Dealing with reality

Alain Durand

March 24, 2009
IPv4 reality check: completion of allocation is real

After completion:
Existing IPv4 addresses will not stop working. Current networks will still operate.
IPv6 reality check: the IPv4 long tail

- Post IPv4 allocation completion:
  - Many hosts in the home (eg Win 95/98/2000/XP, Playstations, consumer electronic devices) are IPv4-only.
    - They will not function in an IPv6-only environment.
    - Few of those hosts can and will upgrade to IPv6.
  - Content servers (web, email,…) hosted on the Internet by many different parties will take time to upgrade to support IPv6.
Dealing with both realities: a two prong approach

1. Embrace IPv6
   - Move as many devices/services to IPv6 as possible to lower dependency on IPv4 addresses

2. Build an IPv6 transition bridge for the IPv4 long tail
   - Goal:
     - Provide IPv4 service without providing a dedicated IPv4 address
   - Technology:
     - Leverage IPv6 access infrastructure
     - Provide only IPv6 addresses to endpoint
     - Share IPv4 addresses in the access networks
     - DS-lite: IPv4/IPv6 tunnel + provider NAT