[IoT Firewall] Research Notes

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Notes

How to set up the network topology.

```
# start network topology
make clean
make

# in mininet
xterm h1 h2 h3

# new terminal
sudo python3 controller.py

# new terminal
# will be used for blocking
```

Let's show how regular packets get sent through.

```
# in h2, h3
sudo python3 recieve.py

# in h1
sudo python3 send.py h2/h3 'I love P4'

# You should see in controller terminal that packets are being sent
# You should see that h2, h3 are printing out packets
```

Now, let's show that large packets are dropped.

```
# in h2
sudo python3 recieve.py

# in h1
sudo python3 large-send.py h2

# You should see that the controller is registering sending packets of size > 1000
# You should see that h2, h3 are not printing out packets because the switch drops them
```

Now, let's show that we can write table rules to drop packets.

```
# in h2, h3
sudo python3 recieve.py

# in h1
sudo python3 send.py h2/h3 'I love P4'

# You should see that the controller is registering sending packets
```

```
# You should see that the packets are going through

# Now, in a new terminal, run the following
sudo python3 block.py h2

# Now, in h1, try sending packets
sudo python3 send.py h2/h3 'I love P4'

# You should see that the controller is registering sending packets
# You should see that the packets are not going through to h2, but still going through to h3
```

Now, restart the controller. Let's show the packet-rate blocking feature.

```
#new terminal, refresh the controller and the mininet
make clean
make
xterm h1 h2 h3
sudo python3 controller.py

# in h2
sudo python3 recieve.py

# in h1
sudo python3 spam-send.py h2 --duration 10 'i love p4'

# You should see that the controller is registering sending packets
# You should see in the controller temrinal that h1 disconnects!
```