# Armageddon UDP Traffic Generation with Random MAC Addresses.
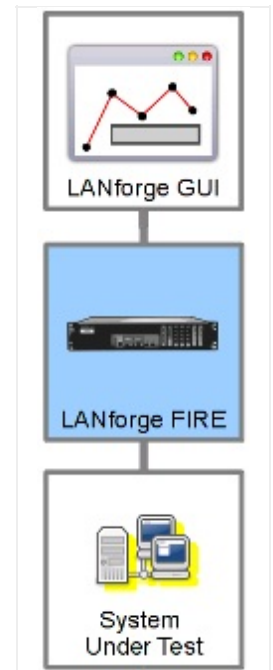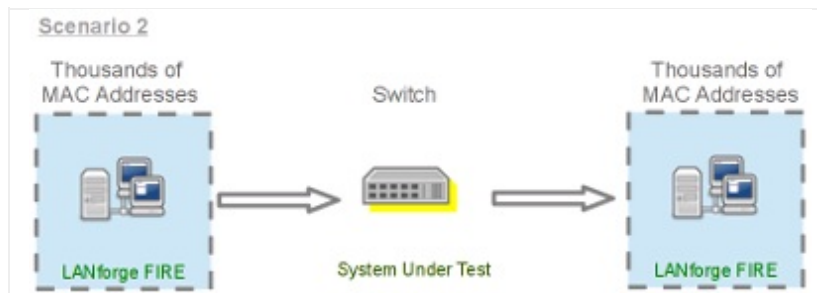
Goal: Generate network traffic to a network device with one or many destination MAC addresses.

These scenarios are useful for testing switches and firewalls that have to handle UDP traffic from thousands of source MAC addresses and one or many destination MAC addresses. This cookbook covers two scenarios:
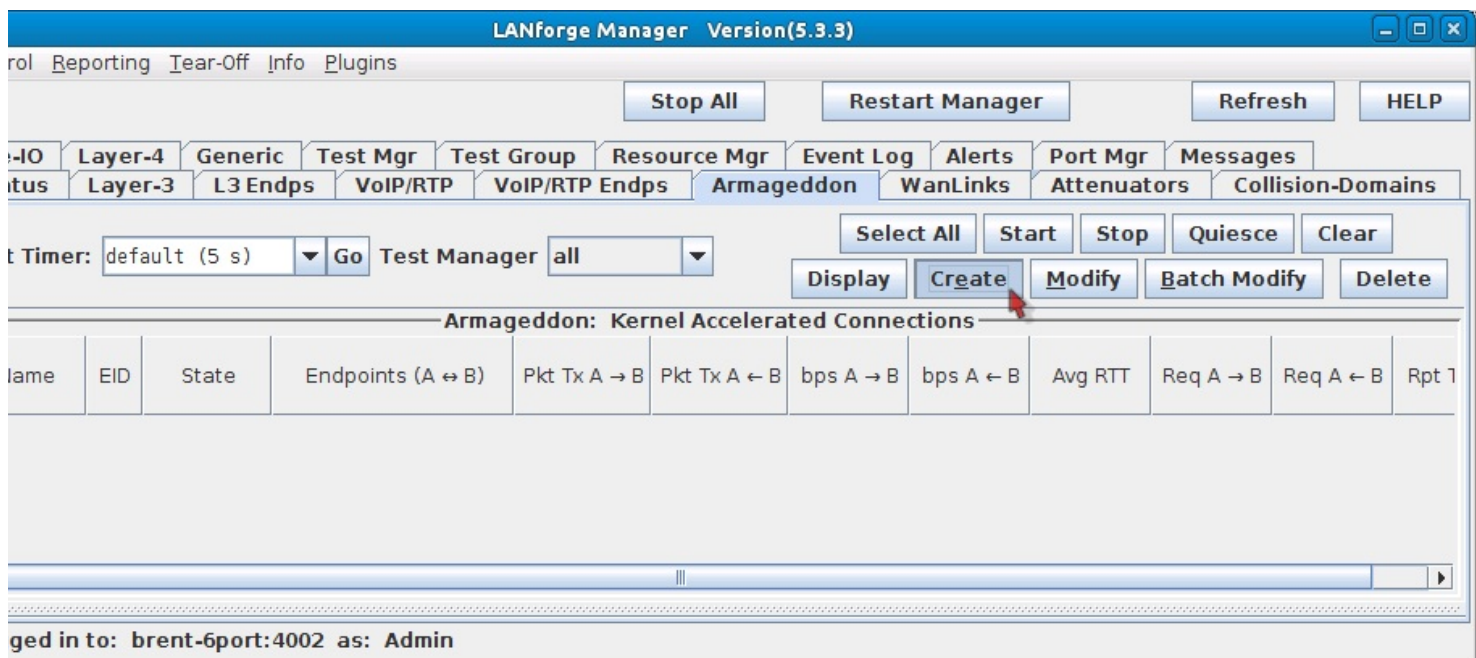
1. A single destination MAC address. (This would exercise a firewall or router.)

2. Thousands of destination MAC addresses. (This would exercise a switch by overflowing the device CAM table.)
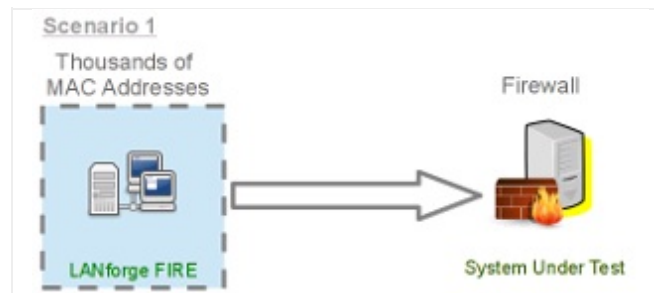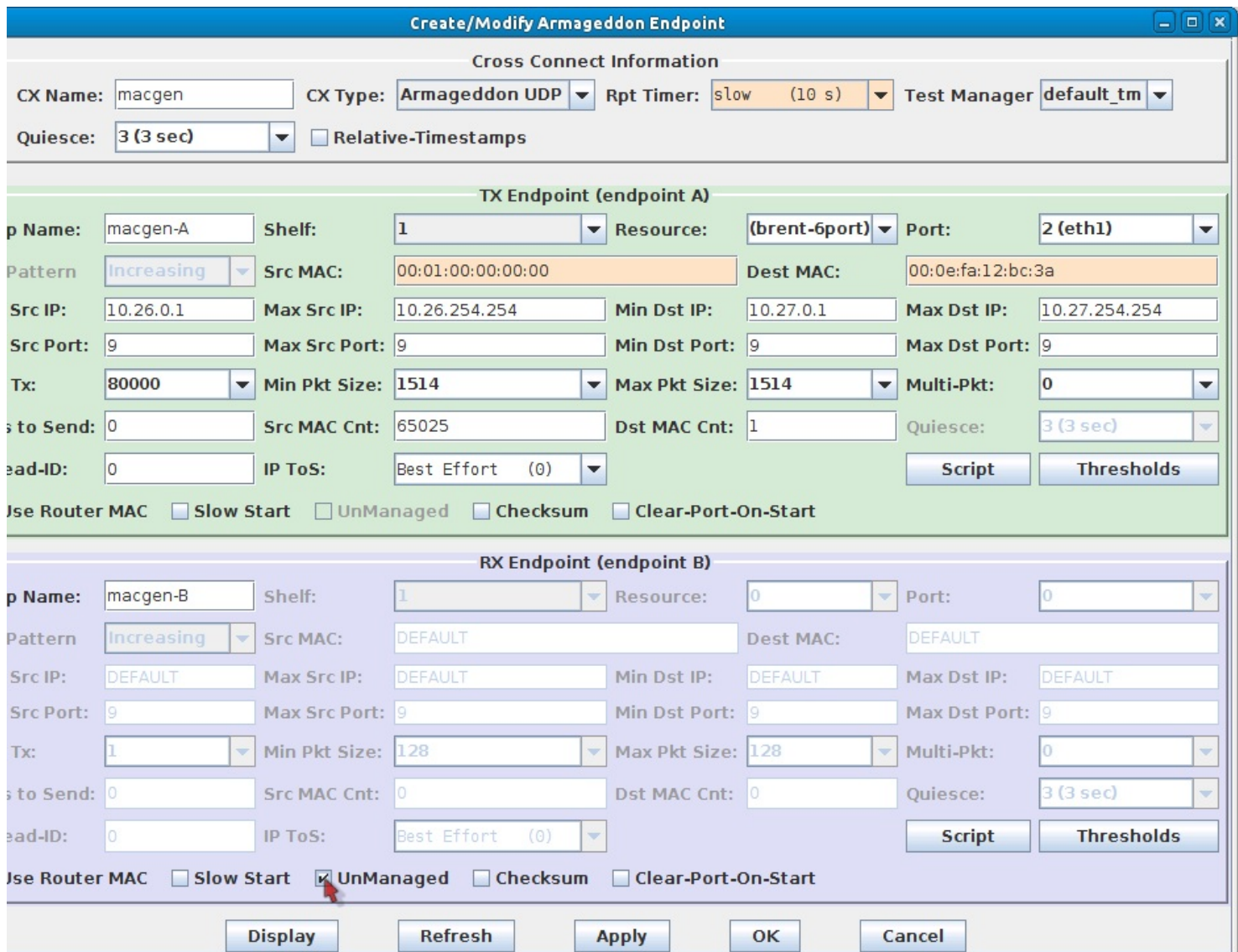
A one-sided traffic stream is used to send packets to a network device under test when round-trip reporting is not required.

1. On the **Armageddon** tab, click **Create**.

rol   Reporting   Tear-Off   Info   Plugins

Stop All   Restart Manager   Refresh   HELP

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

Select All   Start   Stop   Quiesce   Clear

t Timer: default (5 s)   ▼ Go   Test Manager all   ▼

Display   Create   Modify   Batch Modify   Delete

Armageddon: Kernel Accelerated Connections

lame	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

ged in to: brent-6port:4002 as: Admin

2. **Firewall Scenario:** Configure the Armageddon connection with the following values:

Create/Modify Armageddon Endpoint

Cross Connect Information

CX Name: macgen   CX Type: Armageddon UDP ▼   Rpt Timer: slow   (10 s) ▼   Test Manager default_tm ▼

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

TX Endpoint (endpoint A)

p Name: macgen-A   Shelf: 1 ▼   Resource: (brent-6port) ▼   Port: 2 (eth1) ▼

Pattern Increasing ▼   Src MAC: 00:01:00:00:00:00   Dest MAC: 00:0e:fa:12:bc:3a

Src IP: 10.26.0.1   Max Src IP: 10.26.254.254   Min Dst IP: 10.27.0.1   Max Dst IP: 10.27.254.254

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

Tx: 80000 ▼   Min Pkt Size: 1514 ▼   Max Pkt Size: 1514 ▼   Multi-Pkt: 0 ▼

s to Send: 0   Src MAC Cnt: 65025   Dst MAC Cnt: 1   Quiesce: 3 (3 sec) ▼

ead-ID: 0   IP ToS: Best Effort   (0) ▼   Script   Thresholds

Jse Router MAC   ☐ Slow Start   ☐ UnManaged   ☐ Checksum   ☐ Clear-Port-On-Start

RX Endpoint (endpoint B)

p Name: macgen-B   Shelf: 1 ▼   Resource: 0 ▼   Port: 0 ▼

Pattern Increasing ▼   Src MAC: DEFAULT   Dest MAC: DEFAULT

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

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

Tx: 1 ▼   Min Pkt Size: 128 ▼   Max Pkt Size: 128 ▼   Multi-Pkt: 0 ▼

s to Send: 0   Src MAC Cnt: 0   Dst MAC Cnt: 0   Quiesce: 3 (3 sec) ▼

ead-ID: 0   IP ToS: Best Effort   (0) ▼   Script   Thresholds

Jse Router MAC   ☐ Slow Start   ☑ UnManaged   ☐ Checksum   ☐ Clear-Port-On-Start

Display   Refresh   Apply   OK   Cancel

A. In the TX Endpoint (green box):

A. The connection name for this example is `macgen`.

B. Src MAC: `00:01:00:00:00:00`. This is the starting point for emulated remote MAC addresses.

C. Dest MAC: `00:0e:fa:12:bc:3a`. Use the destination MAC address of your *system under test*.

D. Min Src IP: `10.26.0.1`.

E. Max Src IP: `10.26.254.254`. This emulates about 65,000 remote hosts.

F. Min Dst IP: `10.27.0.1`.

G. Max Dst IP: `10.27.254.254`. This emulates about 65,000 destination addresses.

H. Pps Tx: `80,000`. This is a 1Gbps packet rate.

I. Min Pkt Size: `1514`.

J. Max Pkt Size: `1514`.

K. Src MAC Cnt: `65,025`. This emulates 65,025 remote devices.

L. Dst MAC Cnt: `1`.

M. **Deselect** `Use Router MAC`.

B. In the RX Endpoint (blue box):

A. **Select** `UnManaged`. This allows us to *fire and forget* the packets.

C. Click **OK** to commit the configuration.

3. **Switch Scenario:** Configure the Armageddon connection with the following values:

Create/Modify Armageddon Endpoint

Cross Connect Information

CX Name: macgen   CX Type: Armageddon UDP   Rpt Timer: slow   (10 s)   Test Manager default_tm

Quiesce: 3 (3 sec)   ☐ Relative-Timestamps

TX Endpoint (endpoint A)

p Name: macgen-A   Shelf: 1   Resource: (brent-6port)   Port: 2 (eth1)

Pattern: Increasing   Src MAC: 00:01:00:00:00:00   Dest MAC: 00:02:00:00:00:00

Src IP: 10.26.0.1   Max Src IP: 10.26.254.254   Min Dst IP: 10.27.0.1   Max Dst IP: 10.27.254.254

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

Tx: 80000   Min Pkt Size: 1514   Max Pkt Size: 1514   Multi-Pkt: 0

s to Send: 0   Src MAC Cnt: 65025   Dst MAC Cnt: 65025   Quiesce: 3 (3 sec)

ead-ID: 0   IP ToS: Best Effort (0)   Script   Thresholds

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

RX Endpoint (endpoint B)

p Name: macgen-B   Shelf: 1   Resource: 0   Port: 0

Pattern: Increasing   Src MAC: DEFAULT   Dest MAC: DEFAULT

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

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

Tx: 1   Min Pkt Size: 128   Max Pkt Size: 128   Multi-Pkt: 0

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

ead-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

A. In the TX Endpoint (green box):

  A. The connection name for this example is `macgen`.

  B. Src MAC: `00:01:00:00:00:00`. This is the starting point for emulated source MAC addresses.

  C. Dest MAC: `00:02:00:00:00:00`. This is the starting point for emulated destination MAC addresses. This address is 4.2 billion addresses after the starting source MAC address.

  D. Min Src IP: `10.26.0.1`.

  E. Max Src IP: `10.26.254.254`. This emulates about 65,000 remote hosts.

  F. Min Dst IP: `10.27.0.1`.

  G. Max Dst IP: `10.27.254.254`. This emulates about 65,000 destination addresses.

  H. Pps Tx: `80,000`. This is a 1Gbps packet rate.

  I. Min Pkt Size: `1514`.

  J. Max Pkt Size: `1514`.

  K. Src MAC Cnt: `65,025`. This emulates 65,025 source devices.

  L. Dst MAC Cnt: `65,025`. This emulates 65,025 destination devices.

  M. **Deselect** `Use Router MAC`.

B. In the RX Endpoint (blue box):

    A. **Select** `UnManaged`. This allows us to *fire and forget* the packets.

C. Click **OK** to commit the configuration.

4. Start traffic generation:

A. In the **Armageddon** tab, click the **Start** button. Traffic will begin.