ARIN + NANOG

ON THE ROAD

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Obtaining IP Addresses II: ARIN's IPv4 Waiting List and the IPv4 Transfer Market

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IPv4 Waiting List

- If 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

- May receive only one allocation every three months

Filling Waiting List Requests

- Oldest request filled first (not best fit)

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

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

- 3.54 /8s received back since 2005
  - /8 equivalent returned to IANA in 2012

Burn Rate vs. Churn Rate
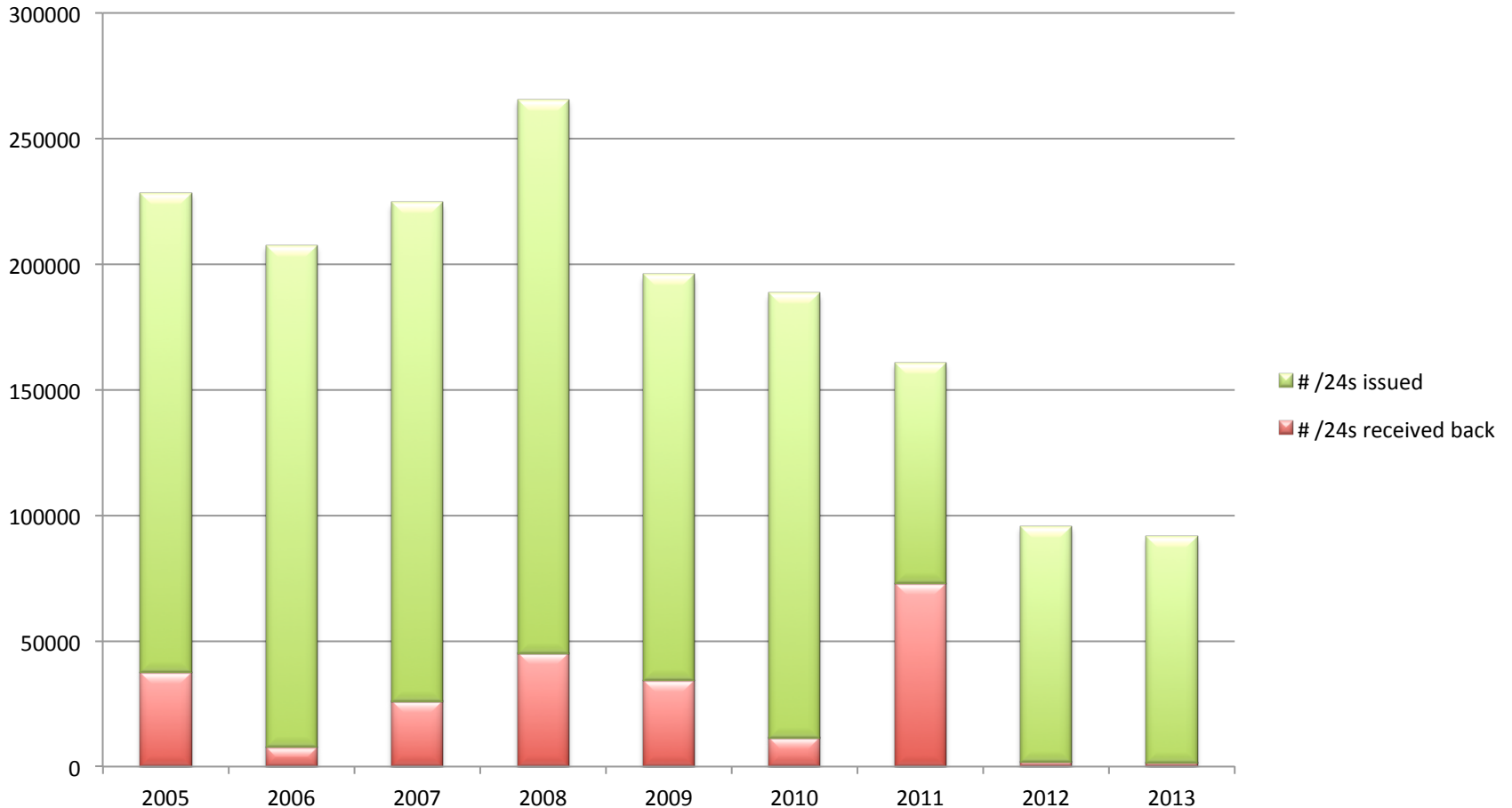
Reality Check

- At the rate at which IPv4 addresses were reclaimed in 2013, it would take **51 years** to fill all of 2013's approved requests

- Waiting List is a lottery ticket, not a savings bond

IPv4 Transfer Market

Types of Transfers

- Mergers and Acquisitions (8.2)

- Transfers to Specified Recipients (8.3)
- Inter-RIR transfers (8.4)

Transfers to Specified Recipients

- 12 month waiting period

- Recipient must qualify to receive resources under ARIN policy

- Recipient may receive up to a 24 month supply

IPv4 Specified Recipient Transfers

- 59 transfers completed (46,700 /24s)

- Transactions typically arranged through IPv4 brokers

Inter-RIR Transfers <u>From</u> ARIN

- RIR must have reciprocal, compatible needs-based Inter-RIR transfer policy
  - Currently: APNIC
  - Under discussion in the RIPE NCC, LACNIC, & AFRINIC regions
- Org releasing resources must not have received IPv4 from ARIN within the past 12 months
- Recipient must meet other RIR's Inter-RIR transfer policy requirements

Inter-RIR Transfers <u>To</u> ARIN

- RIR must have reciprocal, compatible needs-based Inter-RIR transfer policy
  – Currently: APNIC
- Recipient must qualify to receive resources under current policy
- Recipient may request up to a 24 month supply

Inter-RIR Transfer Notes

- 16 transfers completed (2,127 /24s total)

- ARIN & APNIC for now

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

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 preapproval for a transaction arranged outside STLS

Misconceptions

- IPv4 transactions will never be allowed
  - Transfer of unused IPv4 started June 2009

- It's a trap!
  - This isn't a sting operation

- ARIN recognizes all IPv4 transactions
  - Must meet policy requirements

Tips and Tricks

- Involve ARIN as early as possible
  - Make sure a contemplated transfer meets ARIN requirements before finalizing

- Use ARIN's STLS to pre-qualify

- ISPs must still show efficient use of all previous allocations and 80% of their most recent allocation

Other Notes

- ISPs can receive 24 month supply via transfer vs 3 month supply from ARIN

- ARIN still has IPv4 addresses and will have a post-depletion waiting list

- IPv6 transition still required

Reality Check, Part 2

- Reports say current asking prices are around $10/IPv4 address

- More demand post-ARIN-depletion = higher prices

- Even if supply is available, can you afford to pay market price?

Q&A