

Information Technology Policy

Commonwealth of PA Website Standards

ITP Number ITP-SFT002	Effective Date February 22, 2017
Category Software	Supersedes None
Contact RA-ITCentral@pa.gov	Scheduled Review February 2018

1. Purpose

The purpose of this Information Technology Policy (ITP) is to facilitate enterprise-wide interoperability and standardization for Internet, Intranet, and Extranet facing websites and guidance to Commonwealth agencies on appropriate procedures and policies for linking to external websites.

2. Scope

This Information Technology Policy (ITP) applies to all departments, boards, commissions and councils under the Governor's jurisdiction. Agencies not under the Governor's jurisdiction are strongly encouraged to follow this ITP.

3. Policy

Website Standards

All agencies are to follow the formats and standards included in this policy for both internal and outsourced creation and implementation of websites. Portal projects hosted within the Commonwealth infrastructure are required to use the current standards and best practices defined by this document.

Open Standards Incorporated into the Commonwealth's Portal

HTTP	Hyper Text Transfer Protocol is the World Wide Web protocol that executes request and retrieve functions of a server.
HTTPS	Hyper Text Transfer Protocol Secure is the World Wide Web protocol that enables the secure transmission of Web pages utilizing encryption.
JSR168	Java Specification Request 168 is a specification that allows for portlets created for one portal solution to execute within a non-native hosted Java based portal container.
SOA	The foundation of this communication is a Services-Oriented Architecture (SOA). A service-oriented architecture is a collection of self-contained services – Web or otherwise – that communicate with each other in a loosely coupled fashion across a distributed environment. An SOA may typically utilize Web services to communicate with components from new and existing systems. Examples of other services for consumption by this portal include, but are not limited to: Active Directory; legacy applications; Microsoft Exchange; FileNet; and relational databases including Oracle, DB2, and SQL.
SOAP	Simple Object Access Protocol (SOAP) is a lightweight protocol for the exchange of information in a decentralized, distributed environment. A SOAP message is a transmission of information from a sender to a receiver. SOAP messages are combined to perform request/response patterns.
UDDI	Universal Description, Discovery, and Integration is a standard for platform-independent, open framework describing services on the Internet or Intranet.

XML	Extensible Markup Language is a standard for creating markup languages which describe the structure of data. XML enables authors to define their own tags. XML is a formal specification of the World Wide Web Consortium.
WSDL	Web Services Description Language forms the basis for Web services.
WSRP	Web Services for Remote Portlets define a web service interface for accessing and interacting with interactive presentation-oriented Web services.

Content Management

The Commonwealth's portal includes a component which provides Content Management. This Commonwealth standard makes it easier to publish new content to portal pages, interactive communities and applications hosted in the portal framework. Using Content Management, business users without web programming skills can create form-based web content in a controlled, consistent way, such as:

- Information Technology Support Documents;
- Commonwealth-wide communications;
- Announcements;
- Online Forms; and
- Citizen updates.

Content templates allow business users to create and publish new content based on pre-existing models and layouts, and make it easy to cascade similar changes across pages and sites. Features such as publishing, workflow, library services and integrated administration make it easy for individual business content publishers and portal administrators to work in parallel rather than in conflict with one another. This allows business users without web development skills to create visually rich content for portal pages, communities and applications.

Information Technology (IT) Accessibility Requirements

Agencies, boards, councils, and commissions are responsible for ensuring their websites are designed to all web design and application development requirements specified in ITP-ACC001 *Accessibility Policy*.

General Web Page Design Guidelines

Design websites with the target audience in mind, not personal preferences. Each website is to:

- Be easy to read;
- Be easy to navigate;
- Be accessible to a wide range of users;
- Follow defined enterprise branding specifications; and
- State the page title on each page.

Web page layout and design are to be consistent throughout the entire site. Website administrators and content publishers are to place strong emphasis on the quality of the content presented. Artwork/graphics presented on the website are to compliment the content, but not overwhelm it. Effective web design is dedicated to providing useful information, rather than trying to distract visitors with effects. Web content publishers, therefore, are not to overly rely on extraneous effects (e.g., special plug-ins) for message presentation. Content is to be logically presented in a consistent manner throughout the site and to provide intuitive navigation.

Commonwealth Branding Standard for Agencies under the Governor's Jurisdiction

In an effort to present constituents with a cohesive, Commonwealth-branded interface for web services, web design guidelines have been developed for use on Commonwealth websites. The guidelines help to deploy a branded and universal graphical user interface, while still allowing the agencies to maintain a degree of autonomy and creativity on agency sites. These specifications can be found in Management Directive 205.40 *Commonwealth Branding*.

Navigation

Website navigation is to:

1. Be consistent throughout the entire website.
2. Allow visitors to find desired information quickly and easily.
3. Adhere to web standards by indicating which link is currently selected and which links have been previously selected.
4. Use Hypertext Markup Language (HTML) text, rather than graphical text, for key content including navigational items and page headers.
5. Provide a shortcut (a "skip main navigation" hidden pixel) on every page that follows the home page. This allows users to skip repetitive navigation on the page through keystroke.

Pages are to contain local navigational links at both the beginning and end of the page layout. All pages are to provide a link to the organization's home page. All agency websites are to have a link back to the Commonwealth's home page located at www.pa.gov.

Page Size

Web page size is to be kept at a minimum size as feasibly possible to accommodate lower bandwidth connectivity of certain commonwealth business and citizens. Limiting page sizes should be in consideration for mobile web pages due to mobile data limitations that may occur with some Commonwealth businesses and citizens.

Hypertext Links

Link descriptions are to aid users to locate relevant information. Links are to use text that is descriptive and intuitive - even when read out of context (e.g., avoid "click here" as text for a hyperlink). In addition, hyperlinks are to be checked and maintained regularly to verify their validity as broken hyperlinks may cause users to question the reliability of the site.

As web pages are created, correct links to pages depend on the correct directory and the file structure. Use relative links instead of absolute links when linking to pages within a Commonwealth website (e.g., a relative link (index.html) would be found, while an absolute link (http://www.state.pa.us/pavisit/index.html) would not be found, if the directory or server site name was changed).

Page Organization

Use headings, lists, and consistent structure. Use cascading style sheets (CSS) for layout and style whenever possible. Test the pages to identify any accessibility issues after the style sheet is created to ensure accurate transformation in case the style sheets are turned off.

Scripts, Applets, & Plug-Ins

Any plug-ins or applications Test the features to identify any accessibility issues. Provide alternative content in the event that active features are inaccessible or unsupported.

White Space and Web Page Layout/Design

“White space,” also known as “negative space,” describes open space between design elements. White space is more than merely a background – it is an integral component of web page design. The effective use of white space is an important layout technique often overlooked by inexperienced designers. An inadequate amount of white space can lead to unreadable text, reduced graphics emphasis, and reduced page aesthetics due to a lack of balance between the elements on the web page.

Tables

Ensure that tables meet accessibility requirements as set forth in ITP-ACC001 *Accessibility Policy*.

Website Naming Conventions

Websites are to follow the website naming conventions set forth in ITP-NET005 *Commonwealth External and Internal Domain Name Services (DNS)*. This ITP states that all internet accessible services that are provided by agencies will be registered within pa.gov domain. All internal, Windows-based systems are to participate in a subzone of LCL.

Directory Structure and Filenames

Use lowercase letters for all filenames. Standardize on a naming convention for the filenames to reflect the content of the files. Be consistent in and with extensions. Do not include special characters (e.g., @, %, &) or spaces in naming of the files or directories. Use of underscore (_) or dash (-) is preferable to the use of special characters.

Plan the website directory structure. Do not place all files in a single directory unless there are only a few files and no additions are anticipated.

Acronyms and Terminology

Where possible, continue to simplify and distinguish terms. Spell out acronyms to reduce potential confusion or lack of clarity for users not familiar with government organizations/services.

Graphics and Animations

- Download time is to be considered when including graphics on a page
- Graphic file sizes are to be limited wherever possible.
- Graphics are to be saved in a Graphics Exchange Format (GIF), Joint Photographic Experts Group (JPEG), or Portable Network Graphics (PNG) format.
- List the actual width and height information in the anchor reference to the graphic to improve the page formatting time. (Example. `img src="sample.gif" width=412 height=137 alt="Sample"`). The alternate (alt) attribute is to provide a description of the graphic in order to be compliant with ITP-ACC001 *IT Accessibility Policy*.
- Verify all use of graphics and animations follows Commonwealth Accessibility standards identified in ITP-ACC001 *IT Accessibility Policy*.

Image Maps, Graphs and Charts

The use of client-side image maps is preferable to server-side maps. If a site chooses to use a server-side image map, include redundant text links to assist users who may choose to tab through links without the use of a mouse. These links also assist users who turn off graphic images on their browsers and those users with search engine indexing problems.

Graphs and charts offer visual representation of specific data and are to meet Commonwealth Accessibility standards identified in ITP-ACC001 *Accessibility Policy*.

Advertising

Non-commonwealth advertisements or web page sponsorships are not to be used until a business case is presented to, and approved by, the Deputy Secretary for Information Technology.

Cookies

Persistent cookies are only to be used with web analytics tools that do not collect personally identifiable information.

Frames

Frames are not to be used when creating new websites. If frames are used within existing sites, agencies are to ensure the websites are redesigned to meet Commonwealth accessibility standards identified in ITP-ACC001 *Accessibility Policy*.

Multimedia

Sound and video files, as well as streaming audio and video, may be added to sites provided that:

- All multimedia files are developed in compliance with ITP-ACC001 *Accessibility Policy* which requires closed captioning or a transcript be associated with all internal and external commonwealth-produced videos.
- Users receiving complete file transmission instructions are notified of file size;

Since streaming media requires higher bandwidth availability for satisfactory performance, agencies considering using streaming media are to contact the Office of Administration, Office for Information Technology, Bureau of Infrastructure and Operations (OA/OIT/BIO) in advance to discuss options.

Legal Review

Agency program managers are responsible for working with their respective Chief Counsel to:

- Verify the agency's right to use all software applications, information, graphics, photographs, and text on the site;
- Evaluate potential liability associated with site content;
- Content review and approval;
- The responsibilities for content review and approval are as follows:
 - Agency communications offices are responsible for the user interface design and the placement of content into the structure of agency websites. Agency communications offices are to collaborate with business owners for the creation and approval of content.
 - Information technology offices are responsible for implementing the user interface design and facilitating the process of maintaining content on agency websites.
 - Communications offices are responsible for collaborating with information technology offices to develop technically feasible user interface designs that conform to Commonwealth standards.
 - Agency websites are to follow the Commonwealth Style guides issued by the Governor's Office.

Web Analytics

Web analytics tools provide data, charts and graphics to analyze website traffic. The primary use of web analytics tools is to effectively organize and locate web pages to best meet business goals and objectives. Web analytics tools capture data such as:

- Number of new and repeat visitors
- Number of page views
- Visitor demographics
- Visitor click paths for entering and exiting pages

Web analytics tools use captured data for the correlation and analysis of web traffic enabling business users to:

- Determine user trends
- Target demographic groups
- Understand user preferences and online behaviors
- Confirm how effectively a website meets visitor needs and expectations
- Identify how well a website fulfills business objectives
- Deliver more targeted and relevant e-mail campaigns by measuring open, click-through, and unsubscribe rate

Current Standards for Web Analytics Tools

(These technologies meet the requirements of the current architecture and are recommended for use.)

Technology or Product	Product or Platforms	Technology Classification
Google Analytics For less than 5 million page views per month	All	Current
WebTrends	All	Current

External Linking Requirements

External Websites are defined as those websites not under the management or control of the Commonwealth of Pennsylvania. This policy is intended primarily for the Commonwealth's public-facing websites, but agencies are encouraged to apply it to their intranet websites as well.

A. External Linking Policy Notice:

The Office of Administration, in coordination with the Governor's Office, will maintain a link located within the footer area of all Commonwealth agency public-facing websites, or in another reasonably conspicuous and accessible location on the site that displays the External Linking Policy Language, as follows:

External Linking Policy and Disclaimer

The information posted on Commonwealth websites may include hypertext links, or pointers, to information created and maintained by other public and/or private organizations (outside websites). We only provide these links and pointers for your information and convenience. When you select a link to an outside website, you are

leaving the Commonwealth site and are subject to the privacy and security policies of the owners/sponsors of the outside website.

- The Commonwealth of Pennsylvania **does not** control or guarantee the accuracy, relevance, timeliness, or completeness of information contained on an outside website.
- The Commonwealth of Pennsylvania **does not** endorse the organizations sponsoring outside websites and does not endorse the views they express or the products/services they offer.
- The Commonwealth of Pennsylvania **cannot** authorize the use of copyrighted materials contained in outside websites. Users must request such authorization from the sponsor of the outside website.
- The Commonwealth of Pennsylvania **is not** responsible for transmissions users receive from outside websites.
- The Commonwealth of Pennsylvania **cannot** guarantee that outside websites comply with accessibility requirements.

CONTACT INFORMATION

If you have any questions or comments about the information presented in this Disclaimer, you can contact the Commonwealth's Office of Administration, Office for Information Technology as follows:

By Fax: 717-787-4523

By Mail: 209 Finance Building, Harrisburg, PA 17120

By Email: RA-ITCentral@pa.gov

In instances where Commonwealth agencies maintain their own public-facing websites, those agencies must include the External Linking Policy and Disclaimer Language in the footer area of those sites, or in another reasonably conspicuous and accessible location on the site.

B. Choice and Display of External Website Links

It is important for every agency which places links to External Websites on its public-facing web pages to take reasonable steps to evaluate those links, and to ensure the External Websites are displayed in a way consistent with law and Commonwealth policy.

- Ensure External Links are closely related to the subject matter of the web page.
- A .gov Internet domain may not be used to advertise for private individuals, firms, or corporations.
- Ensure External Links are checked for "breakage" (i.e. 404 Not Found Error) at reasonable intervals.

4. Responsibilities

4.1 Office of Administration, Office for Information Technology (OA/OIT):

In coordination with the Governor's Office, OA/OIT will maintain a link located within the footer area of all Commonwealth agency public-facing websites that displays the External Linking Policy Language.

4.2 Commonwealth Agencies

Websites maintained by agencies must adhere to guidelines listed in this ITP and in ITP-ACC001 *Accessibility Policy* and include the External Linking Policy and Disclaimer Language in the footer area of those sites and ensure External Links are in compliance with applicable policy and laws.

5. Related ITPs/Other References

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 *Commonwealth of Pennsylvania Information Technology Acceptable Use Policy*
- Management Directive 205.40 *Commonwealth Branding*
- MD 210.5 *State Records Management Program*
- ITP-ACC001 *Accessibility Policy*
- ITP-NET005 *Commonwealth External and Internal Domain Name Services (DNS)*
- ITP-PLT019 *Web Server/Application Server Standards*
- ITP-SEC019 *Policy and Procedures for Protecting Commonwealth Electronic Data*
- ITP-SEC020 *Encryption Standards for Data at Rest*
- ITP-SEC031 *Encryption Standards for Data in Transit*
- ITP-SFT000 *Systems Development Life Cycle Policy*
- ITP-SYM006 *Desktop and Server Software Patching*

6. Authority

Executive Order 2016-06, Enterprise Information Technology Governance

7. Publication Version Control

It is the 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.

8. 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.

This chart contains a history of this publication's revisions:

Version	Date	Purpose of Revision
Original	02/22/2017	Base document Moved to Software domain from Application, including ITP number change Replaces ITP-APP005 <i>Commonwealth of PA Website Standards</i> , ITP-APP007 <i>Commonwealth of PA External Website Linking Policy</i> , TP-APP029 <i>Portal Technology Standards</i> , ITP-APP039 <i>Web Analytics Policy</i> ITPs