New nDPI flow risks:
Fragmented DNS traffic
Large DNS packets (over 512 bytes)

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nDPI and flow risks.
nDPI® is an open source LGPLv3 library for deep-packet inspection based on OpenDPI and it includes ntop extensions.
In nDPI flows can be inspected to find particular conditions needing attention, which are reported at the end of the analysis. This conditions are called "flow risks". Every flow risk has a severity, which determines the reported risks order.

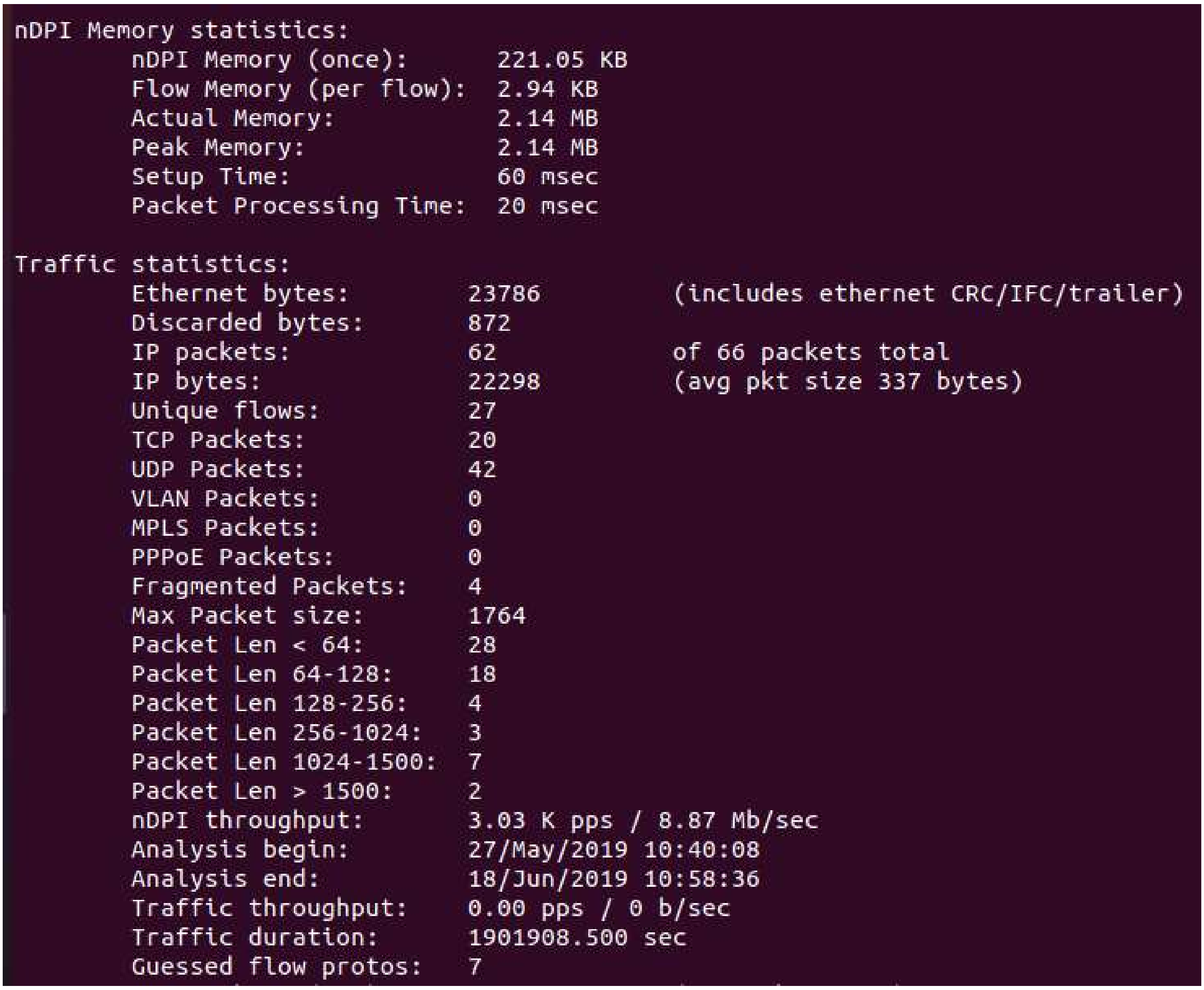
Fragmented DNS traffic.
It can be useful to detect flows with fragmented DNS traffic!
Like reported in https://blog.powerdns.com/2018/09/10/spoofing-dns-with-fragments/, fragmented DNS responses can be used for cache poisoning, so it is possible to spoof fake DNS responses using fragmented datagrams.

Large DNS packets (over 512 bytes).
There are problems with DNS resolvers that cannot receive large responses.
The maximim reply size between a DNS server and resolver may be limited by a number of factors, reported in https://www.dns-oarc.net/oarc/services/replysizetest. With the use of DNSSEC (DNS extensions that help providing security and reliability of information by DNS systems) this limit can be an issue.

Flow risk implementation.
To implement a flow risk, first the flow risk must be defined in this files:
- src/include/ndpi_typedefs.h (in ndpi_risk_enum)
- wireshark/ndpi.lua
- python/ndpi.py (in ndpi_risk_enum)
- src/lib/ndpi_main.c (in ndpi_known_risks)
- src/lib/ndpi_utils.c (in ndpi_risk2str)

In this case, I added two new definitions: NDPI_DNS_LARGE_PACKET e NDPI_DNS_FRAGMENTED.
Then the protocol file related to the new flow risk must be updated with the risk test and call of the procedure ndpi_set_risk.

Flow risk testing.
I tested both flow risks with the file DNS-capture-FINAL.pcap that can be downloaoded from https://weberblog.net/dns-capture-udp-tcp-ip-fragmentation-edns-ecs-cookie/ .
The output is:



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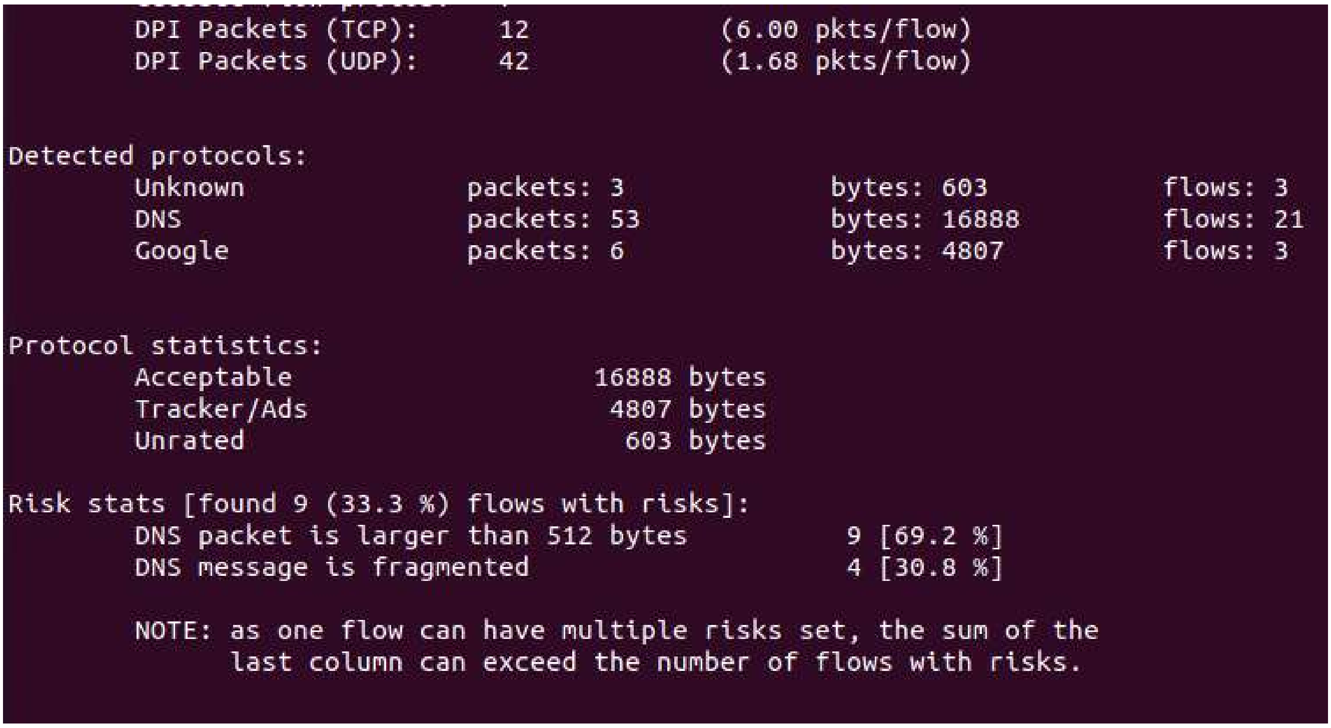
nDPI Memory statistics:
        nDPI Memory (once):      221.05 KB
        Flow Memory (per flow):  2.94 KB
        Actual Memory:           2.14 MB
        Peak Memory:             2.14 MB
        Setup Time:              60 msec
        Packet Processing Time:  20 msec

Traffic statistics:
        Ethernet bytes:        23786         (includes ethernet CRC/IFC/trailer)
        Discarded bytes:       872
        IP packets:            62            of 66 packets total
        IP bytes:              22298         (avg pkt size 337 bytes)
        Unique flows:          27
        TCP Packets:           20
        UDP Packets:           42
        VLAN Packets:          0
        MPLS Packets:          0
        PPPoE Packets:         0
        Fragmented Packets:    4
        Max Packet size:       1764
        Packet Len < 64:       28
        Packet Len 64-128:     18
        Packet Len 128-256:    4
        Packet Len 256-1024:   3
        Packet Len 1024-1500:  7
        Packet Len > 1500:     2
        nDPI throughput:       3.03 K pps / 8.87 Mb/sec
        Analysis begin:        27/May/2019 10:40:08
        Analysis end:          18/Jun/2019 10:58:36
        Traffic throughput:    0.00 pps / 0 b/sec
        Traffic duration:      1901908.500 sec
        Guessed flow protos:   7
```



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        DPI Packets (TCP):     12            (6.00 pkts/flow)
        DPI Packets (UDP):     42            (1.68 pkts/flow)


Detected protocols:
        Unknown              packets: 3            bytes: 603            flows: 3
        DNS                  packets: 53           bytes: 16888          flows: 21
        Google               packets: 6            bytes: 4807           flows: 3


Protocol statistics:
        Acceptable                   16888 bytes
        Tracker/Ads                   4807 bytes
        Unrated                        603 bytes

Risk stats [found 9 (33.3 %) flows with risks]:
        DNS packet is larger than 512 bytes          9 [69.2 %]
        DNS message is fragmented                    4 [30.8 %]

        NOTE: as one flow can have multiple risks set, the sum of the
              last column can exceed the number of flows with risks.
```