

Information Technology Policy

Commonwealth External and Internal Domain Name Services (DNS)

Number ITP-NET005	Effective Date March 1, 2006
Category Network	Supersedes All Prior Versions
Contact RA-ITCentral@pa.gov	Scheduled Review July 2023

1. Purpose

The purpose of this Information Technology Policy (ITP) is to establish an enterprise-wide policy for external and internal Domain Name Services design standards that comply with [Executive Order 2019-04 Establishing a "Citizen First" Directory and Promoting Customer Service Transformation](#). This policy will ensure DNS uniformity across all Commonwealth agencies and ensure efficient and secure name resolution within the Commonwealth network.

2. Scope

This ITP applies to all entities on or connected to the Commonwealth Enterprise Network including all offices, departments, boards, commissions, councils, or any other organization (hereinafter referred to as "agencies").

3. Definitions

3.1 Domain Controller: A server that responds to security authentication requests within a Windows Server domain.

3.2 Domain Name Request: ITSM service request for DNS related requests.

3.3 Domain Name System (DNS): An Internet service that translates domain names into IP addresses.

3.4 DNS Record: A database record used to map a domain, URL, or hostname to an IP address (this includes, but is not limited to, domains that are requested via OPD-NET005B).

3.5 DNS Zone: Any distinct, contiguous portion of the domain name space in the DNS for which administrative responsibility has been delegated to a single manager.

4. Policy

The Office of Administration, Office for Information Technology (OA/OIT) has the responsibility and authority to centrally manage DNS names for the Commonwealth's external and internal domains. A service request via the Enterprise ITSM tool shall be used for all DNS services requests.

Agencies shall follow the procedures outlined in OPD-NET005A *Procedures for DNS Record Service Requests* for all DNS service requests. Agencies shall complete and obtain approval of OPD-NET005B *Domain Exception Request Form* and the approved form shall be included in any DNS service request. OA/OIT may decline unacceptable DNS service requests if the requests do not adhere to this policy. OA/OIT will work with the requester to resolve declined requests.

The following are the types of DNS service request:

- Request assistance to migrate non-Commonwealth, non-compliant, and/or non-restricted domains (.com, .net, .org, etc.) to PA.GOV.
- Request a DNS Zone or Record
- Modify or delete a DNS Zone or Record
- DNS troubleshooting

Agencies shall use the following DNS design standards:

External DNS Design Standards

- Agencies shall use the PA.GOV domain for all new Domain Name Requests.
- Modernization efforts shall be made to migrate STATE.PA.US domains to PA.GOV.
- Agencies shall not expand their use of services utilizing non-.PA.GOV domains.
- Agencies shall obtain a policy waiver against this ITP to continue using STATE.PA.US (refer to Section 9 for details). The policy waiver request shall include the following:
 - Business justification for continued use of STATE.PA.US; and
 - High-level strategy and estimated timeframes for migration to PA.GOV.
- Prior to an agency purchasing or requesting a non-.PA.GOV domain:
 - Agencies shall receive approval using the OPD-NET005B DNS Records Request Approval Form process..
 - An IT policy waiver approval is required after receiving approval of the OPD-NET005B. Refer to Section 9 for exemption guidance.
- New requests shall be limited to midlevel domains under an agency's core domain.
 - Example:
 - _____.**agency**.pa.gov
 - Exception Examples (Only when there is a strong business need to have a domain reside below the Commonwealth's root domain):
 - vote.**pa**.gov

- **business.pa.gov**
- Agencies shall use domain names that are in plain language, less than 15 characters, no more than one word, lowercase, and reflect the purpose of the application or site it represents. To fulfill this, agencies are encouraged to assess their portfolio of digital assets and the fundamental goal of the domain request.
 - Examples:
 - **file**.agency.pa.gov
 - **report**.agency.pa.gov
 - **services**.agency.pa.gov
 - **license**.agency.pa.gov
 - Example of what not to do:
 - **MyExpressDocumentFile**.agency.pa.gov
 - **ClientFastReportPortal**.agency.pa.gov
 - **CMXServices**.pa.gov
 - **MyLicenses**.agency.pa.gov
 - Exception Examples (only when there is a strong business need):
 - FWGS.com
 - finewineandgoodspirits.com
- Agencies shall standardize naming structure for domains associated with alternate testing environments.
 - Examples:
 - _____.agency.pa.gov
 - _____.agency.**dev**.pa.gov
 - _____.agency.**uat**.pa.gov
 - _____.agency.**tst**.pa.gov
- To reduce redundancy, agencies are encouraged to omit "pa" from a domain name under the Commonwealth's root domain.
 - Example of what not to do:
 - **PA**agency.pa.gov
 - **Pennsylvania**agency.pa.gov
 - **servicePA**.agency.pa.gov
- Agencies shall acknowledge and confirm that the Pennsylvania Design Standards (ITP-SFT002) will be integrated into any service or resource that will be associated with the new domain as detailed in OPD-NET005A *Procedures for DNS Record Service Requests*.

Internal DNS Design Standards

- Agencies are encouraged, but not required, to apply the design standards listed above for External DNS Design Standards to their internal domains.
- All internal server systems shall resolve DNS to their local Commonwealth Domain Controller. Acceptable server standards are detailed in [ITP-PLT005 Server Operating System Policy](#).

- If an agency has an in-house DNS solution, those servers shall forward to their local Commonwealth Domain Controllers.
- All Commonwealth Domain Controllers shall forward to the Commonwealth internal DNS servers for any resolution required.
- Commonwealth internal DNS servers shall forward non-internal or Internet requests to Commonwealth external DNS servers

Governance Requirements

- For new PA.GOV-based DNS Records, agencies shall obtain approval from the Governor's Office via the agency digital director prior to submitting a request for DNS Record provisioning. Agencies shall use OPD-NET005B *DNS Records Request Approval Form* to request and obtain approval from the Governor's Office.
- If obtaining a new or modifying a non-PA.GOV DNS Record:
 - Obtain Governor's Office approval via OPD-NET005B
 - A policy waiver against this ITP shall be approved prior to submitting a request for DNS Record provisioning. The approved OPD- NET005B form shall be submitted as part of the waiver request.

5. Responsibilities

5.1 Agencies shall:

- Advance Commonwealth branding initiatives by requesting DNS Records under the PA.GOV domain;
- Submit requests for DNS changes at least five (5) business days in advance; and
- Develop migration strategies for the decommission of all non-PA.GOV domains, including, but not limited to, non-restricted domains such as STATE.PA.US.

5.2 Office of Administration, Office for Information Technology shall

- Create, modify, and delete DNS Records/Zones;
- Delegate Zones as necessary to other authorities;
- Troubleshoot DNS resolution;
- Maintain the DNS infrastructure;
- Resolve all DNS queries not resolved by Commonwealth Domain Controllers; and
- Block DNS resolution for domains that are considered cybersecurity threats or any other risk.

The following personnel hold decision rights to block a domain:

- Commonwealth Chief Information Officer;
- Commonwealth Chief Information Security Officer; and
- Commonwealth Chief Technology Officer.

6. 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-NET005A *Procedures for DNS Record Service Requests*
- OPD-NET005B *Domain Exception Request Form*
- [ITP-PLT005 Server Operating System Policy](#)
- [ITP-SEC000 Information Security Policy](#)
- [ITP-SFT002 Commonwealth of PA Website Standards](#)
- [NIST SP 800-81-2 Secure Domain Name System \(DNS\) Deployment Guide](#)

7. Authority

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

[Executive Order 2019-04 Establishing a "Citizen First" Directory and Promoting Customer Service Transformation](#)

8. 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 shall be directed to RA-ITCentral@pa.gov.

9. 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 shall 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	N/A
Revision	04/16/2009	Added PA.GOV	N/A
Revision	06/22/2009	Updated Policy and Exemption sections	N/A
Revision	01/21/2011	Updated to include specific policy for external and internal and DNS Supplement documents have been rescinded	N/A

Revision	09/13/2017	ITP Reformat Clarified OA/OIT authority on DNS management Removed <i>state.pa.us</i> as acceptable domain except for legacy sites Added References and Responsibilities section	N/A
Revision	03/17/2020	Added Definitions Added OPD-NET005A and OPD-NET005B guidance Added Decision Rights on blocking domains	N/A
Revision	07/23/2022	<ul style="list-style-type: none"> • ITP Refresh • Updated Links • Added Definitions • Updated scope to all entities on or connected to the Commonwealth Enterprise Network • Added language around Agencies not expanding their use of services utilizing non-.PA.GOV domains. • Added additional guidance for External DNS Design Standards • Added clarification that agencies are encouraged, but not required to add apply guidance for external DNS design standards to their internal domains 	Revised IT Policy Redline <07/23/2022>