



# IPv6 in the Enterprise

John Rhoton  
Advanced Technology Group  
HP Services

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# Logical Steps to Action

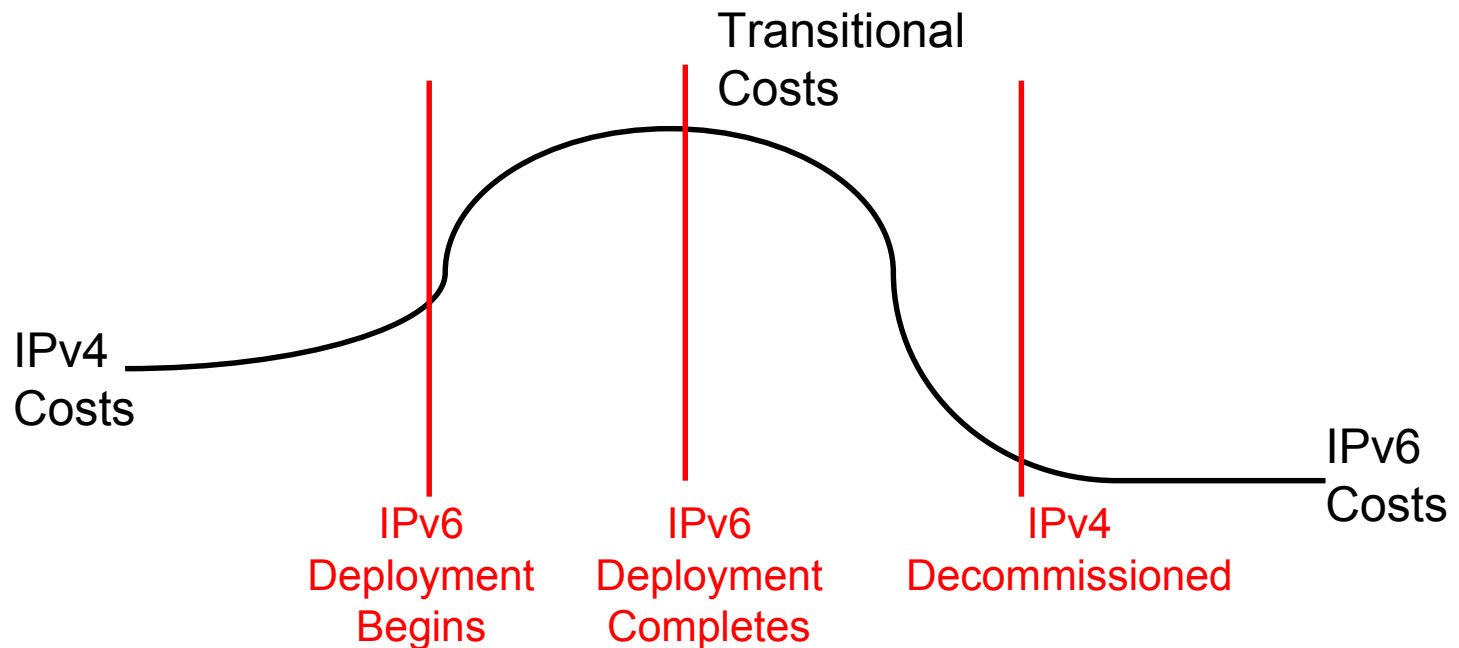
- IPv6 is technically superior to IPv4
- IPv6 will be pervasive one day
- IPv6 deployment will begin soon (e.g. this decade)
- IPv6 planning must begin now

Most agree with point 1.

How many are willing to act?

# Financial Business Case

- ROI = Input NPV / Output NPV
- $NPV = CF_1/(1+r)^1 + CF_2/(1+r)^2 + \dots + CF_n/(1+r)^n$
- $IRR = CF_1/(1+r)^1 + CF_2/(1+r)^2 + \dots + CF_n/(1+r)^n$



# IPv6 Cost reduction

- Improved network efficiency
  - Streamlined packet structure
  - Routing Optimization of Mobile IPv6
  - No network fragmentation
  - Improved Header Option processing
- Simplified Management
  - Stateless Autoconfiguration
  - Automatic Network Renumbering
- Reduced need for Application Layer Gateways
  - No NAT Traversal required

# Functional Business Case

- Application Enablement
  - Peer-to-Peer
  - VoIP
- Seamless Mobility
  - Efficient, secure and
- Adaptive Networking
  - Flexible Renumbering
- Reduced risk
  - Removes Single-point-of-Failures
  - Reduced complexity
- Integrated Anycast

# Current Industry Deployments

- Asia is leading geographically, deploying high tech devices, wireless, and wireline IPv6 infrastructure.
- 3G Deployment has begun in 2003
- 802.11 Wi-Fi is potential High End Deployment for IPv6 and Mobile IPv6:
  - First with reconnect strategy when roaming
  - Then Mobile IPv6 always-on-anytime roaming
- US Department of Defense Mandate
  - As of **October 2003** all GiG assets being developed, procured, or acquired must be IPv6 capable
  - Complete the transition of all Inter and Intra networking across the DoD by **2008**

# Enterprise Business Case



- No short-term ROI for large-scale investment
- Preparation and Planning
  - Avoid double installations
  - Avoid rapid obsolescence
  - Enable flexibility
  - Ensure eventual deployment runs smoothly

IPv6 is **inevitable**. The key to success is **timing**.

# Preparation and Planning

- Procure only IPv6 compliant components
- Analyze the ROI
- Identify suitable pilots / early adopters
  - Applications
  - User communities
- Assess transition mechanisms
- Plan IPv6 network
- Assess Security and Management requirements
- Obtain IPv6 prefixes
- Inventory custom applications
- Train staff for roll-out and support