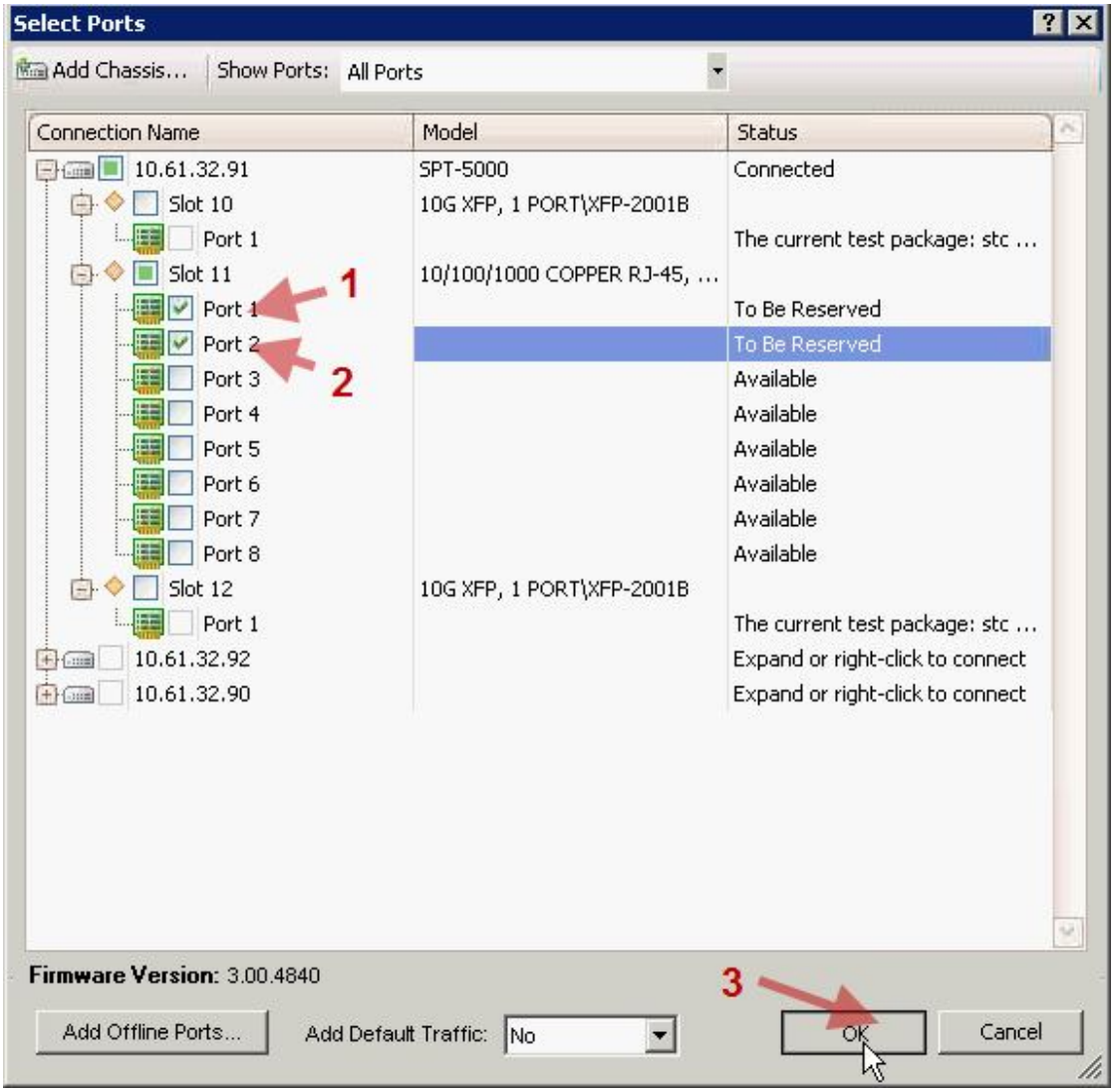
SPIRENT Communications Inspired Innovation

Spirent TestCenter

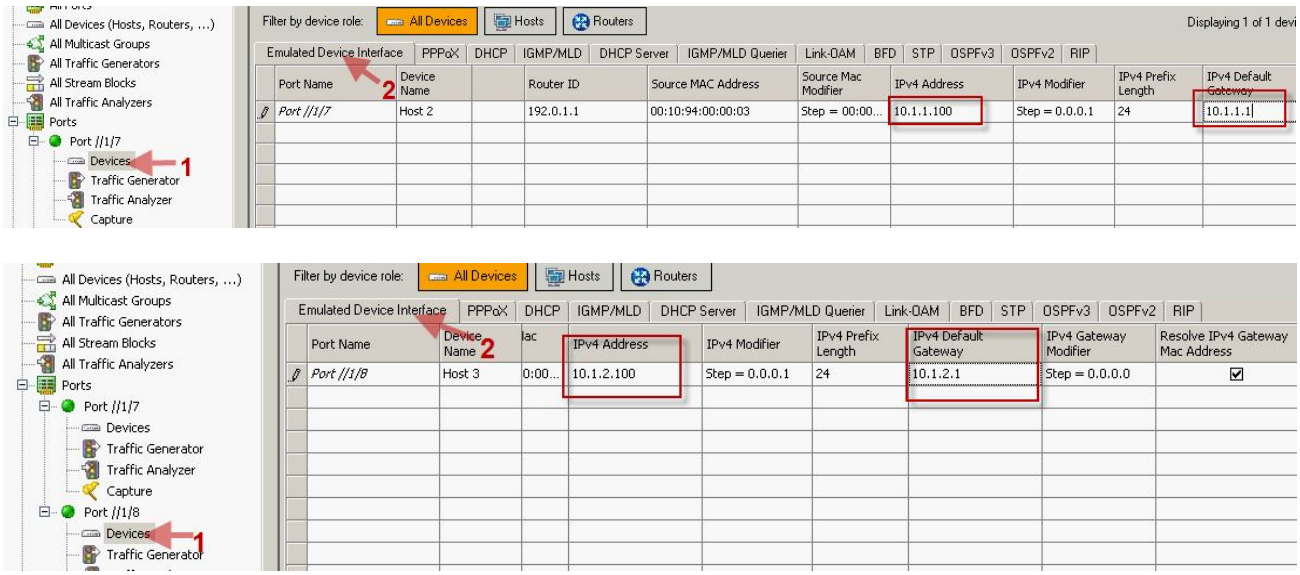
RFC2544 Latency test (manual)

编号 版本	修改时间	说明
	01/08/2010	李辉

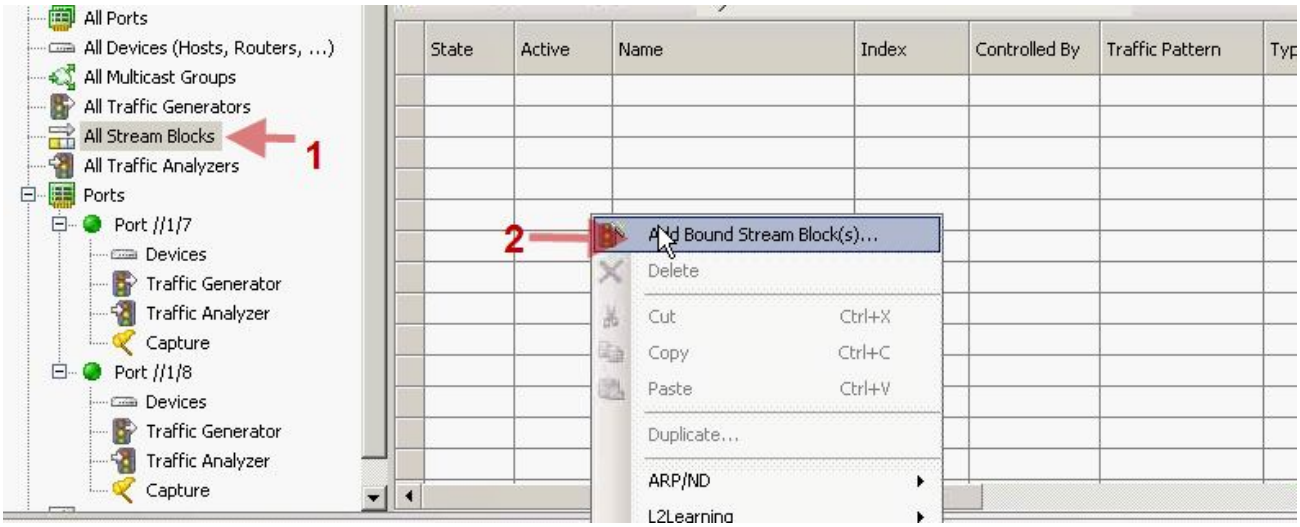
1 连接 Spirent TestCenter 机箱并占用测试端口

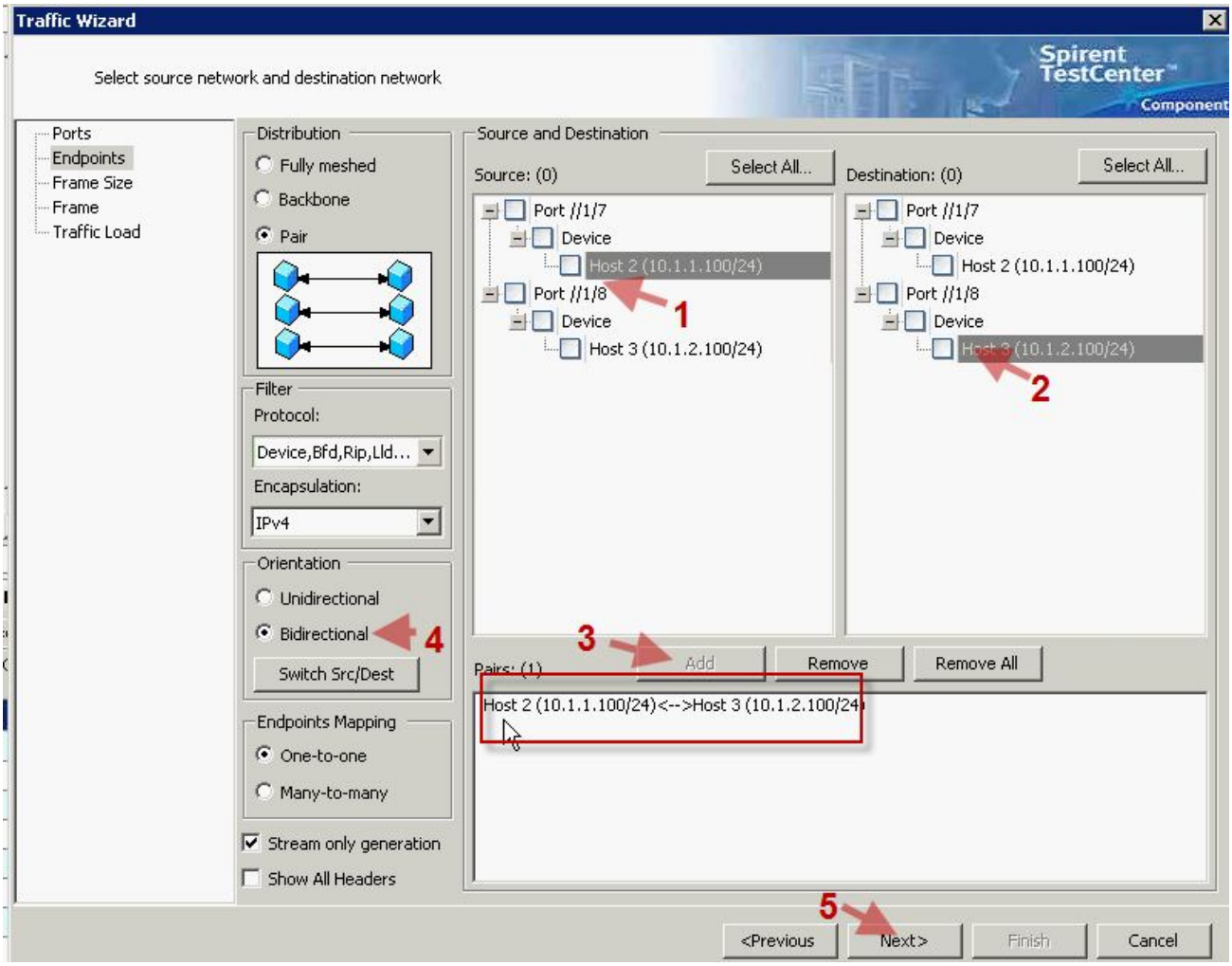


2 在端口下创建 Devices（Hosts）



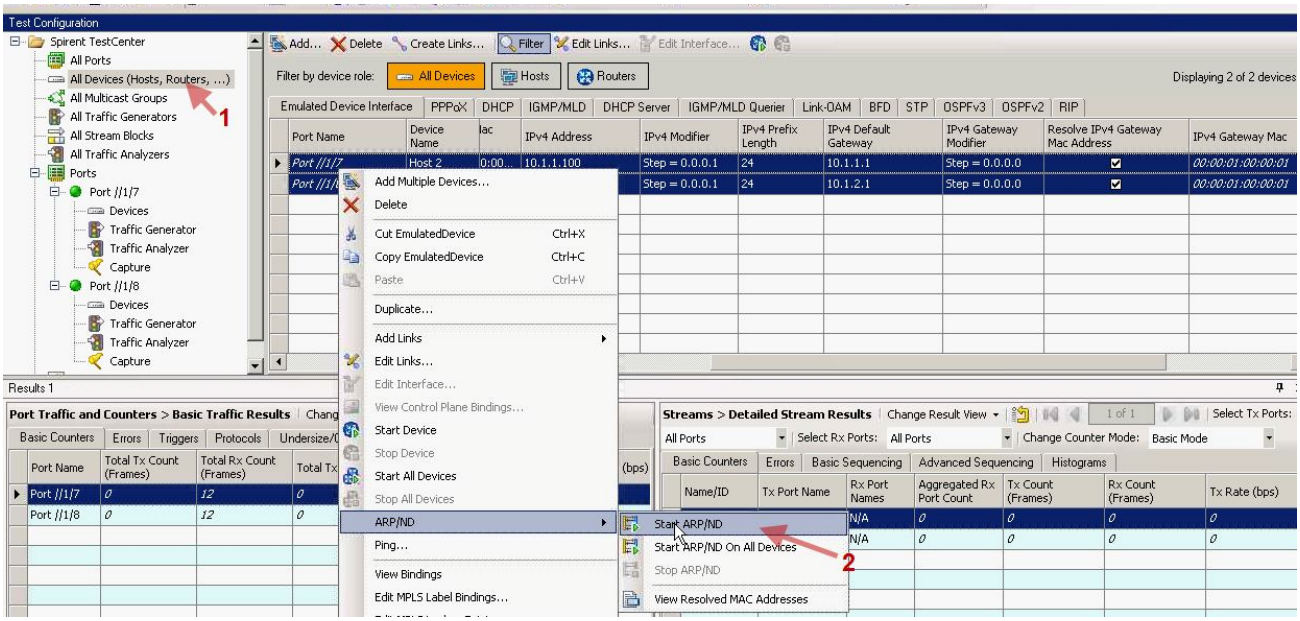
3 创建 boundstream

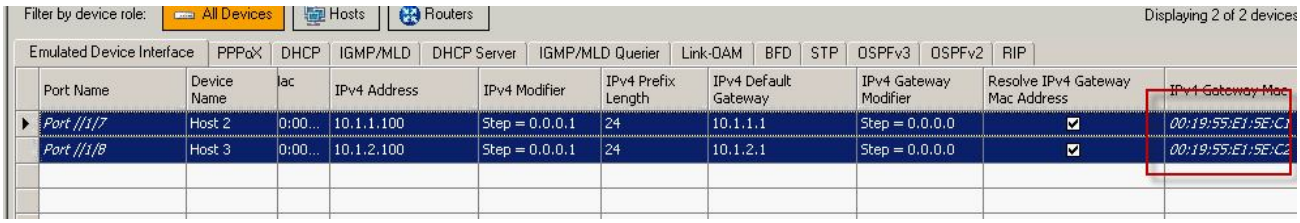




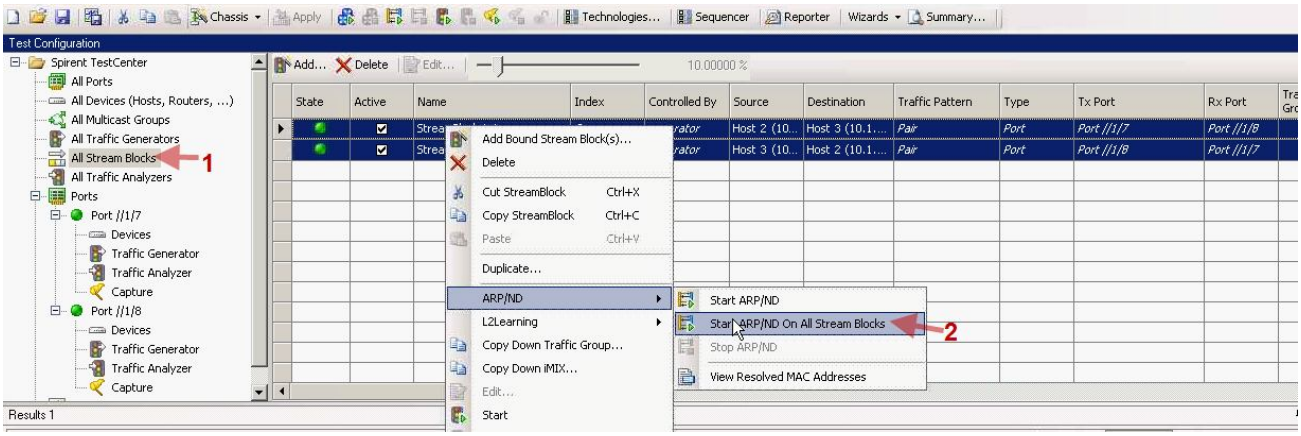
4 Start ARP

A. Start Hosts ARP

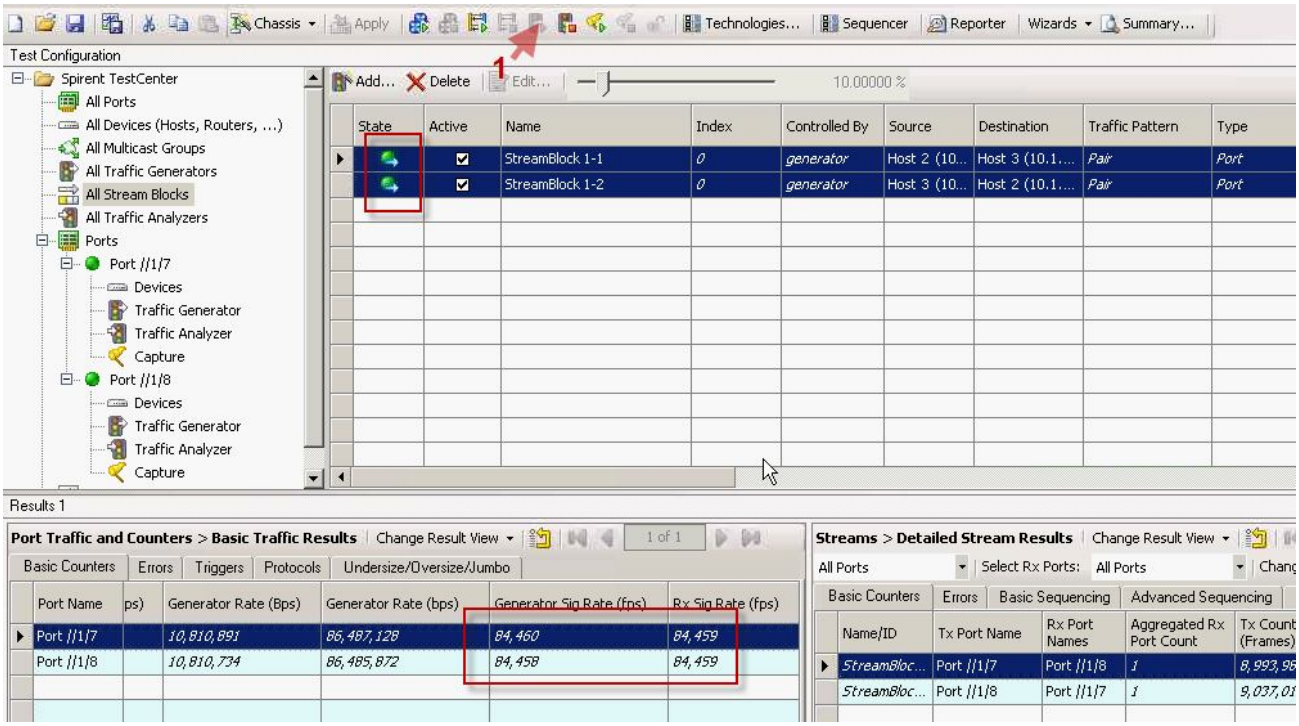




B. Start Boundstream ARP

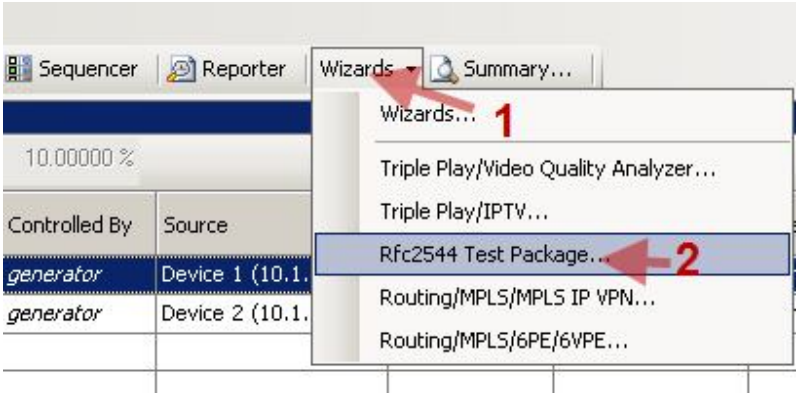


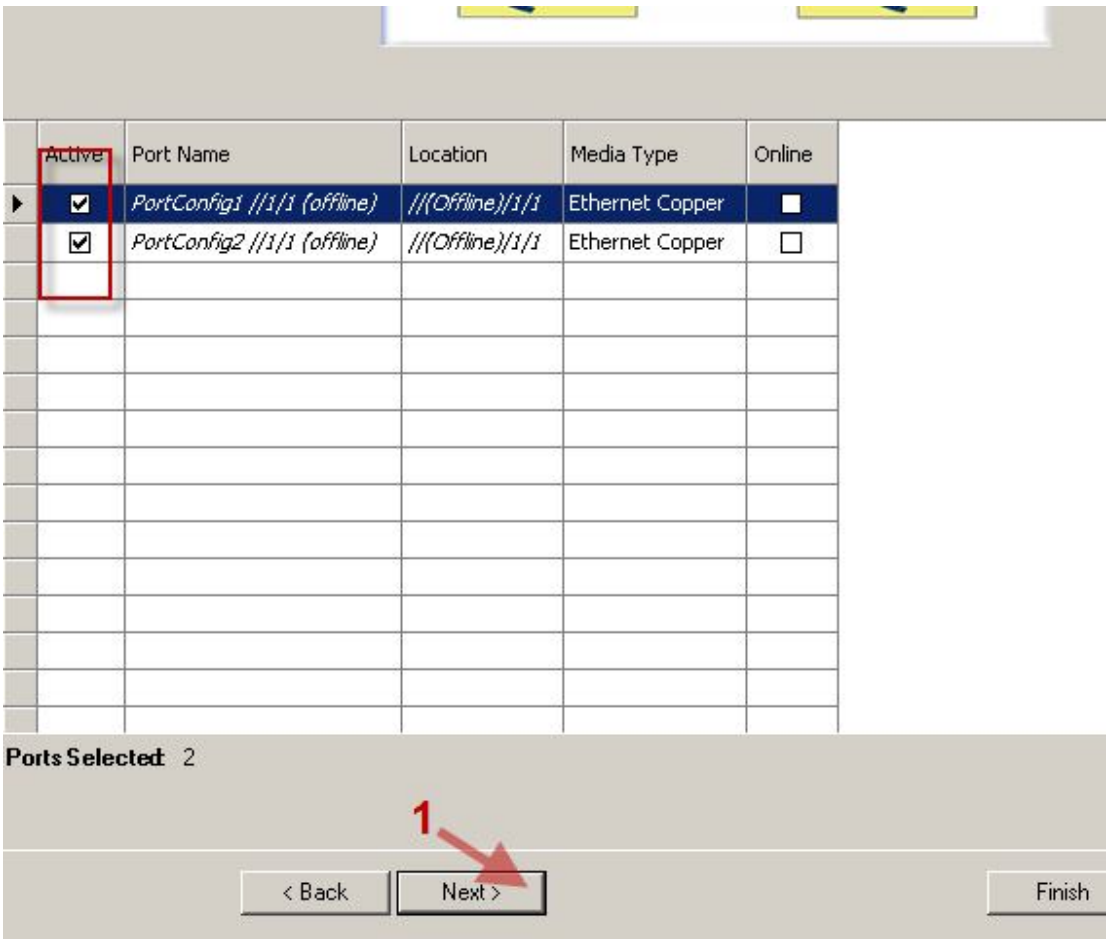
5. 发流验证

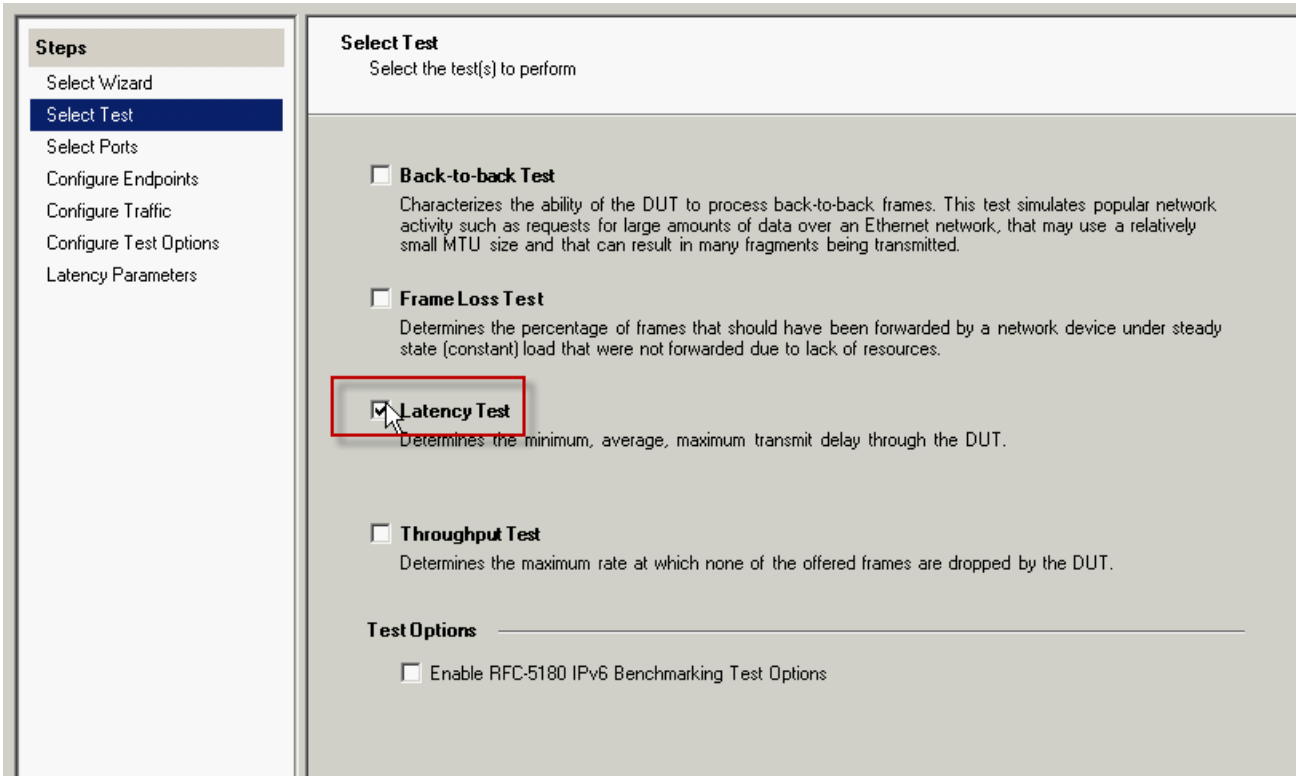


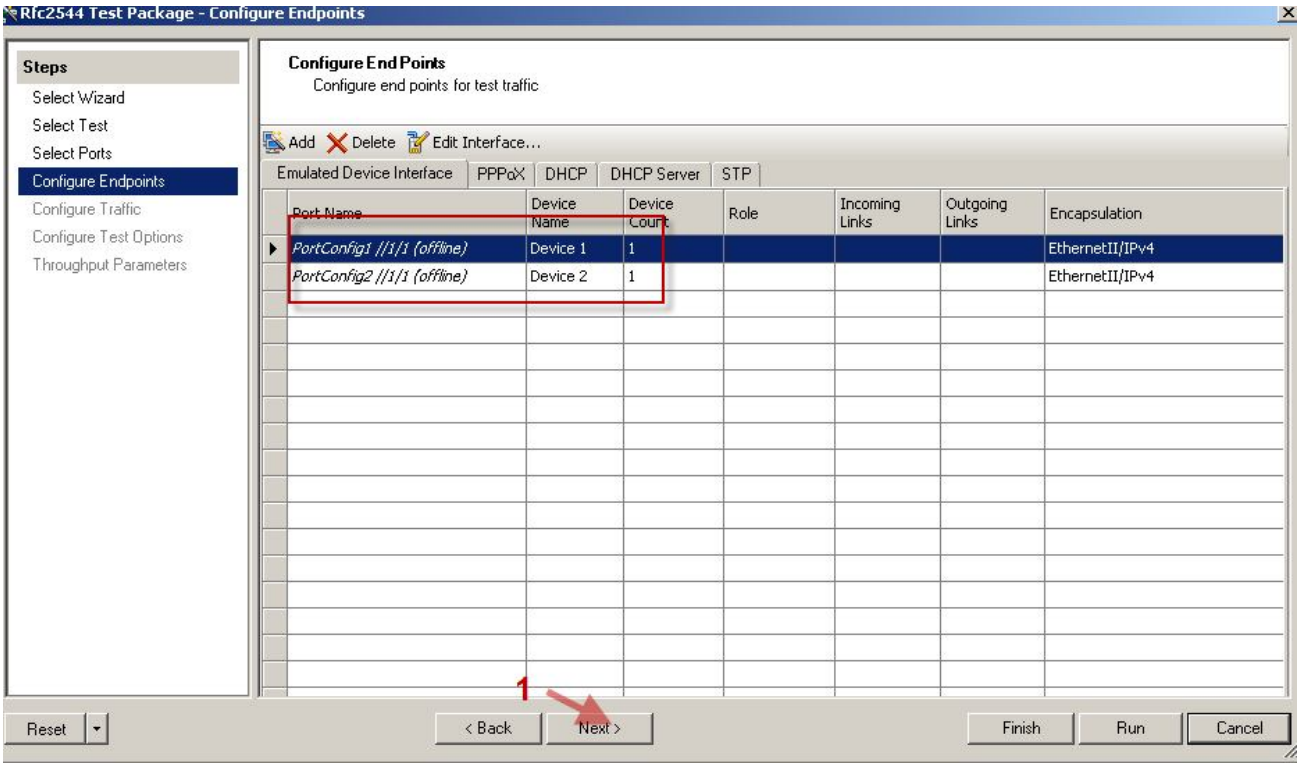
6 配置 RFC2544 wizard

A．选择 RFC2544 test package

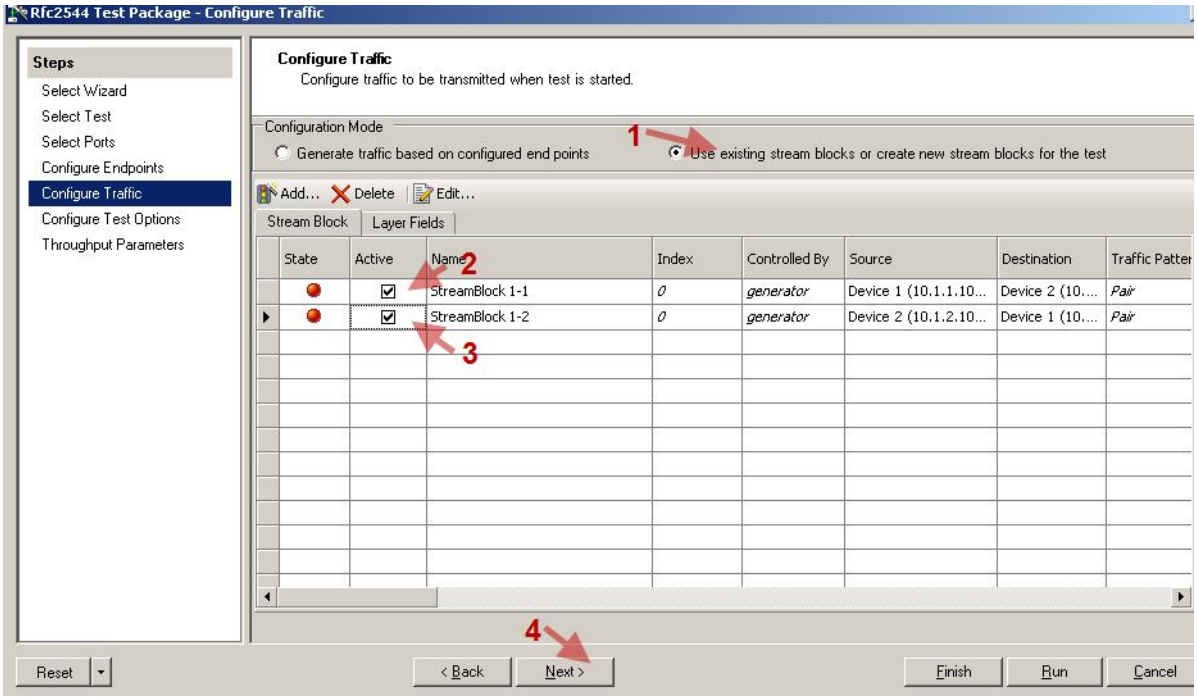



Active
Port Name
Location
Media Type
Online
PortConfig1 //1/1 (offline)
///(Offline)/1/1
Ethernet Copper
PortConfig2 //1/1 (offline)
///(Offline)/1/1
Ethernet Copper
Ports Selected: 2
1
< Back
Next >
Finish

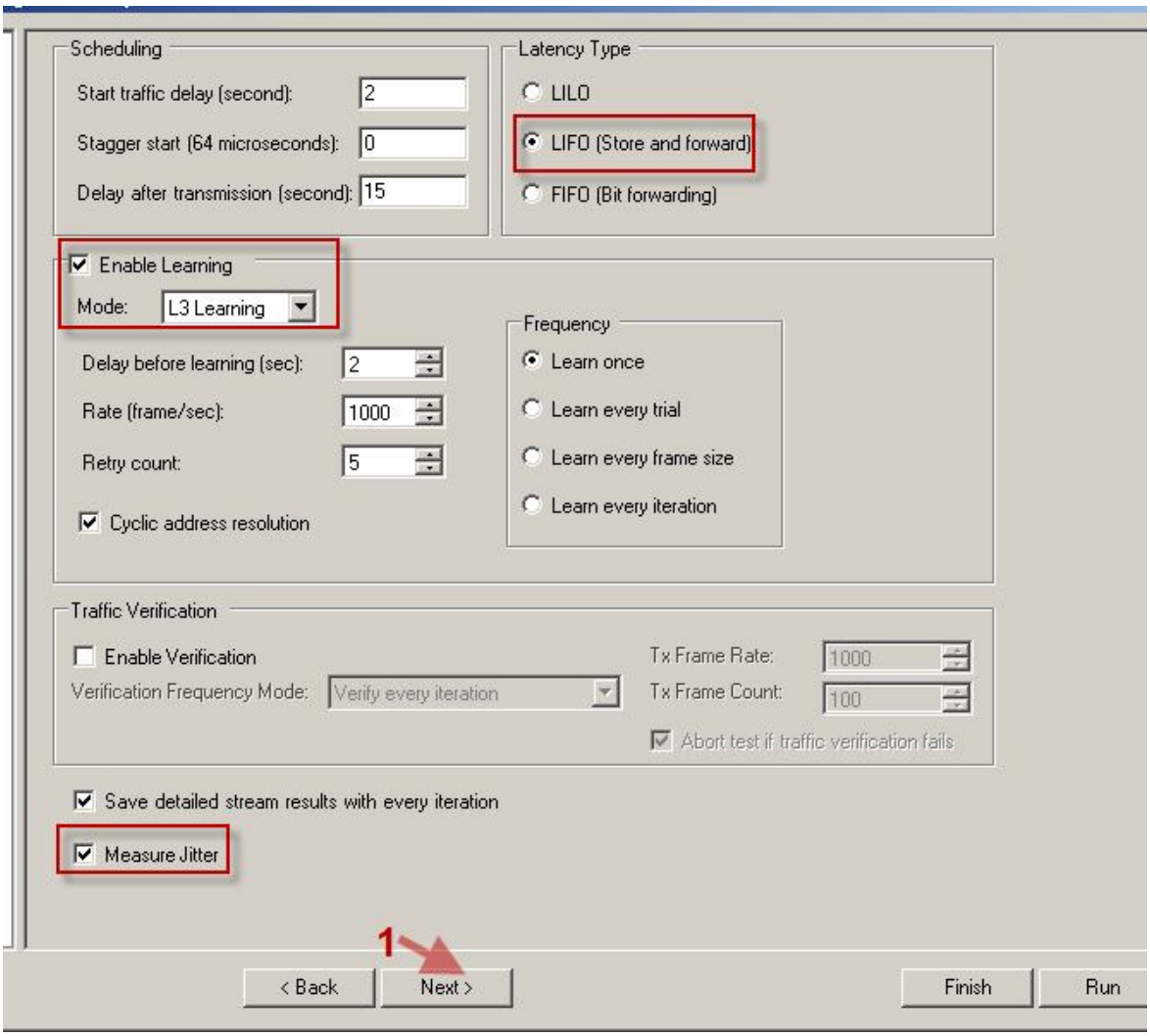

Steps
Select Wizard
Select Test
Select Ports
Configure Endpoints
Configure Traffic
Configure Test Options
Latency Parameters
Select Test
Select the test(s) to perform
Back-to-back Test
Characterizes the ability of the DUT to process back-to-back frames. This test simulates popular network activity such as requests for large amounts of data over an Ethernet network, that may use a relatively small MTU size and that can result in many fragments being transmitted.
Frame Loss Test
Determines the percentage of frames that should have been forwarded by a network device under steady state (constant) load that were not forwarded due to lack of resources.
Latency Test
Determines the minimum, average, maximum transmit delay through the DUT.
Throughput Test
Determines the maximum rate at which none of the offered frames are dropped by the DUT.
Test Options
Enable RFC-5180 IPv6 Benchmarking Test Options



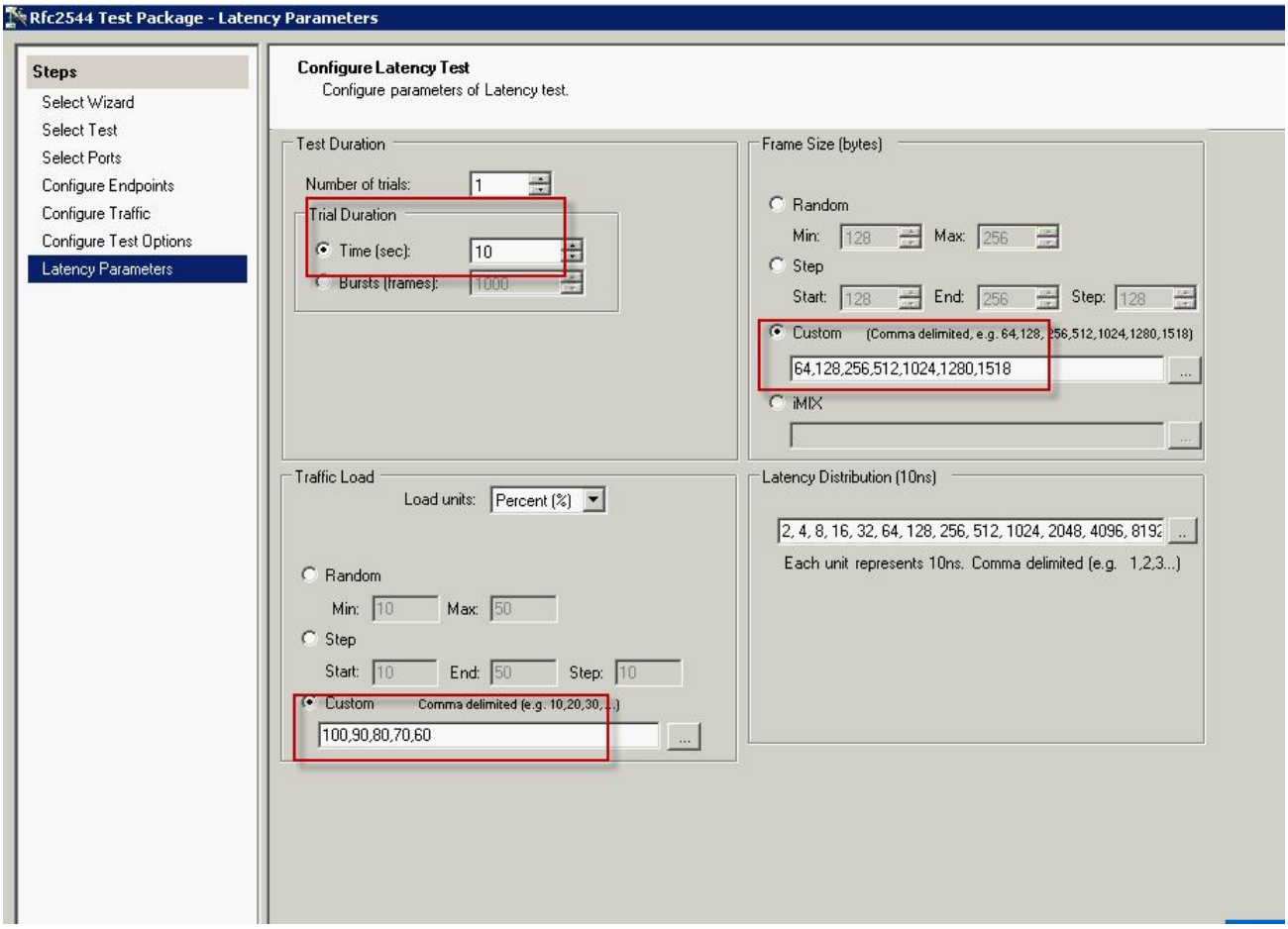
C．调用之前配置的 boundstream 进行 throughput 测试



D．配置测试参数

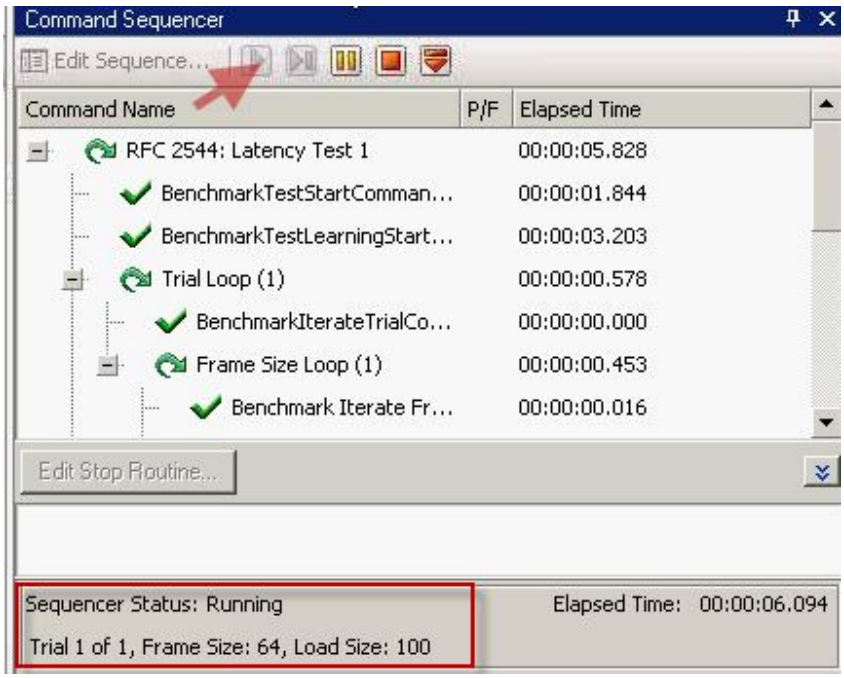


Enable Learning – 若测试三层性能则选择 L3 Learning；若测试二层性能侧选择 L2 Learning。
Latency Type – 选择 LIFO（存储转发）。测试吞吐量的同时可以测试 Latency。
Measure Jitter – 使能该功能后，测试结果有 Jitter（抖动）。

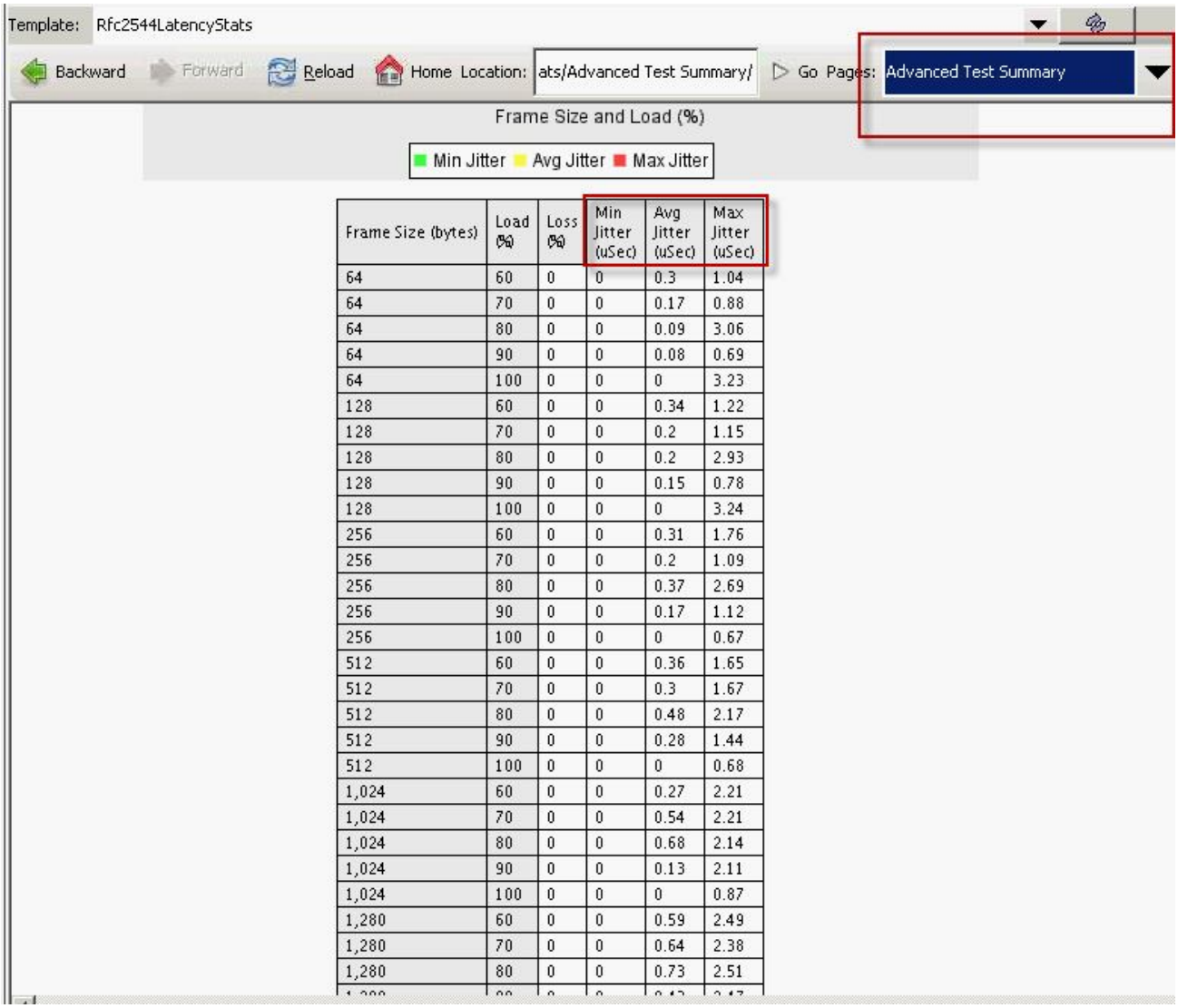


Trail Duration：每轮测试的时间。
Traffic Load：在 100%，90%，80%，70%，60%负载下的 Latency。
Frame size：分别测试以上七个字节长度的 Latency。

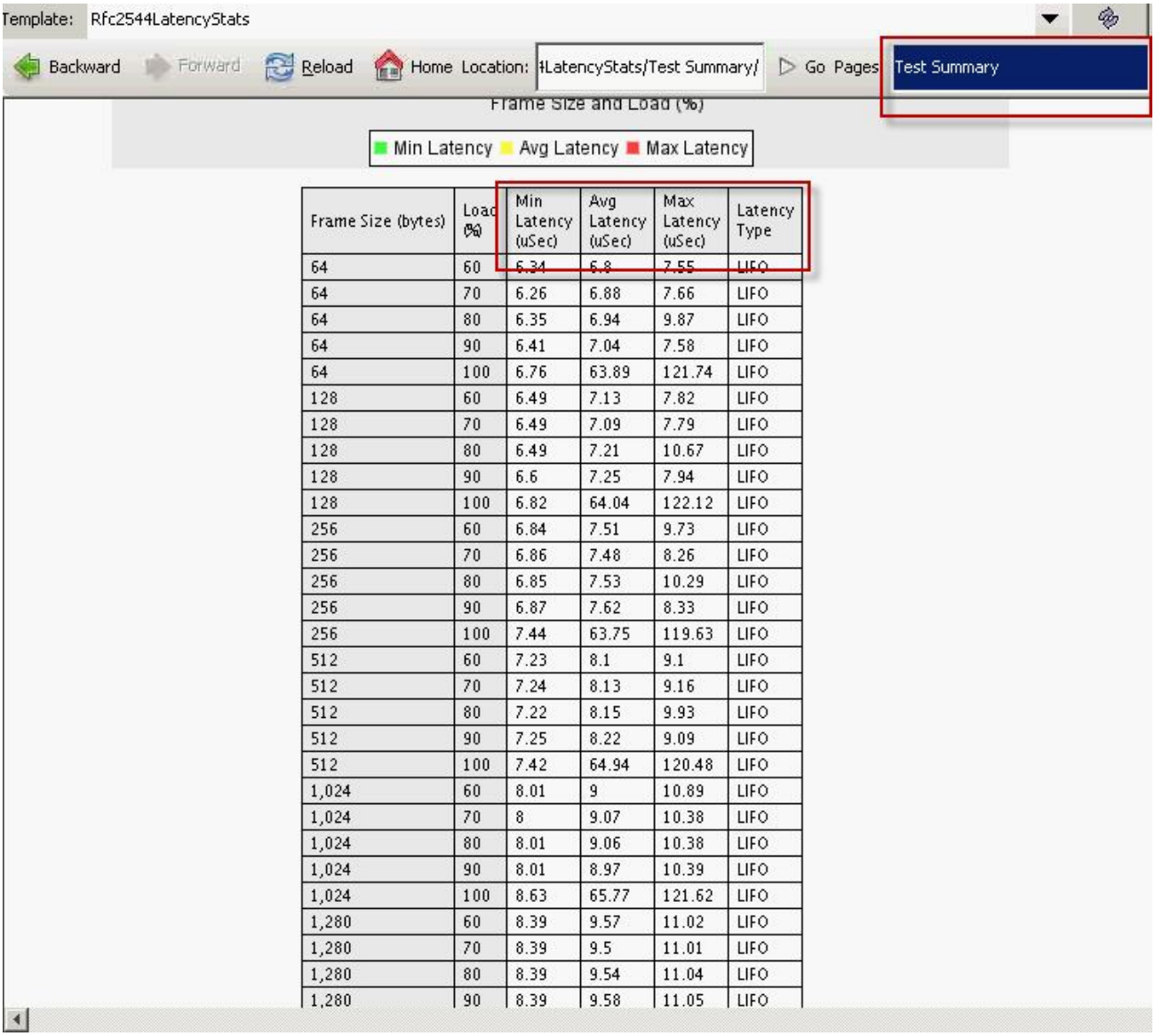
7 运行 Latency 测试



8 通过 **result reporter** 查看测试结果



Frame Size (bytes)	Load (%)	Loss (%)	Min Jitter (uSec)	Avg Jitter (uSec)	Max Jitter (uSec)
64	60	0	0	0.3	1.04
64	70	0	0	0.17	0.88
64	80	0	0	0.09	3.06
64	90	0	0	0.08	0.69
64	100	0	0	0	3.23
128	60	0	0	0.34	1.22
128	70	0	0	0.2	1.15
128	80	0	0	0.2	2.93
128	90	0	0	0.15	0.78
128	100	0	0	0	3.24
256	60	0	0	0.31	1.76
256	70	0	0	0.2	1.09
256	80	0	0	0.37	2.69
256	90	0	0	0.17	1.12
256	100	0	0	0	0.67
512	60	0	0	0.36	1.65
512	70	0	0	0.3	1.67
512	80	0	0	0.48	2.17
512	90	0	0	0.28	1.44
512	100	0	0	0	0.68
1,024	60	0	0	0.27	2.21
1,024	70	0	0	0.54	2.21
1,024	80	0	0	0.68	2.14
1,024	90	0	0	0.13	2.11
1,024	100	0	0	0	0.87
1,280	60	0	0	0.59	2.49
1,280	70	0	0	0.64	2.38
1,280	80	0	0	0.73	2.51



Frame Size (bytes)	Load (%)	Min Latency (uSec)	Avg Latency (uSec)	Max Latency (uSec)	Latency Type
64	60	6.34	6.8	7.55	LIFO
64	70	6.26	6.88	7.66	LIFO
64	80	6.35	6.94	9.87	LIFO
64	90	6.41	7.04	7.58	LIFO
64	100	6.76	63.89	121.74	LIFO
128	60	6.49	7.13	7.82	LIFO
128	70	6.49	7.09	7.79	LIFO
128	80	6.49	7.21	10.67	LIFO
128	90	6.6	7.25	7.94	LIFO
128	100	6.82	64.04	122.12	LIFO
256	60	6.84	7.51	9.73	LIFO
256	70	6.86	7.48	8.26	LIFO
256	80	6.85	7.53	10.29	LIFO
256	90	6.87	7.62	8.33	LIFO
256	100	7.44	63.75	119.63	LIFO
512	60	7.23	8.1	9.1	LIFO
512	70	7.24	8.13	9.16	LIFO
512	80	7.22	8.15	9.93	LIFO
512	90	7.25	8.22	9.09	LIFO
512	100	7.42	64.94	120.48	LIFO
1,024	60	8.01	9	10.89	LIFO
1,024	70	8	9.07	10.38	LIFO
1,024	80	8.01	9.06	10.38	LIFO
1,024	90	8.01	8.97	10.39	LIFO
1,024	100	8.63	65.77	121.62	LIFO
1,280	60	8.39	9.57	11.02	LIFO
1,280	70	8.39	9.5	11.01	LIFO
1,280	80	8.39	9.54	11.04	LIFO
1,280	90	8.39	9.58	11.05	LIFO