

Information Technology Policy

Internet Protocol Address Standards

ITP Number ITP-NET004	Effective Date March 1, 2006
Category Network	Supersedes None
Contact RA-ITCentral@pa.gov	Scheduled Review November 2022

1. Purpose

This Information Technology Policy (ITP) establishes an enterprise-wide policy for the centralized registration, management, and distribution of Internet Protocol (IP) addresses by the Office of Administration, Office for Information Technology (OA/OIT). No other entity under the governor's jurisdiction is to obtain IP addresses of any kind unless part of a standard enterprise contract offering.

2. Scope

This ITP applies to all offices, departments, boards, commissions, and councils under the Governor's jurisdiction (hereinafter referred to as "agencies"). Agencies not under the Governor's jurisdiction are strongly encouraged to follow this ITP.

Third-party vendors, licensors, contractors or suppliers shall meet the requirements of this ITP that are applicable to the products and services provided to the Commonwealth as outlined in the Responsibilities Section.

3. Background

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, the Commonwealth also 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.

4. Objective

To ensure that distribution of any IP addresses are centrally managed by the Enterprise Network Operation Section (ENOS). 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

5. Policy

This ITP assigns sole responsibility for the registration, management, and distribution of Internet Protocol (IP) addresses for all internal resources and external connections to the Commonwealth Enterprise Network to the OA/OIT.

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

In preparation for the next generation of IP addresses, OA/OIT has registered for IPv6 addresses, which will provide the number of IP addresses required for the Commonwealth Enterprise. OA/OIT 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, as required, for use on all Commonwealth networks and devices.

Agencies that need to request IP Addresses shall submit a request via the IT Service Management tool:

- Global Service Catalog
- Category: Network
- Subcategory: Service
- Service: IP Address

If access to the IT Service Management tool is not available, Agencies shall e-mail their requests to ENOS at ens@pa.gov who will assign the IP addresses to the requesting agency.

Transition to IPv6 addresses across the Commonwealth will occur over an extended timeframe. The roles and responsibilities for OA/OIT and the agencies are defined in OPD-NET004A *Internet Protocol Address Roles and Responsibilities*.

6. Responsibilities

6.1 Agencies shall submit requests to obtain IP Addresses.

6.2 Office of Administration, Office for Information Technology (OA/OIT) shall submit requests to obtain IP Addresses.

6.2.1 Enterprise Network Operation Section (ENOS) shall

- Assign IP Addresses to requesting agencies and third-party vendors.
- Shall maintain American Registry of Internet Numbers (ARIN) assigned and Request for Comment (RFC1918) IP Address inventory.

6.3 Third-party vendors, licensors, contractors, or suppliers shall comply with the requirements as outlined in this ITP if they require a connection to the Commonwealth Enterprise Network by submitting requests to obtain IP Addresses.

7. Related ITPs/Other References

Definitions of associated terms of this policy are published on the Office of Administration's public portal: <http://www.oa.pa.gov/Policies/Pages/Glossary.aspx>

Commonwealth policies, including Executive Orders, Management Directives, and IT Policies are published on the Office of Administration's public portal:

<http://www.oa.pa.gov/Policies/Pages/default.aspx>

- [Management Directive 205.34](#) Amended *Commonwealth of Pennsylvania Information Technology Acceptable Use Policy*
- OPD-NET004A *Internet Protocol Addresses Roles and Responsibilities*
- American Registry for Internet Numbers (ARIN): <https://www.arin.net/new/>
- RFC1918: <https://datatracker.ietf.org/doc/html/rfc1918>

8. Authority

[Executive Order 2016-06 Enterprise Information Technology Governance](#)

9. Publication Version Control

It is the [Authorized User](#)'s responsibility to ensure they have the latest version of this publication, which appears on <https://itcentral.pa.gov> for Commonwealth personnel and on the Office of Administration public portal: <http://www.oa.pa.gov/Policies/Pages/default.aspx>. Questions regarding this publication are to be directed to RA-ITCentral@pa.gov.

10. Exemption from This Policy

In the event an agency chooses to seek an exemption from the guidance within this ITP, a request for a policy waiver is to be submitted via the enterprise IT policy waiver process. Refer to [ITP-BUS004 IT Policy Waiver Review Process](#) for guidance.

This chart contains a history of this publication's revisions. Redline documents detail the revisions and are available to CWOPA users only.

Version	Date	Purpose of Revision	Redline Link
Original	03/01/2006	Base Document	
Revision	12/20/2010	ITP Refresh	
Revision	11/29/2021	<ul style="list-style-type: none">• Updated ITP Template• Added Third-party vendors to Scope and Responsibilities• Provided further guidance for submitting requests for IP Addresses• Updated Responsibilities and Related ITPs/Other References Section• Added links	Revised IT Policy Redline <11/29/2021>