

Life After IPv4 Depletion

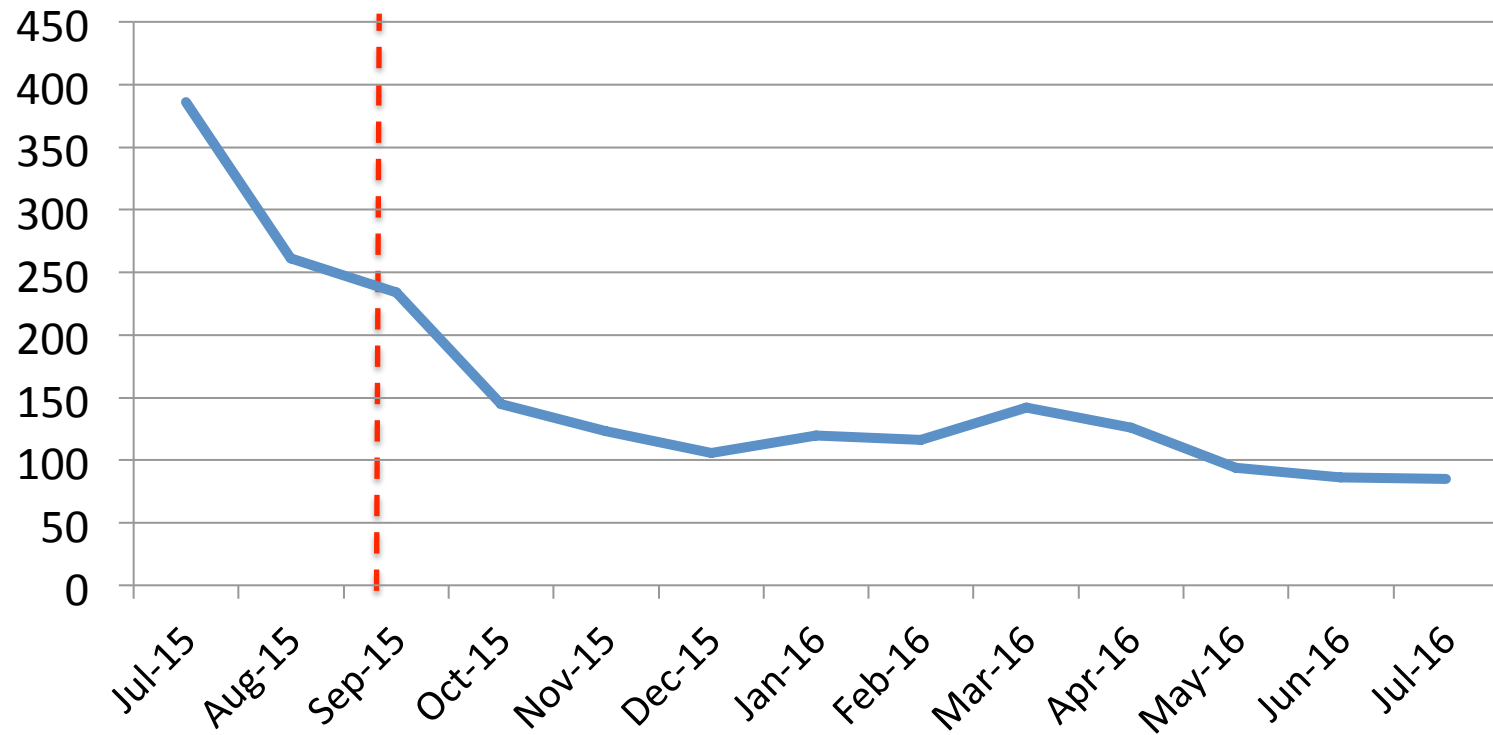
Jon Worley

Technical Services Manager

Overview

- Reserved IPv4 Space
- IPv4 Waiting List
- IPv4 Transfer Market
- Getting IPv6 & IPv6 Adoption Rate
- Reserved IPv4 block for IPv6 transition

IPv4 Requests Since Depletion



----- = IPv4 depletion

Reserved IPv4 Space

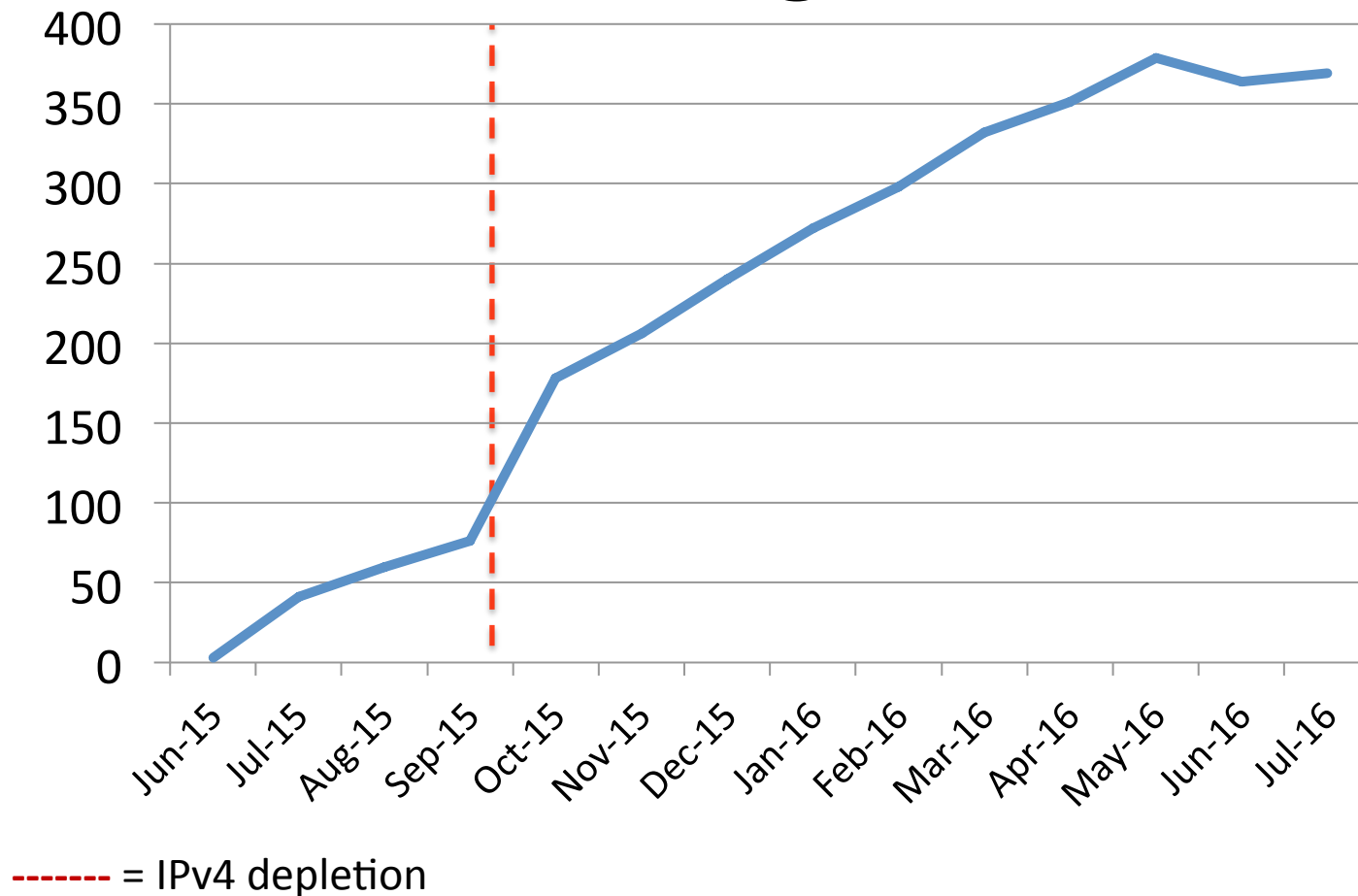
- /10 reserved to facilitate IPv6 deployment
 - 0.28% used
- 2 /16s reserved for critical Internet infrastructure (public exchange points, core DNS operators, RIRs, IANA)
 - 11.52% used

IPv4 Waiting List

- Must qualify under current ARIN policy and request to be added to the list
 - Maximum approved size determined by ARIN
 - Minimum acceptable size specified by requester
 - One request per org on the list at a time
- Waiting List published on ARIN's web site
 - Approximately /12 needed to fill all pending requests

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

IPv4 Waiting List Growth



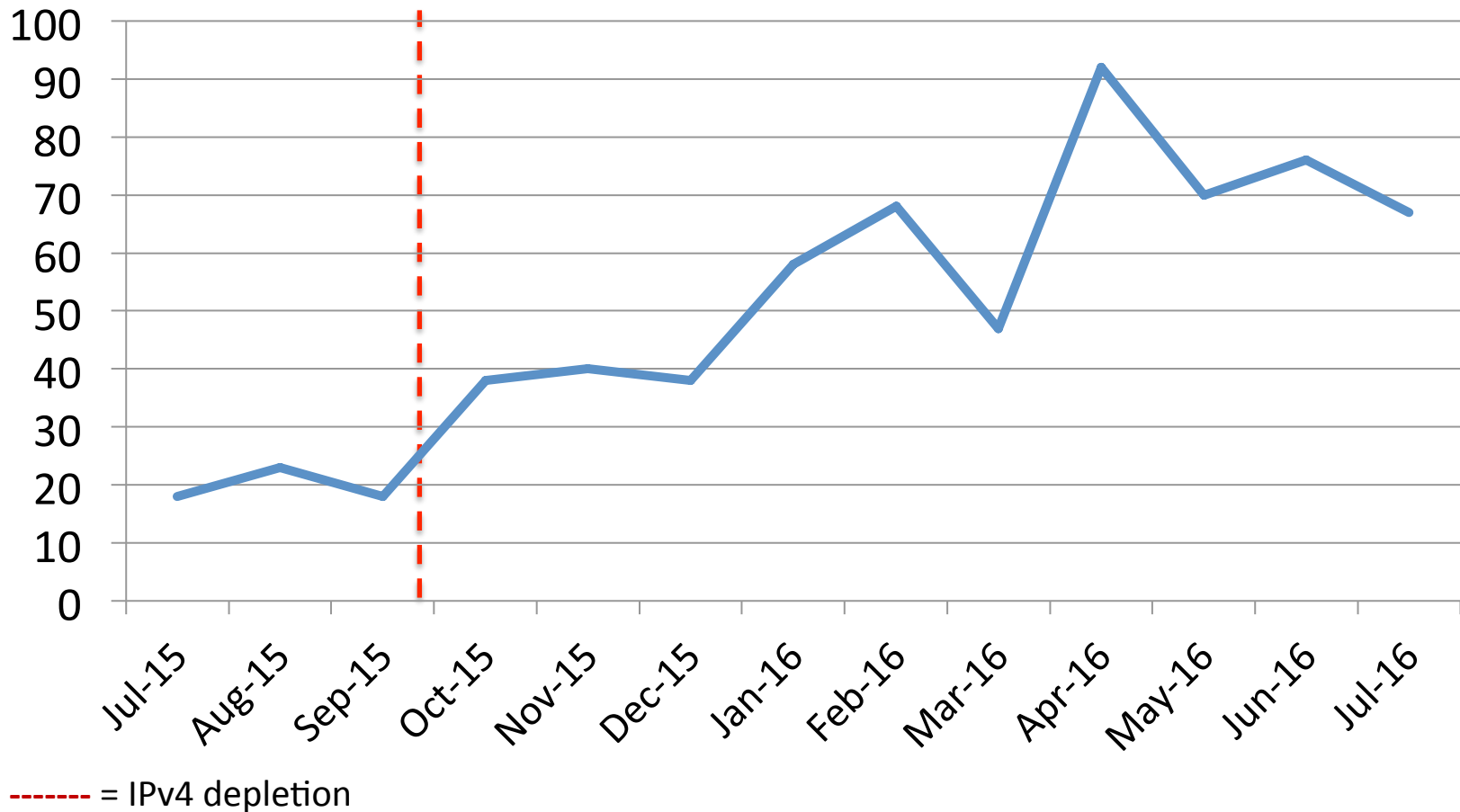
IPv4 Transfer Policies

- Mergers and Acquisitions (NRPM 8.2)
 - Traditional transfer resulting from a merger, acquisition, or reorganization supported by legal documentation
- Transfers to Specified Recipients (NRPM 8.3)
 - **IPv4 transfer** from one organization to another that it specifies, supported by justified need (within region)
- Inter-RIR transfers to Specified Recipients (NRPM 8.4)
 - **IPv4 market transfer** from one organization to another that it specifies, supported by justified need (between regions)

Transfers To Specified Recipients

- Allows orgs with unused IPv4 resources to transfer them to orgs in need of IPv4 resources
- **Source**
 - Must be current registrant, no disputes
 - Not have received addresses from ARIN for 12 months prior
- **Recipient**
 - Demonstrate need for 24-month supply under current ARIN policy

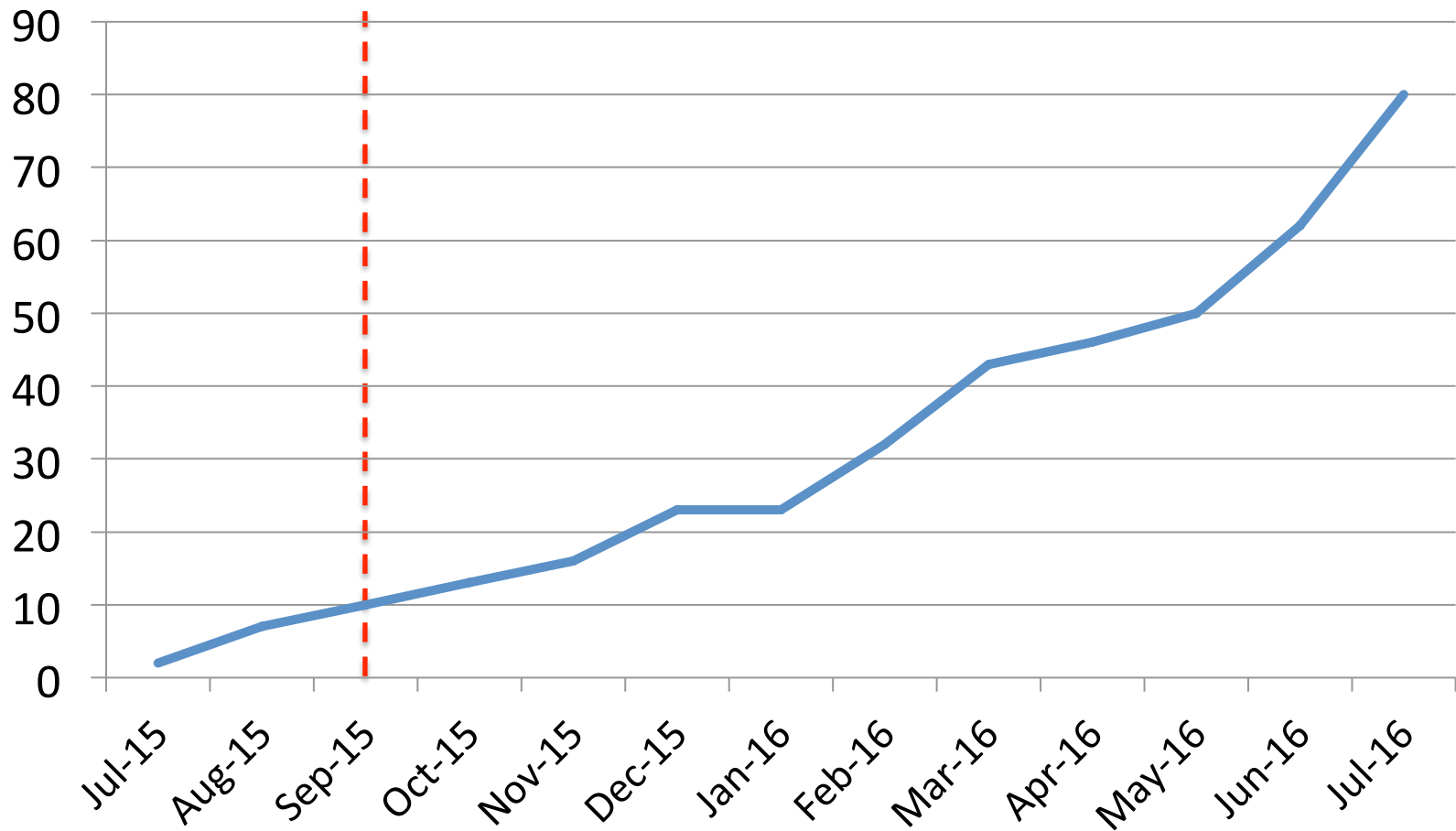
Specified Recipient Transfer Growth



Inter-RIR Transfers

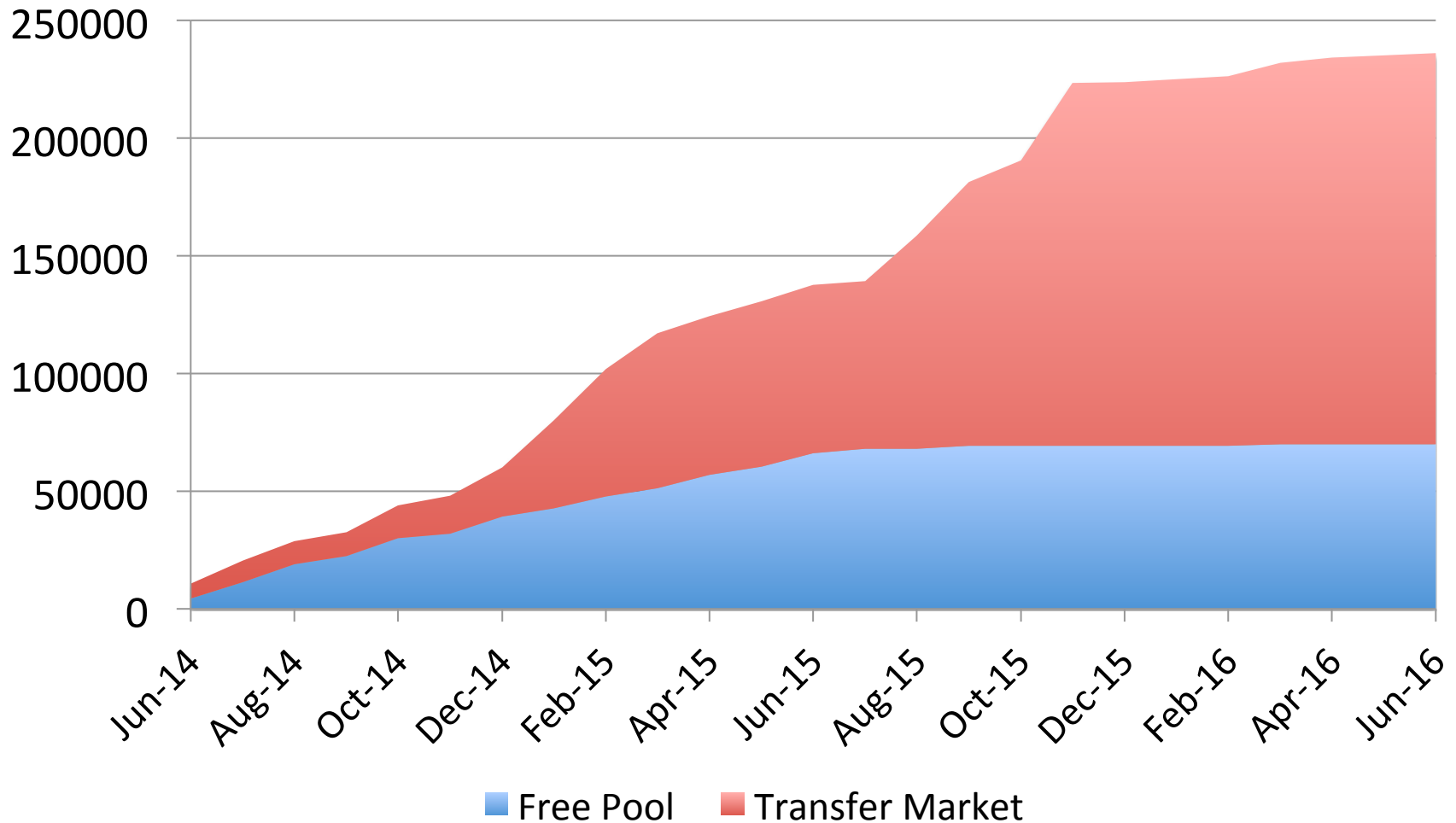
- RIR must have reciprocal, compatible needs-based policies
 - Currently APNIC and RIPE NCC
- **Transfers from ARIN**
 - Source cannot have received IPv4 from ARIN 12 months prior to transfer
 - Must be current registrant, no disputes
 - Recipient meets destination RIR policies
- **Transfers to ARIN**
 - Must demonstrate need for 24-month supply under current ARIN policy

Inter-RIR Transfers Completed

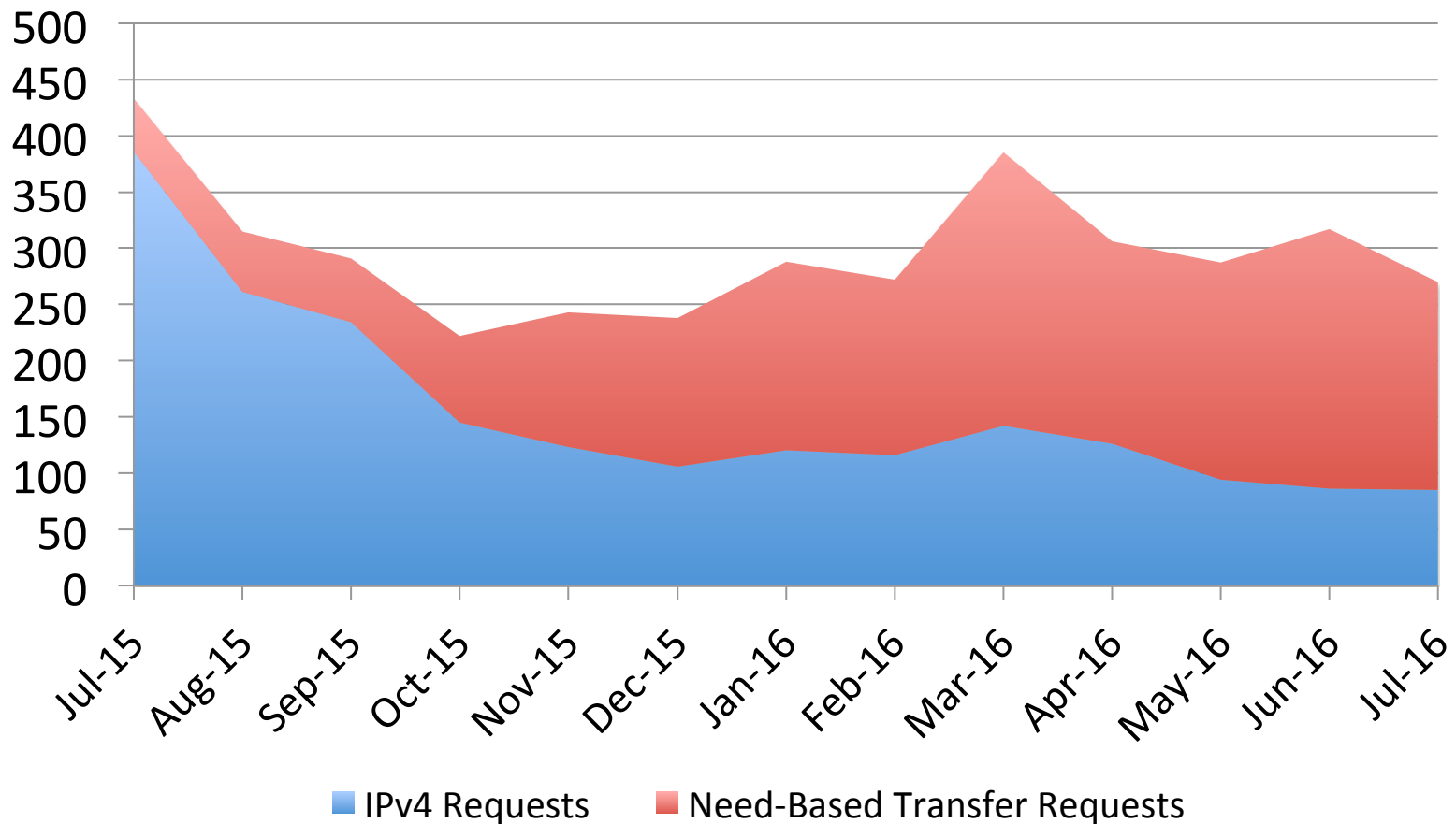


----- = IPv4 depletion

No Drop In IPv4 Consumption



Minimal Drop in IPv4 Workload



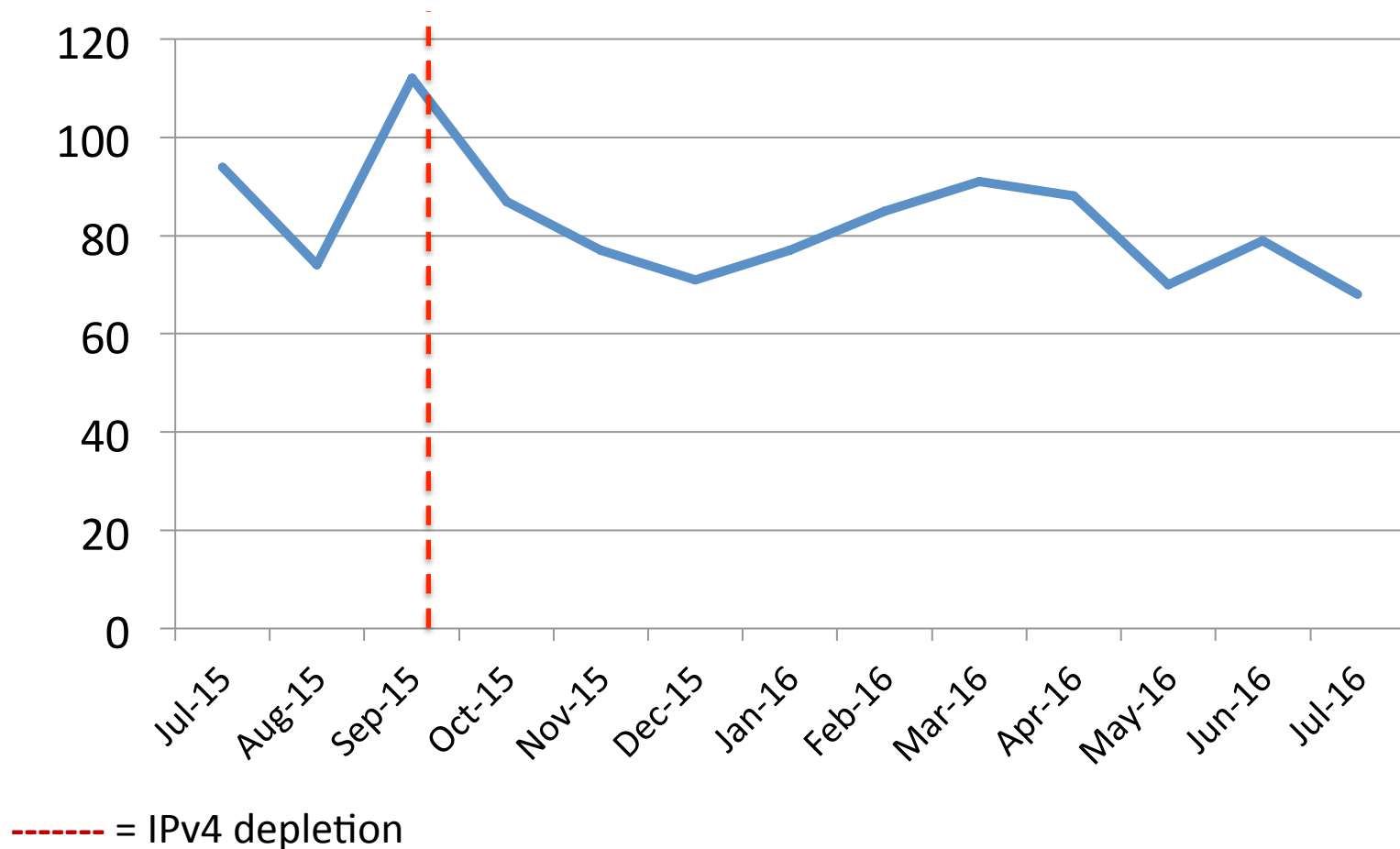
Transfer Pre-Approval

- Optional free service to confirm your 24 month projected need for IPv4 addresses via transfer
 - Must qualify under ARIN IPv4 policies
 - Same documentation requirements as transfers
 - Good for 24 months from the pre-approval date
 - Once pre-approved, must still submit 8.3 or 8.4 transfer request in new ARIN online ticket
 - Can use multiple 8.3 or 8.4 transfers to fill pre-approved amount

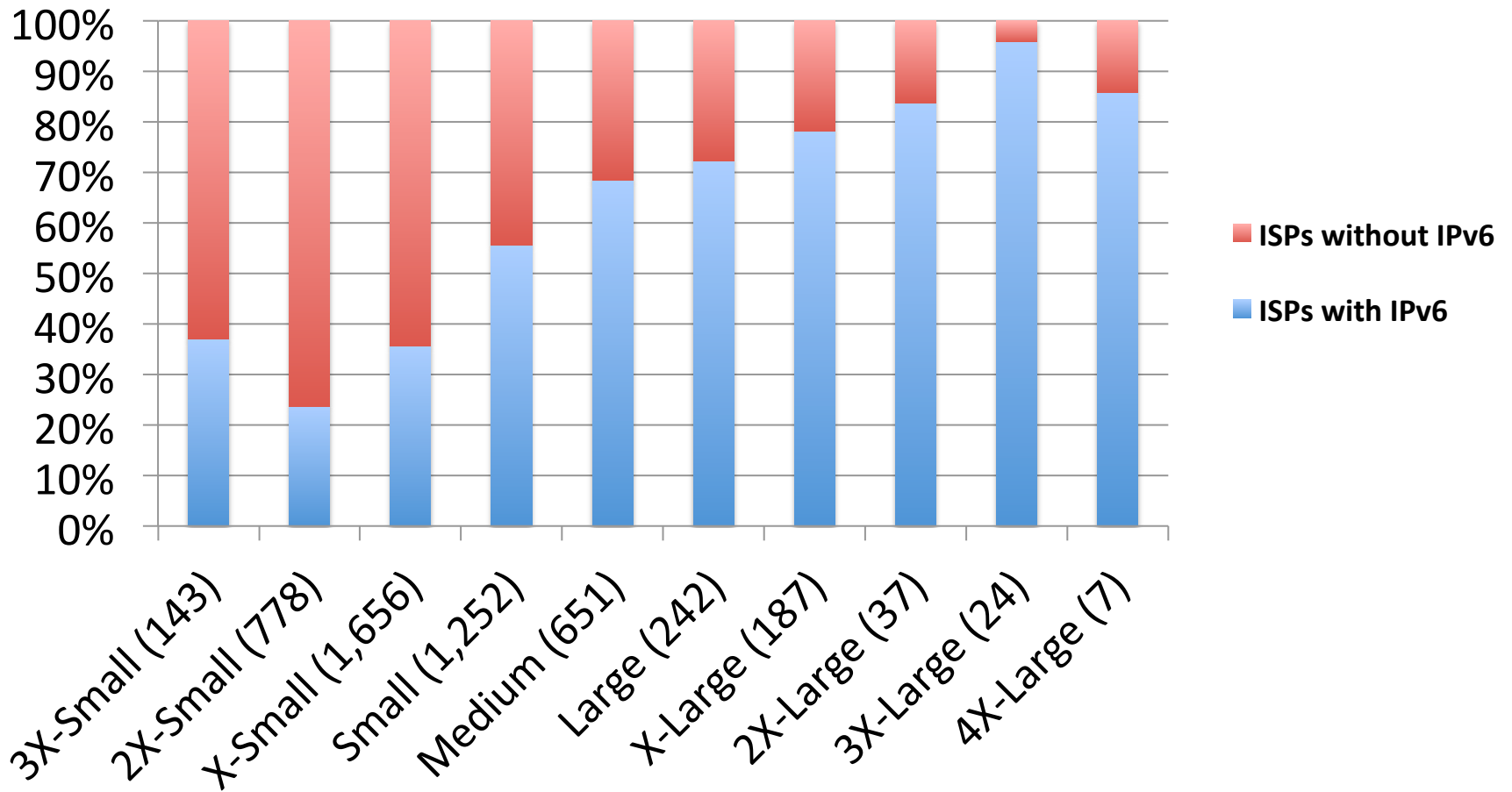
Obtaining IPv6 – It's Really Easy

- Already have an IPv4 block, or
- Intend to multi-home, or
- Plan 50 customer assignments within 5 years (ISP)
- Have 13 sites OR plan to use 2000 IPv6 addresses/200 IPv6 subnets OR have a reasonable technical justification (EU)

IPv6 Requests Since Depletion



IPv6 Adoption by ISP Size



Reserved IPv4 for IPv6 Deployment

- /10 reserved under policy in April 2009 ([23.128.0.0/10](#))
 - 46 /24s issued to date
- Must be used to facilitate IPv6 deployment
 - Examples include IPv4 addresses for key dual stack DNS servers, and NAT-PT or NAT464 translators
- You must already have your IPv6 allocation or assignment in order to receive a /24 from this block
- One per organization every six months, /24 maximum size

Takeaways

- IPv4 consumption still strong
- If you need IPv4:
 - Get pre-approved
 - Get an IPv6 block & use reserved IPv6 block for IPv6 deployment policy
- IPv6 is the future

Q&A

