

IPv6 Tech Forum:

*Seeing past the Mandate and
recognizing the value to our Missions*

February 20th, 2007

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Problem Statement

Effectively and Efficiently Managing the Transition to IPv6

**All devices will eventually become IPv6 but this
may take decades.**

**In the meantime, we must transition Core networks
by June 30, 2008**

Transition Plan Considerations:

- **Agencies need to interface/communicate with newly emplaced devices and applications that only operate in IPv6 mode.**
- **Agencies need to communicate with devices and a that continue to operate on the existing IPv4 standards.**

The Opportunity

Effectively and Efficiently Managing the Transition to IPv6

- **The IPv6 deployment should not be viewed as a stand-alone event**
 - This is not a “sprint” to June 2008, it is a part of the constant network evolution “marathon”
- **It is critical that we leverage every opportunity to re-evaluate our:**
 - network topologies
 - services and applications
 - security
 - network management

The network has to maintain pace with evolving requirements

The Ongoing Network Transformation

Effectively and Efficiently Managing the Transition to IPv6

- **Deploying IPv6 is a part of the network transformation required to support emerging requirements:**
 - Converged Services (voice, video, data)
 - Collaboration (e.g., collaborative engineering applications)
 - Increased Mobility (e.g., handheld devices)
 - Growing number of addressable devices
 - Security

The Next Eighteen Months

Preparing the Network Core

OMB Memorandum 05-22

Effectively and Efficiently Managing the Transition to IPv6

- **By November 15, 2005**
 - Identify an IPv6 agency lead
 - Complete 1st inventory of IP-aware hardware devices in network backbone
- **By February 28, 2006**
 - Develop a network backbone transition plan for IPv6
 - Complete an IPv6 progress report
- **By June 30, 2006**
 - Complete 2nd inventory of IP-aware applications and peripherals with dependencies on network backbone
 - Complete an IPv6 transition impact analysis
- **By June 30, 2008**
 - Complete network backbone transition to IPv6

Working Definition: Core Network

Effectively and Efficiently Managing the Transition to IPv6

- For the purposes of the IPv6 transition, the core network (a.k.a. backbone network) is the set of network transport devices (routers, switches) that provide the highest level of traffic aggregation in the network, and thus form the highest level of hierarchy in the network.
- From a traffic flow perspective, the core supports transient traffic only – i.e., there are no traffic sources or destinations on the core network

Success Criteria for June 2008

Effectively and Efficiently Managing the Transition to IPv6

- **Agencies need to be able to demonstrate they are capable of performing *at least* the following functions, without compromising IPv4 capability or network security:**
 - Transmit IPv6 traffic from an external network, through the Core, to the Access & Distribution networks
 - Transmit IPv6 traffic from an Access or Distribution network, through the Core, out to an external networks
 - Transmit IPv6 traffic from an Access or Distribution network, through the Core to another Access or Distribution network (or another node on the same Access or Distribution network)

The Federal IPv6 Working Group

Effectively and Efficiently Managing the Transition to IPv6

- **Sponsored by the Federal CIO Council**
- **Membership composed of the IPv6 Transitions leads from each Agency / Bureau**
 - All Agencies have assigned transition leads
 - Additional attendees from multiple Agencies / Bureaus

2008 and Beyond

Deploying new capabilities and services

Next Steps

- **Moving past the core network and deploying new services and capabilities to end users**
- **The US Government (aka USG) profile defines the RFC's required**
 - NIST led the development of the profile
 - Currently out for Public Comment
- **Based on the USG Profile, educate users on emerging capabilities**

Points of Contact

Effectively and Efficiently Managing the Transition to IPv6

- OMB (IPv6 policy; Enterprise Architecture)
 - Carol Bales – Carol_Bales@omb.eop.gov
- General IPv6 inquiries – ipv6@omb.eop.gov
- CIO Council (IPv6 Working Group)
 - John McManus – jmcm Manus@doc.gov
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Questions?