

RIPE NCC DNS Update

Wolfgang Nagele
Global Information Infrastructure Manager



New department

- Global Information Infrastructure – short GII
 - Consolidate IT services operated outside the RIPE NCC network
- Services
 - DNS
 - TTM
 - DNSMON
 - INRDB
 - RIS
 - Storage and Analysis Infrastructure

DNS Services

- Reverse DNS for RIPE NCC zones
- Secondary for other RIRs
- K-root
- F-reverse (in-addr.arpa & ip6.arpa)
- Secondary DNS for ccTLDs
- ENUM Tier-0 (e164.arpa)
- AS112 node at AMS-IX (RFC1918 space sink)

Anycast Cluster (AS197000)

- Two anycast instances operational
 - London (LINX) & Amsterdam (AMS-IX)
- Production for critical zones
 - in-addr.arpa (Reverse IPv4 parent zone)
 - ip6.arpa (Reverse IPv6 parent zone)
 - IPv4 and IPv6 reverse parent zones
 - Primary for RIPE NCC
 - Secondary for other RIRs
 - RIPE NCC forward zones (ripe.net, etc.)

F-reverse

- Serves in-addr.arpa and ip6.arpa
- According to RFC5855 (BCP)
- Servers operated by
 - ARIN, APNIC, AfriNIC, LACNIC, RIPE NCC, ICANN

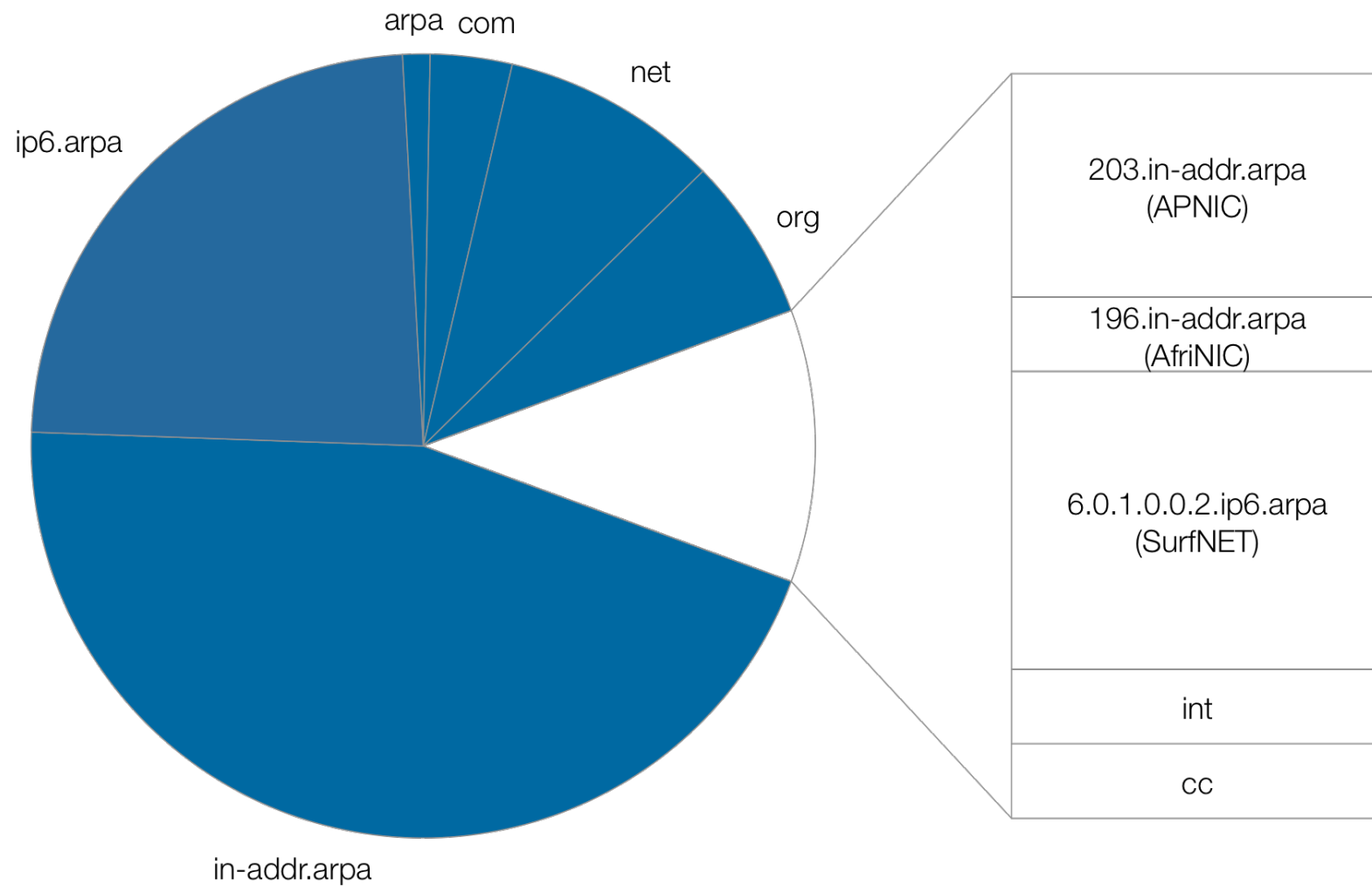
ERX space with DNSSEC support

- Ready in our provisioning systems
 - Enabled for ARIN
 - Waiting for DNSSEC support with other RIRs

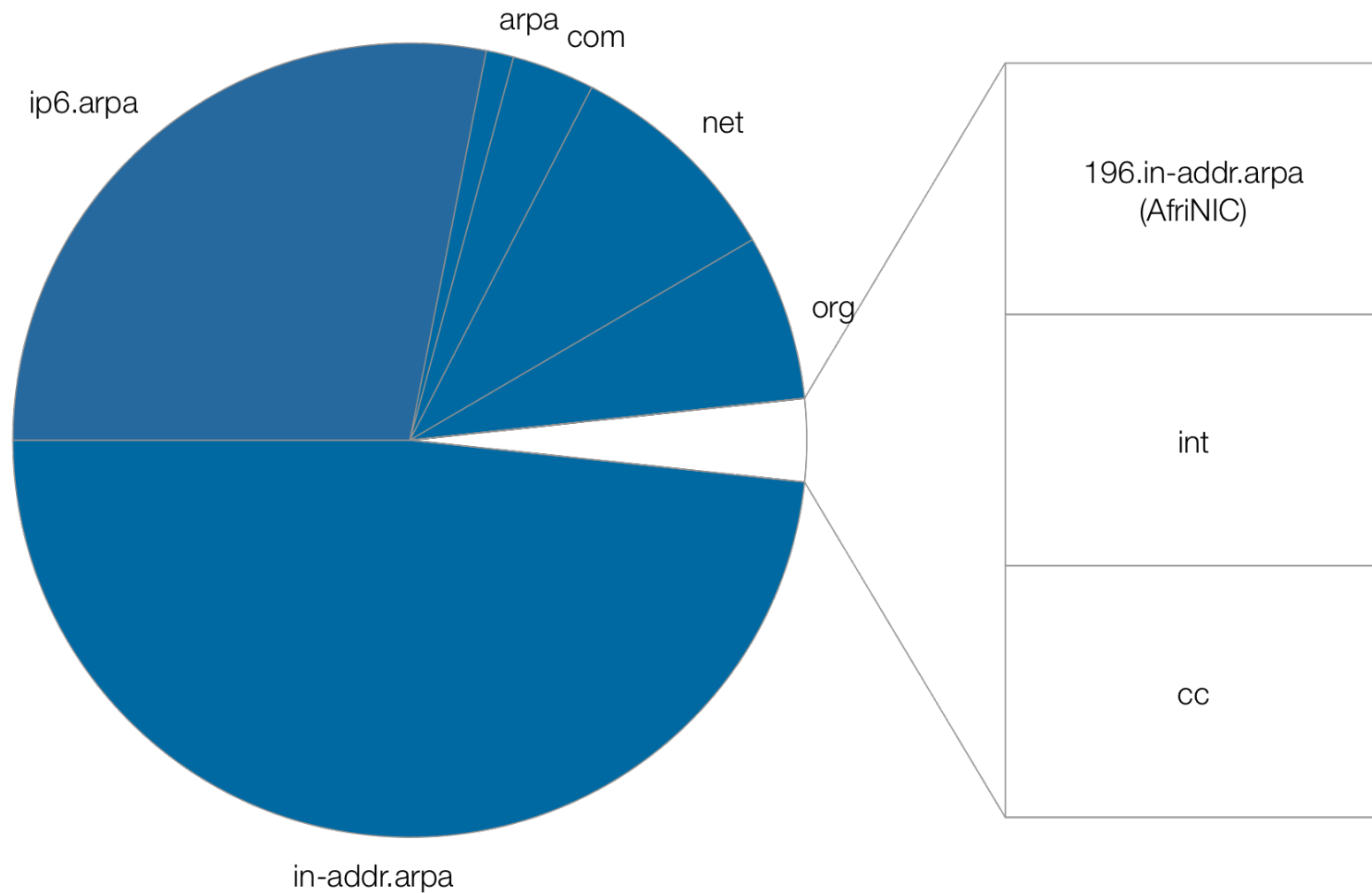
Automated provisioning for /24 space

- Changes in RIPE database as agreed by DB working group during RIPE62
 - Confusing 3rd octet dash notation removed
 - Support for dash notation in 4th octet implemented
 - Migrated manually provisioned zones into RIPE database to be maintained by their owners

DNSSEC: Signed Parents

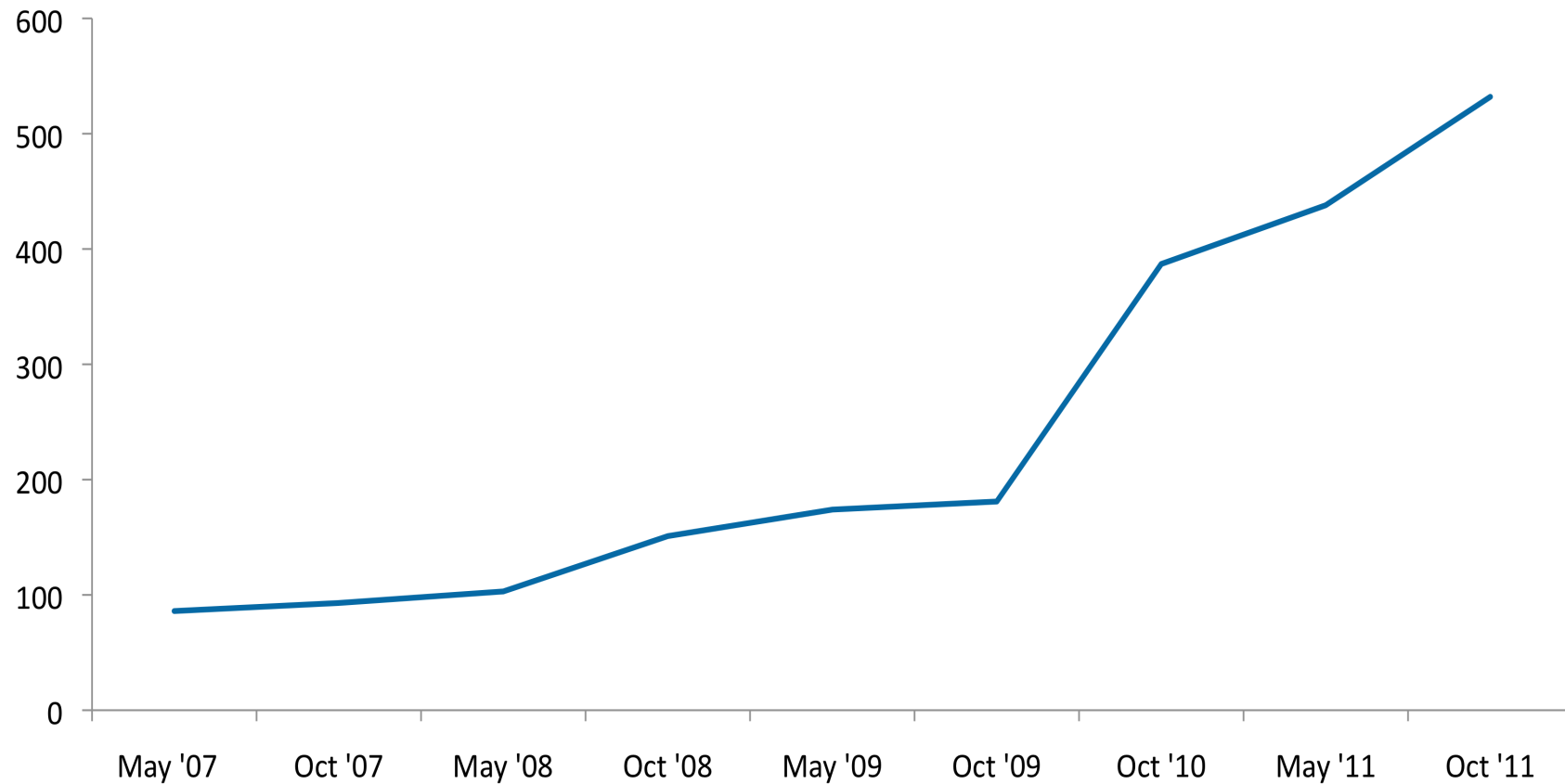


DNSSEC: Signed Parents (by late 2011)



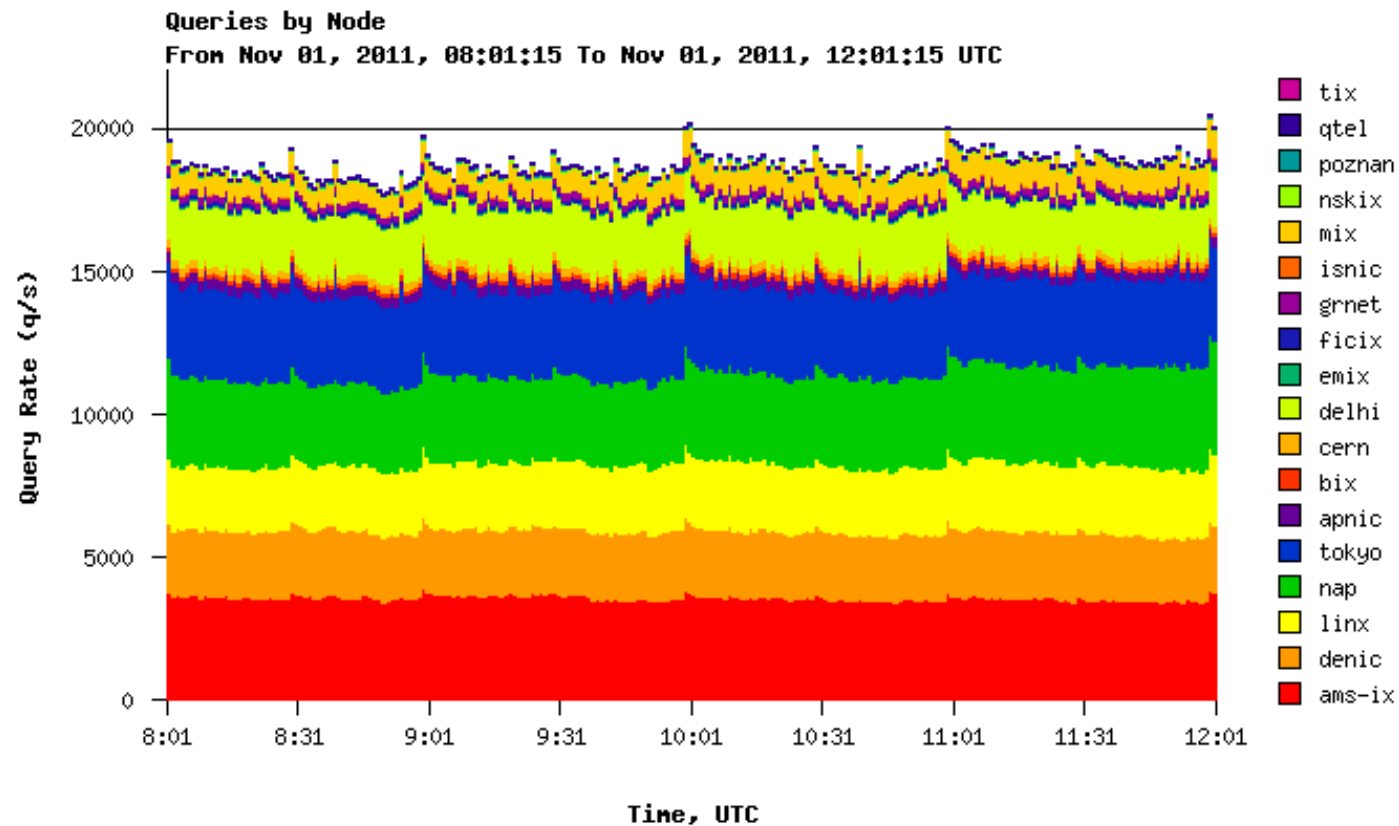
DNSSEC in Reverse DNS

- DS records over time



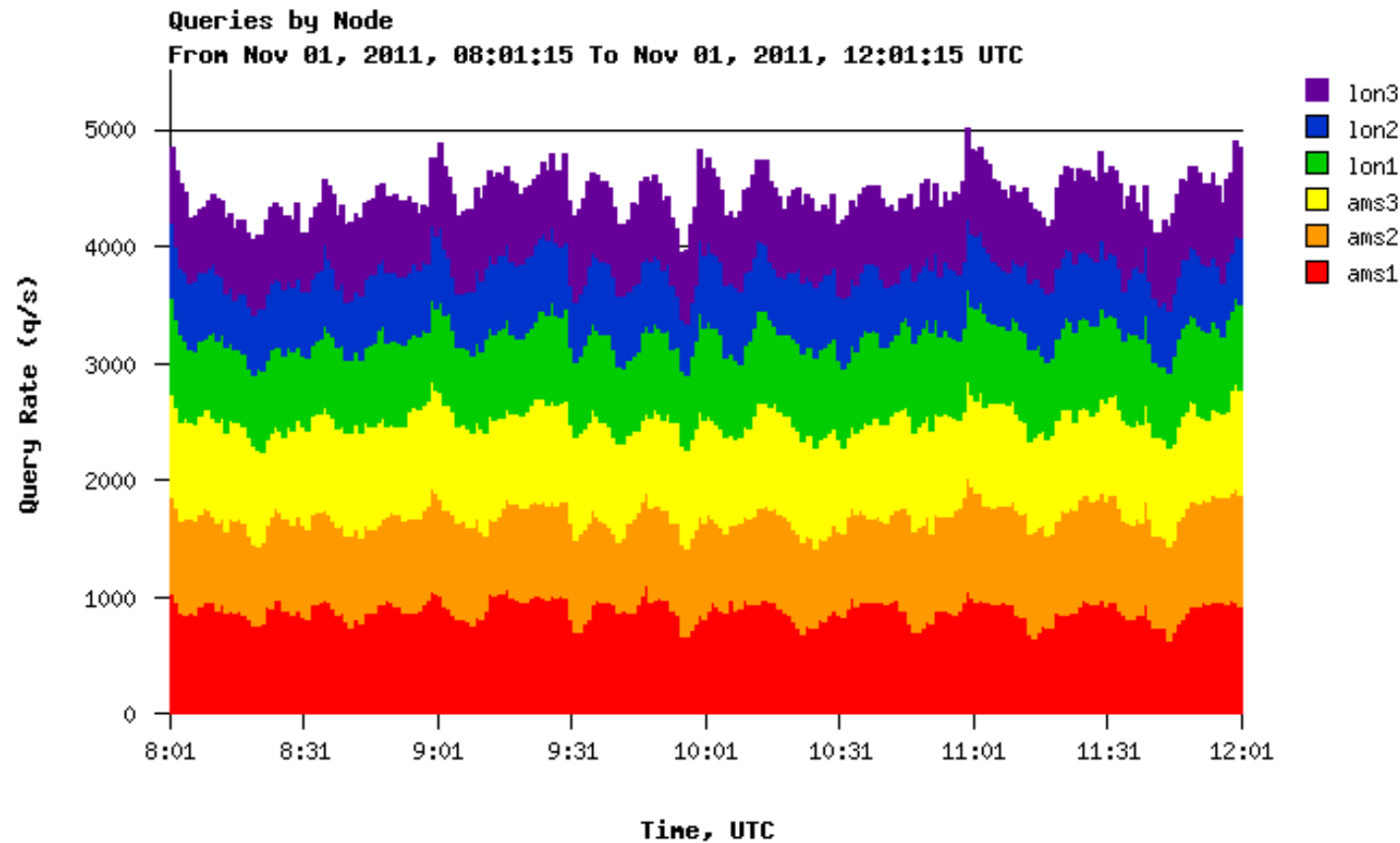
K-root

- Operations stable with 18 instances



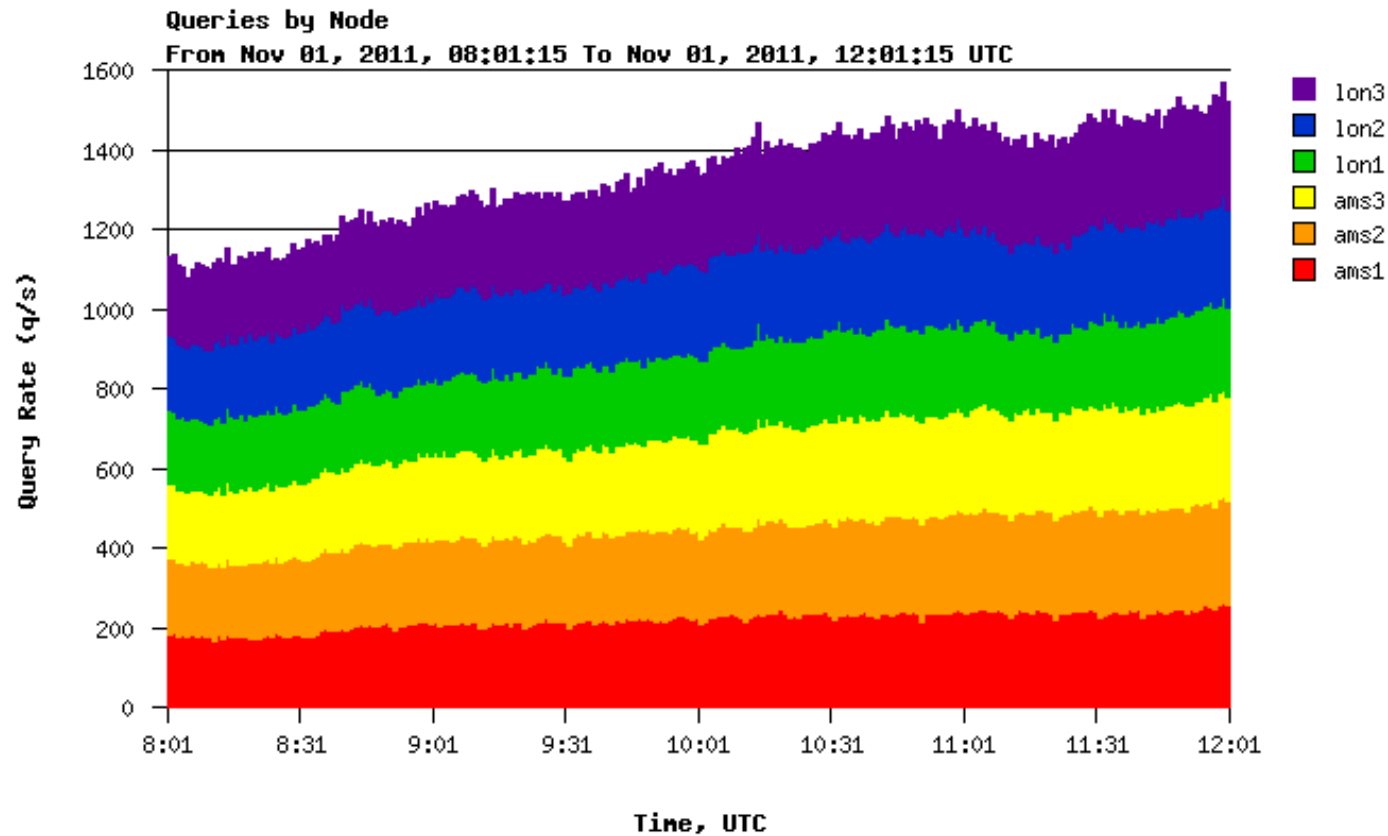
F-reverse (in-addr.arpa)

- Operations stable with 2 instances



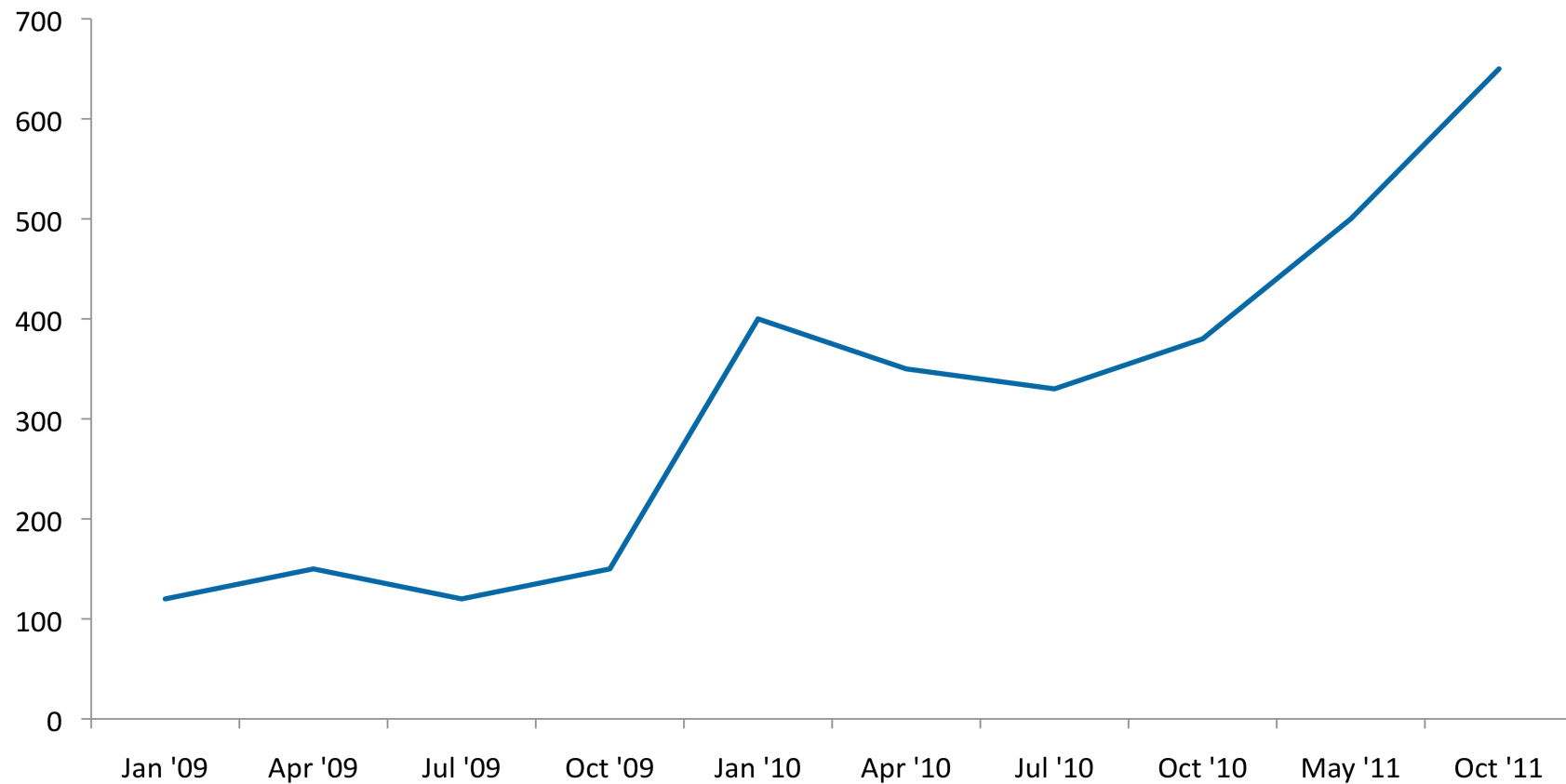
F-reverse (ip6.arpa)

- Operations stable with 2 instances



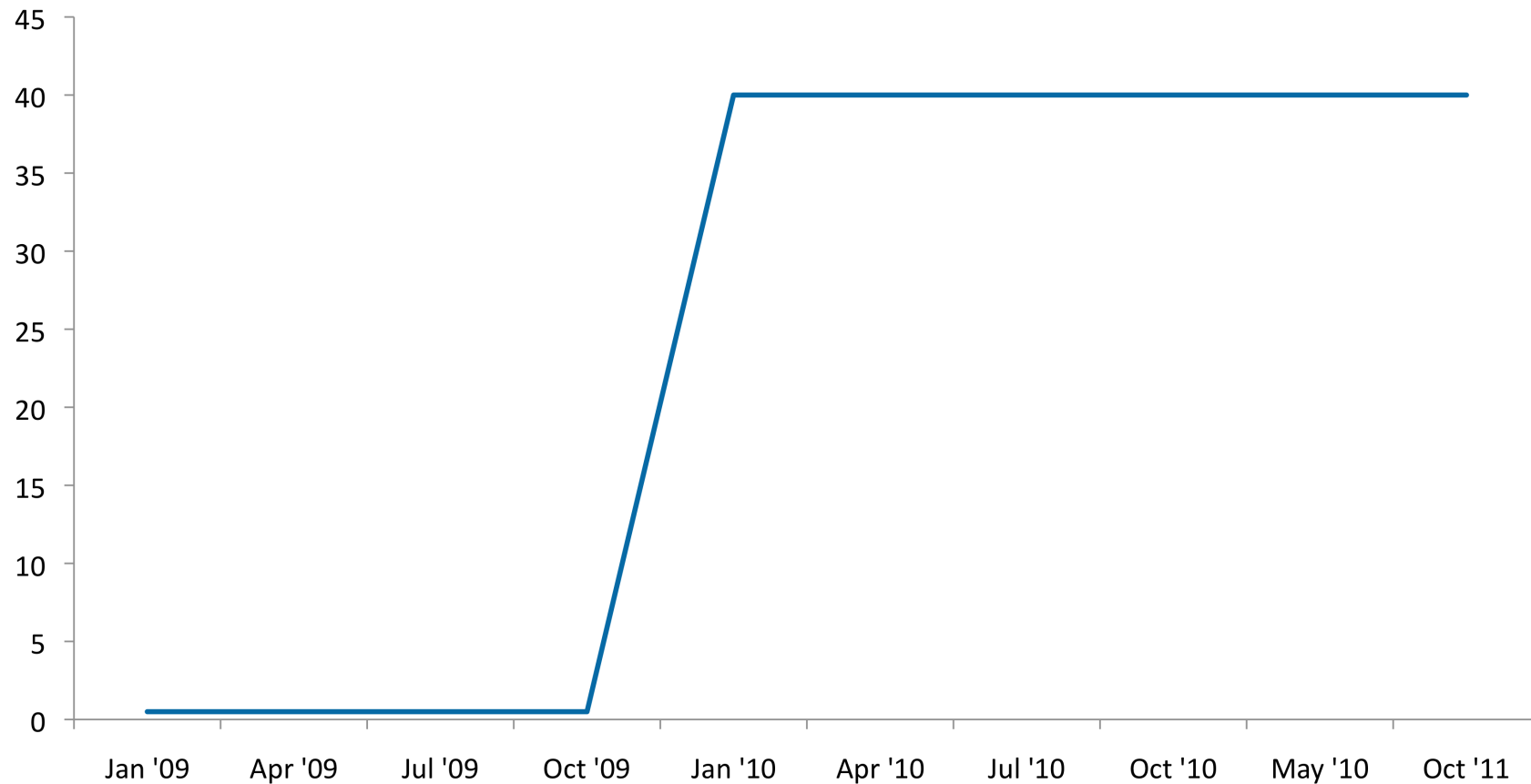
K-root IPv6

- Queries per second received over IPv6



K-root and TCP

- Queries per second received over TCP



DNS Analysis

- Deployed Hadoop infrastructure with 16 computation and storage nodes
- Continuous data input from our DNS systems
 - AS112, K-root, F-reverse
- Used for ad-hoc data analysis on full packet captures
- Live demo in presentation on MAT-WG today

Anycast Cluster

- ns.ripe.net
 - Secondary for LIR reverse space
 - Hosts around ~4,500 zones
- ns-<ccTLD>.ripe.net
 - Secondary for developing ccTLDs
 - Lots of communication with all the ccTLDs involved
 - Expect to finish by end of 2011

DNSMON improvements

- Faster data processing
 - ~5 minutes from data gathering to display
- Faster plot generation
 - Plots generated more reliable and quick
- New user interface
 - Development still ongoing

AP57.2: Cleanup Forward Domain Data

- Started with **domain** objects in the RIPE Database for 43 ccTLDs
- Two are still actively using the RIPE Database
 - .gov.il has just been removed a week ago
 - .mc to be deleted in January 2012
- 41 deleted – TLD object with all sub-domains
- Users cannot create new TLD objects
- Syntax will be changed when last removed

Questions?

wnagele@ripe.net

