Information Technology Policy
Commonwealth of Pennsylvania
Governor's Office of Administration / Office for Information Technology

ITP Number:	**ITP-NET004**	
ITP Title:	**Internet Protocol Address Standards**	
Issued by:	**Deputy Secretary for Information Technology**	
Date Issued: March 1, 2006		**Date Revised: December 20, 2010**
Domain:	**Network**	
Discipline:	**Network Management & Operations**	
Technology Area:	**LAN / MAN / WAN Operations**	
Revision History Date:	**Description:**	
10 / 16 / 2008	**NET004A – IPv6 Transition Schedule rescinded**	
12 / 20 / 2010	**ITP Refresh**	

Abstract:

The purpose of this Information Technology Policy (ITP) is to assign sole responsibility for the registration, management, and distribution of Internet Protocol (IP) addresses for all internal connections to the Commonwealth Enterprise Network to the Office of Administration, Office for Information Technology,(OA/OIT).

Internet Protocol Version 4 was designed in the early 1970s. At that time, the Internet was primarily used as a method for Education, Government, and Business to share research information. As the Internet grew during the 1980s, addresses were assigned without consideration for optimization or aggregation. As a result, large blocks of IP addresses were issued and not used efficiently. These conditions, along with the proliferation of new applications and protocols using IP address; such as wireless devices, Voice over IP, and IPSec, have led to the current IP address shortage.

Concurrently, the Commonwealth has grown from a small Internet presence to enabling internet access from personnel computers (PCs) on almost every desktop, and from wireless devices as well. Each device requires an IP Address in order to communicate with Commonwealth applications and internet resources. Consequently, just as for the country as a whole, the Commonwealth suffers from a shortage of IP addresses. At last count, there are approximately 1500 addresses available to the Commonwealth. With new, emerging technologies and applications, we will easily exceed that number.

In order that we continue to meet the needs of the employees and citizens of the Commonwealth, we are to prepare for the next generation of IP addresses - IPv6. IPv6 has been designed to provide the number of IP addresses required worldwide. The Office of Administration will ensure, through central management, an effective migration to the new IP addresses.

General:

This ITP applies to all Departments, Boards, Commissions and Councils under the governor's jurisdiction (agencies) and any Commonwealth agency or business partner that requires a connection to the Commonwealth Enterprise Network.

Policy:

This ITP establishes an enterprise-wide policy for the centralized registration, management, and distribution of Internet Protocol addresses by the OA/OIT. No other entity under the governor's jurisdiction is to obtain IP addresses of any kind.

IP addresses include Class 10 or Internet non-routable addresses (RFC1918), Public Network addresses, and IPv6 addresses.

The main objective of this policy is to ensure that future distribution of any IP addresses is centrally managed by the Enterprise Network Administrators. This management will ensure the following:

- Centralized IP Address administration and management
- Route Summarization
- Enhanced Security
- Improved resource management through addressing in contiguous address space

OA/OIT has registered for IPv6 addresses for the Commonwealth Enterprise and will provide Agencies with assistance in address management and routing concepts. Standards will be developed for transition and methods of deployment. A controlled environment (lab) will be established for testing and certification of software and equipment upgrades. After certification, blocks of addresses will be assigned to each agency for its networks and devices.

Commonwealth agencies who want to connect to the Commonwealth's wide area or metropolitan area networks (WAN/MAN) to use any subnet of IP addresses, are to e-mail their requests to OA, Enterprise Network Services (ens@state.pa.us) who will assign the IP addresses to the requesting agency.

Transition to IPv6 addresses across the Commonwealth will occur over an extended timeframe. A presentation of the roles and responsibilities for OA/OIT and the agencies is defined in (OPD-NET004A).

Refresh Schedule:

All standards identified in this ITP are subject to periodic review and possible revision, or upon request by the Enterprise Architecture Standards Committee (EASC).

Exemption from This Policy:

In the event an agency chooses to seek an exemption, for reasons such as the need to comply with requirements for a federally mandated system, a request for waiver may be submitted via the Commonwealth of PA Procurement and Architectural Review (COPPAR) process. Requests are to be entered into the COPPAR Tool located at http://coppar.oa.pa.gov/. Agency CIO approval is required. Contact your agency CoP Planner for further details or assistance.

Questions:

Questions regarding this policy are to be directed tora-itcentral@pa.gov.

Policy Supplements:

OPD-NET004A - Internet Protocol Addresses Roles and Responsibilities