Affect on traffic from the TPB bust
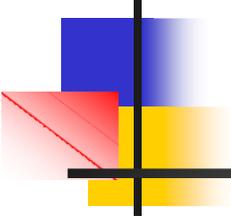
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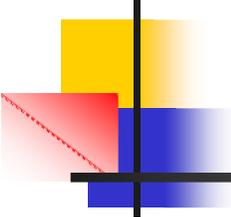
First of all.. bittorrent

- Bittorrent is a p2p protocol for filesharing
  - Users download a "torrent" file that contains a unique text string and "tracker" to use
  - This string is sent to the tracker by the bittorrent client, the tracker responds with a list of IPs of other clients that sent the same string
  - Client connect to IPs in the list to actually do the file transfers directly p2p
  - Webserver or tracker does not contain any actual file material, only used to help clients find other clients who want to participate in the same torrent
  - Clients continue communicating even if the tracker is no longer available
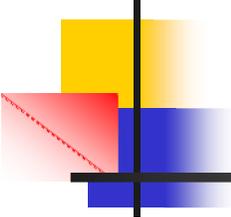
Secondly…

- Thepiratebay.org
  - Run by a handful of individuals aged approx 22 to 28
  - Used ~100 megabit/s of internet capacity at peak
  - Peaked at over 2M concurrent users
  - Statistics code in the tracker indicated that the total traffic p2p handled by it was 100 gigabit/s
  - To my knowledge, largest bittorrent site/tracker in the world

- Approx 10 high-end small servers in half a rack in Stockholm, Sweden
- Web frontends, db servers, trackers

(old picture)
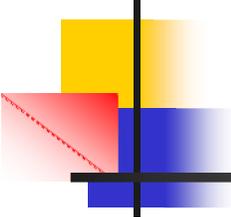
Importantly..

- On the stats…
    - This is no exact science…
    - At least a German ISP had an outage at the same time
- The bust was around 12.00 CET May 31st
- Data collected from Euro-IX members
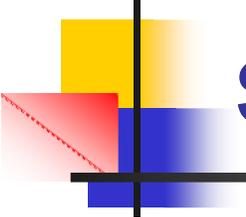
Following reported that they saw nothing unusal

- CIXP
- DECIX
  - Attributed to customer outage
- Espanix
- NIX.cz
- Equinix

Netnod Aggregated

Aggregate traffic All (Wed May 31 16:58:00 2006)

Incoming Traffic in Bits per second
Outgoing Traffic in Bits per second

|			
Maximal In:	46.167 G	Maximal Out:	46.180 G
Average In:	30.826 G	Average Out:	30.836 G
Current In:	0.000	Current Out:	0.000
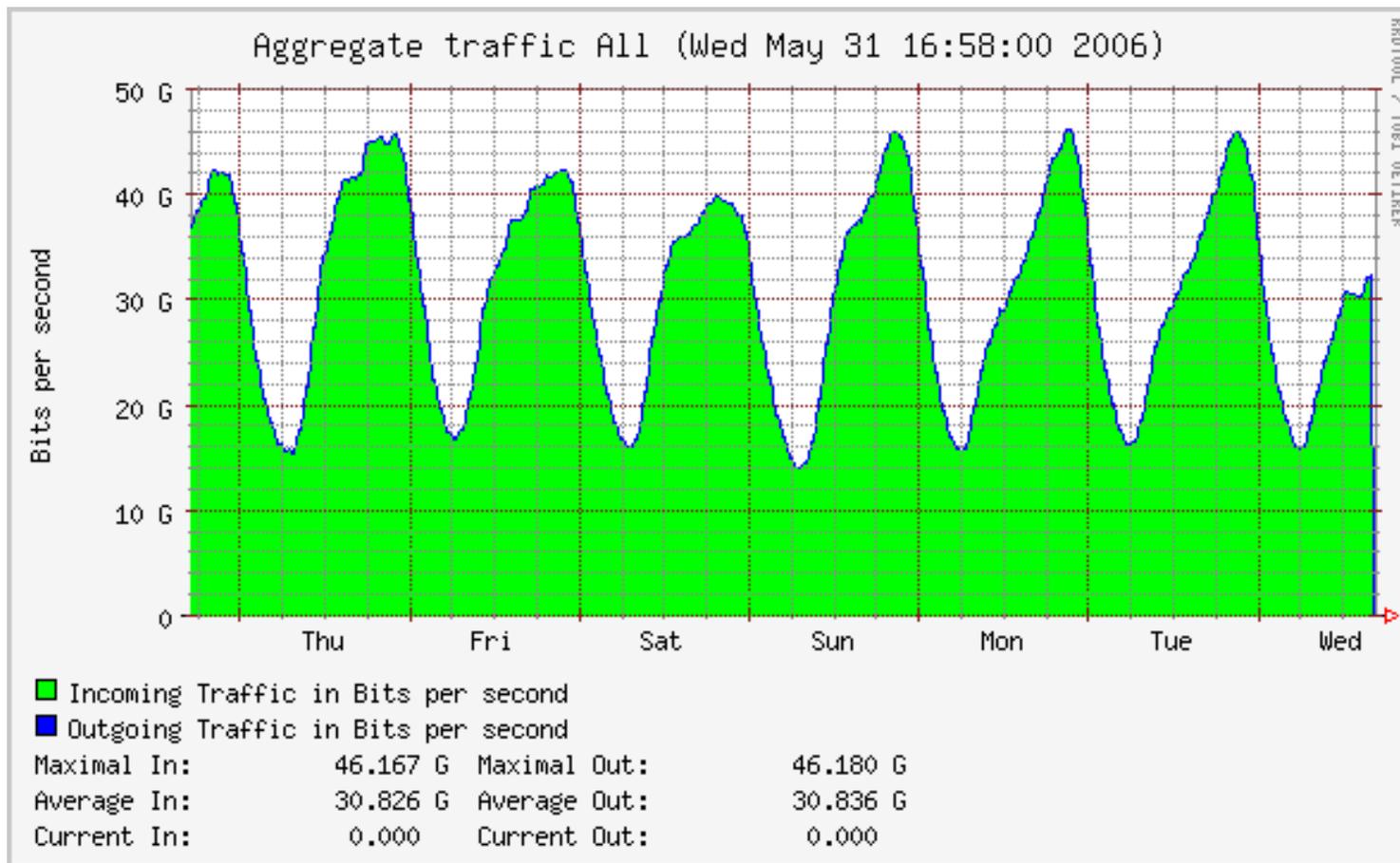
# Netnod Stockholm
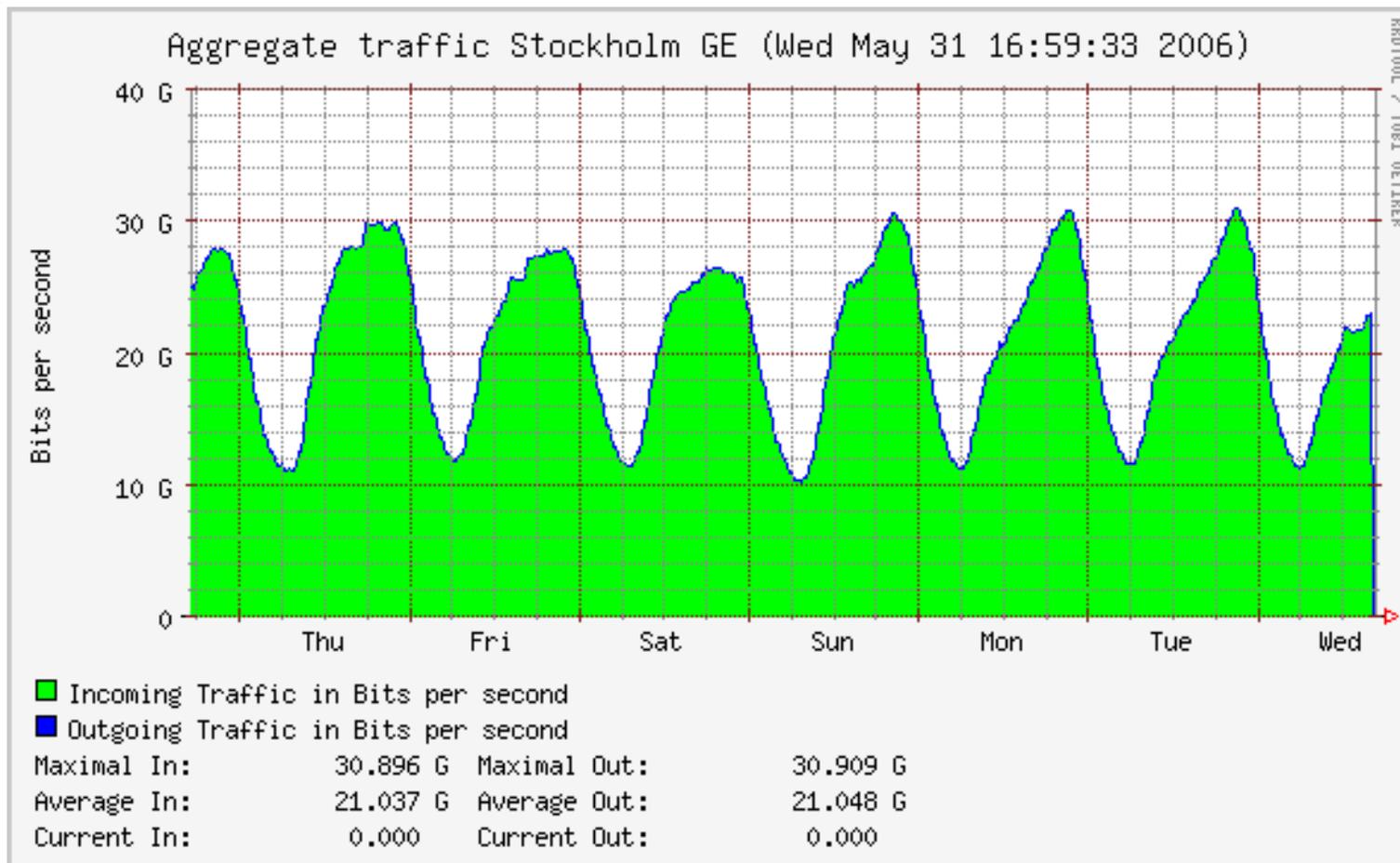
Linx (London, UK)
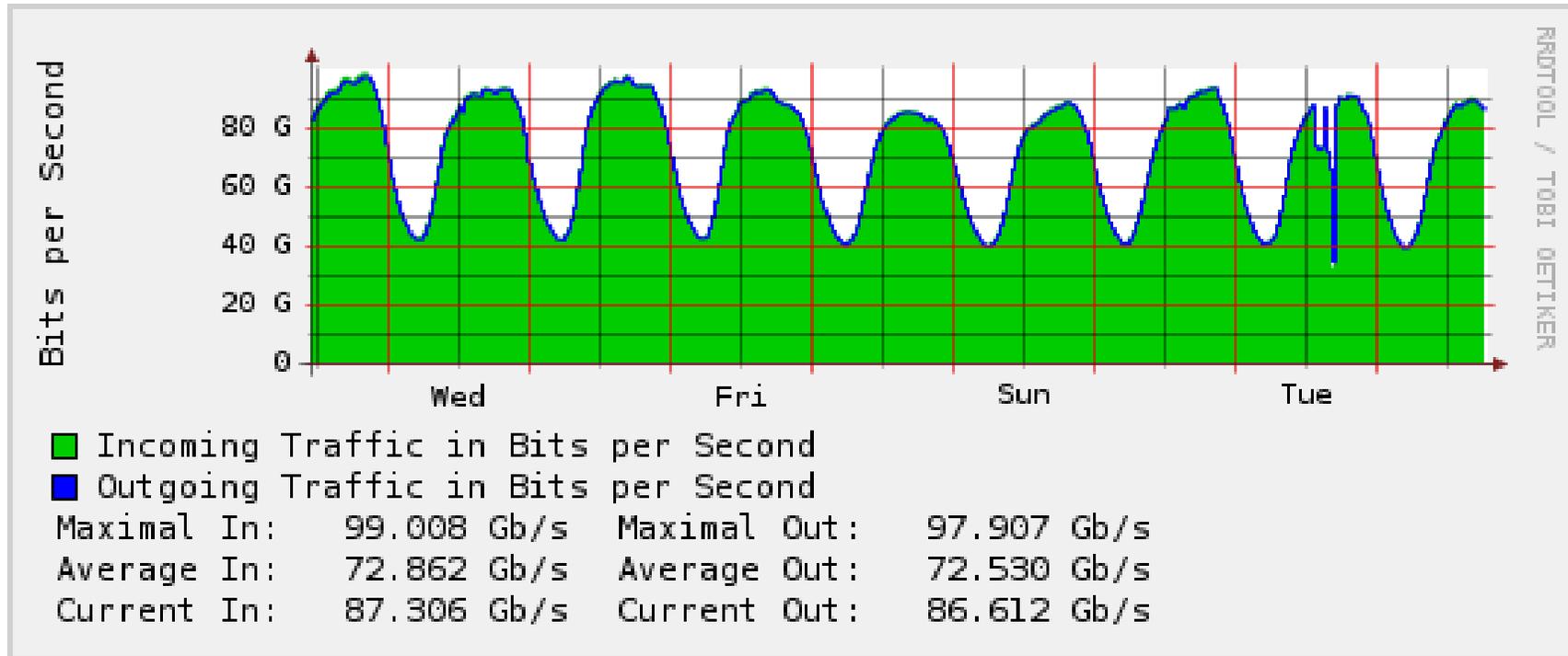
Ams-IX (Amsterdam, Netherlands)
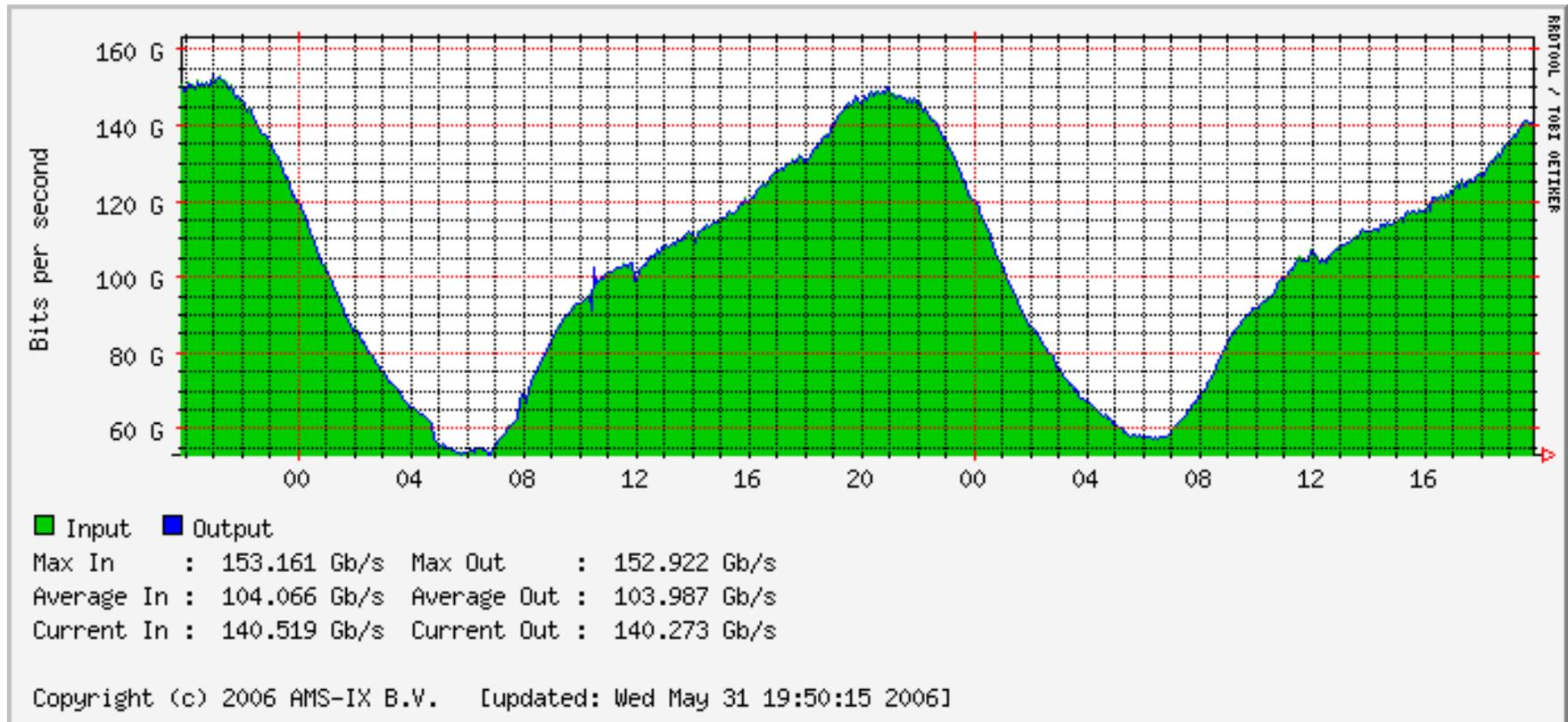
DE-CIX (Frankfurt, Germany)

last update: Wed May 31 17:46:03 UTC 2006

RRDTOOL / TOBI OETIKER

In traffic in bits per second   Out traffic in bits per second

```
Avg IN   43.455 G    Avg OUT 43.449 G
Max IN   59.294 G    Max OUT 59.219 G
Cur IN   56.219 G    Cur OUT 56.178 G
```
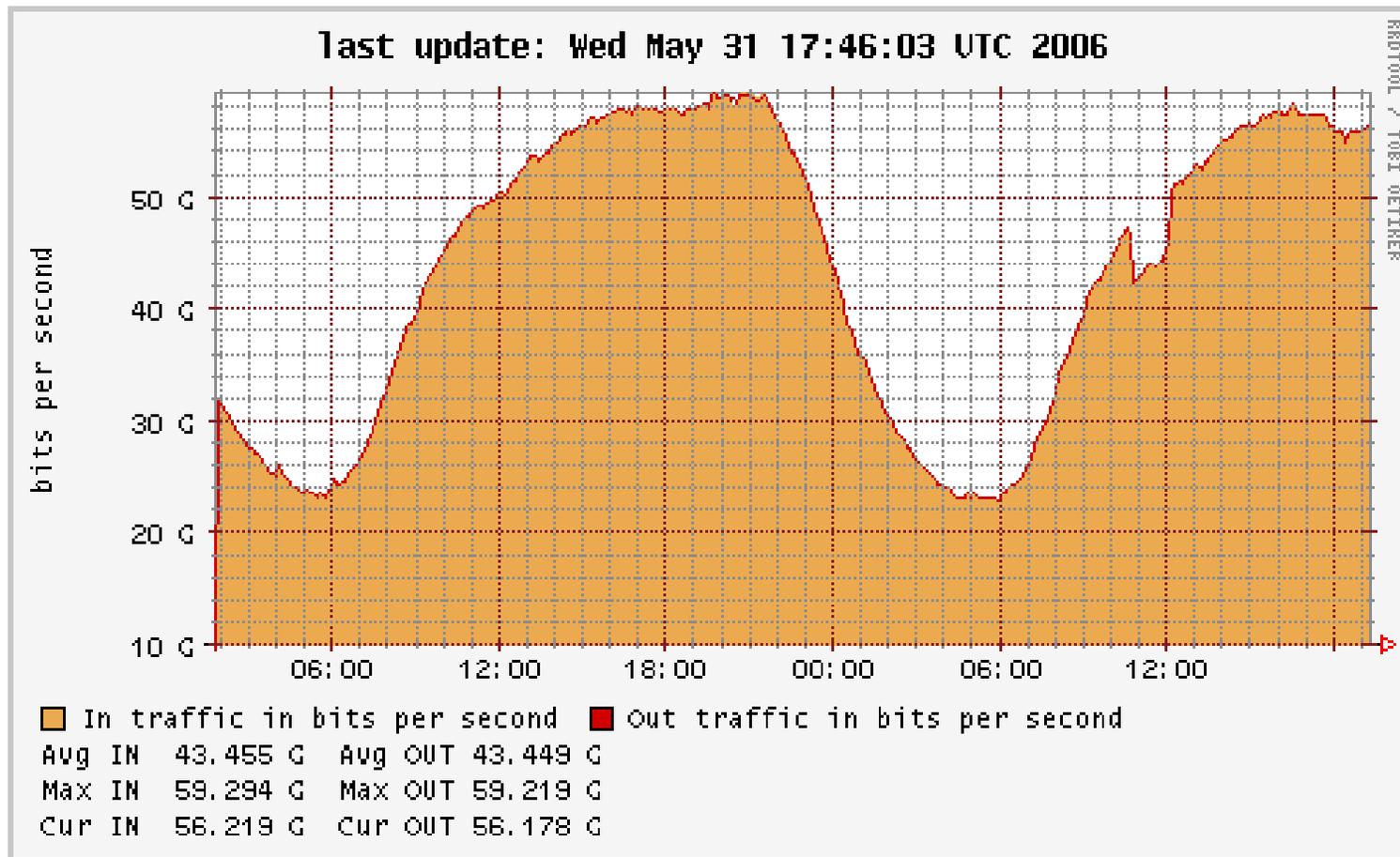
FICIX (Helsinki, Finland)
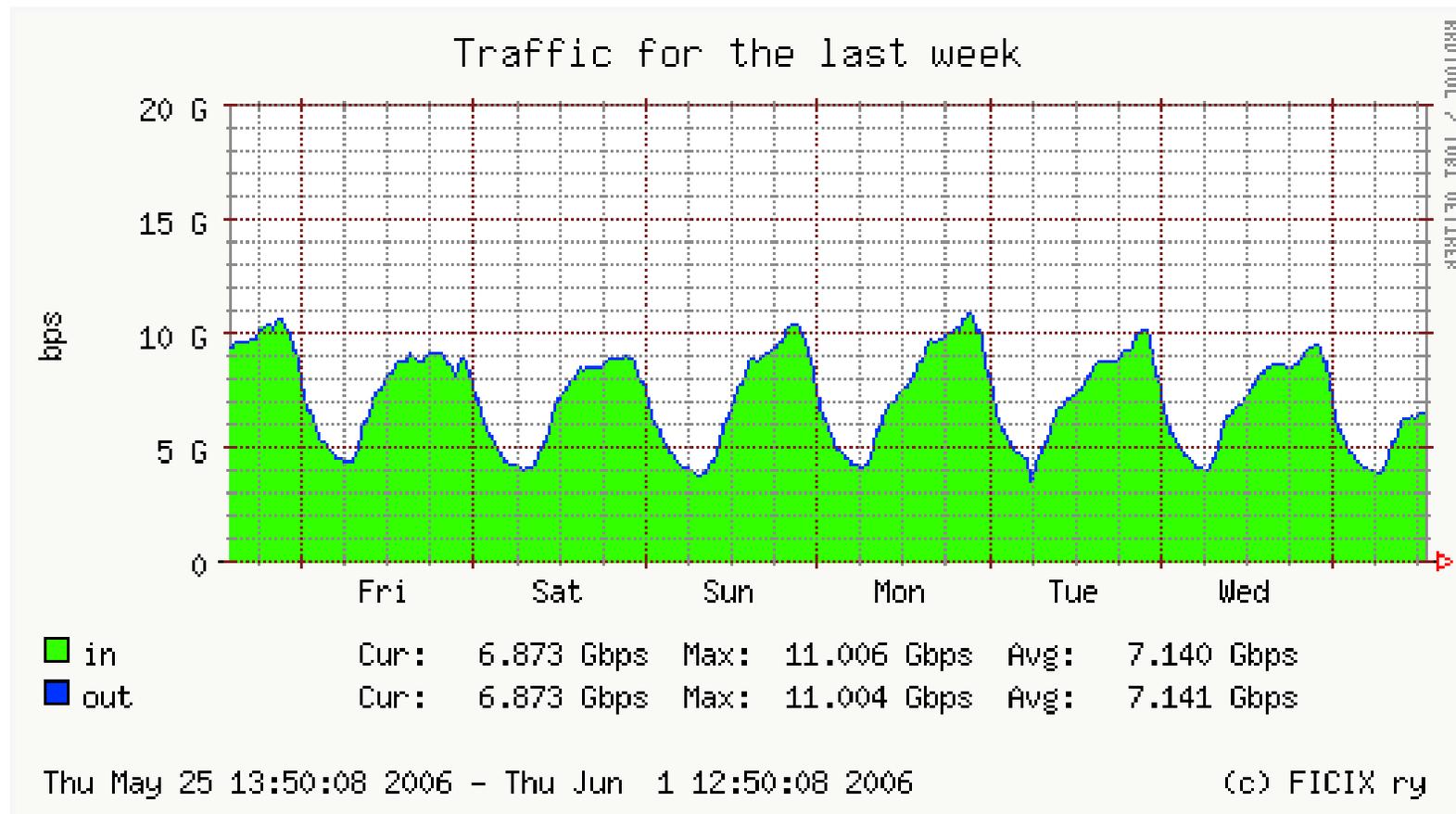
NIX (Oslo, Norway)
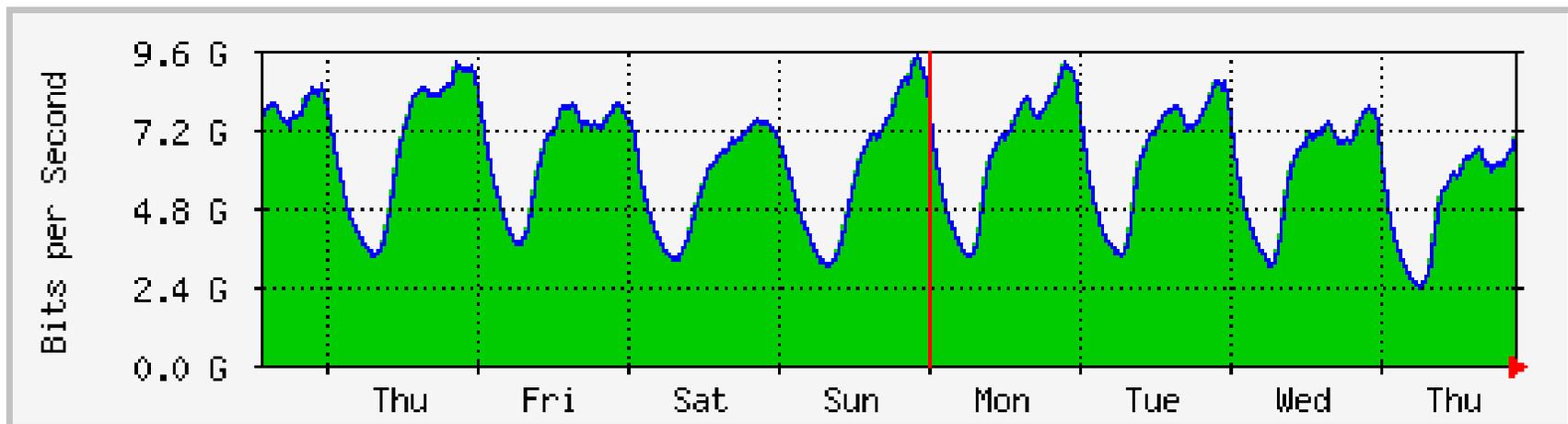
BNIX (Brussels, Belgium)
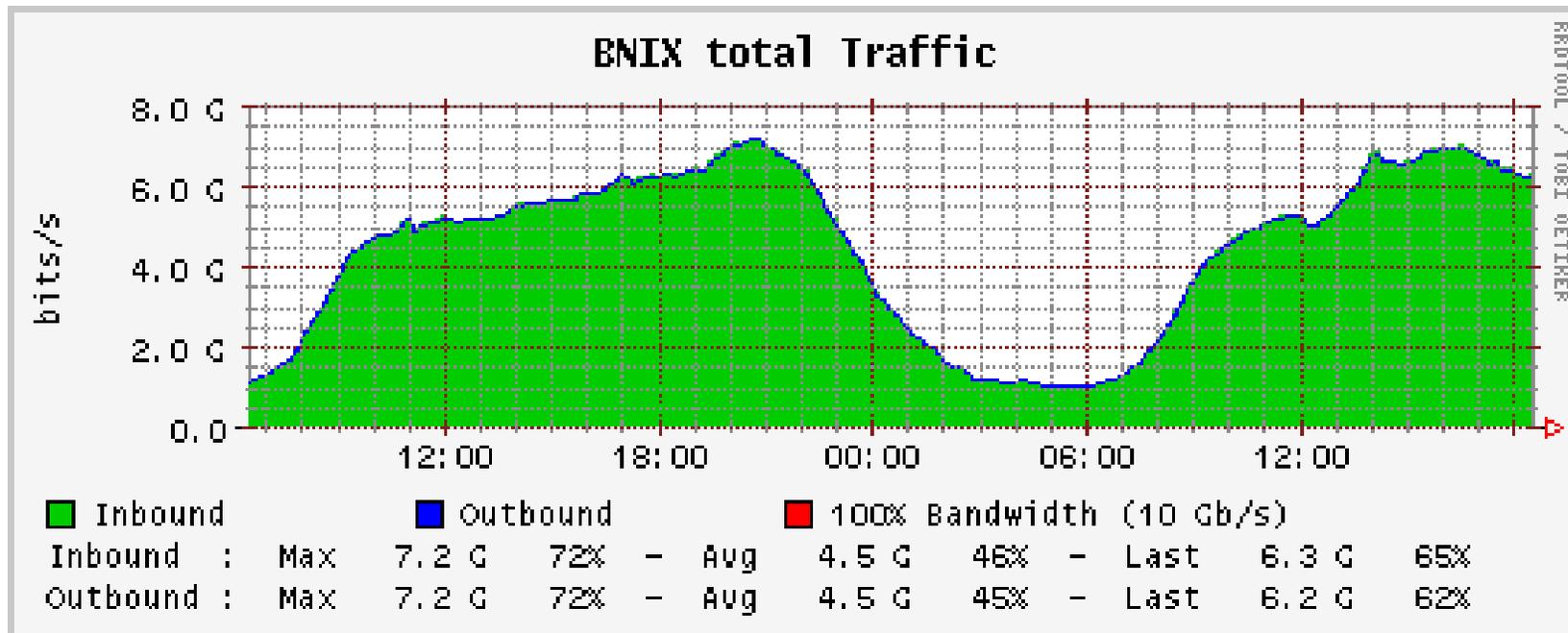
US traffic impact

Port 6881 (bittorrent) traffic from a big US ISP


PPS over time for Proto 6 Port 6881
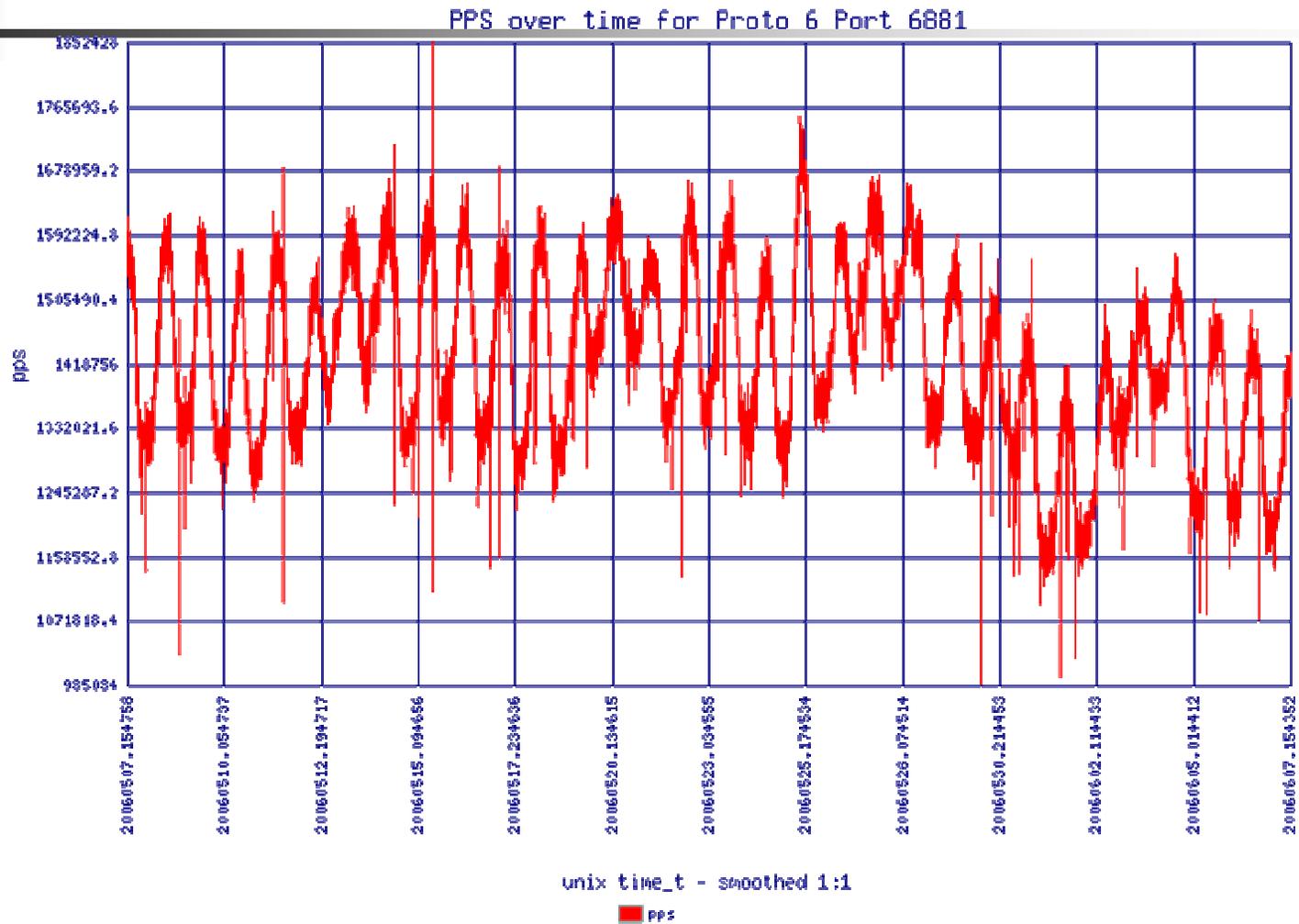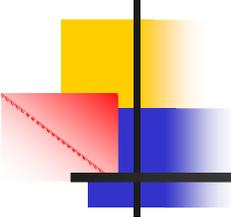
Return of TPB

- Thepiratebay.org was back online approx 72 hours after the police confiscated the equipment, this time from Amsterdam, Netherlands

…and traffic started coming back

Aggregate traffic All (Tue Jun 6 20:24:02 2006)

	Incoming		Outgoing	
Maximal In:	45.887 G	Maximal Out:	45.901 G	
Average In:	25.332 G	Average Out:	25.357 G	
Current In:	37.799 G	Current Out:	37.993 G	
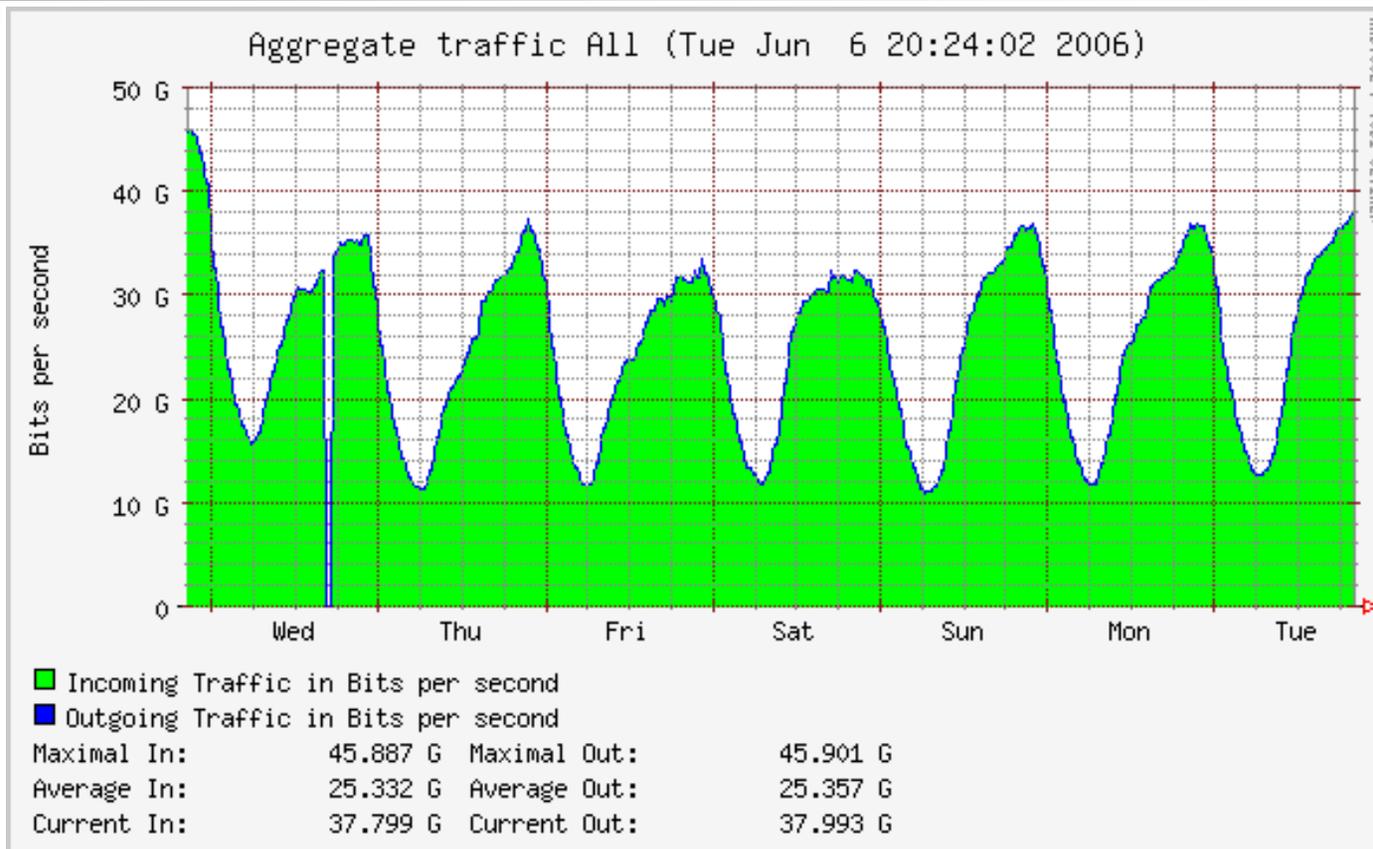
- June 6th is a holiday….
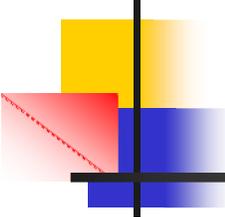
Aftermath

- Police took ALL hosted equipment at the same site by the same hosting company (small one, only a few racks), caused quite a few community web sites to go down plus commercial customers.

- Has spawned a lot of discussion in Sweden regarding all issues involved. Front page material every day, even video of the raid from surveillance cameras has been posted to youtube.com. Accusations of police/politicians being influced by White House and MPAA and others.