



The Planet

Daily Living with IPv6

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Who am I?

- I have had the good fortune to be a user of IPv6 in my day to day life in my home.
 - This is because of my relationship with NTT as a former employee and current customer.
- I have been able to see the value of IPv6 from many years of attending IPv6-centric conferences like this one.
 - While with NTT, I was a lead advocate for IPv6 starting with their launch of commercial IPv6 transit in the early part of this decade.
- I have tried to take advantage of IPv6 when it was possible and relatively straight forward to implement.
 - There is certainly more I could do and I will talk a bit about this later in this talk.

A overview of the environment

- I have IPv6 coming into my home via T1 from NTT.
 - I realize that most folks won't have this option, but there are free tunneling options and there may be IPv6 available from the cable network soon.
- I have wireless and wired network capabilities throughout the house
 - This is not unusual for most homes that have any level of Internet access today.
- I have both Macs (running Leopard) and PCs (running Vista Ultimate).
 - Most folks are probably not running Ultimate, but for the purposes of this talk, Vista Home Premium will work just fine.

What has been easy.

- Setting up IPv6 auto configuration
 - I use this instead of DHCPv6 for my devices that use IPv6, but don't need an assigned address.
- Setting up IPv6 DNS
 - BIND 9 works well supporting IPv6 DNS. I have tried to support this on Windows Server 2003 with some success and I don't yet own a copy of Windows Server 2008.
- Using Macs for IPv6 under Leopard.
 - It just works.
- Using Time Machine over IPv6
 - It also just works.
- Using Vista Ultimate with IPv6
 - It also works, maybe even when you don't want it to.

What has been more difficult.

- **Network Printing**
 - Some print servers don't run IPv6 and can't be upgraded. Some can be upgraded. Some upgrades are free. Others aren't.
- **Wireless Access Points**
 - Ditto, though this does not seem to cause much of a problem for supporting IPv6 wireless clients.
- **Finding IPv6-based content in the US**
 - There is a real Catch-22 problem here.
- **Finding consumer devices that support IPv6 in the US**
 - IPv6 has been part of UPnP since 2003.
 - Unfortunately, DLNA does not require IPv6 support.

An Aside on DLNA

- When will IPv6 be included in home electronics?
- A quote from the 2007 DLNA overview white paper:
 - “In the near term, support of IPv4 is essential for interoperability of devices on the home network. In the longer term, IPv6 support will become more important. The future transition from IPv4 to IPv6 will be handled in the DLNA Networked Device Interoperability Guidelines in a manner that enables devices based either on IPv4 or IPv6 to work well together.”
 - See http://www.dlna.org/news/DLNA_white_paper.pdf page 14.
 - It’s unclear when the much needed requirement for IPv6 will be issued by DLNA.
- The next version of DLNA’s specifications is supposed to be published this year.
 - There seems to have been no advance information that IPv6 is included as a requirement in this update.

What has not been possible, yet.

- Finding a US-based provider of IPv6 to the home
 - However, at least one cable company may be changing that in the future.
- Using IPv6 on devices that should support it pretty easily
 - AppleTV
 - Based on OS X; support should be easy.
 - NetGear ReadyNAS
 - Based on Linux; support should be easy.
 - Logitech SqueezeBox series of media players
 - DroboShare
 - I think this is also based on a Linux kernel; support should be easy.
 - Linksys routers (OpenWRT works, for those Linksys Routers that can run it)
 - Cisco knows how to do IPv6. Linksys is owned by Cisco...hmm...

What seems impossible.

- Retrofitting devices that are no longer supported
 - Turtle Beach Audiotron
 - ReplayTV 5040
- Changing the minds of those that believe there is no future in IPv6
 - One small vendor I have tried to work with in the past doesn't see the value in supporting IPv6. I had to move on and use another vendor because of this.

Other things I have tried

- “poor-man’s” multihoming
 - Using the provider-supplied addresses on every host and having that address used when packets destined for that network are sent.
 - Does work, but requires hosts to be routers.

Things I hope to try

- IPv4-style multihoming on IPv6
 - Not sure if I (as a small user) can get provider independent addresses or not.
- Mobile IPv6
 - I believe this type of technology will become more interesting as small portable devices become smarter and making use of encryption technologies is more ubiquitous.
- VoIP over IPv6
 - This should be a no-brainer.
- Video Conferencing over IPv6
 - NTT demoed this a couple of years ago and since then some commercial products have emerged. I just have not had a chance to try it.

Things I probably won't try

- Personally, I am not much of a gamer, so I am not likely to try gaming over IPv6.
 - However, I am told that some of the current game consoles have IPv6 capabilities. I am just not the guy to ask about that.

Q & A

