Information Technology Policy

Application Development

ITP Number		Effective Date
ITP-SFT009		February 22, 2017
Category		**Supersedes**
Software		None
Contact		**Scheduled Review**
RA-ITCentral@pa.gov		April 2019

1.   Purpose

Establishes enterprise-wide standards and guidance for application development methodologies.

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.   Objective

- Provide a uniform approach to application development;
- Enhance and promote standardization;
- Reduce training costs and facilitate enhanced support services by having the same languages in use throughout state government;
- Achieve substantial savings in person/time support costs over a period of time by reducing the number of languages supported; and
- Decrease time to production for applications.

4.   Policy

New application development projects that require the use of an application development language, integrated development environments (IDE), web development frameworks, and forms development tools are to use the current application development standards as defined in section 6 of this ITP.

Major revisions to existing application development projects that are not using the current standards will be reviewed as part of the ITP-PRO001 *IT Procurement Review Process* to determine if the investment warrants a change in standards at that time.

Agencies implementing forms solutions are to incorporate usability testing as part of application quality assurance. Usability testing is to assess the form solutions ability to:

- Provide good quality information to users
- Gather good quality information from users
- Reduce processing costs
- Increase user satisfaction

Agencies implementing forms solutions are to comply with ITP-ACC001 *Information Technology Accessibility Policy.*

Agencies implementing form solutions are to assess the level of security and privacy associated with the data in the form. Forms solutions requiring authentication and

authorization services are to comply with ITP-SEC014 *Identity Protection and Access Management (IPAM) Architectural Standard*.

All IT projects related to application development are subject to review prior to inception for compliance with this standard through the Procurement Review Process (See ITP-PRO001).

5.   Standards

Current Standards for Application Development Languages
(These technologies meet the requirements of the current architecture and are recommended for use.)

Technology	Platforms	Technology Classification
C#	Windows/.NET	Current
Visual Basic.NET	Windows/.NET	Current
Perl	All	Current
PHP	All	Current
Swift	Apple (iOS)	Current
Objective C	Apple (iOS)	Current

Contain Standards for Application Development Languages
(These technologies no longer meet the requirements of the current architecture and are not recommended for use. They are to be phased out over time. No date has been set for their discontinuance.)

Technology	Platforms	Technology Classification
C++ (all versions)	All	Contain
C (all versions)	All	Contain
PowerBuilder (all versions)	All	Contain
COBOL (all variants and versions)	All	Contain
Fortran (all variants and versions)	All	Contain
Entire X (all versions)	All	Contain
Natural (all versions)	All	Contain
Spectrum (all versions)	All	Contain
PL/I	All	Contain
Unisys COBOL (all versions)	All	Contain
Oracle Forms (all versions)	All	Contain

Technology	Platforms	Technology Classification
Python (all versions)	All	Contain
PERCobol (all versions)	All	Contain
Microsoft J# (all versions)	All	Contain

Emerging / Research for Application Development Languages
(Emerging technologies have the potential to become current standards. At the present time, they are to be used only in pilot or test environments where they can be evaluated. Use of these technologies is restricted to a limited production mode, and requires approval of a waiver request. Research technologies are less widely accepted and time will determine if they will become a standard.)

Technology	Platforms	Technology Classification

Current Standards for Integrated Development Environments
(These technologies meet the requirements of the current architecture and are recommended for use.)

Technology	Platforms	Technology Classification
Microsoft Visual Studio Team Services (VSTS)	All	Current
Microsoft Visual Studio.NET	Windows	Current
Microsoft Team Foundation Server (all Editions)	Windows	Current
IBM Rational Application Developer for WebSphere Software	All	Current
Eclipse	All	Current
Xcode	Apple (iOS)	Current

Contain Standards for Integrated Development Environments
(These technologies no longer meet the requirements of the current architecture and are not recommended for use. They are to be phased out over time. No date has been set for their discontinuance.)

Technology	Platforms	Technology Classification
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Emerging / Research for Integrated Development Environments
(Emerging technologies have the potential to become current standards. At the present time, they are to be used only in pilot or test environments where they can be evaluated. Use of these technologies is restricted to a limited production mode, and requires approval of a waiver request. Research technologies are less widely accepted and time will determine if they will become a standard.)

Technology	Platforms	Technology Classification
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Current Standards for Web Development Frameworks
(These technologies meet the requirements of the current architecture and are recommended for use.)

Technology	Platforms	Technology Classification
Microsoft .NET Framework 4.5.2	Windows	Current
Microsoft .NET Framework 4.6 / 4.6.1 / 4.6.2	Windows	Current
Java EE (current vendor support version)	All	Current
J2SE (current vendor support version)	All	Current

Contain Standards for Web Development Frameworks
(These technologies no longer meet the requirements of the current architecture and are not recommended for use. They are to be phased out over time. No date has been set for their discontinuance.)

Technology	Platforms	Technology Classification
J2EE 7.0	All	Contain

Emerging / Research for Web Development Frameworks
(Emerging technologies have the potential to become current standards. At the present time, they are to be used only in pilot or test environments where they can be evaluated. Use of these technologies is restricted to a limited production mode, and requires approval of a waiver request. Research technologies are less widely accepted and time will determine if they will become a standard.)

Technology	Platforms	Technology Classification
Microsoft .NET Framework 4.7 / 4.7.1	Windows	Emerging
Microsoft .NET Core 1.x	Windows	Emerging
Microsoft .NET Core 2.0	Windows	Research
Java EE 8	All	Emerging
Java EE 9	All	Research

Current Standards for Forms Development Tools
(These technologies meet the requirements of the current architecture and are recommended for use.)

Technology	Platforms	Technology Classification
SAP Interactive Forms by Adobe[1]	All	Current

Adobe LiveCycle Enterprise Suite	All	Current

[1] This standard is for use within Integrated Enterprise Systems

Contain Standards for Forms Development Tools
(These technologies no longer meet the requirements of the current architecture and are not recommended for use. They are to be phased out over time. No date has been set for their discontinuance.)

Technology	Platforms	Technology Classification
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Emerging / Research for Forms Development Tools
(Emerging technologies have the potential to become current standards. At the present time, they are to be used only in pilot or test environments where they can be evaluated. Use of these technologies is restricted to a limited production mode, and requires approval of a waiver request. Research technologies are less widely accepted and time will determine if they will become a standard.)

Technology	Platforms	Technology Classification
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6.   Responsibilities

Commonwealth agencies must adhere to all policy and standards outlined in this ITP.

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 *Commonwealth of Pennsylvania Information Technology Acceptable Use Policy*

- ITP-ACC001 *IT Accessibility Policy*

- ITP-SEC005 *Commonwealth Application Certification and Accreditation*

- ITP-SEC014 *Identity Protection and Access Management (IPAM) Architectural Standard*

- ITP-SFT000 *Software Development Life Cycle (SDLC) Policy)*

- ITP-SYM006 *Desktop and Server Software Patching Policy*

8.   Authority
Executive Order 2016-06, Enterprise Information Technology Governance

9. 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.

10.   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
		Merged ITP-APP011 *Application Development* Languages, ITP-APP013 *Integrated Development Environments*, ITP-APP015 *Web Development Frameworks*, ITP-APP021 *Forms Development Tools* into ITP
		Added References section
		Added Apple Swift language to App Dev Language Current Standard
		Added Apple Xcode to IDE Current Standard
		Removed Microsoft Visual Studio 2005 from Contain (Retire)
Revision	04/27/2018	Revised Web Development Framework standards
		Moved ITP Definitions to Policy Glossary