Some Things to Ask Your ISP About IPv6

Posted on January 27, 2011 by Paul Stewart, CCIE 26009 (Security)

There are many topics that I could blog about regarding the IPv4 depletion issue and the subsequent migration to IPv6. However, I think one of the more important things is to start the process of determining how we will connect to this new IPv6 Internet over the long term. As a result I have compiled a brief (and likely incomplete) list of questions that you might want to start asking your ISP's or perspective ISP's. These should help you get a feel for how prepared an ISP is for IPv6.

Questions to Ask Your ISP About IPv6:

1. How long have you (or when will you start) providing IPv6 access to customers?
2. What percentage of your customers are using IPv6?
3. Who do you have peering relationships with?
4. Are these peer relationships native or tunnelled?
5. As a customer, can you provide BGP peering to my corporate network?
6. Compare your IPv6 and IPv4 network designs?
7. Will my IPv6 traffic be native throughout your entire network or will there be areas of 6to4 tunnelling to overcome current device limitations?

When asking these questions, you are trying to get a feel for a few things. First, are you completely catching this ISP off guard. If so, they are likely not talking about IPv6 internally that much. In this case, I would say the ISP is reactive and might struggle with delivery of this new protocol. You very likely may just get a salesperson that is not yet fluent enough for this conversation. If that service provider is talking about it internally though, you may immediately be given someone else's contact information. That is fine.

You also are looking for a provider with multiple peering relationships and that is poised to scale to greater connectivity than the current IPv4 network. Also, you may want to get a feel for if the infrastructure has been upgraded to support IPv6 and IPv4 throughout. Alternatively, edge routers may direct IPv6 traffic over to a parallel network immediately. A less attractive approach might be a provider who is building tunnels of IPv6 over IPv4 because of equipment limitations.

The thing we all need to be doing is talking to our ISP's. Service providers need to know that we are going to need IPv6. If they don't provide IPv6 we'll be going somewhere that will. Additionally, as we are entering into new contracts with providers, we must make sure that IPv6 is going to be covered similarly to IPv4. Without service providers moving forward with this new protocol, we have gaps in overall IPv6 implementation. We will have to temporarily overcome islands of IPv6 with less than optimal solutions like 6to4 tunnels. Hopefully providers will quickly realize the importance of providing IPv6, not only for our businesses, but also for their business as well.