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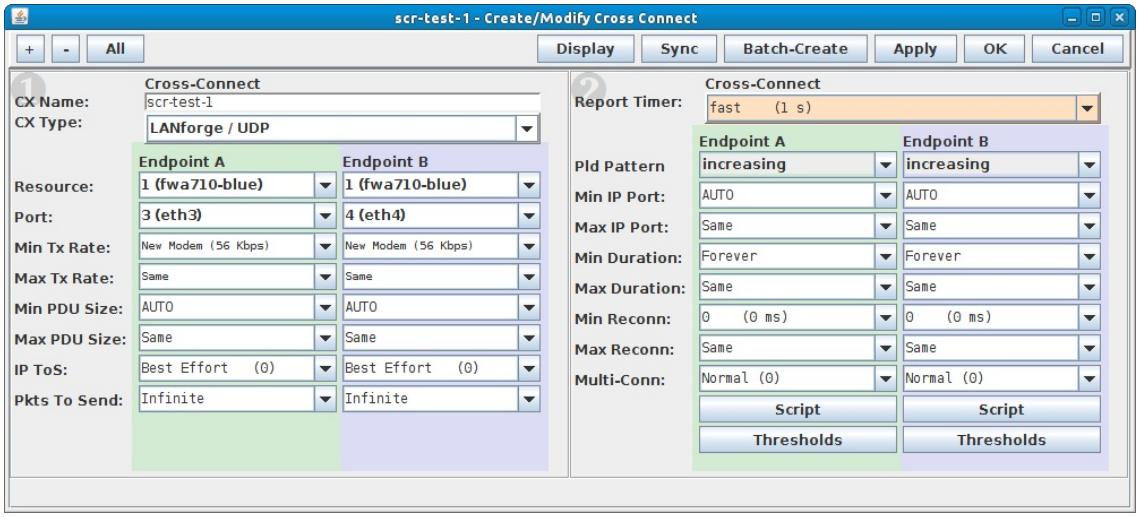
Scripted Layer-3 Test

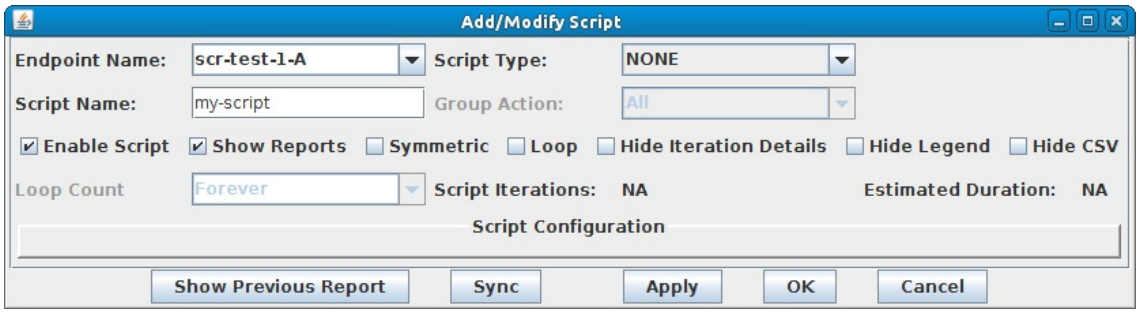
Goal: Use RFC-2544 as a guide to create a Layer-3 connection that can run automatically through various payload sizes and rates for a specified duration.

In this example, LANforge is used to set up a scripted connection that will iterate through a user-defined list of payload sizes and transmission rates. Each iteration will run for a user-defined duration with a user-defined pause between iterations. A summary text report is generated at the conclusion of all iterations.

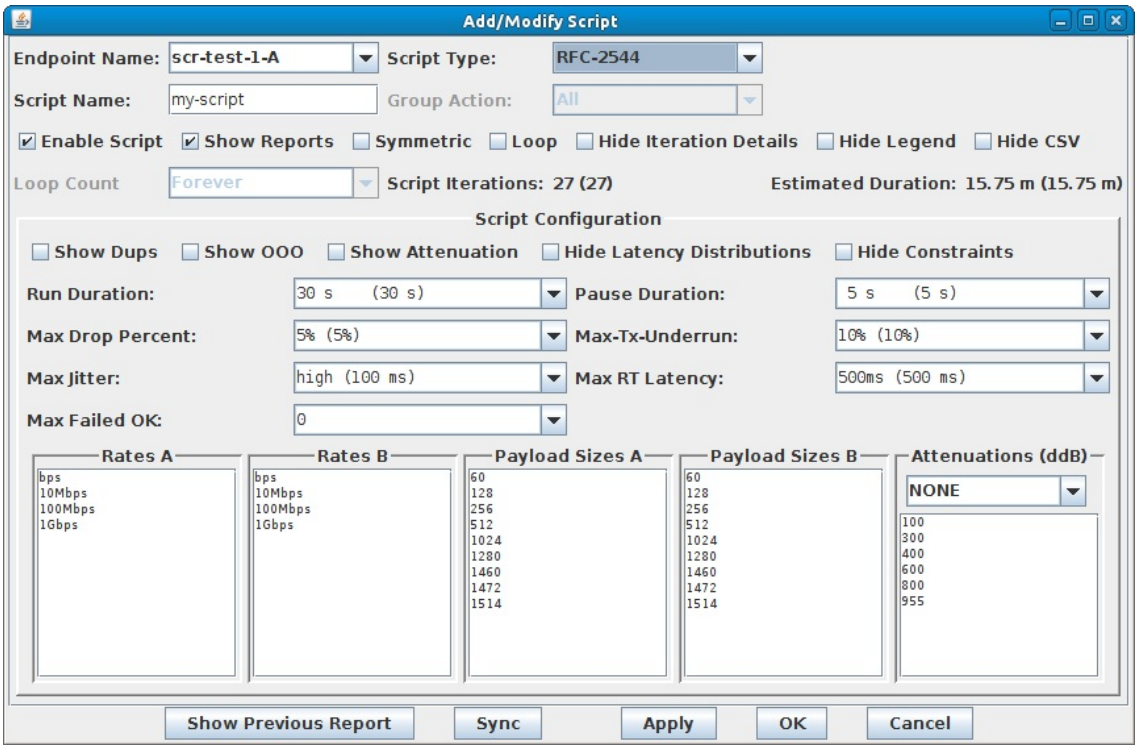
1. Create a Layer-3 connection. For more information see Generating Traffic to a Switched Network
2. Modify the Layer-3 connection to add the script.
   A. Highlight the Layer-3 connection and select **Modify**.



   B. Select the **Script** button on Endpoint A.



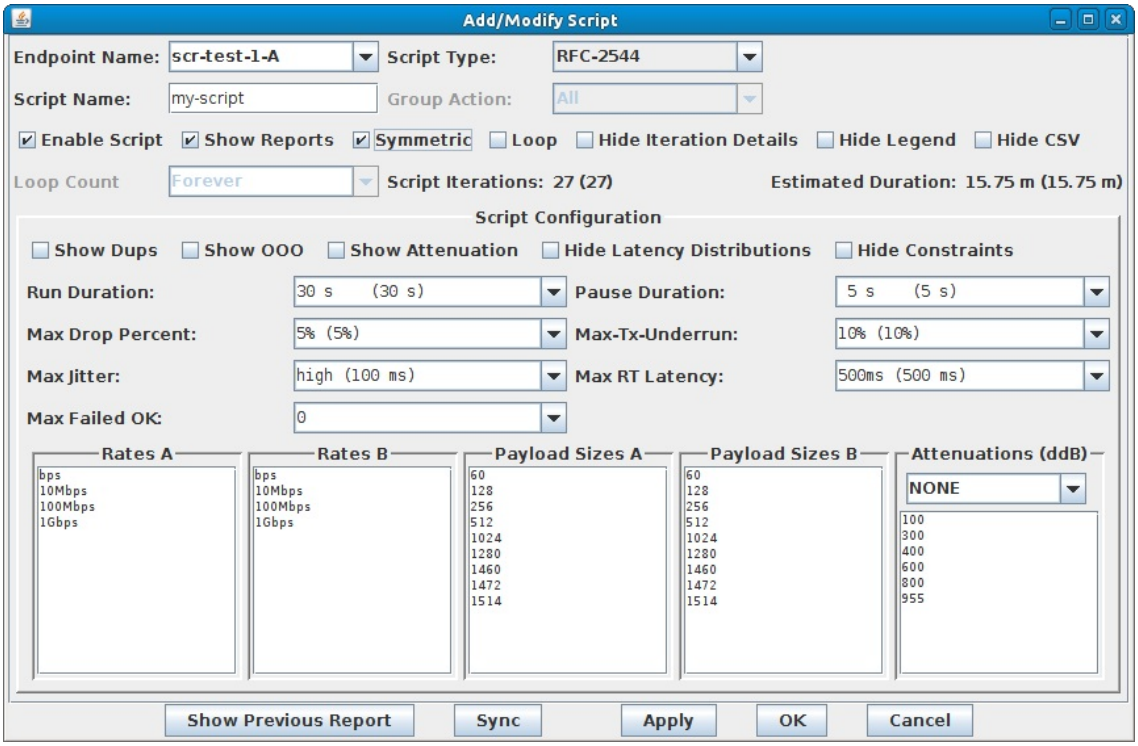
C. Select the Script Type, RFC-2544.



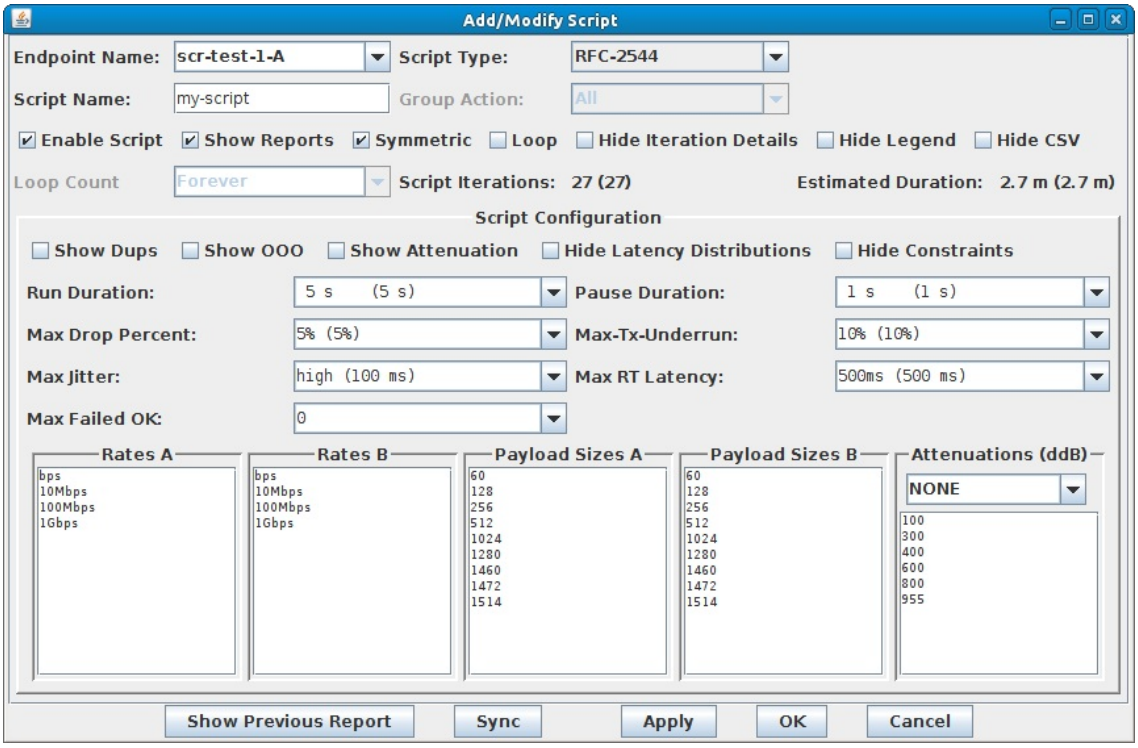
A. **Note**: A default set of payload sizes are set up based on RFC-2544 but, can be changed by typing over the default values.

B. **Note**: For Layer-3 UDP and TCP connections, 'payload size' refers to size of the payload being carried by the protocol and not the ethernet frame size.

3. Set up script options. For details refer to: LANforge User's Guide: Scripted Cross Connect
   A. Select **Symmetric** for the script to run both endpoints for a bi-directional traffic test.

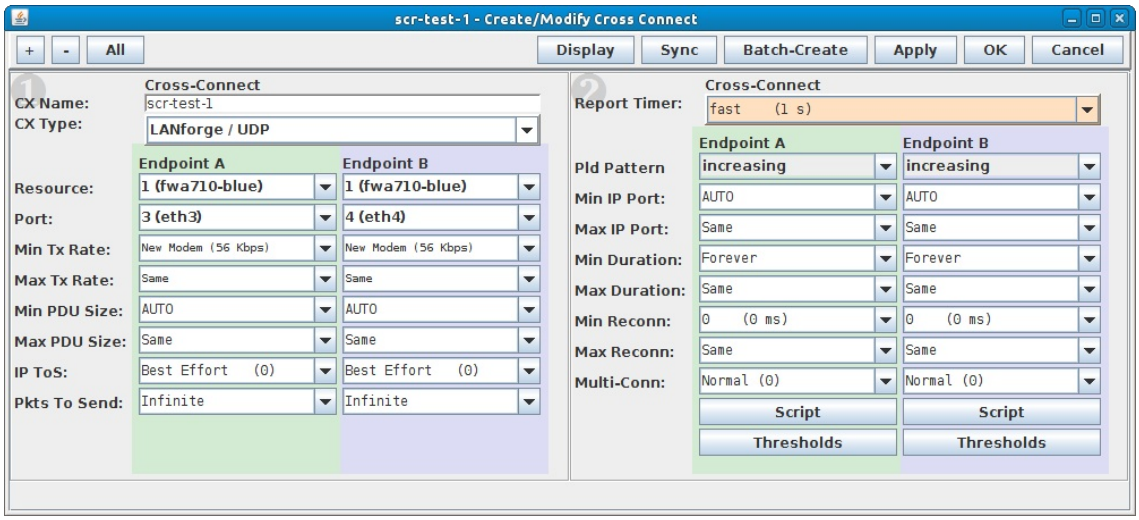


   B. Set the **Run** and **Pause Duration**.

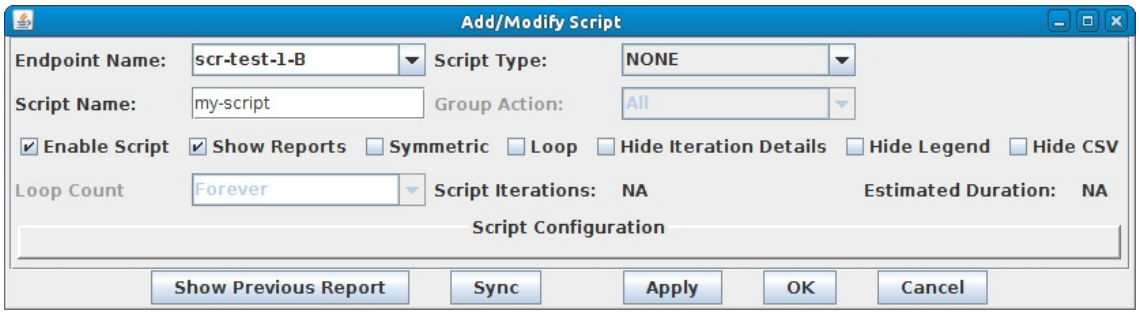


      A. Note the total number of **Script Iterations** and **Estimated Total Duration** to help determine how long it will take to run this script.

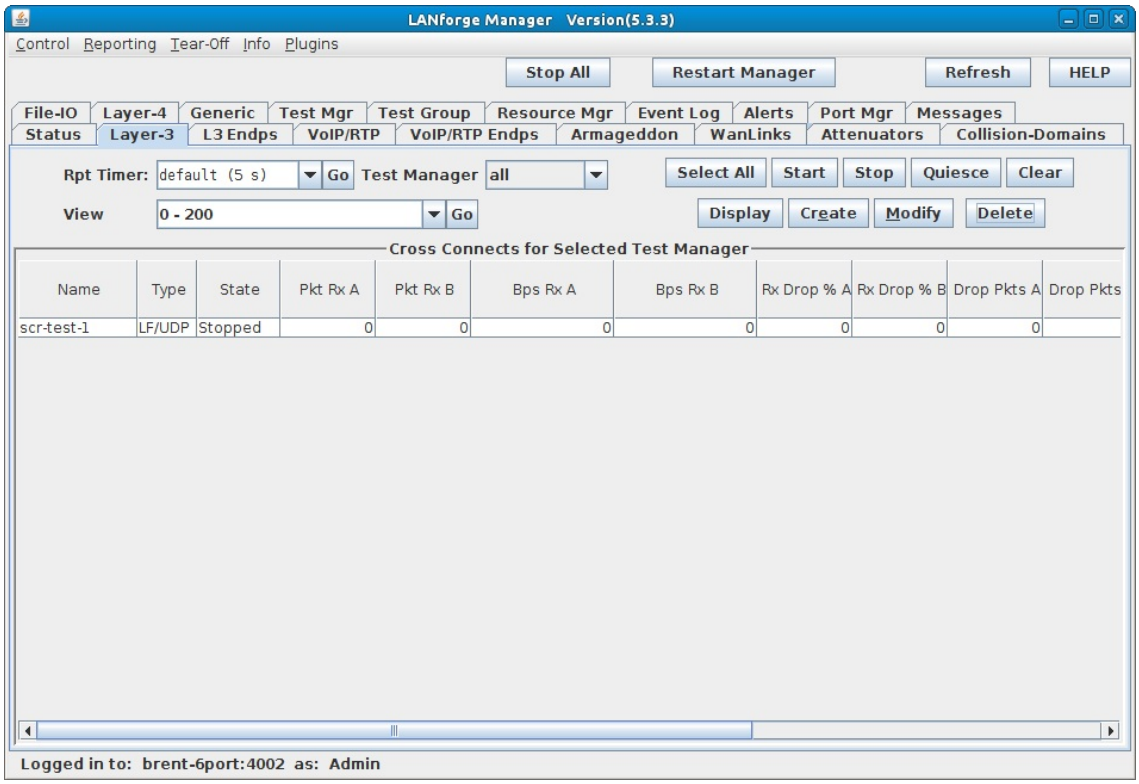
C. Select OK to close the Add/Modify Script window.



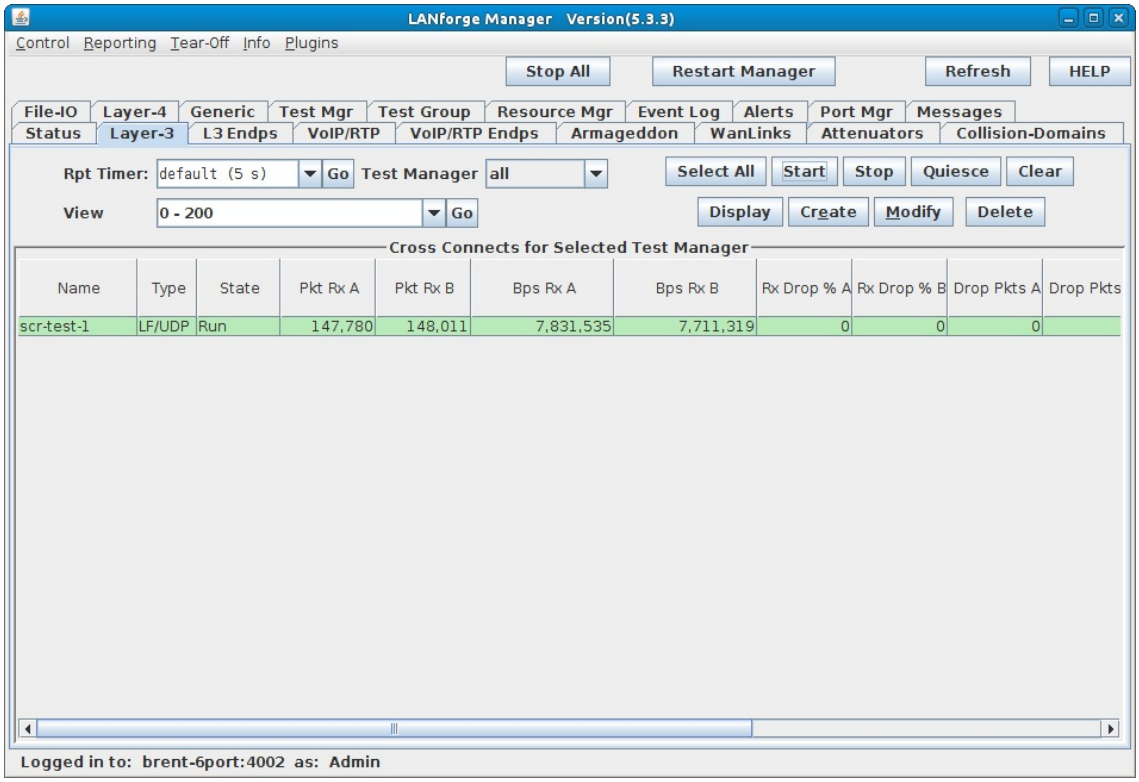
D. The Script Type for Endpoint B is set to NONE because Endpoint A is controlling both ends of the connection in this symmetric script example.



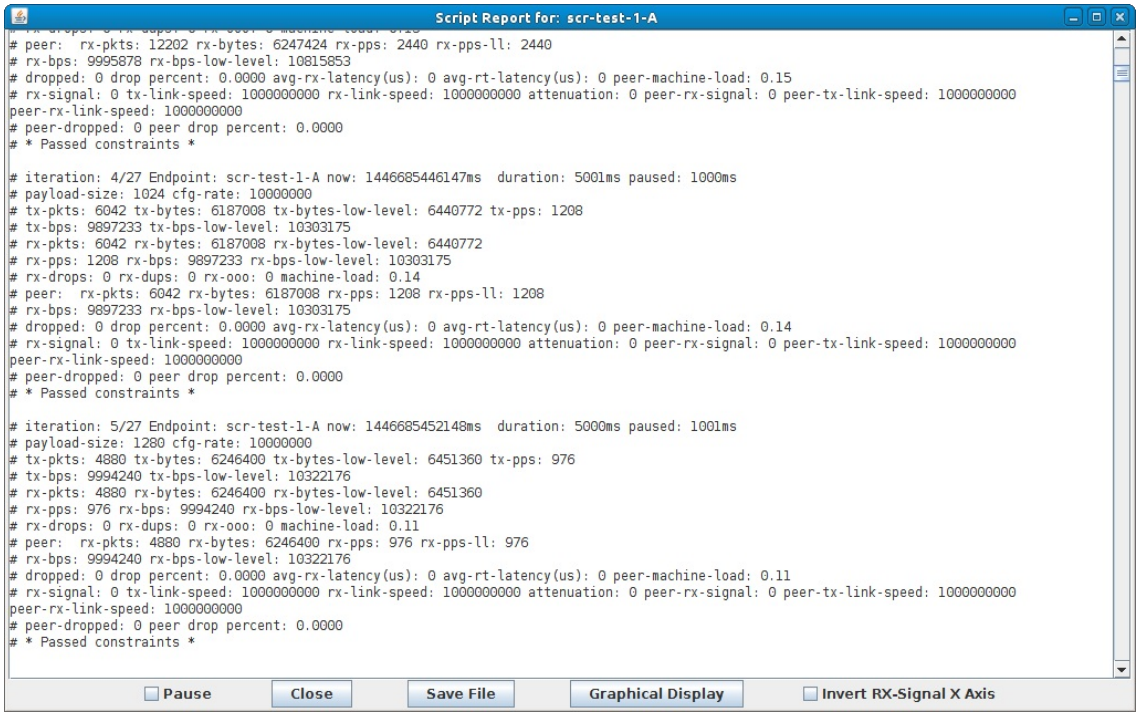
E. Select OK to close the Create/Modify Cross Connect window.



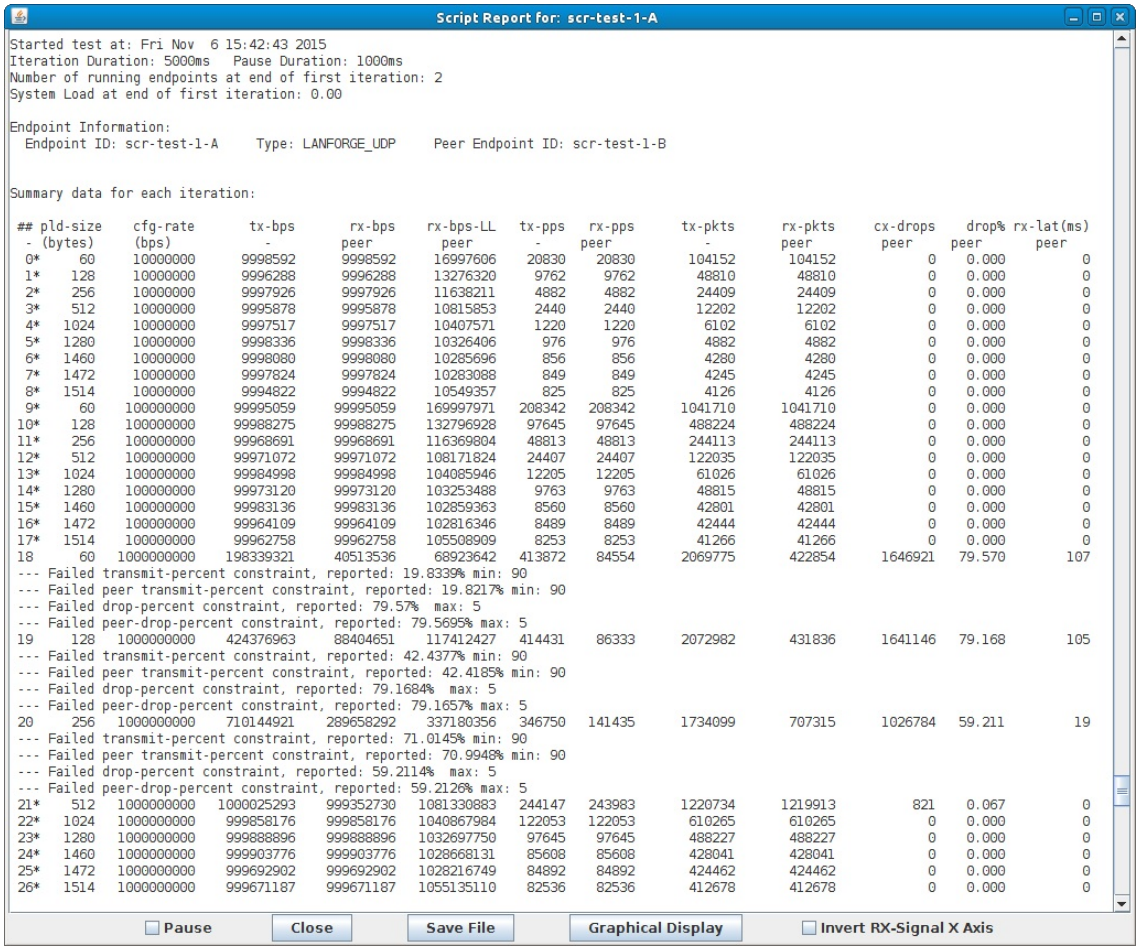
4. Start the Scripted Layer-3 Cross Connect.
   A. Highlight the Layer-3 connection and select Start.



   B. A script report window will pop up and show the details of each iteration of the scripted connection as it is run.



C. At the conclusion of the script, the report window will display a summary of the entire scripted connection results. Full Script Report for this example:



Script Report for: scr-test-1-A

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Started test at: Fri Nov  6 15:42:43 2015
Iteration Duration: 5000ms   Pause Duration: 1000ms
Number of running endpoints at end of first iteration: 2
System Load at end of first iteration: 0.00

Endpoint Information:
  Endpoint ID: scr-test-1-A     Type: LANFORGE_UDP     Peer Endpoint ID: scr-test-1-B


Summary data for each iteration:

 ## pld-size    cfg-rate       tx-bps       rx-bps    rx-bps-LL   tx-pps   rx-pps      tx-pkts      rx-pkts     cx-drops    drop% rx-lat(ms)
  - (bytes)     (bps)            -         peer        peer        -      peer           -          peer        peer      peer       peer
  0*     60     10000000      9998592      9998592     16997606    20830    20830       104152        104152          0     0.000          0
  1*    128     10000000      9996288      9996288     13276320     9762     9762        48810         48810          0     0.000          0
  2*    256     10000000      9997926      9997926     11638211     4882     4882        24409         24409          0     0.000          0
  3*    512     10000000      9995878      9995878     10815853     2440     2440        12202         12202          0     0.000          0
  4*   1024     10000000      9997517      9997517     10407571     1220     1220         6102          6102          0     0.000          0
  5*   1280     10000000      9998336      9998336     10326406      976      976         4882          4882          0     0.000          0
  6*   1460     10000000      9998080      9998080     10285696      856      856         4280          4280          0     0.000          0
  7*   1472     10000000      9997824      9997824     10283088      849      849         4245          4245          0     0.000          0
  8*   1514     10000000      9994822      9994822     10549357      825      825         4126          4126          0     0.000          0
  9*     60    100000000     99995059     99995059    169997971   208342   208342      1041710       1041710          0     0.000          0
 10*    128    100000000     99988275     99988275    132796928    97645    97645       488224        488224          0     0.000          0
 11*    256    100000000     99968691     99968691    116369804    48813    48813       244113        244113          0     0.000          0
 12*    512    100000000     99971072     99971072    108171824    24407    24407       122035        122035          0     0.000          0
 13*   1024    100000000     99984998     99984998    104085946    12205    12205        61026         61026          0     0.000          0
 14*   1280    100000000     99973120     99973120    103253488     9763     9763        48815         48815          0     0.000          0
 15*   1460    100000000     99983136     99983136    102859363     8560     8560        42801         42801          0     0.000          0
 16*   1472    100000000     99964109     99964109    102816346     8489     8489        42444         42444          0     0.000          0
 17*   1514    100000000     99962758     99962758    105508909     8253     8253        41266         41266          0     0.000          0
 18      60   1000000000    198339321     40513536     68923642   413872    84554      2069775        422854    1646921    79.570        107
 --- Failed transmit-percent constraint, reported: 19.8339% min: 90
 --- Failed peer transmit-percent constraint, reported: 19.8217% min: 90
 --- Failed drop-percent constraint, reported: 79.57%  max: 5
 --- Failed peer-drop-percent constraint, reported: 79.5695% max: 5
 19     128   1000000000    424376963     88404651    117412427   414431    86333      2072982        431836    1641146    79.168        105
 --- Failed transmit-percent constraint, reported: 42.4377% min: 90
 --- Failed peer transmit-percent constraint, reported: 42.4185% min: 90
 --- Failed drop-percent constraint, reported: 79.1684%  max: 5
 --- Failed peer-drop-percent constraint, reported: 79.1657% max: 5
 20     256   1000000000    710144921    289658292    337180356   346750   141435      1734099        707315    1026784    59.211         19
 --- Failed transmit-percent constraint, reported: 71.0145% min: 90
 --- Failed peer transmit-percent constraint, reported: 70.9948% min: 90
 --- Failed drop-percent constraint, reported: 59.2114%  max: 5
 --- Failed peer-drop-percent constraint, reported: 59.2126% max: 5
 21*    512   1000000000   1000025293    999352730   1081330883   244147   243983      1220734       1219913        821     0.067          0
 22*   1024   1000000000    999858176    999858176   1040867984   122053   122053       610265        610265          0     0.000          0
 23*   1280   1000000000    999888896    999888896   1032697750    97645    97645       488227        488227          0     0.000          0
 24*   1460   1000000000    999903776    999903776   1028668131    85608    85608       428041        428041          0     0.000          0
 25*   1472   1000000000    999692902    999692902   1028216749    84892    84892       424462        424462          0     0.000          0
 26*   1514   1000000000    999671187    999671187   1055135110    82536    82536       412678        412678          0     0.000          0
```

Pause | Close | Save File | Graphical Display | Invert RX-Signal X Axis

A. per iteration details

B. raw CSV data for all iterations

C. spreadsheet matrices for creating your own 3D graphs

D. system information