ARIN Engineering

Mark Kosters

Engineering Theme

- Continue to work on a surge

- Lots of work to do (but a great deal now done)

- Supplementing staff with contractors

Staffing

- Operations
  - 7 people (one opening)

- Development
  - 13 people (7 contractors) (one opening)

- Quality Assurance
  - 9 people (5 contractors)

- Requirements/Project Management
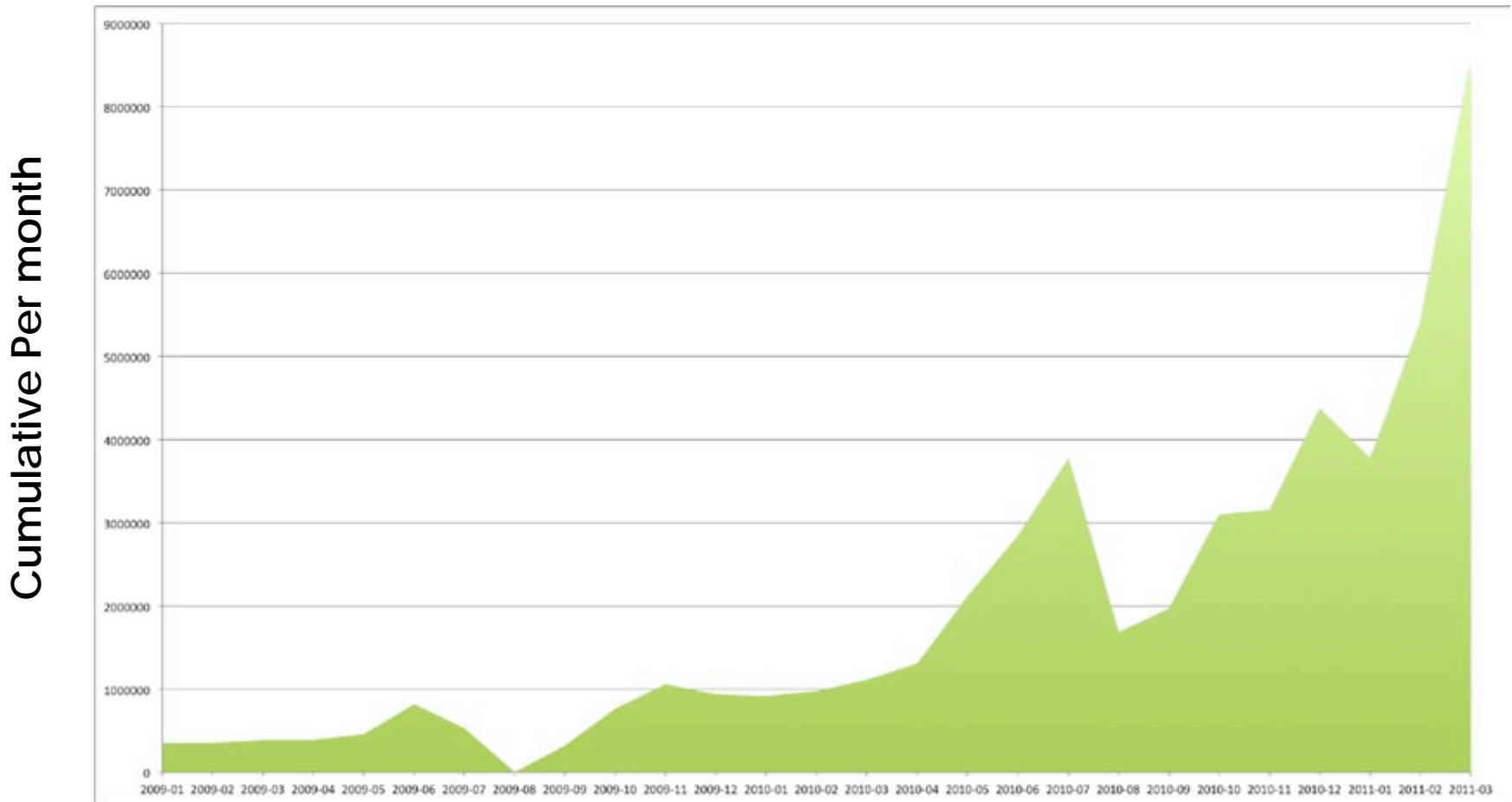 - 1 person

- Management
  - Me

Operations

- Setting up first iteration of an OT&E environment for Beta Testing

- Upgrading end-of-life equipment

- Installed a PFS-lite site in St Maartin

- Consolidating Colo space in Equinix based on RPKI security needs

- Maintaining the various environments we have running (dev/qa/staging/testing/production)

Whois-RWS Statistics – v6

Whois/Whois-RWS Traffic Loads

- Interesting traffic loads are dissipating

- Now versus 12 months ago

- At ARIN XXV

  - 50% of the queries are self-referential (i.e. source ip 192.168.2.5 asking for 192.168.2.5)

  - Most are singleton queries

  - Was increasing over the last year

 - Started noticing decrease after ARIN XXV

Whois-RWS Traffic Loads

- **At ARIN XXVI**

  - Saw a rise in traffic day after Google announced OpenID collaboration with Yahoo in September

  - Traffic spiked 300%

  - Top ten sites being login sites for various providers – Yahoo, AOL, and Facebook

  - Approximately 5600 queries per second doing the height of the day
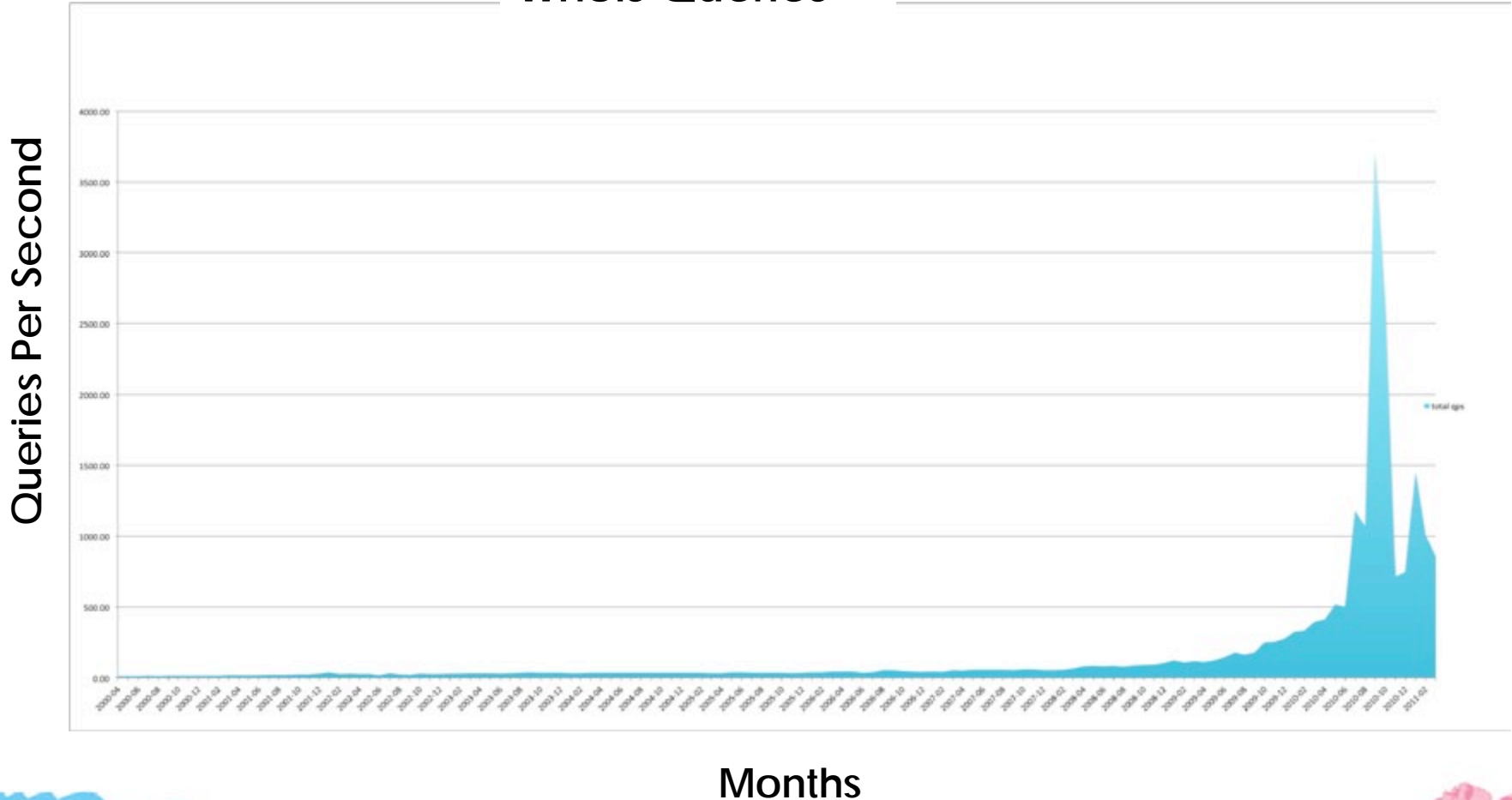
Whois-RWS Statistics- Uptick

Stacked Proxy Total Queries

From 2010/08/22 17:22:09 To 2010/09/22 17:22:09
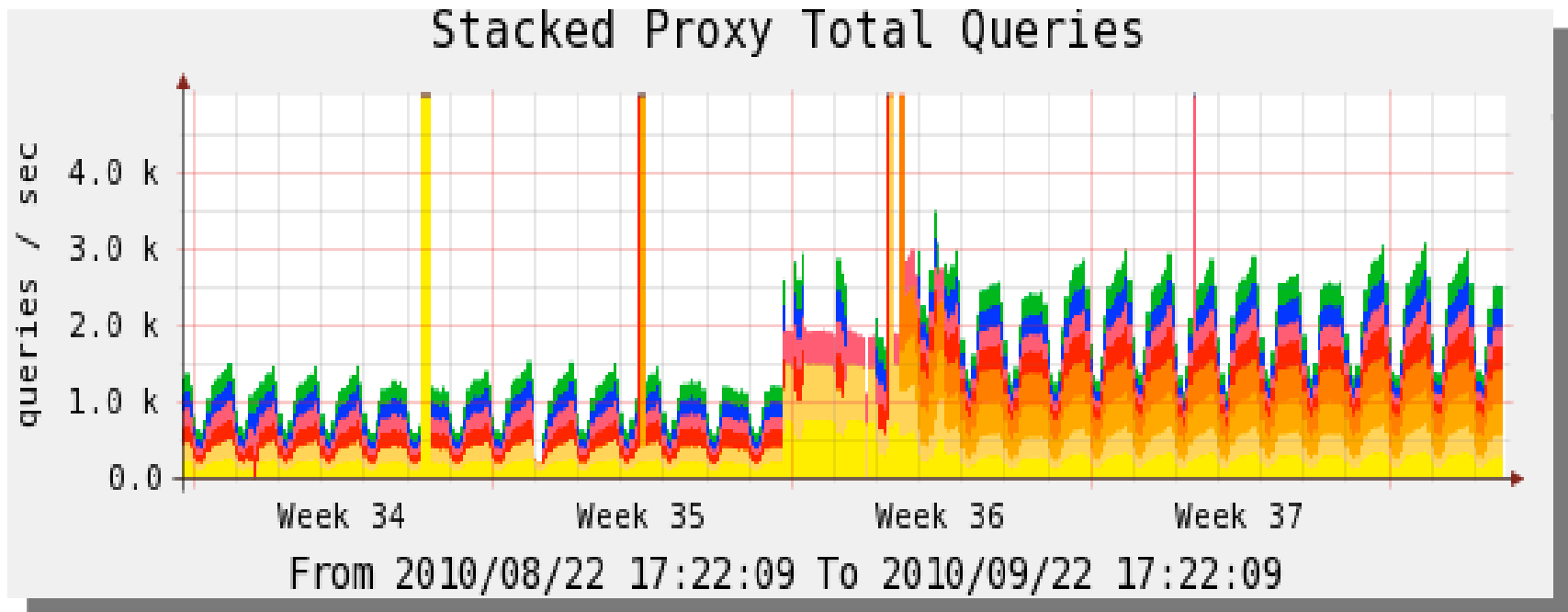
Whois-RWS Loads

- Loads disappeared soon after ARIN XXVI
- Running "normally" now at 2000 queries per second
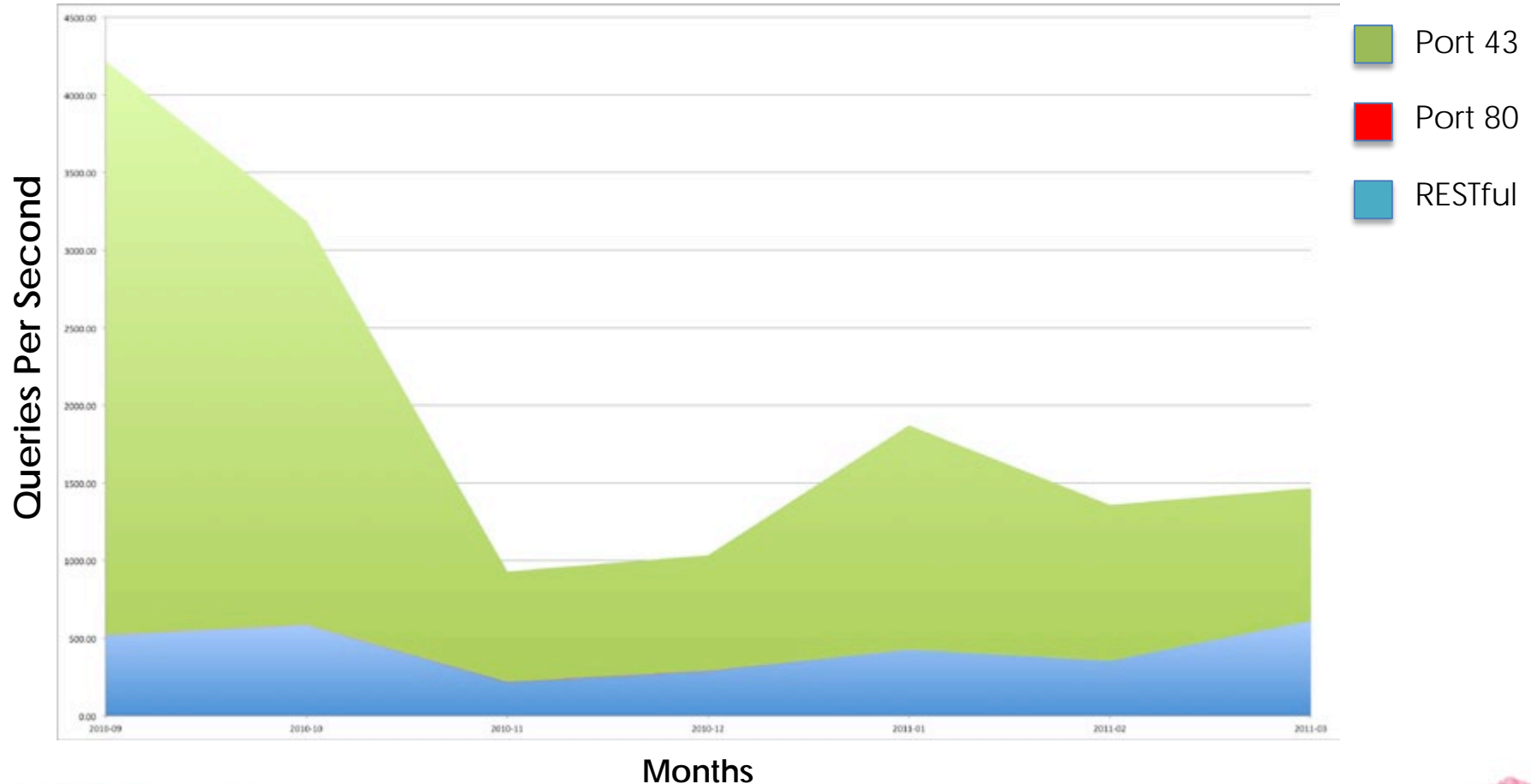
Whois-RWS Statistics

Whois Queries

Queries Per Second

Months

# Cumulative Directory Service Traffic

in-addr.arpa Transition

- in-addr.arpa generation moved from ARIN to ICANN on 2/16/11

- in-addr.arpa moved from root servers to RIR/ICANN managed servers

- Servers moved off root in increments from 2/21/11 until 3/7/11

- in-addr.arpa is now signed

- Plan to provision DSs to ICANN for /8's under ARIN's control by 5/1/11

- No need for trust anchors by that point

Traffic from a.in-addr-servers.arpa
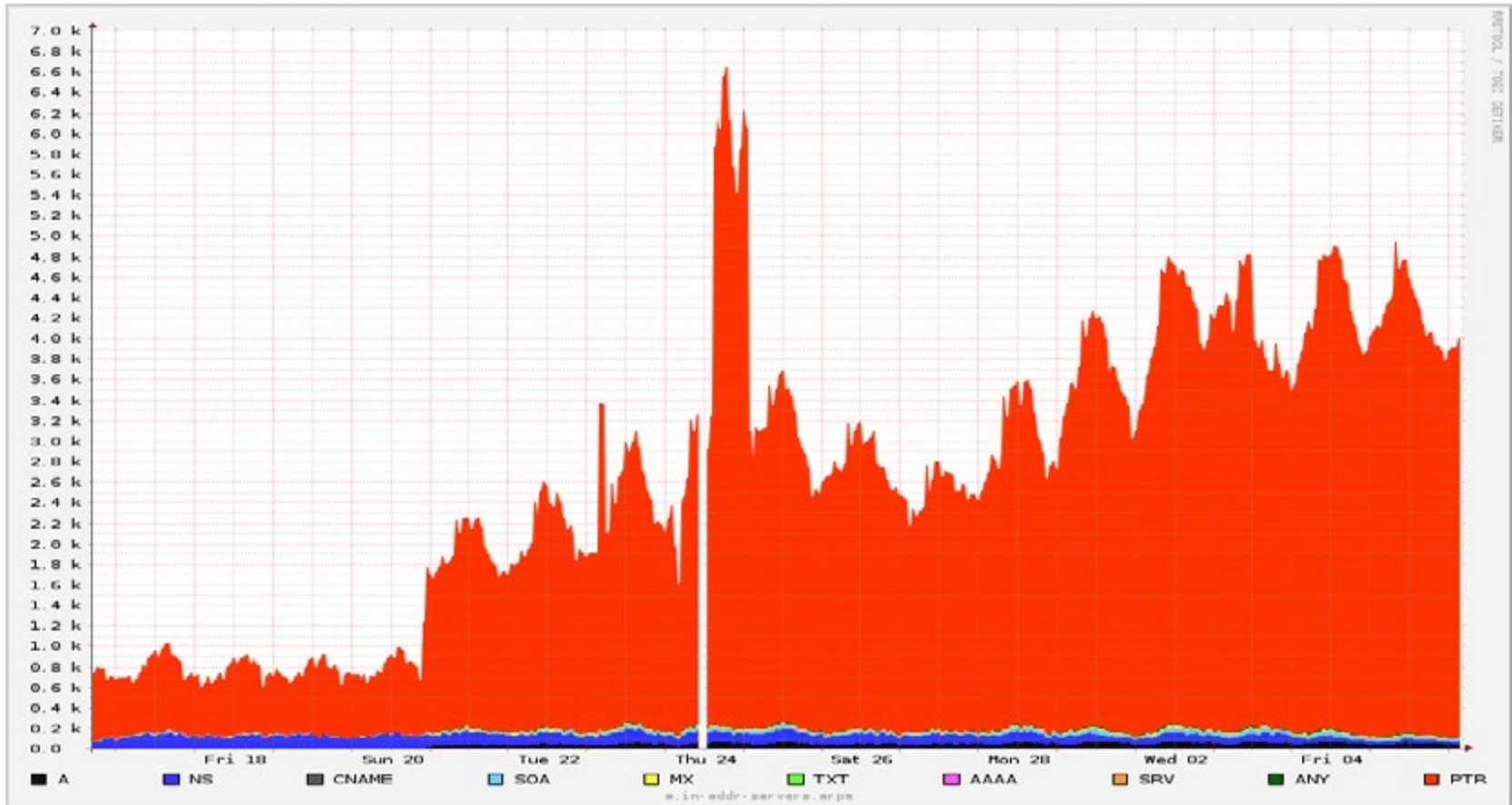
Development/QA

- Improvements to existing systems

- Whois-RWS Rollout

- RESTful Provisioning

- Two ARIN Online releases since ARIN XXVI

Whois-RWS Releases

- Whois-RWS Improvements
  - Rolled out "easier to understand" Whois-RWS web interface
    - Ask Andy Newton what PFT stands for
  - Delegation information now available
    - Can query for reverse domain name with the d flag
      - whois –h whois.arin.net "d 136.136.192.in-addr.arpa"

Changes Have Come!

- Big structural changes are completed

- Because dual systems (serving both legacy and modern provisioning) would be expensive, confusing, and time-consuming we replaced the entire provisioning system. As a consequence:

  - DNS Name server requests need to be done online – no more templates

  - API Keys required for templates

ARIN Online 4.0 Release

- Improved provisioning
  - More secure templates using API Key
  - Resource Requests through ARIN Online
  - RESTful API
- Zone Management
  - UI for name server management
  - DNSSEC Provisioning
- Enhanced STLS Functionality
  - Everyone can see needers/listers
  - Added new type "facilitators

Upcoming ARIN Online Release

- RPKI Services

  - ARIN to sign (assert) directly assigned/allocated resources

  - Other related services such as storing signatures/assertions for downstreams under review

  - Board of Trustees, along with ARIN General Counsel, are evaluating risks associated with these services

  - ARIN is seeking input from community regarding the these services

Upcoming ARIN Online Releases

- Billing Contacts
  - See who the contact is
  - Update through ARIN Online
  - More seamless integration for services
- IRR Updates
  - PGP and crypt-password authentication
  - Enable notification with mnt-nfy and notify fields

Upcoming Challenges/Research

- RPKI (lots left to do)

- Completing outstanding member service requests and policies

- True integration of the IRR within ARIN Online

- Various internal projects

- Replacement of legacy gear

Thank You for your Time and Attention

Questions?