

CF50 for CyberFlood

Application Performance Testing Solution

Understanding network performance is crucial for today's demanding business environments as users require high-performance and secure networks. Proactively testing content-aware networking devices and end-to-end networks is now more accessible than ever with the VIAVI CF50 CyberFlood testing platform. VIAVI's CF50 is right-sized and feature-rich to meet even the most demanding enterprise performance testing needs. Users can generate vast amounts of high-fidelity encrypted and mixed application traffic profiles at scale, enabling versatile use in enterprise, datacenter, and service provider network validation.

The CF50 uses the power of VIAVI CyberFlood, giving users a simplified web-based workflow by consolidating multiple test functions into a single small-form-factor appliance.

Performance and Flexibility

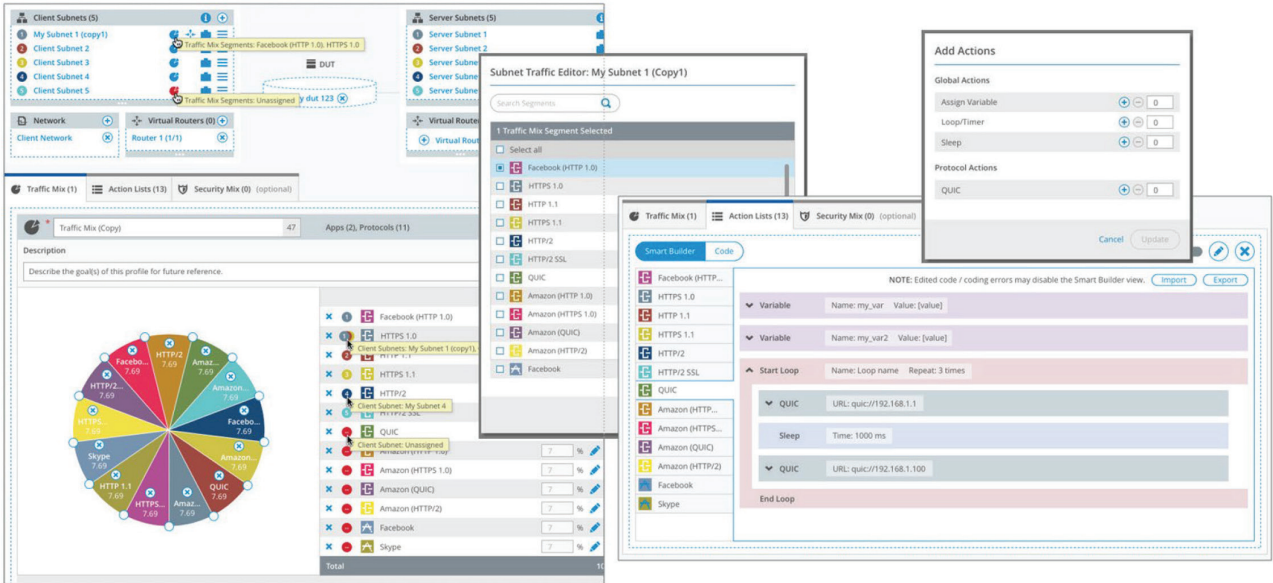
The CF50 is available with an 8 x 10/1G SFP+ and 2 x 100G QSFP28 interface configuration. Delivering line-rate 10G and 100G HTTP performance in an all-in-one, portable, cost-effective testing platform to optimize and harden the modern IT infrastructure.

The CF50 tests the performance of networking devices, application delivery infrastructures, and AI inference clusters to verify scale, capacity, resilience, and Quality of Experience (QoE).

Applications

- Create extreme loads of HTTPS traffic to verify encryption capacity and performance
- Generate application load traffic from a growing database of tens of thousands of user scenarios and application flows to verify application policies and performance
- Validate end-to-end AI inference infrastructure and LLM application performance
- Replay custom application and recorded web sessions at scale
- Use Advanced Mixed Traffic tests to create custom user actions, including IPsec and SSL VPN to verify capacity and throughput
- Optional advanced security testing solutions are also available





CF50 Performance Examples¹

	8 x 10G	2 x 100G
HTTP Bandwidth (Bi-directional)	>75 Gbps	>190 Gbps
HTTPS Bandwidth	>35 Gbps	>65 Gbps
HTTP GETs/Sec	>2,000,000	>1,500,000
HTTPS GETs/Sec	>90,000	>65,000
HTTP Sustained Connections	>78,000,000	>78,000,000

* Performance numbers are obtained using a single CF50 as a client and server, one profile can be active at any time. TLS Performance is with ECDSA-ECDHE cipher.

User Realism with CyberFlood

VIAVI CyberFlood utilizes TestCloud™ to access tens of thousands of applications, such as Microsoft 365, Google Docs, Dropbox and many others enabling you to generate traffic with authentic payloads for realistic performance, load, and functional testing. CyberFlood creates tests with the latest apps from TestCloud and enable users to import their own applications to recreate custom applications at scale.

Features and Benefits

- **Ease of Use** – Extremely easy to use and with a highly intuitive web-based graphical user interface that allows for difficult configurations to be set up instantly. From setting up global IPs from a world view map to drag and drop protocols, CyberFlood makes performance testing easy. The CF50 also offers a reduction in deployment and management complexity with its easy out-of-box setup.
- **Economical** – Access the power of CyberFlood with the right features, performance and capabilities in a cost-effective, low-profile package without compromising on performance. In addition, there is a reduction in cost of ownership due to smaller requirements for rack space, power and cooling.
- **Network Performance Testing** – Provides extensive Layer 4-7 testing for network performance, capacity and connectivity.

Using a wide range of popular applications, including AI chats, productivity, Enterprise SaaS, video streaming, and social media, users can test:

- Policy Enforcement for QoS Application-aware systems, such as DPI engines, application firewalls, and mobile packet gateways
- The effectiveness of DPI, IPS/IDS, ALG, UTM systems, evaluating their performance under real-world traffic conditions
- Advanced NGFW and SD-WAN/SASE inspection capabilities and capacities using TLS/SNI support
- IPsec and SSL VPN capacities including tunnel setup, maximum tunnels, and data rates over encrypted tunnel for remote access and site to site use cases.

Features and Benefits continued

- **Applications** – With CyberFlood, users can quickly and easily test with the latest and most popular applications (updated continuously) with unparalleled realism and scalability. Users can push their solutions to the limit while ensuring the infrastructure will stand up to real-world demands.
- **Power and Performance** – The right performance and scale: The CF50 provides the right performance profile to effectively exercise networks to find maximum user connectivity and application traffic throughput capabilities, with up to 100 Gbps of HTTP and 65 Gbps of HTTPS traffic generation capabilities.
- **Cross Compatibility** – The CF50 offers test compatibility with other CyberFlood platforms, providing maximum flexibility for running CyberFlood tests across a multitude of available platforms for virtual, cloud and hardware-based environments.
- **Avalanche Software Support** – Run the full breadth of Avalanche software on the CF50, providing maximum flexibility and test coverage.
- **NetSecOPEN Tests Built-In** – Includes pre-built test cases conforming to NetSecOPEN open standards for transparent, vendor-neutral NGFW performance benchmarking.
- **AI Inference Testing** – Realistic emulation of user interactions, multi-turn conversations, and multi-modal prompts at scale to assess performance, scalability, and security on AI inference infrastructure and AI/LLM applications under production-like conditions.
- **ZTNA Testing** – Test the Zero Trust Policy Enforcement Point (PEP), validate that secure network and application access are delivered and verify that connections and per-user access policies are functioning as intended without impacting performance or QoE.
- **Automatic Goal Seeking** – Determine maximum capabilities of a device with minimal user interaction.
- **Realistic Web Testing** – Use web-capture capabilities to import and replay recorded sessions of complex website interactions and traffic to validate performance and comprehensive application policies.

Technical Specifications

Product Feature	Description
<i>Available Hardware Configurations</i>	
CF50 with 8x10G/1G and 2 x100G interfaces	8x10G/1G SFP+ (Includes 8 dual rate 10G/1G MMF SFP+ transceivers)
	2x100G QSFP28
<i>Software License Options</i>	
Performance Testing Software	Includes HTTP throughput, HTTP CPS, and HTTP Concurrent Connections with full TLS/PQC support across all tests, DNS, Throughput with Mixed Traffic (default protocols), Advanced Mixed Traffic, and Network Traffic Replay test methodologies
TestCloud Subscription	Allows options for always up-to-date downloadable content for application scenarios
<i>CyberFlood Feature Details</i>	
Web Based Interface	Easy to use multi-user web-based interface makes setting up and executing comprehensive tests fast, easy, and consistent
Application Scenarios	Tens of thousands of current and popular applications and user scenarios that can be easily used in custom mixed traffic tests
HTTPS/TLS Testing	Support for TLS v1.2 and TLS v1.3 with selectable certificate and cipher suites, including Post-Quantum Cryptography (PQC)
HTTP Connections Tests	Open thousands to millions of new connections per second to ensure your DUT can handle the new connection rate of your network
HTTP Bandwidth Tests	Find the maximum throughput achievable using emulated, realistic HTTP clients and servers and leveraging a configurable network topology
HTTP Open Connection Tests	Open millions of concurrent TCP connections within the state table of your DUT to find the maximum concurrency it can support. Leverage HTTP as the protocol for added realism during this test
VPN Testing	Easily assess capacities and capabilities of site to site and remote access IPsec and SSL VPN from tunnel setup to data traffic handling
Advanced Mixed Traffic Assessment	Create custom and highly configurable tests and assessments with user action lists that execute a set of user application interactions for HTTP, HTTP/2, HTTP/3, TLS/PQC, SMTP, POP3, IMAP4, SSH/SCP/SFTP, SMB, DNS over TLS and HTTPS, and other protocols

Technical Specifications continued

Product Feature	Description
<i>CyberFlood Feature Details continued</i>	
Mixed Traffic Tests	Measure the impact on application performance when using real-world built-in applications or extended applications with the power of TestCloud. Individually measure the bandwidth and success rate of each application added to the test to confirm the impact of the network under test
AI Inference Testing	Validate the end-to-end AI inference infrastructure and LLM application performance. Evaluate how network components, API gateways, firewalls, ADCs, GPU capacity, and security controls impact LLM inference throughput, latency, and accuracy.
ZTNA Testing	Validate the scale and performance of the ZTNA architecture by emulating authenticated, unauthenticated and unauthorized users via SAML and OIDC to validate least-privilege access policies
Traffic Replay	Replay your own traffic profiles at scale to determine the impact of customer traffic flows on network devices and services
DNS Tests	Overload your DUT by sending hundreds of thousands of DNS queries per second for it to process and traverse, as well as process the corresponding events that occur on the DNS responses
Automation	CyberFlood RESTful API and Avalanche Tcl API
Dimensions	1RU - 1.7 in H x 17.2 in W x 15.7 in D; Fits standard 19 in rack
Weight	18 lbs (8.16 kg)
Operating Environment	0°C - 40°C (32°F - 104°F)
Non-Operating Environment	-40°C - 70°C (-40°F - 158°F)
Operating Relative Humidity	8% - 90% (non-condensing)
Non-operating Relative Humidity	5% - 95% (non-condensing)
Power Requirements	100-240 Vac, 50/60 Hz - 600 W

Ordering Information

Part Number	Description
CF-KIT-001-CF50	CF50 Base Appliance Kit 8x10G/1G SFP+ and 2x100G QSFP28 add-on for existing CF Controllers
CF-KIT-002-CF50	CF50 Performance Kit 8X10G/1G SFP+ and 2x100G QSFP28

Performance Kits include HTTP Throughput, HTTP CPS, HTTP Concurrent Connections with TLS/PQC, DNS, Throughput with Mixed Traffic (default protocols), Advanced Mixed Traffic, and Network Traffic Replay test methodologies.

Both CF50 options include 8 dual rate 10G/1G SFP+ MMF Transceivers.

QSFP transceivers for 100G are sold separately.

Security Testing options and other bundles are also available. Please contact VIAVI Sales for more information.

Also Available

- Optional Advanced Security Testing Capabilities

VIAVI Services

- Education Services
 - Web-based training: 24x7 hardware and software training
 - Instructor-led training: Hands-on methodology and product training



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