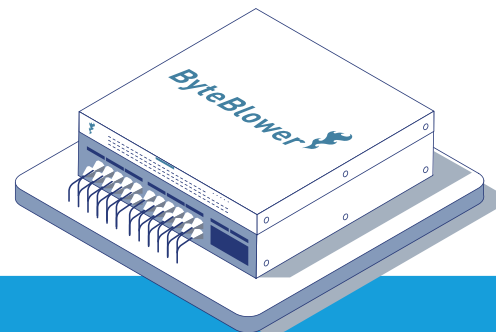




Datasheet

ByteBlower Models

3200 Gen2

4100

5100

Server Interfaces

4x10 Gbps

2x10 Gbps

2x100 Gbps

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.

Any questions?

Contact us:
support.byteblower@excentis.com

Execution of GUI configurations from command line.

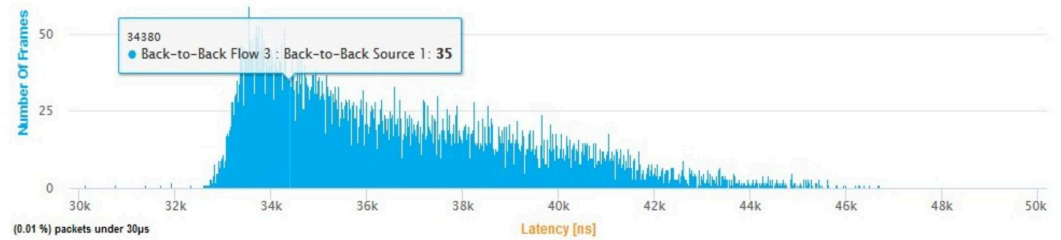
Fully flexible scripting capabilities with platform independent Tcl API or Python API.

Generation & analysis

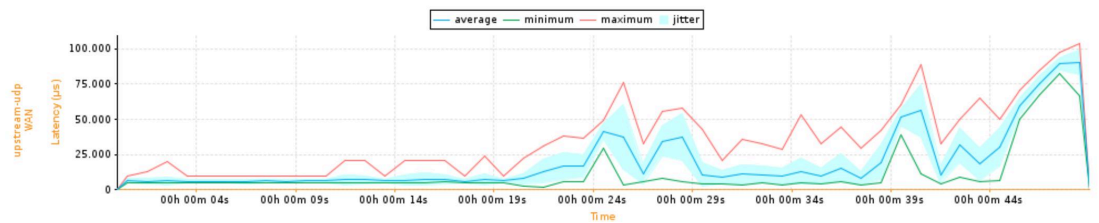
Frame size with CRC

64 — 8192 bytes

Latency distribution



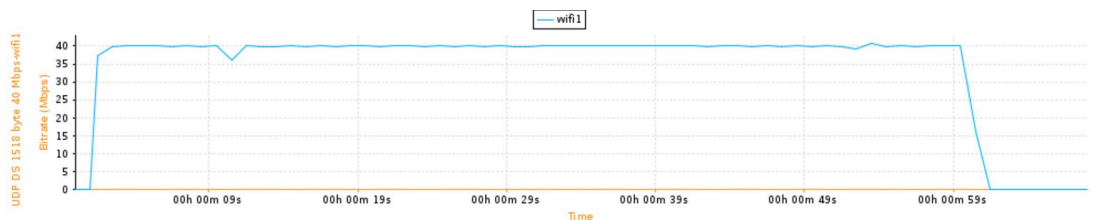
Latency over time



TCP throughput over time



Frameblasting throughput over time



Raw Ethernet packet

PPPoE (PPP, PAP), VLAN, Q-in-Q

IPv4,ARP,IPv6

ICMPv4, ICMPv6 IGMP,MLD,TCP, UDP

DHCPv4,DHCPv6

HTTP Telnet client

Capture Rx and Tx for debugging

TCP tunneling

Import PCAP frames

ByteBlower servers

ByteBlower series	3100 Gen2	5100
Unidirectional 64bytes (*)	14.1 M pps	48M pps
Bidirectional 64bytes (*)	28.2 M pps	96M pps
Latency precision	100 us	100us(**)
Maximum number of concurrent TCP sessions	60,000 (***)	200,000 (***)
Number of TCP sessions required for line rate	1	4

(*) Performance per server interface

(**) Measured between 2 interfaces sending 80% of the maximum load for background traffic and 10Kpps for latency measurement traffic with 2 switches in between.

(***) Measured with the HTTP MultiClient implementation

12 flows	Non-trunk		Trunk	
UDP Performance vs Linerate	Uni-directional	Bi-directional	Uni-directional	Bi-directional
64 bytes	25%	20%	25%	20%
64 bytes	98%	50%	96%	50%
64 bytes	99%	75%	98.25%	75%
64 bytes	99%	80%	98.25%	79%
64 bytes	99%	80%	98.25%	79%

Detailed performance	Unidirectional TCP performance vs Linerate	Non-trunk	Trunk
	1 flow	30% (*)	98% (**)
	64 bytes	99.6% (*)	99.6% (**)
	All results are measured with an MDL set to 1514 bytes and a Window Scaling factor of 8. These are the ByteBlower defaults. (*) Measured between 2 non-trunking interfaces. Line-rate is 100Gbit/s (**) Measured between 1 non-trunking interface and X trunking interfaces. The line-rate is here 10Gbit/s when using a single trunking interface and up to 100Gbit/s when using multiple trunking interfaces.		

Generic specifications	ByteBlower series	3200 Gen2	5100
	Physical Interface types (server)	4 x SFP+	2 x QSFP28
	Time synchronization		
	Software updates	Device software updates over the internet Configuration is retained	

Testing connectivity

All systems are delivered with compatible transceivers and fibers. Short-range multimode optics are provided by default.
[Contact our sales team](#) if you desire different connectivity.

Supported SFP+ modules	ByteBlower series	3200 Gen2	5100
	Multi-mode	Intel SR optics E10GSFPSR	See switch configurations
	Single-mode	Intel LR optics E10GSFPLR	
	Copper		

Supported QSFP28 modules	ByteBlower series	3200 Gen2	5100
	Multi-mode		SR4 All brands
	Single-mode		LR4, PSM4, CWDM4 All brands

Dimensions & environment

Dimensions	ByteBlower series	3200 Gen2	5100
	Width	17.2" (437mm)	17.2" (437mm)
	Height	1.7" (43mm)	1.7" (43mm)
	Depth	25.6" (650mm)	25.6" (650mm)
	Weight	24lbs (10.9kg)	24 lbs (10.89 kg)

Environment	ByteBlower series	3200 Gen2	5100
	Power	Redundant 500W 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
	Operational humidity	8 to 90% (non-condensing)	8 to 90% (non-condensing)

Client software

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

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

ByteBlower switches

Generic specifications	ByteBlower switch	BBSW-40-1G-8-NABSET-10G	BBSW-FLEX-NBASET-10G	BBSW-24-NBASET-100G	BBSW-24-SFP+-100G	BBSW-48-NBASET-100G	BBSW-48-SFP+-100G	BBSW-8-SFP28-25G
	Compatible servers	3100, 3200, 4100	3100, 3200, 4100	5100, 3200 (*)	5100, 3200 (*)	5100, 3200 (*)	5100, 3200 (*)	5100
	10M/100M /1G RJ45 ports	40						
	1/2.5G NBASE-T ports							
	1/2.5/5 NBASE-T ports	8						
	1/2.5/5/10 NBASE-T		up to 88	24 up to 36	up to 12	48		
	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 (**)	1000BASE-T, 1000BASE-SX, 1000BASE-LX (**)	
	Number of SFP ports							
	Supported SFP+ modules	10GBASE-SR, 10GBASE-LR, 10GBASE-LRM, 10GBASE-T	10GBASE-SR, 10GBASE-LR, 10GBASE-LRM, 10GBASE-T	10GBASE-SR, 10GBASE-LR	10GBASE-SR, 10GBASE-LR	10GBASE-SR, 10GBASE-LR	10GBASE-SR, 10GBASE-LR	
	Number of SFP+ modules	4 (***)	8 up to 96 (***)	up to 12	24 up to 36		48	

Table continued on the next page

Generic specifications

ByteBlower switch	BBSW-40-1G-8-NABSET-10G	BBSW-FLEX-NBASET-10G	BBSW-24-NBASET-100G	BBSW-24-SFP+-100G	BBSW-48-NBASET-100G	BBSW-48-SFP+-100G	BBSW-8-SFP28-25G
Supported QSFP modules		QSFP28-SR4, QSFP28-LR4, QSFP-ER4	QSFP28-SR4, QSFP28-LR4, QSFP-ER4	QSFP28-SR4, QSFP28-LR4, QSFP-ER4	QSFP28-SR4, QSFP28-LR4, QSFP-ER4	QSFP28-SR4, QSFP28-LR4, QSFP-ER4	QSFP28-LR, QSFP28-SR, QSFP28-ER4
Number of QSFP modules		4 up to 5 (***)	4 up to 5 (***)	4 up to 5 (***)	4 up to 5 (***)	4 up to 5 (***)	2
Supports daisy chaining	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of 25G SFP28 ports							8

(*) A breakout cable is required

(**) Ports support SFP and SFP+

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

Exact properties also depend on used modules. [Contact us](#) for details about specific modules.

Dimensions & environment

Dimensions

ByteBlower switch	BBSW-40-1G-8-NABSET-10G	BBSW-FLEX-NBASET-10G	BBSW-24-NBASET-100G	BBSW-24-SFP+-100G	BBSW-48-NBASET-100G	BBSW-48-SFP+-100G	BBSW-8-SFP28-25G
Width	17.2" (437mm)	17.2" (437mm)	17.31" (440mm)	17.31" (440mm)	17.63" (441mm)	17.36" (441mm)	12.6 " (320mm)
Height	1.7" (43mm)	1.7" (43mm)	1.7" (43mm)	1.7" (43mm)	1.7" (43mm)	1.7" (43mm)	1.8" (45mm)
Depth	15" (380mm)	21.1" (535mm)	17.5" (445mm)	17.5" (445mm)	17.7" (449mm)	17.7" (449mm)	8.3" (210cm)
Weight	12.1lbs (5.5kg)	minimum 25.9lbs (11.8kg)	16.0lbs (7.3kg)	16.0lbs (7.3kg)	16.9lbs (7.7kg)	16.5lbs (7.5kg)	3.79lbs (1.72 kg)

Environment

ByteBlower switch	BBSW-40-1G-8-NABSET-10G	BBSW-FLEX-NBASET-10G	BBSW-24-NBASET-100G	BBSW-24-SFP+-100G	BBSW-48-NBASET-100G	BBSW-48-SFP+-100G	BBSW-8-SFP28-25G
Operational temperature	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)	-40°C to 70°C (-40°F to 178°F)
Operational humidity	10% to 95% non-condensing	5% to 95% non-condensing	5% to 95% non-condensing	5% to 95% non-condensing	5% to 95% non-condensing	5% to 95% non-condensing	



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