



RIPE NCC Information Services

Tools for Network Operators

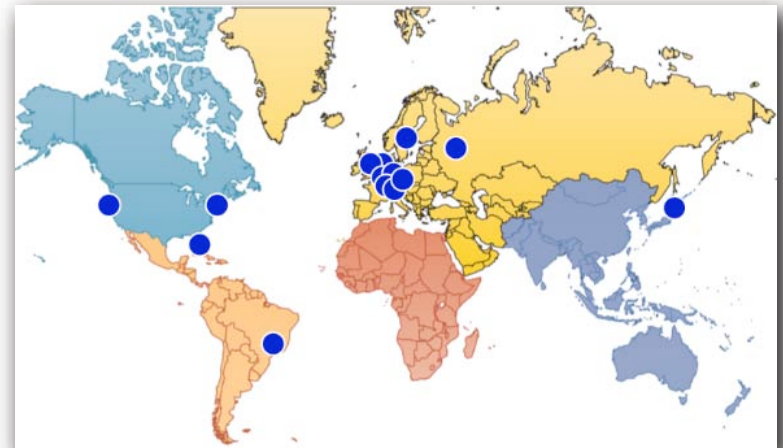
Mark Dranse, markd@ripe.net

Information Services Manager
RIPE NCC



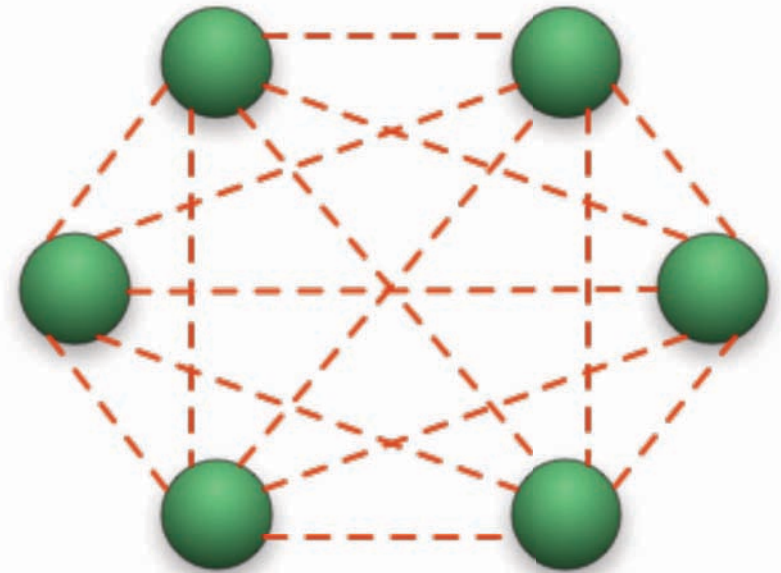
RIPE NCC Information Services

- Measurement network
 - Full mesh ~80 nodes
 - Hosted by ISPs
 - Applications include TTM, DNSMON, Ad-hoc
- Routing Information Service (RIS)
 - Collects BGP data
 - ~600 peers
 - 16 Internet Exchange Points
 - <http://www.ripe.net/ris>



Measurement network

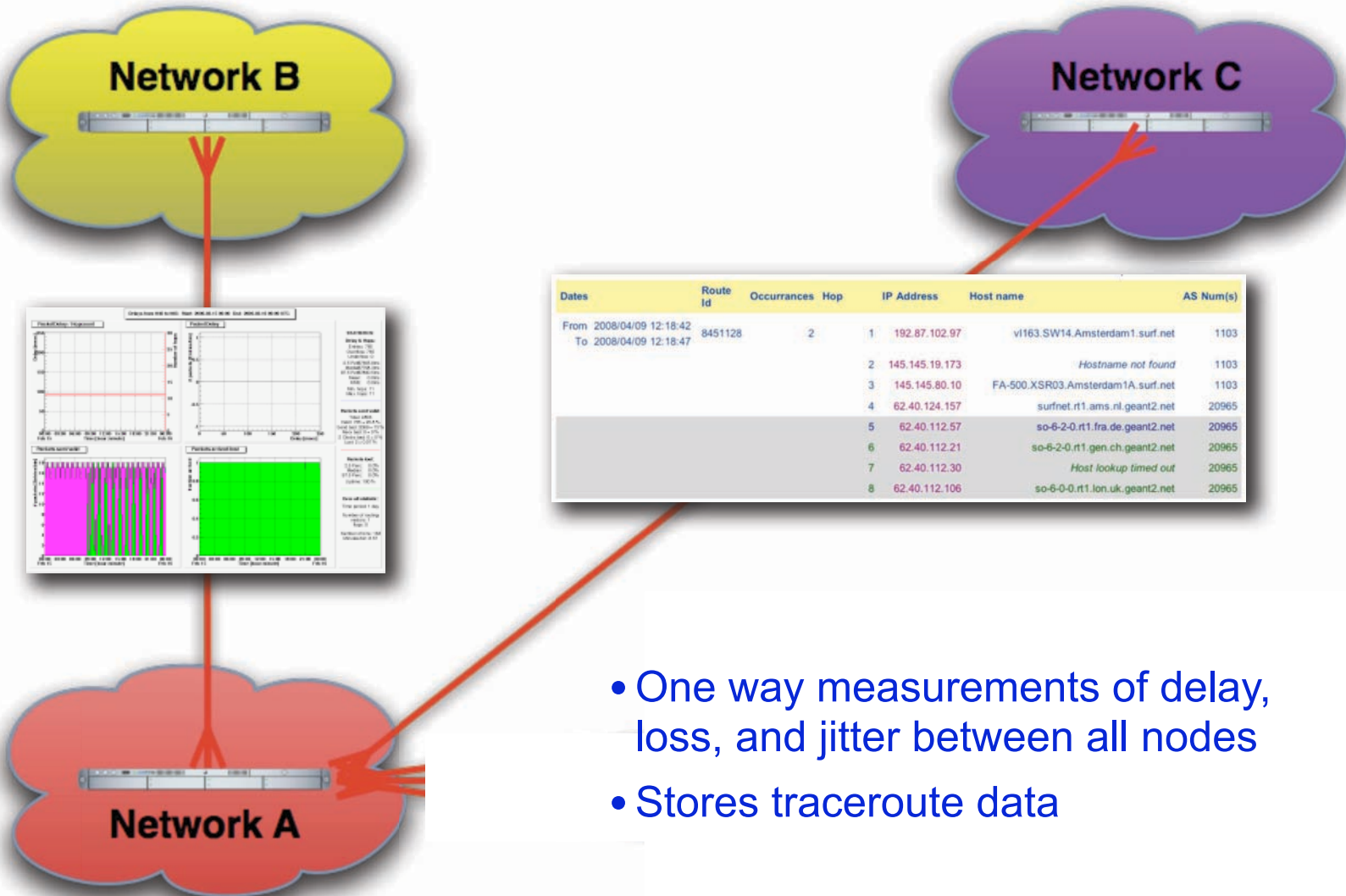
- Uses GPS for accurate timing (providing a local stratum-1 NTP server)
- Data freely available (subject to AUP)
- Lightweight and flexible, run many apps



Measurement network



TTM - Test Traffic Measurements



- One way measurements of delay, loss, and jitter between all nodes
- Stores traceroute data

Traceroute database



Test Traffic Measurements

[Test Traffic Home Page](#)

Test Traffic Measurement

Query Traceroute Database [tt26 - tt120]

SRC:

DST:

Start Date Start Time UTC Resolve IPs yes no

End Date End Time UTC Sort on

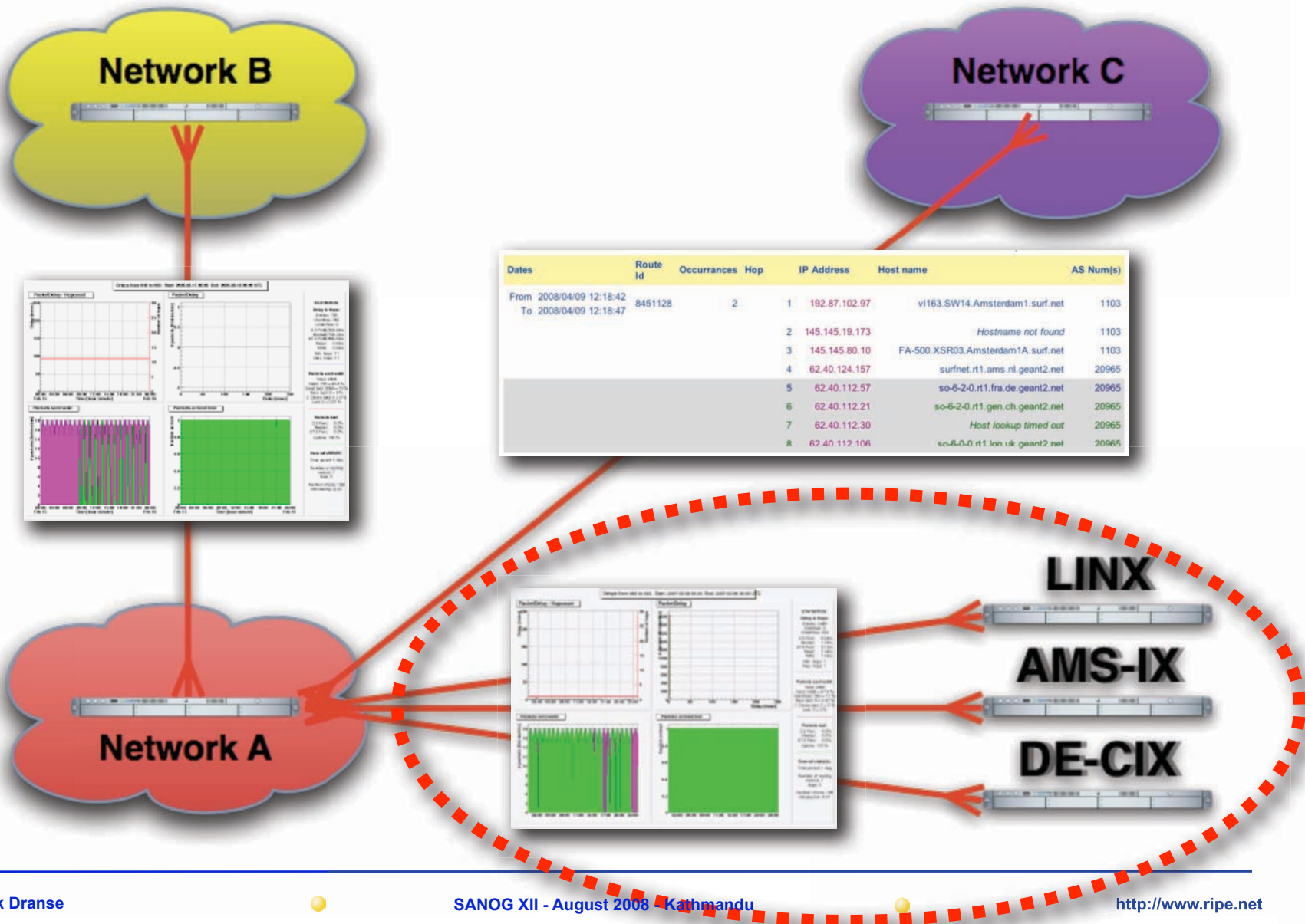
Traces in IP AS For IPv4 IPv6 test traffic Show diffs yes no

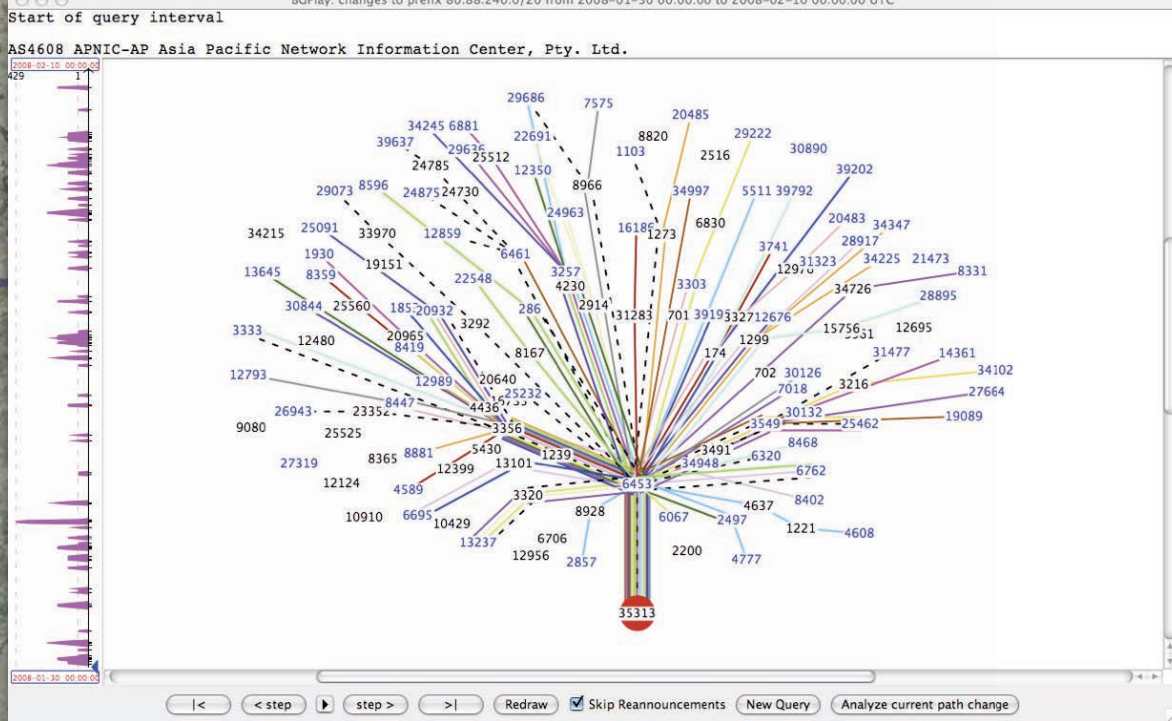
[[See delay or jitter plots for this time period](#)] [[swap source and destination](#)]

Click [here](#) for an explanation regarding the Query Traceroute Database CGI, or go to the [legend](#) instead.

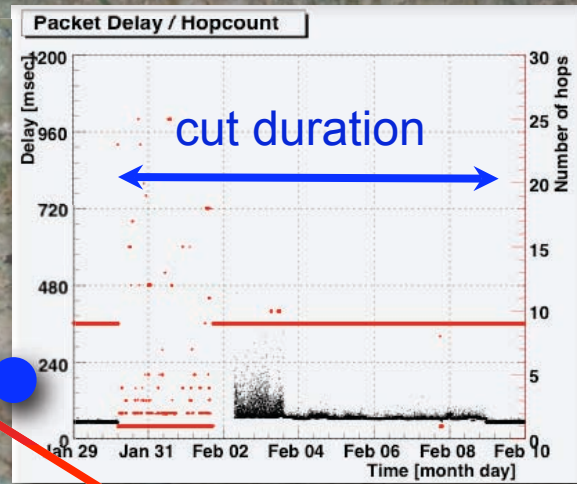
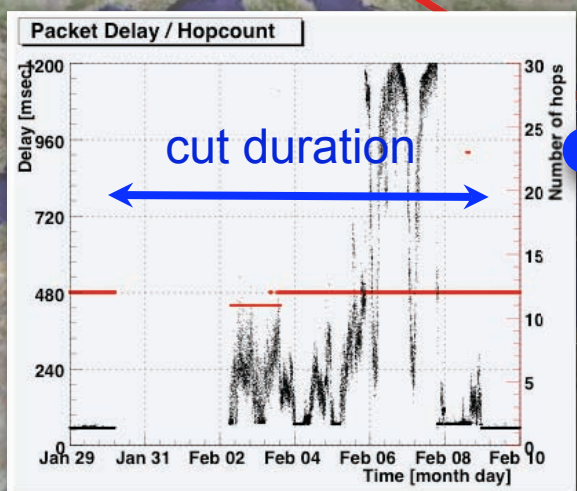
Dates	Route Id	Occurrances	Hop	IP Address	Host name	AS Num(s)
From 2007/07/07 01:03:54 To 2007/07/30 23:43:16	4588612	5630	1	195.66.248.73	e3-1.tr3.tcm.linx.net	5459
			2	195.66.248.125	g0-1.pr2.tcm.linx.net	5459
			3	195.66.226.61	fe1-1-nom-col2.nominet.org.uk	5459
			4	213.248.206.227	host-213-248-206-227.nominet.org.uk	8683

TTM - Test Traffic Measurements



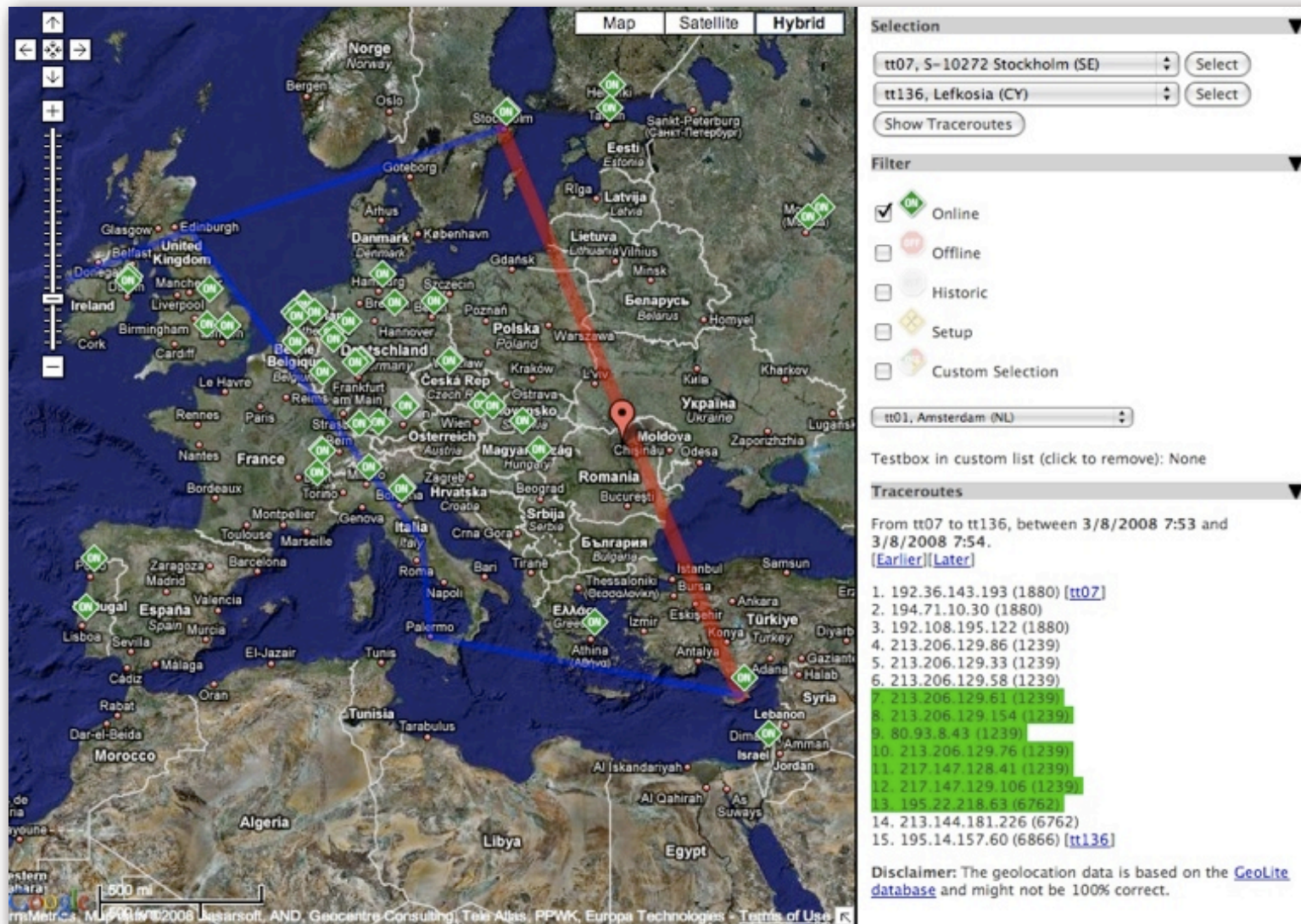


NCC
Amsterdam

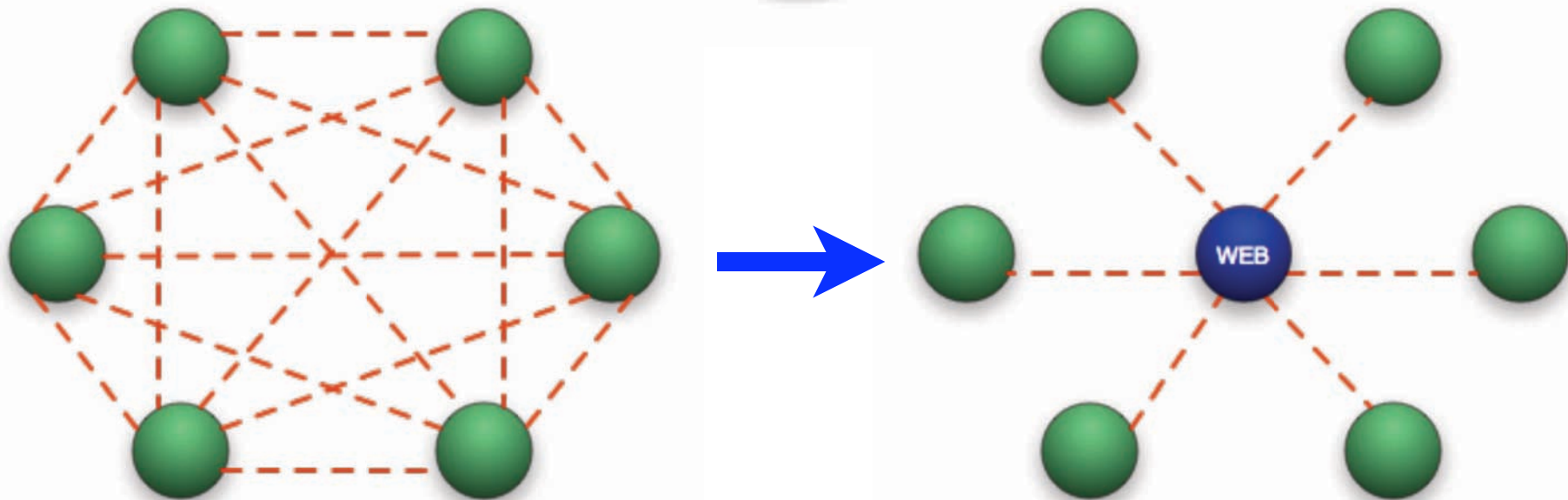
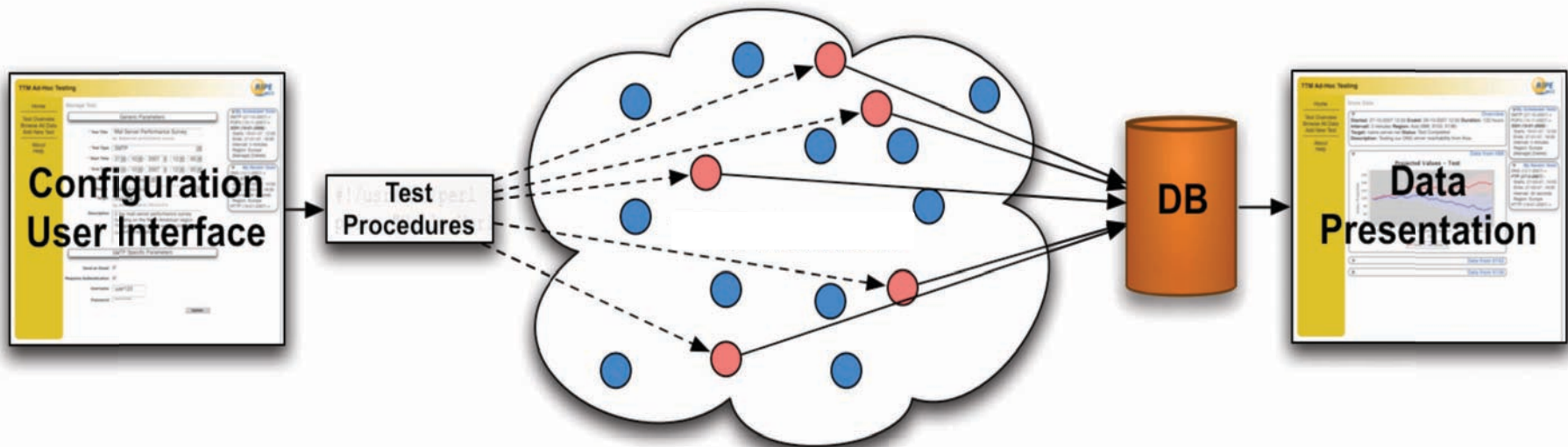


Manama
Bahrain

Visualisation



Ad-Hoc tests





Ad-Hoc tests

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 chose available testboxes in that area.

Http Plugin Specific Parameters

URL (http://**):

Use IPv6:

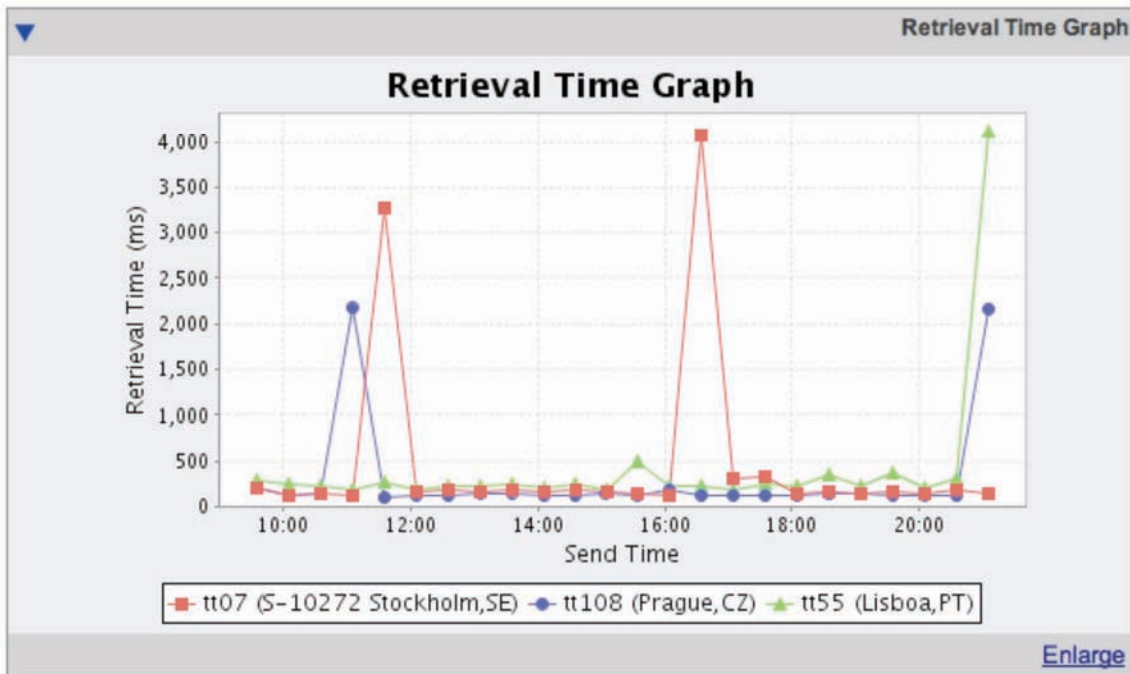
Test output

Overview

Started: 05/05/2008 11:35 CEST Ended: 05/05/2008 23:25 CEST Interval: 30 m Region: Europe
 URL (http://*/): http://rosie.ripe.net/ Use IPv6: 0
 TTM Boxes: tt55 tt108 tt07
 Description:

Measurement technique

Downloads the configured webpage, checks for HTTP status "200 OK", and logs the time it took to retrieve it in ms. In case the status was not "200 OK" it will log 0.



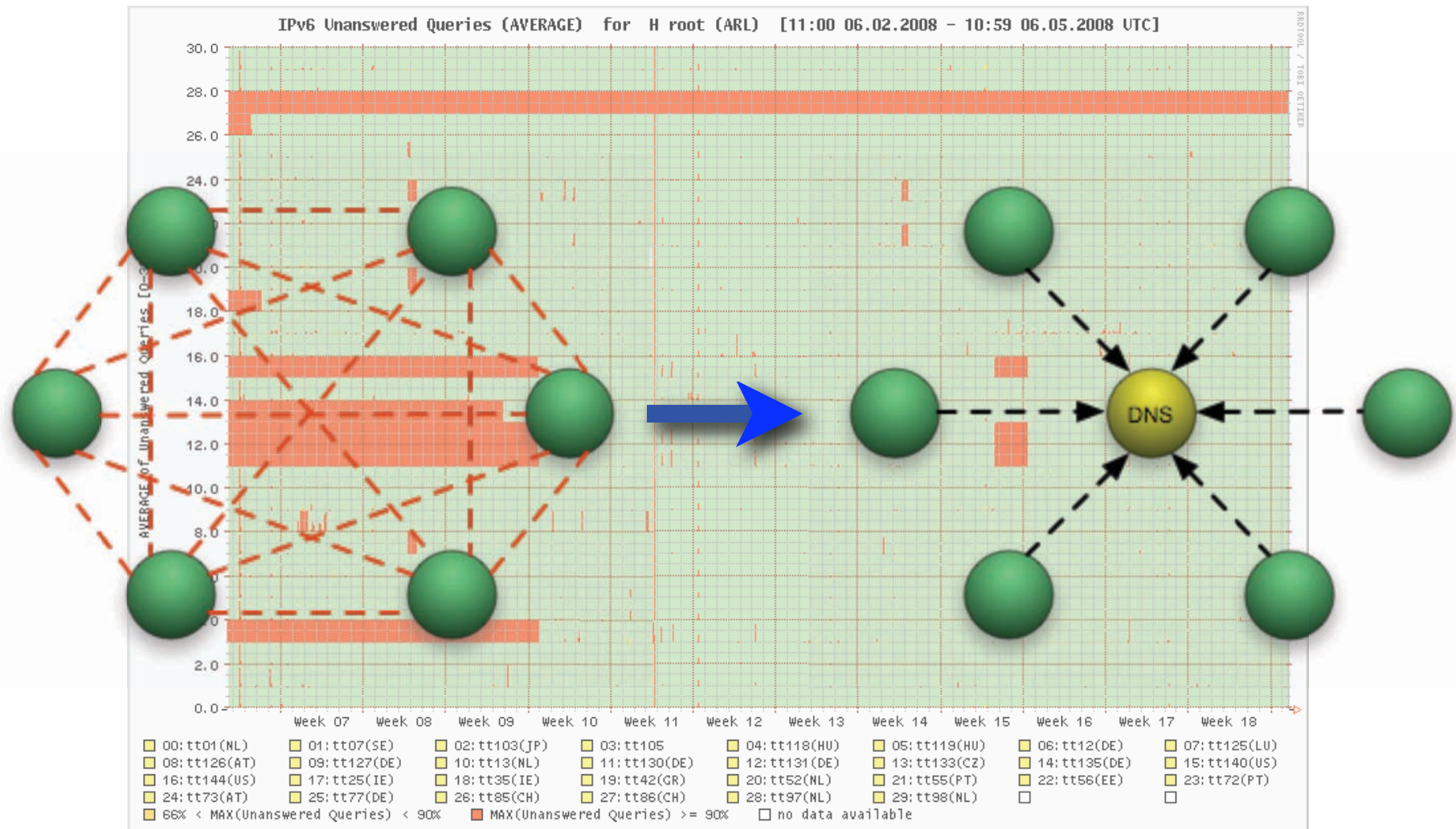
Test output

Round-Trip Delay Table		
TTM Box	Send Time	Round-Trip Delay (ms)
tt56 (Tallinn,EE)	2008-05-07 11:54:58.0	67.9739
tt144 (Redwood City, CA 94063,US)	2008-05-07 11:54:55.0	193.538
tt103 (Yokohama,JP)	2008-05-07 11:54:54.0	309.386
tt25 (Dublin 14,IE)	2008-05-07 11:54:53.0	66.097



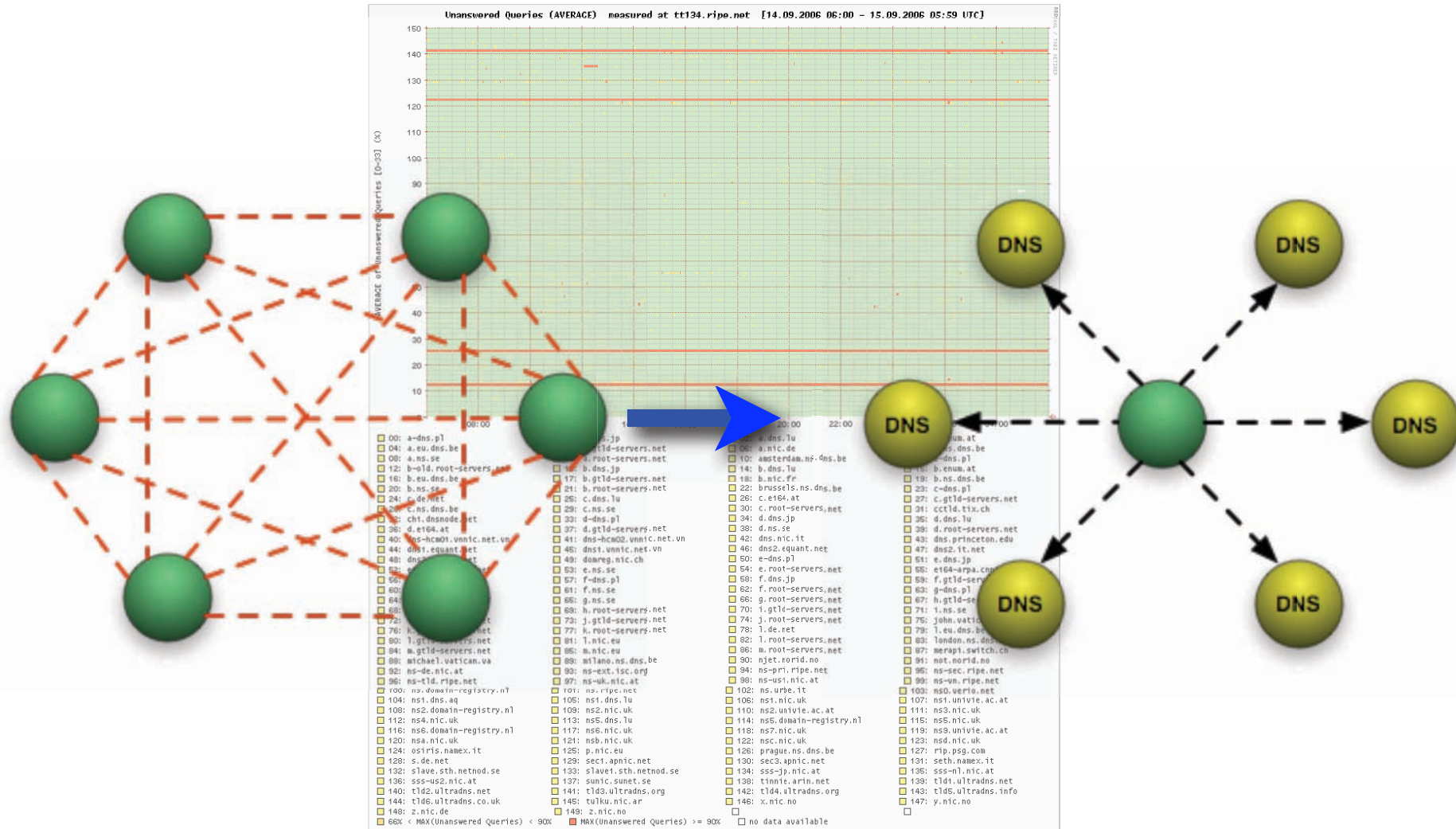
DNSMON

Monitors 200+ DNS servers (ccTLD/gTLD) worldwide



DNSMON

View of connectivity of a probe



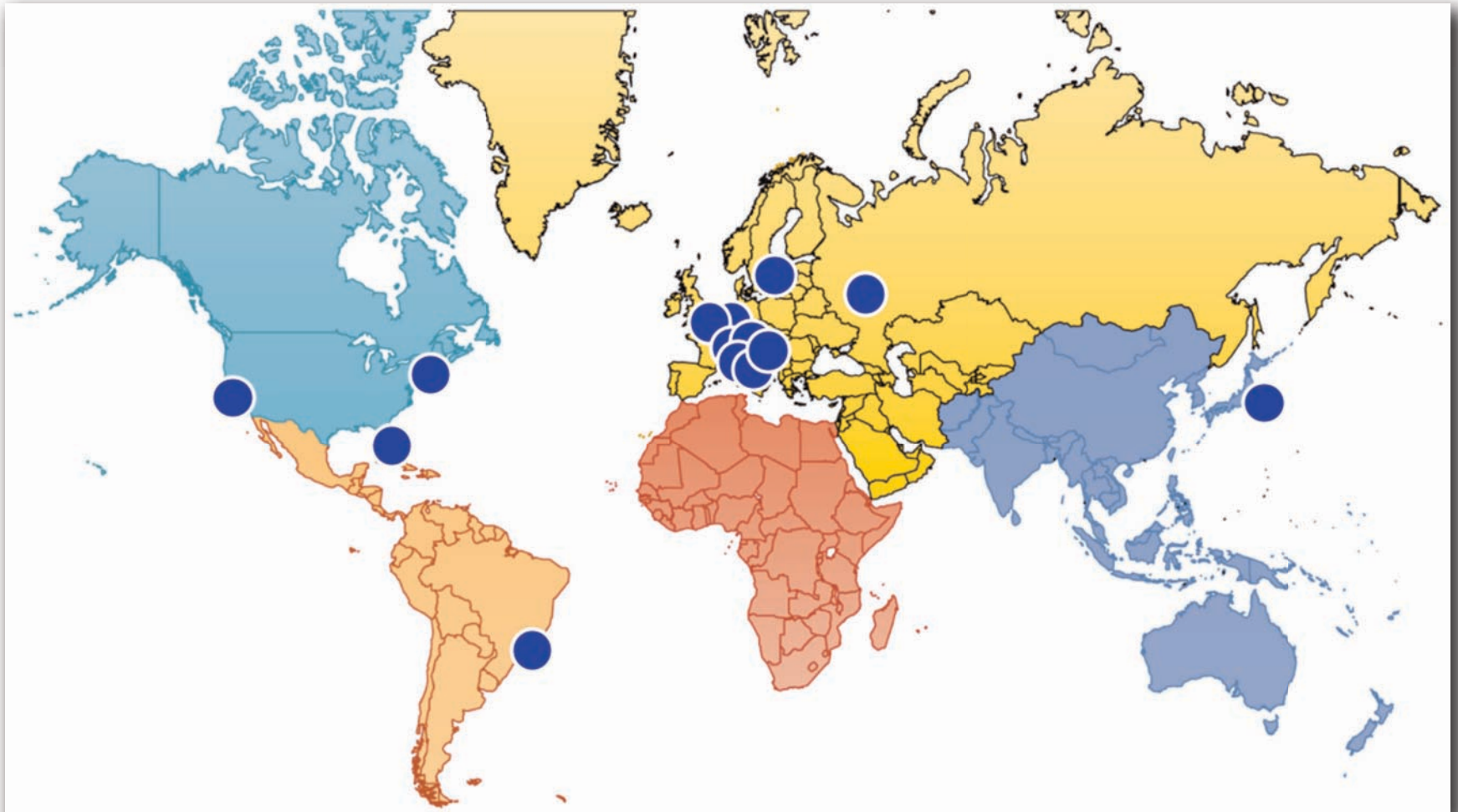


Routing Information Service - RIS

- Looking glass with history
- Collects routing information (BGP)
 - AS12654 has 600 peers
 - 15 Remote Route Collectors (RRCs) at IXPs
- 3 months live data searchable online
 - Powerful query tools
- All raw data available to everyone

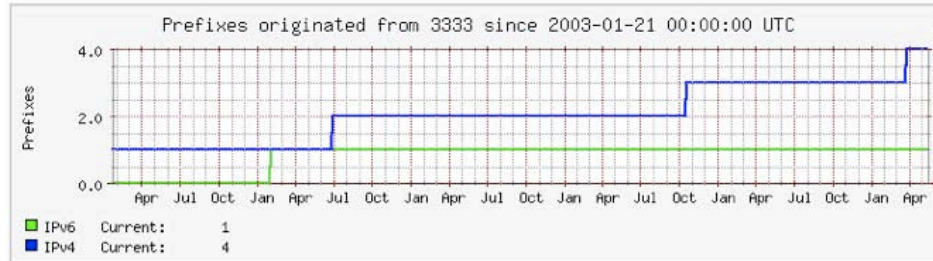
<http://www.ripe.net/ris>

RIS - Remote Route Collectors (RRCs)

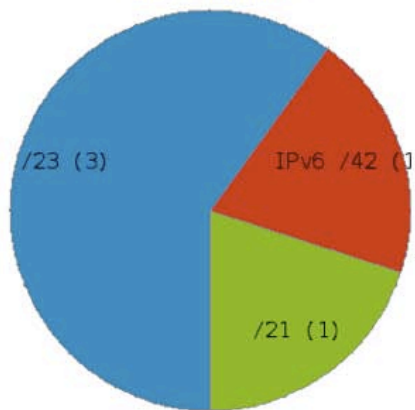


RIS - AS Dashboard

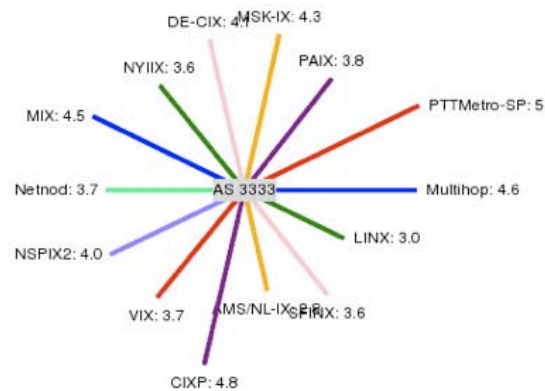
Overview **Prefixes** Transits AS path lengths Whois Former bogon filtering Update graphs



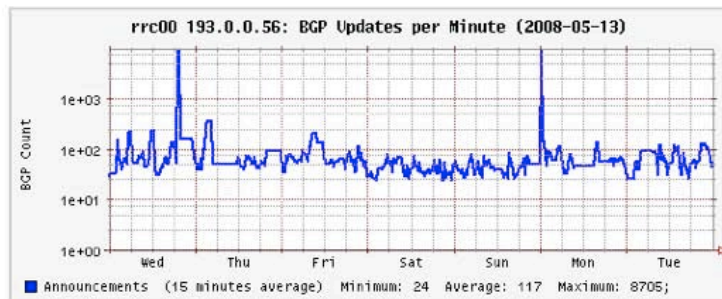
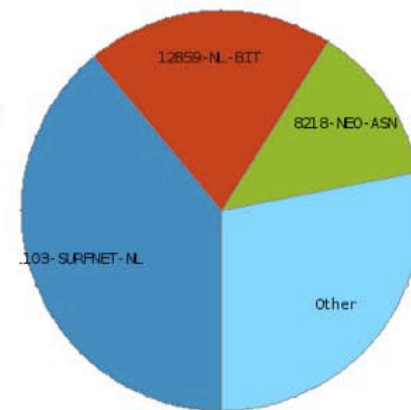
Prefix size distribution



Average AS path length to each collector



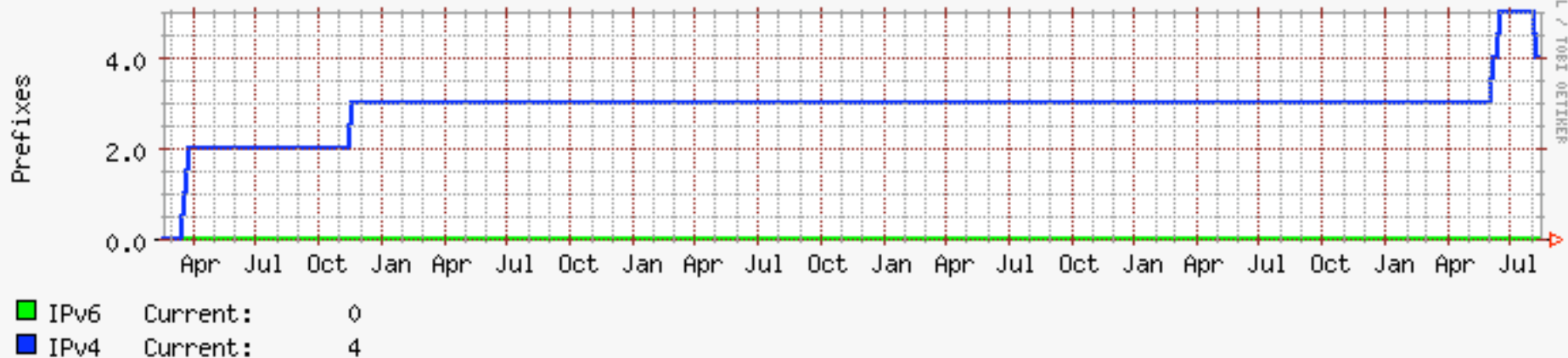
Transits distribution





RIS - AS dashboard - Infocom Nepal

Prefixes originated from 18395 since 2003-02-17 00:00:00 UTC



<u>Prefix</u>	<u>Size</u>	<u>Last seen</u>	<u>First seen</u>	<u>Whois</u>	<u>Registry</u>	<u>Peers seeing</u>
203.78.168.0/22	22	2008-08-13 04:04:39 UTC	2008-06-18 08:35:13 UTC	W	APNIC	140
203.78.160.0/22	22	2008-08-06 03:05:56 UTC	2003-03-26 12:15:02 UTC	W	APNIC	140
203.78.168.0/24	24	2008-08-13 04:36:20 UTC	2003-03-19 11:15:03 UTC	W	APNIC	128
203.78.160.0/21	21	2008-08-13 00:33:12 UTC	2003-11-17 10:27:16 UTC	W	APNIC	140
203.78.163.0/24	24	2008-08-13 04:35:26 UTC	2008-06-05 15:45:16 UTC	W	APNIC	119

RIS - AS dashboard - Infocom Nepal

ASK-IX: 7.0

DE-CIX: 6.7

PAIX: 5.6

NYIIX: 6.0

MIX: 6.7

PTTMetro-SF

2-NPTELECOM-NP-AS

17653-PCM-HK-A

0813-MOS-NP



RIS Tools

RIPE NCC

LIR Portal

RIPE

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Routing Information Service

Quick Links

GO

you are here: [home](#) -> [RIPE NCC Projects](#) -> [RIS](#)

RIS:

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- [Tools](#)
- [Statistics](#)
- [RIS Raw Data](#)
- [Documentation](#)
- [RIS Analysis Links Page](#)
- [Related Sites](#)
- [Contact Us](#)
- [Send Feedback](#)

Tools

RIS Status

- [RIS Status Overview](#) lists maintenance announcements, outages and the current RIS status

Querying the RIS for Data

- **RIS Dashboard:** Enter an ASN or prefix:
[See RIS dashboard](#) (New prototype tool)
- [BGPlay](#) visualises routing updates seen by the RIS
- [Search](#) allows you to search for RIS data for a specific prefix or Autonomous System (AS) (New version)
- [Looking glass](#) allows you to directly query our collectors
- [ASInUse](#) can determine whether an AS is currently in use on the Internet and list the peers that RIS can see
- [PrefixInUse](#) can determine when a prefix was last seen on the Internet and who originated it (New version)
- [RISwhois](#) searches the latest RIS data for details of an IP address. It is useful when querying RIS from scripts. This also has a [web interface](#)

Miscellaneous

- [MyASN](#) is a notification system for some types of rogue announcements of your address space
- [RIS Beacons](#) lists details of current beacon and anchor prefixes announced by RIS, including flapping times and a RIS database query matrix
- [De-Bogonising New Address Blocks](#) allows you to test reachability and view statistics for the visibility of new address blocks over the Internet

RELATED TOPICS

- [DNS Monitoring](#)
- [DISI](#)
- [K-root Name Server](#)
- [RRCC](#)
- [TTM](#)

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



RIS Tools - riswhois

```
% This is RIPE NCC's Routing Information Service
% whois gateway to collected BGP Routing Tables
% IPv4 or IPv6 address to origin prefix match
%
% For more information visit http://www.ripe.net/ris/riswhois.html
```

```
route:      195.66.224.0/19
origin:     AS5459
descr:     LINX-AS London Internet Exchange Ltd.
lastupd-frst: 2008-02-18 21:10Z 198.32.160.96@rrc11
lastupd-last: 2008-05-14 07:34Z 195.69.145.216@rrc03
seen-at:    rrc00, rrc01, rrc02, rrc03, rrc04, rrc05, rrc06, rrc07, rrc10, rrc11, rrc12, rrc13, rrc14, rrc15, rrc16
num-rispeers: 133
source:     RISWHOIS
```

Address or Prefix

All more specific matches
 All less specific matches

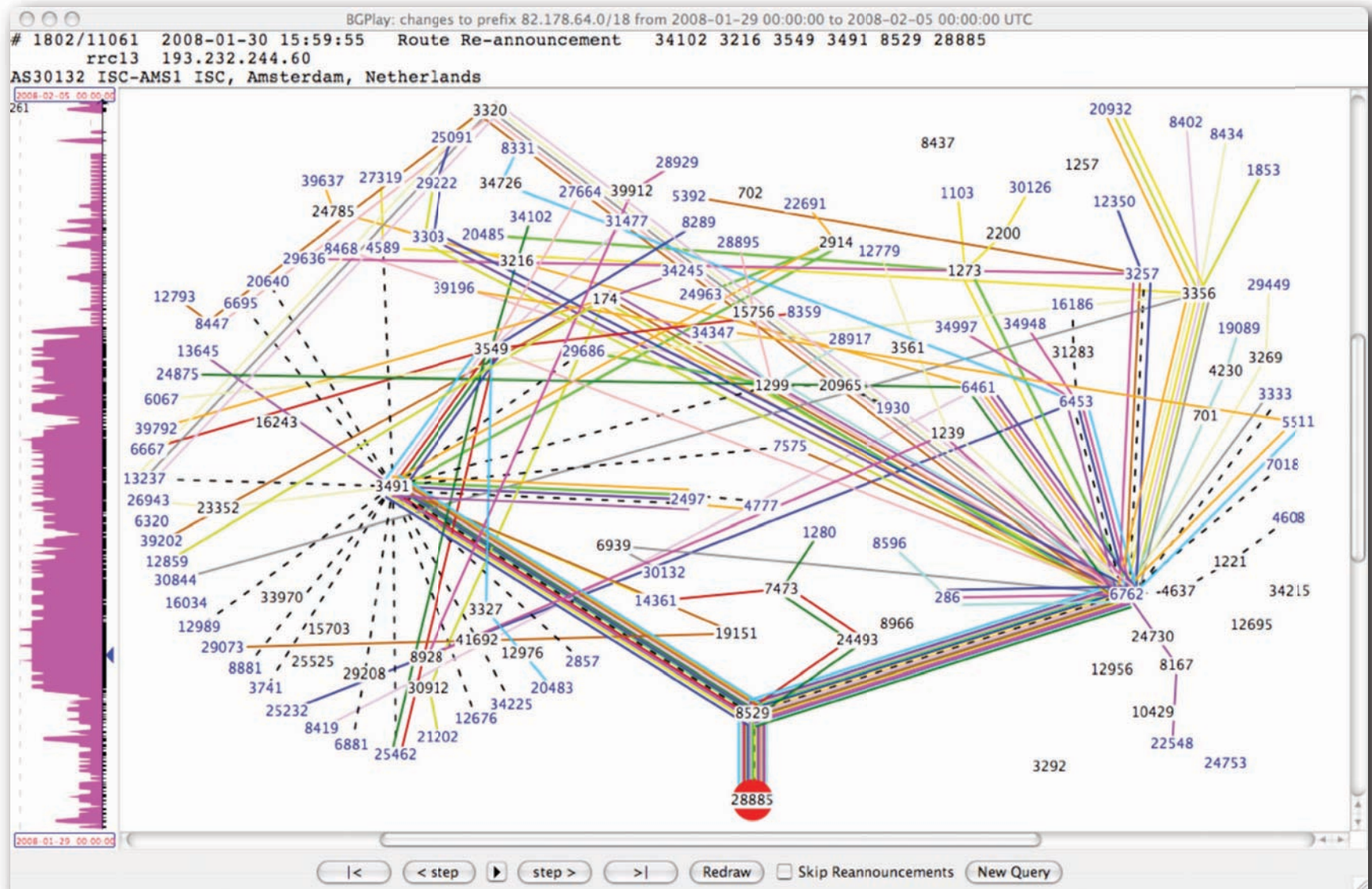
Exact match only

Short fast output

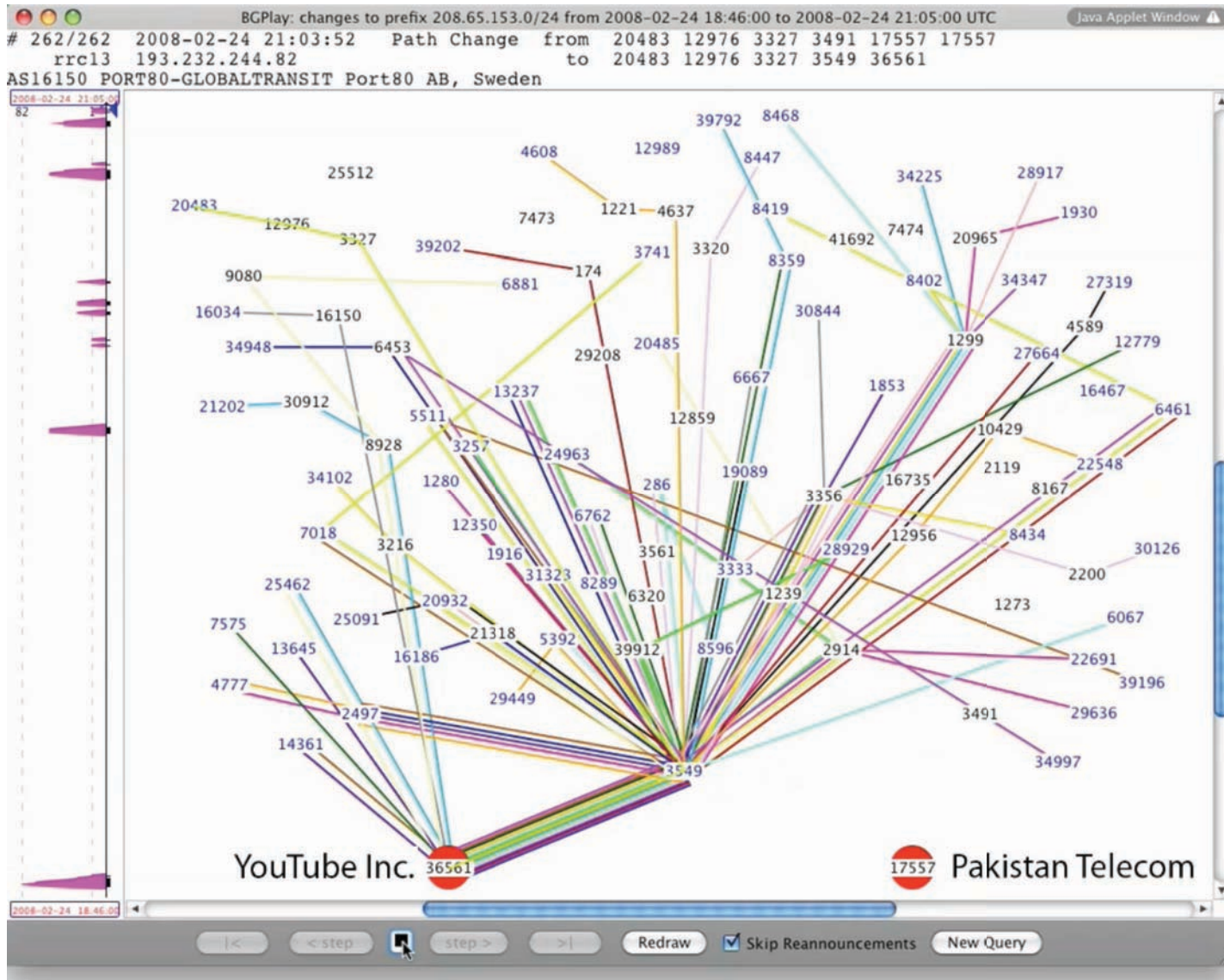
Return primary keys only

whois -h riswhois.ripe.net 195.66.224.0/23

RIS Tools - BGPlay



RIS Tools - BGPlay





MyASN - Creating Alarms

Create New Alarm

You are logged in as [mark] and you are editing 12654

[MyASN](#) » - Create New Alarm

Alarm type:	<input type="text" value="Origin"/>	Alarm group:	<input type="text" value="demo"/>
my AS Number(s):	<input type="text" value="2121"/>	Their AS Number(s):	<input type="text"/>
Prefix:	<input type="text" value="194.0.24.0/21"/>	Other upstreams:	<input type="text"/>
Prefix exceptions:	<input type="text"/>	Min Event Duration (MinED):	<input type="text" value="1m"/>
		Min Event Count (MinEC):	<input type="text" value="1"/>
		Alarm Detection Window (ADW):	<input type="text" value="1h"/>
AS path regular expression:	<input type="text" value="\b(2121)\$"/>		

Note about 4-byte ASNs: 4-byte ASNs **must** be in x.y notation as documented [here](#) . Note that you **must not** escape any periods yourself, even though the ASN ends up in a regular expression.

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MyASN - Triggered Alarms

View triggered alarms

You are logged in as [mark] and you are editing 12654

[MyASN](#) » - View Alarms

Showing alarms in group. | [Manage alarm groups...](#) | [Add an alarm...](#)

ID	Group	Prefix	Type	RegEX	MinED	MinEC	ADW	State	Events	Details	Delete log
3294	va	+ 84.205.67.0/24	origin	My AS#: 65510	1m	1	1h	A	232275	view	delete log
2736	nagios monitor	+ 147.60.0.0/16	origin	My AS#: 65533	1m	1	1m	A	6419	view	delete log
748	dfk	+ 192.6.143.0/24	origin	My AS#: 14496	1m	1	1h	A	9	view	delete log

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MyASN - Notifications

From: MyASN Notifications <ris@ripe.net>
 Date: February 24, 2008 18:48:22
 To: alerts@youtube.com
 Subject: New MyASN alarms for 36561

Dear MyASN contact,

New alarms were detected for 36561. Please find the details below.
 Depending on your detail level settings you might not see all the events.

Please use the web interface for further details:
<http://www.ris.ripe.net/myasn/>

If you have any questions, don't hesitate to contact us at:
ris@ripe.net

RRC	Prefix	AS Path	Conflict AS	Peer	First seen
<u>rrc00</u>	208.65.153.0/24	3333 6320 3549 3491 17557	17557	193.203.0.124	Sun Feb 24 18:47:32 2008



RIPE - Reporting and statistics

- RIS weekly reports:
 - Prefix distribution
 - Average AS path lengths
 - Numbers of single and multihomed ASs
 - Martians and hotspots

o List of hot-spots during the week.

Prefix	Origin AS	Number of updates
203.34.88.0/24	18117	2986855
194.110.73.0/24	30850	1062492
62.24.238.0/24	13285	625800
193.242.111.0/24	2128	624969
77.247.128.0/20	43043	515486
221.135.253.0/24	9583	335059
80.243.64.0/20	21332	268483
12.106.30.0/24	22072	265643

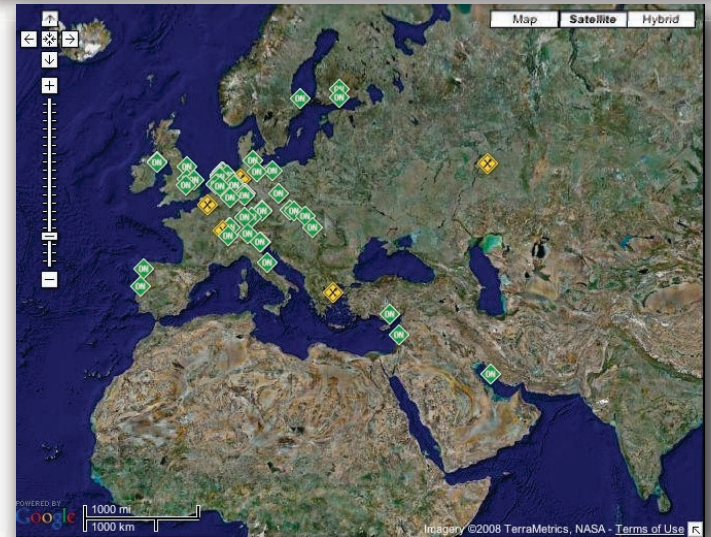
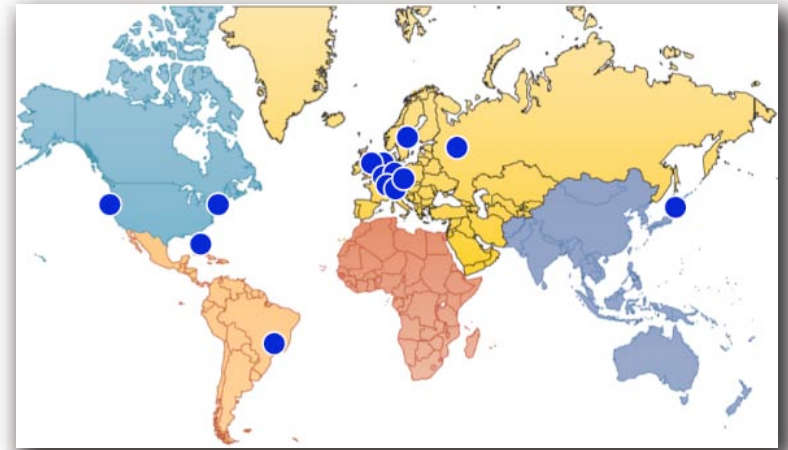
o List of martians appearing throughout the week.

Prefix	Origin AS
10.11.12.0/24	34245
10.90.3.0/24	174
172.16.0.0/16	7908
172.16.2.2/32	8447
192.0.2.0/24	2854
192.168.1.0/24	7908

<http://www.ripe.net/projects/ris/stats>

Credits

- RIPE NCC Information Services
 - <http://is-portal.ripe.net>
- Routing Information Service (RIS)
 - <http://www.ripe.net/ris>
- Test Traffic Measurements (TTM)
 - <http://www.ripe.net/ttm>
- DNSMON
 - <http://dnsmon.ripe.net>
- Full NCC Science Group analysis
 - <http://ripe.net/projects/reports/2008cable-cut>
 - <http://www.ripe.net/news/study-youtube-hijacking.html>



Questions?

