



IxNetwork Report

Test: RFC2544 - Throughput/Latency

Test Date: 08/02/2017 18:03:17

www.ixiacom.com
www.ixiacom.com/support

Table of Contents

1.	Cover	1
2.	Info	3
3.	Port Map	4
4.	Aggregate Graphs	5
5.	IterationCharts	13
6.	Aggregated Results	16
7.	Per Flow Results	17
8.	Iteration Data	18
9.	Theoretical Max Rates	20

RFC2544 - Throughput/Latency - Info**Test Information****Product Information**

Product Label :	Your switch/router name here
Product Version :	Your firmware version here
Serial Number :	Your switch/router serial number here
Comments :	

Test Settings

Date Executed :	08/02/2017
Time Executed :	18:03:17
User Name :	
Number of Trials Executed :	1
Stream Duration (sec) :	20

Output Parameters

Number of Trials Passed :	N/A
Test Duration :	00:06:06

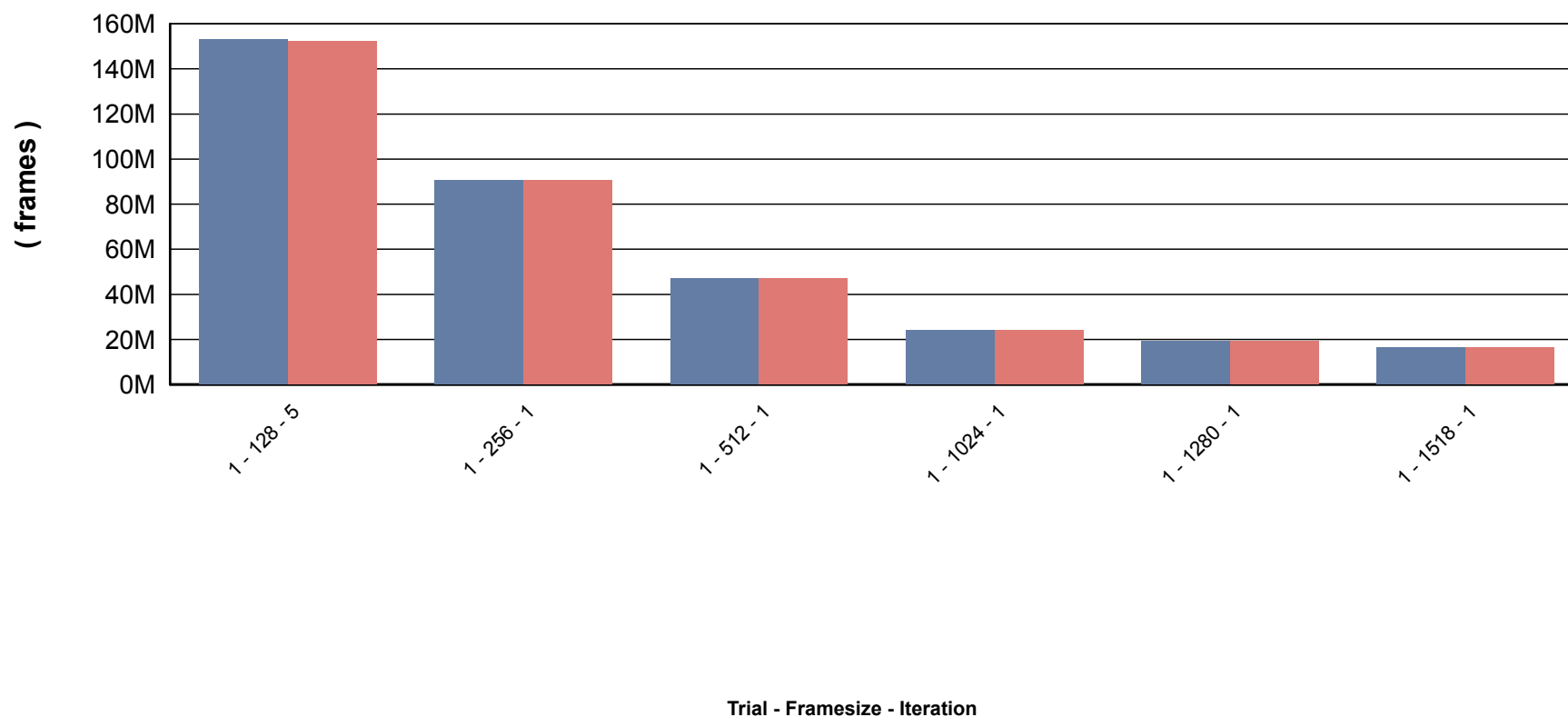
RFC2544 - Throughput/Latency - Port Map Information

Port Map :	Tx Port	Tx Speed (Mbps)	Rx Port	Rx Speed (Mbps)
	172.16.0.9:2:1	10000	172.16.0.9:2:2	10000

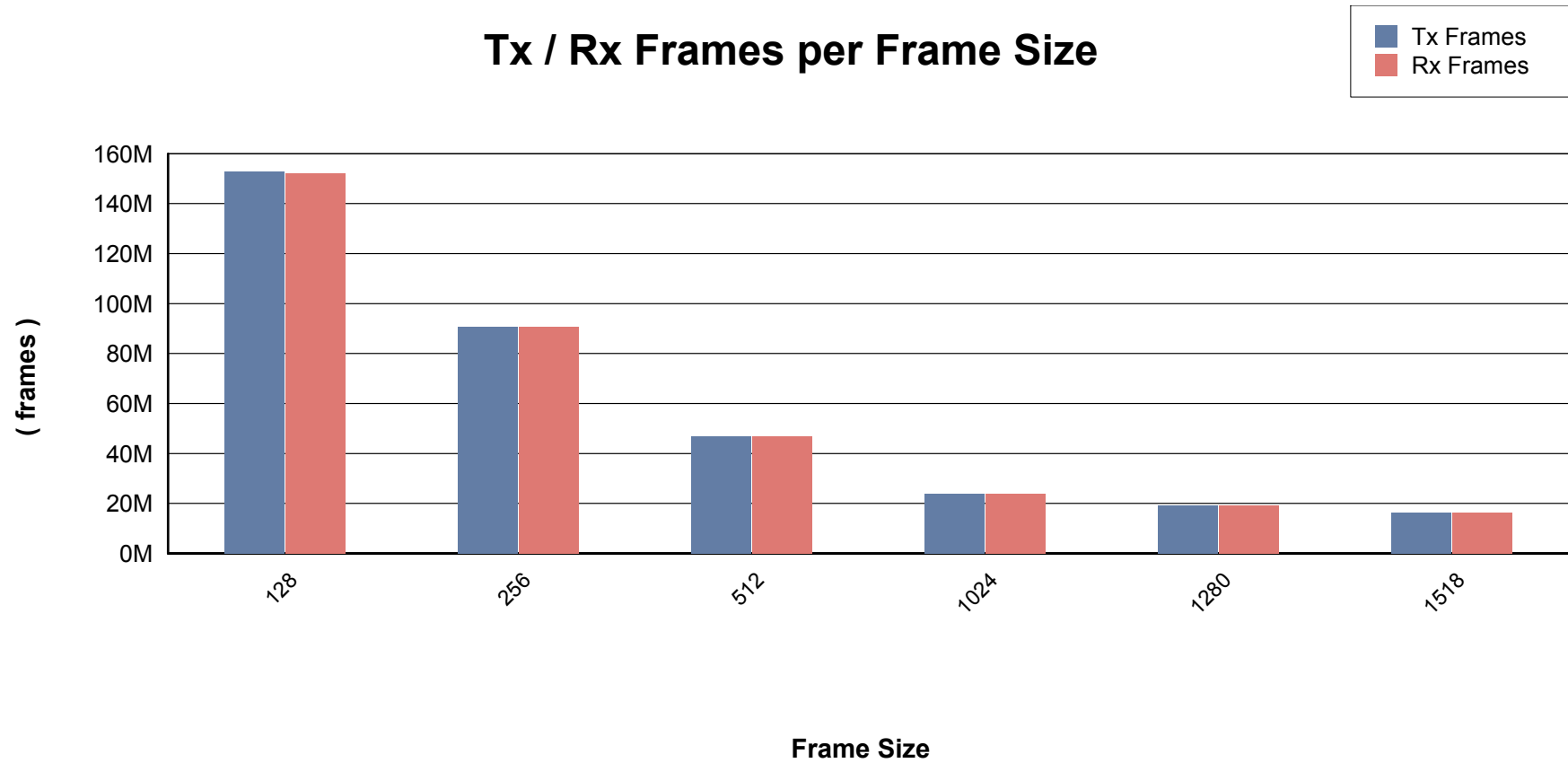
RFC2544 - Throughput/Latency - Aggregated Graph

Total Frames Transmitted and Received

Tx Frames
Rx Frames

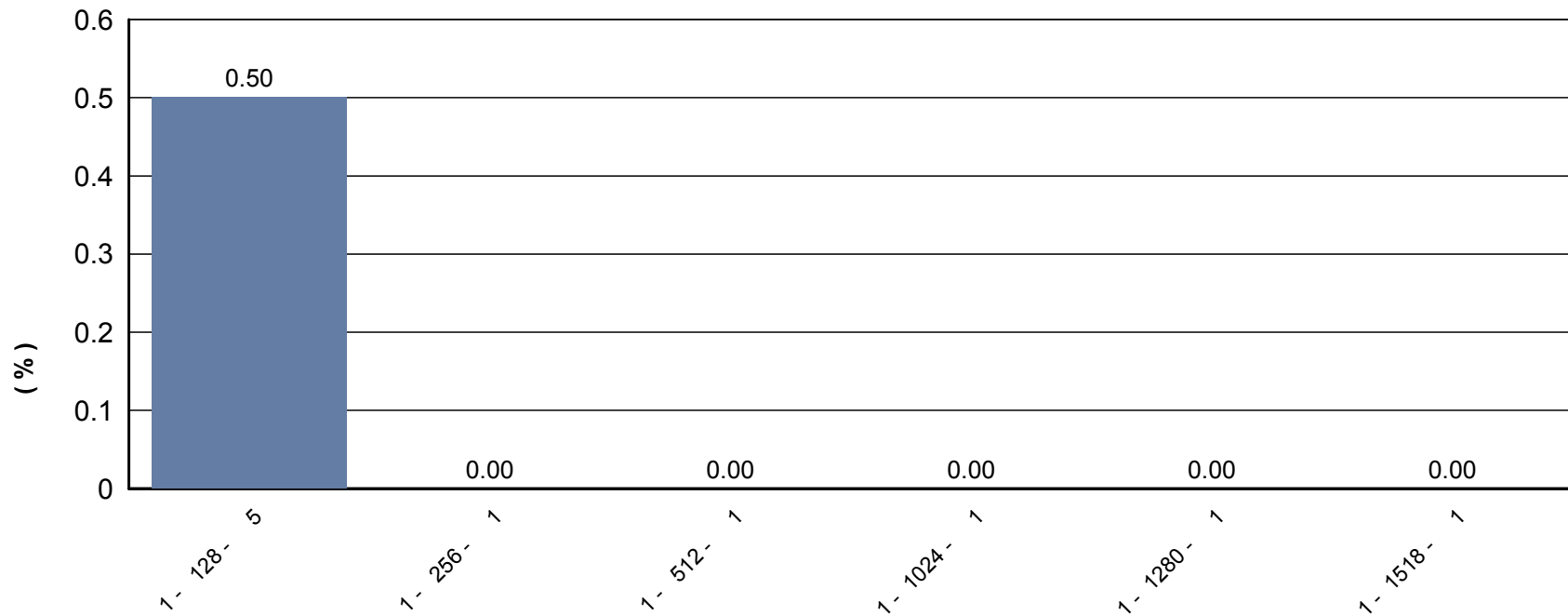


RFC2544 - Throughput/Latency - Aggregated Graph



RFC2544 - Throughput/Latency - Aggregated Graph

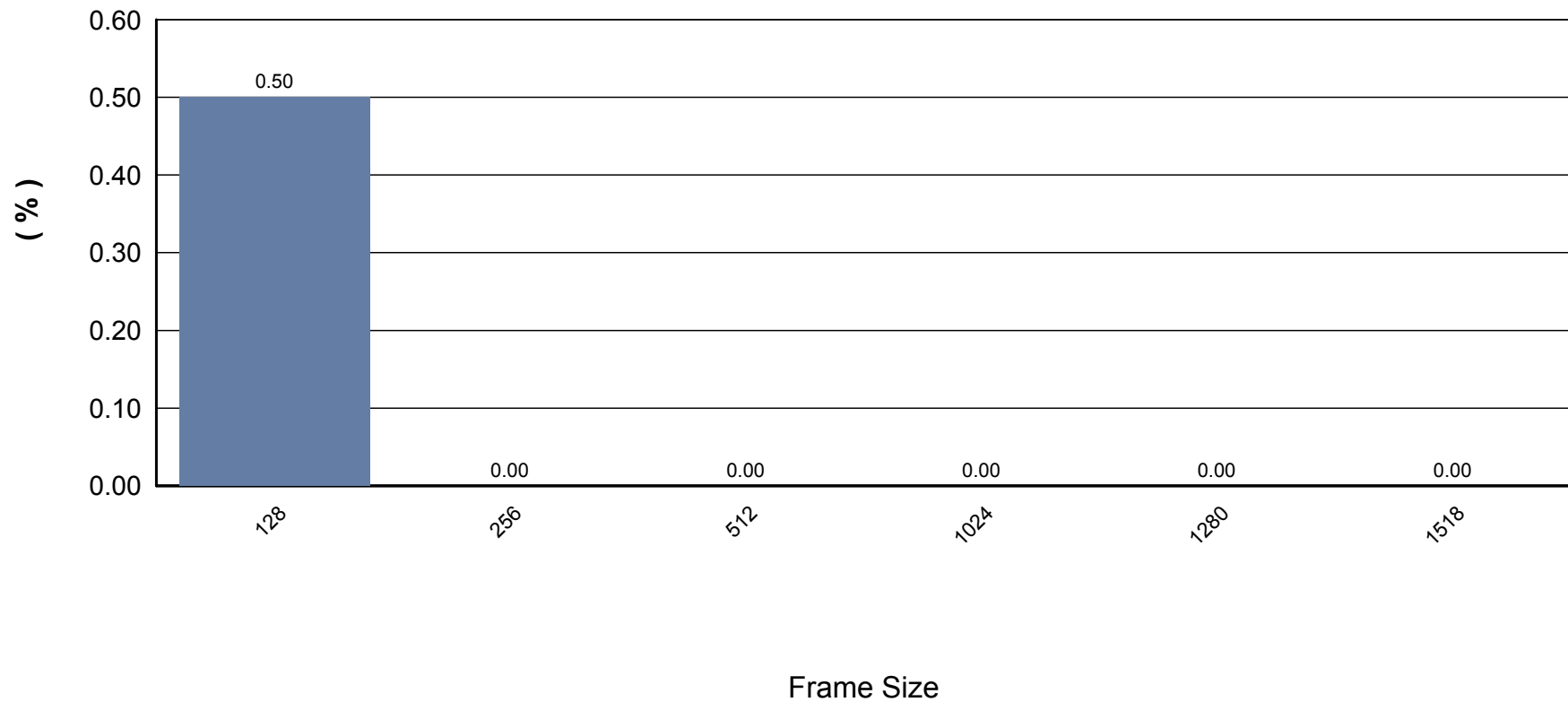
Aggregated Frame Loss



Trial - Framesize - Iteration

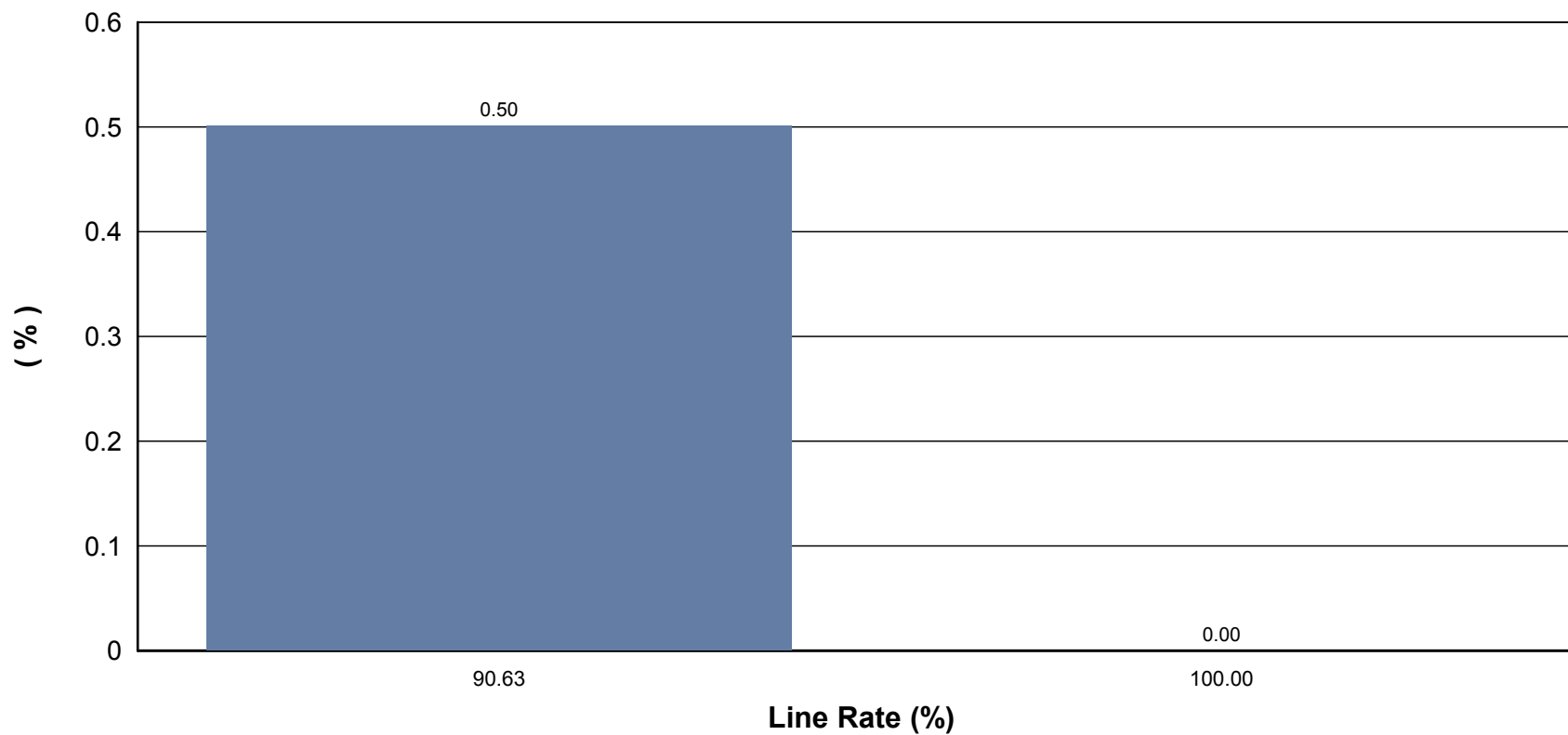
RFC2544 - Throughput/Latency - Aggregated Graph

Aggregated Frame Loss per Frame Size



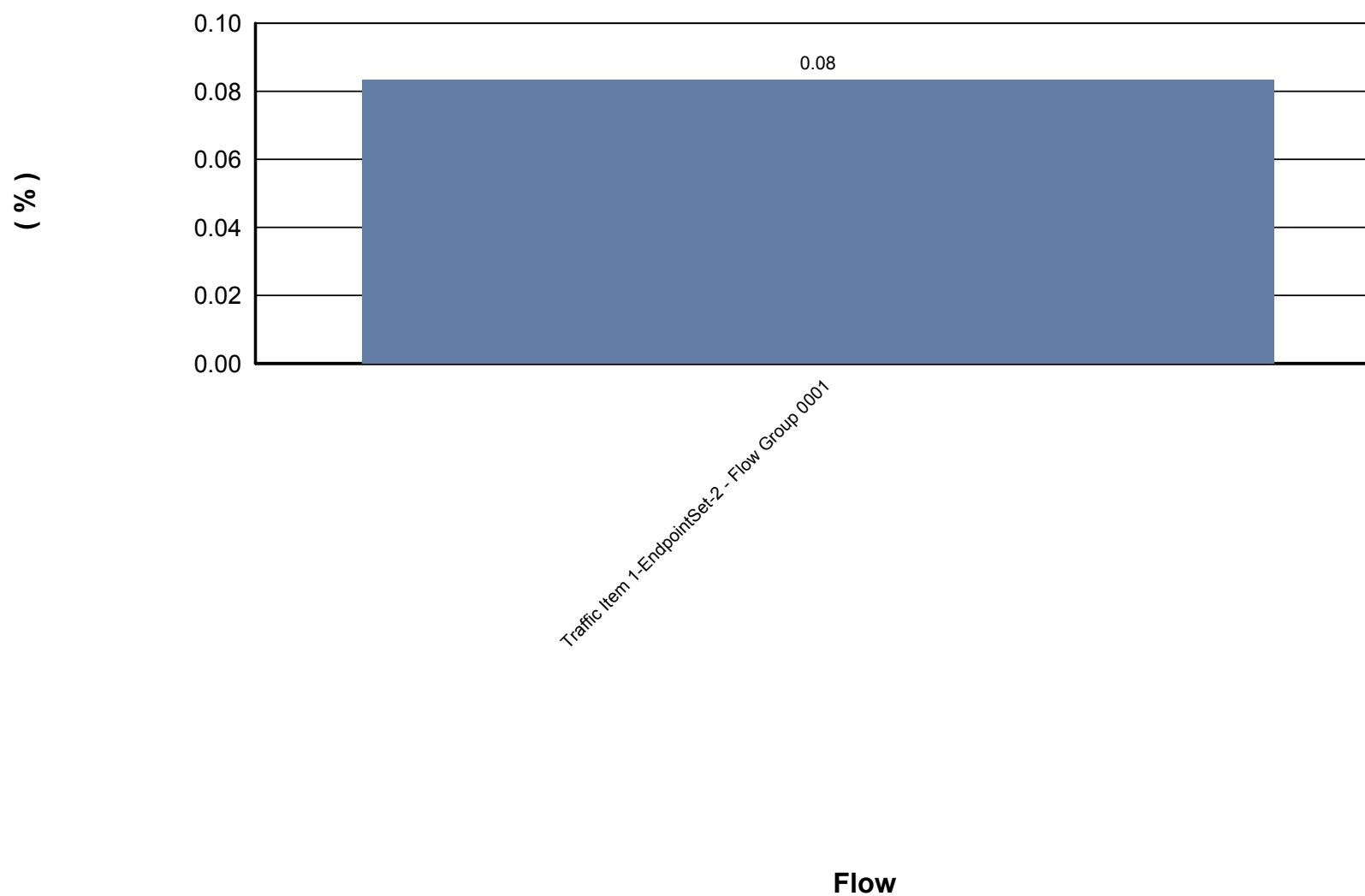
RFC2544 - Throughput/Latency - Aggregated Graph

Aggregated Frame Loss per Line Rate



RFC2544 - Throughput/Latency - Per Flow Graph

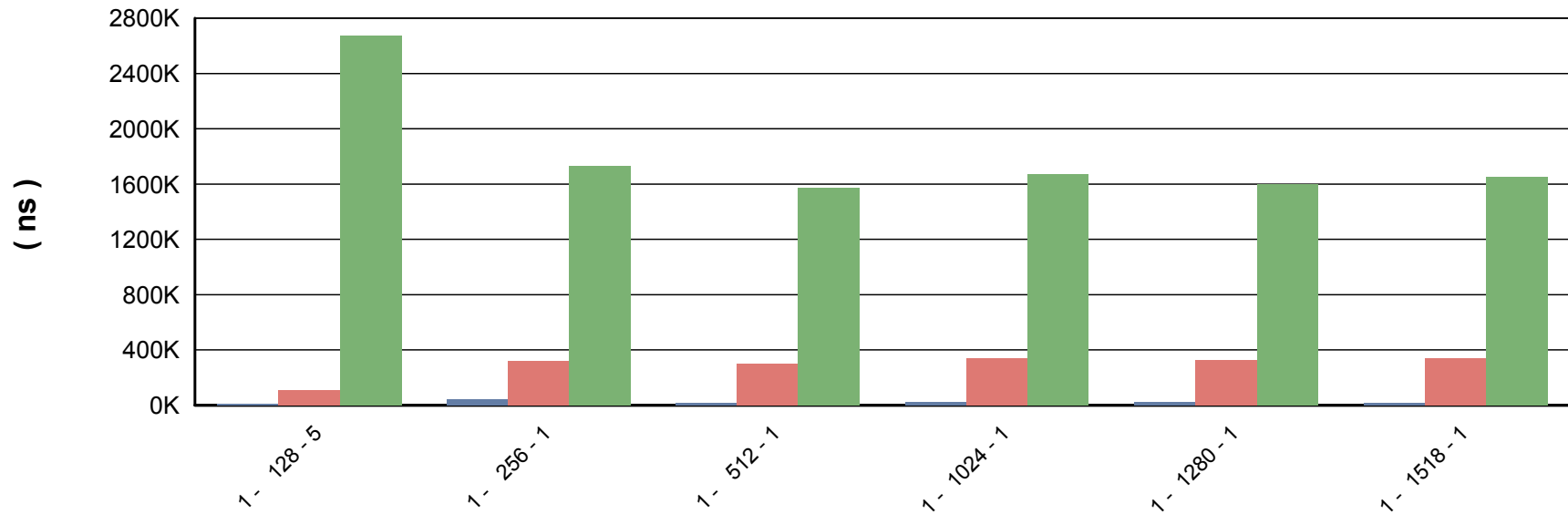
Average Frame Loss per Flow



RFC2544 - Throughput/Latency - Aggregated Graph

Aggregated Latency

Minimum
Average
Maximum

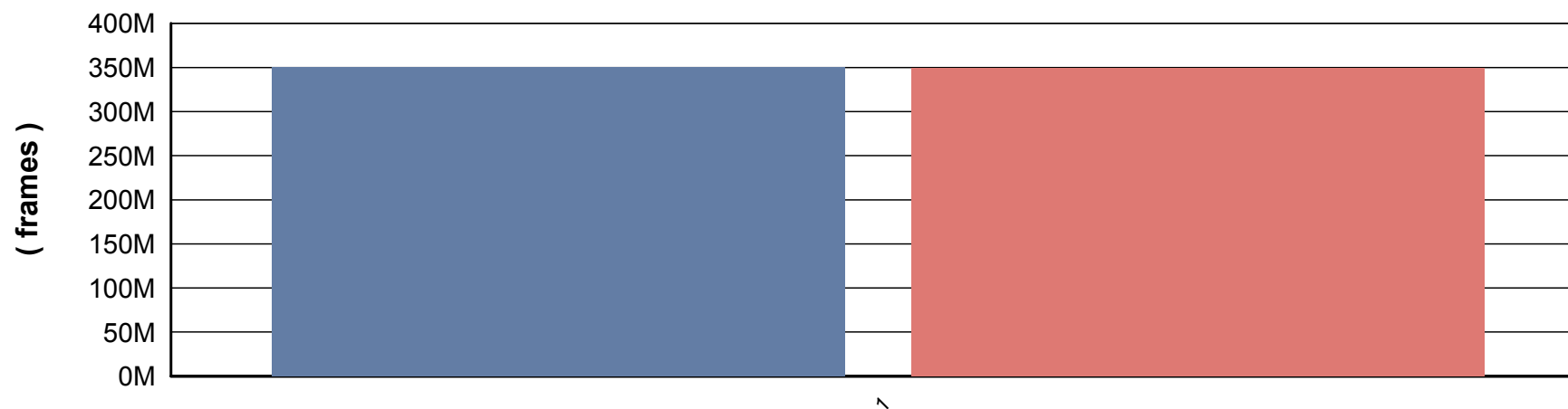


Trial - Framesize - Iteration

RFC2544 - Throughput/Latency - Per Flow Graph

Tx / Rx Frame Count

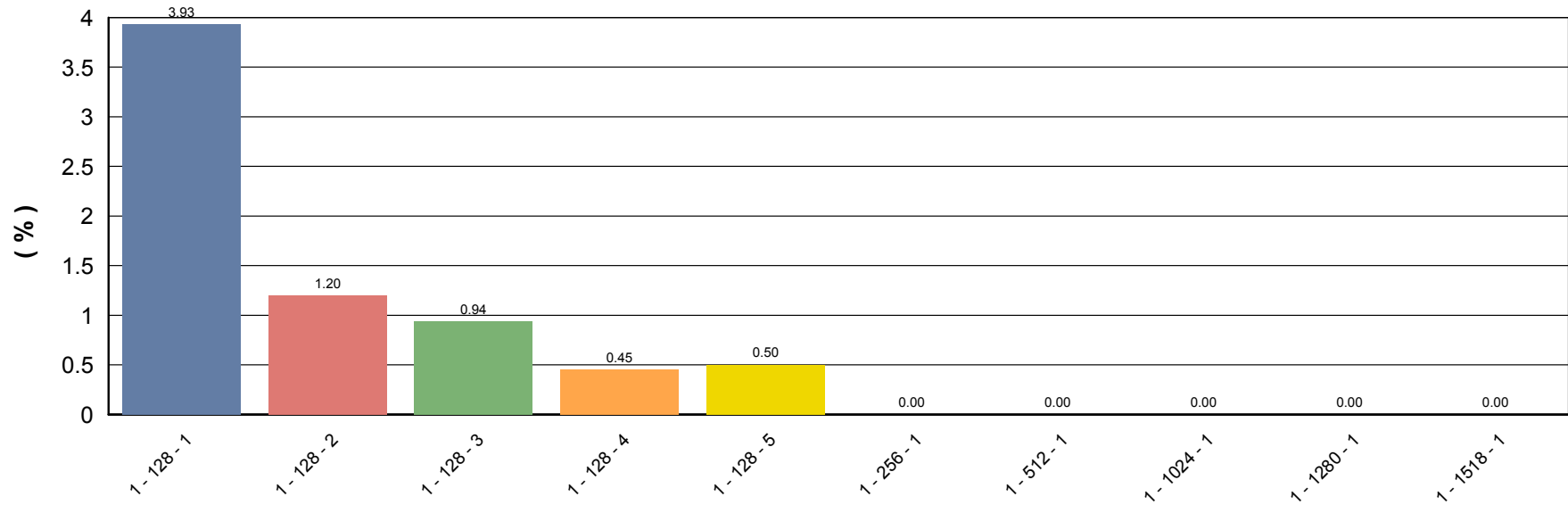
■ Tx Count
■ Rx Count



Trial

RFC2544 - Throughput/Latency - Iteration Graph

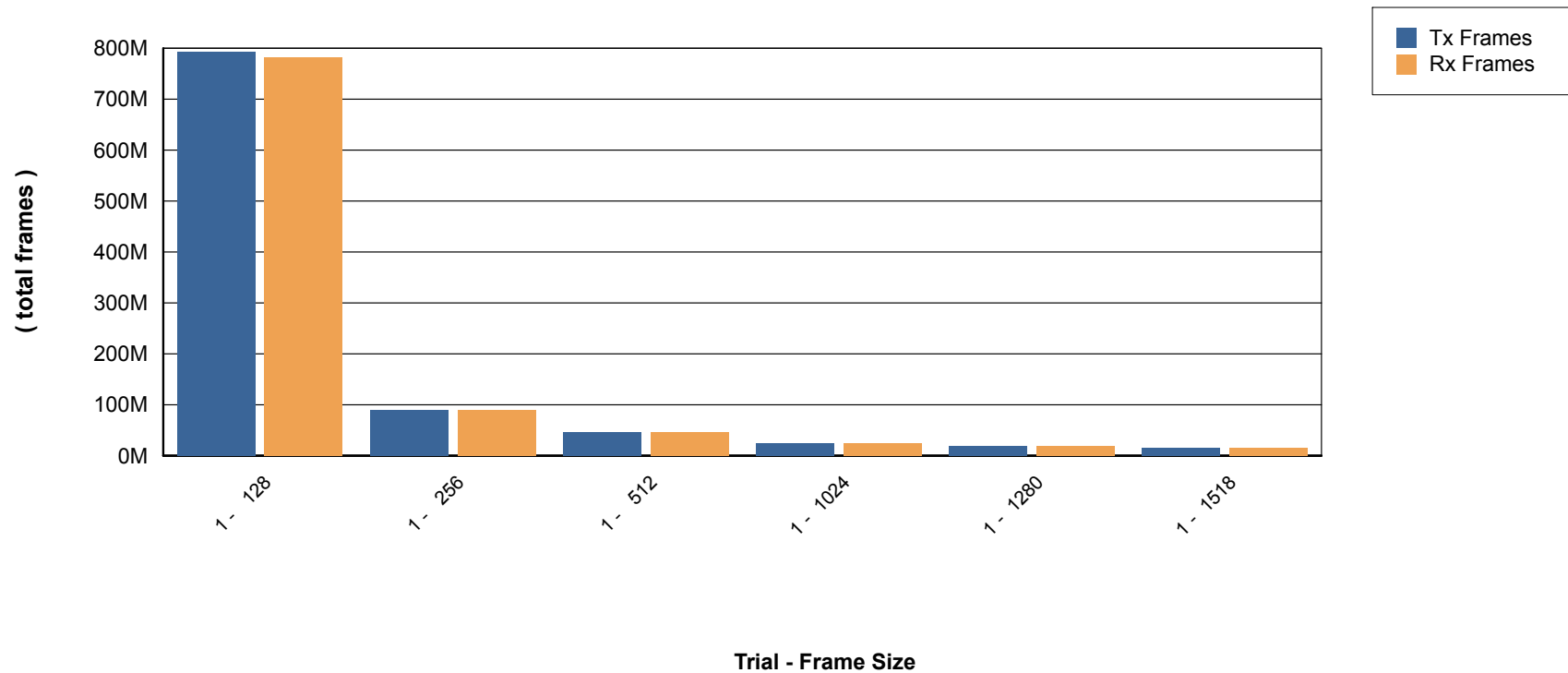
Aggregated Frame Loss (%)



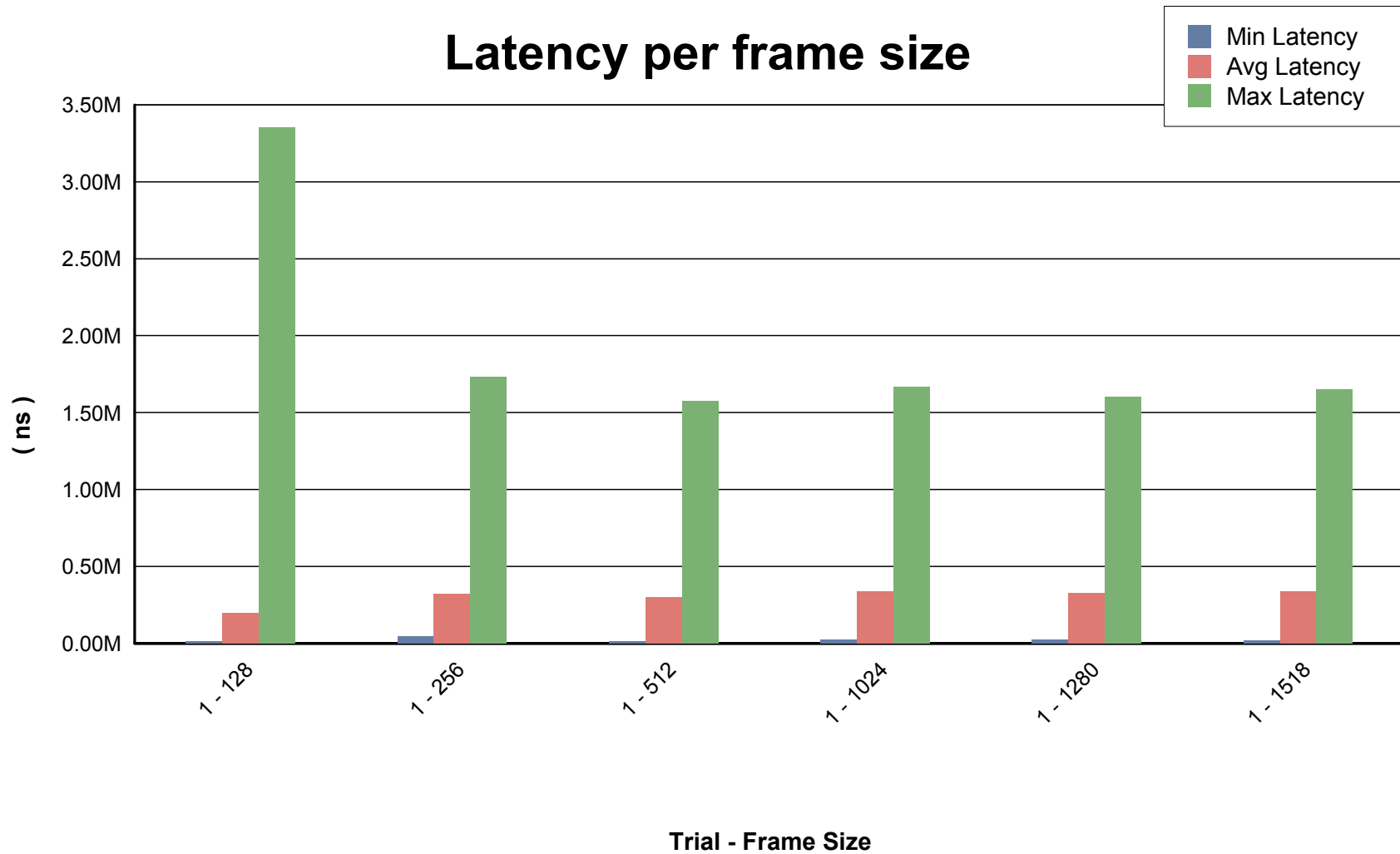
Trial - Frame Size - Iteration

RFC2544 - Throughput/Latency - Iteration Graph

Tx / Rx Frames per Frame Size



RFC2544 - Throughput/Latency - Iteration Graph



RFC2544 - Throughput/Latency - Aggregated Results

Trial / Framesize / Iteration	Agg L2 Throughput				Agg L1 Throughput		Throughput (frames)	Agg Latency			
	AggTx Rate %	Agg Rx Rate			Tx Rate Mbps	Rx Rate Mbps		Min (ns)	Max (ns)	Average (ns)	
		%	FPS	Mbps							
Trial: 1 / FS: 128 / Iter: 5	90.63	90	7615877.2	7798.658			Tx : 153082770.000 Rx : 152316464.000 Loss : 766306 Loss% : 0.50	12460	2674755	107947.000	
Trial: 1 / FS: 256 / Iter: 1	100.00	100	4528892.4	9275.172			Tx : 90579710.000 Rx : 90579710.000 Loss : 0 Loss% : 0.00	42497	1733055	319103.000	
Trial: 1 / FS: 512 / Iter: 1	100.00	100	2349572.1	9623.847			Tx : 46992481.000 Rx : 46992481.000 Loss : 0 Loss% : 0.00	15600	1571892	301720.000	
Trial: 1 / FS: 1024 / Iter: 1	100.00	100	1197292.7	9808.221			Tx : 23946360.000 Rx : 23946360.000 Loss : 0 Loss% : 0.00	22817	1667372	337871.000	
Trial: 1 / FS: 1280 / Iter: 1	100.00	100	961518.3	9845.948			Tx : 19230769.000 Rx : 19230769.000 Loss : 0 Loss% : 0.00	26097	1599437	324984.000	
Trial: 1 / FS: 1518 / Iter: 1	100.00	100	812725.9	9869.744			Tx : 16254876.000 Rx : 16254876.000 Loss : 0 Loss% : 0.00	17647	1653040	336613.000	

RFC2544 - Throughput/Latency - Per Flow Statistics - Part 1 of 2

Trial / Framesize / Iteration	Tx Port	Rx Port	Flow Group	L2 Throughput				L1 Throughput		Throughput (frames)
				Tx Rate %	%	FPS	Mbps	Tx Rate Mbps	Rx Rate Mbps	
Trial: 1 / FS: 128 / Iter: 5	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	90.63	90	7615877.2	7798.66			Tx : 153082770 Rx : 152316464 Loss : 766306 Loss% : 0.501
Trial: 1 / FS: 256 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	100.00	100	4528892.4	9275.17			Tx : 90579710 Rx : 90579710 Loss : 0 Loss% : 0.000
Trial: 1 / FS: 512 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	100.00	100	2349572.1	9623.85			Tx : 46992481 Rx : 46992481 Loss : 0 Loss% : 0.000
Trial: 1 / FS: 1024 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	100.00	100	1197292.7	9808.22			Tx : 23946360 Rx : 23946360 Loss : 0 Loss% : 0.000
Trial: 1 / FS: 1280 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	100.00	100	961518.3	9845.95			Tx : 19230769 Rx : 19230769 Loss : 0 Loss% : 0.000
Trial: 1 / FS: 1518 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	100.00	100	812725.9	9869.74			Tx : 16254876 Rx : 16254876 Loss : 0 Loss% : 0.000

RFC2544 - Throughput/Latency - Per Flow Statistics - Part 2 of 2

Trial / Framesize / Iteration	Tx Port	Rx Port	Flow Group	Min Latency (ns)	Max Latency (ns)	Avg Latency (ns)
Trial: 1 / FS: 128 / Iter: 5	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	12460	2674755	107947
Trial: 1 / FS: 256 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	42497	1733055	319103
Trial: 1 / FS: 512 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	15600	1571892	301720
Trial: 1 / FS: 1024 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	22817	1667372	337871
Trial: 1 / FS: 1280 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	26097	1599437	324984
Trial: 1 / FS: 1518 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	17647	1653040	336613

RFC2544 - Throughput/Latency - Iteration Statistics - Part 1 of 2

Trial / Framesize / Iteration	Tx Port	Rx Port	Flow Group	L2 Throughput				L1 Throughput		Throughput (frames)	
				Tx Rate %	Rx Rate			Tx Rate Mbps	Rx Rate Mbps		
					%	FPS	Mbps				
Trial: 1 / FS: 128 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	100.00	96.07	8113663.2	8308.39			Tx : 168918919 Rx : 162275928 Loss : 6642991 Loss% : 3.933	
Trial: 1 / FS: 128 / Iter: 2	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	95.00	93.86	7927429.5	8117.69			Tx : 160472973 Rx : 158547887 Loss : 1925086 Loss% : 1.200	
Trial: 1 / FS: 128 / Iter: 3	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	92.50	91.63	7739373.9	7925.12			Tx : 156250000 Rx : 154787591 Loss : 1462409 Loss% : 0.936	
Trial: 1 / FS: 128 / Iter: 4	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	91.25	90.84	7672024.1	7856.15			Tx : 154138514 Rx : 153440179 Loss : 698335 Loss% : 0.453	
Trial: 1 / FS: 128 / Iter: 5	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	90.63	90.17	7615877.2	7798.66			Tx : 153082770 Rx : 152316464 Loss : 766306 Loss% : 0.501	
Trial: 1 / FS: 256 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	100.00	100.00	4528892.4	9275.17			Tx : 90579710 Rx : 90579710 Loss : 0 Loss% : 0.000	
Trial: 1 / FS: 512 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	100.00	100.00	2349572.1	9623.85			Tx : 46992481 Rx : 46992481 Loss : 0 Loss% : 0.000	
Trial: 1 / FS: 1024 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	100.00	100.00	1197292.7	9808.22			Tx : 23946360 Rx : 23946360 Loss : 0 Loss% : 0.000	
Trial: 1 / FS: 1280 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	100.00	100.00	961518.3	9845.95			Tx : 19230769 Rx : 19230769 Loss : 0 Loss% : 0.000	
Trial: 1 / FS: 1518 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	100.00	100.00	812725.9	9869.74			Tx : 16254876 Rx : 16254876 Loss : 0 Loss% : 0.000	

RFC2544 - Throughput/Latency - Iteration Statistics - Part 2 of 2

Trial / Framesize / Iteration	Tx Port	Rx Port	Flow Group	Min Latency (ns)	Max Latency (ns)	Avg Latency (ns)
Trial: 1 / FS: 128 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	18780	3194777	496022.00
Trial: 1 / FS: 128 / Iter: 2	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	14517	3352432	159938.00
Trial: 1 / FS: 128 / Iter: 3	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	14965	3339850	125231.00
Trial: 1 / FS: 128 / Iter: 4	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	15267	2582735	99849.00
Trial: 1 / FS: 128 / Iter: 5	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	12460	2674755	107947.00
Trial: 1 / FS: 256 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	42497	1733055	319103.00
Trial: 1 / FS: 512 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	15600	1571892	301720.00
Trial: 1 / FS: 1024 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	22817	1667372	337871.00
Trial: 1 / FS: 1280 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	26097	1599437	324984.00
Trial: 1 / FS: 1518 / Iter: 1	Ethernet - 001	Ethernet - 002	Traffic Item 1-EndpointSet-2 - Flow Group 0001	17647	1653040	336613.00

Theoretical maximum Frame Rates (frames/second) for different frame sizes (bytes)

Speed	64	128	256	512	1024	1280	1518
10 Mbps	14881	8446	4529	2350	1198	962	813
100 Mbps	148810	84460	45290	23497	11973	9616	8128
1000 Mbps	1488096	844595	452899	234963	119732	96154	81275
10 Gbps	14880952	8445946	4528986	2349625	1197318	961539	812744
25 Gbps	37202380	21114864	11322463	5874060	2993295	2403846	2031859
40 Gbps	59523809	33783783	18115942	9398496	4789272	3846153	3250975
100 Gbps	148809523	84459459	45289855	23496240	11973180	9615384	8127438
155 Mbps (Oc - 3)	288000	145116	72840	36491	18263	14614	12324
622 Mbps (Oc - 12)	1152000	580465	291362	145965	73054	58454	49296
2488 Mbps (Oc - 48)	4608000	2321860	1165447	583860	292215	233817	197182
9952 Mbps (Oc - 192)	18432000	9287442	4661790	2335439	1168859	935270	788730