



# IPv6 Plans and Standards

A Mandatory Reference for ADS Chapter 545

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## **Information System Security Internet Protocol Version 6 (IPv6) Plans and Standards for System Administrators, System Owners, Information System Security Officers, and Functional Managers**

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The following plans govern the transition to, and implementation of, IPv6 at USAID.

### **What is IPv6?**

IPv6 is short for "Internet Protocol Version 6". IPv6 is the "next generation" protocol designed by the Internet Engineering Task Force (IETF) to replace the current version, Internet Protocol Version 4 ("IPv4").

Most of the Internet currently uses IPv4, which is now more than 24 years old. While it is still in service, it is growing old and is beginning to show its problems which include address shortages, security and other issues.

Internet Protocol Version 6 fixes these and several other problems found in IPv4. IPv6 will gradually replace IPv4, with the two coexisting during a transitional period. Below are some of the key points that IPv6 addresses:

- Larger IP address space
- Autoconfiguration
- Quality of service
- Security
- Traffic control
- Multicast

These benefits will increase the growth, stability, and security of the Internet as a whole. The government needs to lead the change to IPv6.

### **Guidance**

The current IPv6 guidance is contained within the Memorandum M-05-22 dated August 2, 2005. This guidance defines what actions agencies must take:

November 15, 2005

- Assign an official to lead and coordinate agency planning,
- Complete an inventory of existing routers, switches, and hardware firewalls,
- Begin an inventory of all other existing IP compliant devices and technologies not captured in the first inventory
- Begin impact analysis to determine fiscal and operational impacts and risks of migrating to IPv6

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- Using the guidance issued by Chief Information Officers Council Architecture and Infrastructure Committee (see Memorandum M-05-22), address each of the elements in

Attachment C (see Memorandum M-05-22) in your agency's IPv6 transition plan and provide the completed IPv6 transition plan as part of the agency's Enterprise Architecture (EA) submission to OMB. Additional guidance on your agency's EA submission will be forthcoming.

- Provide a progress report on the inventory and impact analysis, as part of the agency's Enterprise Architecture (EA) submission to OMB. (Additional guidance on your agency's EA submission will be forthcoming.)

June 30, 2006

- Complete inventory of existing IP compliant devices and technologies not captured in first inventory, and
- Complete impact analysis of fiscal and operational impacts and risks

June 30, 2008

- All agency infrastructures (network backbones) must be using IPv6 and agency networks must interface with this infrastructure. Agencies will include progress reports on meeting this target date as part of their EA transition strategy