ARIN33

Registration Services Department
Trends, Observations & Statistics

Leslie Nobile

Trends and Observations

- 18% increase in IPv4 requests in past 12 months over 12 months prior

- IPv4 requests becoming increasingly complex
  - Increase in number of back and forth exchanges per ticket
  - More potentially fraudulent requests
  - More fraud reports from community
    - More due diligence and staff time required for these requests

Trends and Observations

- More out of region requests
  - Difficult to verify justification
    - Language barriers, no equivalent way to validate data, frequent requests, rapid growth
- More requests involving new technology and services
  - Some using very large amounts of v4 addresses

Trends and Observations

- Transfer requests increased 5% overall in past 12 months over the 12 months prior

- Substantial increase in 8.3 and 8.4 requests in Q1 2014

- Expect continued increase in both transfer and IPv4 requests as we near depletion.

Service Level Impact

- ARIN Online ticket response times
  - Increased from 1.08 days in 2012 to 1.65 days in 2013

- Time required to complete IPv4 requests
  - ISP: Increased by 7 days from Q1 to Q4 in 2013
  - End user: Increased by 11 days from Q1 to Q4 2013*

- Currently reviewing internal procedures to find ways to streamline processes and procedures

*includes billing and contract phase

Current IPv4 Inventory

- **Available Inventory**
  - 1.26 /8 equivalents
- **Reserved Inventory**
  - 8.88 /16 equivalents in the "RRH" bucket (number fluctuates)
    - (RRH = returned, revoked, held)
  - /10 reserved for NRPM 4.10 "Dedicated IPv4 block to facilitate IPv6 Deployment"
  - 231 /24s reserved for micro allocations

*As of April 10, 2014

Discrete Block Size (CIDR)	Number of Blocks Available
/9	1
/10	2
/12	1
/13	1
/14	1
/15	1
/16	11
/17	13
/18	17
/19	16
/20	16
/21	90
/22	96
/23	497
/24	1219

Block Size Distribution of Remaining IPv4 Inventory

https://www.arin.net/resources/request/ipv4_countdown.html

ARIN's IPv4 Countdown Plan Phase 4

- Begins at 1 /8 Equivalent left
- All IPv4 requests team reviewed
- Requests and responses processed in order received
- Hold period for recovered resources drops to 60 days
- Org has 60 days from approval to complete payment and RSA
  – Resources will be released back to free pool

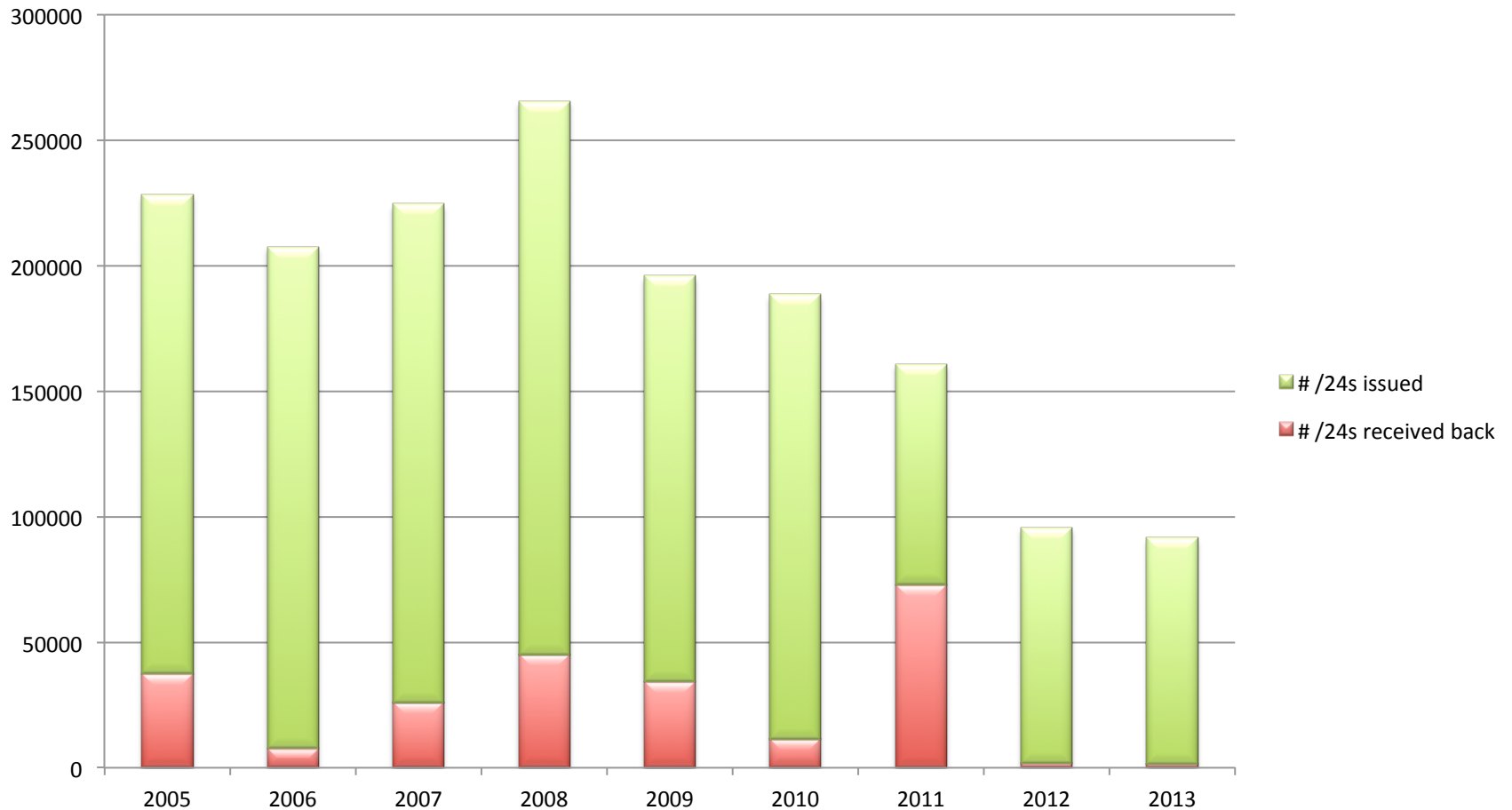https://www.arin.net/resources/request/ipv4_countdown.html

IPv4 Churn

- IPv4 addresses go back into ARIN's free pool 3 ways
  - Return = voluntary
  - Revoke = for cause (usually nonpayment)
  - Reclaimed = fraud or business dissolution

- 3.68 /8s received back since 2004
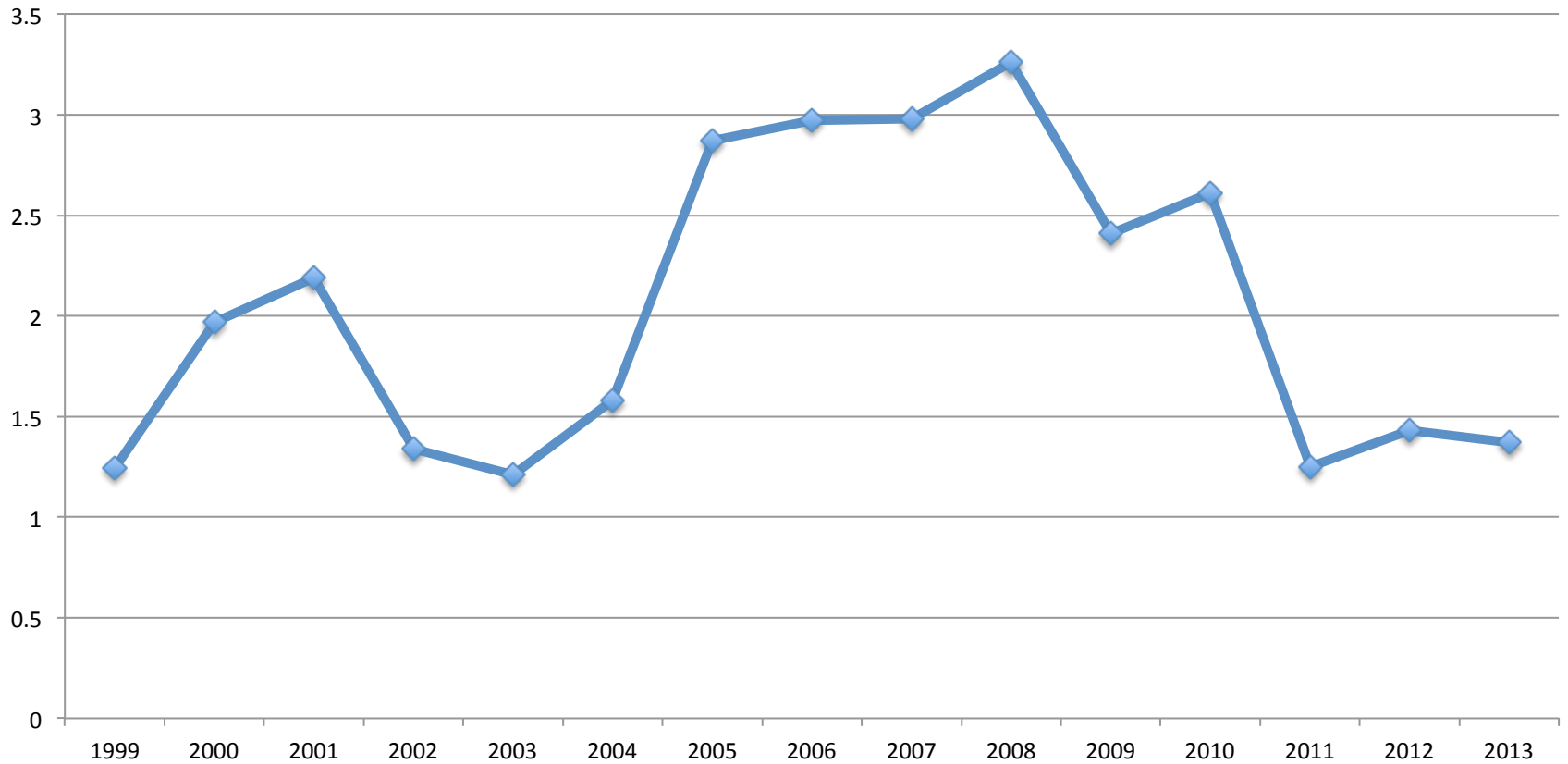 - /8 equivalent returned to IANA in 2012

Burn Rate vs. Churn Rate

IPv4 Annual Burn Rate

/8 Equivalents Issued

IPv4 Waiting List

- Starts when ARIN can't fill a justified request

- Option to specify smallest acceptable size

- If no block available between approved and smallest acceptable size, option to go on the waiting list

Filling Waiting List Requests

- Oldest request filled first
  - If ARIN gets a /16 back and the oldest request is for a /24, we issue a /24 to that org

- May receive only one allocation every three months

Specified Transfer Listing Service (STLS)

- **3 ways to participate**
  - Listers: have available IPv4 addresses
  - Needers: looking for more IPv4 addresses
  - Facilitators: available to help listers and needers find each other
- **Major Uses**
  - Matchmaking
  - Obtain pre-approval for a transaction arranged outside STLS
    - Pre-approval is based on 24 month demonstrated need

IPv4 Specified Recipient Transfers

- 71 transfers completed (46,758 /24s and 11 ASNs)

- Transactions typically arranged through IPv4 brokers
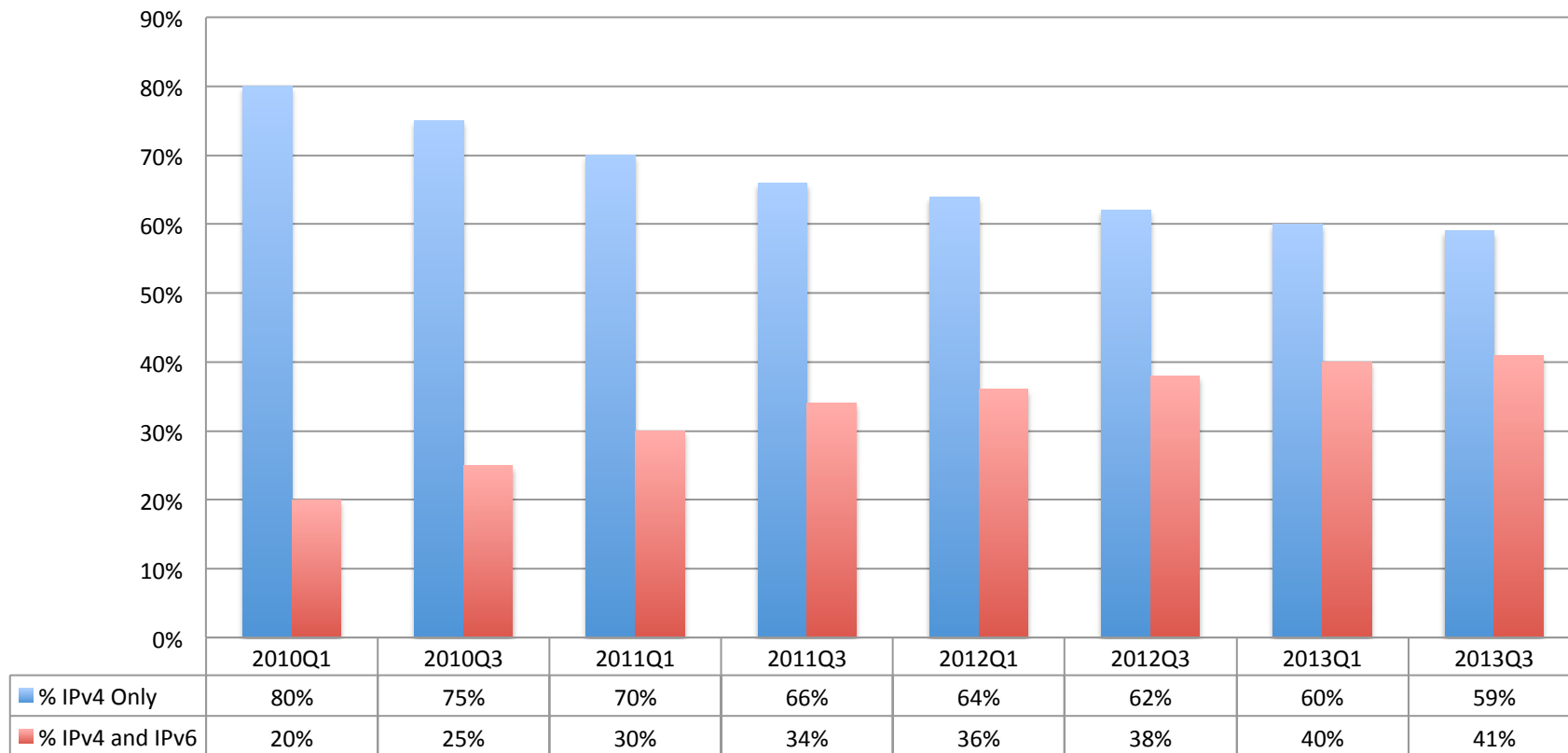
Inter-RIR Transfers

- 24 transfers completed (2,677 /24s)

- ARIN & APNIC for now

- Expectation is primarily ARIN to APNIC given the early exhaustion of IPv4 in the APNIC region

ISP Members with IPv4 and IPv6

IPv4-only and IPv4+v6 ISPs

	2010Q1	2010Q3	2011Q1	2011Q3	2012Q1	2012Q3	2013Q1	2013Q3
■ % IPv4 Only	80%	75%	70%	66%	64%	62%	60%	59%
■ % IPv4 and IPv6	20%	25%	30%	34%	36%	38%	40%	41%

*4,646 total members

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Questions?