# RIS Update

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# What is RIS?

- Routing Information Service
- Looking glass with history
- Collects routing information (BGP)
  - 580 peers
  - 14 collectors running Quagga bgpd
  - Peering from AS 12654
- 3 months data in MySQL database
- Query tools at http://www.ripe.net/ris/

# What is RIS?

- All raw data available for download
  - Standard format (MRT)
- Generates statistics reports
- Notification system: MyASN
  - Notifies you when someone else announces your prefix

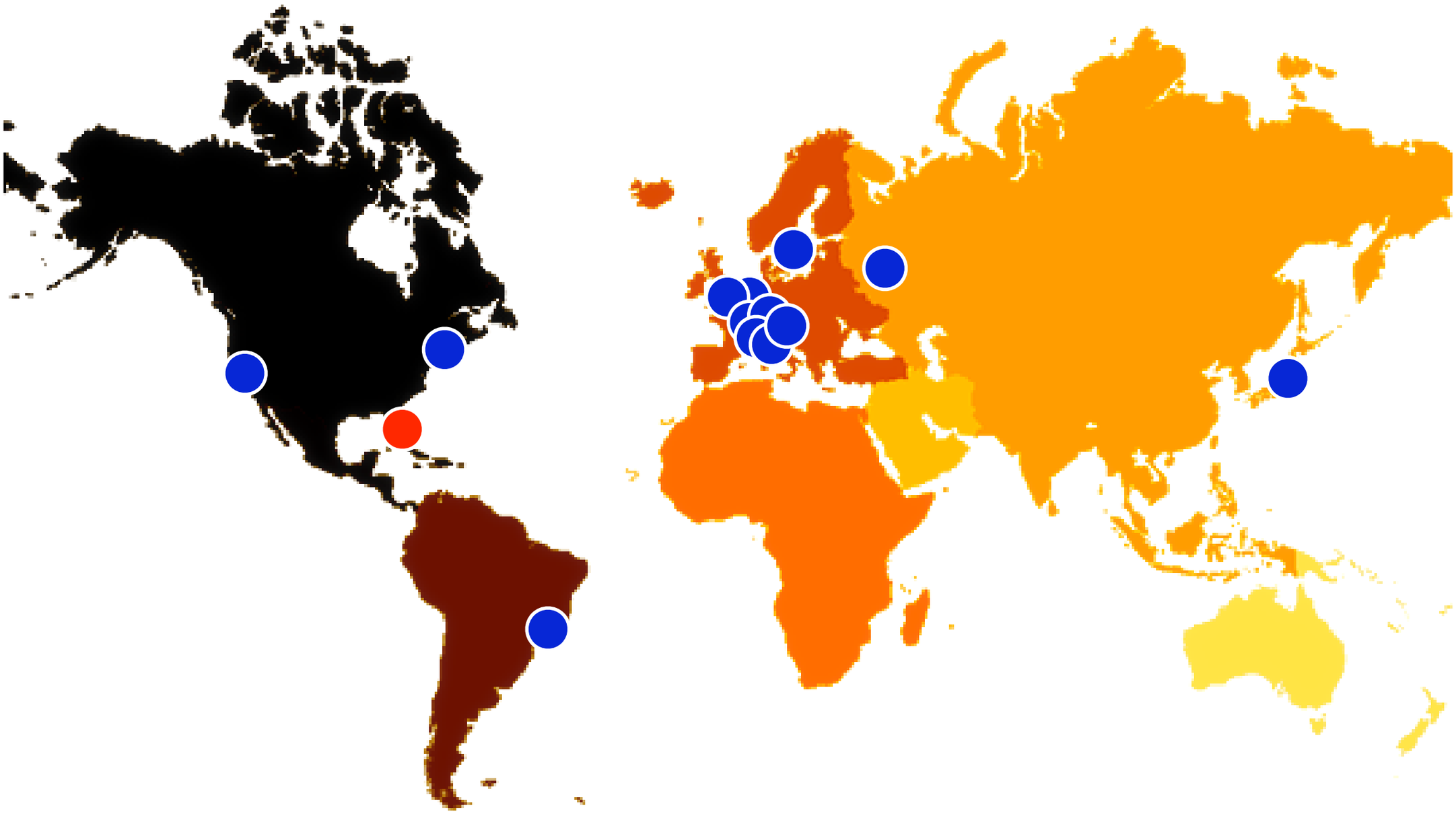
# What is RIS?

- For each collector:
  - Three “RIB” dumps a day: all prefixes seen at that time
  - “Update” dumps every 5 minutes: all updates seen
  - Stored in MySQL database and as raw data (MRT)

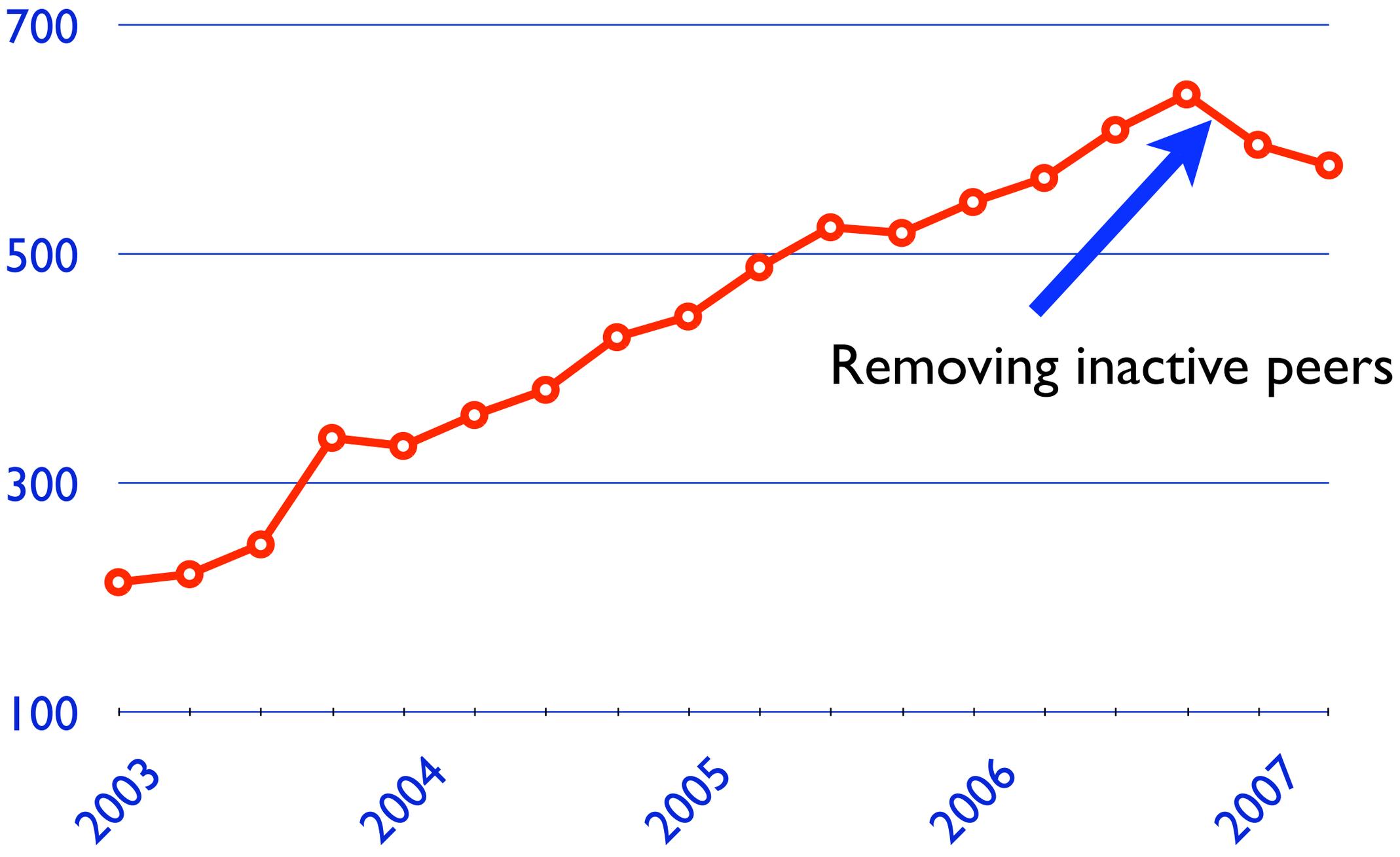
- Beacon and anchor routes announced from collectors
  - Beacons are 2hrs on, 2hrs off
  - Anchors are always-on
  - One anchor, one beacon per collector

# RIS status

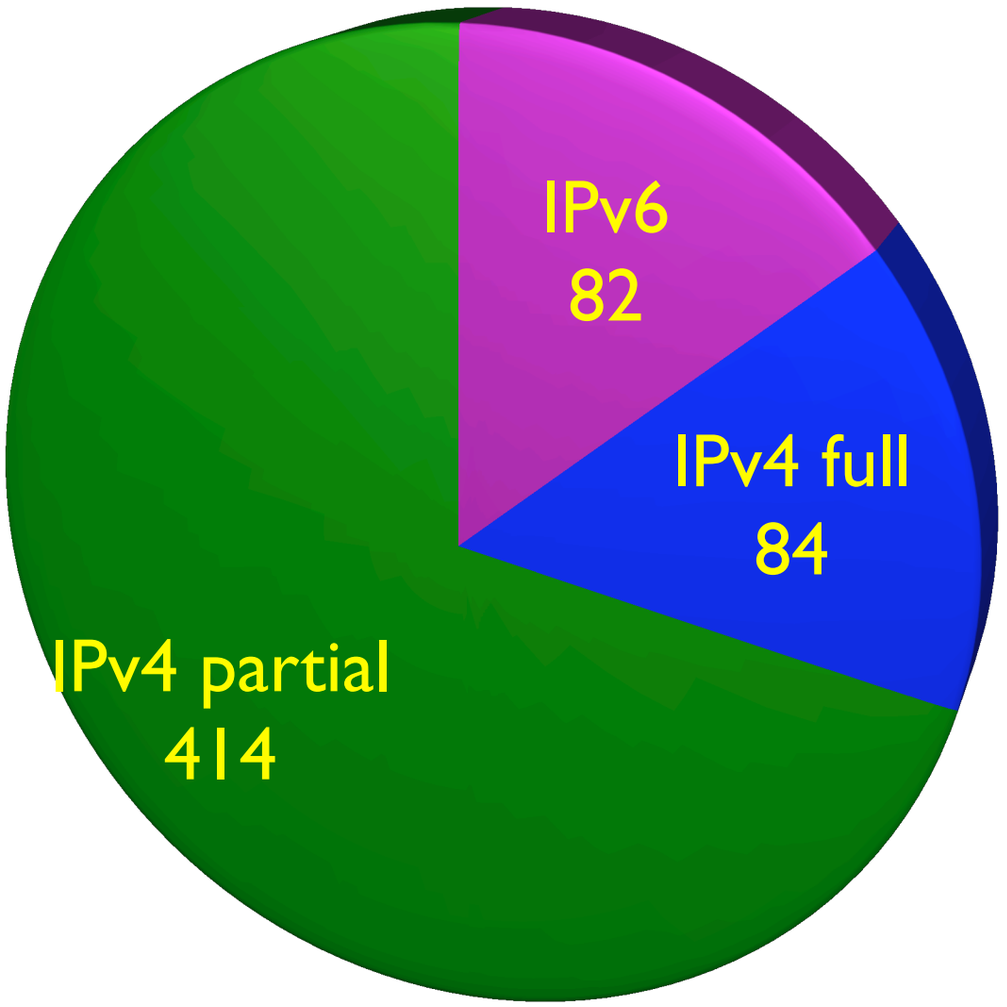
# 14 Remote Route Collectors (RRCs)



# How many peers?



# Session distribution: IPv6 and IPv4




- Most IPv6 is full table

# How much raw data?

800GB

600GB

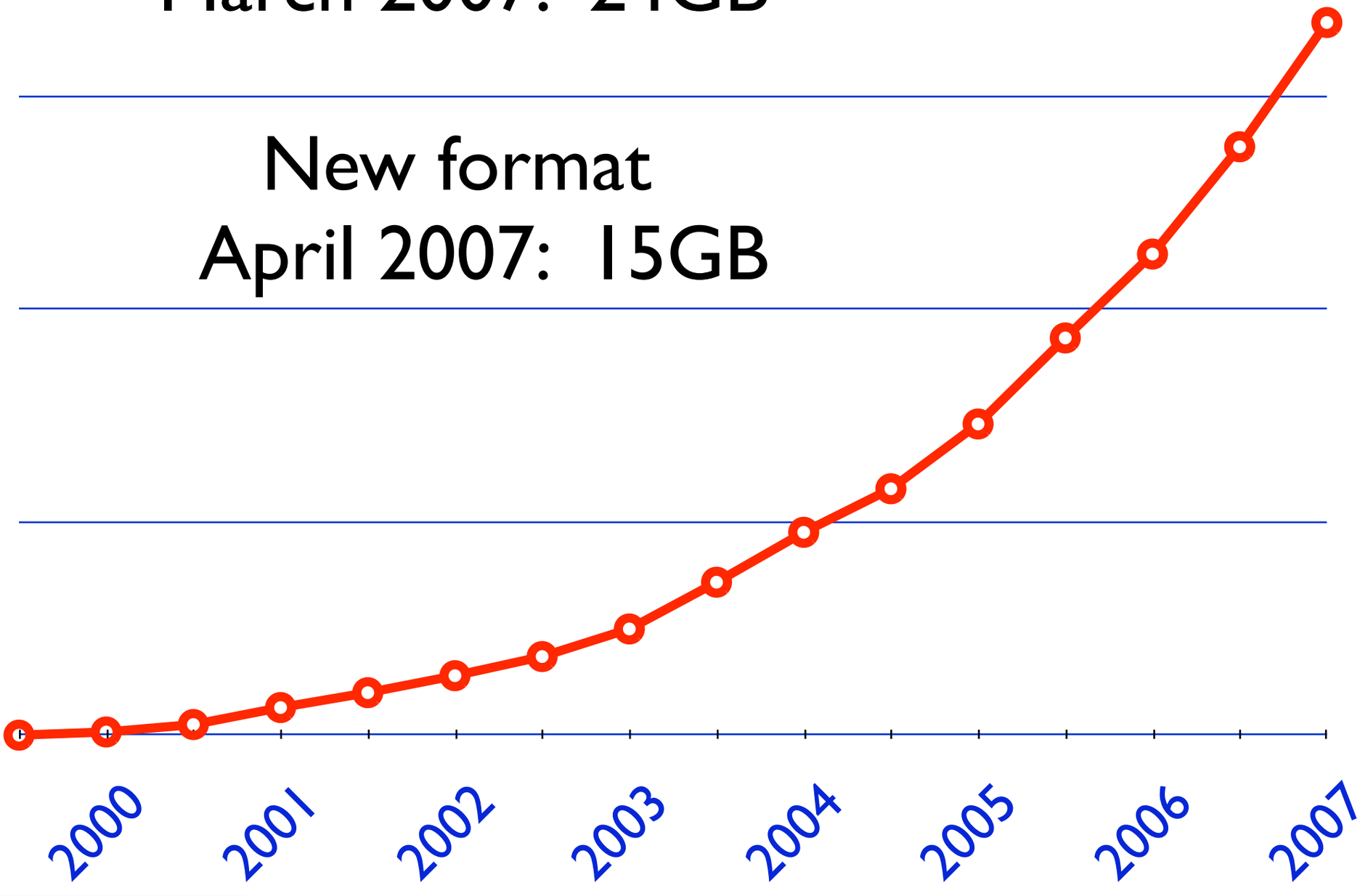
400GB

200GB

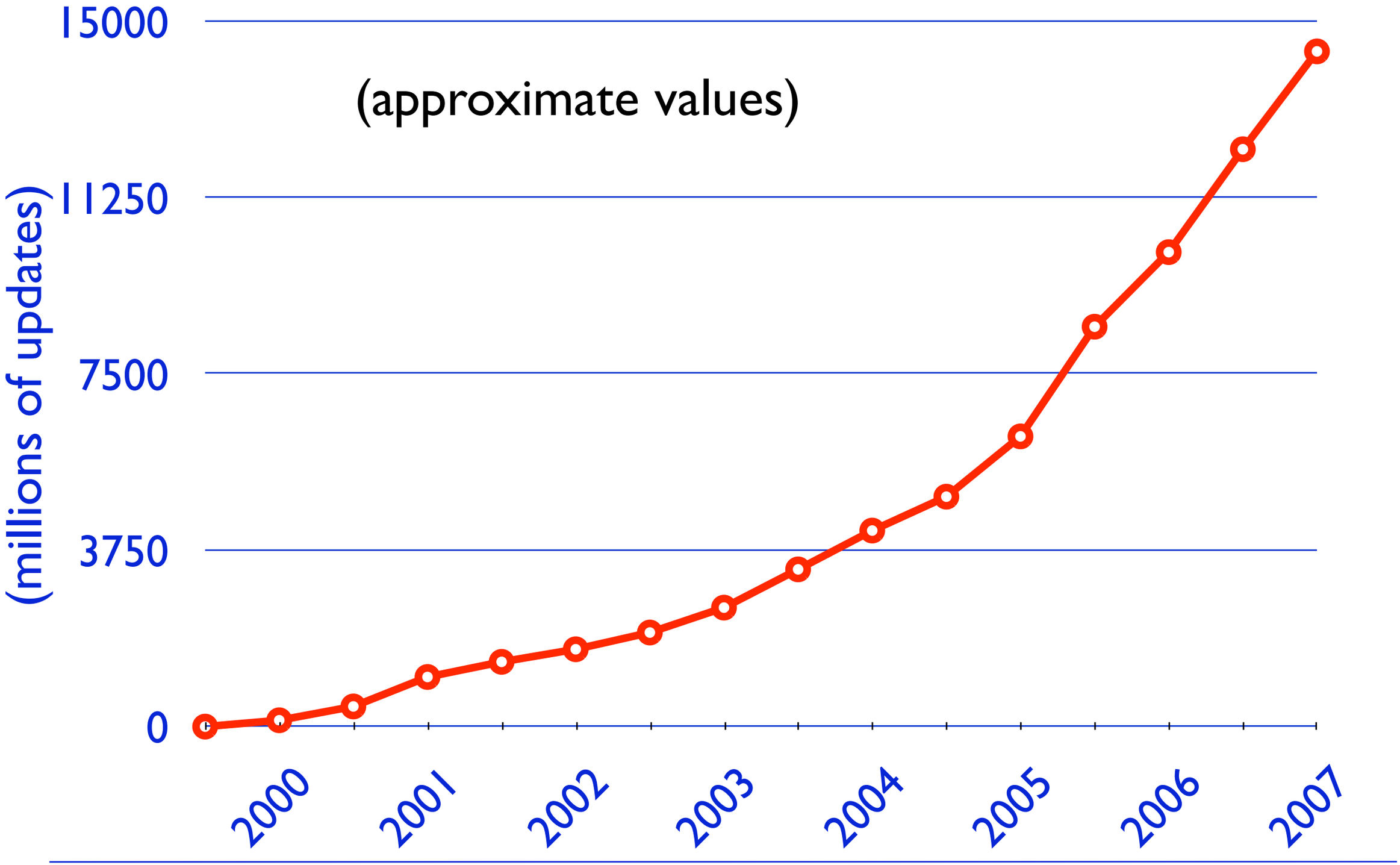
0GB

March 2007: 24GB

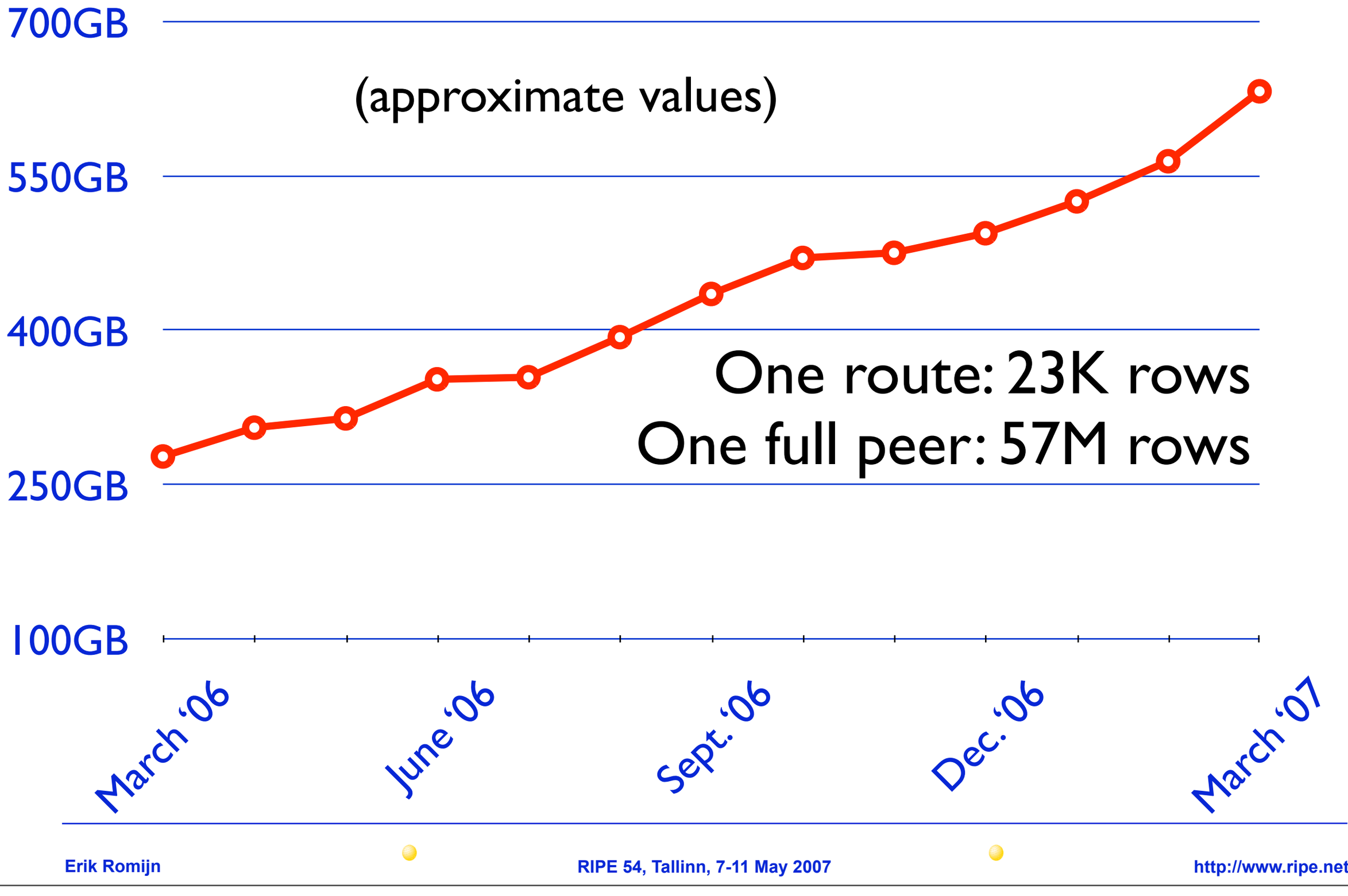
New format
April 2007: 15GB



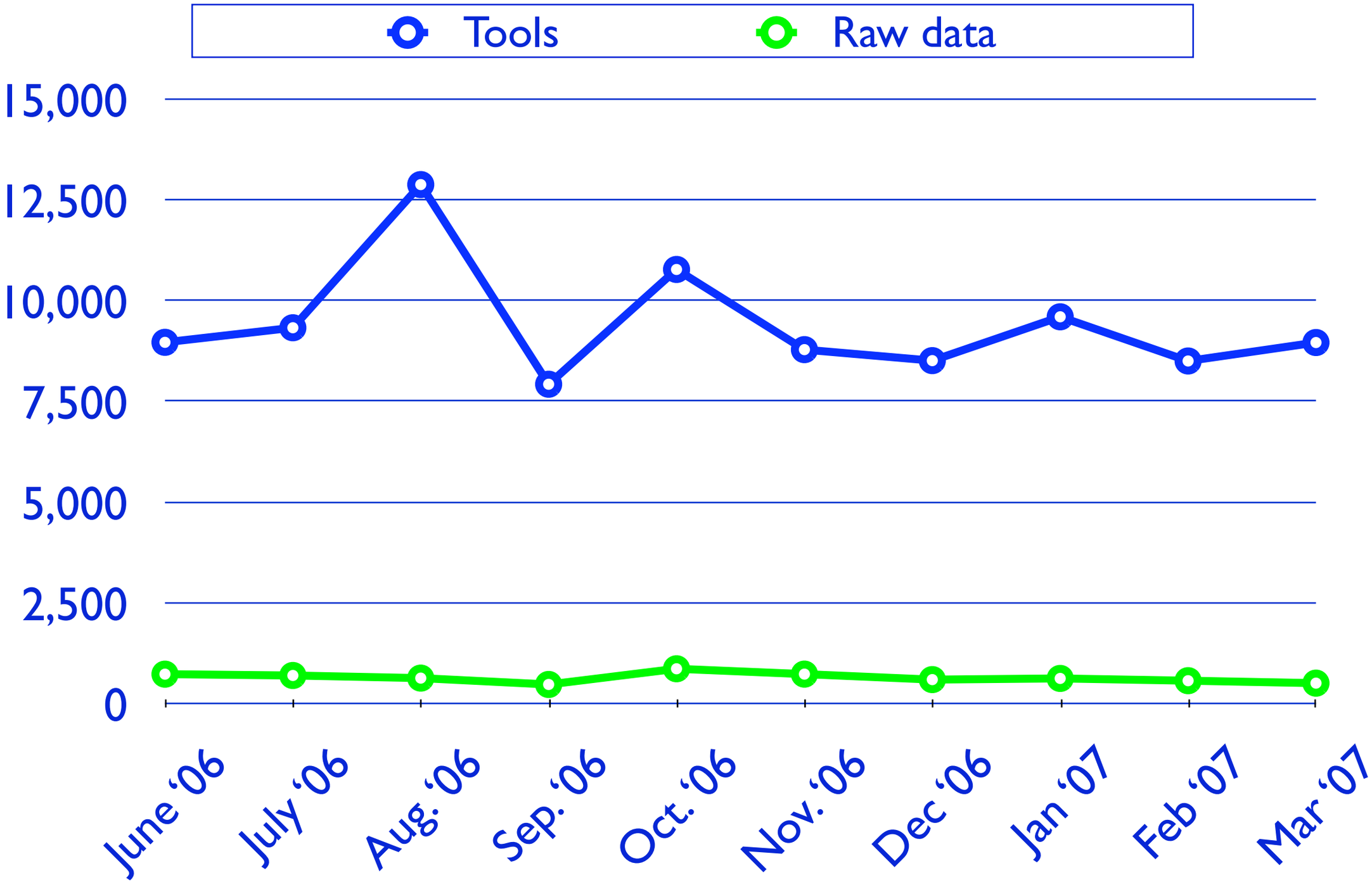
# So how many updates is that?



# MySQL database size



# Average hosts per month on website



# Top tools

- Looking glass
  - 25% of hosts query it
  - 30% of hits
  - Might be due to scripts

- BGPlay
  - 20% of hosts starts it

# What keeps us busy?

# Improving performance

- RIS grows
  - Full tables get bigger
  - More peers

- Locating bottlenecks, trying to resolve them

- Progress made
- More to do

# Debogon next generation

- Debogonising project
  - IANA assigns new /8 to RIR
  - RIS announces set of prefixes from /8
  - RIS measures reachability of prefixes
  - Participating RIRs: AfriNIC, APNIC, RIPE NCC

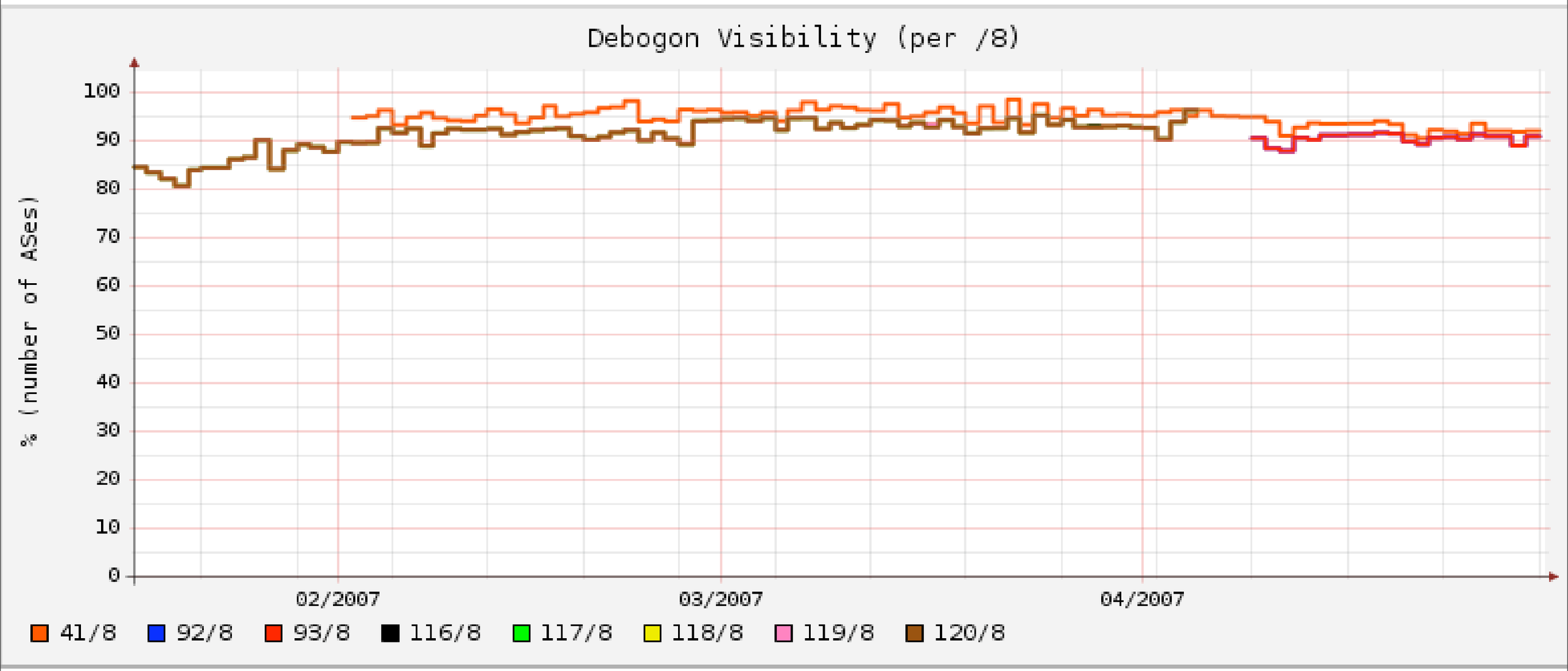
- The current debogon report works, but:
  - Information could be presented more clearly
  - Accuracy can be improved

# Debogon next generation

- Presentation improved:
  - Plotting of trends
  - Graph per /8 and per announced prefix
- Algorithms improved:
  - Greater accuracy
  - Error margin displayed

- Next RIPE meeting:
  - Integrating TTM data - even greater accuracy
  - IPv6 support

# Debogon next generation




http://ris.ripe.net/debogon-ng/

# 4-byte Autonomous System Numbers

- AS numbers of 4 bytes
- Written as *<16 bits>*.*<16 bits>* (e.g. 3.7)
- For 2-byte world:
  - Hidden as 23456
  - Real AS in AS4_PATH / AS4_AGGREGATOR attribute
- Supported by Quagga and OpenBGPd

# First route from a 4-byte ASN in RIS

- 7 January 2007

  12878 25525 174 4637 4637 1221 23456 23456

- No support for 4-byte ASNs in RIS at that time

# RIS 4-byte ASN support

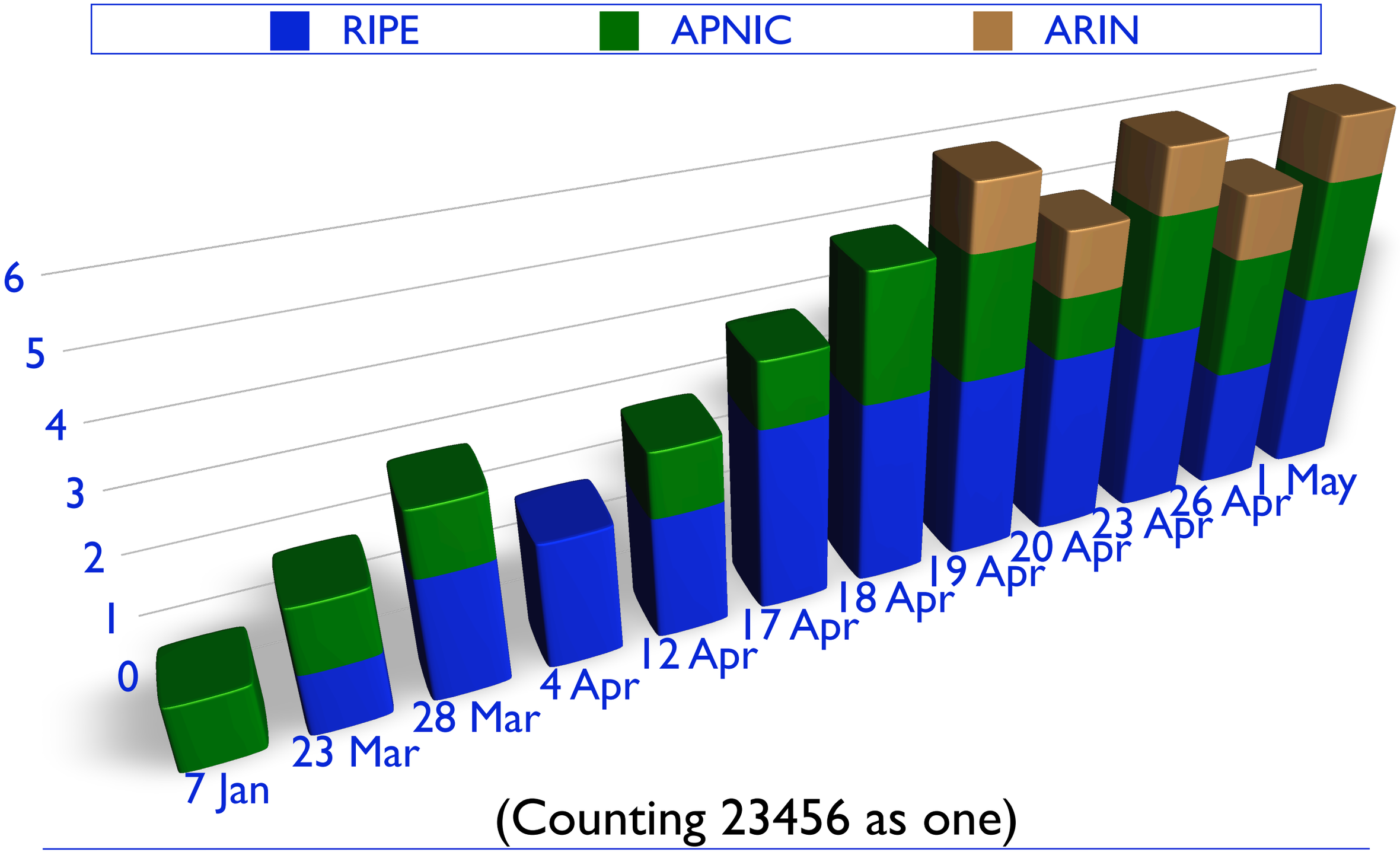
- RIS support as of 28 March 2007
  - Many software modifications
  - MRT format not clearly defined (raw data)
  - Used Quagga patch by Juergen Kammer

- 84.205.88.0/24 announced from our AS3.7
  - Transit through AS12654 on AMS-IX / NL-IX

- Raw data format changed
  - You need a new libbgpdump: http://ris.ripe.net/source/

# 32-bit ASNs seen by RIS

Around 0.02% of ASNs in RIS are 32-bit




(Counting 23456 as one)

# Does AS4_PATH work?

- Five active routes
- Visible from ~80 different peers

- Is the right AS path reconstructed?
  - Usually, but not always:
    - `30844 3356 4637 1221 23456` *(should be 2.2)*
    - `30844 3356 3549 1103 1125 23456` *(should be 3.5)*
    - `30844 3356 2914 4697 23456` *(should be 2.3)*

- Cause not yet completely known

# Next steps

# What next?

- RIS has a lot of nice data
- We have nice tools that use the data and can build more
- What data and features do **you** want?

# What next?

- Possible improvements:
  - Near-realtime data insertion
  - More extensive MyASN alarms
  - More data:
    - Carry more full tables
    - Install new RRCs
  - Provide SQL access
  - Scheduling queries to run e.g. every week
  - ....
- We have to know what helps **you**

# Homework for RIS users

RIPE NCC | LIR Portal | RIPE | About RIPE

## Routing Information Service

you are here: home -> RIPE NCC Projects -> RIS

RIS:

- RIS Home Page
- Tools
- Statistics
- RIS Raw Data
- Documentation
- RIS Analysis Links Page
- Related Sites
- Contact Us
- Send Feedback

### Routing Information Service (RIS)

#### Introduction

The Routing Information Service (RIS) is a RIPE NCC project to collect and store Internet routing data. The data is then made available to the Internet community for troubleshooting and research.

- The RIS deploys Remote Route Collectors (RRCs) at many Internet Exchanges
- These RRCs peer with local operators to collect routing information
- All information is stored and inserted into a database
- To limit the size of the database, data is discarded after three months
- The raw data itself, dumped by our BGP daemon software (Quagga) is never discarded

The RIS peers from AS12654. Routes collected by the RIS are not used for routing on the RRC.

The RIS data can be accessed through a set of tools, each having a particular purpose. As well as querying the data, the RIS also supports active notifications with the MyASN service.

The RIS has over 600 peers at 15 locations. This gives us a very large and unique view of the Internet. If you are present at one of the RIS locations and do not yet peer with the RIS yet, please sign up using our peering form.

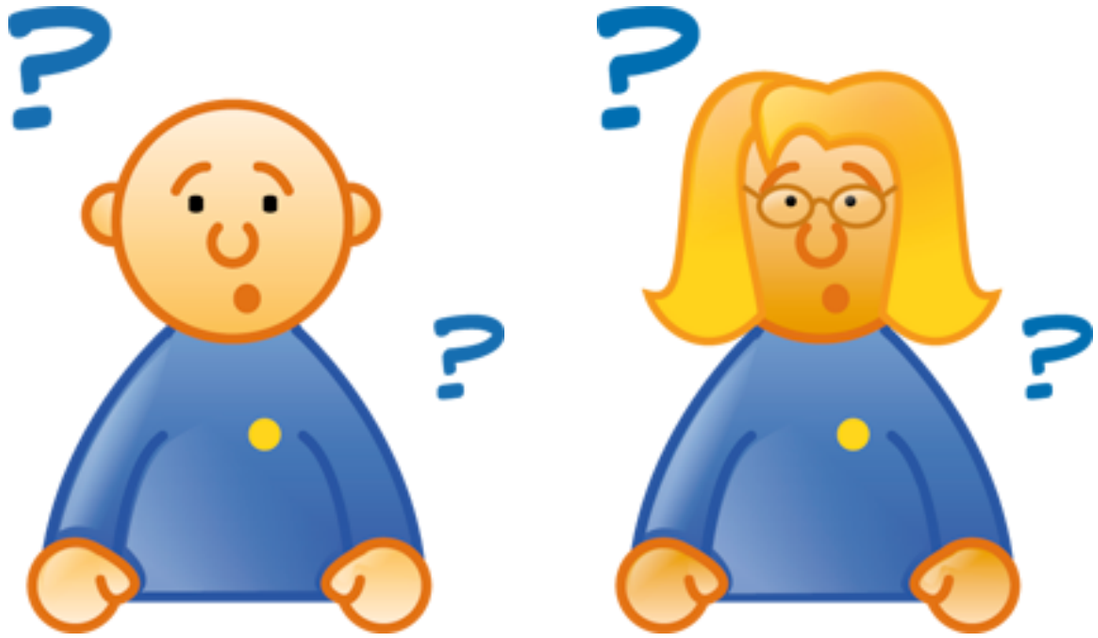
If you have any questions, send an e-mail to ris@ripe.net.

Comments or suggestions can be made by using our feedback form.

We updated this page on: 6 March 2007

# Homework for RIS users

- Please tell us:
  - What do you do with RIS?
  - What would you like to do?
  - How would you improve RIS if it was yours?



# Questions?