

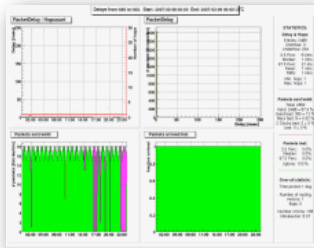


Information Services Update

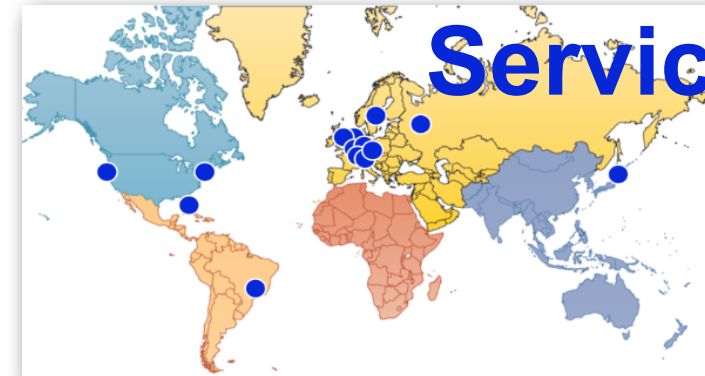
Franz Schwarzingen
Software Engineer
RIPE NCC
franz@ripe.net



Test Traffic Measurement

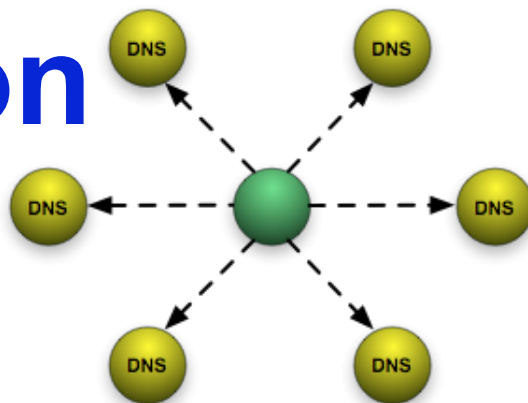
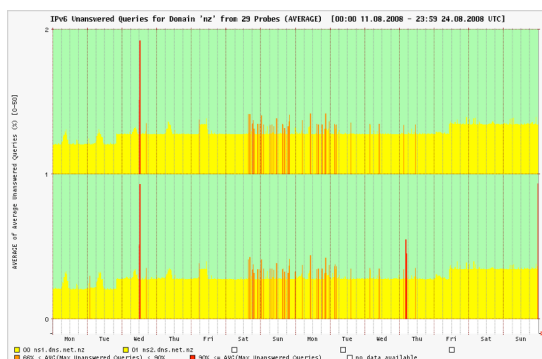


Routing Information Service

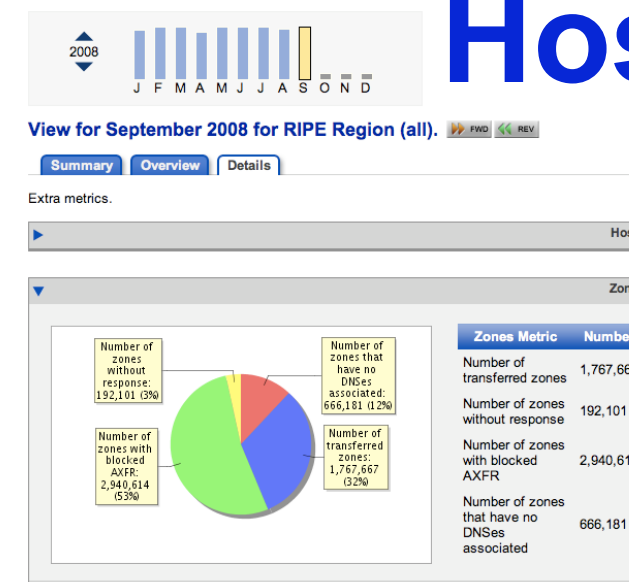


Information Services

DNSMon



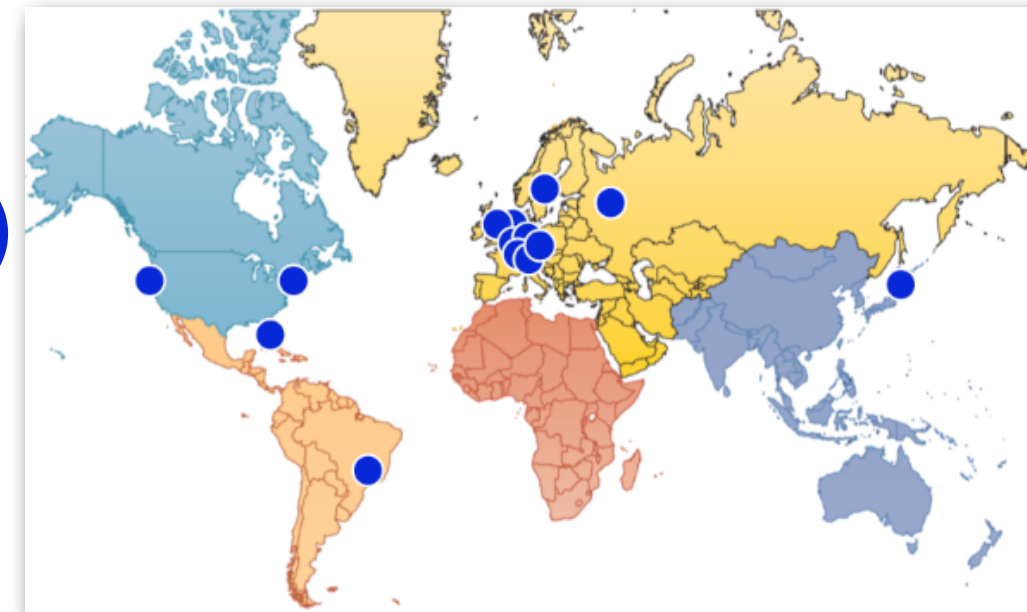
Hostcount





Routing Information Service

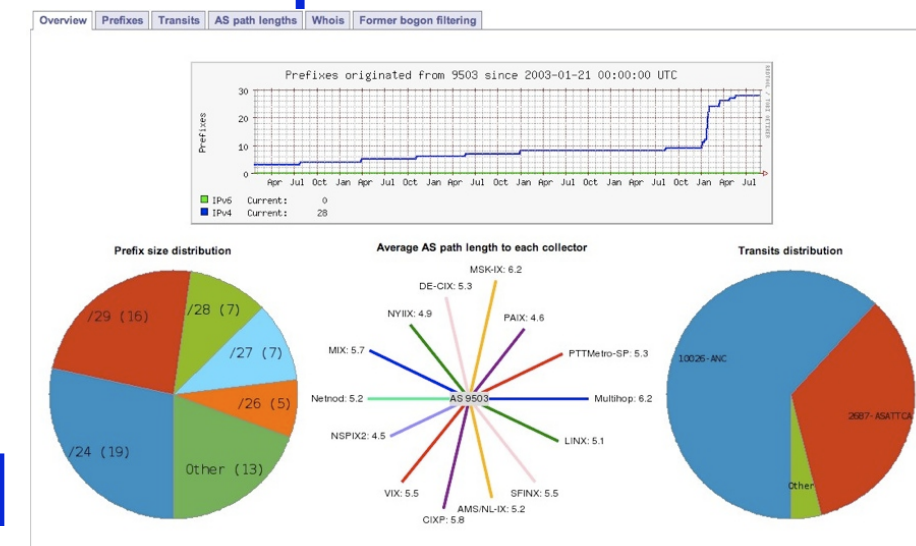
- Looking Glass with history
- Collects routing information (BGP)
 - 620 peers
 - 15 collectors around the world



- Last 3 Months of data can be queried with powerful tools.

- <http://www.ripe.net/ris/>

- Automated notifications with MyASN



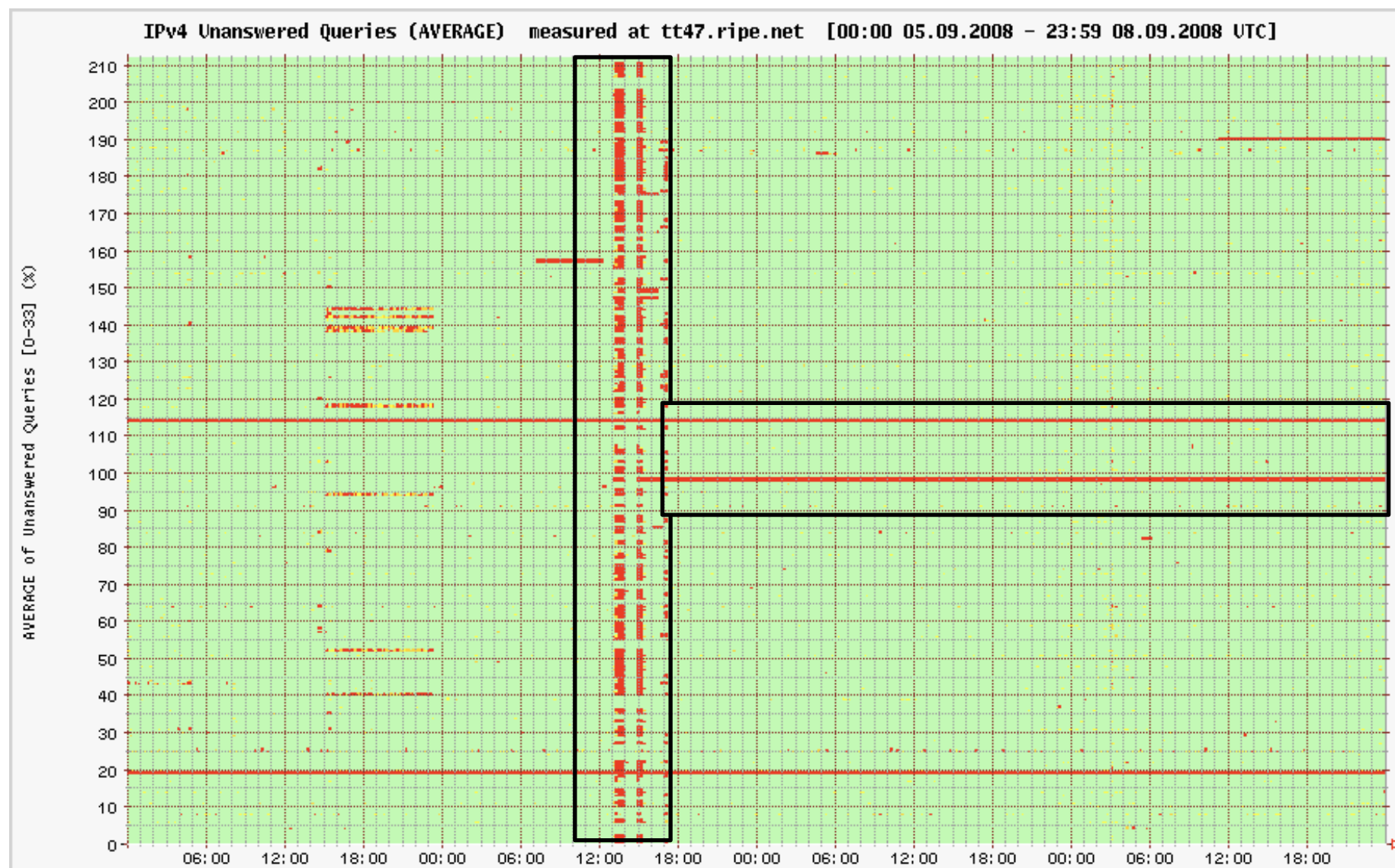


Hostcount

- Utilising DNS to count unique hosts belonging to a TLD
 - Transfer a Top-Level Domain
 - Count unique hosts
 - Transfer any sub zones
 - Count unique hosts
 - ...
- Carried out once per month
- Data freely available on the RIPE NCC webpage
- Brand new user interface under construction
 - <http://www.ripe.net/hostcount/>

DNSMon

- Monitoring DNS Servers
 - 78 probes around the world
 - monitoring 200+ ccTLD/gTLD servers worldwide

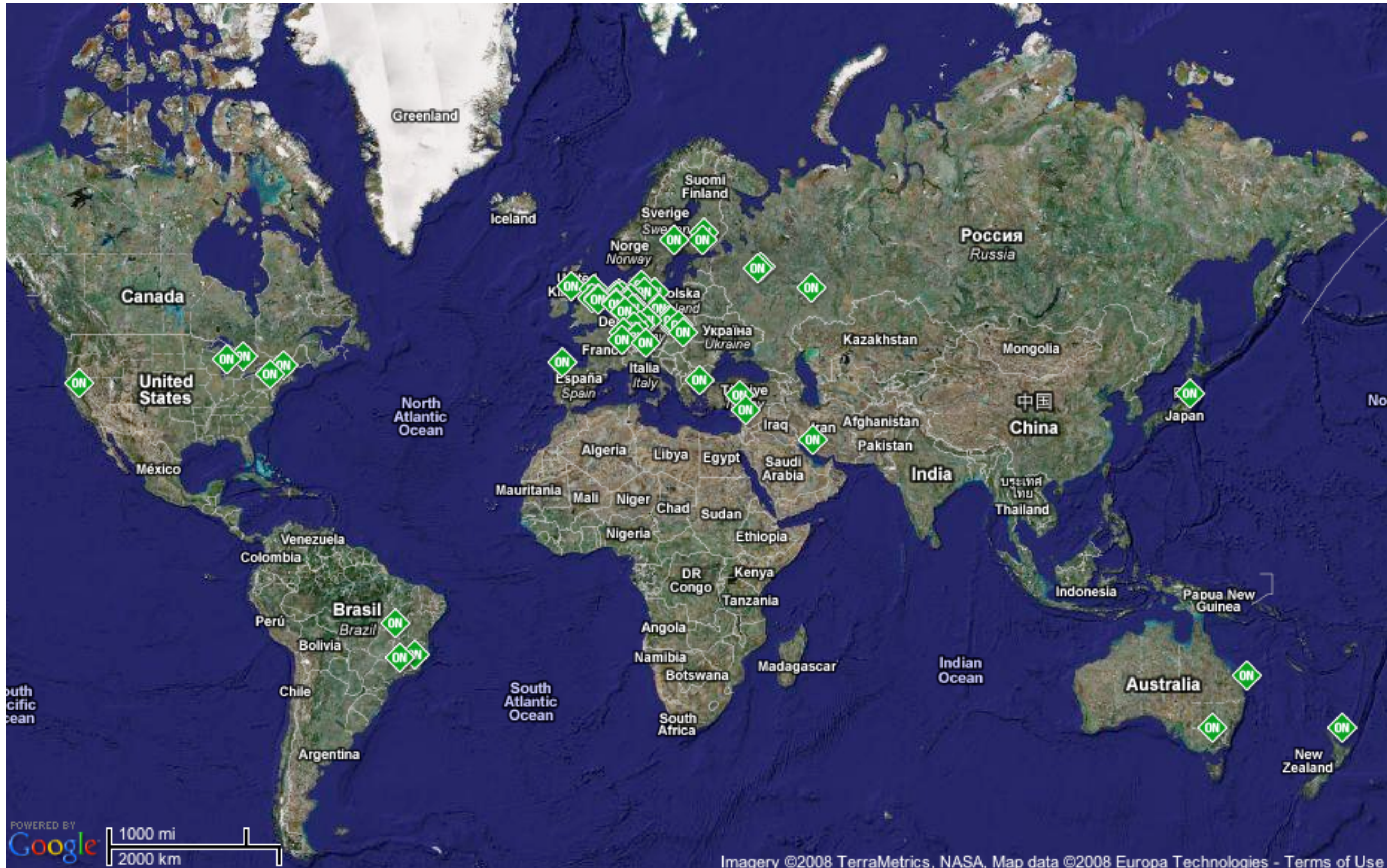




Test Traffic Measurement

Distributed Measurement System

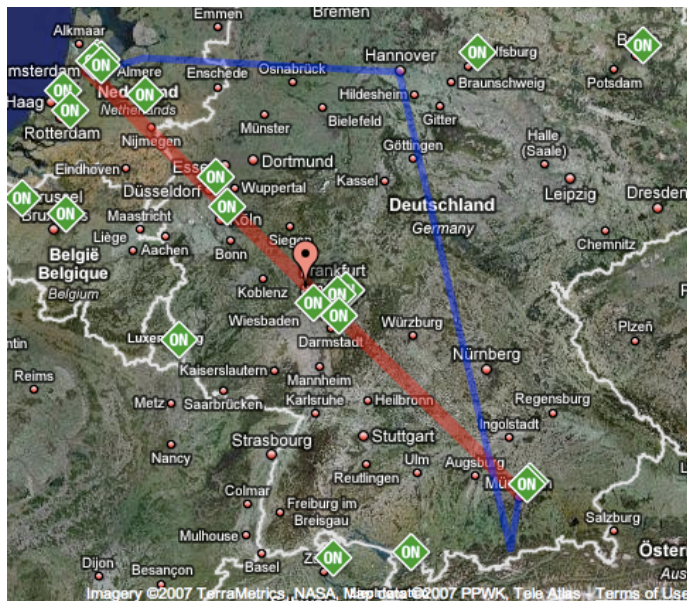
Test Traffic Measurement



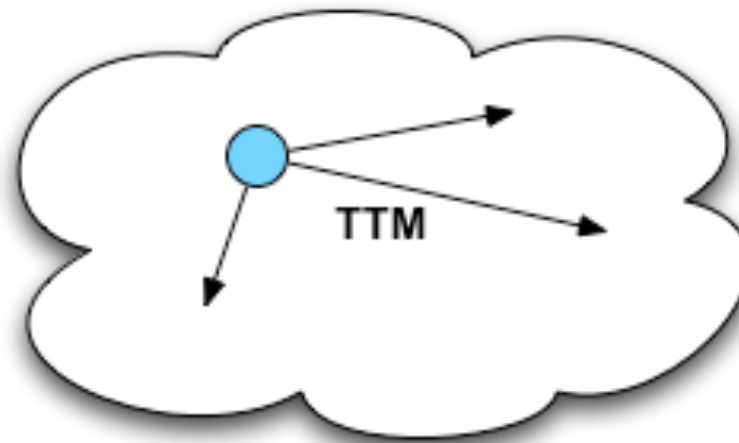
Test Traffic Measurement

What does it do?

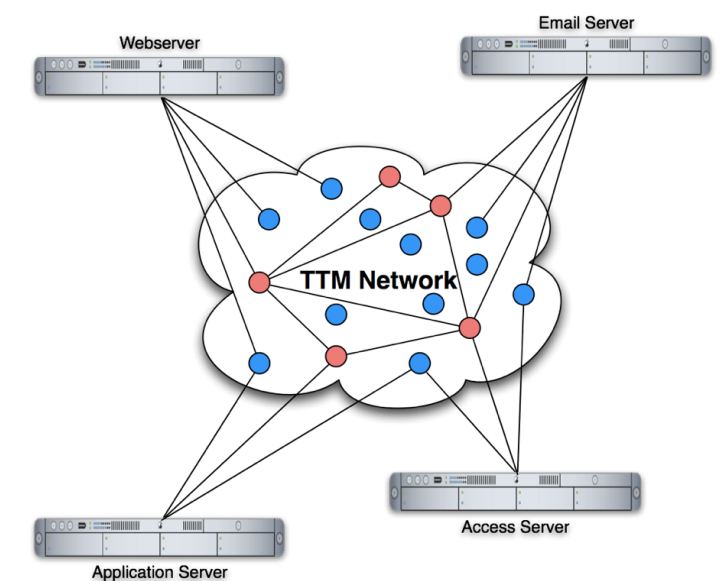
Traceroutes



One-Way Delay & Loss



Ad Hoc Measurements



TTM - Traceroutes

From tt146 to tt01, between **16/9/2008 2:0** and **16/9/2008 13:22**.

[\[Earlier\]](#) [\[Later\]](#)

- Example: Amsterdam - Moscow

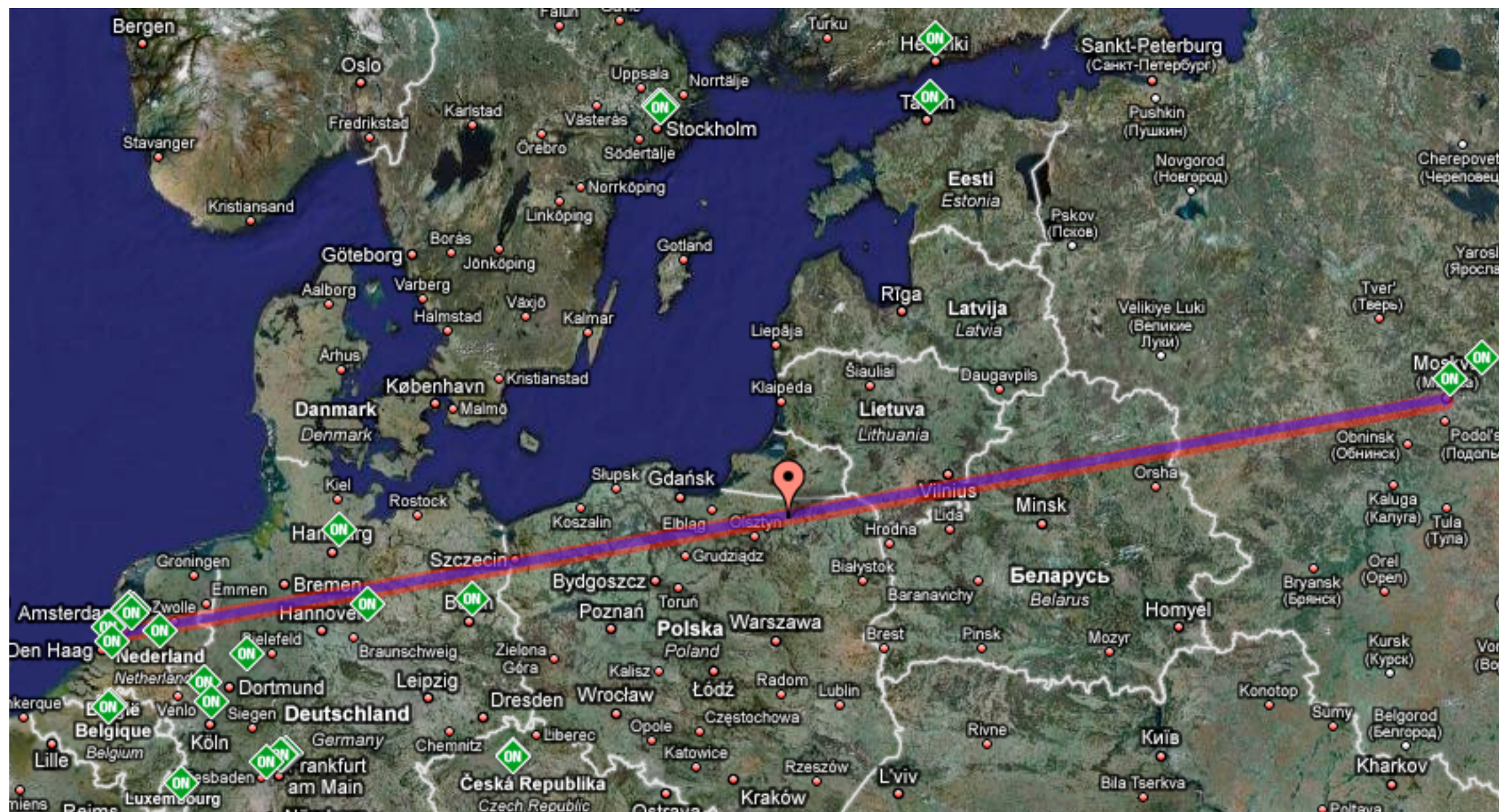
1. 193.233.1.70 (2895) [\[tt146\]](#)

2. 147.45.19.138 (2895)

3. 195.209.14.18 (5568)

4. 195.69.144.68 (1200/31283/16150/12989)

5. 193.0.0.228 (3333) [\[tt01\]](#)



TTM - Traceroutes

From tt146 to tt01, between **16/9/2008 14:9** and **17/9/2008 1:31**.

[\[Earlier\]](#)

- Example: Amsterdam - Moscow

1. 193.233.1.70 (2895) [\[tt146\]](#)

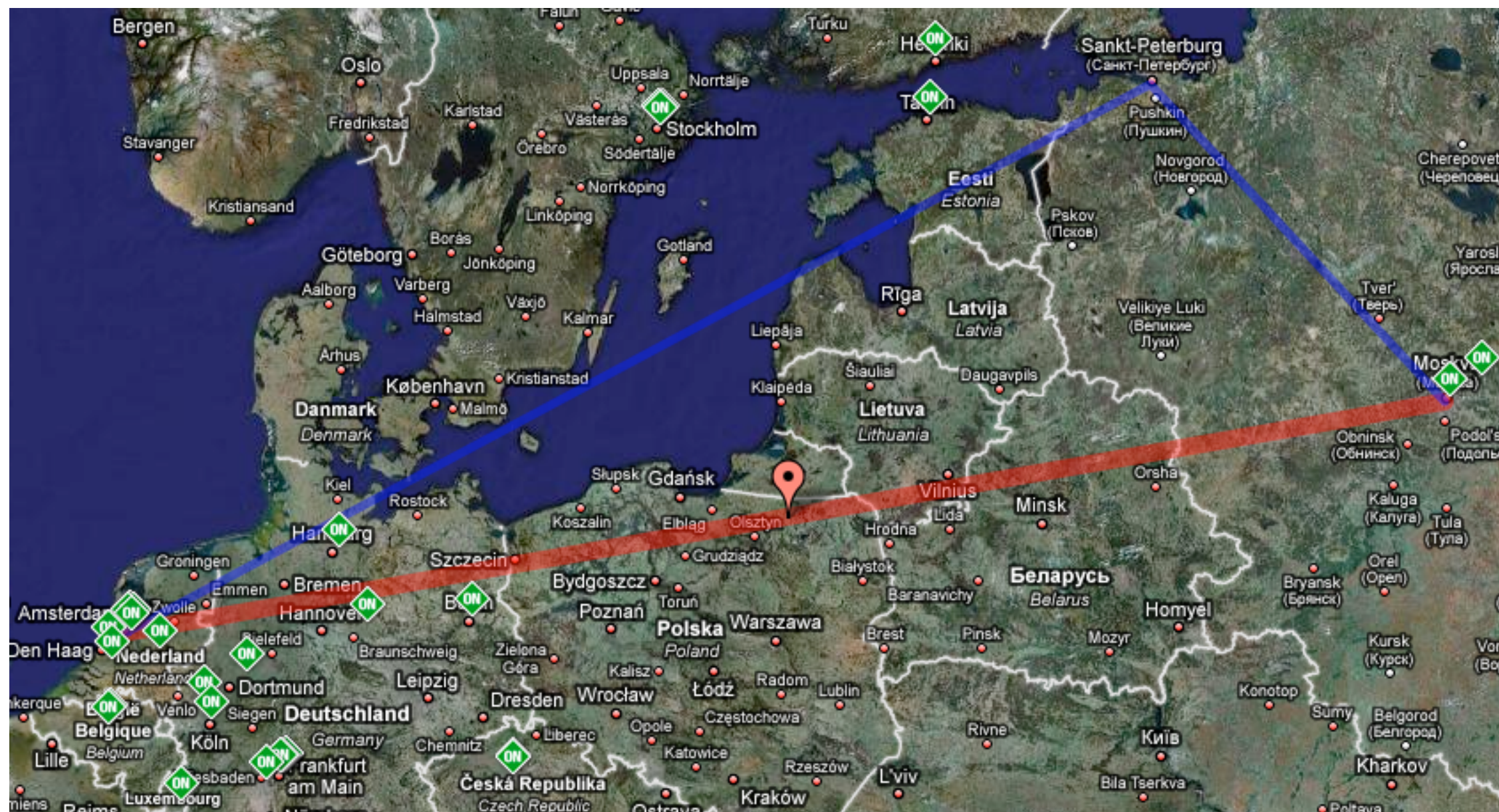
2. 194.190.255.53 (3267)

3. 194.85.40.201 (3267)

4. 194.85.40.237 (3267)

5. 195.69.144.68 (1200/31283/16150/12989)

6. 193.0.0.228 (3333) [\[tt01\]](#)





TTM - Traceroutes

• Example: Amsterdam - Moscow

Additional
Information

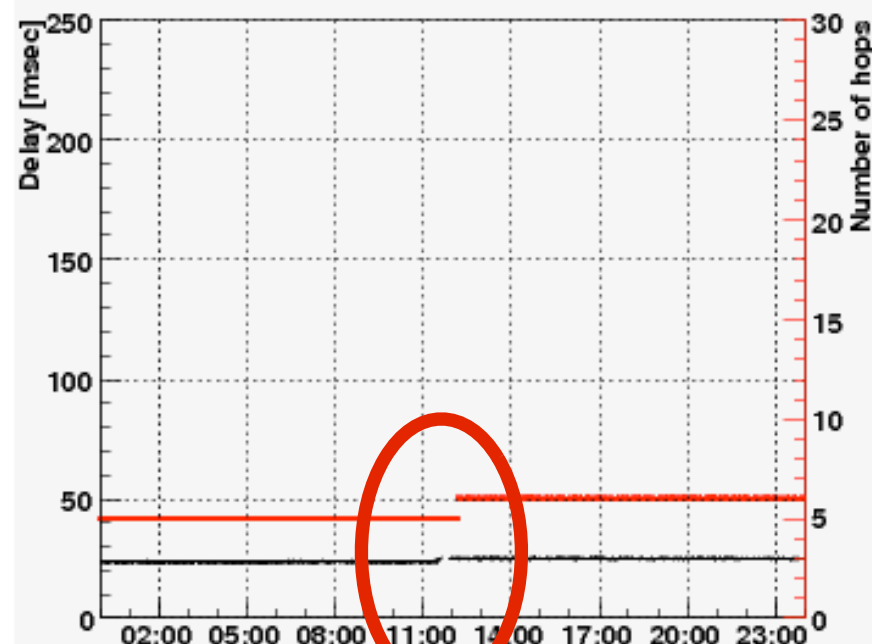
Dates	Route Id	Occurrences	Hop	IP Address	Host name	AS Num(s)
From 2008/09/16 00:00:39 To 2008/09/16 11:22:16	9655467	130	1	193.233.1.70	Moscow-BNS042-Gig0-1-341.free.net	2895
			2	147.45.19.138	RBNet-FREENet-8.free.net	2895
			3	195.209.14.18	AMS-RBNet-1.RBNet.ru	5568
			4	195.69.144.68	nikrtr.ripe.net	1200/31283/16150/12989
			5	193.0.0.228	tt01.ripe.net	3333

Dates	Route Id	Occurrences	Hop	IP Address	Host name	AS Num(s)
From 2008/09/16 12:09:33 To 2008/09/16 23:31:53	9292126	129	1	193.233.1.70	Moscow-BNS042-Gig0-1-341.free.net	2895
			2	194.190.255.53	ru-msk-gw.tv11.msk.runnet.ru	3267
			3	194.85.40.201	m9-1-gw.msk.runnet.ru	3267
			4	194.85.40.237	hikhef-1-gw.ams.runnet.ru	3267
			5	195.69.144.68	nikrtr.ripe.net	1200/31283/16150/12989
			6	193.0.0.228	tt01.ripe.net	3333

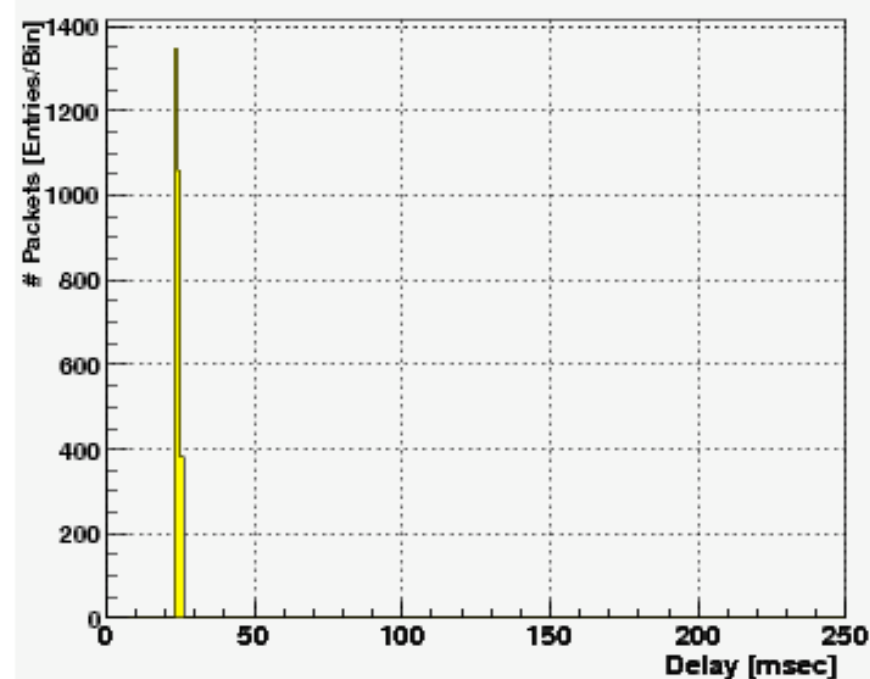
TTM - Delay & Loss

Delays from tt146 to tt01. Start: 2008-09-16 00:00 End: 2008-09-17 00:00 UTC

Packet Delay / Hopcount



Packet Delay



STATISTICS:

Delay & Hops:

Entries: 2787
 Overflow: 0
 Underflow: 0
 2.5 Perc: 23.4ms
 Median: 24.8ms
 97.5 Perc: 25.1ms
 Mean: 24.3ms
 RMS: 0.7ms
 Min. hops: 5
 Max. hops: 6

Packets Sent/Valid:

Total: 2832
 Valid: 2787 = 98.4 %
 Bad Sent: 0 = 0 %
 Bad Recv: 4 = 0.14 %
 2 Clocks bad: 0 = 0 %
 Lost: 41 = 1.4 %

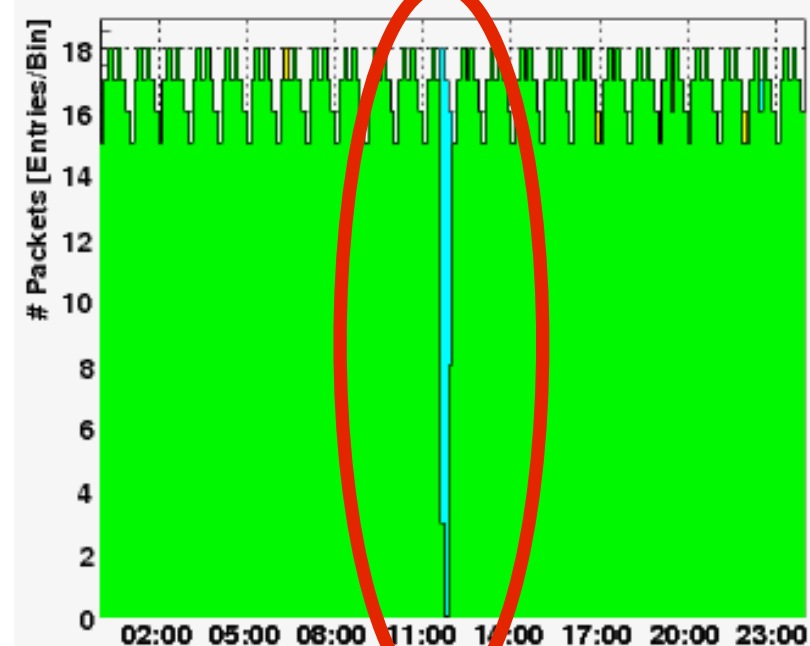
Packets lost:

2.5 Perc: 0.0%
 Median: 0.0%
 97.5 Perc: 0.0%
 Uptime: 100 %

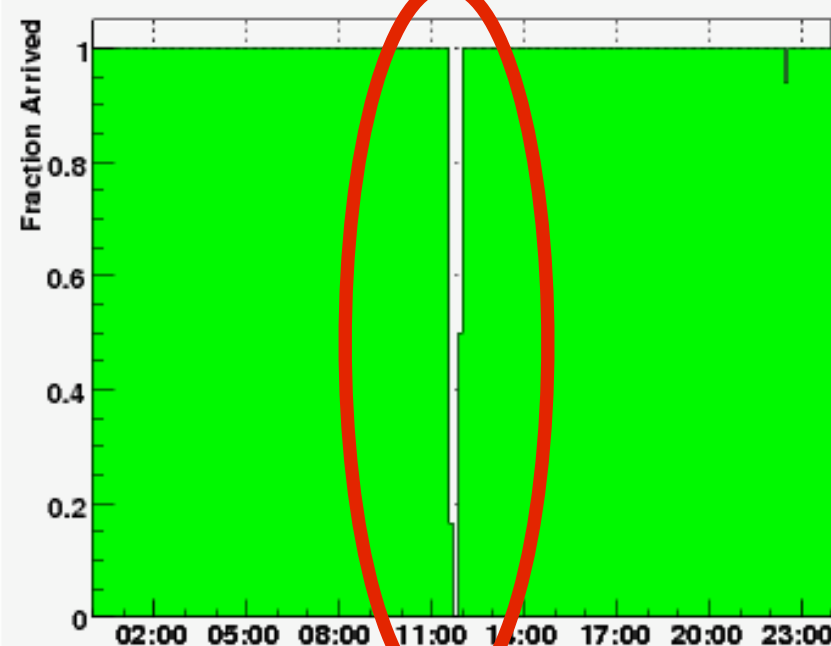
Over-all statistic:

Time period: 1 day
 Number of routing
 vVectors: 2
 Flaps: 1
 Number of bins: 168
 Minutes/bin: 8.57

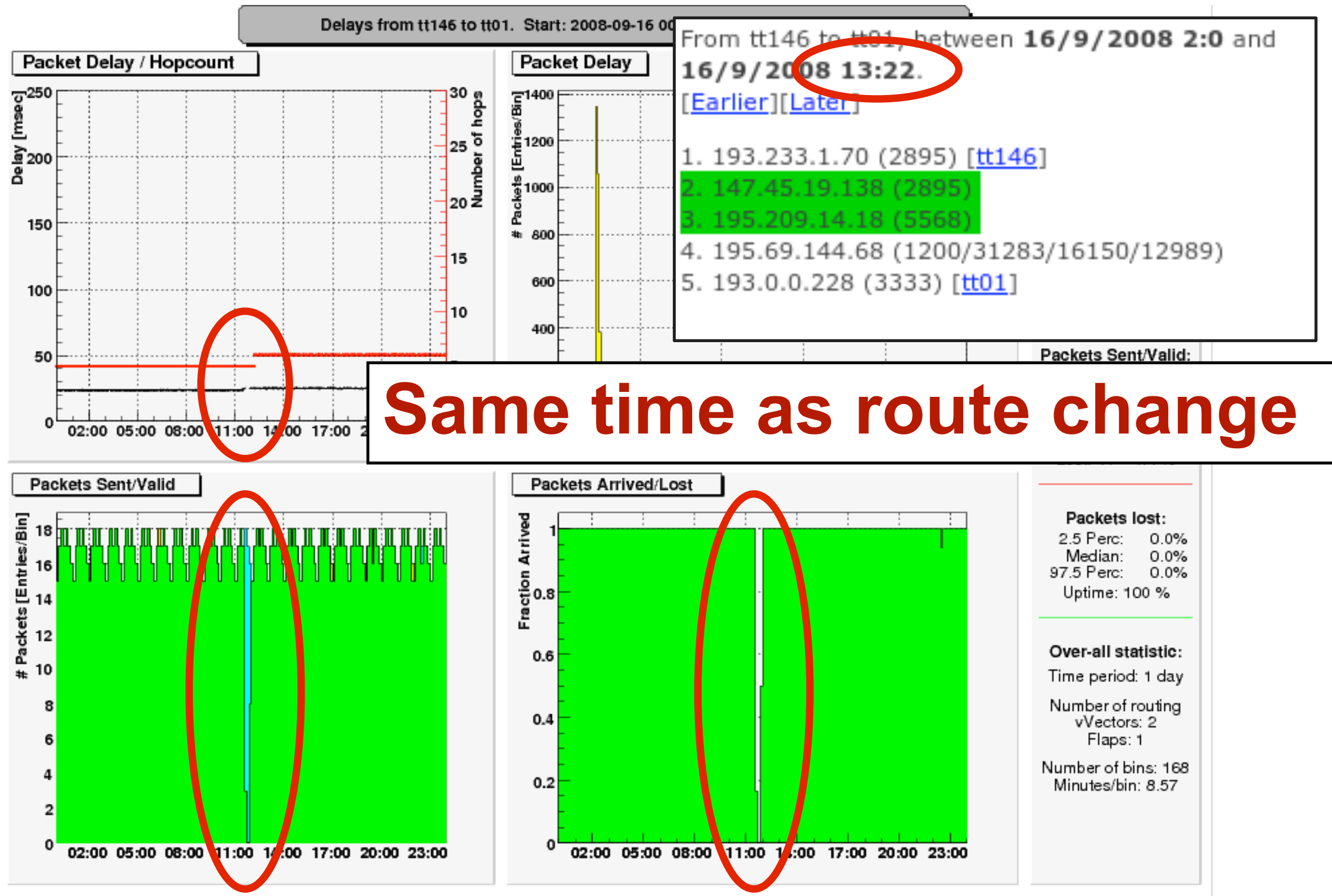
Packets Sent/Valid



Packets Arrived/Lost



TTM - Delay & Loss

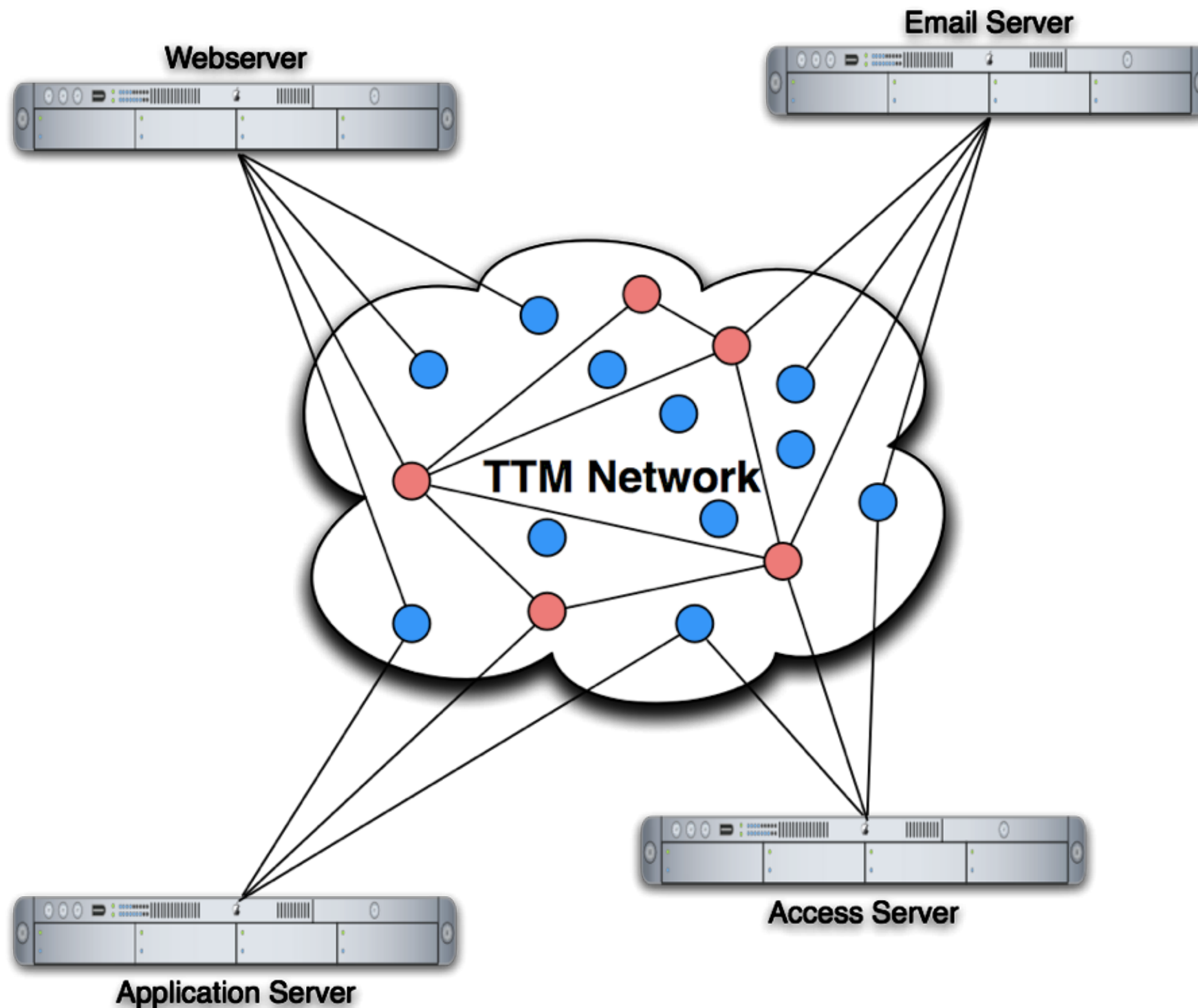




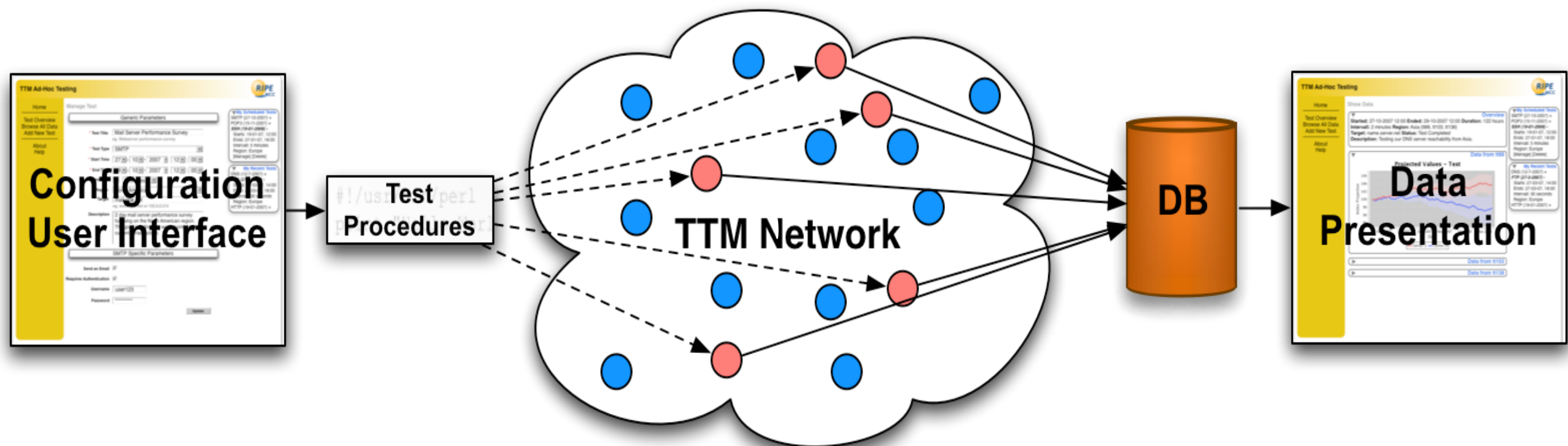
TTM - Use Cases

- Demonstrate network reliability to your stakeholders
- Efficiently pin-point and troubleshoot problems
- Discover and analyse asymmetric effects in your network's connectivity
- Continuous measurements
 - Historic data back to 1999
 - Measurements are there whenever you need them

Ad Hoc Measurements

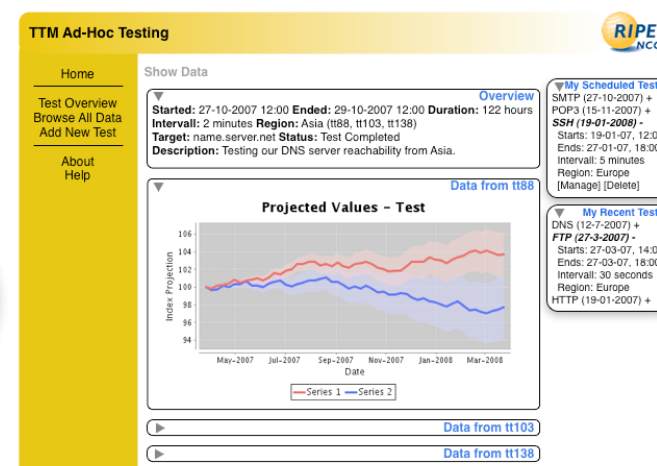
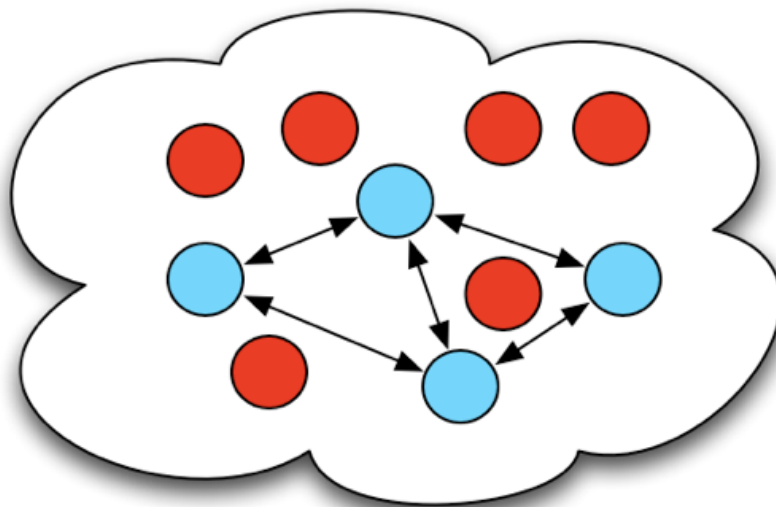
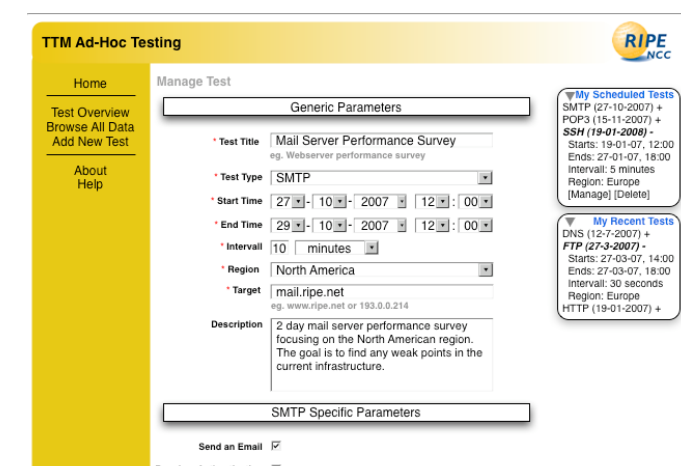


Ad Hoc Measurements



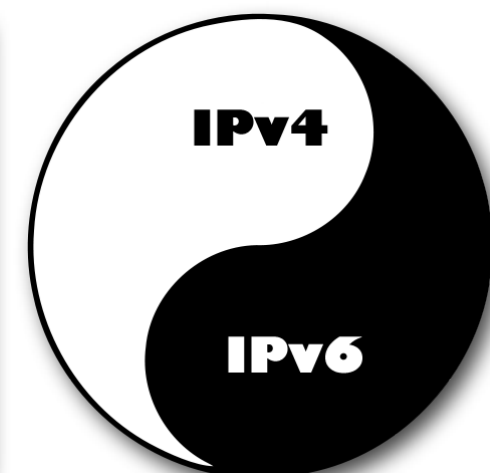
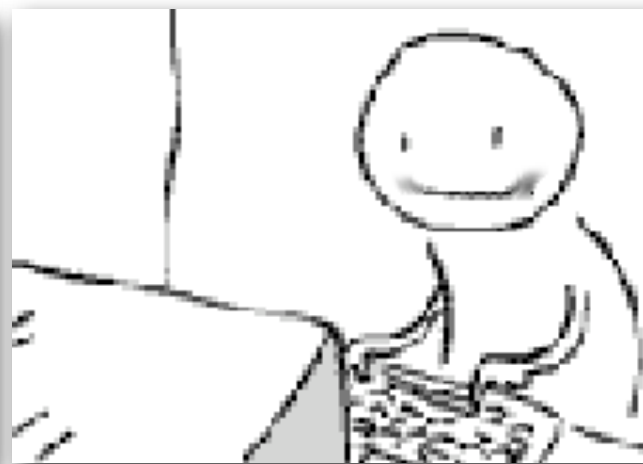
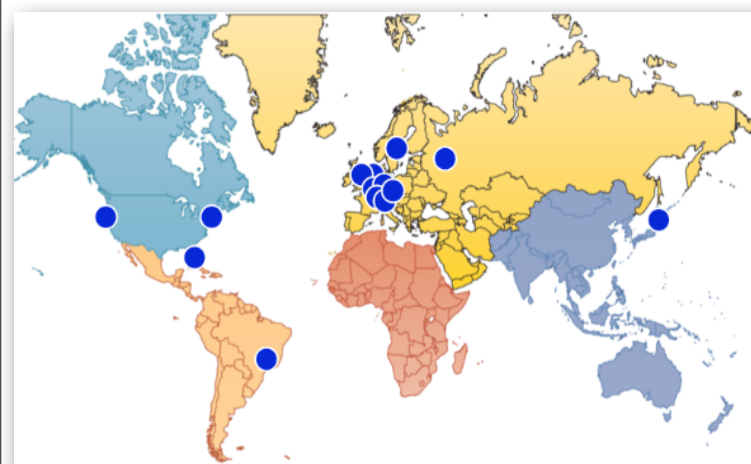
Ad Hoc - Features

- Framework to run a variety of measurements on the TTM network
- Ability to easily extend to new protocols through a plug-in system
- Configuring custom subsets of TTM nodes on which experiments are executed (Custom Meshes)
- Maintaining a common look and feel for users

Ad Hoc - Use Cases

- See how your services perform around the world
- Study effects of system maintenance
- Debug network problems in real time
- Compare performance of different protocols
 - Example: IPv4 & IPv6





Ad Hoc Measurements

General parameters

Test Title:

Eg. Webserver performance survey

Test Type:

Select a test type.

Timezone:

Select timezone

Start time: at

Eg. 25/12/2012 and 10:55

End time: at

Eg. 26/12/2012 and 12:35

Interval:

Select a test interval.

Region:

Select a region.

Description:



General parameters

The general parameters are used to describe the scope of an experiment and are the standard parameters for all test types.

Start and end time specify the time frame of an experiment and the interval sets the time in between measurements. The region allows you to geographically scope your experiment. Selecting a region will prompt the system to choose available testboxes in that area.

Http Plugin Specific Parameters

URL (http://*/*):

Use IPv6: ☒



Generic Measurements

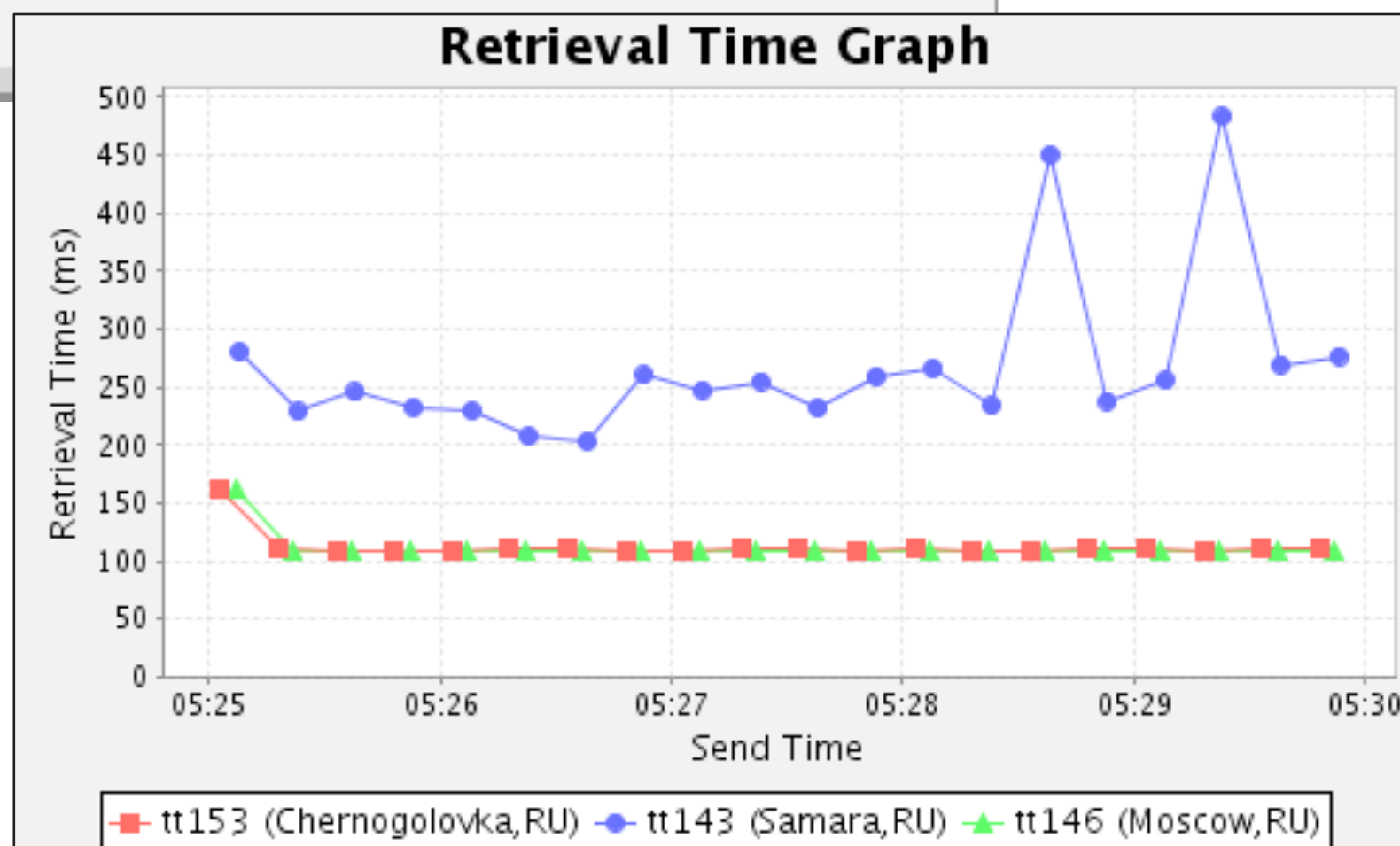
Overview

Started: 23/09/2008 07:25 CEST Ended: 23/09/2008 07:30 CEST Interval: 15 s Region:

URL (http://*/): http://www.ripe.net/ Use IPv6: 0

TTM Boxes: tt153 tt143 tt146

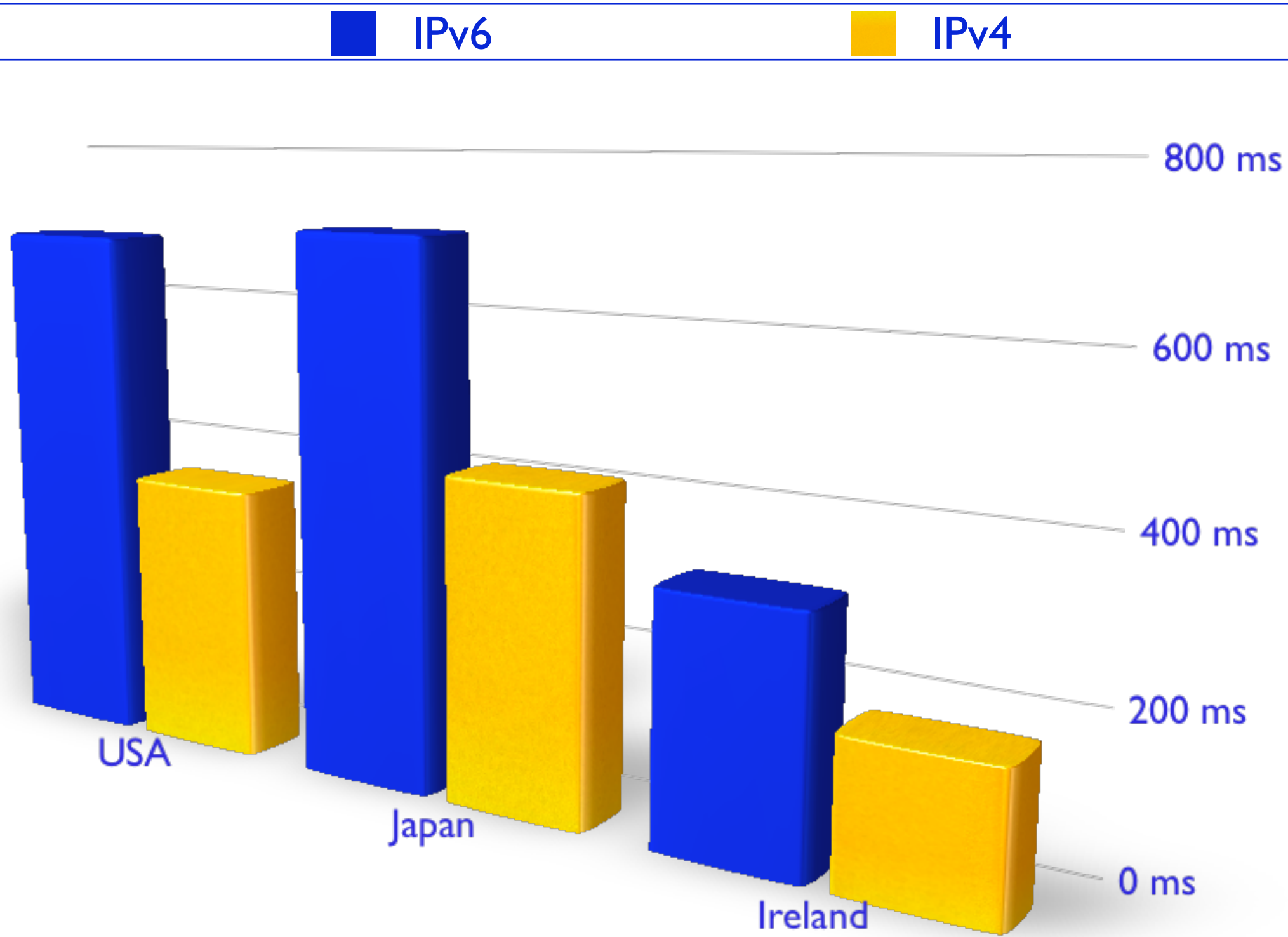
Description:



TTM Box	Send Time	Retrieval Time (ms)
tt153 (Chernogolovka, RU)	2008-09-23 05:25:03.0	161.539
tt146 (Moscow, RU)	2008-09-23 05:25:07.0	161.309
tt143 (Samara, RU)	2008-09-23 05:25:08.0	280.477

[Download CSV](#)

Comparison - RIPE NCC Website





Generic Measurements

DEMO

Showing Ad Hoc Measurements.



Take part in TTM!

- Sign up at <http://www.ripe.net/ttm/>
- Cost:
 - 1800 Euros / Year
 - or
 - 5000 Euros for 3 years
- Includes:
 - All hardware + shipping
 - Maintenance and support of hardware and software
 - Access to all tools and features
 - Future software updates

A look inside the box



10 μ s accuracy

1000 μ s $\approx$ camera flash

Stratum 1 NTP Server!



Get in touch with us

- More information: <http://www.ripe.net/ttm>
- Technical contact: is-ops@ripe.net
- Or email me directly: franz@ripe.net
- Visit our Demo Stand!

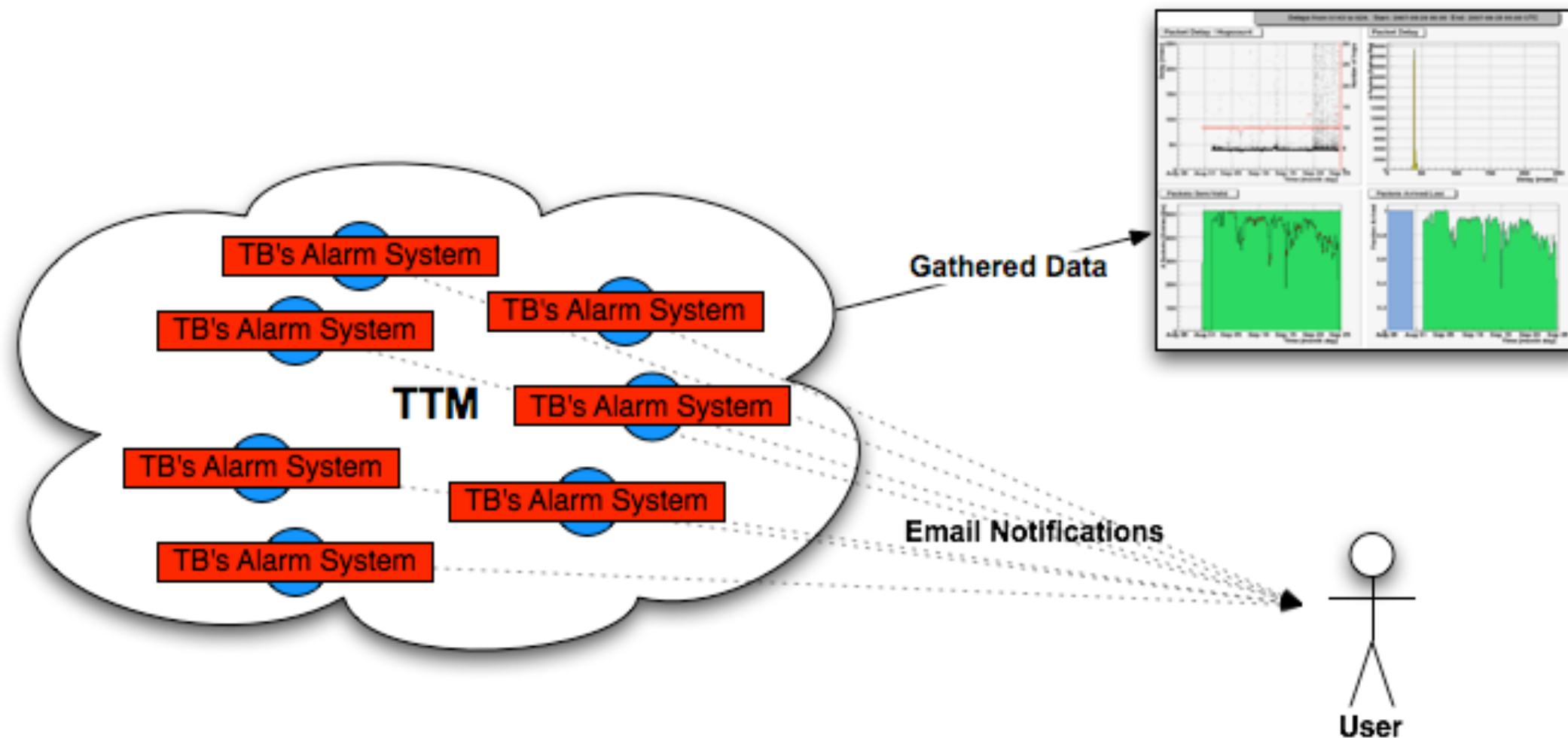
One More Thing!

Alarms



Alarms in TTM

A Bit Painful ...



... we've got something new!

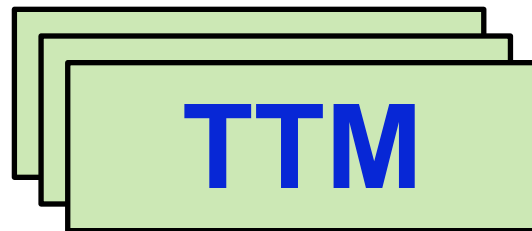
Alarms - Innovation

Innovative three-stage System



Alarms - Example

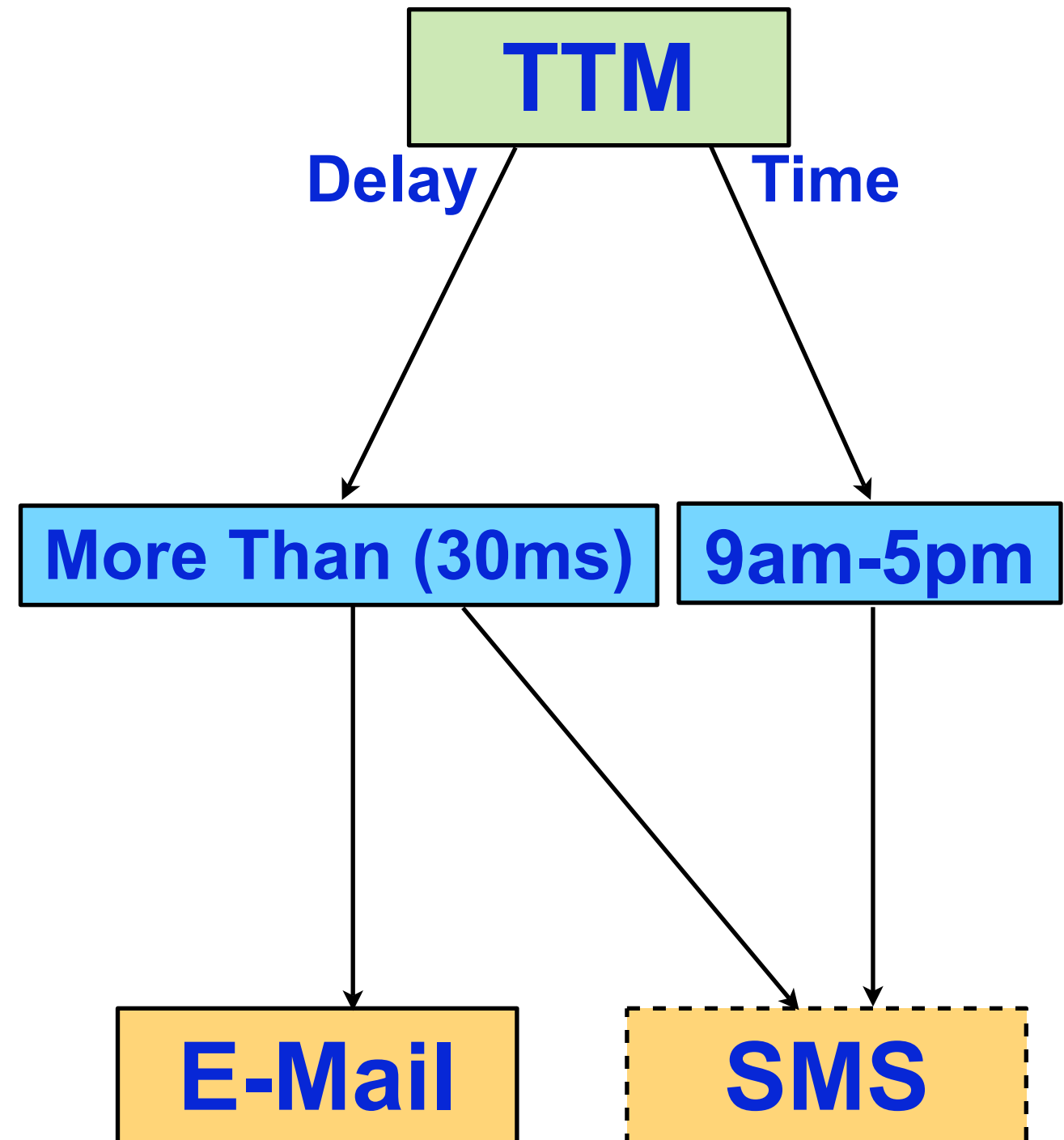
Input



Filter



Output





Alarms

- Unified alarm system for all Information Services
 - Now supports RIS & DNSMON, TTM will follow
 - Full IPv6 support
 - Possibility for new notification (SMS, Jabber, etc.)
 - Much improved response time
- Available at:
 - <http://www.ripe.net/is/alarms>
- Migrate old accounts (for MyASN & DNSMON users):
 - <http://www.ripe.net/is/security/migrate/>

Questions? Comments?

