




Inspired Innovation

Spirent TestCenter

2 层数据统计结果分析参考

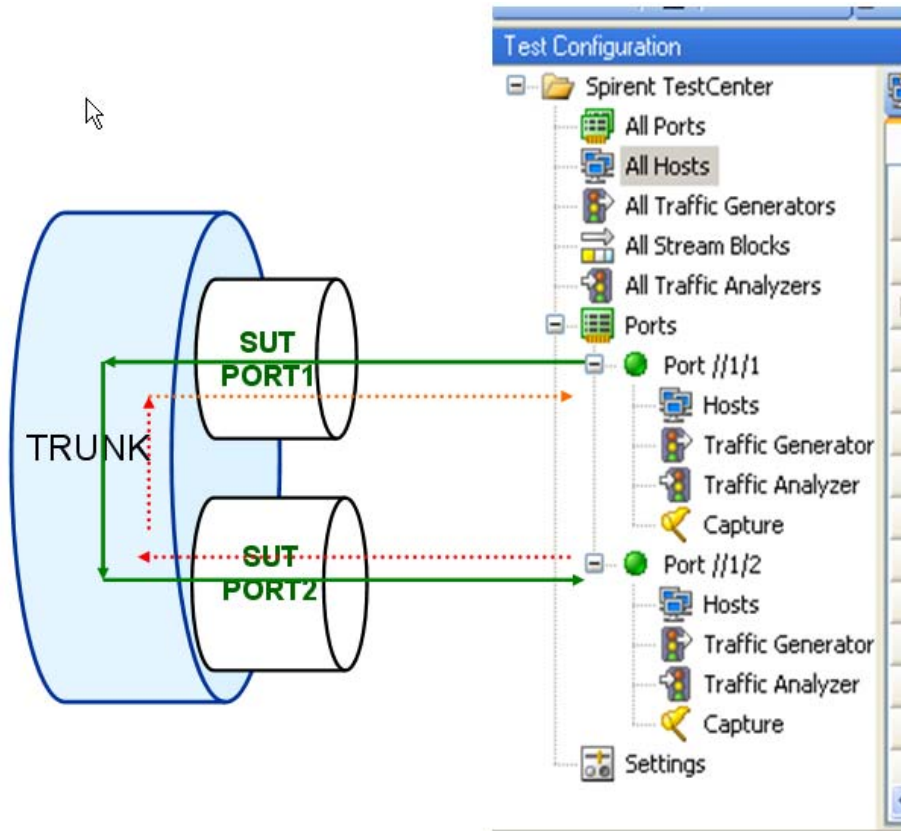


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编号 版本	修改时间	说明
11000102- 1.00.00	02/18/2009	温明



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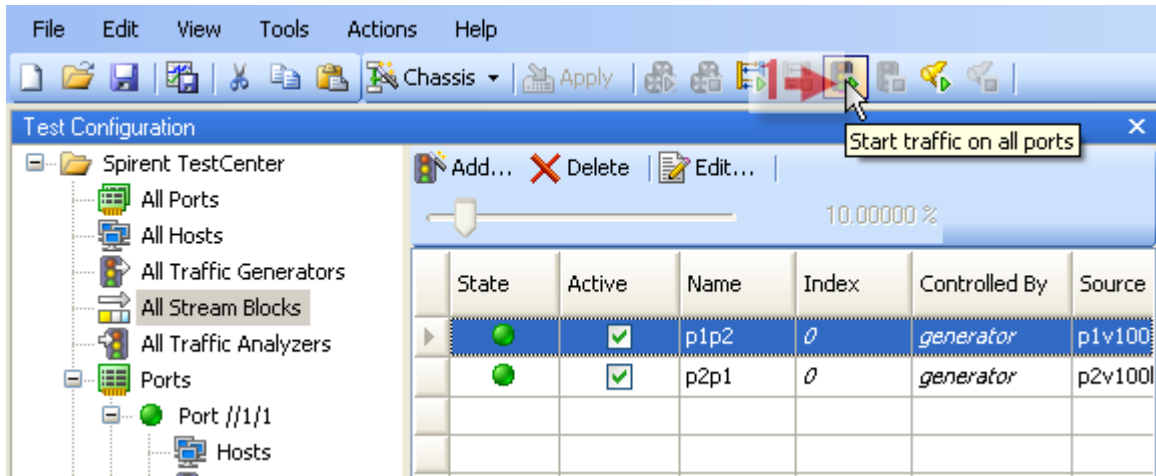
拓扑示意图

0 文档需求

序号	阅读本文前须参考如下文档
01	STC-11000101 -cs010001 用 Bound 方式建立数据流

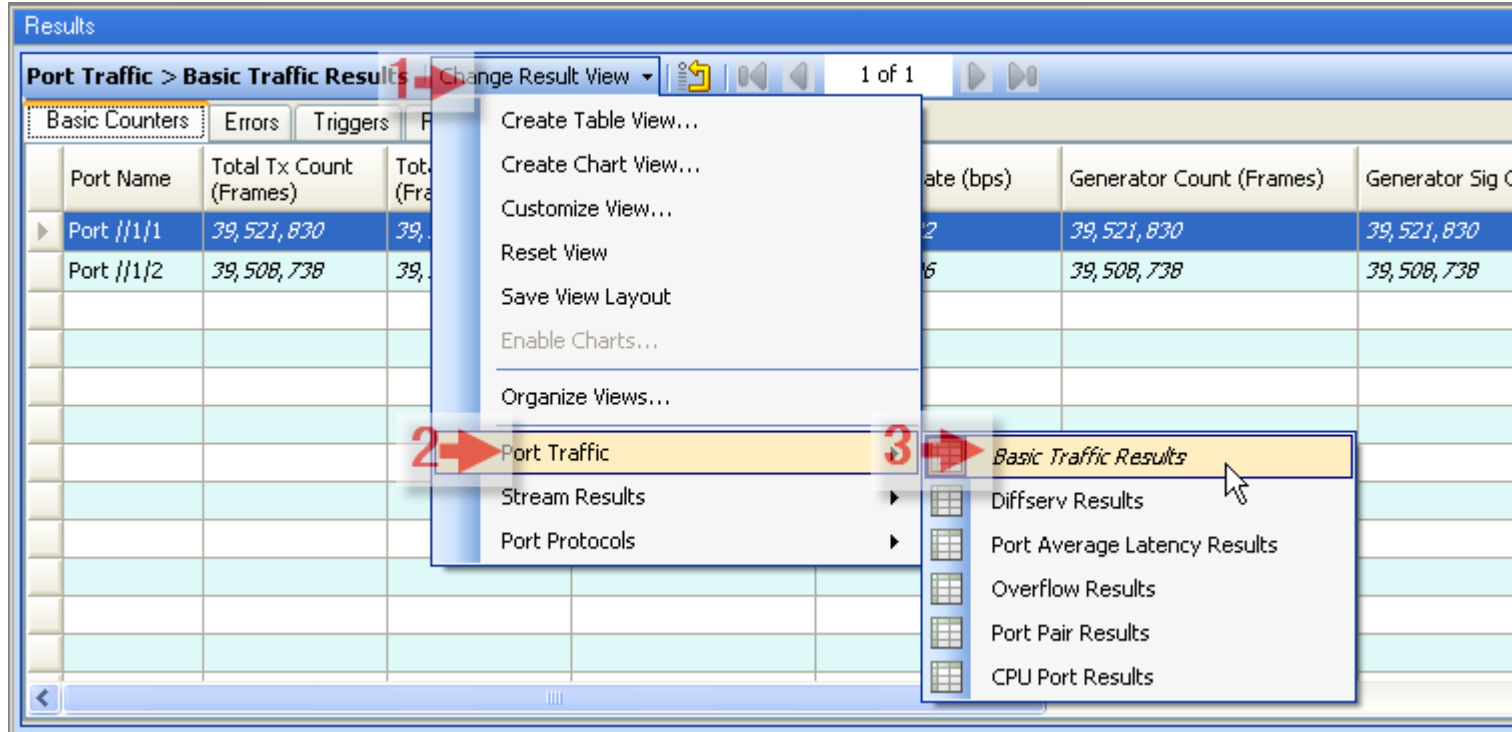
10 运行测试，查看和分析测试结果

10a 点击 **Start traffic on all ports** 使端口 1 和端口 2 开始发送数据。



10b 按端口统计所有收发报文数量和速率，以及 STC 本身发送和接收的带签名字段的报文数量和速率。

10b1 选择按端口进行结果分析。



10b2 按端口结果分析-收发报文总数和带签名字段报文总数统计-截图 1。

The screenshot shows the 'Results' window with the 'Port Traffic > Basic Traffic Results' view selected. The table displays detailed statistics for two ports. Red arrows point to specific columns: arrow 1 points to the 'Basic Counters' tab, arrow 2 points to the 'Total Tx Count (Frames)' column, arrow 3 points to the 'Total Rx Count (Frames)' column, arrow 4 points to the 'Total Tx Rate (bps)' column, arrow 5 points to the 'Total Rx Rate (bps)' column, arrow 6 points to the 'Generator Count (Frames)' column, arrow 7 points to the 'Generator Sig Count (Frames)' column, arrow 8 points to the 'Rx Sig Count (Frames)' column, and arrow 9 points to the 'Total Tx Rate (fps)' column.

Port Name	Total Tx Count (Frames)	Total Rx Count (Frames)	Total Tx Rate (bps)	Total Rx Rate (bps)	Generator Count (Frames)	Generator Sig Count (Frames)	Rx Sig Count (Frames)	Total Tx Rate (fps)
Port //1/1	52,021,828	52,010,289	86,486,128	86,486,728	52,021,828	52,021,828	52,008,955	84,459
Port //1/2	52,008,737	52,012,653	86,486,624	86,487,352	52,008,737	52,008,737	52,011,319	84,459

10b3 按端口结果分析-截图 2。

Results

Port Traffic > Basic Traffic Results | Change Result View | 1 of 1

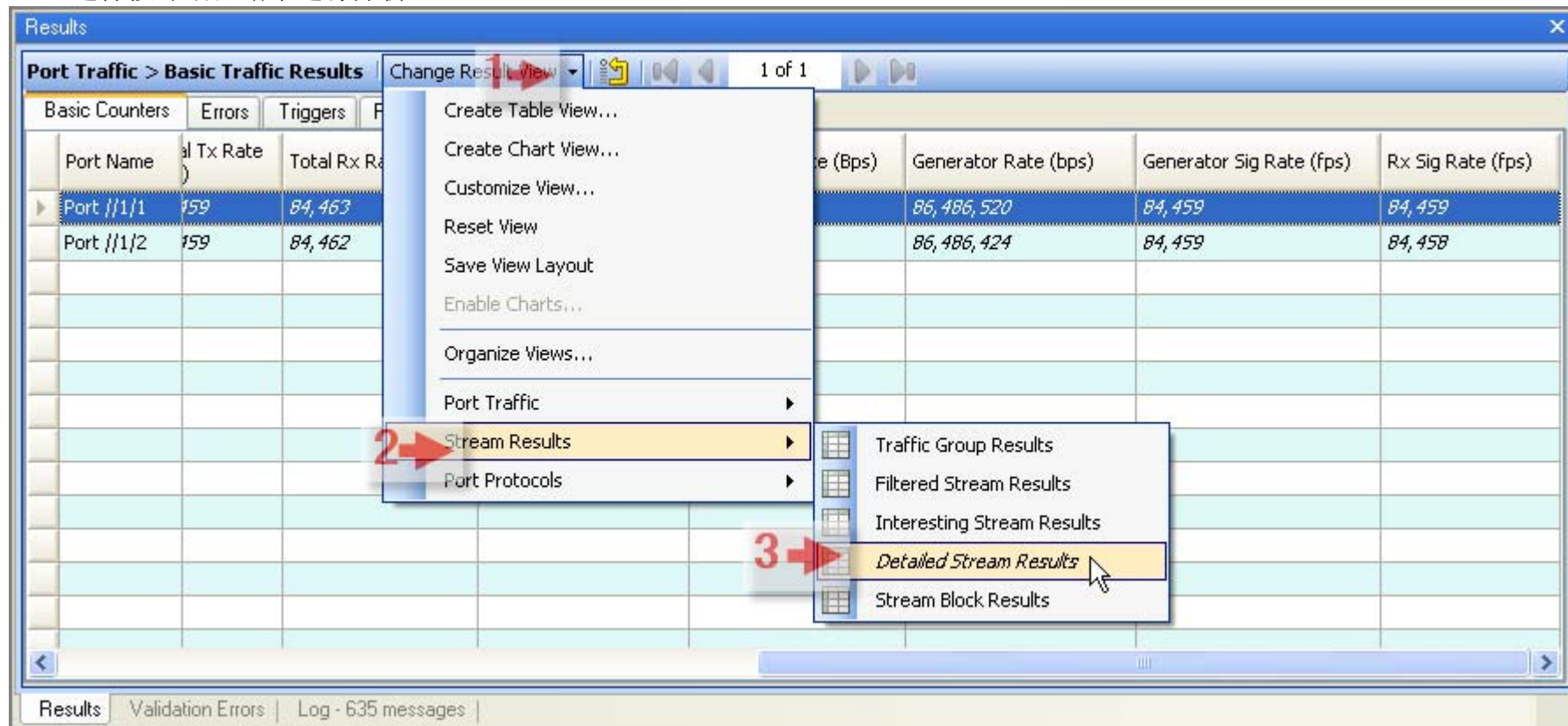
Basic Counters | Errors | Triggers | Protocols | Undersize/Oversize/Jumbo

Port Name	Tx Rate	Total Rx Rate (fps) 10	Generator Rate (fps) 11	Generator Rate (bps) 12	Generator Rate (bps) 13	Generator Sig Rate (fps) 14	Rx Sig Rate (fps) 15
Port //1/1	159	84,463	84,459	10,810,803	86,486,424	84,459	84,459
Port //1/2	159	84,463	84,459	10,810,865	86,486,920	84,459	84,459

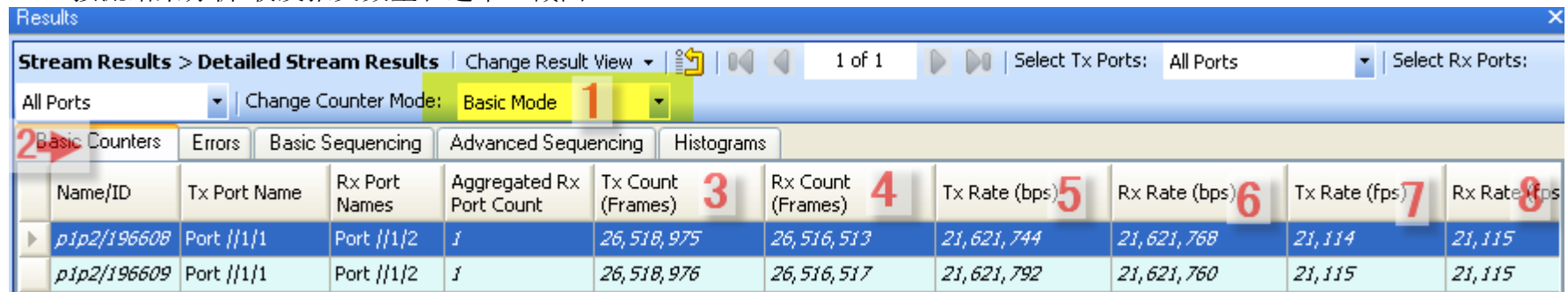
Results | Validation Errors | Log - 635 messages

10c 按流统计收发报文数量和速率，以及时延、丢包数、重包数等。

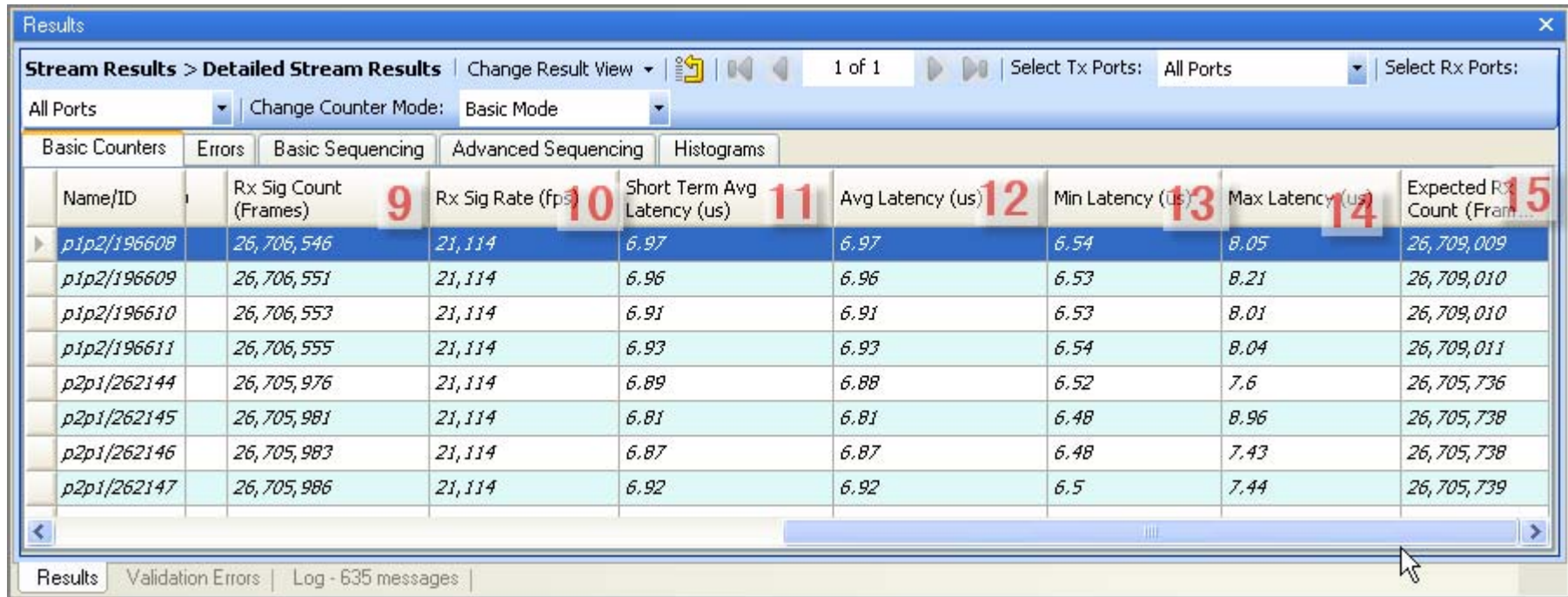
10c1 选择按详细流结果进行分析



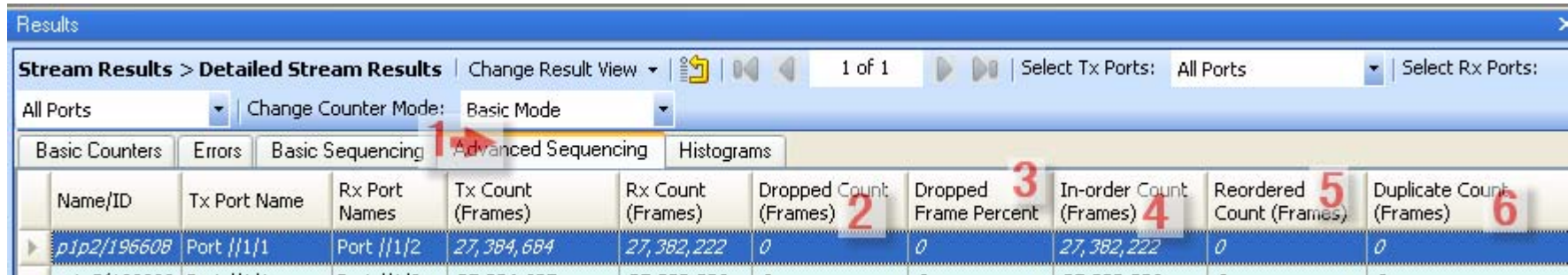
10c2 按流结果分析-收发报文数量和速率—截图 1。



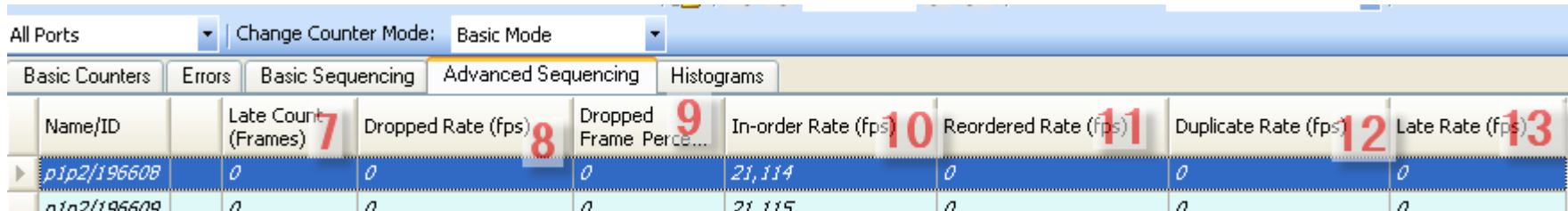
10c3 按流结果分析—时延-截图 2。



10c4 按流结果分析—丢包数、重包数-截图 3。

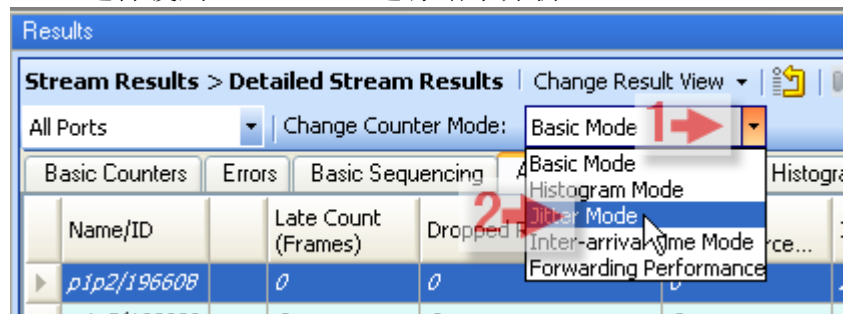


10c5 按流结果分析—丢包数、重包数-截图 4。

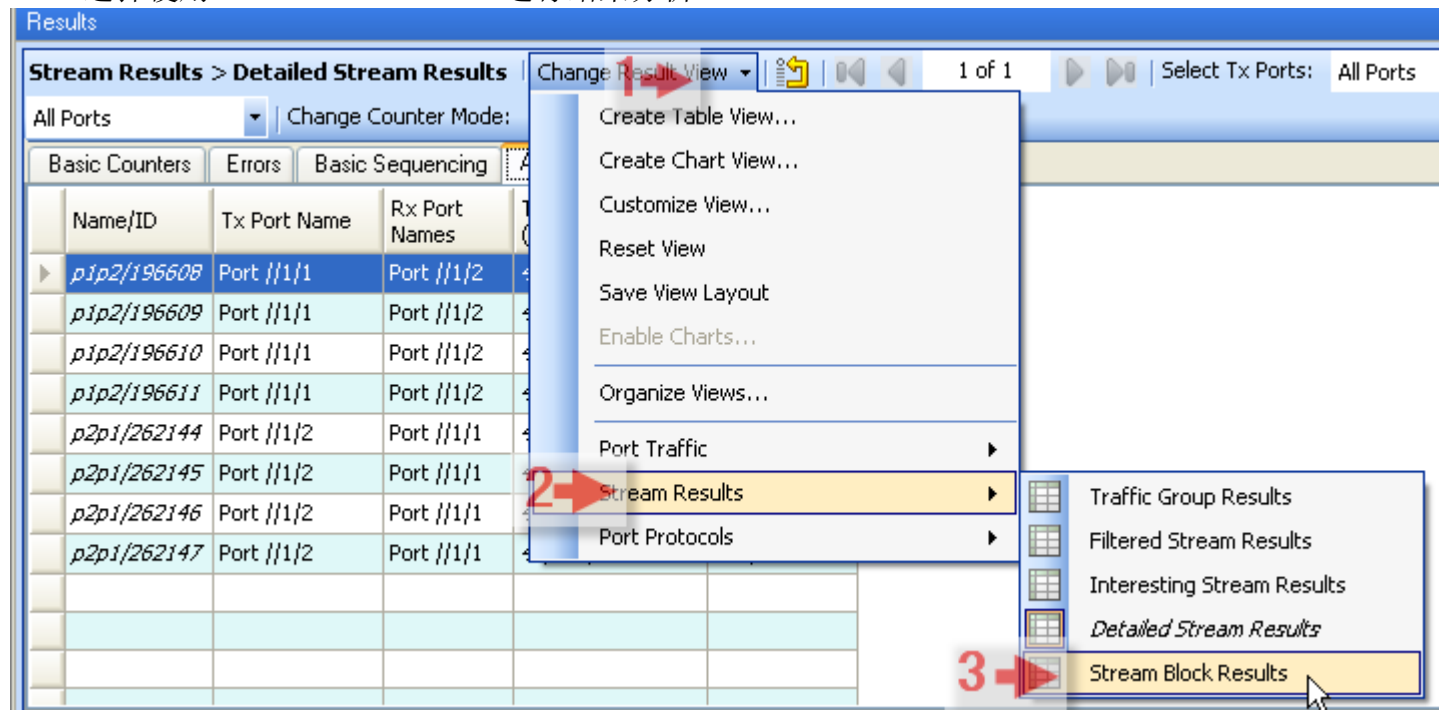


10d 按流块统计收发报文数量和最小最大时延及抖动等。

10d1 选择使用 Jitter Mode 进行结果分析



10d1 选择使用 Stream Block Results 进行结果分析

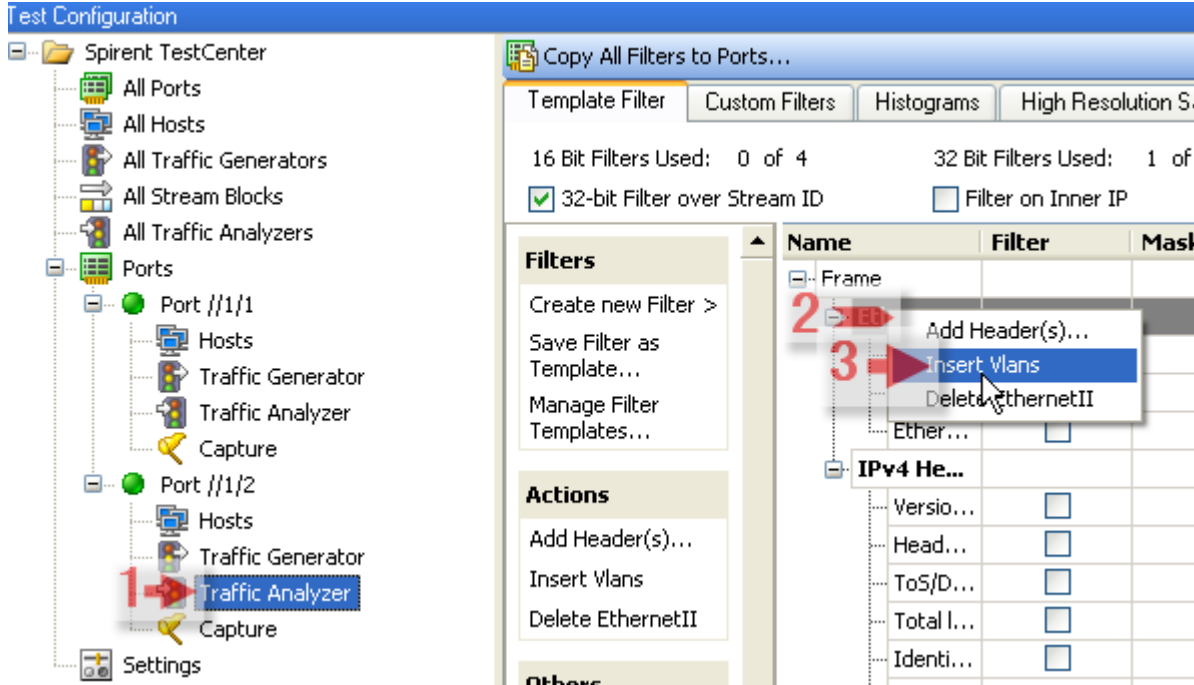


10d3 按流块结果分析-收发报文数量和最小、最大时延及抖动等一截图 1。

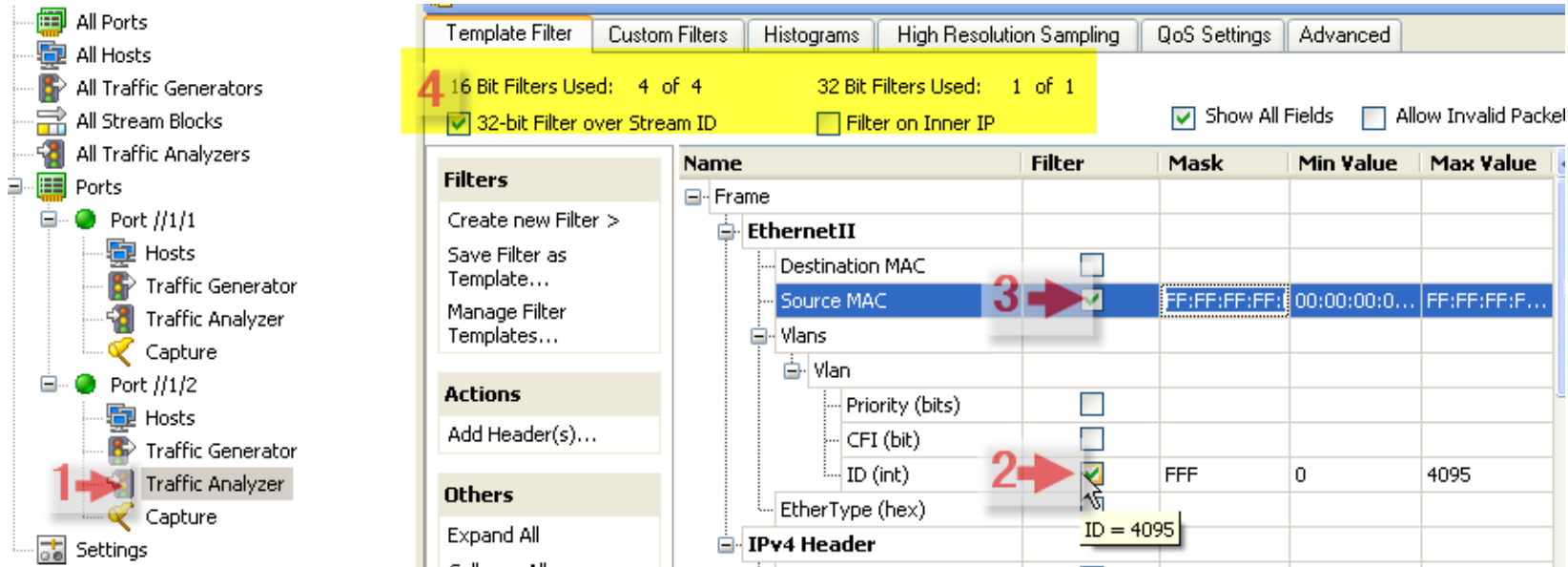
Tx Port Name	Rx Port Names	Stream Block	Tx Count (Frames) 2	Rx Count (Frames) 3	Min Latency (us) 4	Max Latency (us) 5	Avg Jitter (us) 6	Min Jitter (us)	Max Jitter (us) 7
Port //1/1	Port //1/2	p1p2	180,087,567	3,494,131	6.53	7.83	0.11	0	0.84
Port //1/2	Port //1/1	p2p1	180,087,311	3,552,524	6.48	7.48	0.12	0	0.87

10e 使用 Filter 统计报文特定字段的收发报文数量、速率、时延及抖动等。

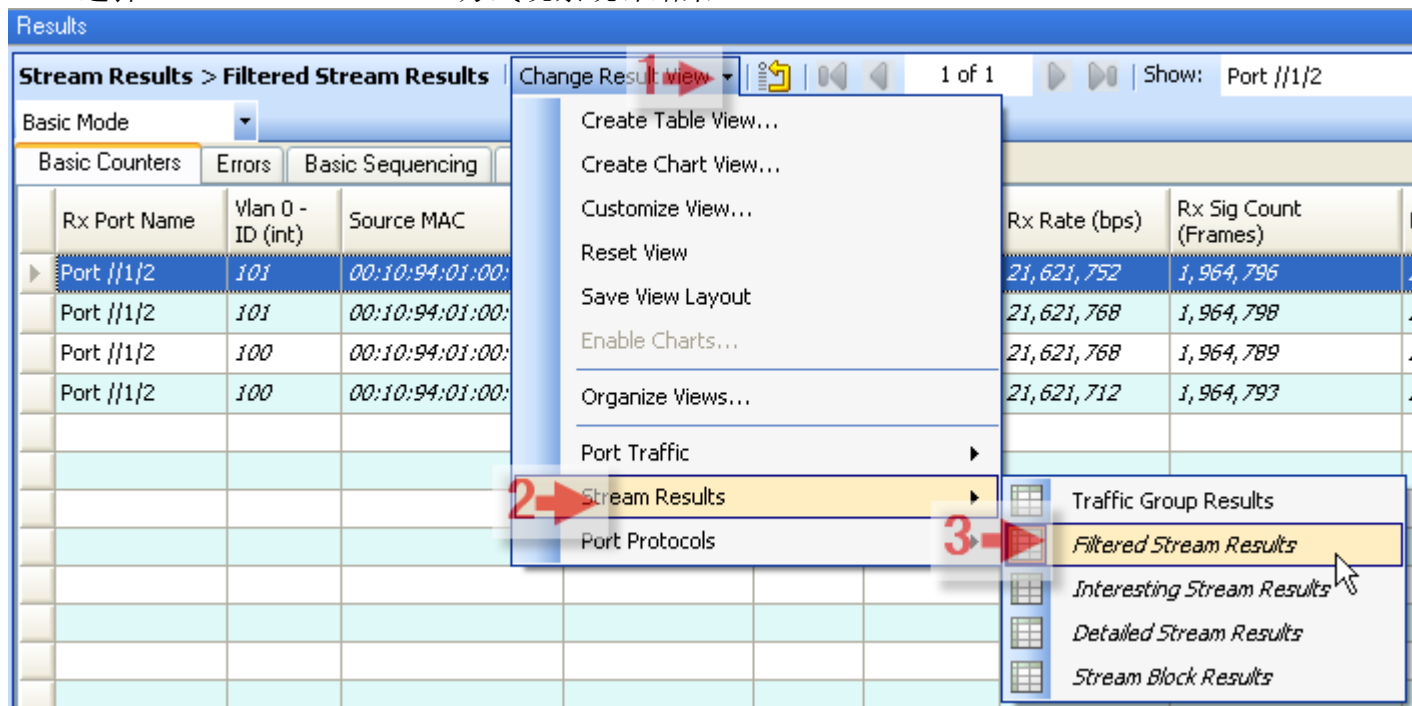
10e1 选择使用 Traffic Analyzer 定义 Filter。增加 VLAN 字段。



10e2 选择 Filter 所对应的字段。本例中选择了源 MAC 地址和 VLAN 号。



10e3 选择 Filtered Stream Results 方式观察统计结果



10e4 Filtered Stream Results 方式观察统计结果—按 VLAN 和源 MAC 地址的取值为索引统计接收报文数量和速率—截图 1



10e5 Filtered Stream Results 方式观察统计结果—时延—截图 2

The screenshot shows a window titled "Results" with a sub-tab "Stream Results > Filtered Stream Results". The "Basic Mode" dropdown is open, and the "Basic Counters" tab is selected. The table below displays latency statistics for four different Rx ports.

Rx Port Name	Vlan 0 - ID (int)	Source MAC	Rx Stream Id	Stream Index	Rx Sig Rate (fps)	Short Term Avg Latency (us)	Avg Latency (us)	Min Latency (us)	Max Latency (us)
Port //1/2	101	00:10:94:01:00:03	196610	0	21,114	6.91	6.91	6.53	7.57
Port //1/2	101	00:10:94:01:00:04	196611	1	21,113	6.93	6.93	6.54	7.58
Port //1/2	100	00:10:94:01:00:01	196608	2	21,114	6.97	6.97	6.54	7.49
Port //1/2	100	00:10:94:01:00:02	196609	3	21,114	6.96	6.96	6.53	7.81

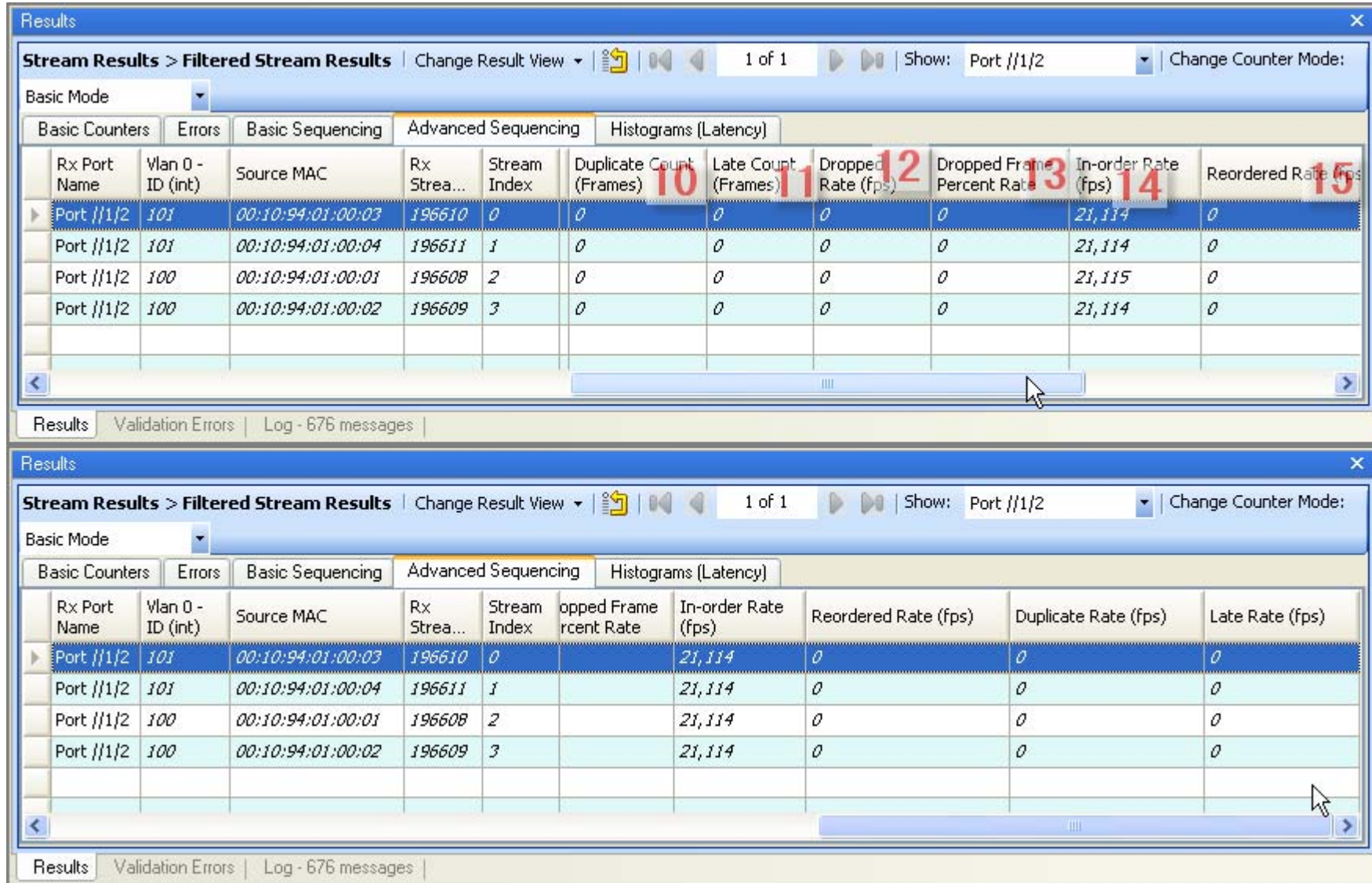
At the bottom of the window, there are tabs for "Results", "Validation Errors", and "Log - 676 messages".

10e5 Filtered Stream Results 方式观察统计结果—丢包—截图 3

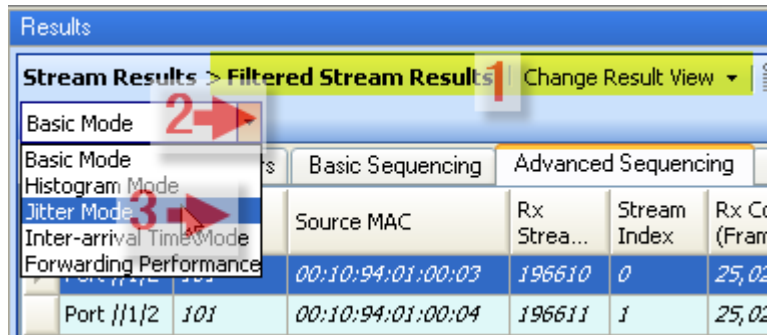
The screenshot shows the same "Results" window, but with the "Advanced Sequencing" tab selected. The table below displays packet loss statistics for the same four Rx ports.

Rx Port Name	Vlan 0 - ID (int)	Source MAC	Rx Stream Id	Stream Index	Rx Count (Frames)	Sequence Run Length	Dropped Count (Frames)	Dropped Frame Percent	In-order Count (Frames)	Reordered Count (Frames)
Port //1/2	101	00:10:94:01:00:03	196610	0	3,759,560	3,759,560	0	0	3,759,560	0
Port //1/2	101	00:10:94:01:00:04	196611	1	3,759,562	3,759,562	0	0	3,759,562	0
Port //1/2	100	00:10:94:01:00:01	196608	2	3,759,553	3,759,553	0	0	3,759,553	0
Port //1/2	100	00:10:94:01:00:02	196609	3	3,759,556	3,759,556	0	0	3,759,556	0

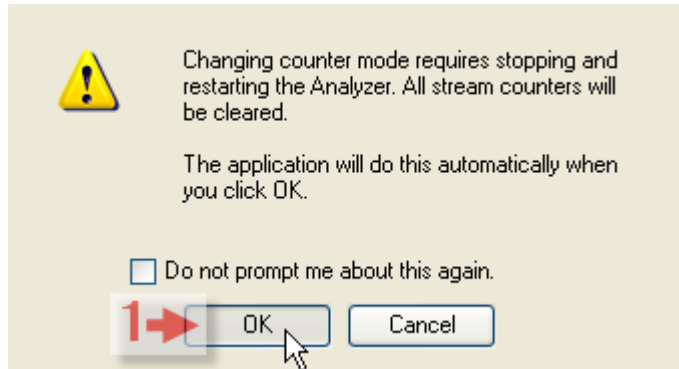
At the bottom of the window, there are tabs for "Results", "Validation Errors", and "Log - 676 messages".



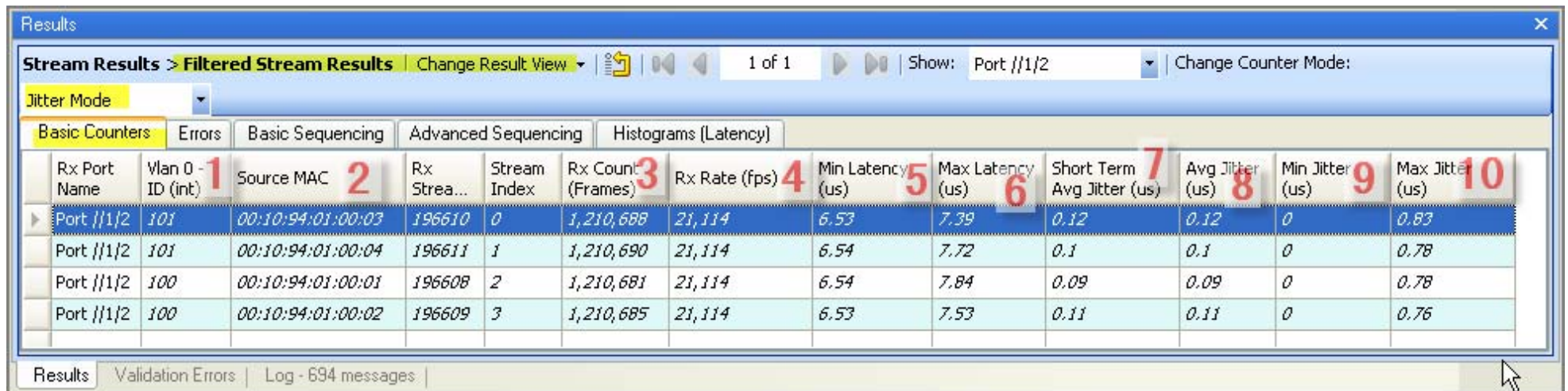
10e6 Filtered Stream Results 方式使用 Jitter 模式观察结果—截图 6



10e7 若弹出对话框则选择 OK。



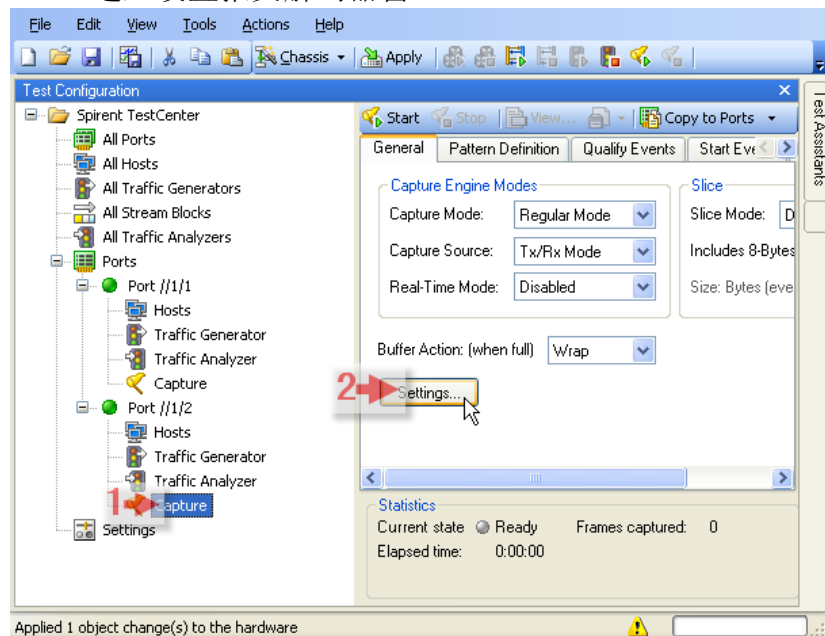
10e8 Filtered Stream Results 方式使用 Jitter 模式观察结果—抖动—截图 7



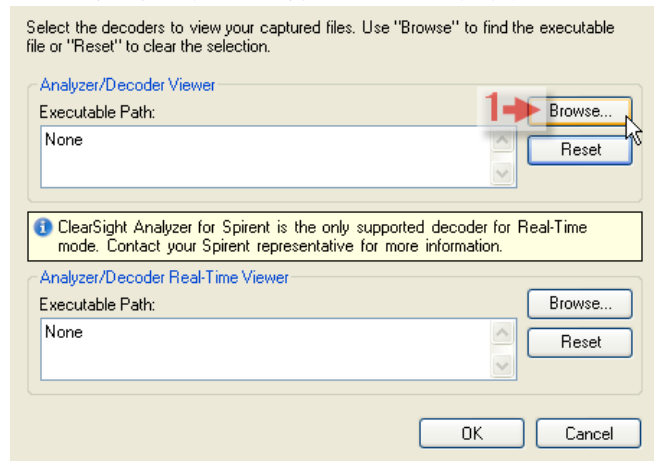
10f 使用 Capture 进行抓包分析。

10f1 设置报文解码器。

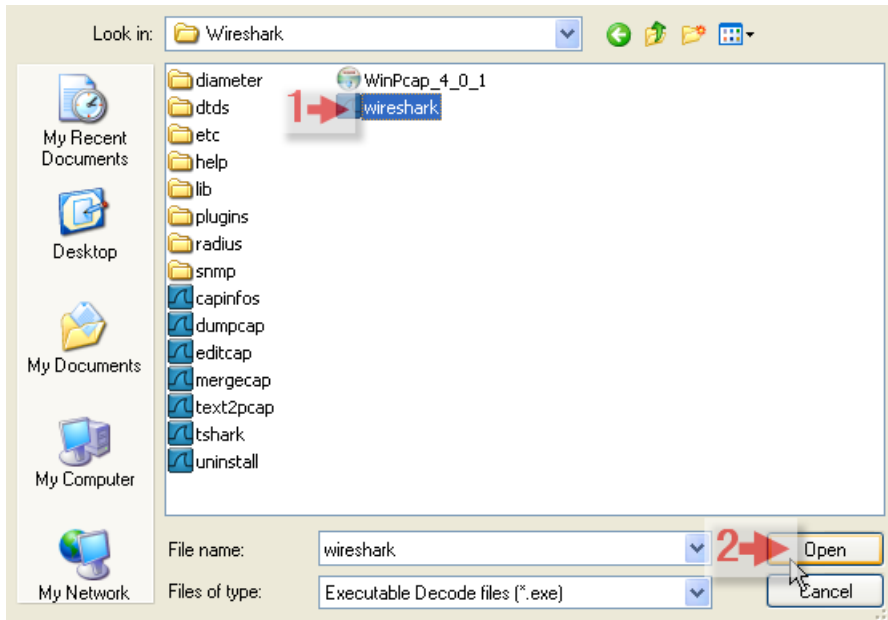
10f1a 进入设置报文解码器窗口。



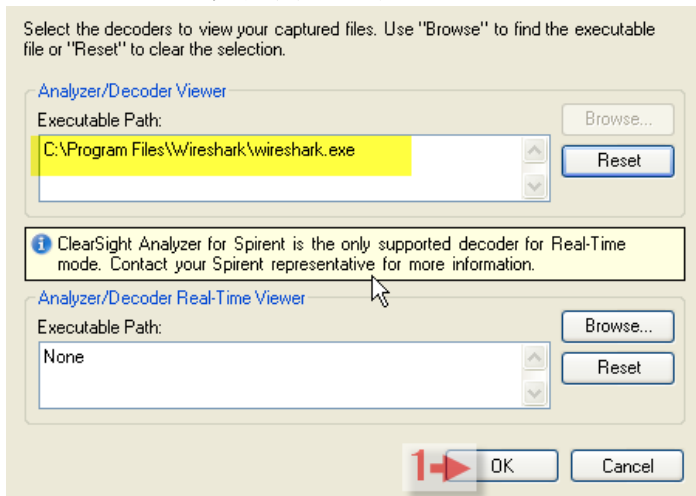
10f1b 在弹出窗口选择 Browse 选定解码器



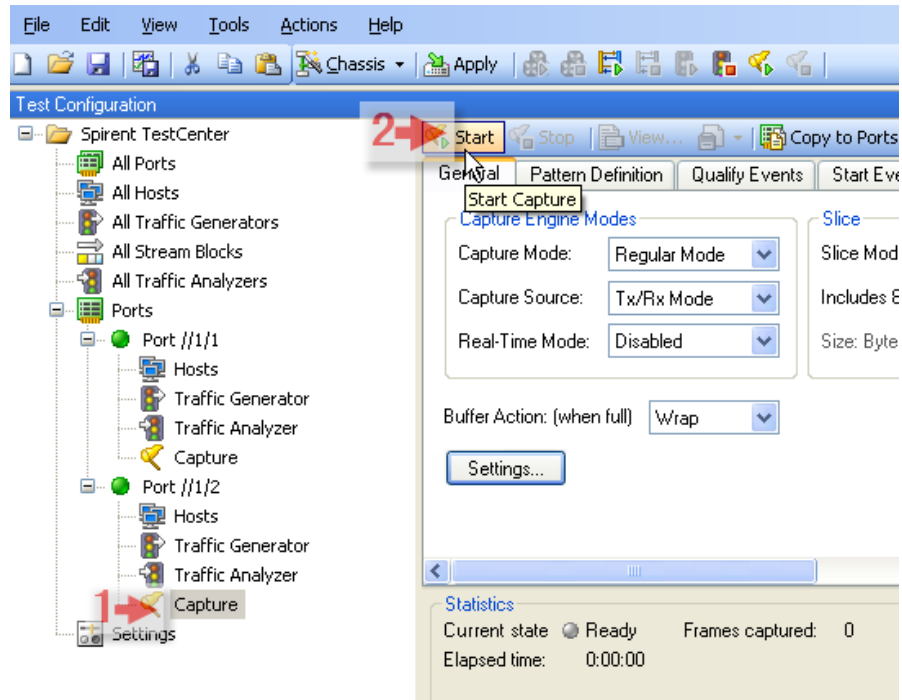
10f1c 在弹出窗口选择 Browse 选定解码器的运行文件



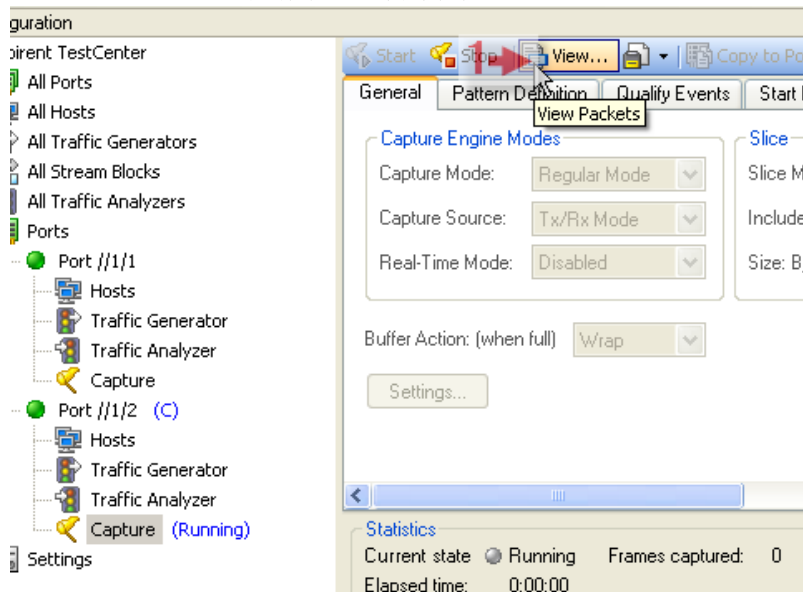
10f1d 点击 OK 完成解码器设置



10f2 点击 Start 开始抓包。



10f3 点击 View 调用解码器分析报文。



10f4 解码器分析报文截图。

File Edit View Go Capture Analyze Statistics Help

Filter: Expression... Clear Apply

No. -	Time	Source	Destination	Protocol	Info
1	0.000000000	Performa_01:00:04	Performa_02:00:04	0x88b5	PRI: 0 CF
2	0.000012050	Performa_01:00:01	Performa_02:00:01	0x88b5	PRI: 0 CF
3	0.000023460	Performa_01:00:02	Performa_02:00:02	0x88b5	PRI: 0 CF

Frame 2 (128 bytes on wire, 128 bytes captured)

Ethernet II, Src: Performa_01:00:01 (00:10:94:01:00:01), Dst: Performa_02:00:01 (00:10:94:02:00:01)

802.1Q Virtual LAN

```

000. .... = Priority: 0
...0 .... = CFI: 0
.... 0000 0110 0100 = ID: 100
Type: Unknown (0x88b5)

```

```

0010  88 b5 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
0020  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
0030  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
0040  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
0050  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
0060  00 00 00 00 00 00 00 00 5d 06 56 1a c6 f0 ef 4b  ..... ]..V....K
0070  42 a3 9f 06 48 49 b9 5a dd 4f d6 04 49 18 10 66  B...HI.Z .O..I..f

```

File: "C:\Program Files\Spirent Communications\Spirent TestCenter 2.... P: 65536 D: 65536 M: 0

11 常见问题