Multicast Monitoring

Final Report

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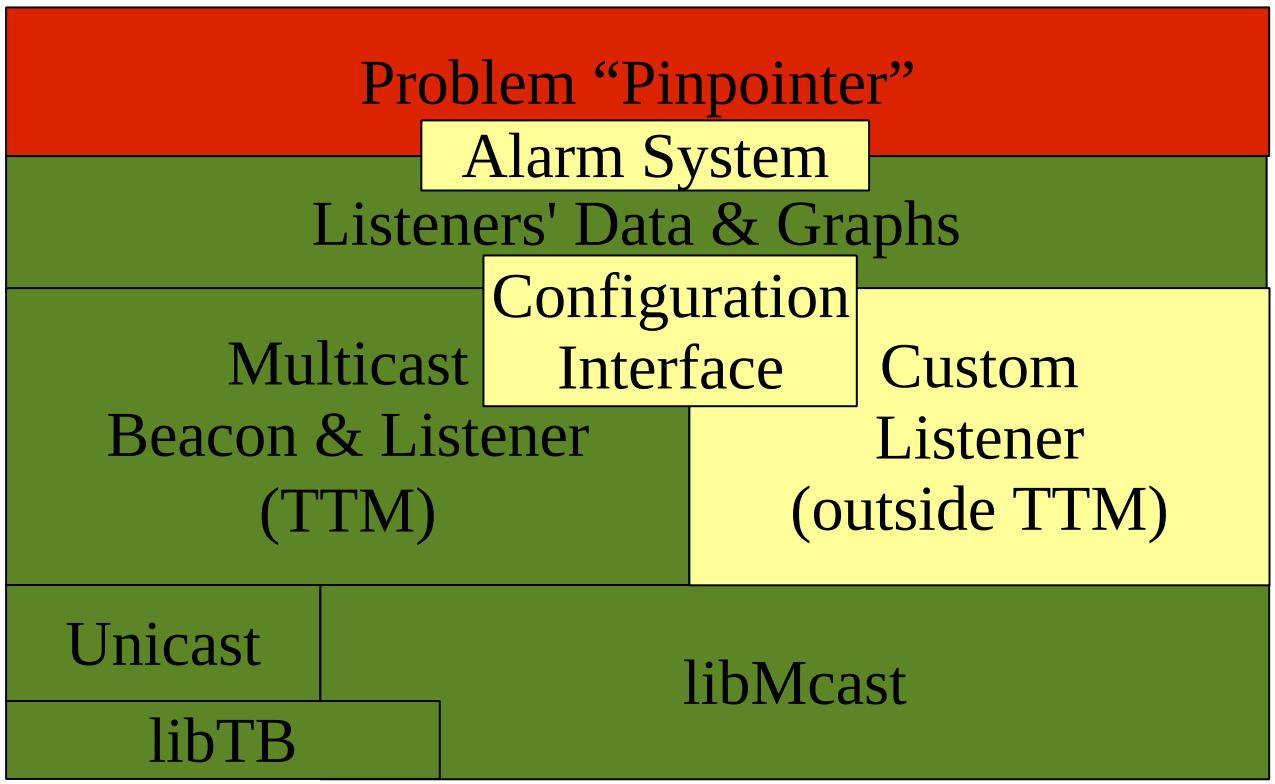
Overview (I)

- Multicast Monitoring on RIPE NCC Test Traffic Boxes
  - RIPE Policy Proposal, April 2006
- Policy suggests
  - Multicast beacons
  - Multicast listeners
  - Raw data for interested parties
  - Pinpointing of problems

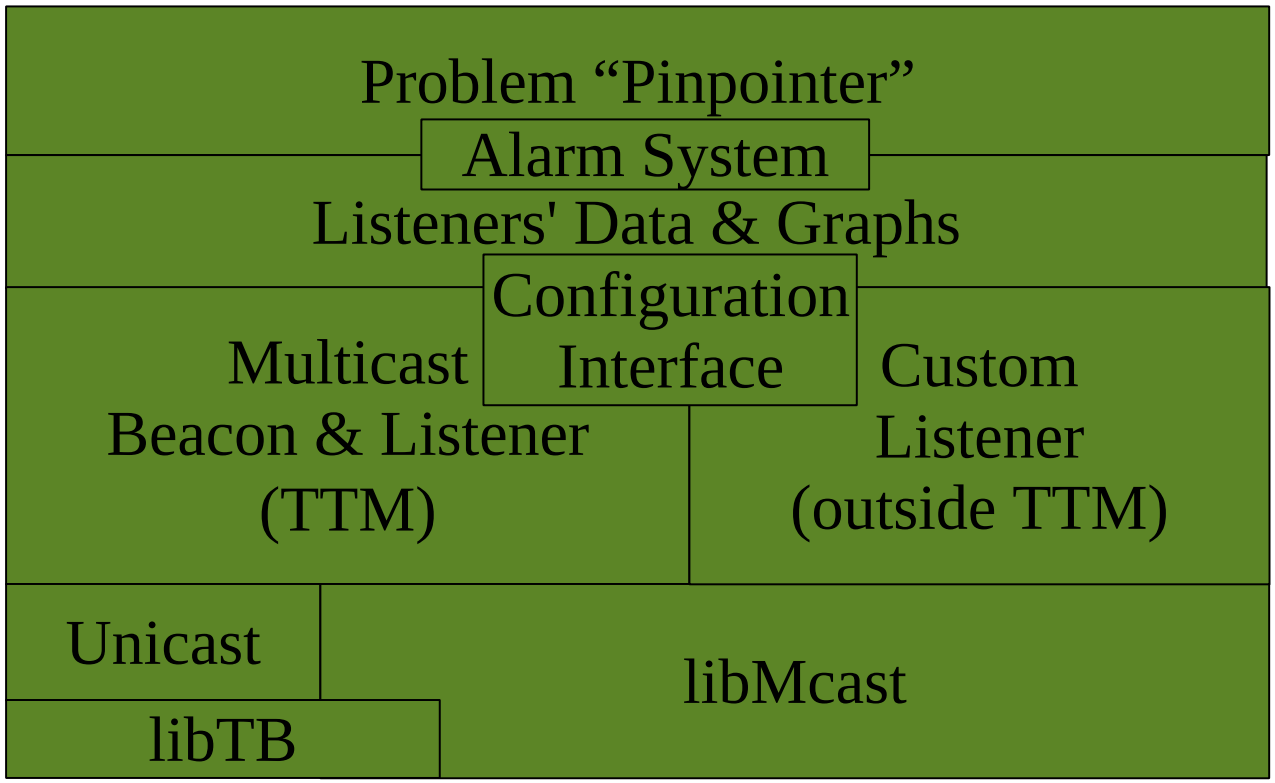
Overview (II)

- Multicast Monitoring Architecture, Status at RIPE 53
  - green: finished, yellow: under construction, red: to be implemented

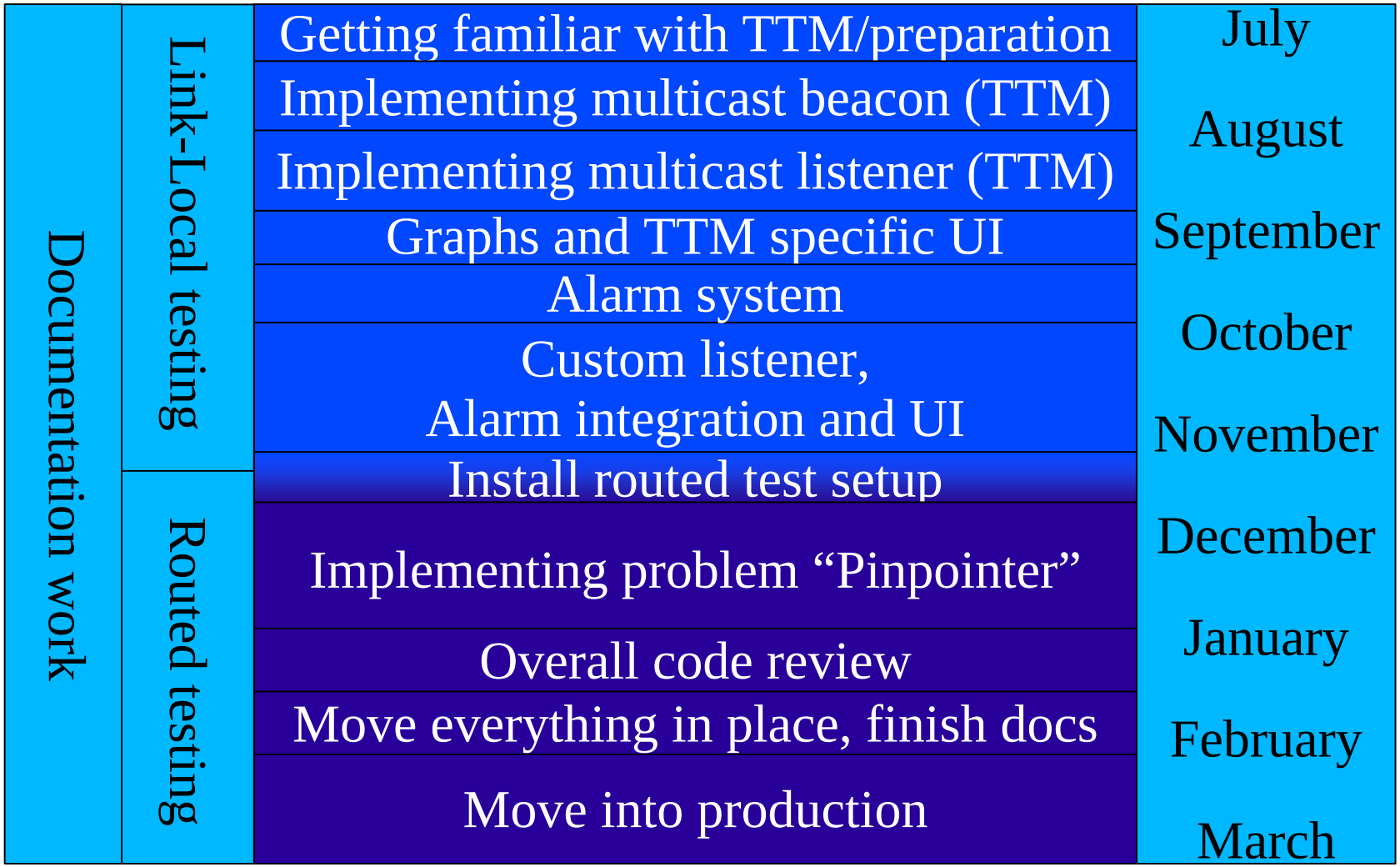


Overview (III)

- Multicast Monitoring Architecture
  - today: all finished



Timeline

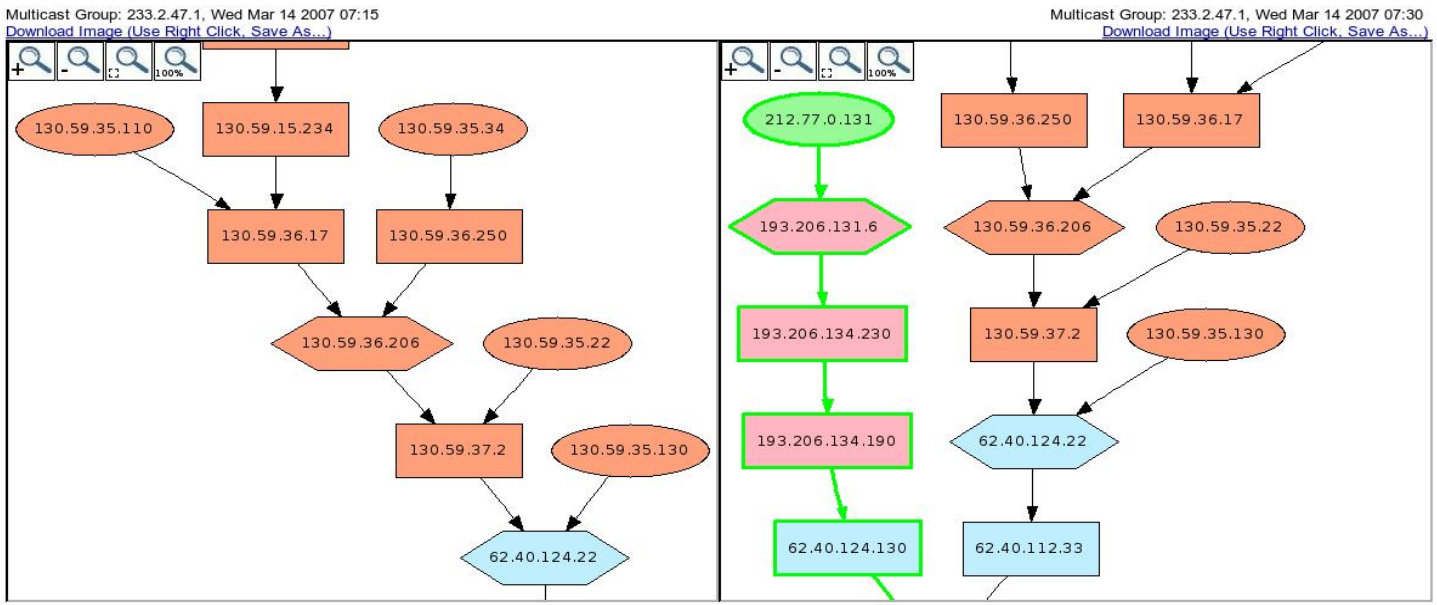

Documentation work
Link-Local testing
Routed testing
Getting familiar with TTM/preparation
Implementing multicast beacon (TTM)
Implementing multicast listener (TTM)
Graphs and TTM specific UI
Alarm system
Custom listener,
Alarm integration and UI
Install routed test setup
Implementing problem “Pinpointer”
Overall code review
Move everything in place, finish docs
Move into production
July
August
September
October
November
December
January
February
March

Results (I)

- Multicast Beacon
  - Open, well-known TTM packet format
  - Timestamps from GPS clocks
  - Standard configuration using NCC GLOP addresses
- Listeners
  - Performing one-way delay measurements using GPS-Clocks
  - Supporting measurements inside and outside the TTM network
  - Highly configurable Custom Listener
- Alarms
  - Email notification including links to relevant data

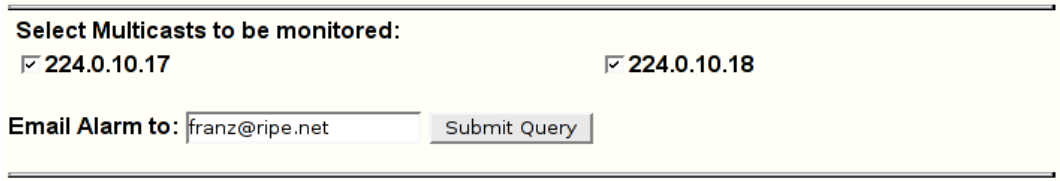
Results (II)

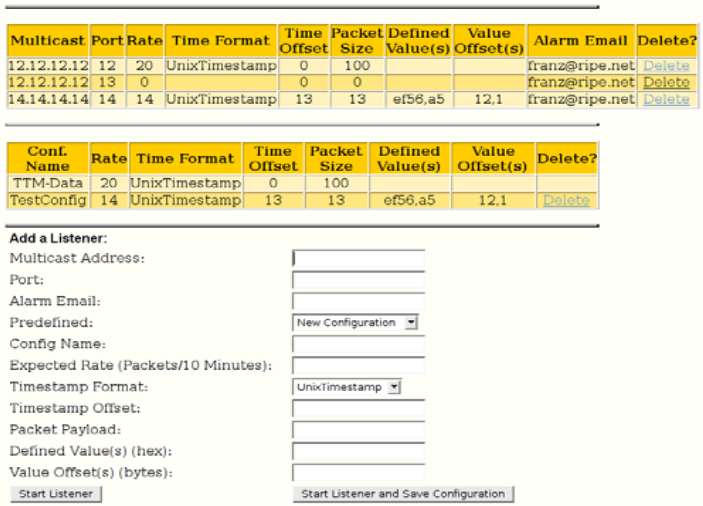
- Problem Pinpointer
  - Each testbox tracing the path to configured groups
  - Data gathered centrally and clustered by groups and timestamps
  - Presented in a convenient user interface



Demo

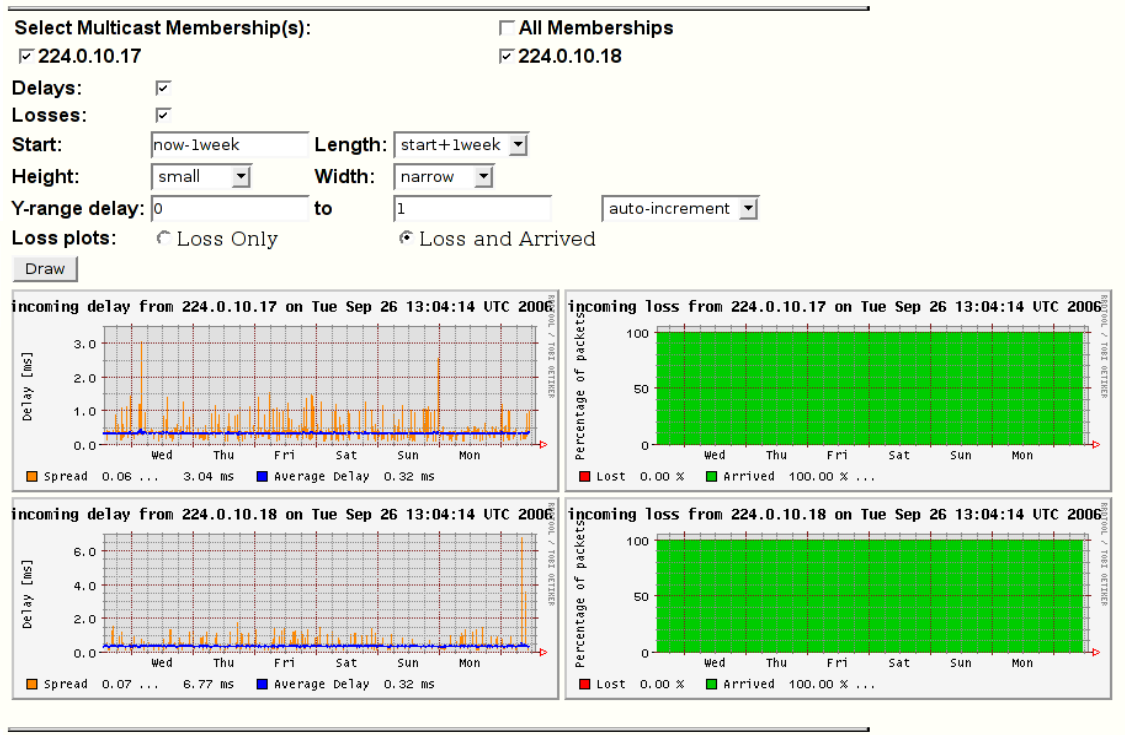
- Configuration Interface
- Problem Pinpointer
  - User Interface
  - Use Case
- Measurement Data



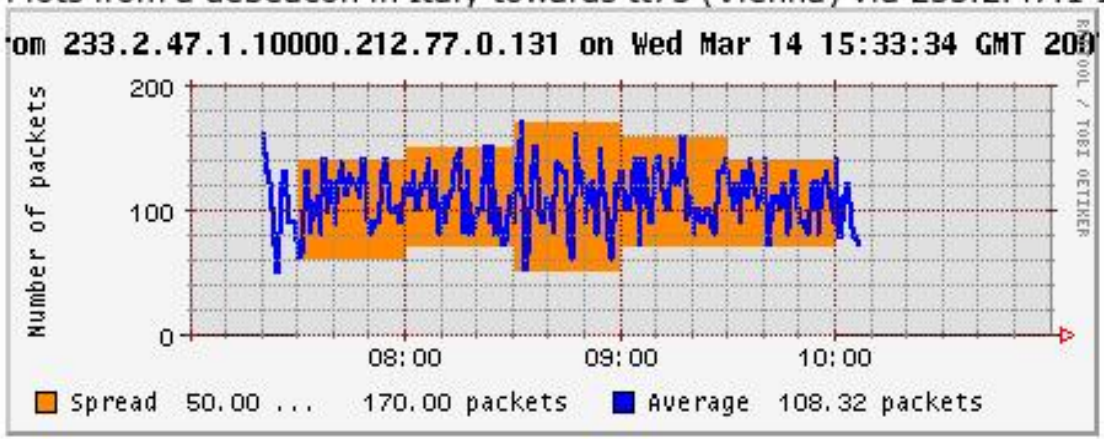


Multicast	Port	Rate	Time Format	Time Offset	Packet Size	Defined Value(s)	Value Offset(s)	Alarm Email	Delete?
12.12.12.12	12	20	UnixTimestamp	0	100			franz@ripe.net	Delete
12.12.12.12	13	0		0	0			franz@ripe.net	Delete
14.14.14.14	14	14	UnixTimestamp	13	13	ef56,a5	12,1	franz@ripe.net	Delete

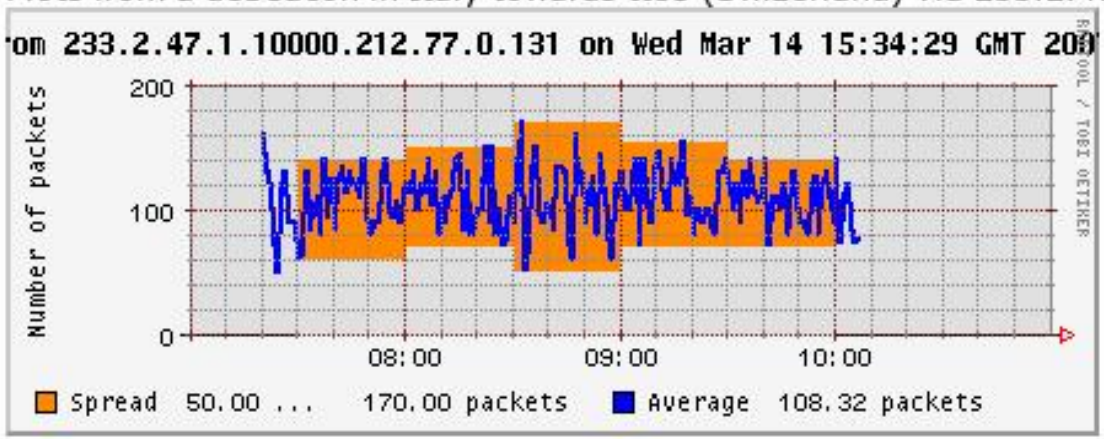
Conf. Name	Rate	Time Format	Time Offset	Packet Size	Defined Value(s)	Value Offset(s)	Delete?
TTM-Data	20	UnixTimestamp	0	100			
TestConfig	14	UnixTimestamp	13	13	ef56,a5	12,1	Delete



- Plots from a debeacon in Italy towards tt73 (Vienna) via 233.2.47.1 14/03/2007:



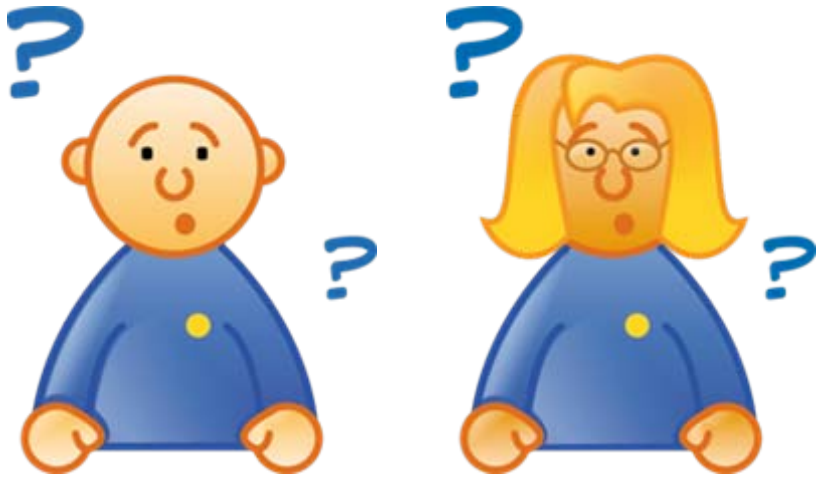
- Plots from a debeacon in Italy towards tt85 (Swizerland) via 233.2.47.1 14/03/2007:



How to get it

- Do you have a testbox?
- Do you have multicast routing on your network?
- Send an email!

tt-ops@ripe.net



Questions?