certificates for HTTP server
SLA Monitoring
TWAMP-RFC 5357, PING-RFC 792
Cisco Netflow Records/Exporter emulation at scale
Internet of Things (IoT)
Client emulation
CoAP-RFC 7252
NIDD over SCEF, S11-U, S1-U
SCEF Emulation Including Protocol Relay
Cloud Platform Support
Amazon AWS
Google Cloud (GCP)
Oracle Cloud (OCI)
Microsoft Azure
Alibaba Cloud
Hypervisors
VMware ESXi
KVM Ubuntu
KVM Redhat
Citrix XenServer
Hyper-V
Openstack
Kubernetes Cloud Platforms (Containerized TeraVM)
Google GKE
Amazon EKS
NetSecOPEN Tests
NetSecOPEN Test Suite



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