



InfiniLoad-60

Converged IP Network Traffic Generator

Product Overview

As networks, applications and services are converging to a single IP based infrastructure, network equipment manufacturers, data center operators, service providers and enterprises are under the pressure to deliver products with superior reliability, interoperability and performance.

InfiniCORE’s InfiniLoad-60 testing appliance provides a unified open testing platform for customers to deliver a full range of L2-L7 test solutions for data, signaling, voice, video and security applications.

The InfiniLoad-60 provides six 10M/100M/1G Base-T ports that are capable of generating line rate stateless and stateful traffic. With stateful traffic, like HTTP and FTP, the InfiniLoad-60 can function as both test client and server. For VoIP the InfiniLoad-60 functions as the UA and can place and receive calls. The InfiniLoad-60 provides a Web based user interface for test configuration, monitoring and reporting.

Main Features and Performance Highlights

	Features	Benefits
Stateful TCP Client and Server Traffic Generation	Up to 6Gbps of stateful TCP traffic generation capability with flexible actions to create a TCP clients and TCP servers. TCP connections can be initiated and terminated with arbitrary data segment interactions.	A generic emulation tool to model stateful application protocols at TCP/IP layer with transaction level realism. Ideal for testing load balancer, firewall, IDS and IPS devices.
Stateful HTTP/HTTPS/FTP Traffic Generation	Up to 6Gbps of stateful HTTP client and server traffic generation capability with up to 15,000 connections per second. Support HTTP 1.0 and 1.1 for both GET and POST transactions.	Load testing Web and FTP servers with application realism. Testing gateway and intermediate network devices such as load balancer, firewall, IDS and IPS devices.
VoIP Call Generation	Generate SIP calls to remote systems with RTP emulation through local echo or user supplied WAV, MP3 or PCAP media file.	Testing VoIP systems with comprehensive scenarios to evaluate and remove performance bottlenecks.
Line Rate PCAP Replay	Replay PCAP files at line rate or at controlled frame rate simultaneously from any combination of 6 ports.	Offers great flexibility to recreate traffic conditions from PCAP files.
Security Attacks and DDoS Traffic Emulation	Emulate and launch various types of security flood attacks and distributed Denial of Service attacks. The attacks can be executed along with the other test applications.	Effective tools to validate and measure intrusion detection and defense capabilities over a wide range of security attacks including the typical DDoS traffic patterns such as UDP flood, TCP flood and UDP/TCP/ICMP Landing etc.
Virtualization Support	The InfiniLoad software stack supports virtualization and can run in a VM with easy installation procedure.	Help to test your virtualized environment or software defined infrastructure with familiar work flow and functionalities.

L4-L7 Testing Package—TCP/UDP Blaster

Feature	Description
Configuration	Each port can be configured as TCP Blaster Client and/or Server
Stateful Traffic Generation Capability	Up to 20,000/Sec Session Setup Rate Up to 4M Concurrent Sessions 6 Gbps throughput
End Point Simulation Capability	Millions of IP and MAC addresses
Measurements	Packet Rate; Retransmission Rate; TCP State Transition Rate; Latency; Payload Error
Blaster Actions	Connect; Listen; Send; Receive; Receive with Pattern Match; Reset; FIN; Purge; Wait; Match
Load Profile	Connection Per Second; Ramp Up; Ramp Down; Stair; Burst load pattern; Capable of Multi-phases

L4-L7 Testing Package—HTTP and HTTPS Blaster

Feature	Description
Configuration	Each port can be configured as HTTP/HTTPS Blaster Client and/or Server
Stateful Traffic Generation Capability	Up to 15,000/Sec Session Setup Rate Up to 4M Concurrent Sessions 6Gbps throughput
End Point Simulation Capability	Thousands of IP addresses
HTTP Protocol Support	HTTP 1.0 and HTTP 1.1 over SSL or TLS
HTTP Browser Support	Safari; Firefox; IE; Chrome; Custom Browser Type
HTTP Server Simulation	Flexible HTTP payload definition; Variable Length Payload Definition;
Measurements	Packet Rate; Retransmission Rate; TCP State Transition Rate; Latency; Payload Error; HTTP Error Code Statistics; Latency to First Byte Back
Blaster Actions	HTTP(S) GET; HTTP(S) POST; HTTP(S) PUT
Load Profile	Connection Per Second; Ramp Up; Ramp Down; Stair; Burst load pattern; Capable of Multi-phases

L4-L7 Testing Package—FTP Blaster

Feature	Description
Configuration	Each port can be configured as FTP Client and/or Server
Stateful Traffic Generation Capability	Up to 1Gbps throughput

L4-L7 Testing Package—FTP Blaster (Continued)

Feature	Description
End Point Simulation Capability	Thousands of IP addresses
Measurements	Packet Rate; Retransmission Rate; TCP State Transition Rate; Latency; Payload Error
Traffic Load Profile	1-100,000 Simultaneous Connections

Security Attacks and DDoS Traffic Pattern Generation

Feature	Description
Security Attack Generation	Up to 6Gbps traffic generation based on the integrated large number of PCAP sample files to test or evaluate IDS and IPS appliance.
Mix Attack Traffic with Background Traffic Generation	Run the attack generator and DDoS simulator over the background traffic of TCP/UDP Blaster, HTTP/HTTPS/FTP Blaster
Distributed Denial of Services Traffic Patterns	Support a wide range of DDoS traffic types: UDP Flood, TCP SYN Flood, Ping of Death, IP/TCP/UDP Smurf Attack; HTTP Flood; DNS Amplification Attack.

Voice over IP Test Package with RTP Traffic Emulation

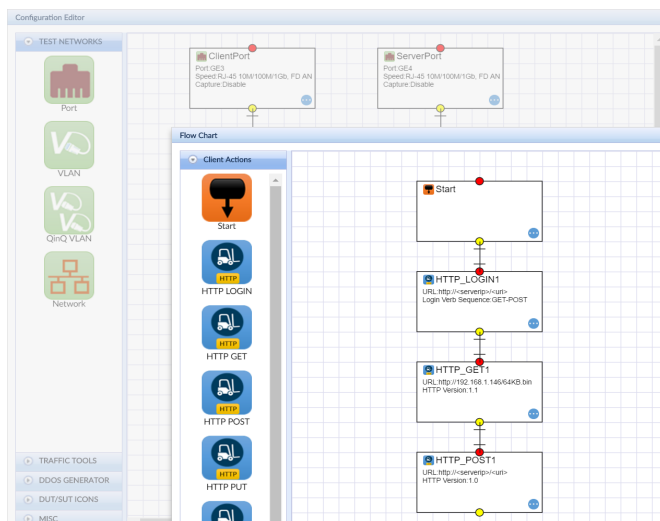
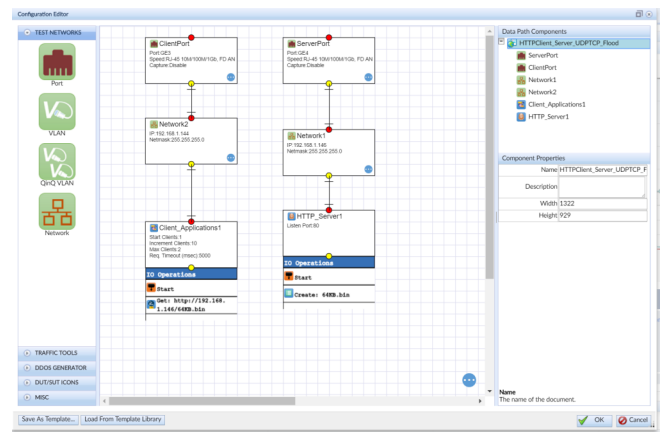
Feature	Description
Support comprehensive User Agent Client Scenarios with media replay capabilities.	Support SIP based UAC signaling with media replay capabilities. The SIP interaction can be constructed and visualized in the test case editor.
Support sRTP extension with user supplied certification	Simulate the secure RTP data flow with TLS encryption with customer supplied certification files.
Flexible communication scenarios defined in the test case editor	Besides the integrated test templates, the InfiniLoad test case editor can be used to extend the test scenarios graphically without manually editing configuration files. The newly created test scenarios becomes a part of test case so that test cases can be transferred across the test station or shared through networks.
Load definition and configuration	The number of calls per second can be configured and time varied to simulate real life network conditions. Randomization is achieved by specifying “random” for configuration variables.
Rich Media Handling Capabilities	The InfiniLoad is able to emulate or play G.729, WAV or MP3 encoded audio file over RTP after the call is established. Additionally, custom made codecs can be integrated into the test platform through PCAP replay.
Call Detail Records	Call Detail Records are provided in the format of CSV file, which allows easy manipulation through the script or text editor.
High Performance with Flexibility	InfiniLoad software is optimized for performance. The VoIP package takes advantage of modern multi-core, multi-threaded execution environment that can produce up to 8,000 calls per second in signaling only scenario.

InfiniLoad-60 Testcase Editor

The InfiniLoad-60 features a purposefully designed WYSIWYG test case editor which is web based and can be accessed with a standards based web browser from any device. The main work flow is carried out through drag-and-drop icons into the workspace. Each icon is associated with a set of properties that user can change or edit. By connecting and disconnecting the components in the configuration file, the corresponding traffic types will be included or excluded during test case execution.

In the InfiniLoad test case editor the test cases are constructed in a way that is well aligned with the OSI 7 layers open network model. This similarity allows an operator to get started quickly.

In the test case editor, the OSI physical and link layer are grouped into a powerful port component, which allows the user to select the port, define VLAN and configure the port attributes as necessary.



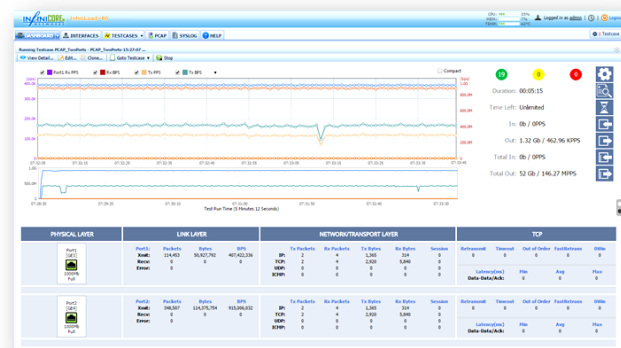
The OSI network and transport layers are encapsulated into the network component for configuring various variables such as network addresses, routes and gateway definition.

The presentation/application layers are grouped into the traffic tools component, where various traffic generation and termination tools can be found and configured like HTTP client and server, FTP client and server etc.

The configuration for the security attack traffic is in the DDoS traffic tools category. The attack traffic can run simultaneously with regular traffic so that mixed traffic can be created.

InfiniLoad-60 System Management Features

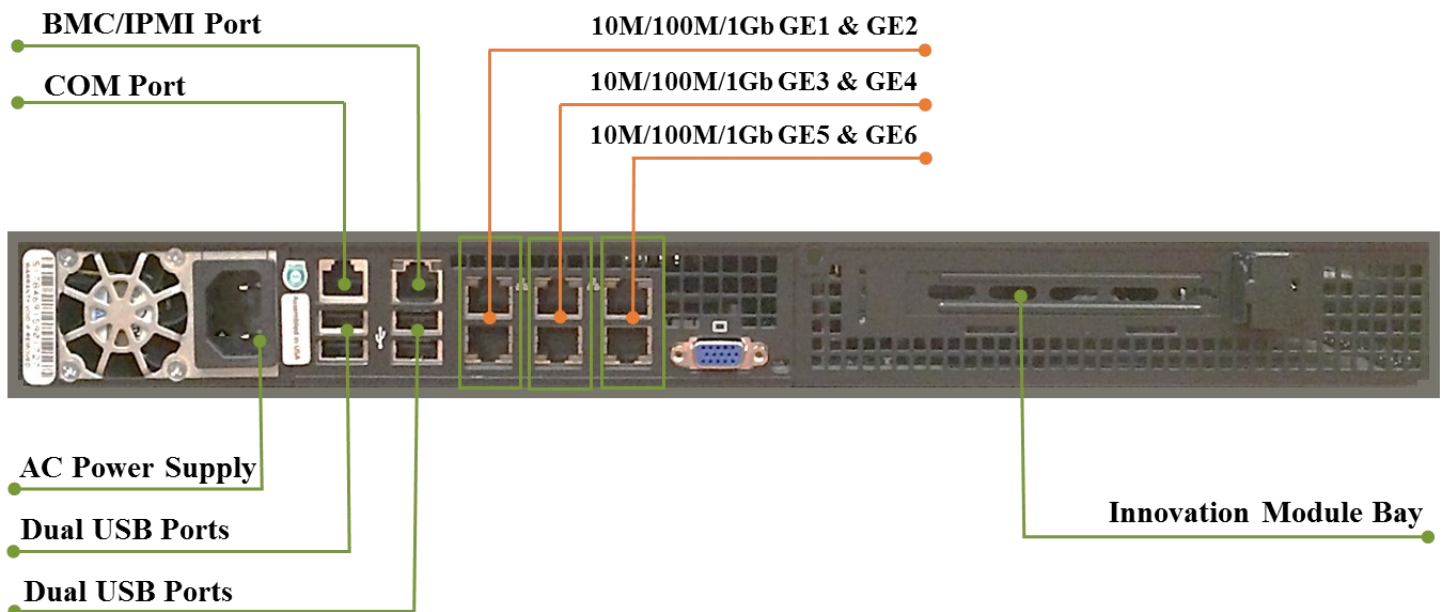
Feature	Description
Integrated Web Based User Interface	Standard Browser Based Web User Interface Supports Google Chrome, Apple Safari and Mozilla Firefox. Supports Test case configuration, execution, monitoring and report generation.
Full Circle Environment	Full circle test environment for test configuration, execution, monitoring and inspection.
Multi-User Multi-Session Support	Supports Port Reservation and Test Execution in Multi-User Environment.



InfiniLoad-60 External Interface Specification

Function	Compliance	Type	Quantity
Tri-mode 10Mb/100Mb/1Gb Traffic Ports	IEEE 802.3 BASE-T 10Mb/100Mb/1Gb with Auto Negotiation and MDI-X Support Category 5, Category 5e, Category 6 UTP	RJ-45	6
10/100/1000 Mbps IPMI/BMC Port	10/100/1000BASE-T Category 5, Category 5e, Category 6 UTP	RJ-45	1
COM Port	115200 Baud 8 Bit Data No Parity 1 Stop Bit	Serial	1
USB Port	USB 2.0 High Speed	USB 2.0	4
VGA Port	VGA Monitor	DB-15	1
512GB Storage	SATA-II	SSD	1






InfiniLoad-60 Rear Panel Features

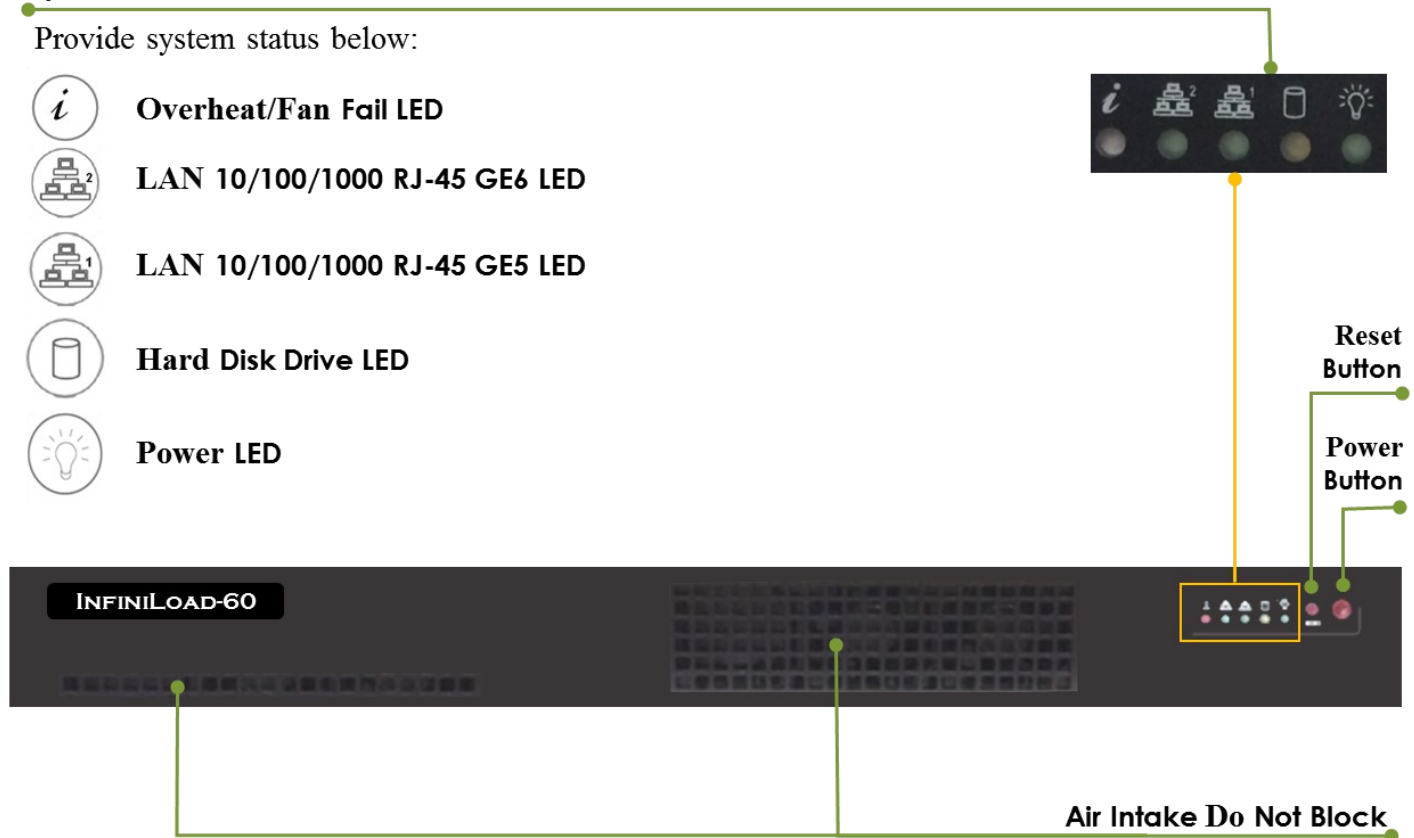


InfiniLoad-60 Front Panel Features

System Status LEDs

Provide system status below:

-  **Overheat/Fan Fail LED**
-  **LAN 10/100/1000 RJ-45 GE6 LED**
-  **LAN 10/100/1000 RJ-45 GE5 LED**
-  **Hard Disk Drive LED**
-  **Power LED**



InfiniLoad-60 Standard Peripherals

Part	Quantity
UTP Cat 6 Ethernet Cable	1
Mounting Kit	1
CD (User Manual, software package)	1

InfiniLoad-60 Package and Environmental Specification

Item	Description
Dimension (WxHxD)	437 x 43 x 287 (Unit: mm) 17.2 x 1.7 x 11.3 (Unit: inch)
Net Weight	5.5 Kilograms 12.13 Pounds
Environment	Operating Temperature: 0 ~ 35 (°C) 32 ~ 95 (°F) Non Operating Temperature: -40 ~ 70 (°C) -40 ~ 158 (°F) Humidity: 20 ~ 90% (Non-condensing)

InfiniLoad-60 Order Code

Part Number	Traffic Ports	Form Factor	Software Package
InfiniLoad-60	6x 10M/100M/1Gb Ports	1U Rack Mountable	Standard Package