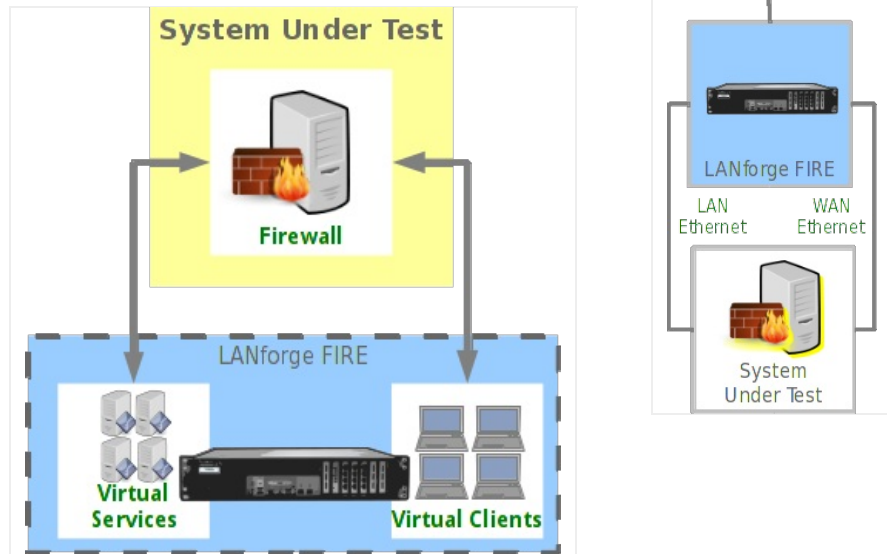


Scripted Armageddon Test

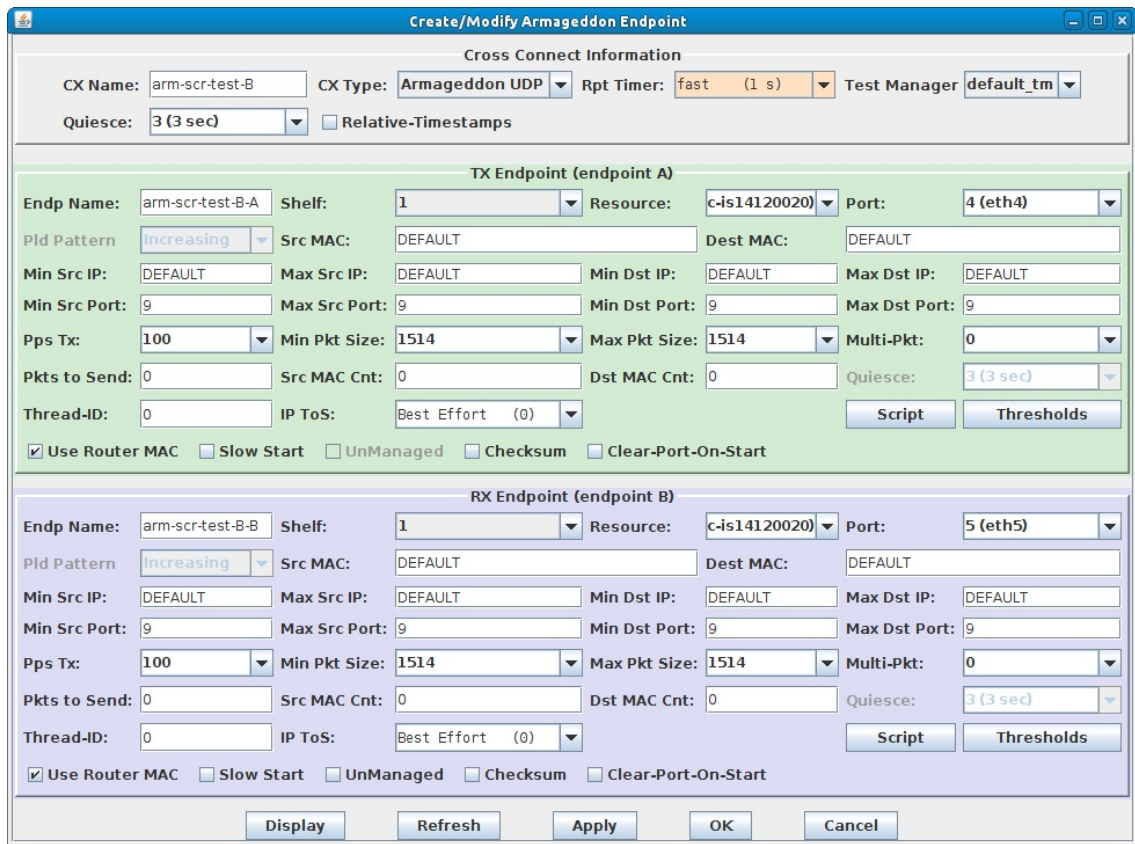
Goal: Use [RFC-2544](#) as a guide to create an Armageddon connection that can run automatically through various payload sizes and rates for a specified duration.

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 an Armageddon connection. For more information see [Armageddon Testing \(Accelerated UDP\)](#)
2. Modify the Armageddon connection to add the script.

- A. Highlight the Armageddon connection and select **Modify**.



The dialog box is titled "Create/Modify Armageddon Endpoint". It contains two main sections: "TX Endpoint (endpoint A)" and "RX Endpoint (endpoint B)".

Cross Connect Information:

- CX Name: arm-scr-test-B
- CX Type: Armageddon UDP
- Rpt Timer: fast (1 s)
- Test Manager: default_tm
- Quiesce: 3 (3 sec)
- ☐ Relative-Timestamps

TX Endpoint (endpoint A):

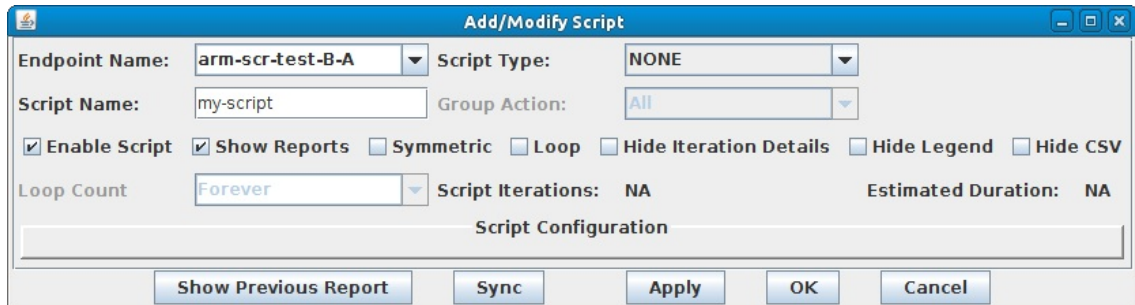
- Endp Name: arm-scr-test-B-A
- Shelf: 1
- Resource: c-is14120020
- Port: 4 (eth4)
- Pld Pattern: Increasing
- Src MAC: DEFAULT
- Dest MAC: DEFAULT
- Min Src IP: DEFAULT
- Max Src IP: DEFAULT
- Min Dst IP: DEFAULT
- Max Dst IP: DEFAULT
- Min Src Port: 9
- Max Src Port: 9
- Min Dst Port: 9
- Max Dst Port: 9
- Pps Tx: 100
- Min Pkt Size: 1514
- Max Pkt Size: 1514
- Multi-Pkt: 0
- Pkts to Send: 0
- Src MAC Cnt: 0
- Dst MAC Cnt: 0
- Quiesce: 3 (3 sec)
- Thread-ID: 0
- IP ToS: Best Effort (0)
- ☒ Use Router MAC
- ☐ Slow Start
- ☐ UnManaged
- ☐ Checksum
- ☐ Clear-Port-On-Start

RX Endpoint (endpoint B):

- Endp Name: arm-scr-test-B-B
- Shelf: 1
- Resource: c-is14120020
- Port: 5 (eth5)
- Pld Pattern: Increasing
- Src MAC: DEFAULT
- Dest MAC: DEFAULT
- Min Src IP: DEFAULT
- Max Src IP: DEFAULT
- Min Dst IP: DEFAULT
- Max Dst IP: DEFAULT
- Min Src Port: 9
- Max Src Port: 9
- Min Dst Port: 9
- Max Dst Port: 9
- Pps Tx: 100
- Min Pkt Size: 1514
- Max Pkt Size: 1514
- Multi-Pkt: 0
- Pkts to Send: 0
- Src MAC Cnt: 0
- Dst MAC Cnt: 0
- Quiesce: 3 (3 sec)
- Thread-ID: 0
- IP ToS: Best Effort (0)
- ☒ Use Router MAC
- ☐ Slow Start
- ☐ UnManaged
- ☐ Checksum
- ☐ Clear-Port-On-Start

Buttons at the bottom: Display, Refresh, Apply, OK, Cancel.

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



The dialog box is titled "Add/Modify Script".

Endpoint Name: arm-scr-test-B-A

Script Type: NONE

Script Name: my-script

Group Action: All

☒ Enable Script

☒ Show Reports

☐ Symmetric

☐ Loop

☐ Hide Iteration Details

☐ Hide Legend

☐ Hide CSV

Loop Count: Forever

Script Iterations: NA

Estimated Duration: NA

Script Configuration

Buttons at the bottom: Show Previous Report, Sync, Apply, OK, Cancel.

C. Select the **Script Type** 'RFC-2544'.

Add/Modify Script

Endpoint Name: arm-scr-test-B-A Script Type: RFC-2544

Script Name: my-script Group Action: All

☒ Enable Script ☒ Show Reports ☐ Symmetric ☐ Loop ☐ Hide Iteration Details ☐ Hide Legend ☐ Hide CSV

Loop Count: Forever Script Iterations: 27 (27) Estimated Duration: 15.75 m (15.75 m)

Script Configuration

☐ Show Dups ☐ Show OOO ☐ Show Attenuation ☐ Hide Latency Distributions ☐ Hide Constraints

Run Duration: 30 s (30 s) Pause Duration: 5 s (5 s)

Max Drop Percent: 5% (5%) Max-Tx-Underrun: 10% (10%)

Max Jitter: high (100 ms) Max RT Latency: 500ms (500 ms)

Max Failed OK: 0

Rates A bps 10Mbps 100Mbps 1Gbps

Rates B bps 10Mbps 100Mbps 1Gbps

Payload Sizes A 60 128 256 512 1024 1280 1460 1472 1514

Payload Sizes B 60 128 256 512 1024 1280 1460 1472 1514

Attenuations (ddB) NONE 100 300 400 600 800 955

Show Previous Report Sync Apply OK Cancel

- 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 Armageddon UDP connections, 'payload size' refers to the ethernet frame size.

For more information see [LANforge User's Guide: Scripted Armageddon Cross Connect](#)

3. Set up script options.

- A. Select Symmetric for the script to run both endpoints for a bi-directional traffic test.

Add/Modify Script

Endpoint Name: **arm-scr-test-B-A** Script Type: **RFC-2544**

Script Name: **my-script** Group Action: **All**

☒ Enable Script ☒ Show Reports ☒ Symmetric ☐ Loop ☐ Hide Iteration Details ☐ Hide Legend ☐ Hide CSV

Loop Count: **Forever** Script Iterations: **27 (27)** Estimated Duration: **15.75 m (15.75 m)**

Script Configuration

☐ Show Dups ☐ Show OOO ☐ Show Attenuation ☐ Hide Latency Distributions ☐ Hide Constraints

Run Duration: **30 s (30 s)** Pause Duration: **5 s (5 s)**

Max Drop Percent: **5% (5%)** Max-Tx-Underrun: **10% (10%)**

Max Jitter: **high (100 ms)** Max RT Latency: **500ms (500 ms)**

Max Failed OK: **0**

Rates A **Rates B** **Payload Sizes A** **Payload Sizes B** **Attenuations (ddB)**

Rates A: bps, 10Mbps, 100Mbps, 1Gbps

Rates B: bps, 10Mbps, 100Mbps, 1Gbps

Payload Sizes A: 60, 128, 256, 512, 1024, 1280, 1460, 1472, 1514

Payload Sizes B: 60, 128, 256, 512, 1024, 1280, 1460, 1472, 1514

Attenuations (ddB): NONE

Show Previous Report Sync Apply OK Cancel

- B. Set the Run and Pause Duration, max failure thresholds, and modify Rates and Payload Sizes as needed.

Add/Modify Script

Endpoint Name: **arm-scr-test-B-A** Script Type: **RFC-2544**

Script Name: **my-script** Group Action: **All**

☒ Enable Script ☒ Show Reports ☒ Symmetric ☐ Loop ☐ Hide Iteration Details ☐ Hide Legend ☐ Hide CSV

Loop Count: **Forever** Script Iterations: **36 (36)** Estimated Duration: **6.6 m (6.6 m)**

Script Configuration

☐ Show Dups ☐ Show OOO ☐ Show Attenuation ☐ Hide Latency Distributions ☐ Hide Constraints

Run Duration: **10 s (10 s)** Pause Duration: **1 s (1 s)**

Max Drop Percent: **5% (5%)** Max-Tx-Underrun: **10% (10%)**

Max Jitter: **high (100 ms)** Max RT Latency: **500ms (500 ms)**

Max Failed OK: **0**

Rates A **Rates B** **Payload Sizes A** **Payload Sizes B** **Attenuations (ddB)**

Rates A: pps, 100, 1000, 10000, 100000

Rates B: pps, 100, 1000, 10000, 100000

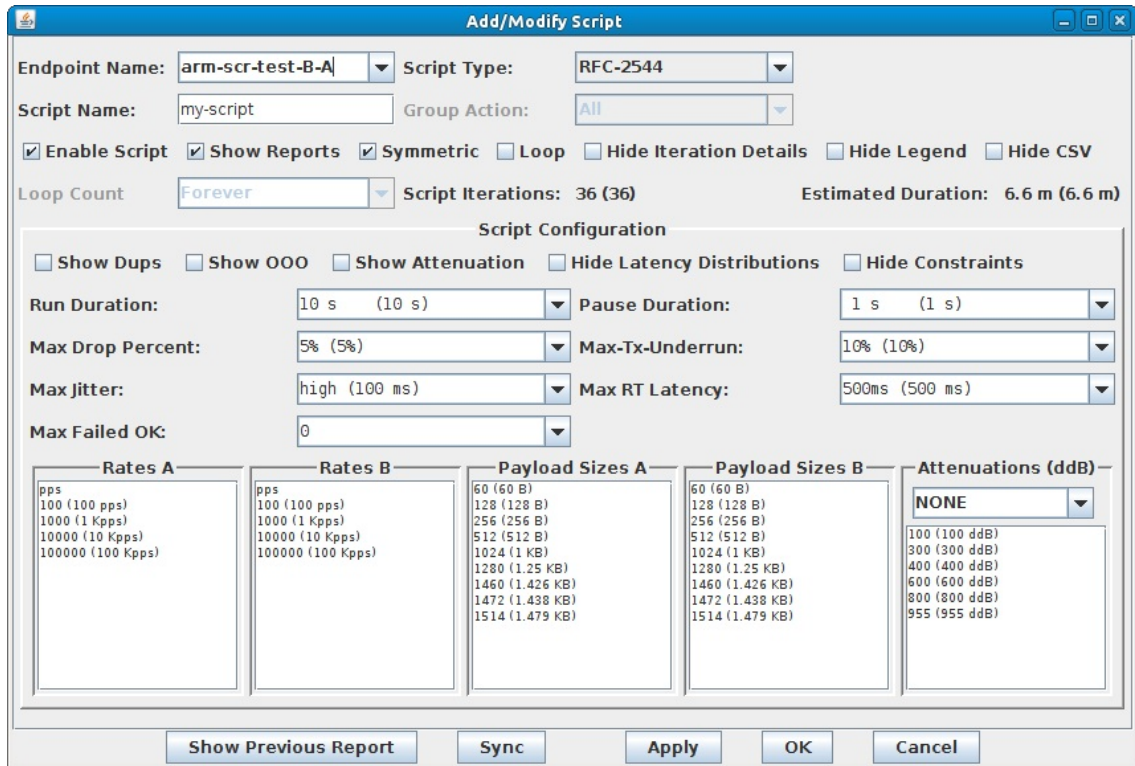
Payload Sizes A: 60 (60 B), 128 (128 B), 256 (256 B), 512 (512 B), 1024 (1 KB), 1280 (1.25 KB), 1460 (1.426 KB), 1472 (1.438 KB), 1514 (1.479 KB)

Payload Sizes B: 60 (60 B), 128 (128 B), 256 (256 B), 512 (512 B), 1024 (1 KB), 1280 (1.25 KB), 1460 (1.426 KB), 1472 (1.438 KB), 1514 (1.479 KB)

Attenuations (ddB): NONE

Show Previous Report Sync Apply OK Cancel

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



The 'Add/Modify Script' window is used to configure a script. It includes fields for Endpoint Name, Script Type, Script Name, and Group Action. There are checkboxes for Enable Script, Show Reports, Symmetric, Loop, Hide Iteration Details, Hide Legend, and Hide CSV. The Loop Count is set to 'Forever', Script Iterations are 36 (36), and the Estimated Duration is 6.6 m (6.6 m). The Script Configuration section includes checkboxes for Show Dups, Show OOO, Show Attenuation, Hide Latency Distributions, and Hide Constraints. It also has fields for Run Duration, Pause Duration, Max Drop Percent, Max-Tx-Underrun, Max Jitter, Max RT Latency, and Max Failed OK. At the bottom, there are five lists: Rates A, Rates B, Payload Sizes A, Payload Sizes B, and Attenuations (ddB). The window has buttons for Show Previous Report, Sync, Apply, OK, and Cancel.

Endpoint Name: **arm-scr-test-B-A** Script Type: **RFC-2544**

Script Name: **my-script** Group Action: **All**

☒ Enable Script ☒ Show Reports ☒ Symmetric ☐ Loop ☐ Hide Iteration Details ☐ Hide Legend ☐ Hide CSV

Loop Count: **Forever** Script Iterations: **36 (36)** Estimated Duration: **6.6 m (6.6 m)**

Script Configuration

☐ Show Dups ☐ Show OOO ☐ Show Attenuation ☐ Hide Latency Distributions ☐ Hide Constraints

Run Duration: **10 s (10 s)** Pause Duration: **1 s (1 s)**

Max Drop Percent: **5% (5%)** Max-Tx-Underrun: **10% (10%)**

Max Jitter: **high (100 ms)** Max RT Latency: **500ms (500 ms)**

Max Failed OK: **0**

Rates A

pps
100 (100 pps)
1000 (1 Kpps)
10000 (10 Kpps)
100000 (100 Kpps)

Rates B

pps
100 (100 pps)
1000 (1 Kpps)
10000 (10 Kpps)
100000 (100 Kpps)

Payload Sizes A

60 (60 B)
128 (128 B)
256 (256 B)
512 (512 B)
1024 (1 KB)
1280 (1.25 KB)
1460 (1.426 KB)
1472 (1.438 KB)
1514 (1.479 KB)

Payload Sizes B

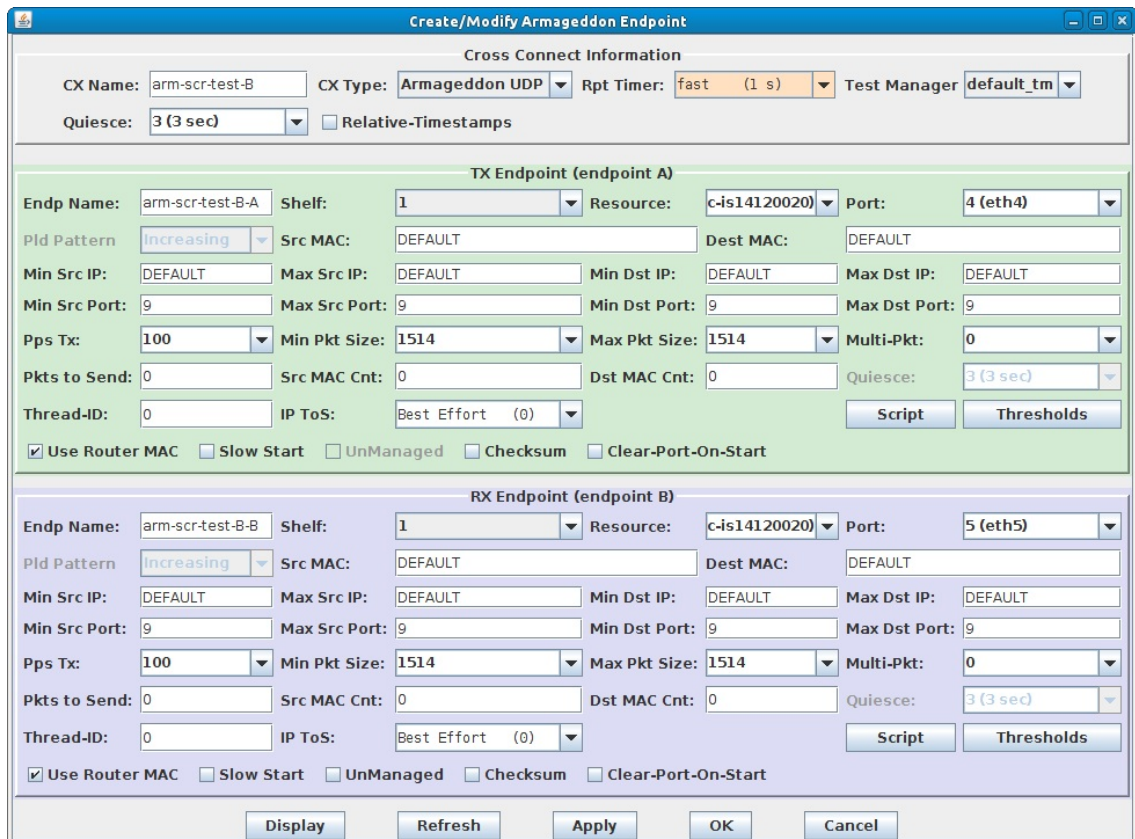
60 (60 B)
128 (128 B)
256 (256 B)
512 (512 B)
1024 (1 KB)
1280 (1.25 KB)
1460 (1.426 KB)
1472 (1.438 KB)
1514 (1.479 KB)

Attenuations (ddB)

NONE
100 (100 ddB)
300 (300 ddB)
400 (400 ddB)
600 (600 ddB)
800 (800 ddB)
955 (955 ddB)

Show Previous Report **Sync** **Apply** **OK** **Cancel**

- D. Select **OK** to close the **Add/Modify Script** window.



The 'Create/Modify Armageddon Endpoint' window is used to configure an Armageddon endpoint. It includes fields for CX Name, CX Type, Rpt Timer, Test Manager, and Quiesce. There are checkboxes for Relative-Timestamps. The TX Endpoint (endpoint A) section includes fields for Endp Name, Shelf, Resource, Port, Pld Pattern, Src MAC, Dest MAC, Min Src IP, Max Src IP, Min Dst IP, Max Dst IP, Min Src Port, Max Src Port, Min Dst Port, Max Dst Port, Pps Tx, Min Pkt Size, Max Pkt Size, Multi-Pkt, Pkts to Send, Src MAC Cnt, Dst MAC Cnt, Quiesce, Thread-ID, and IP ToS. There are buttons for Script and Thresholds. The RX Endpoint (endpoint B) section includes similar fields. The window has buttons for Display, Refresh, Apply, OK, and Cancel.

Cross Connect Information

CX Name: **arm-scr-test-B** CX Type: **Armageddon UDP** Rpt Timer: **fast (1 s)** Test Manager: **default_tm**

Quiesce: **3 (3 sec)** ☐ Relative-Timestamps

TX Endpoint (endpoint A)

Endp Name: **arm-scr-test-B-A** Shelf: **1** Resource: **c-is14120020** Port: **4 (eth4)**

Pld Pattern: **Increasing** Src MAC: **DEFAULT** Dest MAC: **DEFAULT**

Min Src IP: **DEFAULT** Max Src IP: **DEFAULT** Min Dst IP: **DEFAULT** Max Dst IP: **DEFAULT**

Min Src Port: **9** Max Src Port: **9** Min Dst Port: **9** Max Dst Port: **9**

Pps Tx: **100** Min Pkt Size: **1514** Max Pkt Size: **1514** Multi-Pkt: **0**

Pkts to Send: **0** Src MAC Cnt: **0** Dst MAC Cnt: **0** Quiesce: **3 (3 sec)**

Thread-ID: **0** IP ToS: **Best Effort (0)**

☒ Use Router MAC ☐ Slow Start ☐ UnManaged ☐ Checksum ☐ Clear-Port-On-Start

Script **Thresholds**

RX Endpoint (endpoint B)

Endp Name: **arm-scr-test-B-B** Shelf: **1** Resource: **c-is14120020** Port: **5 (eth5)**

Pld Pattern: **Increasing** Src MAC: **DEFAULT** Dest MAC: **DEFAULT**

Min Src IP: **DEFAULT** Max Src IP: **DEFAULT** Min Dst IP: **DEFAULT** Max Dst IP: **DEFAULT**

Min Src Port: **9** Max Src Port: **9** Min Dst Port: **9** Max Dst Port: **9**

Pps Tx: **100** Min Pkt Size: **1514** Max Pkt Size: **1514** Multi-Pkt: **0**

Pkts to Send: **0** Src MAC Cnt: **0** Dst MAC Cnt: **0** Quiesce: **3 (3 sec)**

Thread-ID: **0** IP ToS: **Best Effort (0)**

☒ Use Router MAC ☐ Slow Start ☐ UnManaged ☐ Checksum ☐ Clear-Port-On-Start

Script **Thresholds**

Display **Refresh** **Apply** **OK** **Cancel**

- E. 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.

Add/Modify Script

Endpoint Name: Script Type:

Script Name: Group Action:

☒ Enable Script ☒ Show Reports ☐ Symmetric ☐ Loop ☐ Hide Iteration Details ☐ Hide Legend ☐ Hide CSV

Loop Count: Script Iterations: NA Estimated Duration: NA

Script Configuration

- F. Select **OK** to close the **Create/Modify Cross Connect** window.

LANforge Manager Version(5.3.3)

Control Reporting Tear-Off Info Plugins

File-IO Layer-4 Generic Test Mgr Test Group Resource Mgr Event Log Alerts Port Mgr Messages
Status Layer-3 L3 Endps VoIP/RTP VoIP/RTP Endps Armageddon WanLinks Attenuators Collision-Domains

Rpt Timer: default (5 s) Go Test Manager all

Armageddon: Kernel Accelerated Connections

Name	EID	State	Endpoints (A ↔ B)	Pkt Tx A → B	Pkt Tx A ← B	bps A → B	bps A ← B	Avg RTT	Req A → B	Req A ← B	Rpt T
arm-scr-t...	14....	Stopped	arm-scr-test-B-A <=>...	0	0	0	0	0	100	100	

Armageddon: Kernel Accelerated Connection Endpoints

Name	EID	Run	Script	Pps TX	Pps RX	Tx Pkts	Rx Pkts	Tx Bytes	Rx Bytes	Dropped	Rx Drop %	CX Dropped	C
arm-scr-...	1.1.4.42	<input type="checkbox"/>	Enabled	0	0	0	0	0	0	0	0	0	
arm-scr-...	1.1.5.43	<input type="checkbox"/>	Enabled	0	0	0	0	0	0	0	0	0	

Logged in to: lf1005c-is14120020:4002 as: Admin

For more information see [LANforge User's Guide: Scripted Armageddon Cross Connect](#)

4. Start the Scripted Armageddon Cross Connect.
 - A. Highlight the Armageddon connection and select **Start**.

The screenshot shows the LANforge Manager interface. The top menu bar includes Control, Reporting, Tear-Off, Info, and Plugins. Below this are several tabs: File-IO, Layer-4, Generic, Test Mgr, Test Group, Resource Mgr, Event Log, Alerts, Port Mgr, and Messages. Under the Test Mgr tab, there are sub-tabs: Status, Layer-3, L3 Endps, VoIP/RTP, VoIP/RTP Endps, Armageddon (selected), WanLinks, Attenuators, and Collision-Domains. The Armageddon section has a table with columns: Name, EID, State, Endpoints (A ↔ B), Pkt Tx A → B, Pkt Tx A ← B, bps A → B, bps A ← B, Avg RTT, Req A → B, Req A ← B, and Rpt 1. The table contains one entry: arm-scr-... with EID 14, State Run, and various performance metrics. Below this table is another section titled 'Armageddon: Kernel Accelerated Connection Endpoints' with a table showing details for each endpoint, including Name, EID, Run status, Script, Pps TX, Pps RX, Tx Pkts, Rx Pkts, Tx Bytes, Rx Bytes, Dropped, Rx Drop %, and CX Dropped. The bottom status bar indicates 'Logged in to: lf1005c-is14120020:4002 as: Admin'.

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

The screenshot shows a 'Script Report for: arm-scr-test-B-A' window. It displays a detailed log of the script execution, including parameters like rx-pps, rx-bps, rx-drops, tx-pkts, tx-bytes, and various latency and throughput metrics. The report shows multiple iterations of the script, with details for each iteration such as endpoint names, duration, and performance statistics. At the bottom of the window, there are buttons for 'Pause', 'Close', 'Save File', 'Graphical Display', and a checkbox for 'Invert RX-Signal X Axis'.

- C. At the conclusion of the script, the report window will display a summary of the entire scripted connection results.

Script Report for: arm-scr-test-B-A

Summary data for each iteration:

##	p1d-size - (bytes)	cfg-rate (pps-ll)	tx-bps -	rx-bps peer	rx-bps-LL peer	tx-pps -	rx-pps peer	tx-pkts -	rx-pkts peer	cx-drops peer	drop% peer	rx-lat(us) peer
0*	60	100	47808	47808	66931	100	100	996	996	0	0.000	37
1*	128	100	102093	102093	121235	100	100	997	997	0	0.000	39
2*	256	100	204186	204186	223328	100	100	997	997	0	0.000	39
3*	512	100	408781	408781	427942	100	100	998	998	0	0.000	39
4*	1024	100	816742	816742	835885	100	100	997	997	0	0.000	38
5*	1280	100	1021952	1021952	1041114	100	100	998	998	0	0.000	41
6*	1460	100	1164496	1164496	1183638	100	100	997	997	0	0.000	41
7*	1472	100	1169240	1169240	1188304	99	99	993	993	0	0.000	39
8*	1514	100	1206235	1206235	1225356	100	100	996	996	0	0.000	40
9*	60	1000	477408	477408	668371	995	995	9946	9946	0	0.000	43
10*	128	1000	1019802	1019802	1211014	996	996	9959	9959	0	0.000	41
11*	256	1000	2039194	2039194	2230368	996	996	9957	9957	0	0.000	42
12*	512	1000	4077158	4077158	4268275	995	995	9954	9954	0	0.000	43
13*	1024	1000	8144486	8144486	8335373	994	994	9942	9942	0	0.000	39
14*	1280	1000	10184704	10184704	10375667	995	995	9946	9946	0	0.000	43
15*	1460	1000	11609920	11609920	11800768	994	994	9940	9940	0	0.000	37
16*	1472	1000	11739494	11739494	11930899	997	997	9969	9969	0	0.000	42
17*	1514	1000	12065974	12065974	12257245	996	996	9962	9962	0	0.000	39
18*	60	10000	4296336	4296336	6014870	8951	8951	89507	89507	0	0.000	60
19*	128	10000	9081869	9081869	10784720	8869	8869	88699	88699	0	0.000	60
20*	256	10000	18175590	18175590	19879552	8875	8875	88748	88748	0	0.000	61
21*	512	10000	36326195	36326195	38028986	8869	8869	88687	88687	0	0.000	61
22*	1024	10000	72433664	72433664	74131328	8842	8842	88420	88420	0	0.000	62
23*	1280	10000	92143616	92143616	93871309	8998	8998	89984	89984	0	0.000	64
24*	1460	10000	103397200	103397200	105096880	8852	8852	88525	88525	0	0.000	62
25*	1472	10000	105047808	105047808	106760544	8920	8920	89205	89205	0	0.000	64
26*	1514	10000	107713227	107713227	109420702	8893	8893	88931	88931	0	0.000	62
27*	60	100000	45971232	45971232	64359725	95773	95773	957734	957734	0	0.000	60
28*	128	100000	96722125	96722125	114857523	94455	94455	944552	944552	0	0.000	62
29*	256	100000	194837504	194837504	213103520	95136	95136	951355	951355	0	0.000	61
30*	512	100000	385214855	385214855	403271801	94047	94047	940560	940560	0	0.000	63
31*	1024	100000	778949427	778949427	797206054	95087	95087	950866	950866	0	0.000	67
32*	1280	100000	964796416	964796416	982886349	94218	94218	942184	942184	0	0.000	60
33*	1460	100000	1119052624	1119052624	1137448010	95809	95809	958093	958093	0	0.000	61
34*	1472	100000	1112450458	1112450458	1130588237	94468	94468	944676	944676	0	0.000	62
35*	1514	100000	1158642398	1158642398	1177009253	95661	95661	956607	956607	0	0.000	62

☐ Pause

☐ 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

For more information see [Full Script Report for this example](#).