Network Management & Monitoring

NfSen

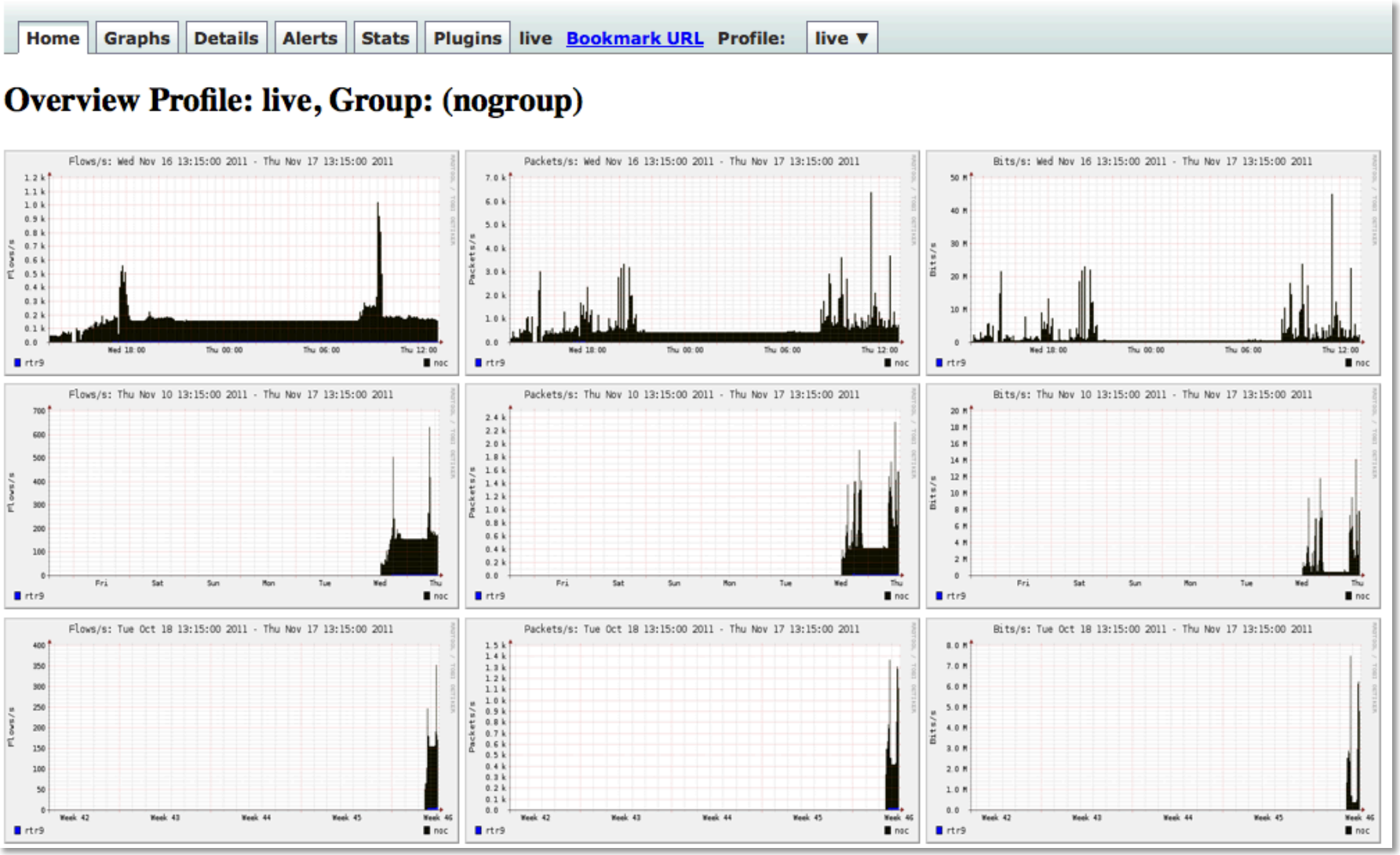
What is NfSen

- Is a graphical (Web Based) front end to NfDump
- NfDump tools collect and process netflow data on the command line
- NfSen allows you to:
  - Easily navigate through the netflow data.
  - Process the netflow data within the specified time span.
  - Create history as well as continuous profiles.
  - Set alerts, based on various conditions.
  - Write your own plugins to process netflow data on a regular interval.

NfSen structure

- Configuration file - nfsen.conf
- NfDump files – Netflow files containing collected flows stored in ‘profiles-data’ directory
  - NB: It is possible for other programs to read NFdump files but don’t store them for too long as they can fill up your drive
- Actual graphs – stored in ‘profiles-stat’ directory

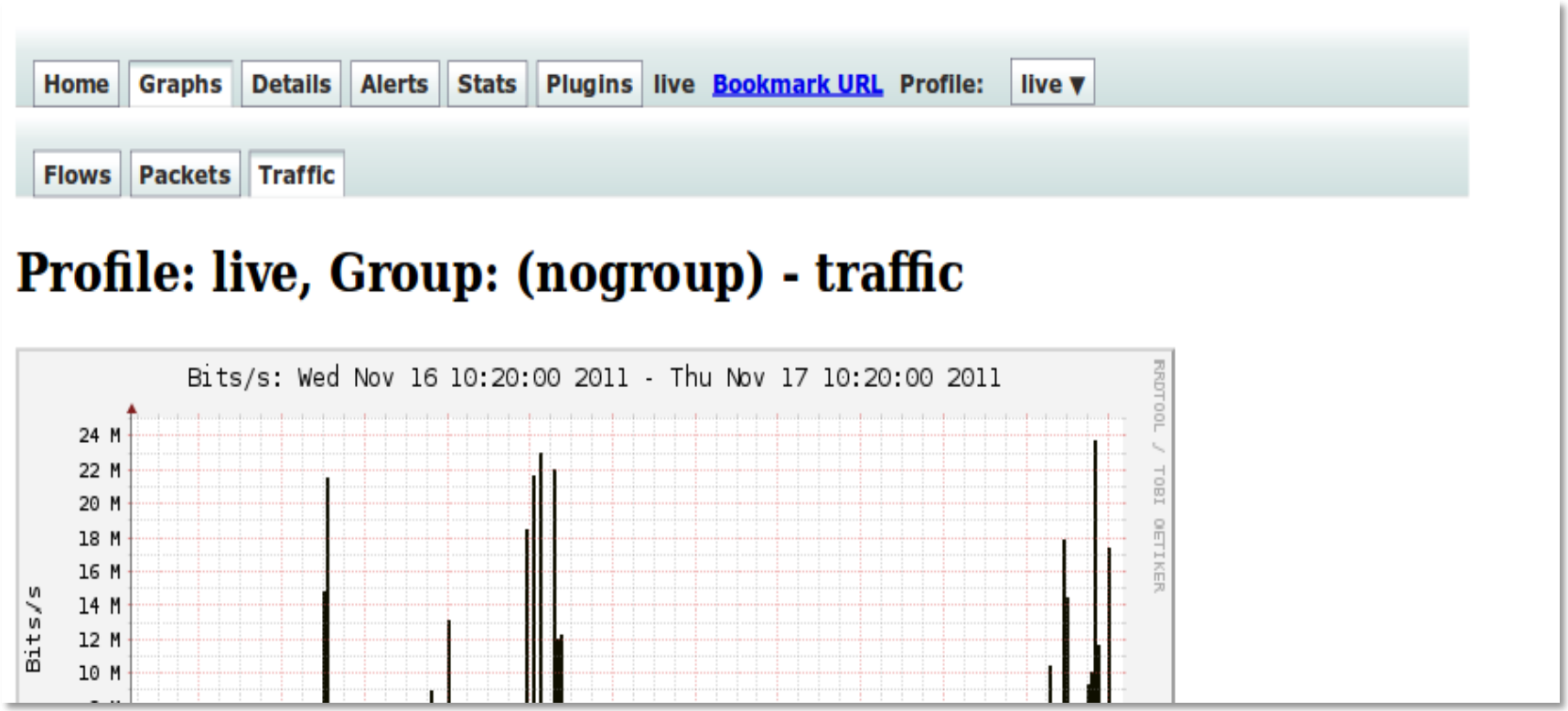
NfSen Home Screen



Graphs Tab

Graphs of flows, packets and traffic based on interface with netflow activated

NB: What is seen under Traffic should closely match what is under Cacti for the same interface



Details Page

- Most interesting page
- Can view present flow information or stored flow information
- Can view detailed Netflow information such as
  - AS Numbers (more useful if you have full routing table exported on your router)
  - Src hosts/ports, destination hosts and ports
  - Unidirectional or Bi-directional flows
  - Flows on specific interfaces
  - Protocols and TOS

Netflow traffic graphs organized by Protocol

Time period for flows being observed

Graph of Netflow traffic for all Protocols

Routers being monitored

Extended Netflow processing options

Alerts and Stats

Alerts Page

- Can create alerts based on set thresholds eg, increase or decrease of traffic
- Emails can be sent once alarm is triggered

Stats page

- Can create graphs based on specific information
  - ASNs,
  - Host/Destination IPs/Ports
  - In/Out interfaces
  - Among others

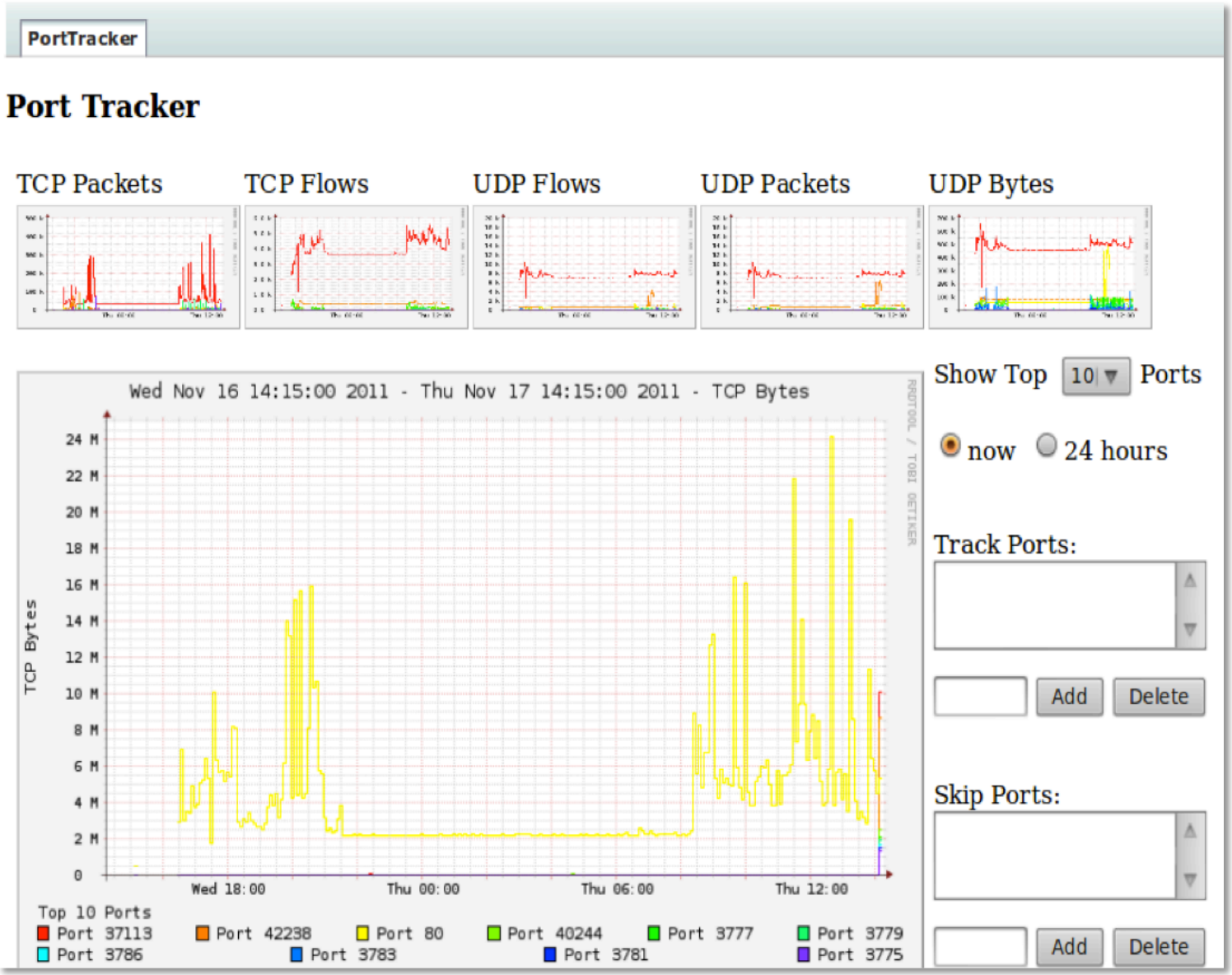
Plugins

Several plugins available:

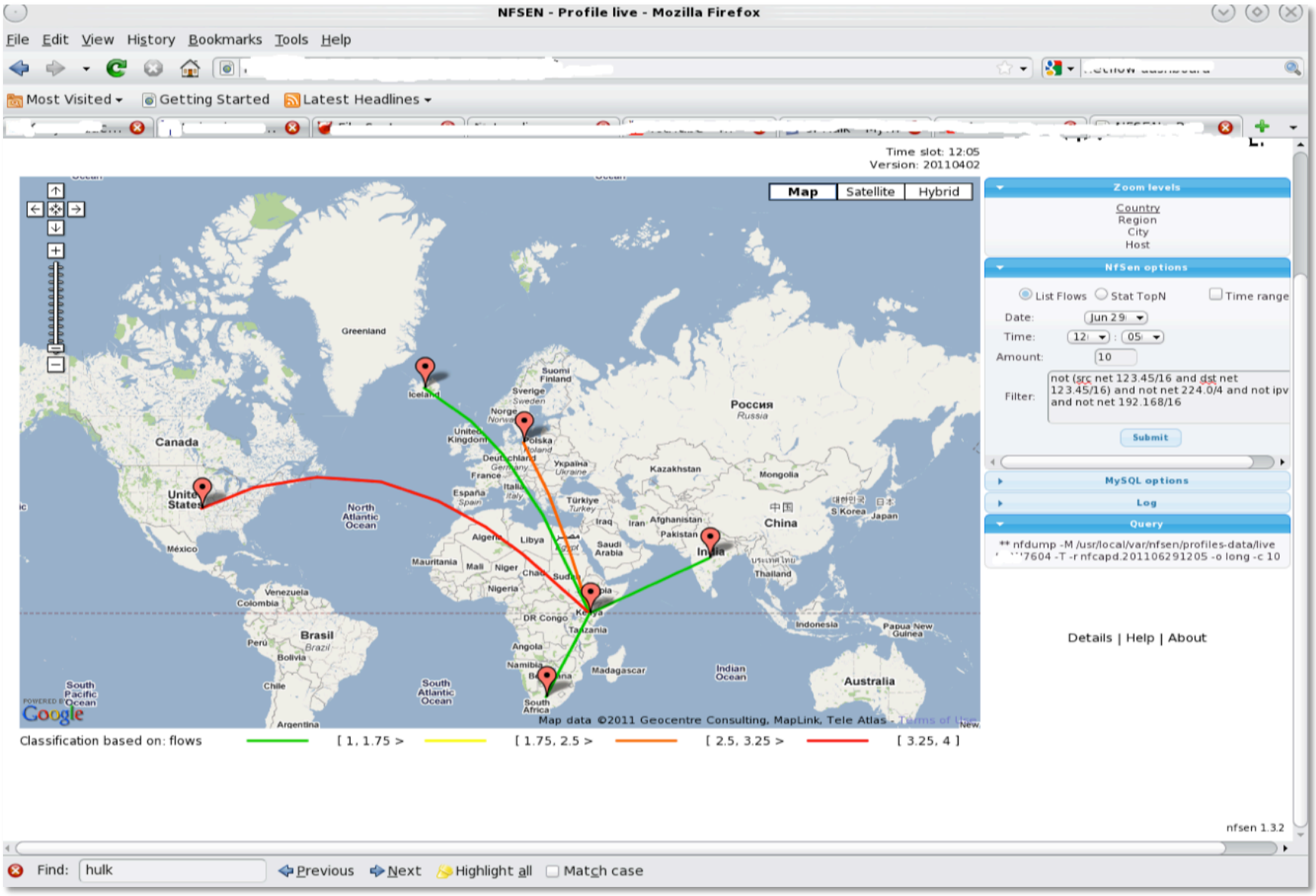
- **Portracker** tracks the top 10 most active ports and displays a graph
- **Surfmap** displays country based traffic based on a Geo-Locator

More plugins available here
http://sourceforge.net/apps/trac/nfsen-plugins/

PortTracker



SurfMap


NFSEN - Profile live - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Most Visited
Getting Started
Latest Headlines
Time slot: 12:05
Version: 20110402
Map
Satellite
Hybrid
Zoom levels
Country
Region
City
Host
NfSen options
List Flows
Stat TopN
Time range
Date:
Time:
Amount:
10
Filter:
not (src net 123.45/16 and dst net 123.45/16) and not net 224.0/4 and not ipv and not net 192.168/16
Submit
MySQL options
Log
Query
** nfdump -M /usr/local/var/nfsen/profiles-data/live
7604 -T -r nfcapd.201106291205 -o long -c 10
Details | Help | About
Canada
United States
Greenland
Iceland
Россия
Russia
China
India
Australia
Brasil
Map data ©2011 Geocentre Consulting, MapLink, Tele Atlas
Classification based on: flows
[1, 1.75 >
[1.75, 2.5 >
[2.5, 3.25 >
[3.25, 4]
nfsen 1.3.2
Find: hulk
Previous
Next
Highlight all
Match case

When to use NfSen

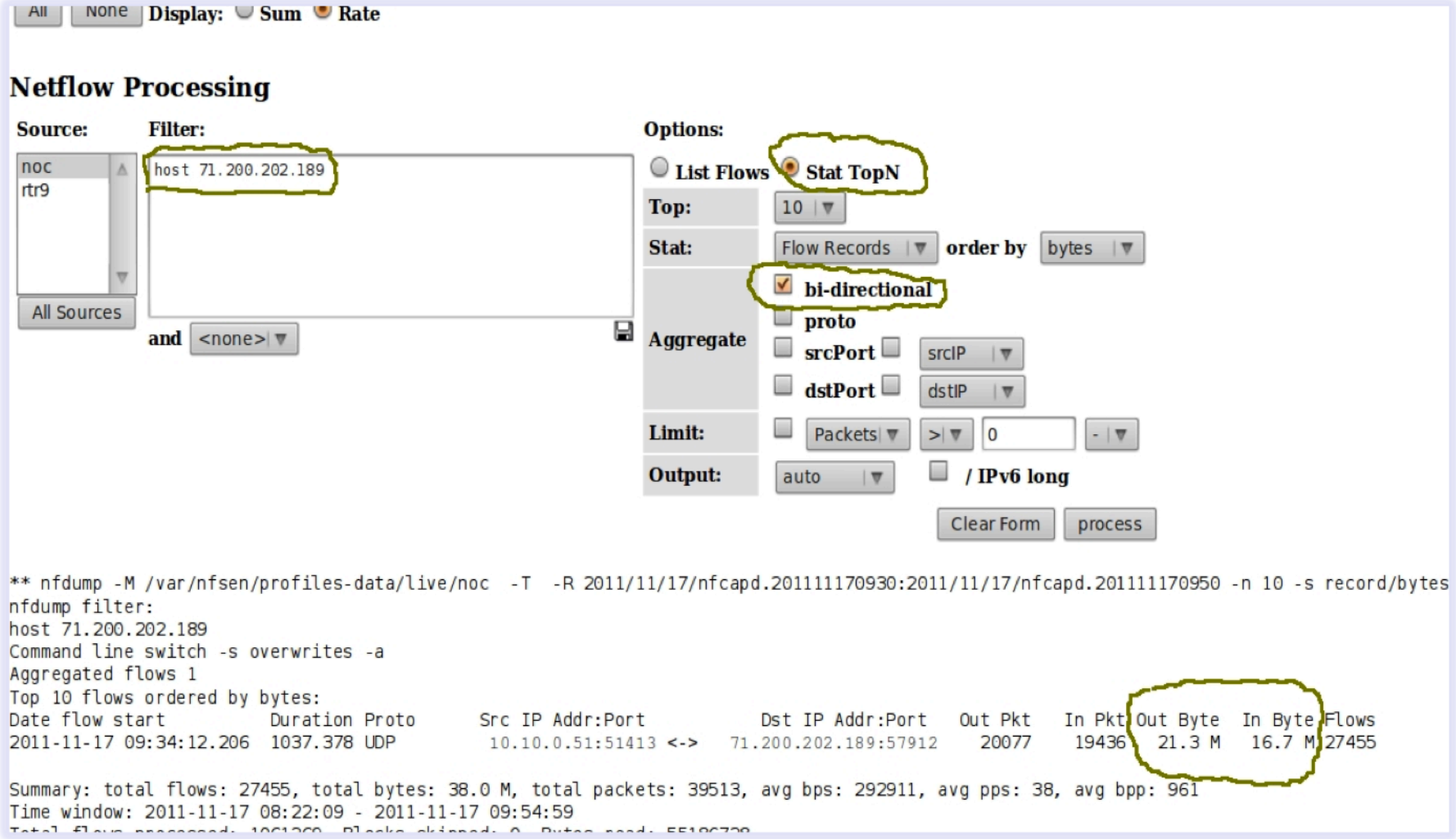
- Can be used for:
  - Forensic work: which hosts were active at a specific time
  - Viewing src/dst AS traffic, src/dst port/IP traffic among many other options
  - Identifying most active IPs or Protocols
- It is a tool to complement Cacti so that you can have more detailed info regarding the traffic
- With this information, you can make an informed decision eg:
  - You have a high amount of SMTP traffic, some machines could be sending out spam
  - 80% of your traffic is to ASN X. Perhaps its wise to connect directly with that network and save costs

Bidirectional vs Unidirectional traffic as seen via NfSen

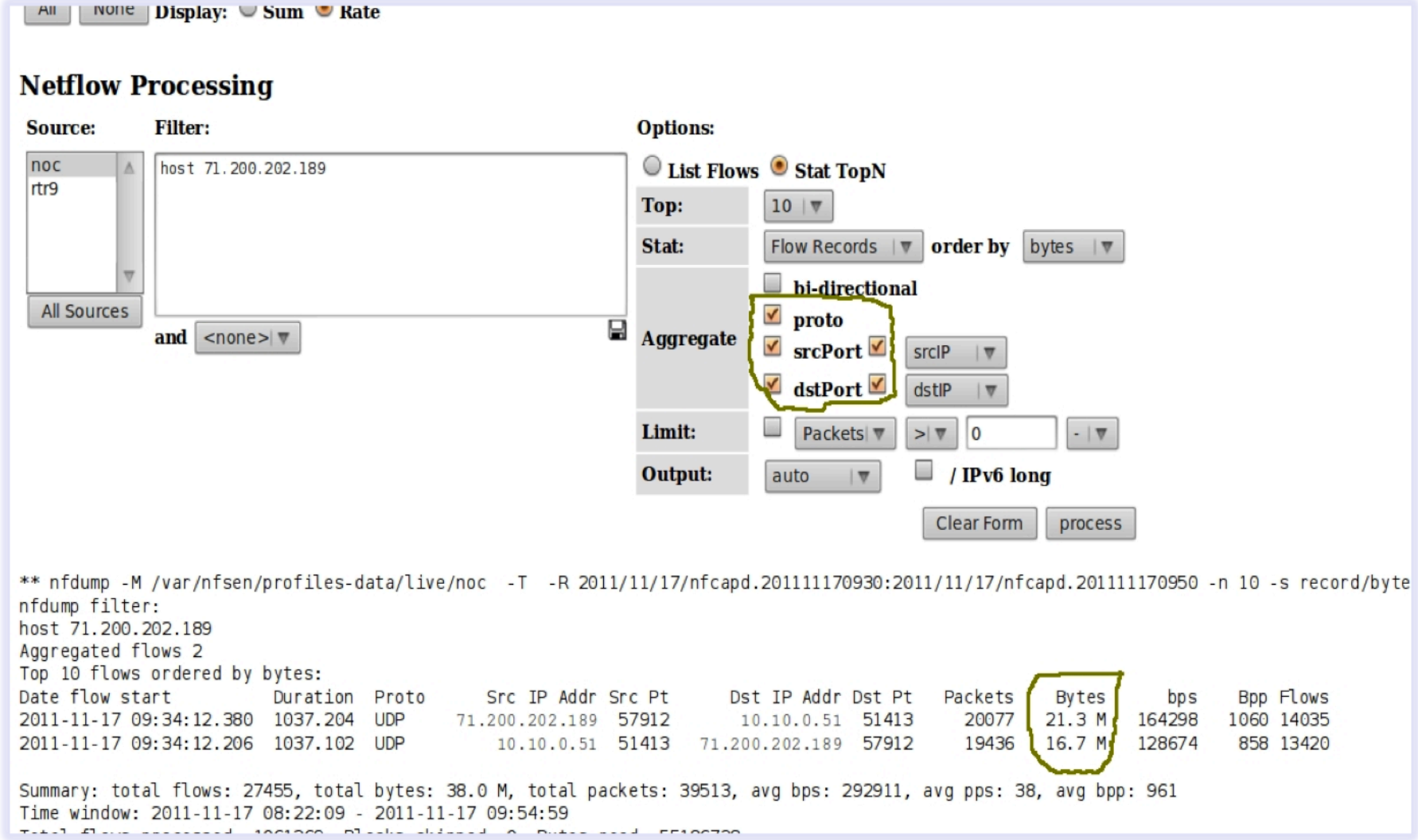
Unidirectional and Bidirectional

- Unidirectional shows flows from host A to B and then host B to host A
- Bidirectional shows flows between Host A and B combined
- Can be used with any of the other filters (src port, src host plus many more)
- List of filters can be found here:
  - http://nfsen.sourceforge.net/#mozTocId652064

Bidirectional



Unidirectional



References

NfSen

http://nfsen.sourceforge.net

NfDump

http://nfdump.sourceforge.net/

Exercises