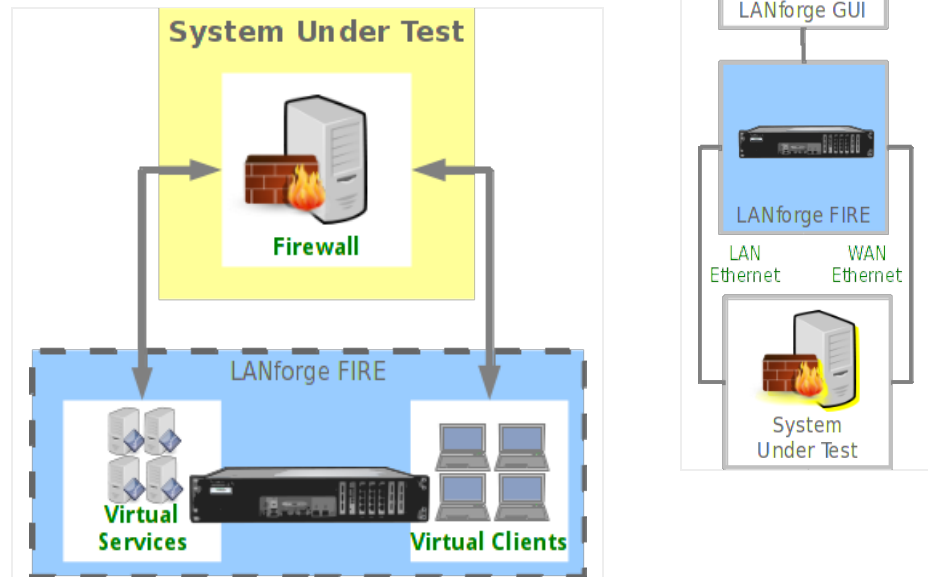


## Scripted Armageddon Test

**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**.

**Create/Modify Armageddon Endpoint**

**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) **Script** **Thresholds**

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) **Script** **Thresholds**

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

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

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

**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

**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	Rates B	Payload Sizes A	Payload Sizes B	Attenuations (ddB)
bps	bps	60	60	NONE
10Mbps	10Mbps	128	128	100
100Mbps	100Mbps	256	256	300
1Gbps	1Gbps	512	512	400
		1024	1024	600
		1280	1280	800
		1460	1460	955
		1472	1472	
		1514	1514	

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.

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)
bps	bps	60	60	NONE
10Mbps	10Mbps	128	128	100
100Mbps	100Mbps	256	256	300
1Gbps	1Gbps	512	512	400
		1024	1024	600
		1280	1280	800
		1460	1460	955
		1472	1472	
		1514	1514	

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.

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)
pps	pps	60 (60 B)	60 (60 B)	NONE
100	100	128 (128 B)	128 (128 B)	100 (100 ddB)
1000	1000	256 (256 B)	256 (256 B)	300 (300 ddB)
10000	10000	512 (512 B)	512 (512 B)	400 (400 ddB)
100000	100000	1024 (1 KB)	1024 (1 KB)	600 (600 ddB)
		1280 (1.25 KB)	1280 (1.25 KB)	800 (800 ddB)
		1460 (1.426 KB)	1460 (1.426 KB)	955 (955 ddB)
		1472 (1.438 KB)	1472 (1.438 KB)	
		1514 (1.479 KB)	1514 (1.479 KB)	

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.

**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: 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:  Pause Duration:

Max Drop Percent:  Max-Tx-Underrun:

Max Jitter:  Max RT Latency:

Max Failed OK:

Rates A	Rates B	Payload Sizes A	Payload Sizes B	Attenuations (ddB)
pps	pps	60 (60 B)	60 (60 B)	NONE
100 (100 pps)	100 (100 pps)	128 (128 B)	128 (128 B)	100 (100 ddB)
1000 (1 Kpps)	1000 (1 Kpps)	256 (256 B)	256 (256 B)	300 (300 ddB)
10000 (10 Kpps)	10000 (10 Kpps)	512 (512 B)	512 (512 B)	400 (400 ddB)
100000 (100 Kpps)	100000 (100 Kpps)	1024 (1 KB)	1024 (1 KB)	600 (600 ddB)
		1280 (1.25 KB)	1280 (1.25 KB)	800 (800 ddB)
		1460 (1.426 KB)	1460 (1.426 KB)	955 (955 ddB)
		1472 (1.438 KB)	1472 (1.438 KB)	
		1514 (1.479 KB)	1514 (1.479 KB)	

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

**Create/Modify Armageddon Endpoint**

Cross Connect Information

CX Name:  CX Type:  Rpt Timer:  Test Manager:

Quiesce:   Relative-Timestamps

**TX Endpoint (endpoint A)**

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:  IP ToS:

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

**RX Endpoint (endpoint B)**

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:  IP ToS:

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

- 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.

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

LANforge Manager Version(5.3.3)

Control Reporting Tear-Off Info Plugins

Stop All Restart Manager Refresh HELP

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

Select All Start Stop Quiesce Clear  
 Display Create Modify Batch Modify Delete

**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-...	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. At the top, there are tabs for Control, Reporting, Tear-Off, Info, and Plugins. Below these are buttons for Stop All, Restart Manager, Refresh, and HELP. A menu bar includes File-IO, Layer-4, Generic, Test Mgr, Test Group, Resource Mgr, Event Log, Alerts, Port Mgr, and Messages. A sub-menu bar includes Status, Layer-3, L3 Endps, VoIP/RTP, VoIP/RTP Endps, Armageddon, WanLinks, Attenuators, and Collision-Domains. A Rpt Timer is set to default (5 s) with a Go button. A Test Manager dropdown is set to all. Action buttons include Select All, Start, Stop, Quiesce, Clear, Display, Create, Modify, Batch Modify, and Delete. The main area contains two tables:

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 1
arm-scr-t...	14...	Run	arm-scr-test-B-A <=>...	2,722	2,880	208,794	205,549	20	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
arm-scr-...	1.1.4.42	<input checked="" type="checkbox"/>	Running	91	94	2,722	2,859	374,060	514,730	0	0	0
arm-scr-...	1.1.5.43	<input checked="" type="checkbox"/>	Running	94	91	2,880	2,744	520,106	379,692	0	0	0

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 window titled "Script Report for: arm-scr-test-B-A". It displays detailed performance metrics for three iterations of a scripted connection. The report includes statistics for rx-pps, rx-drops, rx-dups, rx-ooo, machine-load, peer-rx-pkts, rx-bytes, rx-pps-ll, tx-pkts, tx-bytes, tx-bytes-low-level, tx-pps, tx-bps, tx-bps-low-level, rx-pkts, rx-bytes, rx-bytes-low-level, rx-pps, rx-bps, rx-bps-low-level, rx-drops, rx-dups, rx-ooo, machine-load, peer-rx-pkts, rx-bytes, rx-pps, rx-pps-ll, rx-bps, tx-bps-low-level, dropped, drop percent, avg-rx-latency(us), avg-rt-latency(us), peer-machine-load, rx-signal, tx-link-speed, rx-link-speed, attenuation, peer-rx-signal, peer-tx-link-speed, peer-rx-link-speed, peer-dropped, peer drop percent, and passed constraints. The report shows that all three iterations passed constraints and achieved high performance levels.

```

# rx-pps: 100 rx-bps: 407962 rx-bps-low-level: 427085
# rx-drops: 0 rx-dups: 0 rx-ooo: 0 machine-load: 0.05
# peer: rx-pkts: 998 rx-bytes: 510976 rx-pps: 100 rx-pps-ll: 100
# rx-bps: 408781 rx-bps-low-level: 427942
# dropped: 0 drop percent: 0.0000 avg-rx-latency(us): 39 avg-rt-latency(us): 77 peer-machine-load: 0.05
# rx-signal: 0 tx-link-speed: 10000000000 rx-link-speed: 10000000000 attenuation: 0 peer-rx-signal: 0 peer-tx-link-speed: 10000000000
peer-rx-link-speed: 10000000000
# peer-dropped: 0 peer drop percent: 0.0000
# * Passed constraints *

# iteration: 4/36 Endpoint: arm-scr-test-B-A now: 1446857854817ms duration: 10000ms paused: 1000ms
# payload-size: 1024 cfg-rate: 100
# tx-pkts: 997 tx-bytes: 1020928 tx-bytes-low-level: 1044856 tx-pps: 100
# tx-bps: 816742 tx-bps-low-level: 835885
# rx-pkts: 1000 rx-bytes: 1024000 rx-bytes-low-level: 1048000
# rx-pps: 100 rx-bps: 819200 rx-bps-low-level: 838400
# rx-drops: 0 rx-dups: 0 rx-ooo: 0 machine-load: 0.11
# peer: rx-pkts: 997 rx-bytes: 1020928 rx-pps: 100 rx-pps-ll: 100
# rx-bps: 816742 rx-bps-low-level: 835885
# dropped: 0 drop percent: 0.0000 avg-rx-latency(us): 38 avg-rt-latency(us): 76 peer-machine-load: 0.11
# rx-signal: 0 tx-link-speed: 10000000000 rx-link-speed: 10000000000 attenuation: 0 peer-rx-signal: 0 peer-tx-link-speed: 10000000000
peer-rx-link-speed: 10000000000
# peer-dropped: 0 peer drop percent: 0.0000
# * Passed constraints *

# iteration: 5/36 Endpoint: arm-scr-test-B-A now: 1446857865817ms duration: 10000ms paused: 1000ms
# payload-size: 1280 cfg-rate: 100
# tx-pkts: 998 tx-bytes: 1277440 tx-bytes-low-level: 1301392 tx-pps: 100
# tx-bps: 1021952 tx-bps-low-level: 1041114
# rx-pkts: 998 rx-bytes: 1277440 rx-bytes-low-level: 1301392
# rx-pps: 100 rx-bps: 1021952 rx-bps-low-level: 1041114
# rx-drops: 0 rx-dups: 0 rx-ooo: 0 machine-load: 0.18
# peer: rx-pkts: 998 rx-bytes: 1277440 rx-pps: 100 rx-pps-ll: 100
# rx-bps: 1021952 rx-bps-low-level: 1041114
# dropped: 0 drop percent: 0.0000 avg-rx-latency(us): 41 avg-rt-latency(us): 79 peer-machine-load: 0.18
# rx-signal: 0 tx-link-speed: 10000000000 rx-link-speed: 10000000000 attenuation: 0 peer-rx-signal: 0 peer-tx-link-speed: 10000000000
peer-rx-link-speed: 10000000000
# peer-dropped: 0 peer drop percent: 0.0000
# * Passed constraints *
    
```

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:

##	pld-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](#).