IPv6 in the ARIN Region

17 October 2012
Australian IPv6 Summit

John Curran
President and CEO, ARIN

History of the Internet Protocol

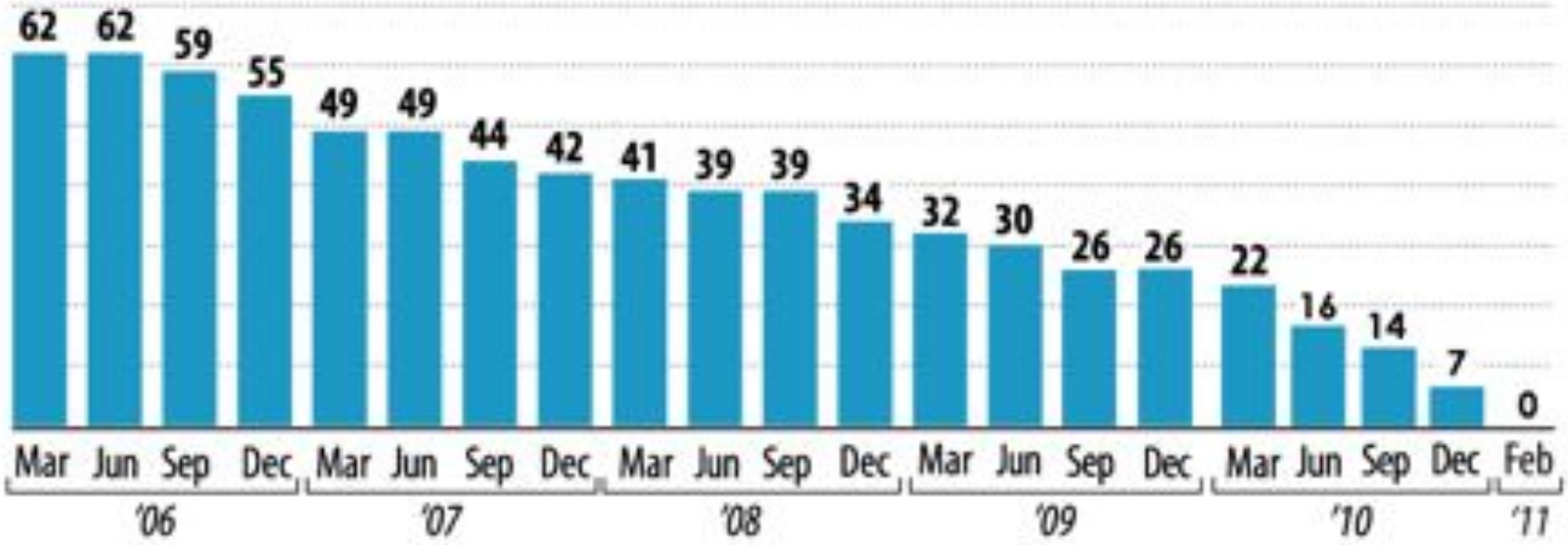
- **Internet Protocol version 4 (IPv4)**
  - Developed for the original Internet (ARPANET) in 1978
  - 4 billion addresses
  - Deployed globally & well entrenched
  - Allocated based on documented need
- **Internet Protocol version 6 (IPv6)**
  - Design began in 1993 when IETF forecasts showed IPv4 depletion between 2010 and 2017
  - 340 undecillion addresses
  - Completed, tested, and available since 1999
  - Used and managed similar to IPv4

IPv4 Depletion Situation Report

Each RIR received its last /8 from IANA on 3 February 2011

The IANA free pool of IPv4 addresses reached 0%

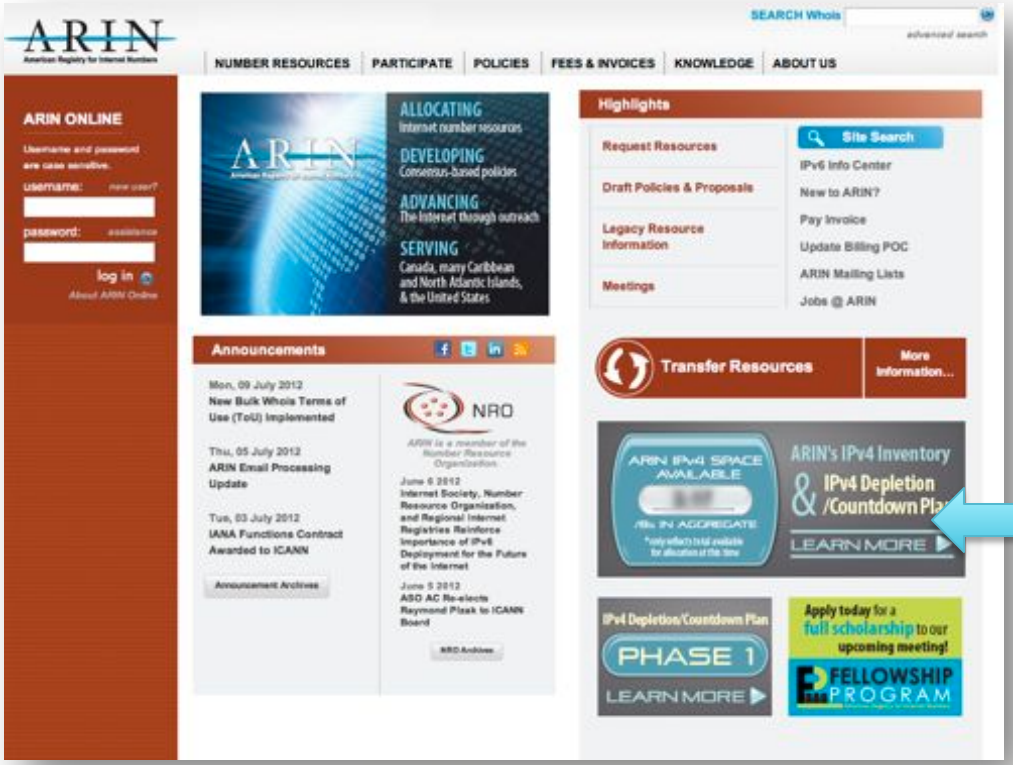
Global IPv4 Depletion



IANA IPv4 Space in /8s

ARIN's IPv4 Inventory

As of 11 October 2012, ARIN has 2.83 /8s of IPv4 addresses remaining



IPv4 inventory published on ARIN's website: www.arin.net

Updated daily @ 8PM ET

ARIN's IPv4 Countdown Plan

- Process for final IPv4 requests
  - Divided into 4 phases
  - Length of each could vary
    - Global policy to return space to IANA
    - Faster depletion due to:
      - Large requests
      - Policy changes

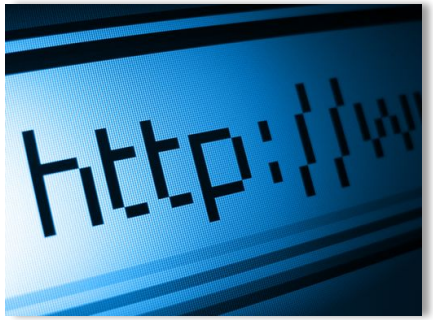
https://www.arin.net/resources/request/ipv4_countdown.html

The Solution to IPv4 Depletion

- IPv6 must be adopted for continued Internet growth
- RIRs allocating since 1999
- Thousands of organizations have received an IPv6 allocation to date
- Now is the time to deploy IPv6

How can you get started?

- **Dual-Stack your networks**
  - IPv6 not backwards compatible with IPv4
  - Both will run simultaneously for years
- **Servers must be reachable via both IPv4 and IPv6**
  - Mail
  - Web
  - Applications

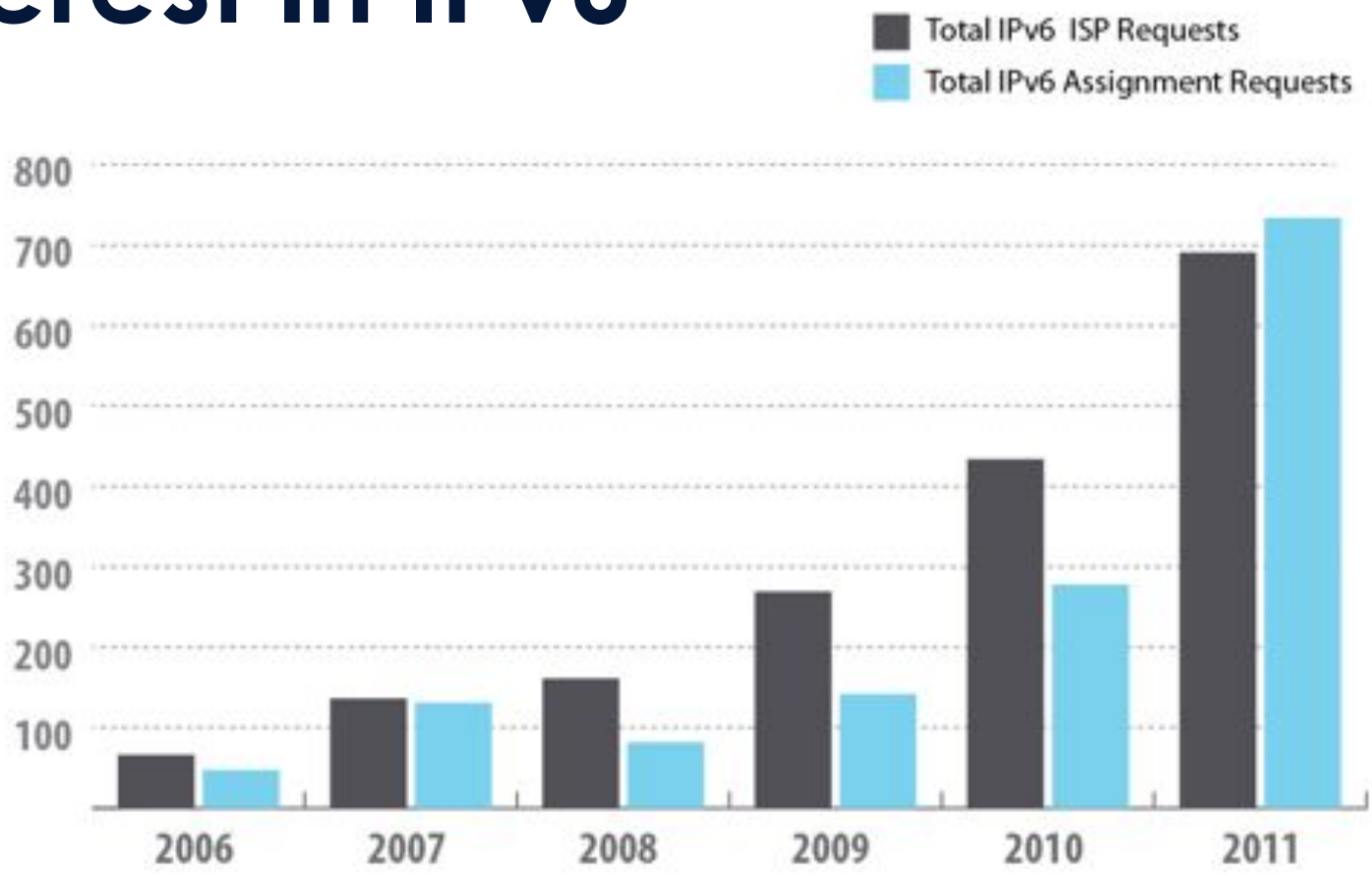


- **Do you operate a website?**
  - Ensure content will be available to all customers
  - Even new Internet users with an IPv6-only address

How can you prepare?

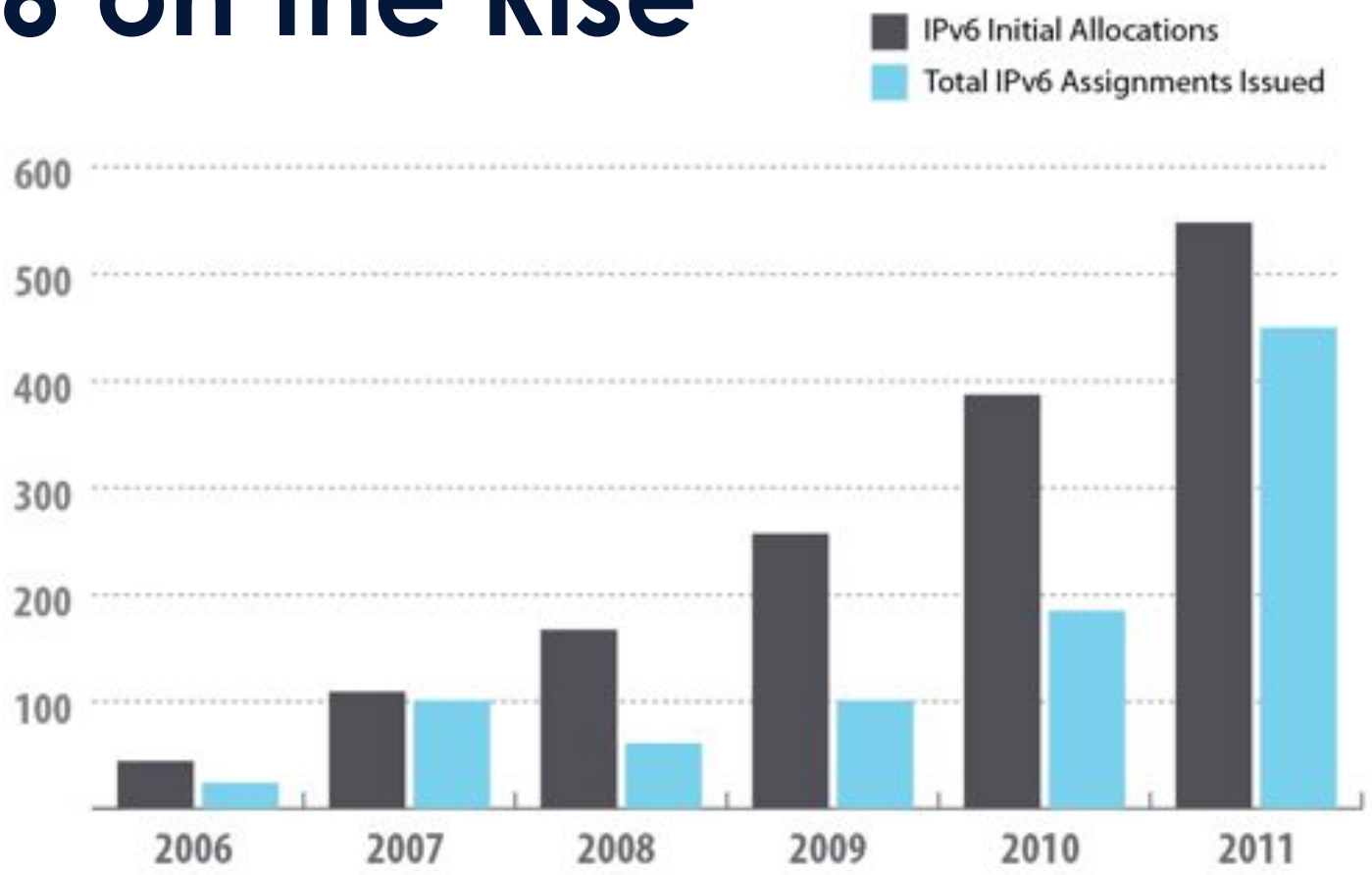
- **Talk to your ISP about IPv6 services**
  - You want access to the entire Internet
- **ISPs must connect customers via IPv4-only, IPv4/IPv6, & via IPv6-only**
- **Must plan for IPv4/IPv6 transition services**
  - Many transition technologies available
    - Research options
    - Make architectural decisions

Interest in IPv6



ARIN IPv6 Address Requests

IPv6 on the Rise



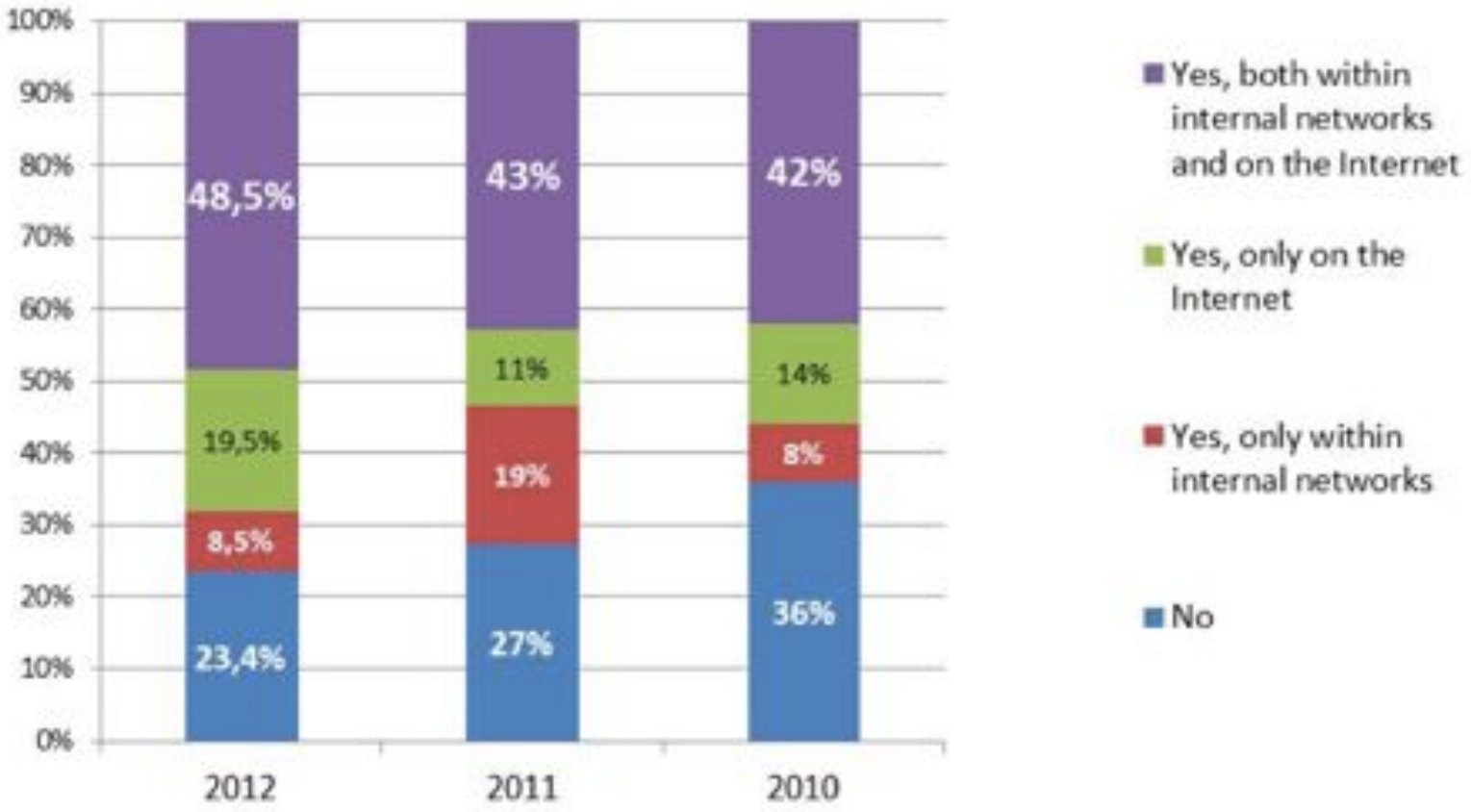
ARIN IPv6 Allocations and Assignments

2012 NRO Global IPv6 Deployment Survey

- IPv6 Gaining Traction
- Approx.1430 respondents from 105 economies
- 77% of respondents have some level of IPv6 presence, indicating increased uptake from previous years

<http://www.nro.net/documents/2012-ipv6-survey-results>

Survey Results: Organizations with an IPv6 presence



What Can Governments Do?

- **Government and the Internet community need to coordinate to support and promote**
  - IPv6 awareness
  - IPv6 education

- **Governments should consider:**
  - Regulatory and economic incentives to encourage IPv6 adoption
  - Required IPv6 compatibility in procurement procedures
  - Official IPv6 deployment within agencies

US Government IPv6 Uptake

- Committed to the operational deployment and use of IPv6
- Initiative to make all federal websites and networks IPv6 capable

- 100s of websites already IPv6 enabled

World IPv6 Launch

Many top websites, Internet service providers, and home networking equipment manufacturers permanently enabled IPv6 for their products and services on

6 June 2012

www.worldipv6launch.org

Learn More

www.ARIN.net

www.GetIPv6.info

www.TeamARIN.net

http://www.InternetSociety.org/Deploy360/

http://www.NANOG.org/archives/

Thank You