Use of a TTbox in day to day operations

RIPE #48 - Amsterdam

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BELNET

Overview

- box details
- routes changes
- IPv4 – IPv6 comparison
- DNS root servers reachability
- delays
- SLA measurements ?
- Improvements

Box details

- tt62.ripe.net
- online since june 2003
- BELNET, Belgium, Gent
- IPv6 enabled

Routes changes

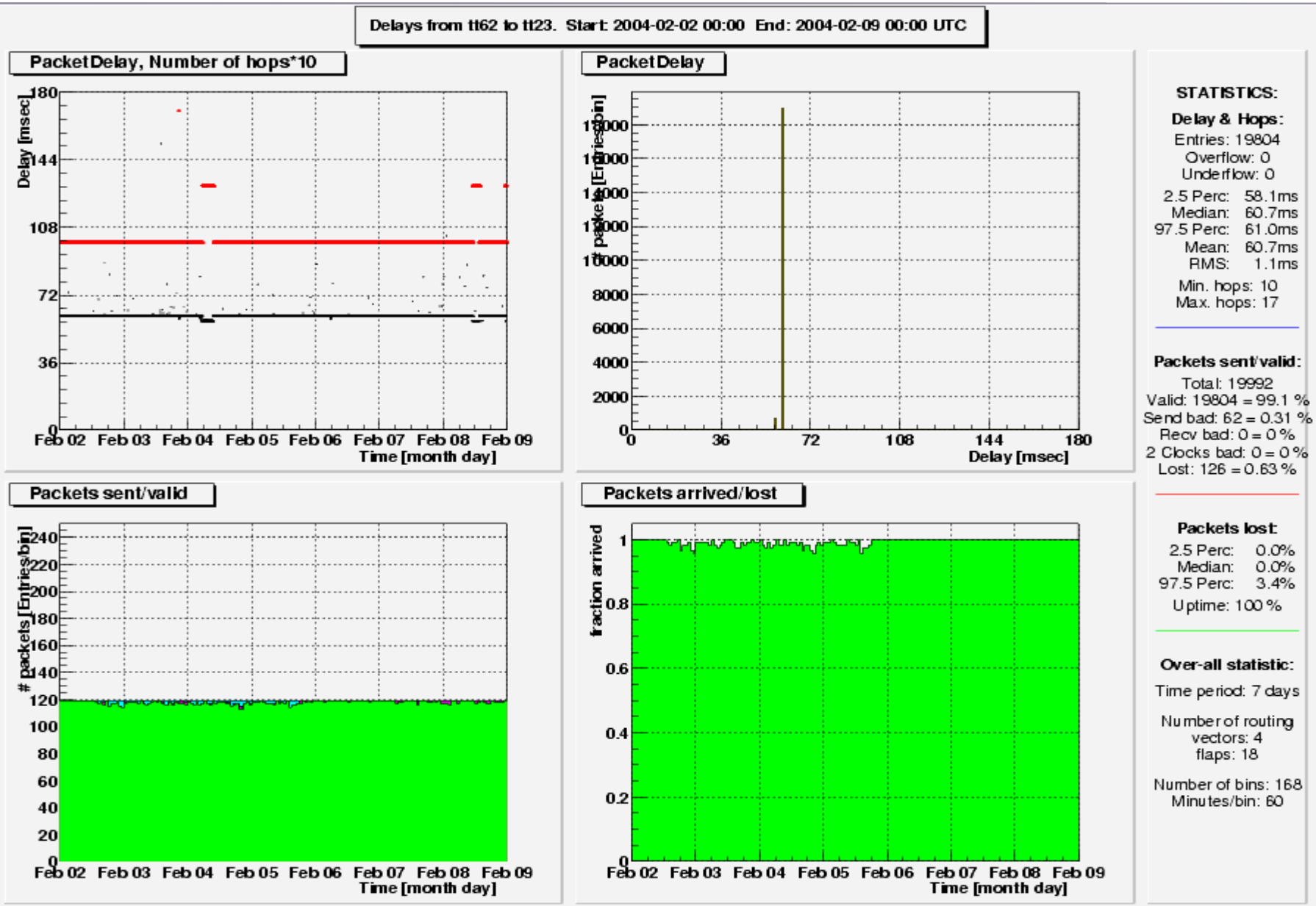
- detect route changes
- detect assymetric routes
- check global connectivity of our transit providers and/or when changing transit providers

Routes changes : example

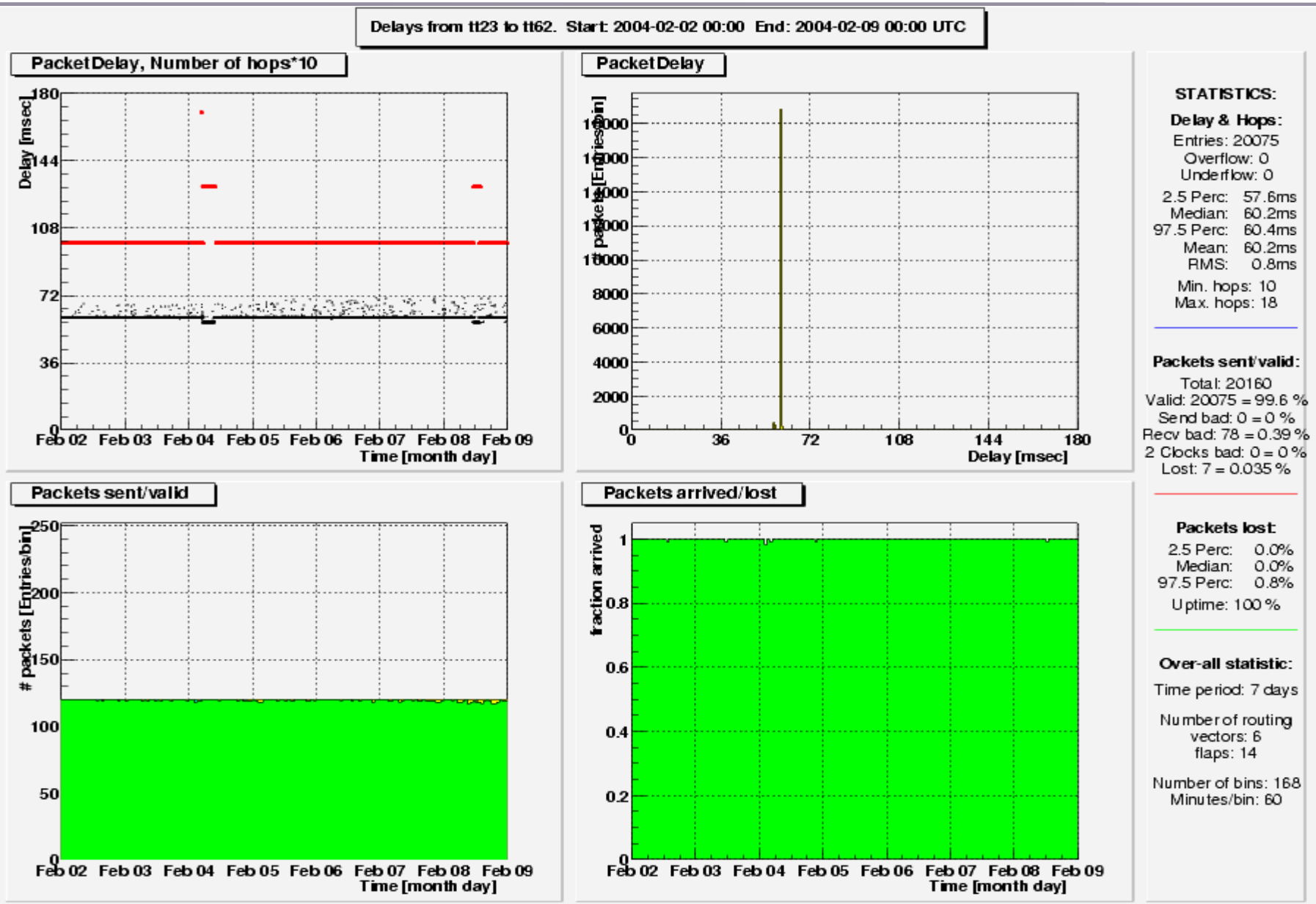
See folder *Traceroute example*

- BELNET - Internet2
- route flapping between our transit providers
- direct and reverse route affected
- assymetric route
- route changed
  - better delays
  - more hops

Routes changes : example (2)



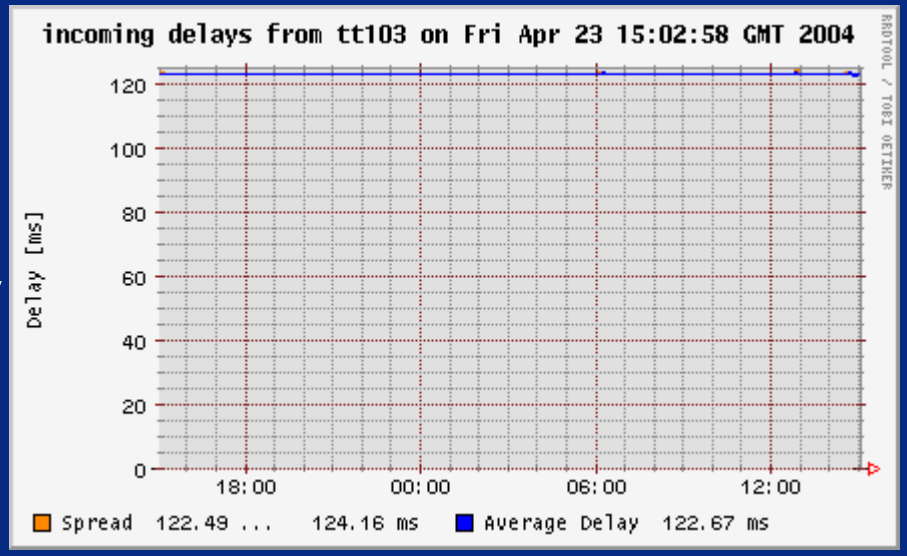
Routes changes : example (3)

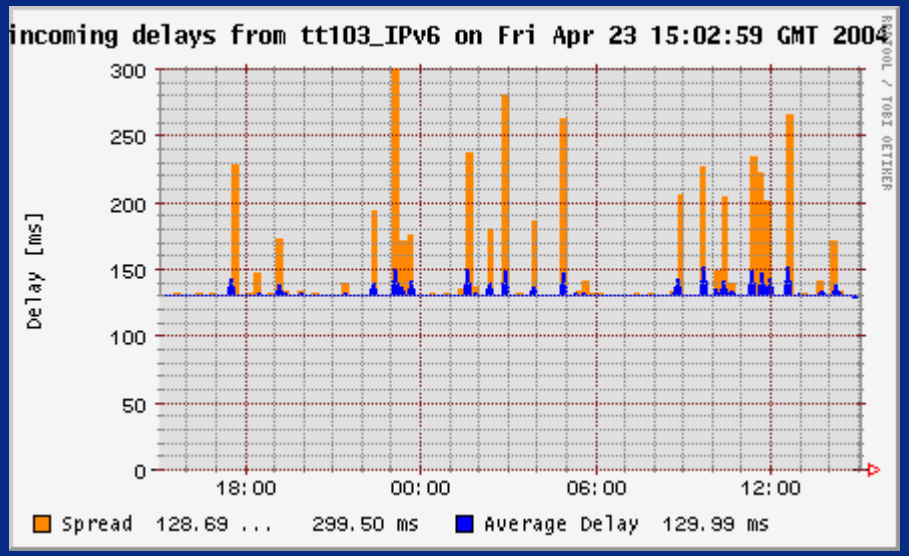


IPv4 – IPv6 comparison

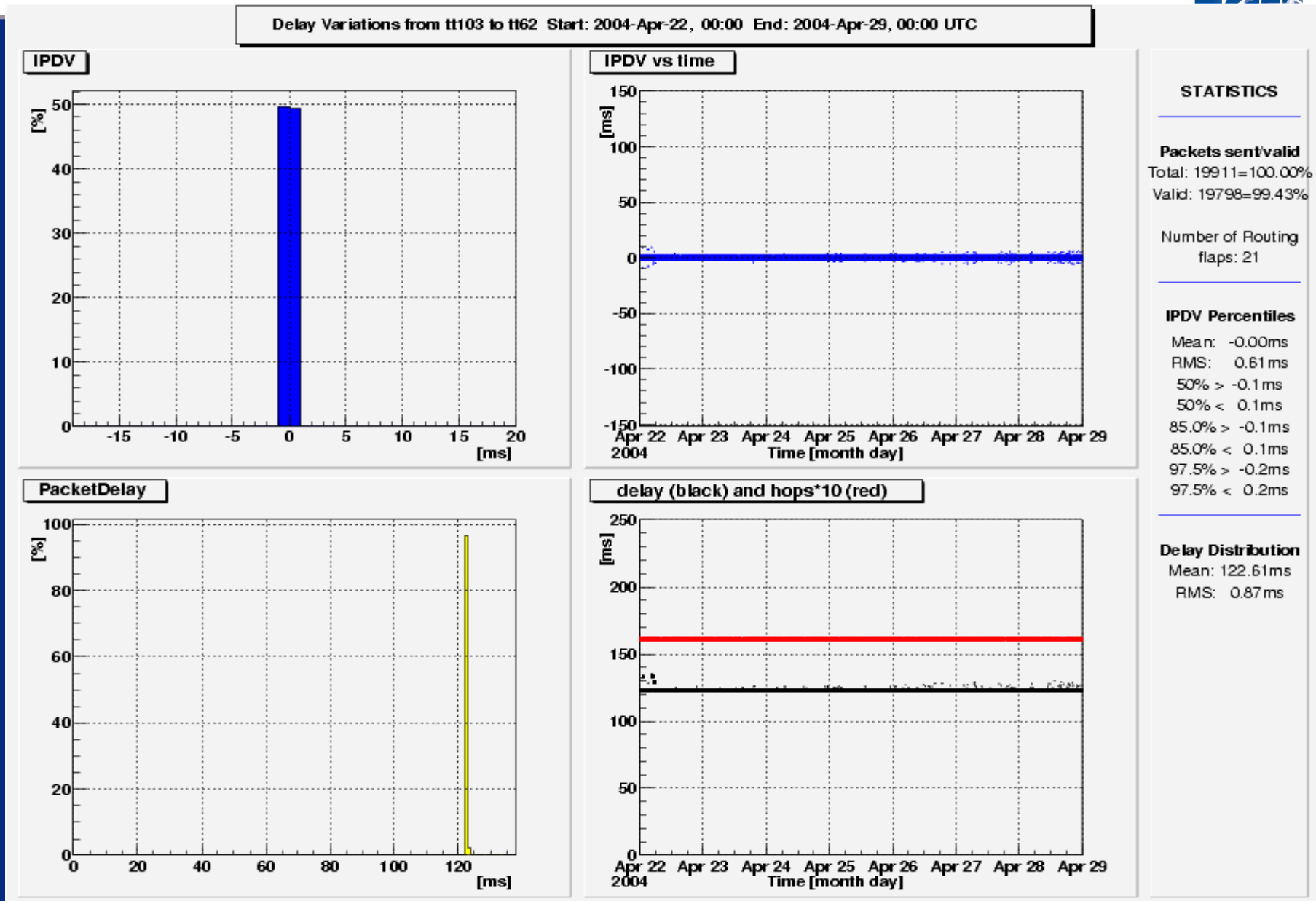
IPv6 networks

- about same delay
- more jitter

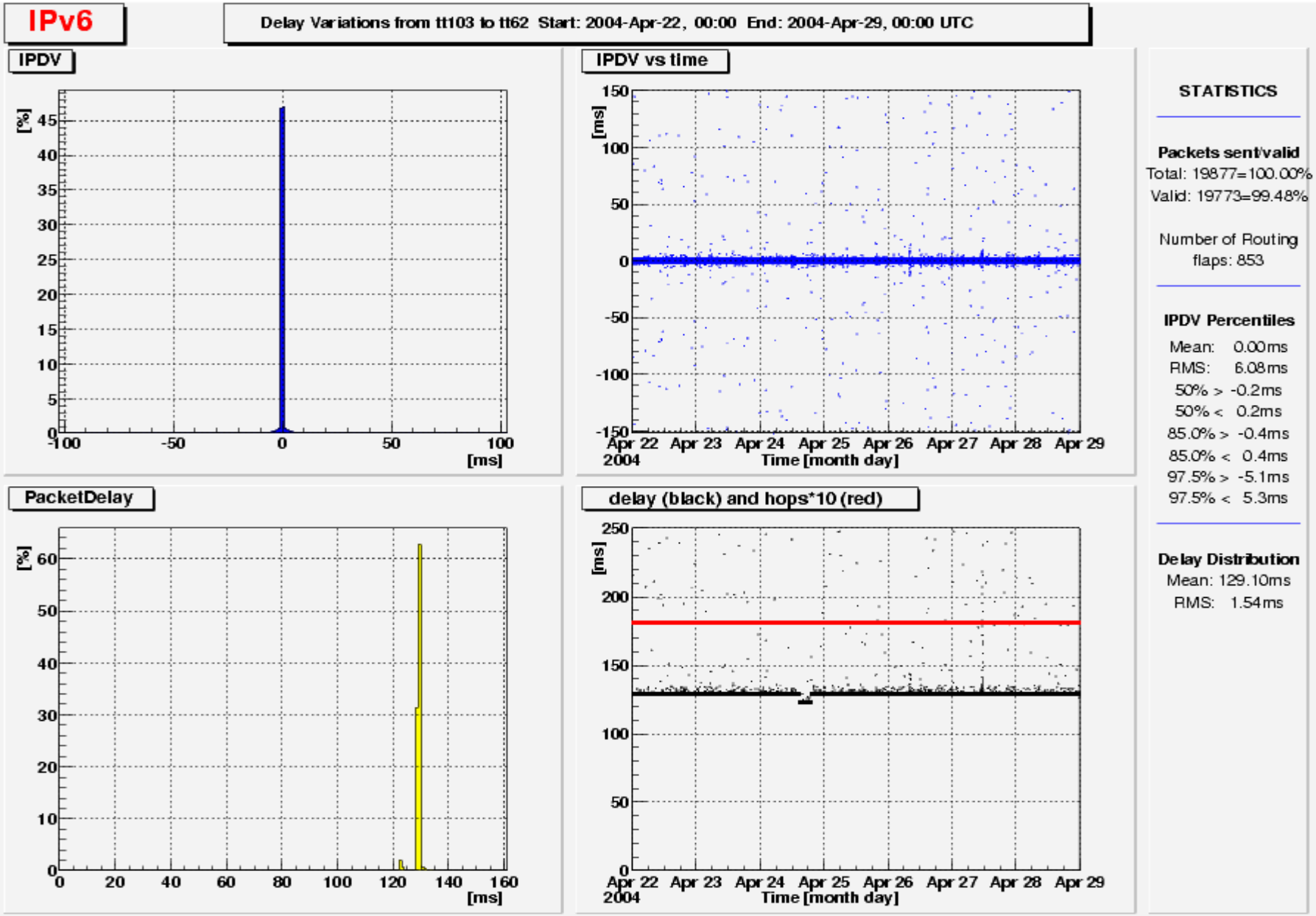




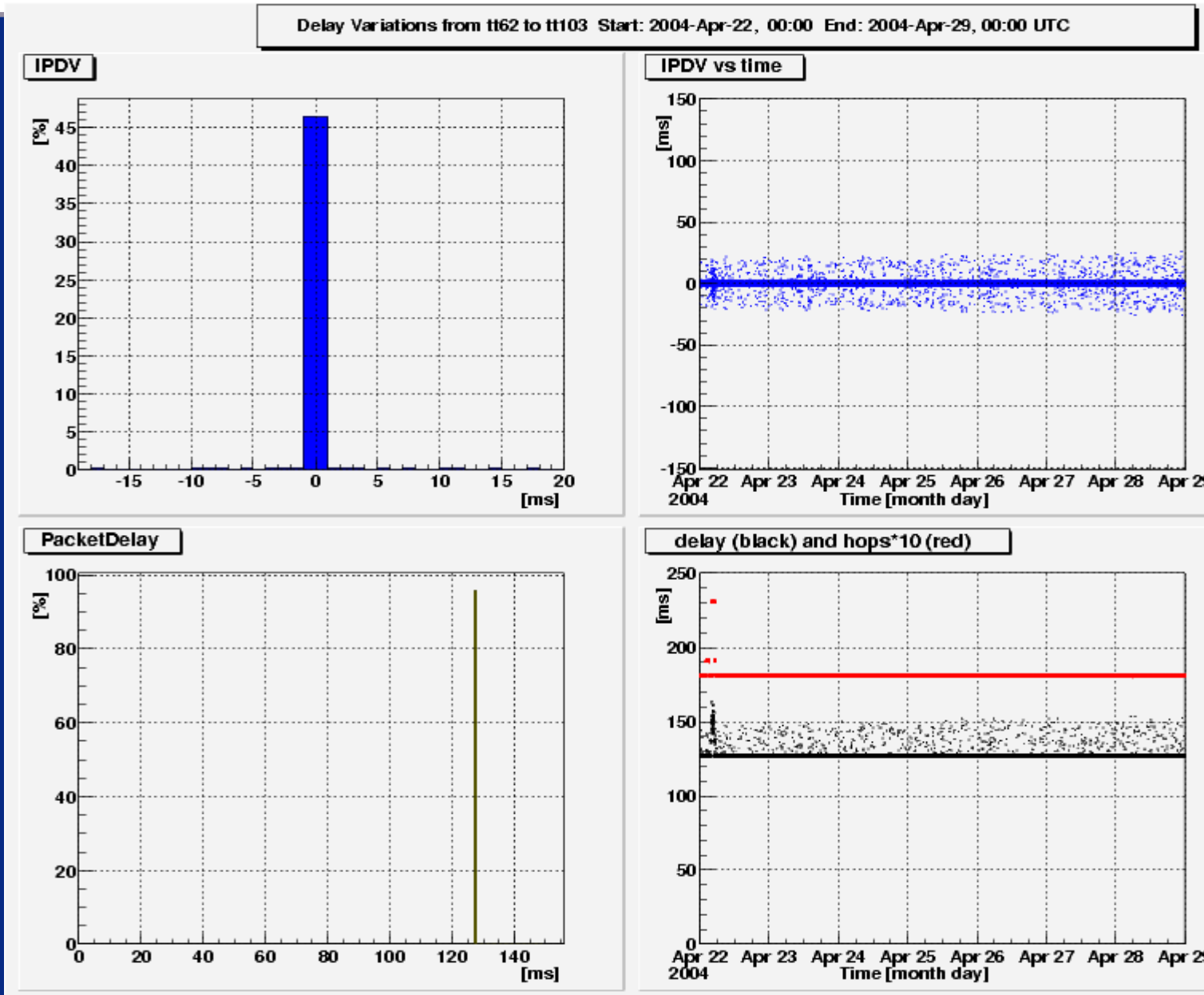
IPv4 – IPv6 comparison (2)



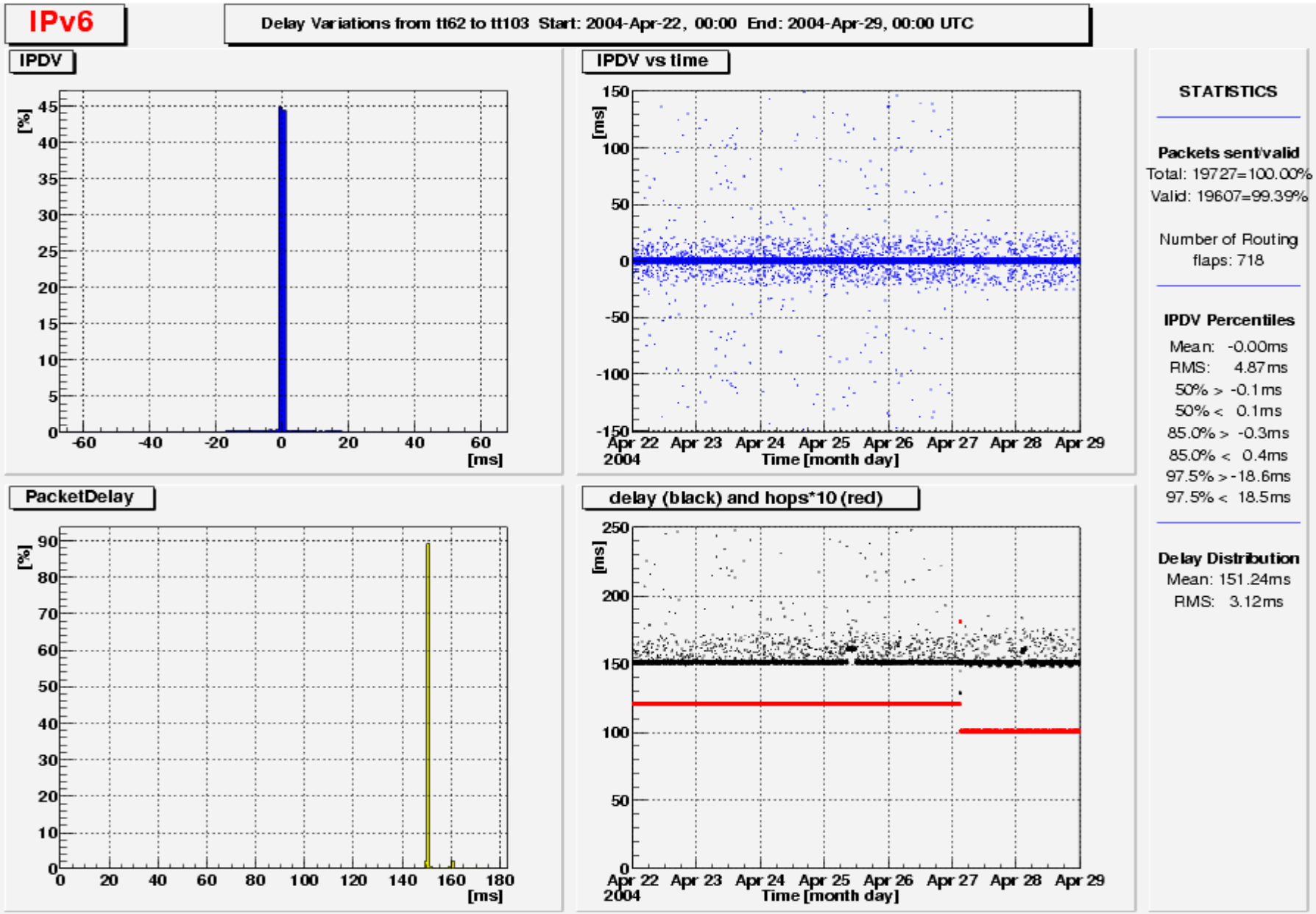
IPv4 – IPv6 comparison (3)



IPv4 – IPv6 comparison (4)

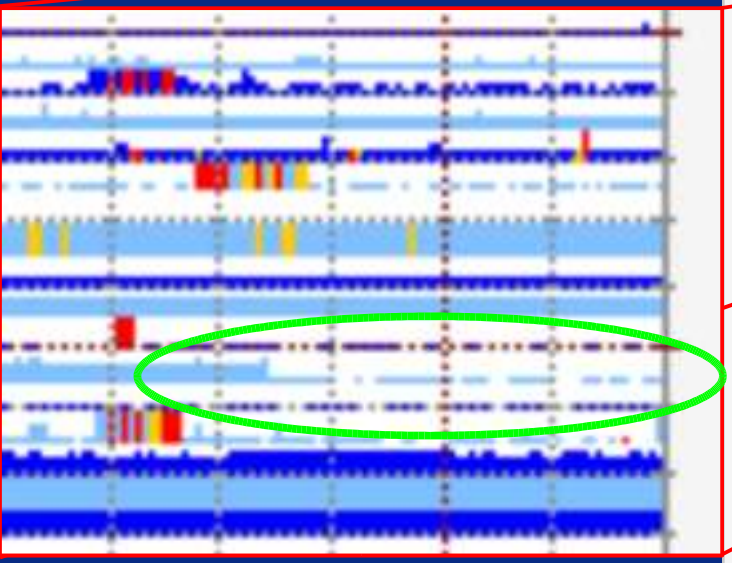


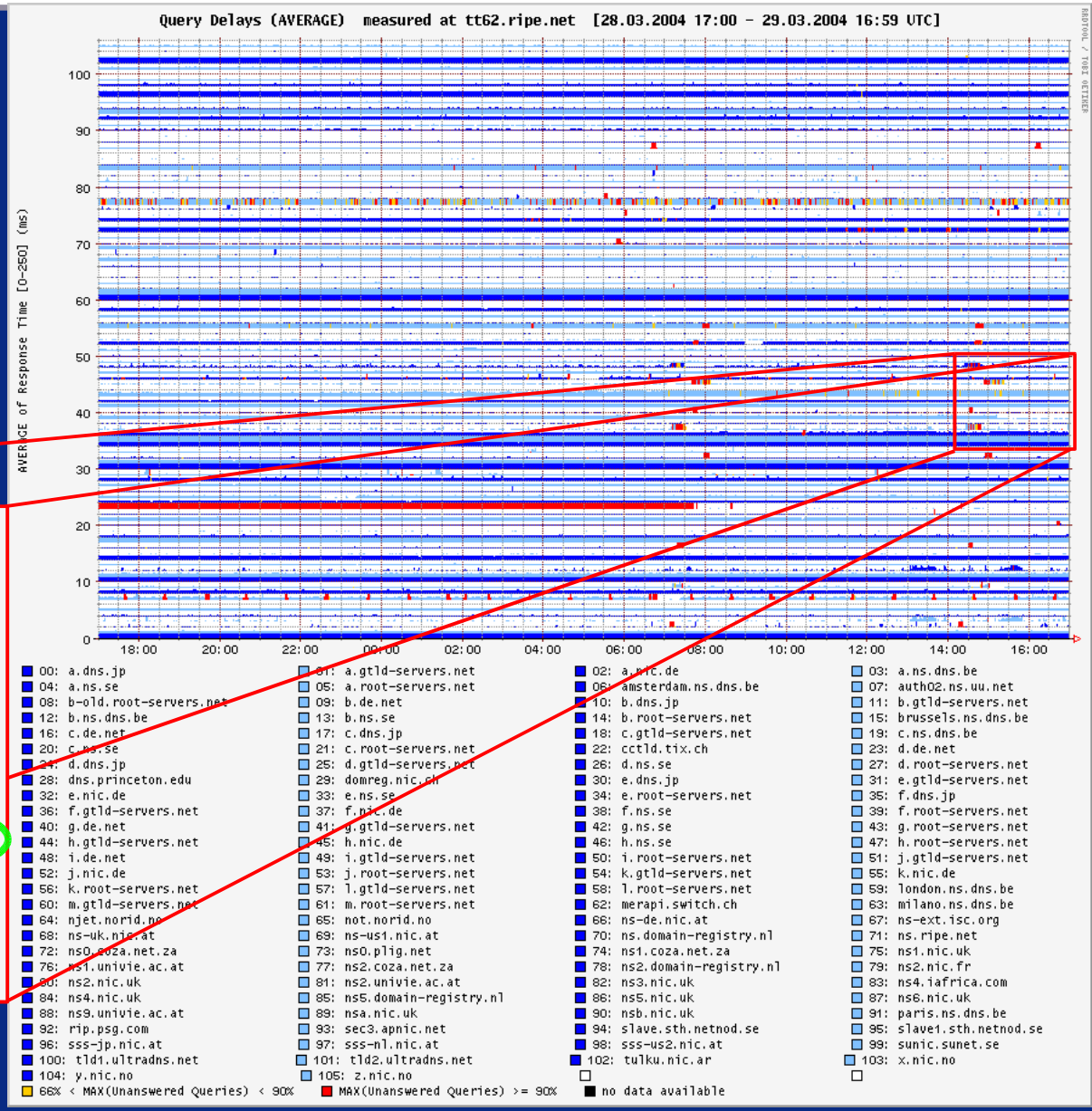
IPv4 – IPv6 comparison (5)



DNS root servers reachability

- F root server
  - @ SFINX
  - before peering
  - after peering

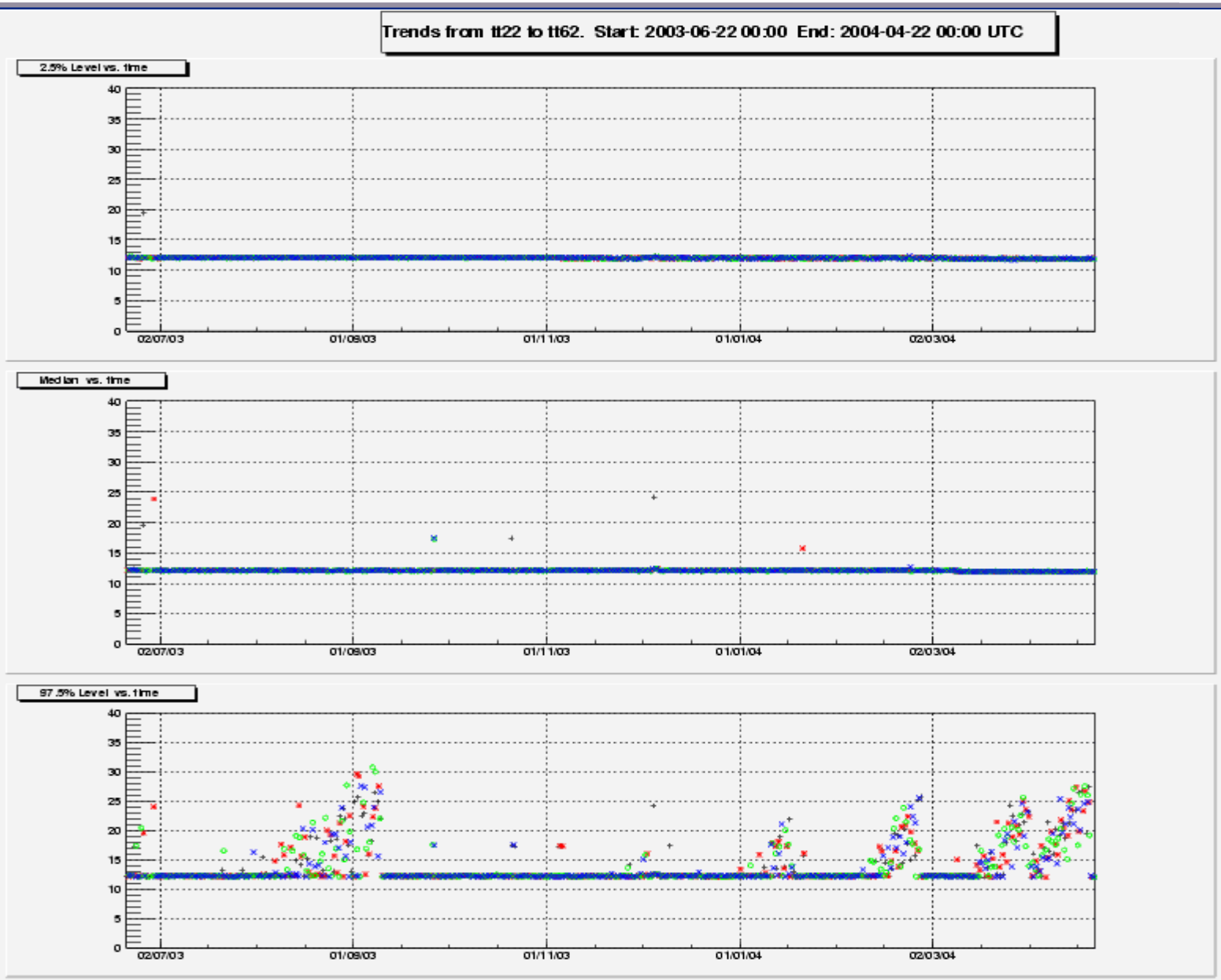




Delays

- check delays after major network events
  - change of transit provider
  - adding IX peerings
  - routers upgrade
  - DoS attacks

Delays : example



SLA measurements ?

- Now : internal tools for SLA measurements and reporting
- Use of TTbox data ?
  - direct data from the box (telnet 9142)
  - ROOT data from ftp, short delay in availability
  - both needs developpement on our side before being useful, so not yet done
  - better trust because operated by 3rd party

Improvements

- IPv6 autoconfiguration (if desirable ?)
- speed of webinterface (plots on demand)
- (dual NIC auto fallback ?)