ByteBlower Traffic generator

DATASHEET

ByteBlower Models	1300	3100 Gen3	3200 Gen2	4100	5100
Server interfaces	2x 1 Gbps	2x 10 Gbps	4x 10 Gbps	2x 10 Gbps	2x100Gbps

FEATURES AND BENEFITS

Generic Features

- Real-world network behavior on the transport layer
- One client can control multiple servers, independent of the ByteBlower model
- Share one server with multiple users
- Simulation of a large number of hosts on one or multiple physical interfaces
- Fixed port address or dynamic addressing using DHCP or stateless address autoconfiguration
- Packet loss measurements
- Latency, latency distribution and jitter measurements
- Testing NAT-ed devices
- Capture transmitted and received traffic for debugging

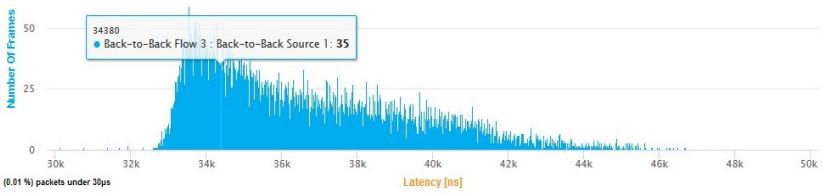
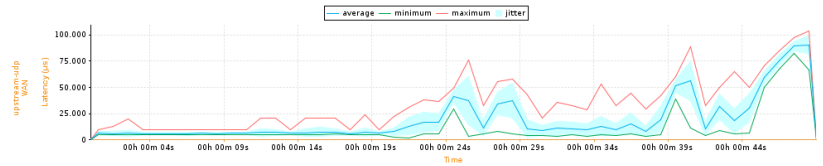
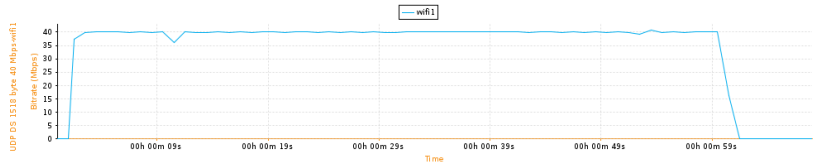
User interaction features

- Time-saving and intuitive platform-independent graphical user interface (GUI)
- Scheduled execution using batches
- Import of PCAP files
- Full control of start and stop times of each flow
- Automated project creation using wizards
- Automatic frame creation and addressing or control at bit level
- Clear report in HTML and in Microsoft® Excel or CSV format
- JSON output for easy processing
- Automatic project backup
- RFC2544
- Low cost of ownership and ease of use, everything included

Automation

- Execution of GUI configurations from command line

GENERATION AND ANALYSIS

Frame size with CRC	64 — 8192 bytes
Flow statistics	Latency distribution  Latency over time  TCP throughput over time  Frameblasting throughput over time 
Protocols	• Raw Ethernet packet • PPPoE (PPP, PAP), VLAN, Q-in-Q • IPv4,ARP,IPv6 • ICMPv4, ICMPv6 IGMP,MLD,TCP, UDP • DHCPv4,DHCPv6 • HTTP Telnet client
Features/Tools	• Capture Rx and Tx for debugging • TCP tunneling • Import PCAP frames

ByteBlower

ByteBlower servers

PERFORMANCE

ByteBlower series	1300	3100 Gen3	3200 Gen2	4100	5100
Unidir 64bytes (*)	1.0 M pps	14.1 M pps	14.1 M pps	14 .1M pps	48M pps**
Bidir 64bytes (*)	2.0 M pps	28.2 M pps	28.2 M pps	28.2M pps	96M pps**
Latency precision	100us	100us	100us	20ns	100us

(*) Performance per server interface

DETAILED PERFORMANCE — BYTEBLOWER 5100

12 flows Performance vs Linerate	Non-Trunk		Trunk	
	Uni-directional	Bi-directional	Uni-directional	Bi-directional
64 bytes	25%	**20%**	25%	20%
256 bytes	98%	**50%**	96%	50%
512 bytes	99%	**75%**	98.25%	75%
1024 bytes	99%	**80%**	98.25%	79%
1514 bytes	99%	**80%**	98.25%	79%

GENERIC SPECIFICATIONS

ByteBlower series	1300	3100 Gen3	3200 Gen2	4100	5100
Physical Interface types (server)	2 x 10/100/1000 BASE-T	2 x SFP+	4 x SFP+	2 x SFP+	2 x QSFP28
Time synchronization				Pulse / second IEEE 1588-2008 PTPv2	
Software updates	Device software updates over the internet Configuration is retained				

ByteBlower

SUPPORTED SFP MODULES

ByteBlower series	1300	3100 Gen3	3200 Gen2	4100	5100
Multi-mode				SX	
Single-mode				LX, ZX	
Copper				1000BASE-T or 10/100/1000BASE-T	

SUPPORTED SFP+ MODULES

ByteBlower series	1300	3100 Gen3	3200 Gen2	4100	5100
Multi-mode		Intel SR optics	Intel SR optics	SR / Dual rate SR	
Single-mode		Intel LR optics	Intel LR optics	LR / Dual rate LR	
Copper				10GBASE-CR	

SUPPORTED QSFP28 MODULES

ByteBlower series	1300	3100 Gen3	3200 Gen2	4100	5100
Multi-mode					SR4*
Single-mode					LR4*, PSM4*, CWDM4*

(*) Mellanox optics preferred.

SR4: MMA1B00-E100
LR4: MMA1L10-CR
PSM4: MMS1SC10-CM
CWDM4: MMA1L30-CM

ByteBlower

DIMENSIONS

ByteBlower series	1300	3100 Gen3	3200 Gen2	4100	5100
Width	17.2” (437mm)				
Height	1.7” (43mm)				
Depth	19.8” (503mm)	19.8” (503mm)	25.6” (650mm)	25.6” (650mm)	25.6” (650mm)
Weight	22.7lbs (10.3kg)	17.6lbs (8kg)	24lbs (10.9kg)	27.7lbs (12.12kg)	24 lbs (10.89 kg)

ENVIRONMENT

ByteBlower series	1300	3100 Gen3	3200 Gen2	4100	5100
Power	Redundant 400W 100—240V 50-60 Hz	Redundant 400W 100—240V 50-60 Hz	Redundant 500W 100—240V 50-60 Hz	Single 600W 100—240V 50-60 Hz	Redundant 500W 100—240V 50-60 Hz
Operational temperature	50 - 95° F 10 - 35° C	50 - 95° F 10 - 35° C	50 - 95° F 10 - 35° C	41 - 104° F 5 - 40° C	50 - 95° F 10 - 35° C
Operational humidity	8 to 90 % (non-condensing)				

CLIENT SOFTWARE

	Windows®	Linux®	MacOS®
GUI	✓	✓	✓
Tcl API	✓	✓	✓
Python API (2.7/3.x)	✓	✓	✓

Software is publicly available at: https://setup.byteblower.com

ByteBlower

ByteBlower switches

GENERIC SPECIFICATIONS

ByteBlower switch	BBSW-48-1G-1G	BBSW-48-1G-10G	BBSW-8-NBASET-10G	BBSW-FLEX-NBASET-10G	BBSW-24-NBASET-100G (****)
Compatible servers	1300	3100, 3200, 4100	3100, 3200, 4100	3100, 3200, 4100	5100
10M/100M/1G RJ45 ports	48	48			
1/2.5G NBASE-T ports			6		
1/2.5/5 NBASE-T ports			2		
1/2.5/5/10 NBASE-T ports				up to 88	24 up to 36
Supported SFP modules	1000BASE-T, 1000BASE-SX, 1000BASE-LX	1000BASE-T, 1000BASE-SX, 1000BASE-LX (**)	1000BASE-T, 1000BASE-SX, 1000BASE-LX (**)	1000BASE-T, 1000BASE-SX, 1000BASE-LX (**)	1000BASE-T, 1000BASE-SX, 1000BASE-LX (**)
Number of SFP ports	4(*)				
Supported SFP+ modules		10GBASE-SR, 10GBASE-LR, 10GBASE-LRM, 10GBASE-T	10GBASE-SR, 10GBASE-LR, 10GBASE-LRM, 10GBASE-T	10GBASE-SR, 10GBASE-LR, 10GBASE-LRM, 10GBASE-T	10GBASE-SR, 10GBASE-LR,
Number of SFP+ modules		4 (***)	2 (***)	8 up to 96 (***)	Up to 12
Support QSFP modules					QSFP28-SR4, QSFP28-LR4, QSFP-ER4
Number of QSFP modules					4 up to 5 (***)
Supports daisy chaining		Yes	Yes	Yes	Yes

(*) combined with RJ45 ports, one RJ45 port used to connect with the servers

(**) Ports support SFP and SFP+

(***) One port used to connect with the server

(****) Preliminary specifications

ByteBlower

DIMENSIONS

ByteBlower switch	BBSW-48-1G-1G	BBSW-48-1G-10G	BBSW-8-NBASET-10G	BBSW-FLEX-NBASET-10G	BBSW-24-NBASET-100G (****)
Width	17.2” (437mm)	17.2” (437mm)	17.2” (437mm)	17.2” (437mm)	17.2” (437mm)
Height	1.7” (43mm)	1.7” (43mm)	1.7” (43mm)	1.7” (43mm)	1.7” (43mm)
Depth	9.1” (231mm)	15” (380mm)	3.9” (100mm)	21.1” (535mm)	17.5” (445mm)
Weight	7.3lbs (3.3kg)	12.1lbs (5.5kg)	4.52lbs (2.05kg)	minimum 25.9lbs (11.8kg)	17.6lbs (7.9kg)

ENVIRONMENT

ByteBlower switch	BBSW-48-1G-1G	BBSW-48-1G-10G	BBSW-8-NBASET-10G	BBSW-FLEX-NBASET-10G	BBSW-24-NBASET-100G (****)
Operational temperature	32°F to 122°F 0°C to 50°C	32°F to 104°F 0ºC to 40ºC	32°F to 122°F 0°C to 50°C	32°F to 122°F 0°C to 50°C	32°F to 113°F 0°C to 45°C
Operational humidity	5% to 90% non-condensing	10% to 95% non-condensing	5% to 90% non-condensing	5% to 90% non-condensing	5% to 90% non-condensing

End of Life Models

DATASHEET

ByteBlower series	2100	3100 Gen2	3200 Gen1
EoL Date	1 jan 2019	1 aug 2019	1 aug 2019
Unidir 64bytes (*)	1.0 M pps	14.1 M pps	14.1 M pps
Bidir 64bytes (*)	2.0 M pps	23.0 M pps	23.0 M pps
Latency precision	20ns	100us	100us

(*) Performance per server interface

DIMENSIONS

ByteBlower series	2100	3100 Gen2	3200 Gen1
Size	W: 17.2” (437mm) H: 1.7” (43mm) D: 25.6” (650mm)	W: 17.2” (437mm) H: 1.7” (43mm) D: 29.0” (737mm)	W: 17.2” (437mm) H: 1.7” (43mm) D: 29.0” (737mm)
Weight	27.7lbs (12.12kg)	29.5lbs (13.4kg)	29.5lbs (13.4kg)

ENVIRONMENT

ByteBlower series	2100	3100 Gen2	3200 Gen1
Power	Single 600W 100—240V 50-60 Hz	Redundant 750W 100—240V 50-60 Hz	Redundant 750W 100—240V 50-60 Hz
Operational temp.	41 - 104° F 5 - 40° C	50 - 95° F 10 - 35° C	50 - 95° F 10 - 35° C
Operational Hum.	8 to 90 % (non-condensing)		