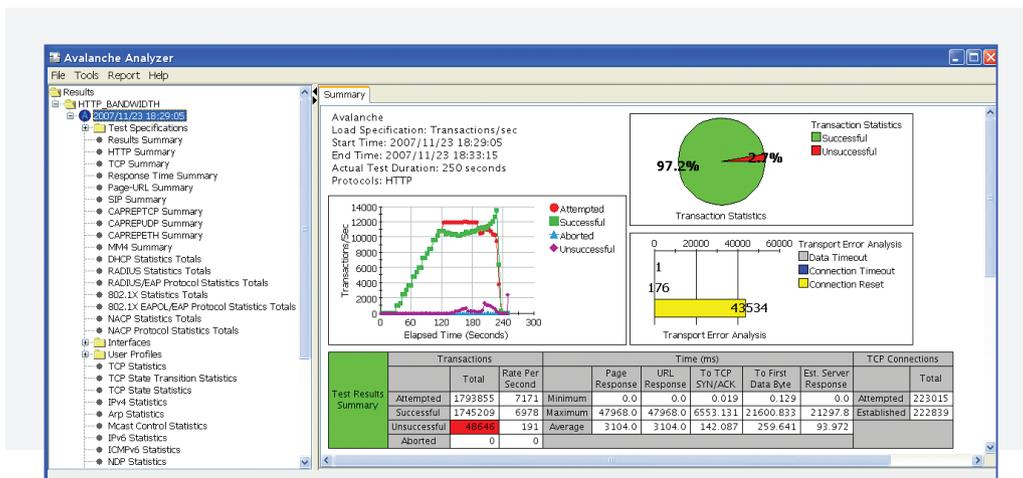# VIAVI Avalanche

Application Performance Testing Solution

VIAVI's Avalanche Layer 4-7 testing solution provides capacity and performance testing for network devices and solutions, cloud and virtual environments, Web application infrastructures and media services that ensures Quality of Service (QoS) and Quality of Experience (QoE) for your customers. Avalanche pinpoints network capacity with the highest performing Layer 4-7 traffic generation capability available from 1Gbps to >100Gbps. Avalanche allows your testing environment to stay current. It is the first solution to offer full client and server HTTP/3 testing support for next generation web testing use cases.

Application

- Network Performance Testing
- Web Application Testing
- Latest application testing with HTTP/2 and HTTP/3 support
- Advanced high-capacity HTTPS cryptographic load testing
- Media Testing
- Cloud and Virtual Network Testing
- SSL VPN and IPSec Testing

Avalanche Analyzer

Features and Benefits

Over 100Gbps of Stateful Traffic Generation—
VIAVI Avalanche provides the capability to generate
stateful traffic from 1Gbps to multi 100Gbps rates via
native interfaces for scale and performance testing
for the most demanding of environments. Multiple
systems can be used in a single test creating vast
amounts of application traffic.

Flexible Load Profile—VIAVI Avalanche's flexible
load profile offers testers the flexibility to specify
load variables such as connections per second,
concurrent connections, transactions per
second, new user sessions per second and
concurrent users.

Real-Time Statistics—VIAVI Avalanche offers real-
time statistics across all protocols and a reporting
tool that makes analyzing results faster and easier.

Network Devices Performance Testing—VIAVI
Avalanche provides performance and capacity
testing on a variety of network devices including:
Firewall, Virtual Devices, Application Firewall, Load
Balancer, Cache, Proxy, URL Filter, Content Filter,
SD-WAN, SASE, Anti-Virus, Anti-Spyware, Reverse-
Proxy, HTTP/HTTPS Accelerator, SMTP Relay, IDS/
IPS, IPSec VPN Gateways, OpenConnect supported
SSL VPN, and more.

Application Server Performance Testing—VIAVI
Avalanche can validate performance of several
types of real services including: Web, Application,
Mail, DHCP, FTP, DNS, Telnet, RTSP/RTP QuickTime
Streaming, Multicast, HTTP Adaptive Bitrate
Streaming, and more.

Media Testing—VIAVI Avalanche performs media
testing and service verification from the user's
point of view with realistic voice calling, HTTP
Adaptive Bitrate streaming, unicast and multicast
streaming video, and simulates Internet data traffic
using static IP address or IP address assignment by
DHCP over PPPoE, VLAN and Stacked VLANs
(e.g., Q-in-Q).

Web Application Testing—VIAVI Avalanche
performs Web application testing including: Web
services, ERP and CRM applications with VIAVI
Avalanche's application testing capability to support
cookie, session ID, dynamic link, automatic follow
redirect, additional header, content validation,
SOAP message, think time, variable think time and
variable assignment.

Cryptographic Load Testing—VIAVI Avalanche
provides extensive functional and performance
testing for secure network communication, and
user authentication including: IPSec, HTTPS/TLS
(including TLSv1.3), DNSSEC, DNS over TLS, SSL
VPN, 802.1x, Network Access Control (NAC), RADIUS
and custom user imported traffic over TLS.

SSL VPN—VIAVI Avalanche supports tunnel setup
and data traffic throughput capacity testing over a
growing set of OpenConnect compatible SSL VPN
versions. Create comprehensive scale and
accuracy tests with full control over data plane
traffic profiles.

VIAVI Avalanche	

Available Platforms	• CF30 Self-Contained Appliance
	  1U 8 x 1G/10G
	
	• C200 Slim-lined Ultra Performance Appliance
	  1U 8 x 10G, 16 x 10G, 4 x 25G, 4 x 40G, 4 x 50G, 4 x 100G
	
	• CF400 High-Density Carrier Class Performance Appliance
	  2U, 8 x 40G, 8 x 100G
	
	• CyberFlood Virtual
	  ESXi or KVM instances—flexible scalability
	
	• Amazon AWS, Azure, and Google Cloud (GCP)
	  Deployments for use in cloud environments

Network Access Protocol	DHCP, PPPoE, PPTP, IPSec (IKEv1 and IKEv2), SSL VPN for Cisco and Palo Alto Networks Global Protect™
Network Realism	Line speed limitation, network latency, packet loss and fragmentation
IP Version Supported	IPv4 and IPv6 (including DSLITE)
Encapsulation Protocol	802.1Q and 802.1 Q-in-Q
Transport	TCP, UDP, SSLv2, SSLv3, TLS v1.0, TLS v1.2, TLS v1.3, QUIC
Data Protocol	HTTP, HTTP/2, HTTP/3, HTTPS, FTP (Active/Passive), DNS, DNSSEC, DNS over TLS, DNS over HTTPS, TELNET, SMTP, POP3, IMAP4, EMAIL over SSL, RADIUS, MM4, ICMP, CIFS and Capture/Replay
Extended Protocols	BitTorrent, Gnutella, MSN, Yahoo, SKYPE, SQL, MYSQL, Oracle, SMB, NFS, Remote Desktop, Exchange, LDAP
Authentication	802.1x, Network Access Control (NAC), Radius
Voice Protocol	SIP over TCP/UDP
Voice Codec Supported	G.711A, G.711U, G.723.1, G.726-32, G.728 and G.729AB
File Access Protocol	CIFS and NFS
Video Protocol	HTTP Adaptive bit rate streaming for Apple, Adobe, Microsoft and DASH, ABR over SSL, Unicast Streaming Quicktime RTSP/RTP, Unicast Streaming Real Network RTSP/RTP, Unicast Streaming Microsoft MMS, Multicast Streaming IGMPv2, IGMPv3 and MLDv2, and Flash Media Streaming using RTMP/RTMPT
Video Codec Supported	MPEG-1, H.261, MPEG-2. H.262, MPEG-4. H.264
Reporting	Integrated CSV test results analyzer fully customizable with report generation in PDF and HTML; also provides over 300 statistics per IP address
Automation	GUI to Tcl API

VIAVI Professional Services

Education Services

• Web-based training: 24/7 hardware and software training

• Instructor-led training: Hands-on methodology and product training

Ordering Information for C100/C200 Appliances

Description	Part Number
Avalanche ABR Video Streaming Client Server	CMP-ASW-ABR
Avalanche Application Testing Client Sever	CMP-ASW-APP
Avalanche CIFS Client Server	CMP-ASW-CIFS
Avalanche DHCP Client Server	CMP-ASW-DHCP
Avalanche DS-LITE Client Server	CMP-ASW-DSLITE
Avalanche Email Over SSL-SMTP, POP3, IMAP	CMP-ASW-EMAIL-SSL
Avalanche GTP SGSN-GGSN	CMP-ASW-GTP
Avalanche HTTP/2 Protocol Support	CMP-ASW-HTTP2
Avalanche IPSEC Client	CMP-ASW-IPSEC
Avalanche IPV6 Client Server	CMP-ASW-IPV6
Avalanche SMTP POP3 IMAP4 Client Server	CMP-ASW-MAIL
Avalanche Multimedia Messaging SVC MM4 Client SVR	CMP-ASW-MM4
Avalanche 802.1X NAC	CMP-ASW-NAC
Avalanche NFS Client	CMP-ASW-NFS
Avalanche PPTP Protocol Pilot Packet	CMP-ASW-PILOT
Avalanche PPP Over Ethernet Client Server	CMP-ASW-PPP
Avalanche PPTP Protocol	CMP-ASW-PPTP
Avalanche HTTP/3 and QUIC Protocol	CMP-ASW-QUIC
Avalanche Radius Client	CMP-ASW-RAD
Avalanche RTMP Client	CMP-ASW-RTMP
Avalanche SAPEE Protocol Emulation Environment	CMP-ASW-SAPEE
Avalanche SIP Client Server	CMP-ASW-SIP
Avalanche SSL Client Server	CMP-ASW-SSL
Avalanche Video Streaming Unicast	CMP-ASW-UNICAST
Avalanche Video on Demand Multicast Client Server	CMP-ASW-VOD

Available in license bundles for CF30 and CF400 Appliances.

Please contact your VIAVI sales representative for more details, including Ordering Information for other test devices and CFv.