

RIPE 57 Database Update

Jos I. Boumans
RIPE NCC

Outline

- Introduction of the DB Group
- Projects & external commitments
- Operational update & RIPE-DBM
- Questions

The DB Group

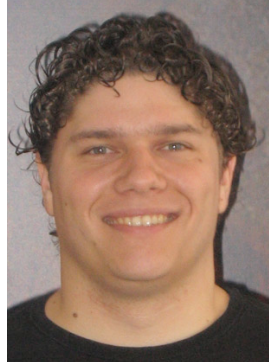
The Database Group



Jos



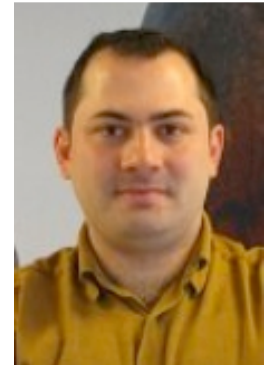
Agoston



Erik



Denis



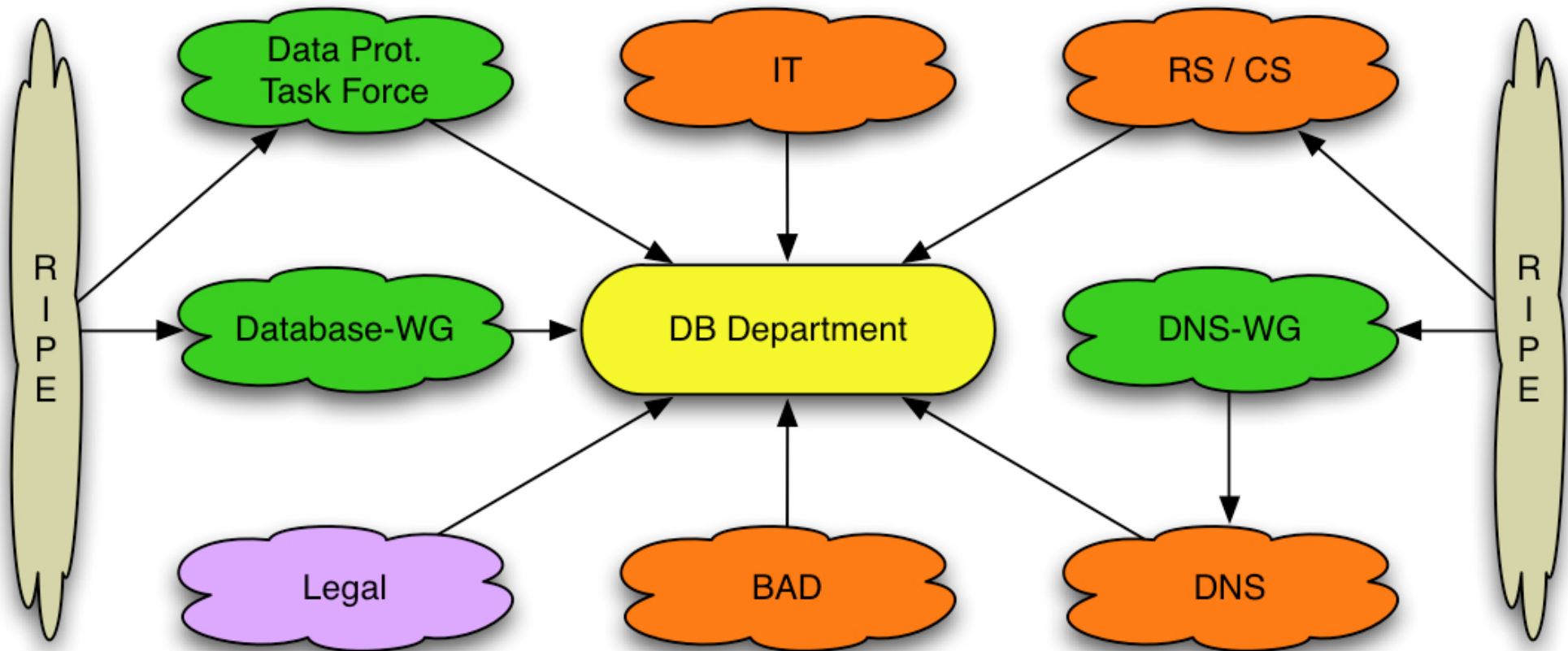
Luis



Menno



Stakeholders: Internal & External



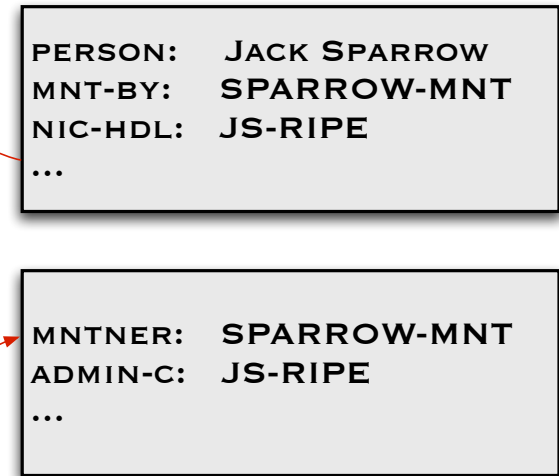
Projects

AP54.3: MNT-BY on Domains

- On all forward & reverse domains
 - Maintainer of Tld/Inetnum object added
 - 49.400 objects modified this way
- Coordinated with the DNS WG
- Done silently on 10th of October to avoid hi-jacking
- Public announcement [here](#)

AP54.3: MNT-BY on Person/Role

- All objects will have mandatory maintainers
- Will be deployed in December 2008
- Introduces a Catch-22
- Webform available to bootstrap new users





AP54.3: MNT-BY on Person/Role

RIPE NCC LIR Portal RIPE

Updating the RIPE Database

you are here: [home](#) -> [RIPE Database](#) -> [Webupdates](#)

RIPE Database:

- [About the RIPE Database](#)
- [Webupdates](#)
- [X.509 Webupdates](#)
- [Support Information](#)
- [DB Software and Tools](#)
- [DB Statistics](#)
- [DB Related projects](#)
- [DB Copyright](#)
- [Routing Registry](#)
- [News Archive](#)

Fields marked with a "*" are mandatory

Name*

Address*

Phone

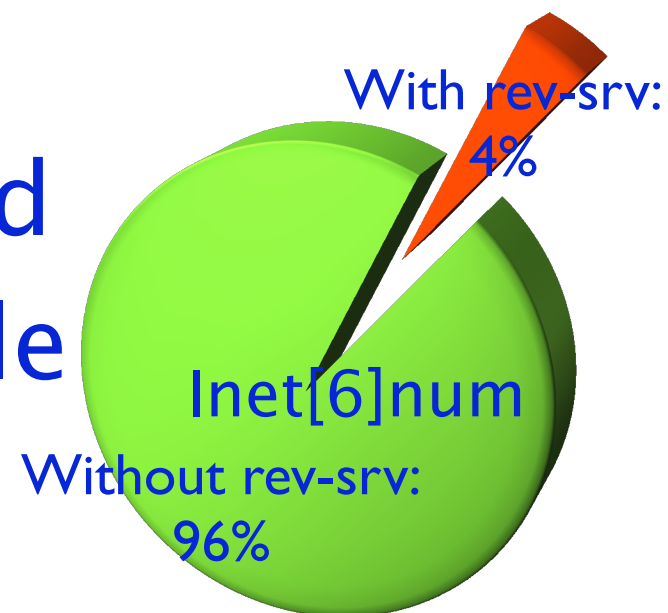
Email*

Password*

Create SUCCEEDED: [person] JB7102-RIPE Jos Boumans
Create SUCCEEDED: [mntner] JB8634-MNT

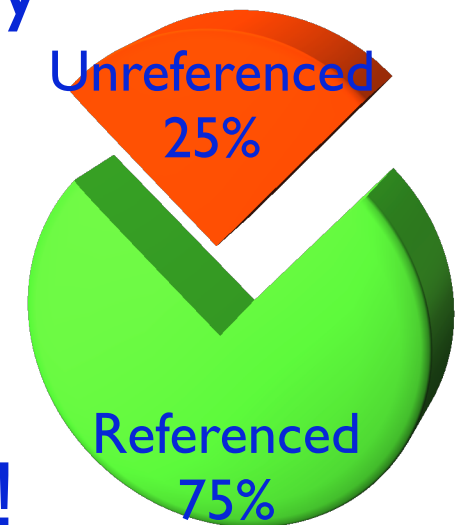
AP54.7: rev-srv: deprecation

- Clean up inet[6]num objects using rev-srv:
- DB Schema change needed
- Updates will be unavailable during change
- Release at the same time as AP54.3: MNT-BY on Person/Role



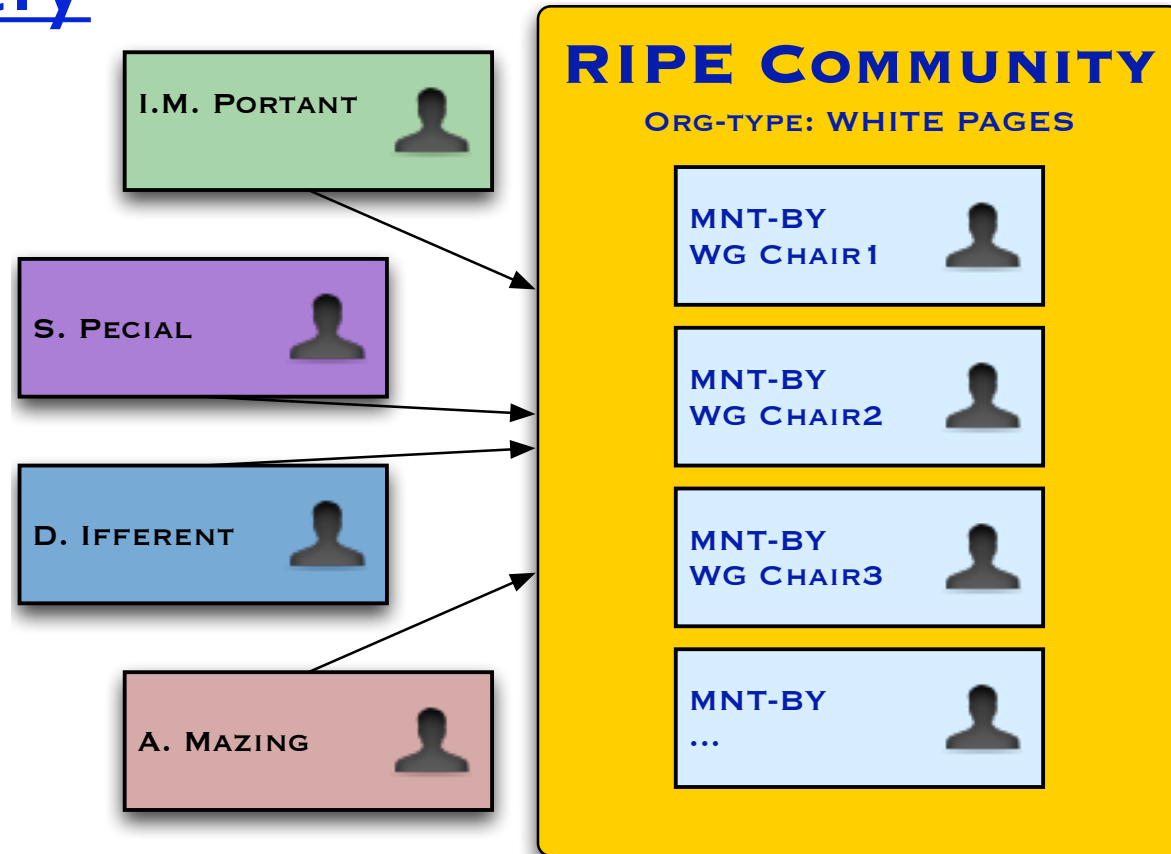
AP54.6: Clean up unref'd objects

- Currently running in monitoring mode
 - Checks all person objects daily
 - Flagged after 3 weeks
- Deletes to start late November
 - Start with 100 deletes/day
 - Enroll in Whitepages to remain!
 - See www.ripe.net/projects/dbconstat



Reminder: White Pages

- Deployed shortly after RIPE 56
- New org-type:
- Maintained by WG-Chairs
- Linked users exempt from cleanup



AS.Dot vs AS Plain

AS.Dot vs AS Plain

- AS 3.1415 vs AS 123456
- IESG has approved "AS Plain" as a Proposed Standard
- This means AS.Dot may have to be transformed to AS Plain globally
 - Final decision expected late November
 - RIPE NCC will follow the standard
- We will keep you informed

SQL Cluster

Problem Statement

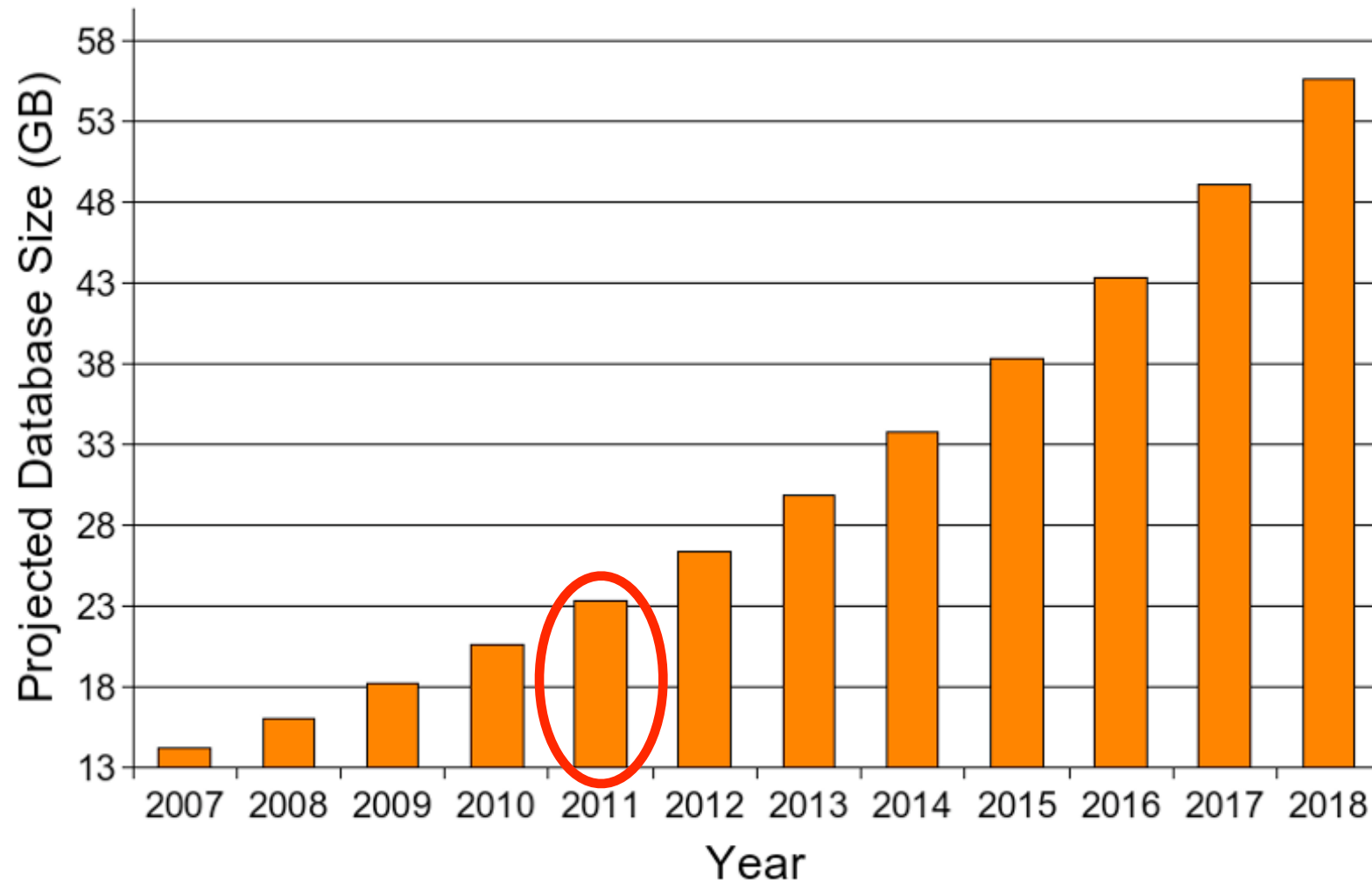
- RIPE DB resides on a single server
- Server is redundant in many ways:
 - Raid 5, Dual PSU / CPU / Nic, etc
- But if this server fails/loses network we:
 - can not rebuild the server quickly
 - will have a service outage for updates
 - may loose all data after the last backup

Objectives

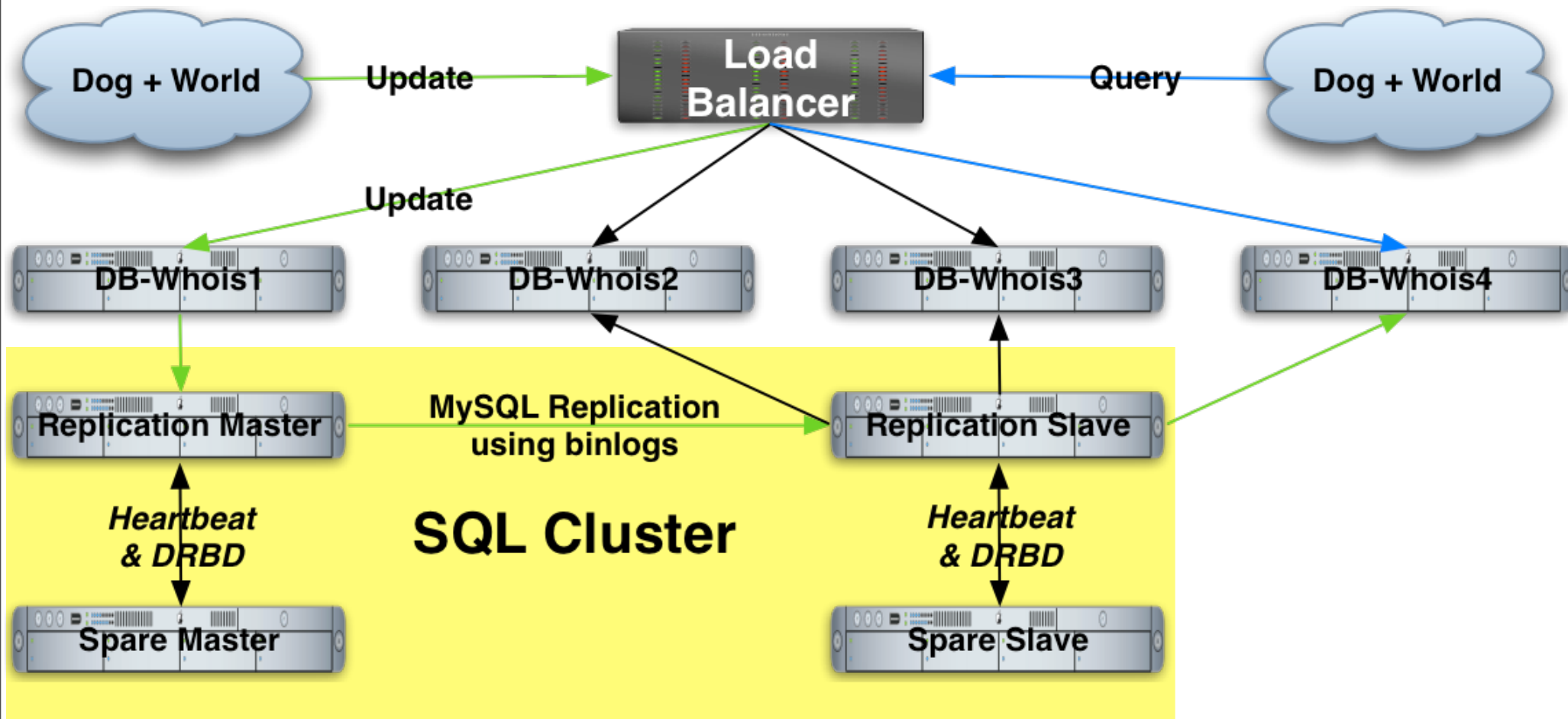
- Primary: Zero data loss in case of hardware failures or disasters.
- Secondary: Improve resilience to ensure maximum availability

Constraints: Database growth

Projected Database Size over Time



SQL Cluster Layout



Deployment

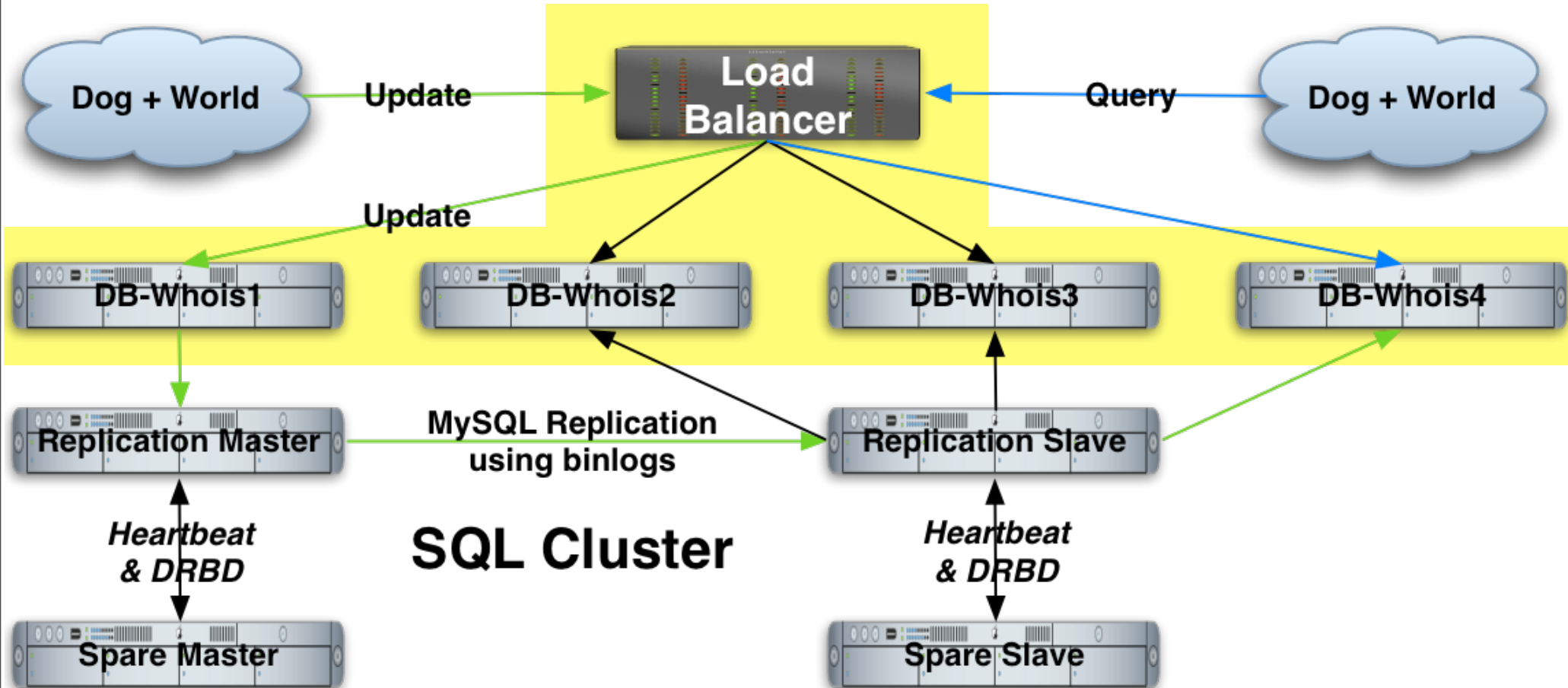
- Scheduled for deployment towards the end of this year

Whois Cluster

Whois Cluster

- Current hardware is end of life
- Whois load is growing rapidly
- New setup required
 - Loadbalanced & Redundant
- Running in test phase now
 - try it out at: **new-whois.ripe.net**
- Deployed late November
- Sets us up for Whois v4

Whois Cluster Layout



Whois v4

v4: Information over Data

- Use cases over elementary queries
 - "Abuse contact for resource"
 - "Geo locate this IP"
 - "Validate the integrity of this object"
- Multiple Views
 - Output data in machine readable form, like XMLRPC or JSON
 - If RPSL is needed, it will be provided
- Emphasis on data quality

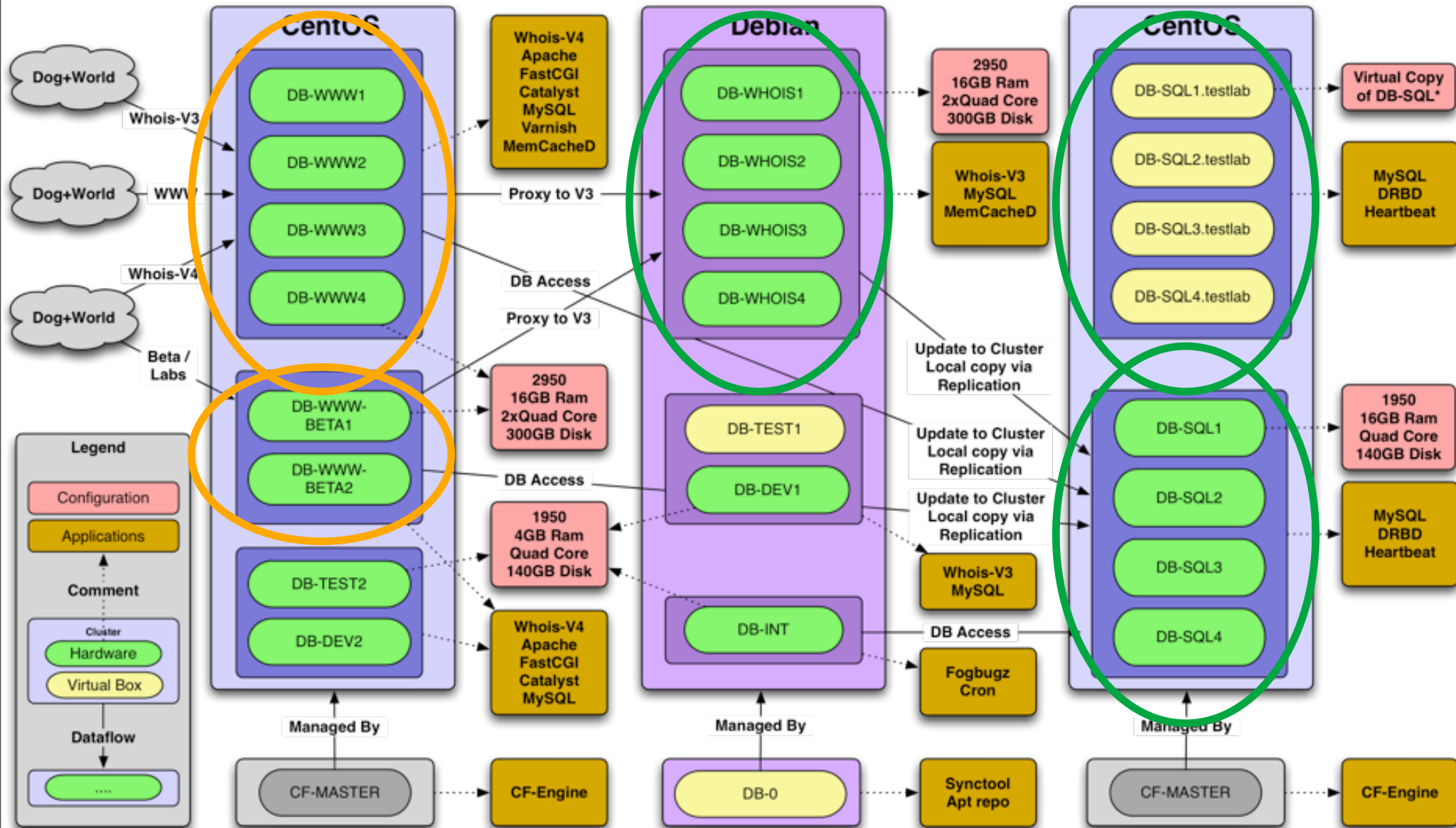
v4: Fundamental Concepts

- Levels of access control
 - No anonymous access to personal data
 - Access matrix for different user types
- Migrate away from Email updates
 - Spam & Virus processing overhead
 - MIME processing is error prone
 - Asynchronous updates will be provided
- Full Unicode compliance

Project Approach

- Dealing with Infrastructure before Implementation
- Iterative development rather than Big Design Up Front (BDUF)
- Slow migration away from v3, not Big Bang deployment of v4

Infrastructure Layout



v4: Further steps

- Approach does not require 'Big Bang'
 - Interactive discussions on features
 - Live prototypes
 - Roll forward & backward as needed
- Business As Usual (tm)

Operational Update

RIPE-DBM

RIPE-DBM

- First line support by Customer Services
 - Second line still done by DB group



Andrea (manager)

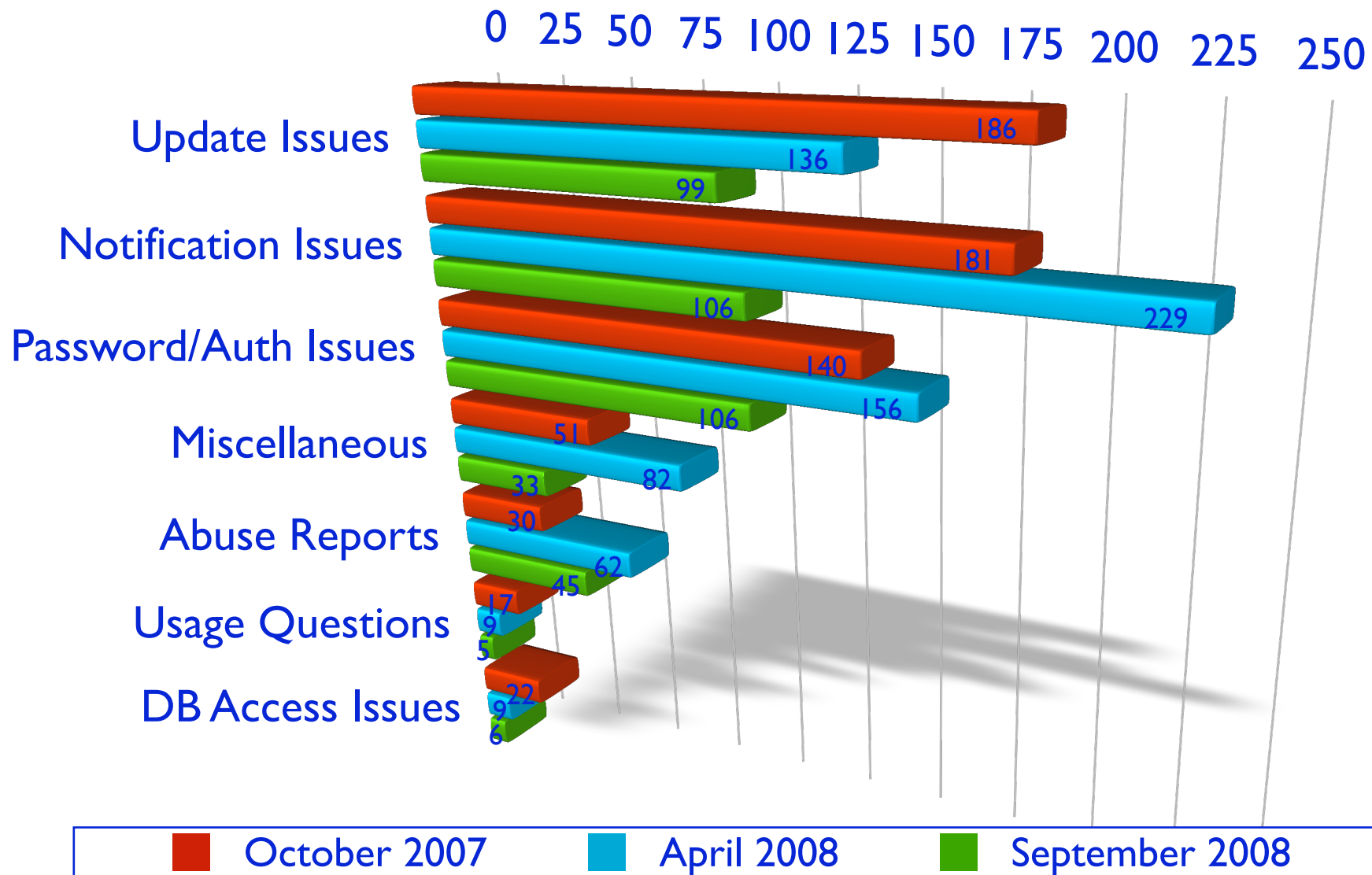


Milena



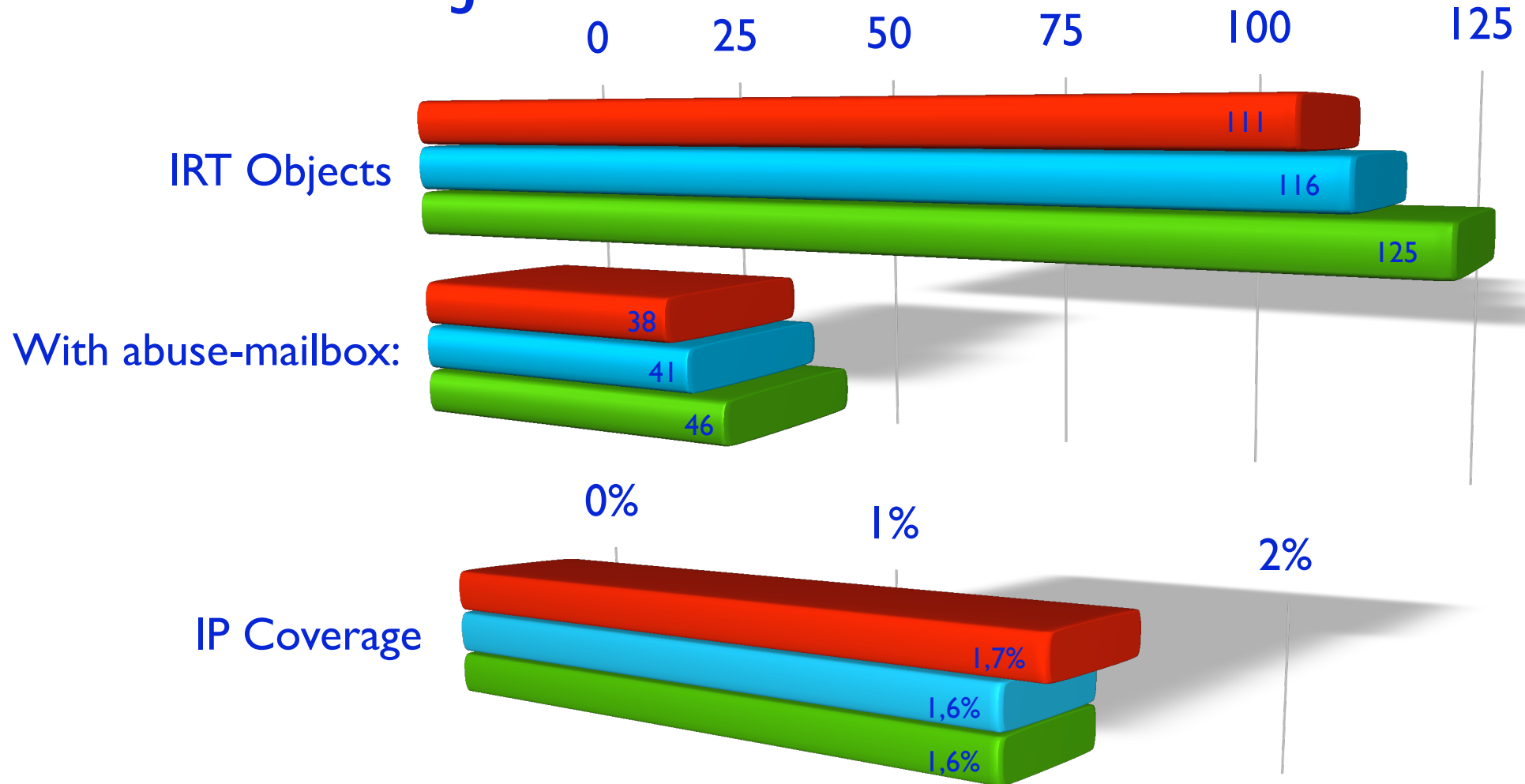
David

Average tickets per month



RIPE DB

IRT Objects – The numbers



October 2007

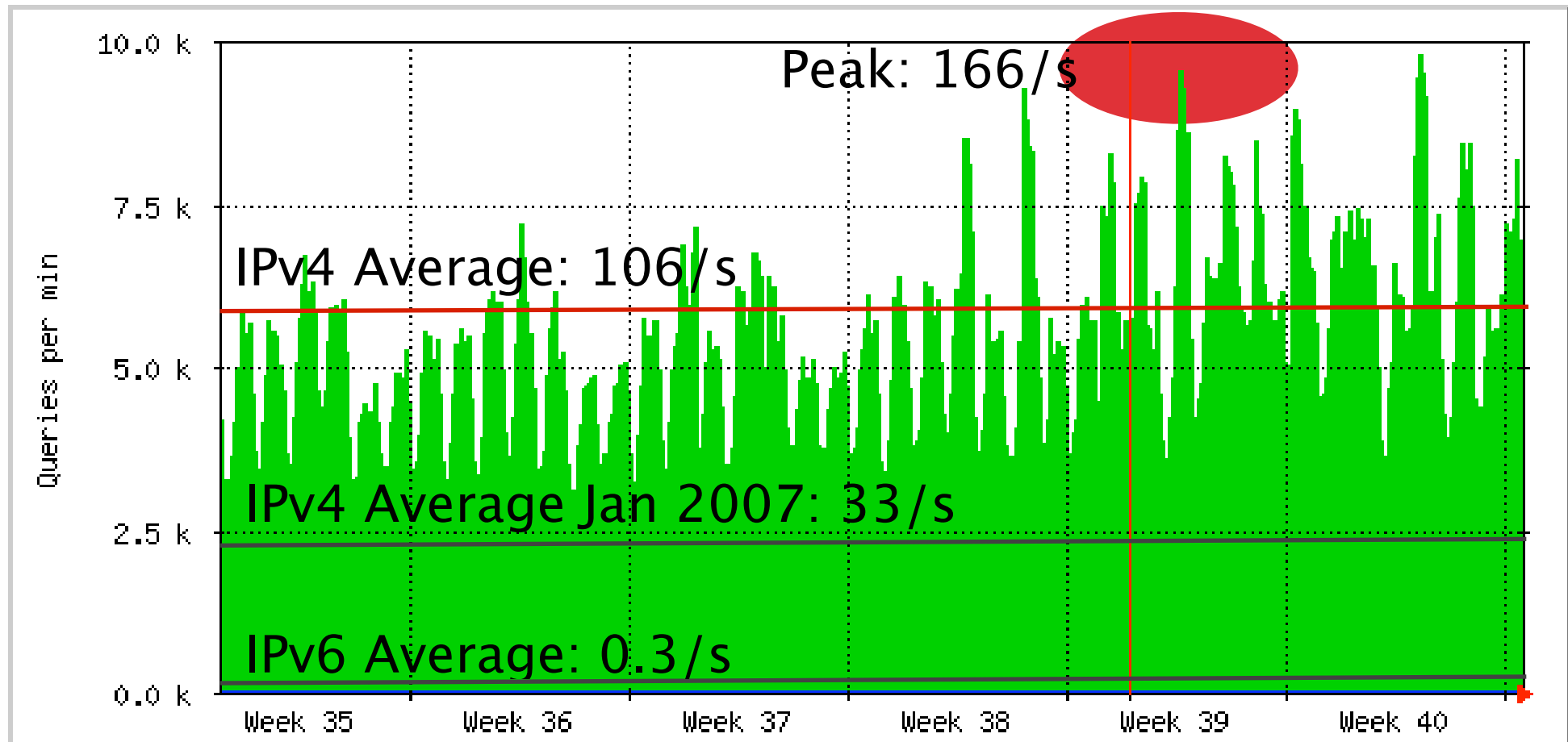


April 2008



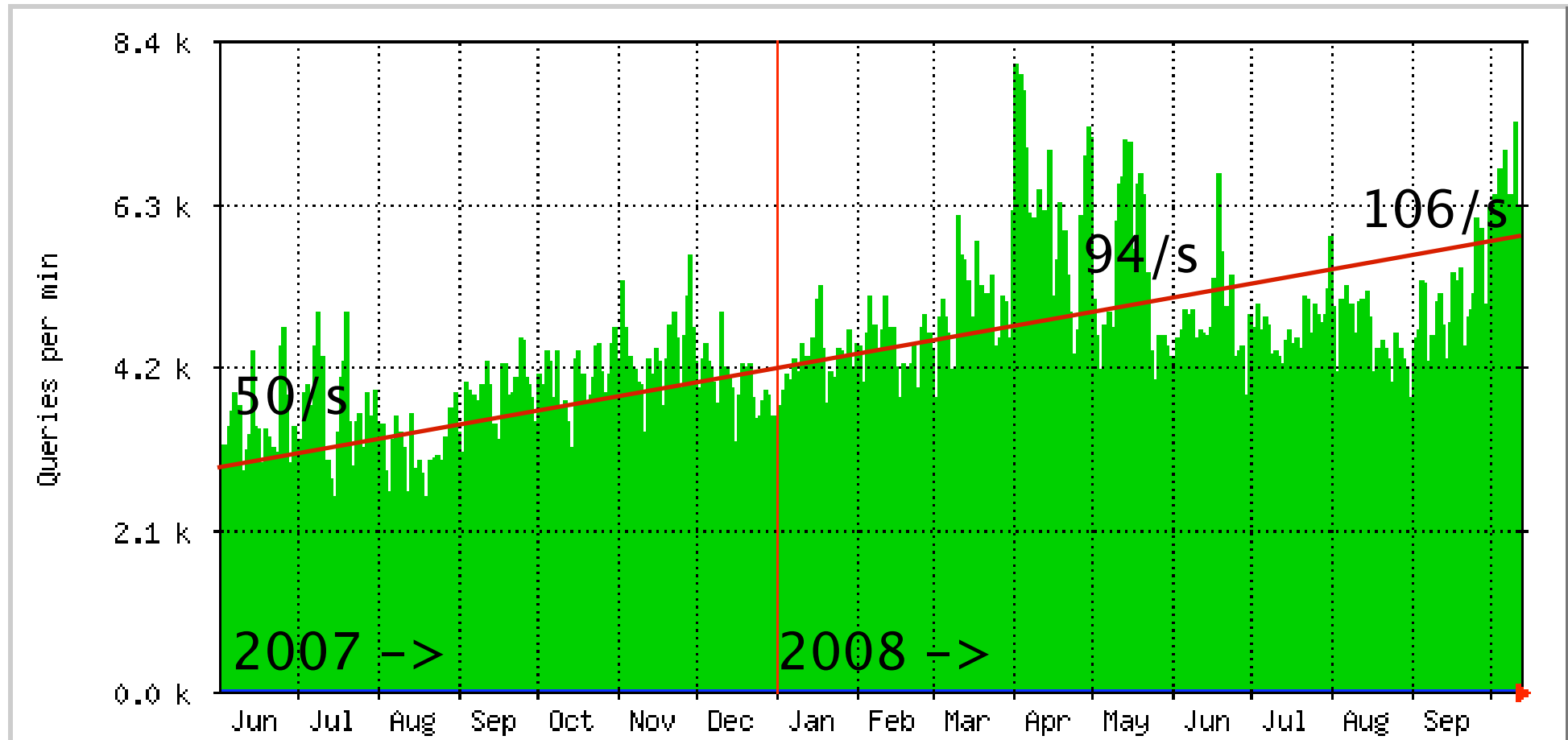
October 2008

Stats: Whois Queries



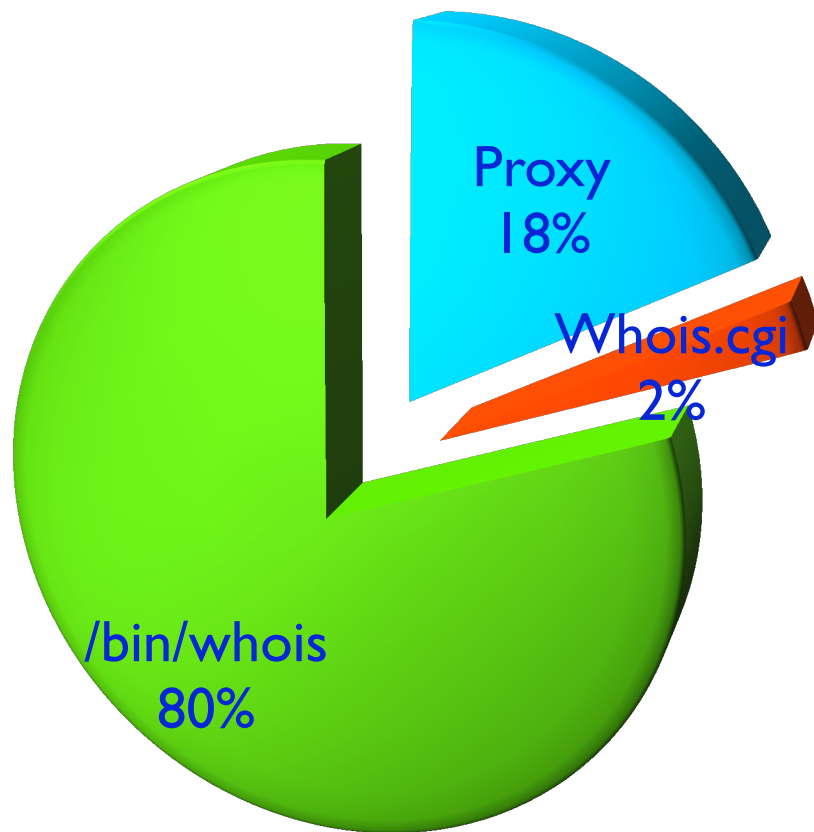
www.ripe.net/projects/dbconstat for more

Stats: Whois Queries

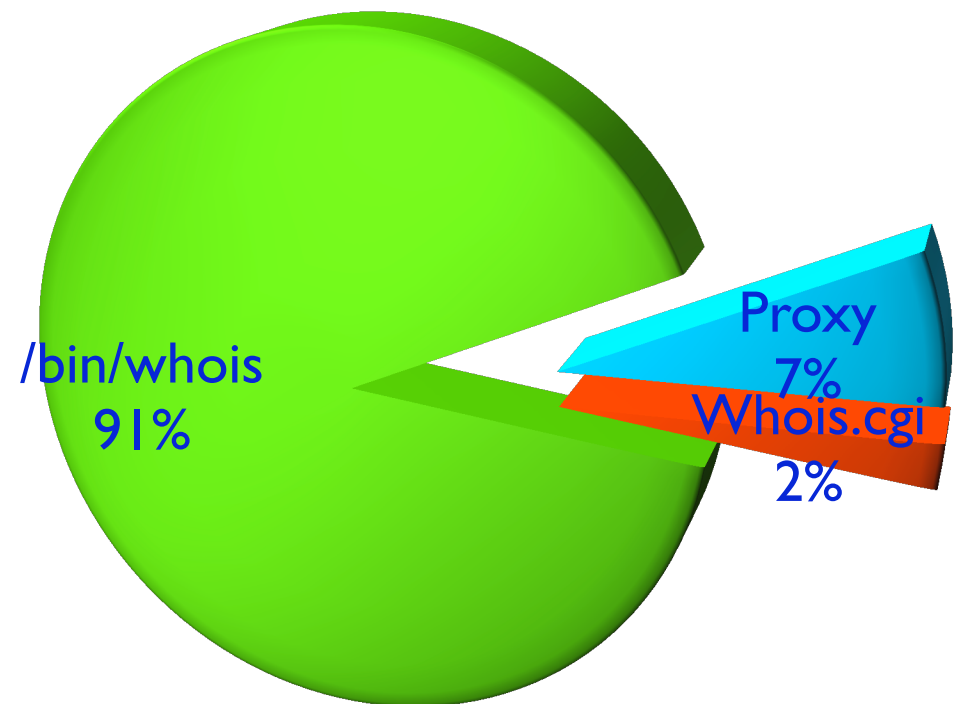


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Whois Queries – Access Method

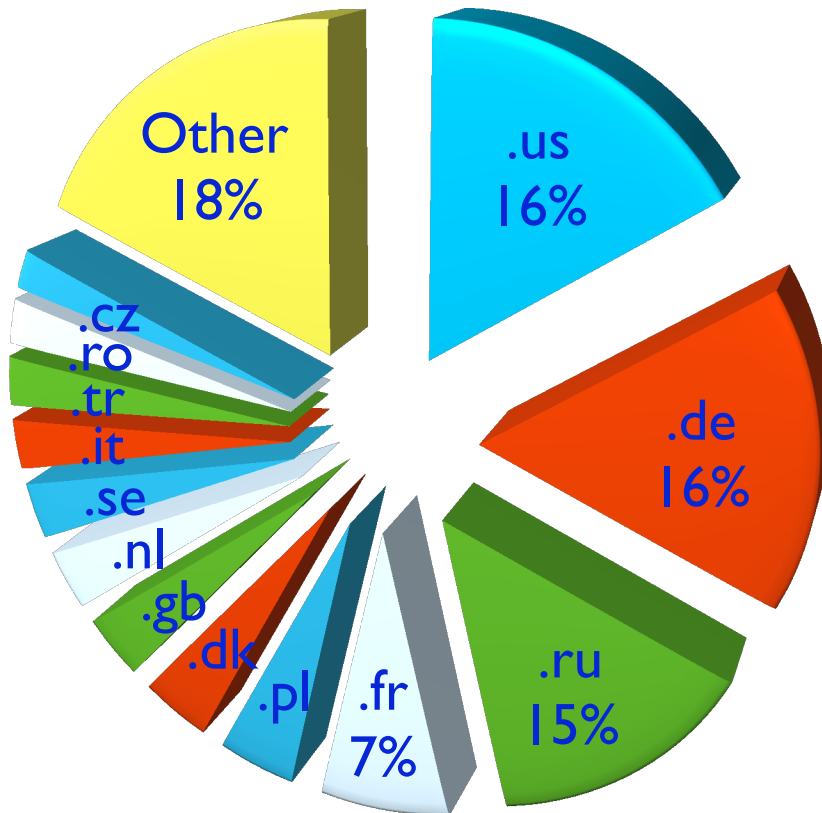


May 2008

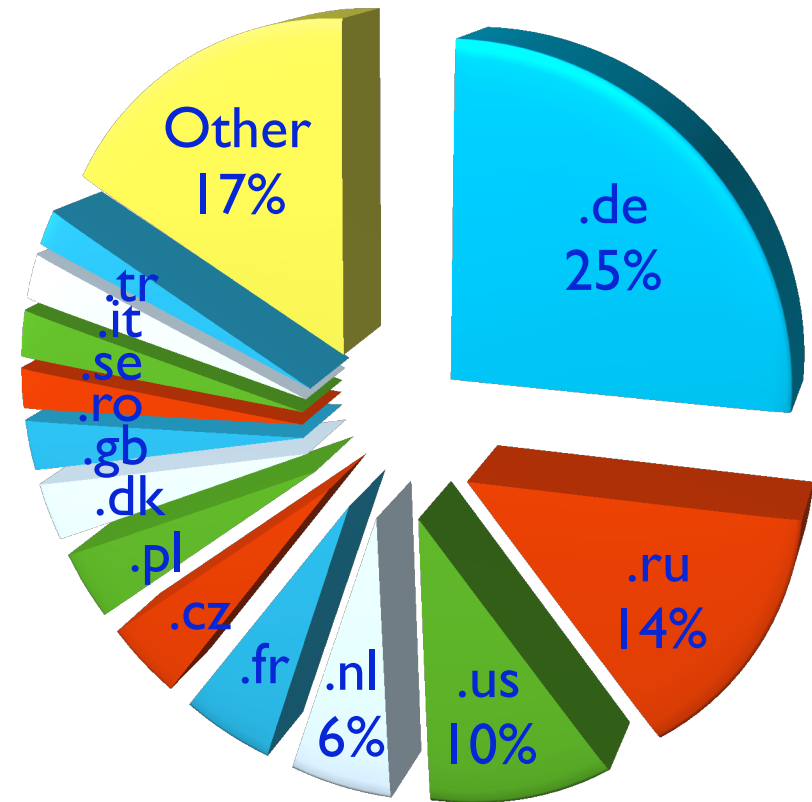


September 2008

Whois Queries – Usage by Country

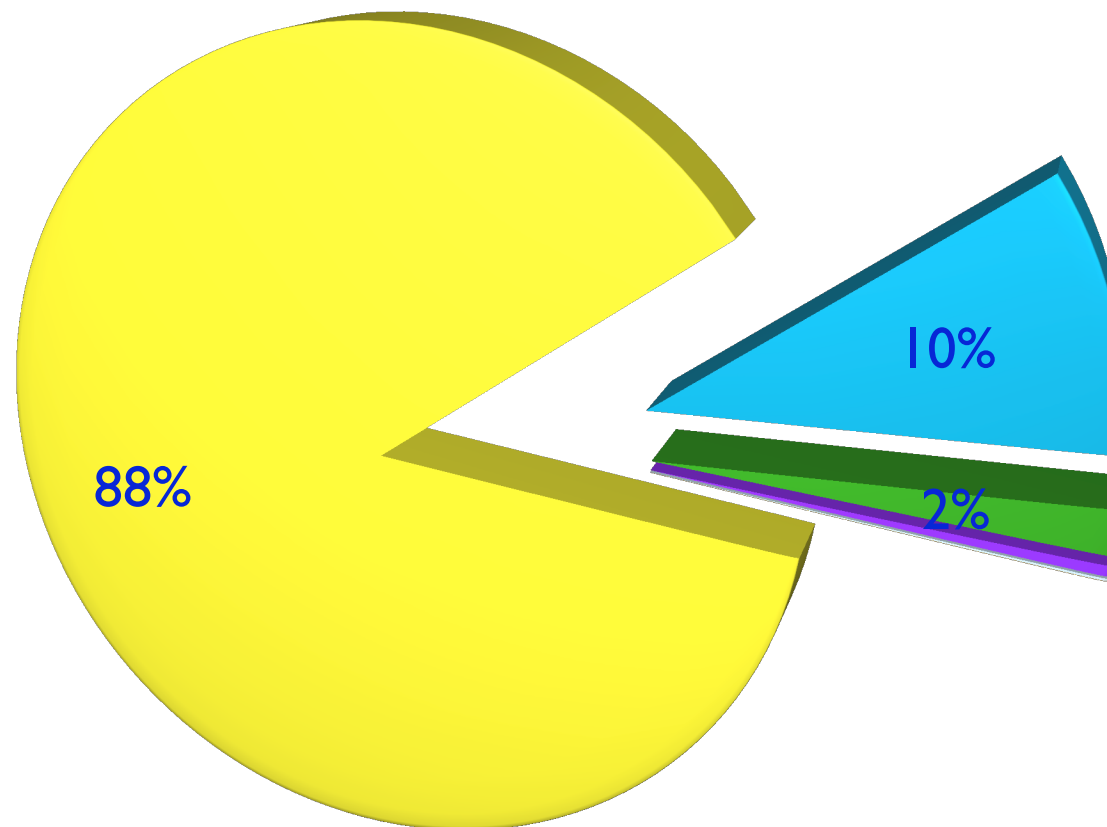


May 2008



September 2008

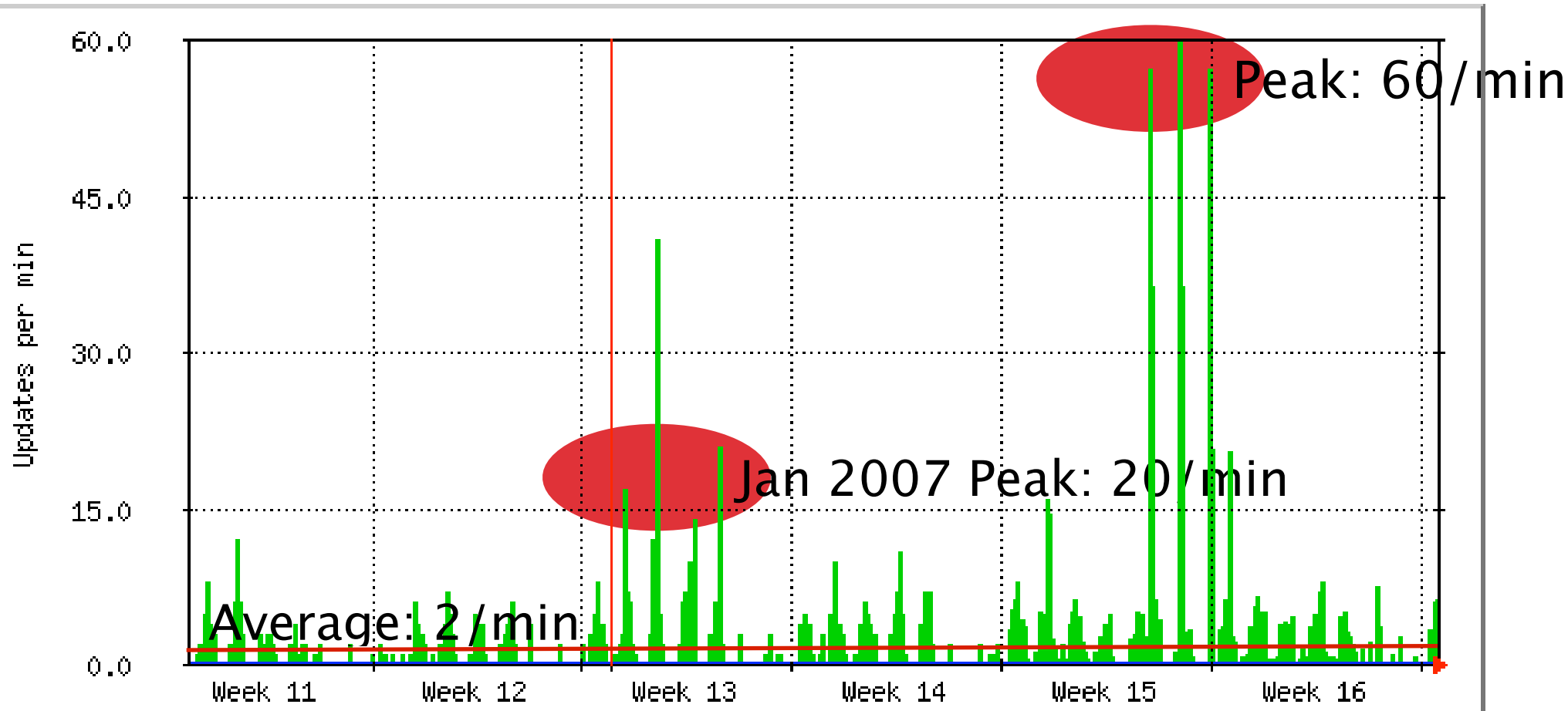
Query distribution per month



Amount of queries per unique IP

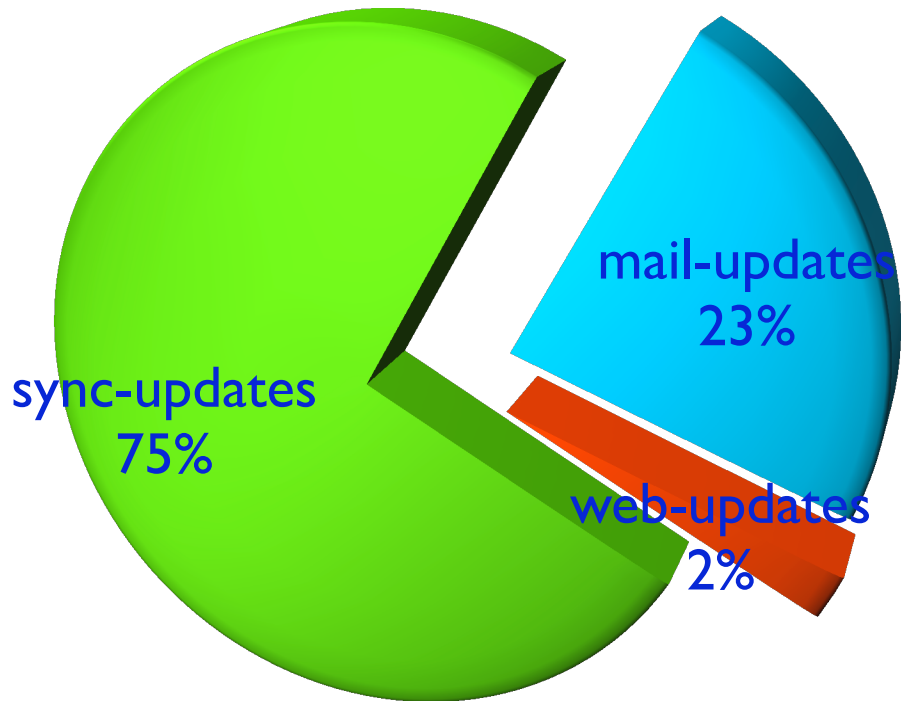
- 1-10
- 11-100
- 101-1000
- 1001-10000
- 10001-100000
- 100000+

Stats: Successful Whois Updates

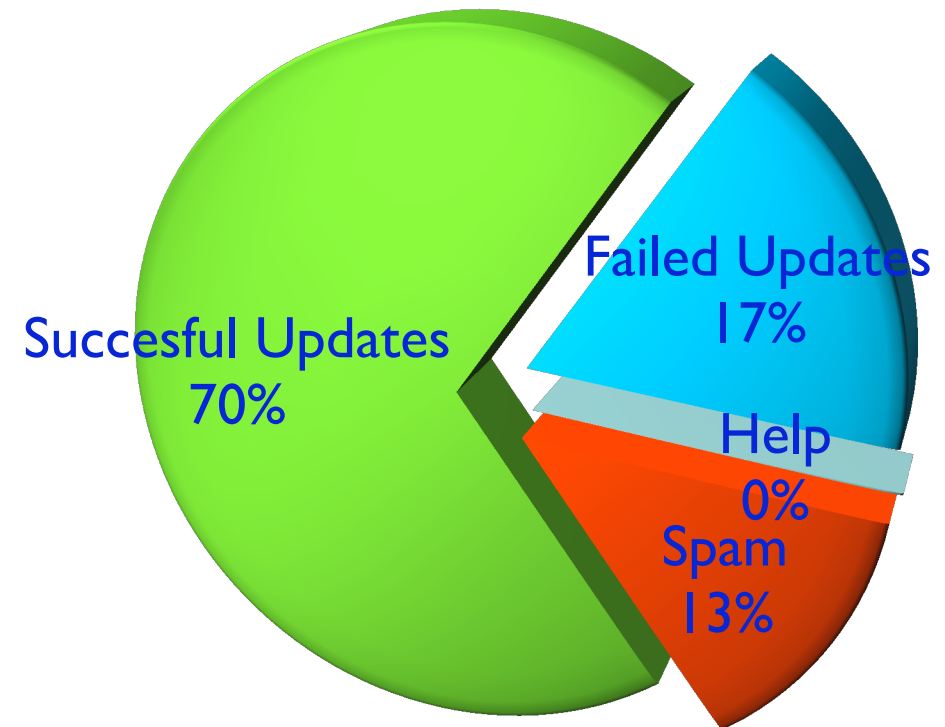


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Whois Updates – Distribution

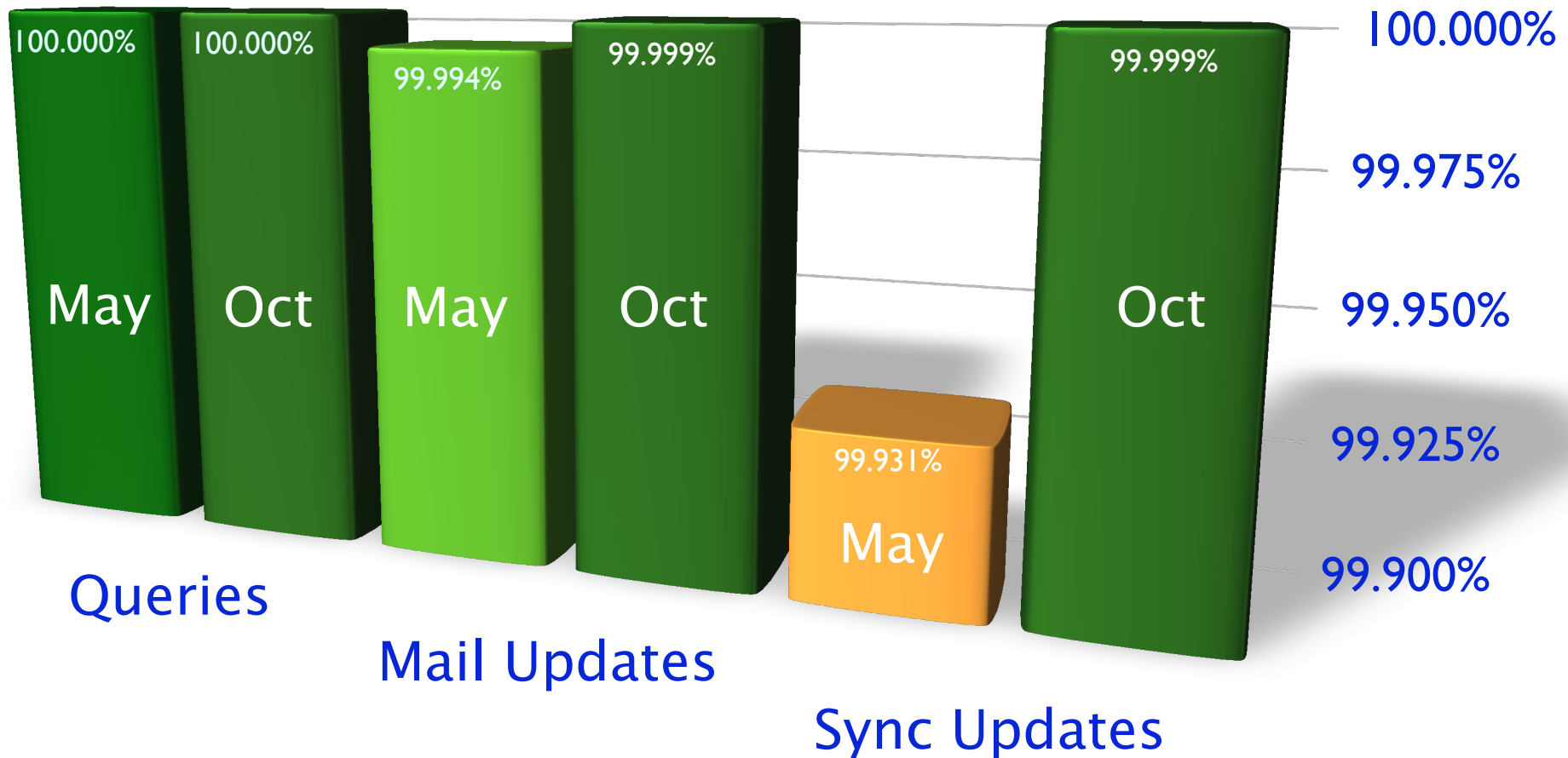


Update Method



Update Types

RIPE DB: Query & Update Uptime





Questions?



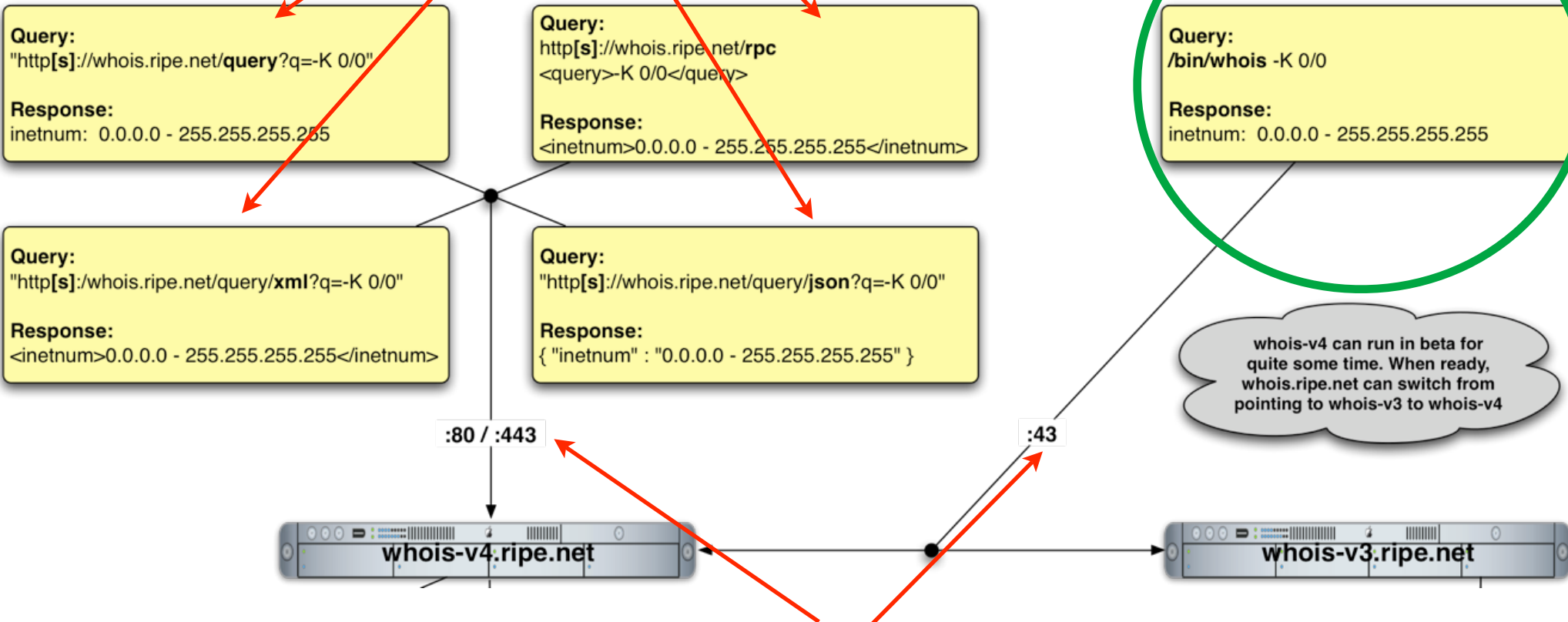
Thank You

v3 -> v4 Transition

Queries in multiple formats

Whois v4 Only

Whois v3 & v4



v3 -> v4 Internals

Plain v3

