



# ARIN

American Registry for Internet Numbers

## “Life After IPv4 Depletion”

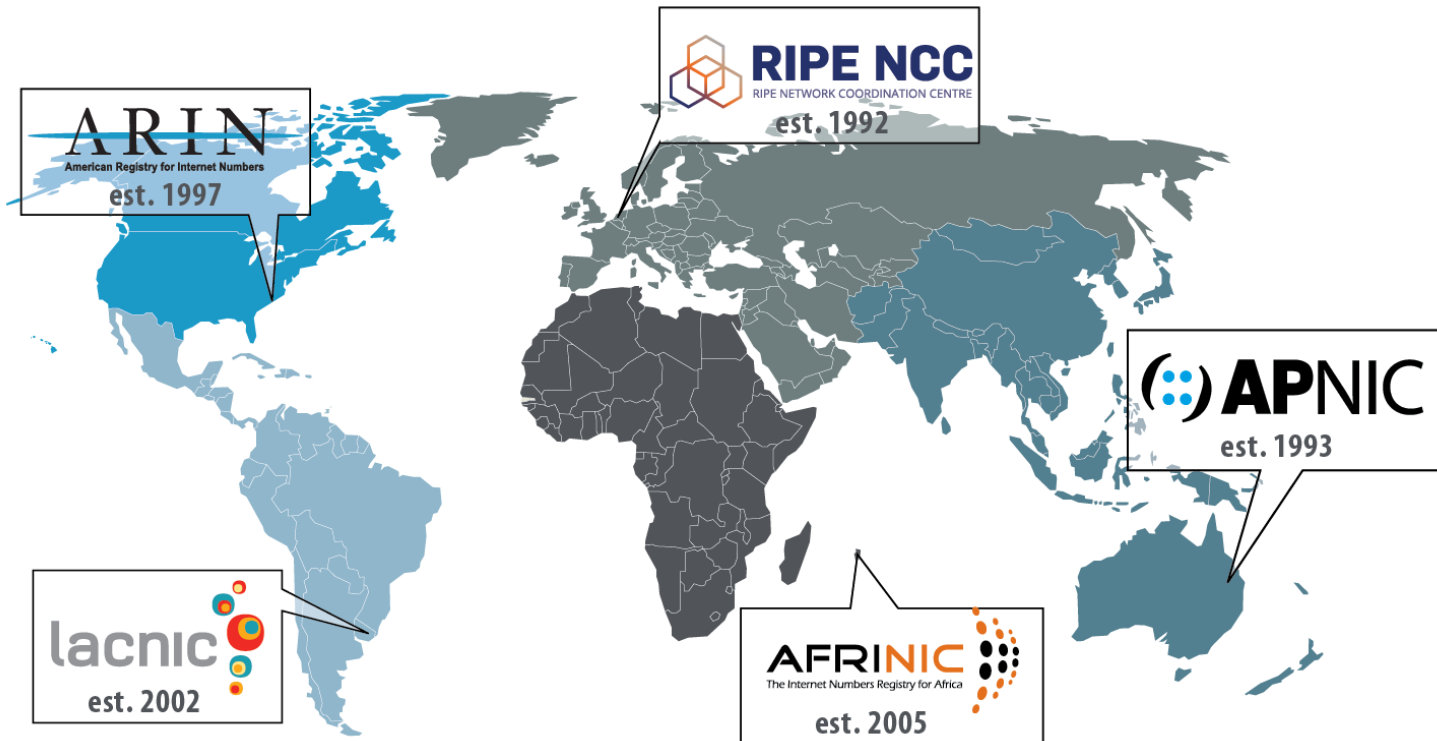
CANTO

San Juan, Puerto Rico

August 2016

**Leslie Nobile**

# Regional IPv4 Depletion



**\*3 out of the 5 RIRs are working from their last /8**

**\*ARIN reached full depletion on Sept 24, 2015**

# ARIN Reserved IPv4 Space

- **Space reserved per policy**
  - /10 to facilitate IPv6 deployment
  - 2 /16s for exchange points/critical infrastructure (DNS providers excluding new gTLDs, IANA, RIRs)
- **Held space (minimum 60 days)**
  - Space returned to ARIN or revoked for non-payment
  - Held for at least 60 days
  - Research required to verify ARIN can reissue

# Recent Observations

- Still strong demand for IPv4
  - Seeing increased activity in IPv4 transfers/transfer market, decrease in IPv4 requests themselves
  - Getting lots of questions from customers about post-depletion options
    - Not all aware we've reach full IPv4 depletion
- Seeing increase in # of blocks targeted for hijacking
  - Blocks with outdated org/contact info, especially legacy, are the biggest target
    - Hijackers target dormant registration records, go through series of registration record modifications pretending to be the original registrant
  - Reports of more route hijackings (unauthorized use of IP addresses)
- IPv6 requests remain steady



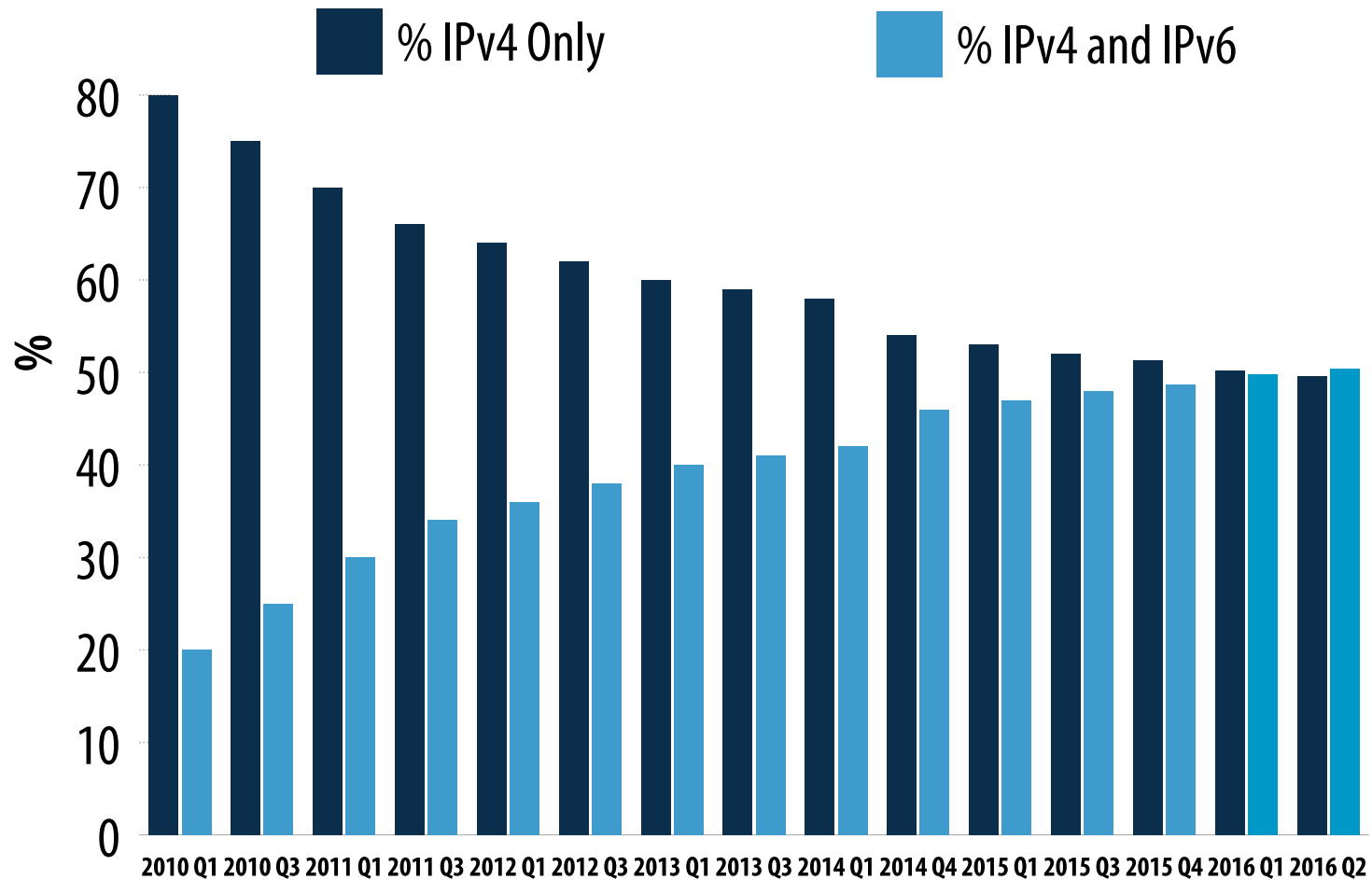
# Post-IPv4 Depletion Options

- **IPv4 Waiting List**
  - IPv4 requestors who qualify for address space can choose to be added to the list and hope that space comes back to the free pool
- **IPv4 Transfer Market**
  - Transfers based on financial transactions, supported by justified need under ARIN policy (within region or outside the region))
- **Dedicated IPv4 block to facilitate IPv6 deployment**
  - One /24 every 3 months, must be used for IPv6 transition
- **Adopt IPv6**
  - Only way to ensure future business growth and drive innovation

# Why Move to IPv6 Now?

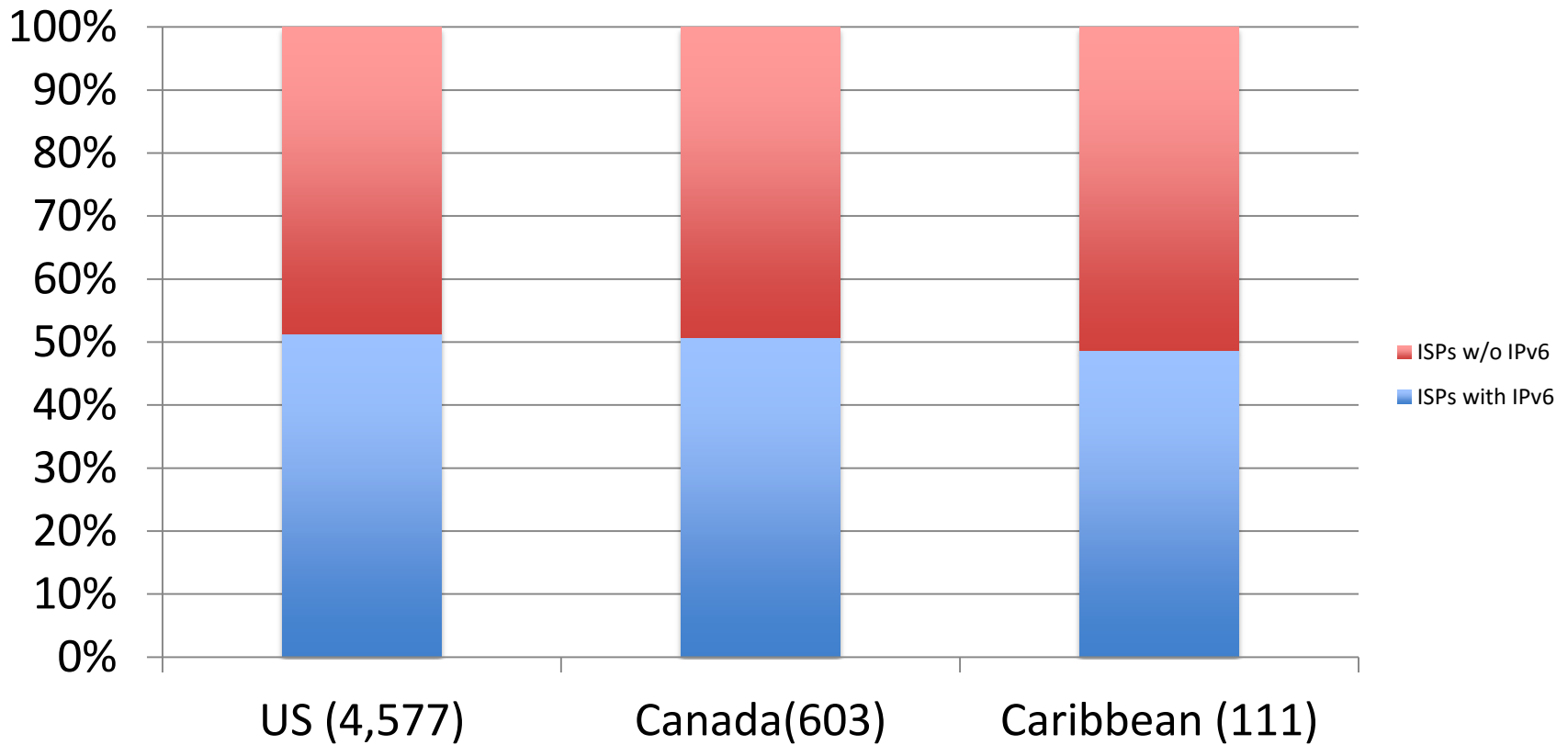
- IPv4 free pool is depleted
- IPv4 Transfer Market = \$\$\$\$\$
- How will you continue to grow your network? Alternatives?
  - Large Scale/Carrier-Grade NAT
    - Equipment costs to consider
    - Degraded services: increased latency, certain applications don't work well, law enforcement compliance issues, geo-location, etc.
- The public Internet is moving to IPv6

# ISP Members with IPv4 and IPv6



**\*5,346 total members as of 30 June 2016**

# Regional ISP IPv6 Adoption





# Learn More



IPv6 Info Center

[www.arin.net/knowledge/ipv6\\_info\\_center.html](http://www.arin.net/knowledge/ipv6_info_center.html)



[www.GetIPv6.info](http://www.GetIPv6.info)



[www.hpc.mil/cms2/index.php/ipv6-knowledge-base-general-info](http://www.hpc.mil/cms2/index.php/ipv6-knowledge-base-general-info)



[www.InternetSociety.org/Deploy360](http://www.InternetSociety.org/Deploy360)

# ARIN Public Policy and Member's Meetings

- 2 meetings per year held across region (Canada, Caribbean and US)
  - Past meetings in Barbados, Puerto Rico, the Bahamas, and most recently Jamaica
  - Fellowships available – apply to attend, all expenses included
- Upcoming meetings in Dallas and New Orleans



# ARIN on the Road

- One-day educational event that covers a range of topics



- Past events in Dominica and Grenada
- Looking for other Caribbean locations
  - Let us know if you'd like to see one in your area (email [info@arin.net](mailto:info@arin.net))

# Caribbean Industry Events

- ARIN also regularly participates in



in Puerto Rico this year!



most recently in the British Virgin Islands and St. Lucia



most recently in Jamaica & upcoming in St. Maarten



coming up next week in Belize



