

UNIVERSITÀ DEGLI STUDI ROMA TRE
Dipartimento di Informatica e Automazione

A Service that Extracts BGP Peerings from the IRR

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What's this?

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 - valuable
 - muddy

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 - (often) muddy
- ◆ How to get good soil out of it?

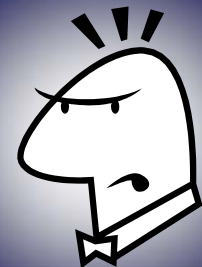
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 - (often) muddy
- ◆ How to get BGP peerings out of it?
 - peerings are nice
 - peerings are funny
 - peerings are beautiful
 - peerings are fine
- ◆ *Peerings? Ha! Ha! Old stuff!*



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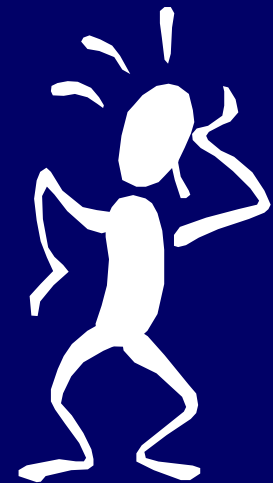


Peerings? Where are they?

```
aut-num: AS137
import: from AS20965 action pref=100;
       from AS1299 action pref=100;
       accept ANY
export: to AS1299 announce AS-GARR
changed: noc@garr.it 20000830
source: RIPE
```

Peerings? Where are they?

```
aut-num: ASX5
import: { from ASX2:AS-Z2 accept 100.0.0.0/8;
        } refine {
        from ASX1 ASX2 accept 100.1.0.0/16;
        } except {
        from ASX3 accept 100.1.1.0/24;}
export: to ASX1:PRNG-Y1
        to ASX1:AS-Z1 except ASX9
        announce 100.1.1.0/24
mp-export: to ASX11 at 2001::1 announce 2001::/48
default: to ASX12 action pref=10
default: to ASX13 100.1.1.1 at 100.1.1.2
```

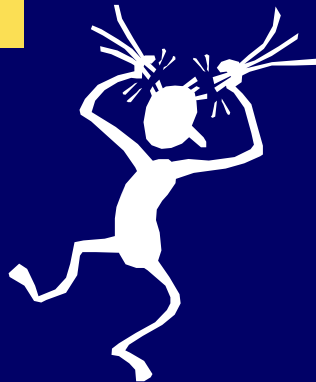


Peerings? Where are they?

aut-num: AS24336

as-name: DIGITALBANK-JP
descr: d-b net Backbone
import: from AS17685
accept ANY
export: to AS17685
announce AS24336
admin-c: DM210-JP
tech-c: DM211-JP
notify: matsuo@po.d-b.ne.jp
mnt-by: MAINT-AS24336
changed: matsuo@po.d-b.ne.jp
20050220

source: RADB



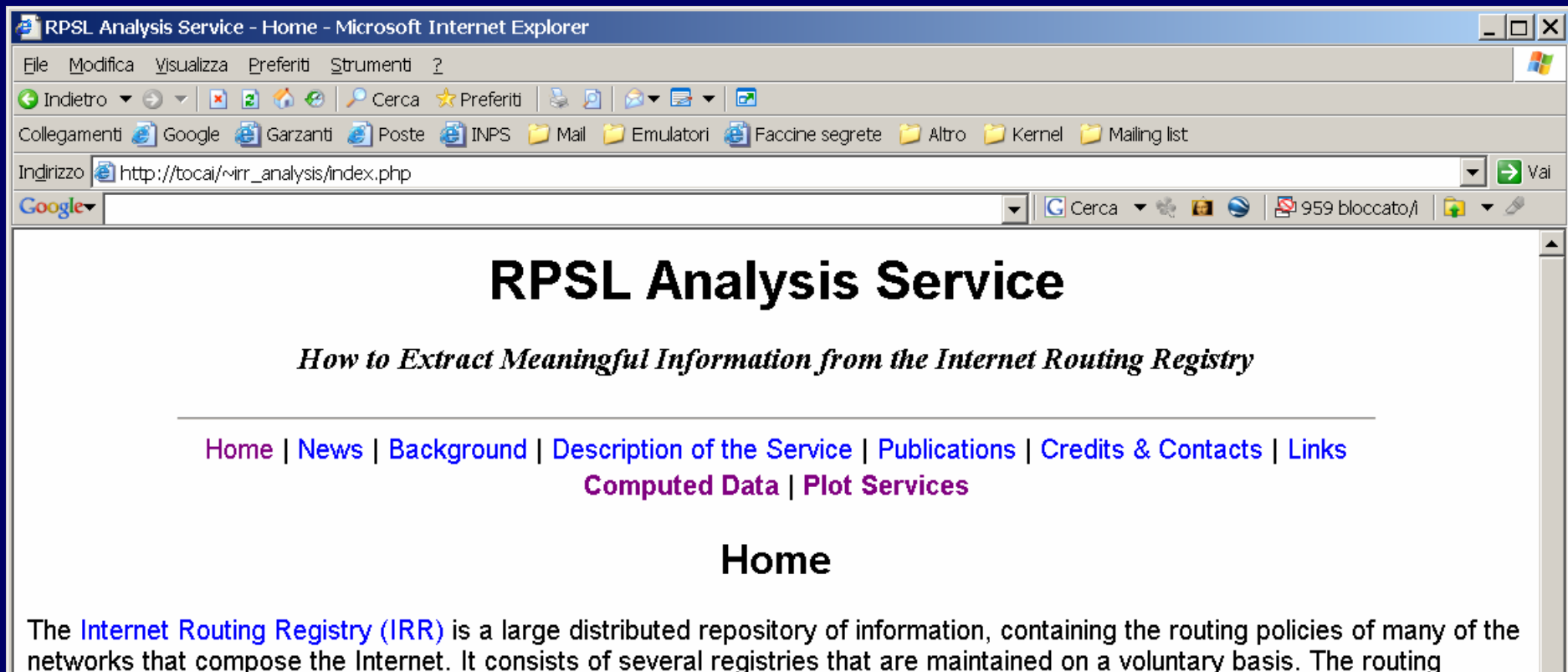
aut-num: AS24336

as-name: DIGITALBANK-JP
descr: DIGITALBANK, Inc.,
Regional ISP in Japan
country: JP
import: from AS17685
action pref=100; accept ANY
import: from AS7682
action pref=100; accept ANY
export: to AS17685
announce AS24336
export: to AS7682
announce AS24336
admin-c: DM210-AP
tech-c: DM211-AP
notify: matsuo@po.d-b.ne.jp
mnt-routes: MAINT-JP-DIGITALBANK
mnt-by: MAINT-JP-DIGITALBANK
changed: hm-changed@apnic.net
20050210

source: APNIC

So, how do I get the peerings?

1. Browse through
http://tocai.dia.uniroma3.it/~irr_analysis



The screenshot shows a Microsoft Internet Explorer browser window with the following details:

- Browser title: RPSL Analysis Service - Home - Microsoft Internet Explorer
- Address bar: http://tocai/~irr_analysis/index.php
- Page content:
 - Header: **RPSL Analysis Service**
 - Subtitle: *How to Extract Meaningful Information from the Internet Routing Registry*
 - Navigation menu: [Home](#) | [News](#) | [Background](#) | [Description of the Service](#) | [Publications](#) | [Credits & Contacts](#) | [Links](#)
 - Additional links: [Computed Data](#) | [Plot Services](#)
 - Section: **Home**
 - Text: The [Internet Routing Registry \(IRR\)](#) is a large distributed repository of information, containing the routing policies of many of the networks that compose the Internet. It consists of several registries that are maintained on a voluntary basis. The routing

What do I get?

- ◆ General statistics (size, etc.)...
- ◆ Overlapping information...

	# of aut-nums	ripe	apnic	radb	arin	verio
ripe	11468	11238	19	50	7	23
apnic	3299	19	2688	423	1	113
radb	2695	50	423	2037	37	45
arin	555	7	1	37	463	14
verio	498	23	113	45	14	310

What do I get?

- ◆ General statistics (size, etc.)...
- ◆ Overlapping information...
- ◆ Peerings...

	peerings
This work	236,663
RIPE RRCC	108,521
[1] (RIPE only)	56,949
[2] (RIPE only)	70,222
[3]	127,498

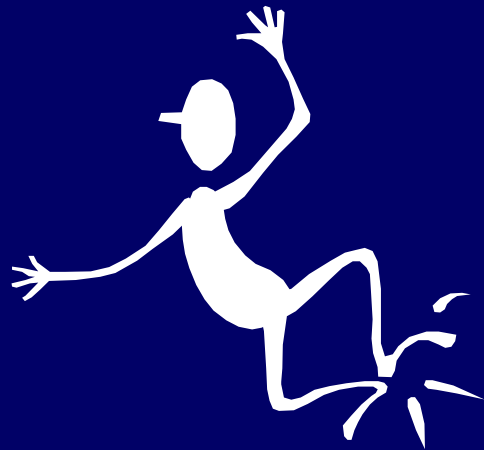
[1] P. Mahadevan et al.,
*The Internet AS-Level Topology:
Three Data Sources and One
Definitive Metric.*
SIGCOMM Computer
Communication Review, 2006.

[2] B. Zhang et al.,
*Collecting the Internet AS-Level
Topology.*
SIGCOMM Computer
Communication Review, 2005.

[3] G. Siganos et al.,
*Analyzing BGP Policies:
Methodology and Tool.*
INFOCOM 2004.

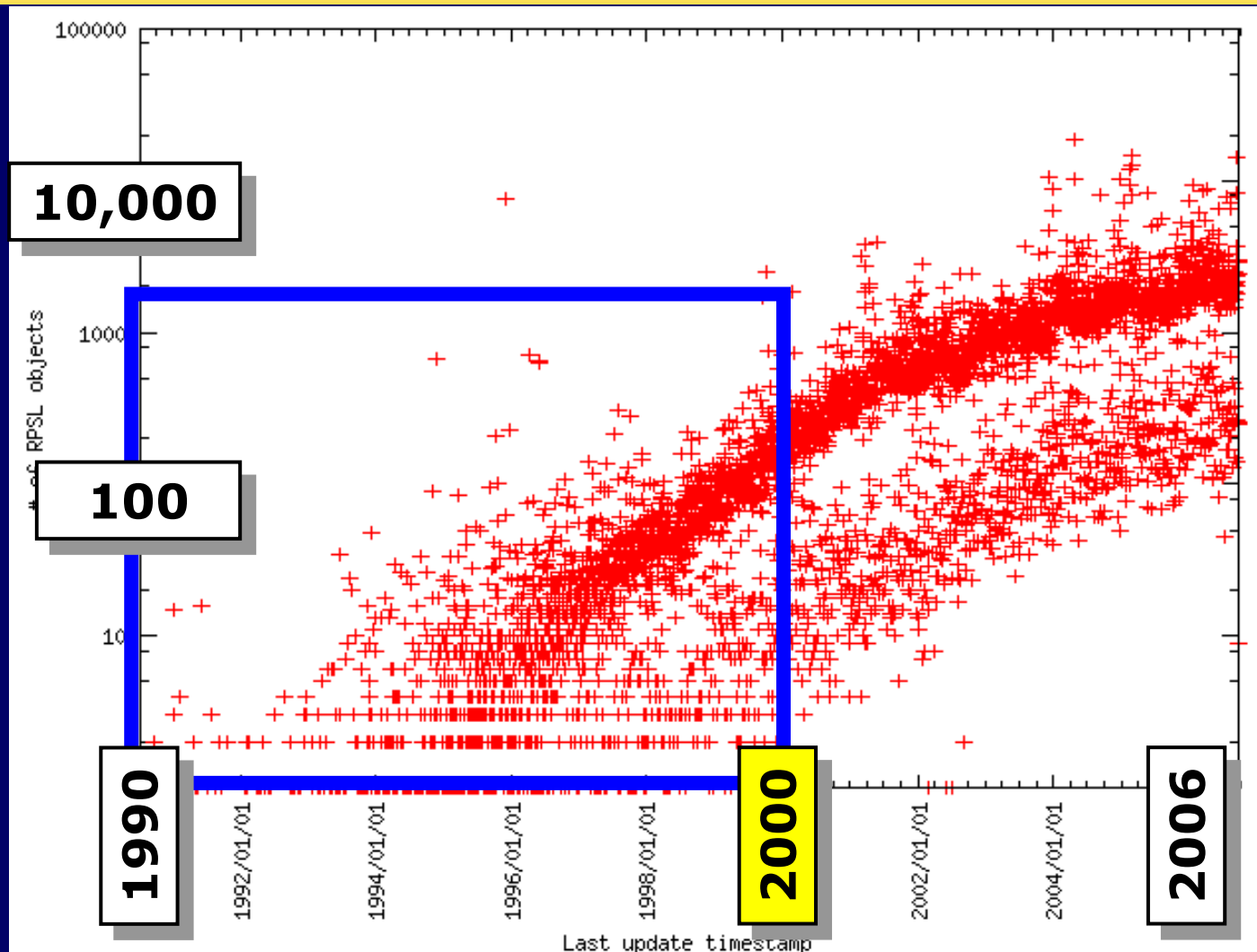
What do I get?

- ◆ General statistics (size, etc.)...
- ◆ Overlapping information...
- ◆ Peerings...
- ◆ ...over time!
- ◆ Plots



Timestamp Distribution

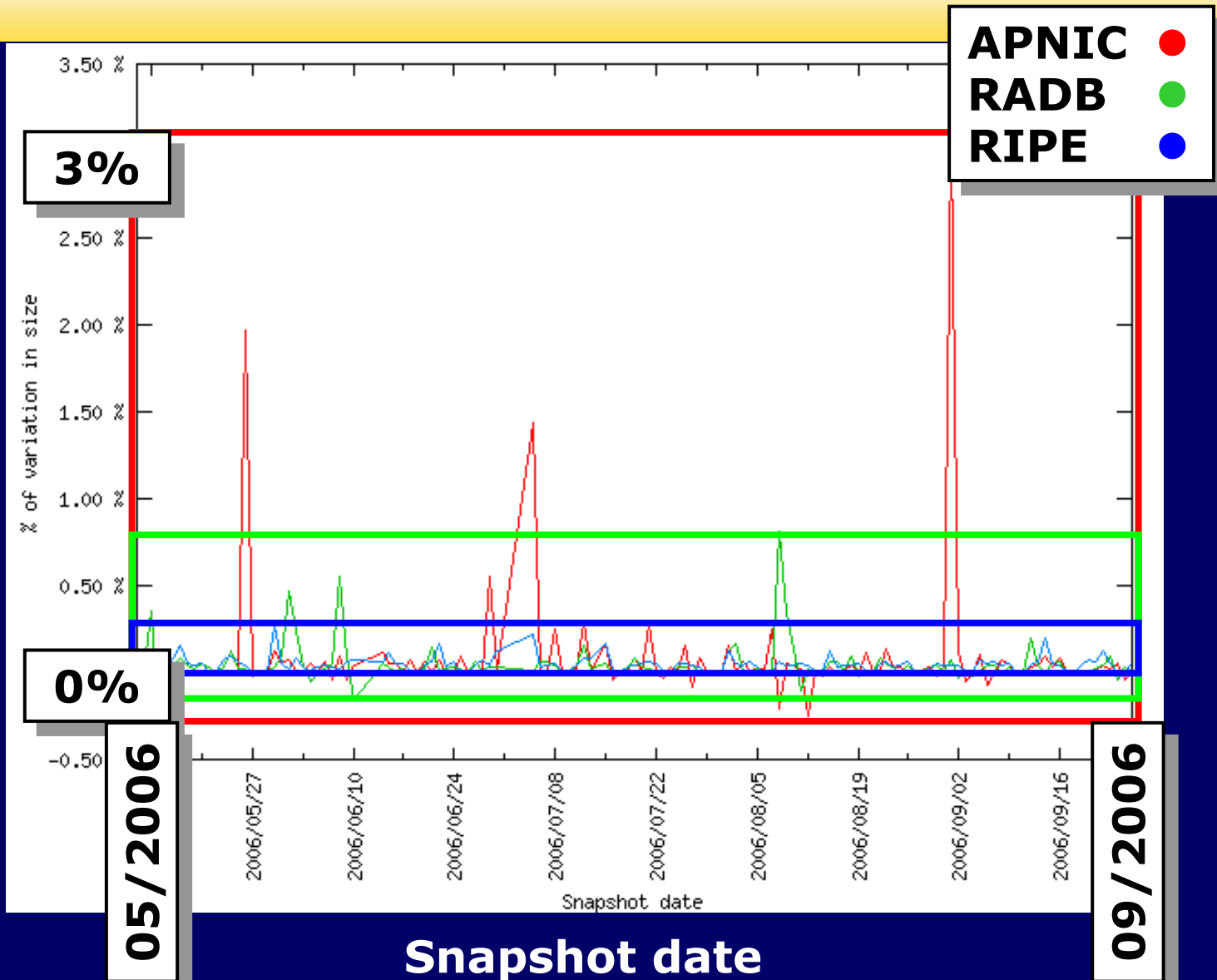
of
RPSL
objects



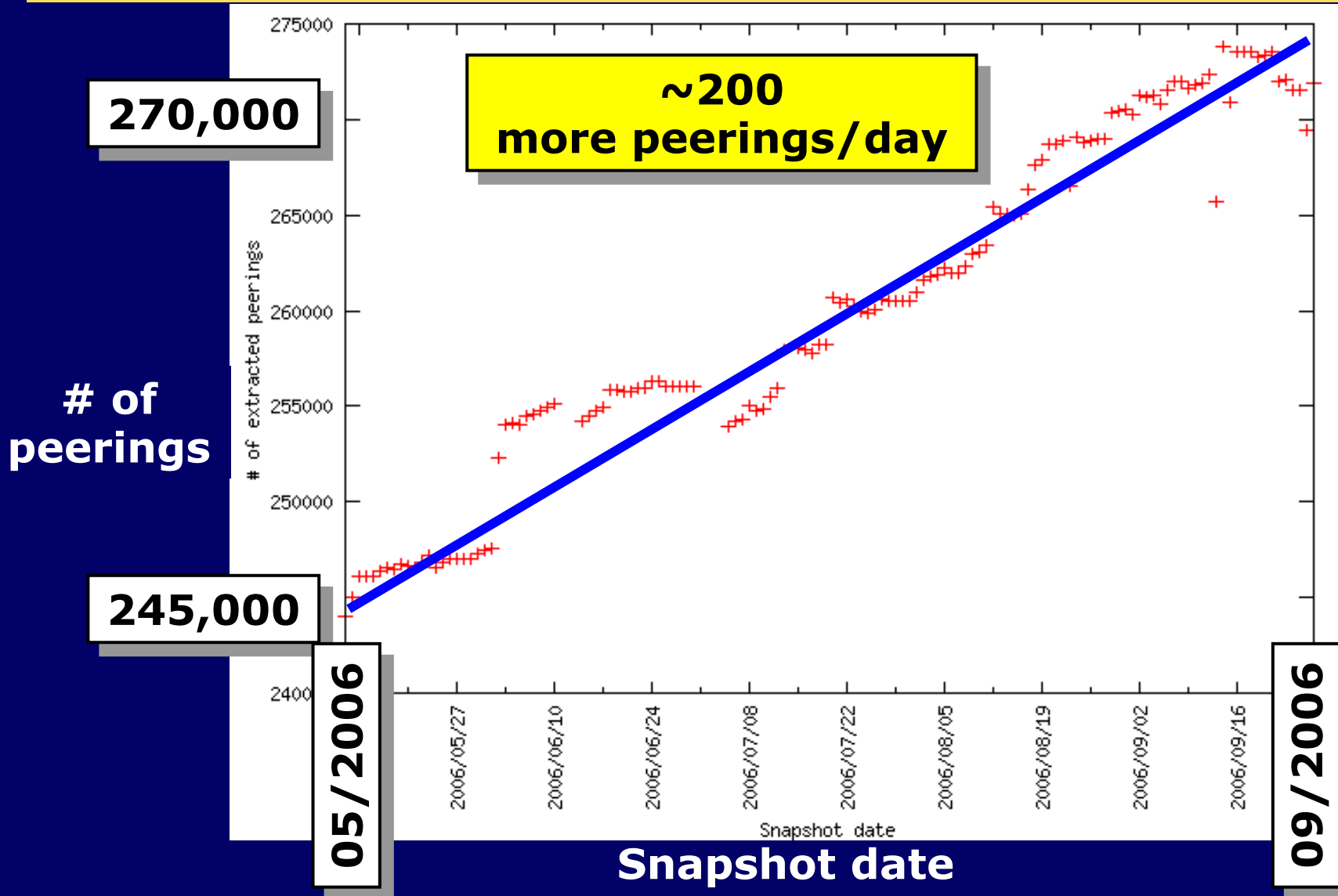
Last update timestamp

Growth (Activity)

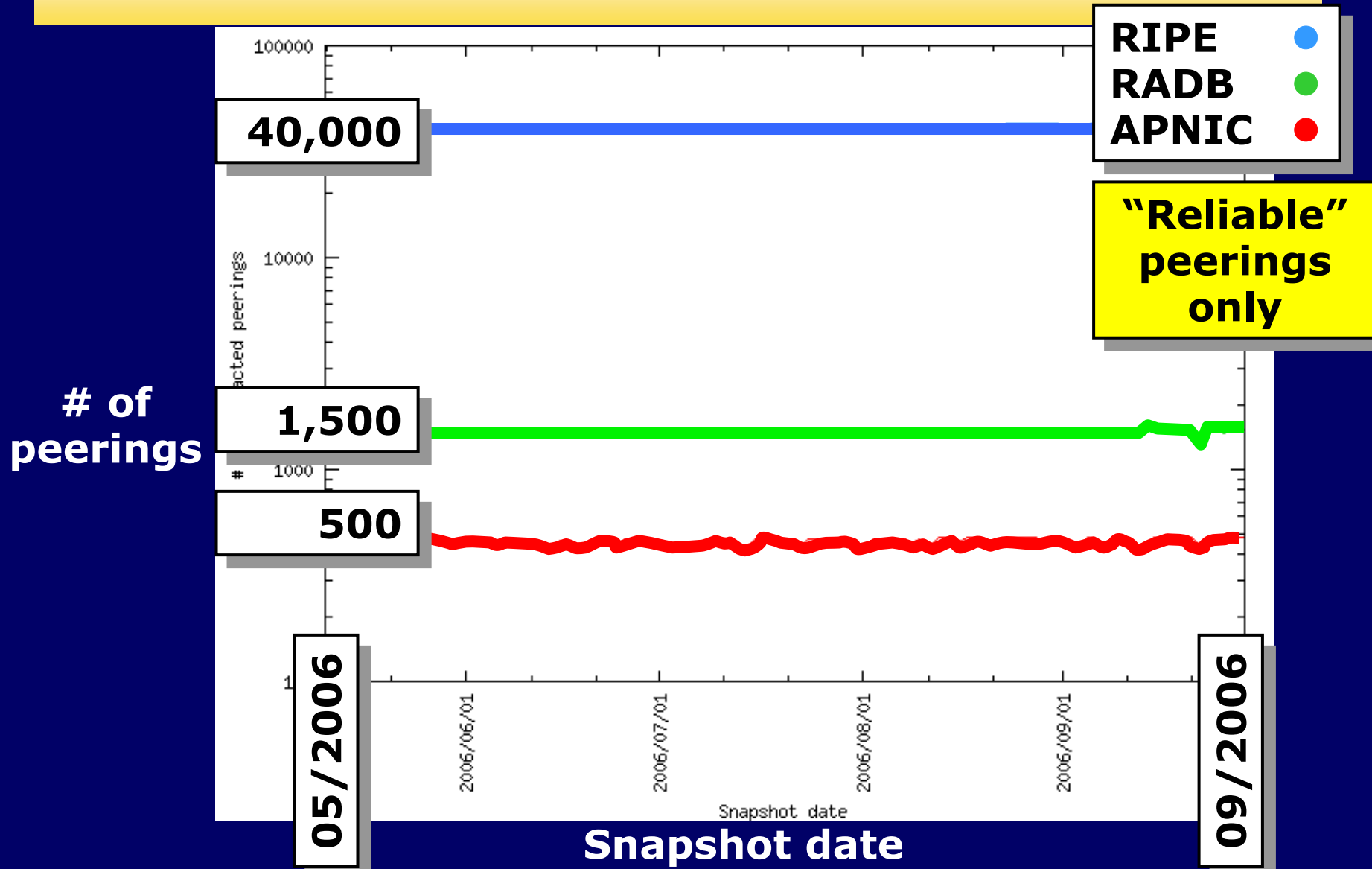
% of variation in size



Extracted Peerings



Extracted Peerings



of peerings

40,000

1,500

500

05/2006

09/2006

RIPE ●
RADB ●
APNIC ●

"Reliable" peerings only

Snapshot date

Wanna play?

Snapshot date:

29 Sep 2006

Last update within:

From: 11 Jul 1988 Min: 11 Jul 1988

To: 29 Sep 2006 Max: 29 Sep 2006

Registries:

<input checked="" type="checkbox"/> ALTDB	<input checked="" type="checkbox"/> AOLTW	<input checked="" type="checkbox"/> APNIC	<input checked="" type="checkbox"/> ARCSTAR	<input checked="" type="checkbox"/> AREA151
<input checked="" type="checkbox"/> ARIN	<input checked="" type="checkbox"/> BCNET	<input checked="" type="checkbox"/> BELL	<input checked="" type="checkbox"/> BENDTEL	<input checked="" type="checkbox"/> CSAS
<input checked="" type="checkbox"/> DERU	<input checked="" type="checkbox"/> DIGITALREALM	<input checked="" type="checkbox"/> DODNIC	<input checked="" type="checkbox"/> EASYNET	<input checked="" type="checkbox"/> EBIT
<input checked="" type="checkbox"/> EICAT	<input checked="" type="checkbox"/> ENTERZONE	<input checked="" type="checkbox"/> EPOCH	<input checked="" type="checkbox"/> FASTVIBE	<input checked="" type="checkbox"/> GT
<input checked="" type="checkbox"/> GTS	<input checked="" type="checkbox"/> GW	<input checked="" type="checkbox"/> HOST	<input checked="" type="checkbox"/> JPIRR	<input checked="" type="checkbox"/> KOREN
<input checked="" type="checkbox"/> LEVEL3	<input checked="" type="checkbox"/> LOOK	<input checked="" type="checkbox"/> MTO	<input checked="" type="checkbox"/> NESTEGG	<input checked="" type="checkbox"/> OPENFACE
<input checked="" type="checkbox"/> OTTIX	<input checked="" type="checkbox"/> PANIX	<input checked="" type="checkbox"/> RADB	<input checked="" type="checkbox"/> REACH	<input checked="" type="checkbox"/> RETINA
<input checked="" type="checkbox"/> RGNET	<input checked="" type="checkbox"/> RIPE	<input checked="" type="checkbox"/> RISQ	<input checked="" type="checkbox"/> ROGERS	<input checked="" type="checkbox"/> SAWVIS
<input checked="" type="checkbox"/> SINET	<input checked="" type="checkbox"/> SOUNDINTERNET	<input checked="" type="checkbox"/> SPRINT	<input checked="" type="checkbox"/> UNIVALI	<input checked="" type="checkbox"/> VDN
<input checked="" type="checkbox"/> VERIO				

All Registries
(Push once to select all, 4 times to deselect all) By Registry
(Takes longer to respond)

Object types:

<input checked="" type="checkbox"/> AS-BLOCK	<input checked="" type="checkbox"/> AS-SET	<input checked="" type="checkbox"/> AUT-NUM	<input checked="" type="checkbox"/> DOMAIN	<input checked="" type="checkbox"/> FILTER-SET
<input checked="" type="checkbox"/> INET6NUM	<input checked="" type="checkbox"/> INETNUM	<input checked="" type="checkbox"/> INET-RTR	<input checked="" type="checkbox"/> KEY-CERT	<input checked="" type="checkbox"/> LIMERICK
<input checked="" type="checkbox"/> MEMBERS	<input checked="" type="checkbox"/> MNTNER	<input checked="" type="checkbox"/> OUTE	<input checked="" type="checkbox"/> PEERING-SET	<input checked="" type="checkbox"/> PERSON
<input checked="" type="checkbox"/> POEM	<input checked="" type="checkbox"/> POETIC-FORM	<input checked="" type="checkbox"/> RMUTE	<input checked="" type="checkbox"/> ROLE	<input checked="" type="checkbox"/> ROUTE
<input checked="" type="checkbox"/> ROUTE6	<input checked="" type="checkbox"/> ROUTE-SET	<input checked="" type="checkbox"/> RTR-SET	<input checked="" type="checkbox"/> *XXNER	<input checked="" type="checkbox"/> *XXSET

All object types
(Push once to select all, 4 times to deselect all) By object type
(Takes longer to respond)

Cumulative plot:

Cumulative distribution (CDF)

Plot size:

640x480

Plot:

Plot

Reset query parameters:

Reset

http://tocai.dia.uniroma3.it/~irr_analysis

Do you think this service is

- good useful
 bad useless

If you answered "bad" or "useless",
please explain why below
