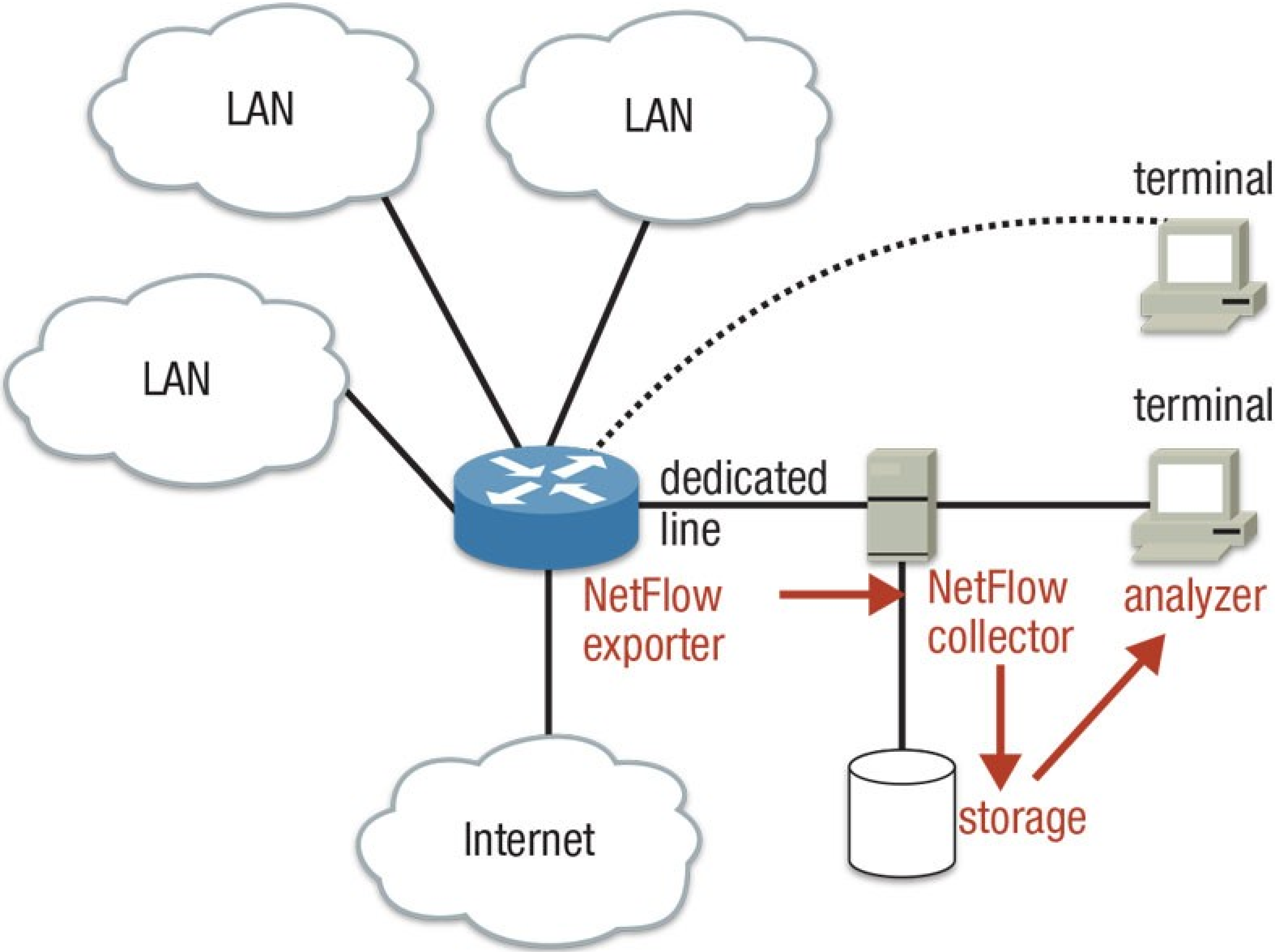
LAB

Laboratory - NetFlow

- Processing of NetFlow records
- Collection of data
- Structure of data
- Processing of sample data
  - Search for particular patterns


LAN
LAN
LAN
terminal
terminal
dedicated line
NetFlow exporter
NetFlow collector
analyzer
storage
Internet

Collection of data

Nfcapd

- http://man.cx/nfcapd
- NetFlow collector

Fprobe

- http://man.cx/fprobe
- NetFlow probe on a interface

Collection of data

- Setup a collector and capture the data send from probe
  - nfcapd
  - use port 48xx based on you user account (i.e. pa197-03 => port 4803)
  - export flows every 60 s
  - export flows to your home directory

Structure of data

- Start Time, End Time, Duration
- Protocol
- Flows, Bytes, Packets
- Source Address, Destination Address
- Source Port, Destination Port
- TCP Flags
- Packets per second, Bits per second, Bytes per packet
- Source AS, Destination AS, Input Interface, Output Interface

Processing of sample data

Nfdump

- http://man.cx/nfdump
- Netflow display and analyzing program
- Filtering, aggregation, top N statistics

Processing of sample data

```
nfdump [options] [“filter”]
```

- options

```
-r <input file>
-A <aggregation fields>
-s <statistics>
-n <number of top n>
```

- filter

```
not src ip 83.187.4.5 and (src port 80 or src port 443)
```

Additional Information

- Connect to 147.251.255.156
  - Username: pa197-xx
  - Password: PA197$$W0rd
- The flow data has been anonymized
- The university IP range in anonymized data is **83.187.0.0/16**
- To interpret port numbers you can use IANA.org

Exercises

1. Compute the ratio of UDP packets and flows in the traffic
2. Count the hosts actively communicating from MU network
3. Find most the web server most visited by users from MU network
4. Find how many hosts from MU network has accessed the web on 60.182.41.219:80
5. Find a horizontal scan
6. Find a vertical scan
7. Form groups and find some interesting information in the data

Homework

Work with the flow data hw.nfcapd in study materials.

1. What is an IP address of the most used DNS server in MU network?

During capture period, a SSH brute force attack was captured.

2. What is the IP address of the attacker?
3. How many victims has the attack?
4. How many ports have been used by attacker to launch the attack?

Homework

The prefix of MU in data is 147.250.0.0/16

Submit the homework in a format:

1. IP of the dns server
2. IP of the attacker
3. Number of attacked hosts
4. Number of port used

Describe briefly for each task the steps you took.