

IPv6 Adoption

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Government as a Driver and Adopter:
Roadmaps for short/long-range
planning

Government: Planning in Order to Innovate and Drive Tech Dev

- Government – Aware and Awake to the Issues
 - Government Officials – Trained and aware at proper levels (benefits of regional training – ITU, CITELE, CTU, ICANN, ISOC, RIRs, etc.)
 - Government Working with Industry and Technical Experts: Information exchange and awareness
 - Government Helping Not Hindering: Facilitate the environment
 - Government Outreach: Listening Sessions/SME awareness raising

Government: Planning in Order to Innovate and Drive Tech Dev

- Government Planning/Roadmaps (Regional)
 - Consult with Industry
 - Consult with RIRs
 - Consult with Other Governments
 - Focus on long-range objectives
 - IPv6 will become a business necessity in the medium term (AfriNIC)
 - It takes time to audit existing systems, bring vendors on board , plan v6 networks – starting early – reduces the cost of transition

Government Role

- US OMB CIO Roadmap
 - Released May 2009
 - Collaboration with Technical Experts - key
 - Government as an adopter and driver of technology
 - Consumer awareness

OMB CIO Roadmap

- Assess the “As-Is” IPv4 and IPv6 environments
- Envision your agency’s “To-Be” IPv6 state, defining network services to be IPv6-enabled based upon the agency’s business needs
- Develop an IPv6 Transition Strategy to address the gaps between the “As-Is” and “To-Be” IPv6 environments
- Invest in IPv6-enabled network services (as defined in your Target Enterprise Architecture) through the Capital Planning and Investment Control (CPIC) process
- Monitor IPv6 deployment progress according to the milestones defined in your agency’s Transition Strategy Plan.

The “WHY”

- **Addressing and Routing:** IPv6’s extremely large address space enables global connectivity to many more electronic devices – mobile phones, laptops, in-vehicle computers, televisions, cameras, building sensors, medical devices, etc.
- **Security:** IPv6’s security comes in the form of IPsec, which allows authentication, encryption, and integrity protection at the network layer.

The “WHY”

- **Support for Mobile Devices:**
- IPv6 enabled applications can benefit from seamless mobility. The mobility comes in the form of Mobile IPv6, which allows devices to roam among different networks without losing their network connectivity.

Other Roadmaps

- Malaysia
 - National IPv6 Council
 - 2004: provide leadership and strategic push
 - Joint Technical Committee on IPv6
 - Focused on migration planning – chaired by Ministry – keep others Government entities on track
 - IPv6 Working Group
 - ISPs a part of - Chaired by the Regulator
 - Prepare guidelines, standards, technical recommendations, problem solving

Other Roadmaps

- Pakistan
 - IPv6 Forum launched in August 2006
 - Noted that a lack of IPv6 readiness could hamper growth
 - 2 June 2009 – Government and industry coordination committee established to create a roadmap
 - Private Sector: Working with APNIC and hosting technical meetings
 - Academia: Assisting with research on potential challenges with the migration from v4 to v6

International Momentum

- **Algeria, Egypt, Kenya and Senegal: All have setup a local IPv6 taskforce lead by** significant involvement from government to support local awareness and encourage network operators to implement IPv6. Senegal is investigating a national policy to enforce that all imported network equipment is either IPv6 compatible or that the vendor can prove that there is a clear upgrade roadmap to support IPv6.
- **Egypt: The Ministry of ICT and NTRA have setup a lab to conduct research on IPv6** for commonly used applications in the country such as VoIP and telemedicine. Reports from these studies have been presented at AfriNIC meetings.

International Momentum (cont..)

- **Lebanon: Working with the Middle East Network Operators Group (MENOG) in 2009,** Lebanese networks are now among the first in the Middle East that are able to connect and peer at the Beirut Internet Exchange (Beirut IX) over IPv6.
- **Nigeria: A special committee was created by the government of Nigeria (EFCC and NCC) to** increase IPv6 awareness and study policy that can bootstrap the process.

Collaboration

- Benefit from work in progress
- Work with Experts via video/telecon/face-to-face
- Regional perspectives and synergy
- International Experts (RIRs, ISOC, ITU, ICANN)