

# TeraVM at Cisco

TeraVM™ is a software based L2-7 test tool running on x86 servers and in the Cloud (Azure, Amazon, Google, Openstack, etc.), delivering a fully virtualized application emulation and security validation solution to test and secure devices, networks and their services.

## Why TeraVM?

- Cisco custom-specific test capabilities
- Flow based tool with realism
  - Provides per-flow statistics in real time
  - Statefully emulates and measures individual endpoint and application performance for data, voice, video and security services
  - Easily pinpoint and isolate problem flows and bottlenecks
- Adaptive engine
  - Dynamically and automatically find the maximum capacity of Devices Under Test
  - Same test profile can be used for multiple platforms
- Centralized License Server/Elastic Test Bed
  - Scale with realism and grow on demand with license sharing across geographical locations
  - Flexibility to run anywhere ... lab, datacenter and the cloud, with consistent performance coverage
  - Sharing test resources and methodologies delivering the most cost-effective solution
  - Shareable Cybersecurity threat database, maximizing resource utilization and total cost of ownership
  - Auto License Check-In on test completion

## Key Facts

### TeraVM is 100% virtual

- Supports all major hypervisors – ESXi, KVM
- Supports all major cloud platforms – OpenStack, AWS, MS-Azure, Google Cloud, Oracle OCI, Alibaba, Docker, Kubernetes
- Distributed deployments

### Automation and Orchestration

- REST, CLI, Perl, TCL, XML, Java API, Python, Jython
- Cisco LaasNG, Cisco pyATS, Qualisystems (CloudShell)

### L2-7 Stateful Traffic Application Emulation

- Voice
- Video
- Data

### Secure Access Firewall/VPN (ASA Firewall, FirePOWER)

- Cybersecurity Threat and Malware Penetration
- 64,000+ attacks (Spam, Viruses, DDoS, Malware), updated monthly
- DDoS attack applications
- Mixed application flows

## Cisco Test Coverage

TeraVM includes Cisco specific endpoint emulation and real time measurements.

- Dynamic IPv6 Assignment for AnyConnect VPN Client
- Cisco AnyConnect SSL VPN Client
- Cisco AnyConnect with SAML authentication (ASA, FTD, Meraki)
- Cisco AnyConnect IPsec IKEv1/IKEv2 VPN Client
- Cisco NetFlow Records, NetFlow Exporter Emulation
- Cisco Identity Services Engine (ISE) with 802.1X client
- Cisco Umbrella SGW
- Captive Portal testing
- Cisco TelePresence
- Cisco WebEx
- Cisco Phones
- Cisco Video Clients
- Cisco DNA Center
- Mobile phones for Security Gateway
- IoT Device
- Cisco AnyConnect STRAP (Session Token Re-use Anchor Protocol) Support
- Cisco AnyConnect TLS SNI Extension support
- Cisco Secure Access (CLAP) ZTA
- Cisco Clientless (BAP)

