

# IPv6 in the Real World: Things to do in 2011

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# Agenda

- ▶ The IANA IPv4 Free Pool ran out in 2/3/2011.
- ▶ What this means to you
- ▶ Things to do in 2011 related to IPv6
  - Plan for IPv6 deployments
    - Public Facing Services
    - Enterprise (internal) Services
    - Remote Users
  - Training
    - Operations Staff
    - Helpdesk Staff
  - Execute the plans
    - If possible, plan to participate in the World IPv6 Day this summer.

# The IPv4 Free Pool

- ▶ The IANA allocated the last of the IPv4 Free Pool in on 2/3/2011.
- ▶ The RIRs will start to run out of Free Pool IPv4 space in 2011.
- ▶ All RIRs will likely be out of Free Pool IPv4 space by 2015 (if not sooner).
- ▶ There will be Internet users who will NOT be able to access IPv4-only based resources.
  - This will happen despite the use of NAT64/DNS64 mechanisms.

# What this means to you

- ▶ If you want IPv6-only users to be able to reach your public services, then enable IPv6 on your public servers.
- ▶ If there are services your organization needs that will only be available on IPv6, your network will need to be able to provide IPv6 access (or you'll need a provider that will do that for you).
- ▶ If you have remote users that are highly mobile (or use mobile devices) to access your services remotely, many of them may start to see degraded service on IPv4 versus IPv6 as 4G services become the norm.

# Things to do in 2011 for IPv6

## ▶ Plan IPv6 deployments

- This may be one big project or many small projects depending on how your organizations manages IT-based changes.
- It should include a plan for putting your public facing services on IPv6.
- It should include making your internal users IPv6-enabled.
- It should include changes to facilitate mobile remote users that are using IPv6.
- It must include training for support staff.

# Planning IPv6 Deployment

- ▶ This should be managed using your organizations existing Change Management process.
- ▶ It must involve testing and training to be successful.
- ▶ Update security policies to include IPv6.
  - Many of the same things would apply to IPv6 as with IPv4.
  - Specifically review any IPv4-specific policies and look for IPv6 analogs, but be wary of any IPv4-address specific filtering. These do not translate well into policies for IPv6.

# Training

- ▶ Training is a critical component for success in an IPv6 deployment.
- ▶ Most IPv6 deployments are designed to be relatively transparent to end-users, so training them is usually not necessary.
- ▶ Training the helpdesk staff to recognize problems that network problems may now be related to IPv6 is imperative.
- ▶ Training operations staff (network engineers and NOC) to monitor and troubleshoot IPv6 network capabilities is key to maintaining stability and robustness in the network.

# Execute Your Plans

- ▶ Once there are plans and training and testing have been completed, the plans need to be executed successfully. Existing change management processes should be leveraged here when possible.
- ▶ If your plans involve phases, be sure to stop at the end of each phase and evaluate it and insure lessons learned get into the next phase.
- ▶ On June 8, 2011, many content providers (Google, Yahoo! and others) are planning to make IPv6 the default for their web-based content to validate how far IPv6 deployment has come. Try to be a part of this in some way.

# What to investigate

- ▶ Use products and training that have the IPv6-Ready Logo.

- Visit <http://ipv6ready.org>.



- ▶ Use products that have passed USGv6 testing.

- Visit <http://w3.antd.nist.gov/usgv6>.

- ▶ If you have a lot of custom applications, audit them for IPv4 dependencies and work to eliminate those.

# Learn More

## ▶ Look at web-based resources:

- <http://getipv6.info> – ARIN's IPv6 Wiki
- <http://ipv6forum.com> – IPv6 Forum's Web site

## ▶ Attend an IPv6 Event

- <http://www.txv6tf.org> – Texas IPv6 Task Force
  - Multiple events are in the works in Texas in 2011.

## ▶ Join an IPv6-centric group

- <http://gogonet.gogo6.com> – GoGo6 Social Network

# Windows Shop? A Must Read

- ▶ If you are using Windows as the basis of your network architecture, a set of great blog posts are now available that are a must read.
- ▶ See <http://www.networkworld.com/community/blog/ipv6-addressing-subnets-private-addresses> for the first of these eight articles. Be sure to read them all before you experiment.

# Thank you!

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