Information Technology Policy

Geospatial Enterprise Service Architecture

ITP Number ITP-SFT003	**Effective Date** February 22, 2017
Category Software	**Supersedes** ITP-INFGT002, GEN-INFGT002A, STD-INFGT001A
Contact RA-ITCentral@pa.gov	**Scheduled Review** March 2018

1.   Purpose

The purpose of this Information Technology Policy is to establish a primary Geospatial Enterprise Server Architecture (GESA) as part of the Commonwealth's initiatives for use as a best practice by the Commonwealth geospatial community.

Through this policy, the Commonwealth's Geographic Information System (GIS) program will focus on Geospatial software use, reduction of duplication and overlap of capabilities and investments across agencies, and Geospatial Technology (GT) interoperability of federal, state, and local government and other public entities located within the Commonwealth.

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.   Background

A significant growth in the number of Geospatial Technology/Geographic Information System (GT/GIS) initiatives in the Commonwealth has led to duplication and overlap in data creation and maintenance activities among state agencies.

Geospatial Enterprise Server Architecture (GESA) provides the Commonwealth with the capability to leverage all the enterprise and agency geospatial data assets, reduce overlap and duplication of efforts, provide a server consolidation strategy for Commonwealth geospatial operations, and allow the Commonwealth to share applications and geospatial resources with external business partners. Standards and best practices for geospatial data management, as part of the GESA, enable agencies to leverage enterprise assets and improve internal business processes.

The GESA is a 24x7 fault tolerant, high availability, centralized set of geospatial servers hosted at the Commonwealth Technology Center (CTC). GESA includes both Staging and Production geospatial database and application environments, in addition to a development and testing lab.

4.   Definitions

- **Shared Services** – Built once and used by everyone, the GESA supports the Commonwealth shared services architecture model for Commonwealth geospatial assets.

- **Enterprise Geospatial Data Repository** – This provides a single definitive source for all geospatial data in the Commonwealth that needs to be shared across agencies, and

leverages agency investments in creating geospatial data assets.

- **Geospatial Application Hosting Environment** - Shared enterprise Internet and Intranet geospatial application hosting environment, reusable geospatial XML web service application components, and interoperable and reusable web-service components for GIS data to serve Commonwealth GT data and application assets to agencies.

- **Enterprise Licensing Manager –** Serves ArcGIS Desktop and Extension software to state agencies via Citrix which fosters license sharing and leverages a one-time investment across all agencies.

- **Essential Services -** Enterprise shared geospatial web service applications for relatively simple uses of geospatial data, such as address verification, address geocoding, and mapping, thus implementing capabilities that all government agencies in the Commonwealth can leverage.

- **Open Geospatial Consortium (OGC) -** Supports Open Geospatial Consortium (OGC) standards for interoperable data sharing.

5.   Objective

The objective of this ITP is to establish a primary GESA software standard for Geospatial software including Geospatial Information Systems/GIS and mapping software. The GESA has been established as the primary geospatial shared services architecture for all Commonwealth geospatial Internet/Intranet applications and the enterprise data repository for all geospatial data assets that need to be shared across agencies, shared with external business partners, or used by applications hosted in the GESA.

6.   Policy

Agencies requiring Geospatial software are to use Geospatial software in a manner consistent with the software's Technology Classification as defined in Section 8 of this policy.

Prior to procuring new servers, databases, major storage capacity, or GIS software for Internet/intranet geospatial applications or data storage to support enterprise geospatial applications, an agency should contact its OA/OIT Service Coordinator to determine if the agency's needs can be accommodated through the GESA in order to save costs and leverage enterprise geospatial server resources.

7.   Responsibilities

- Agencies intending to develop a new or upgrade an existing geospatial Internet/Intranet application that potentially requires the procurement of new hardware, geospatial software, database, or storage capacity shall consult with OA/OIT prior to development and procurement activities.

- Agencies shall utilize the GESA to the fullest extent for all geospatial Internet/Intranet applications and geospatial data assets that require new hardware, databases, or geospatial software for applications or services that need to be shared across agencies, shared with external business partners, or shared with the general public. A waiver must be approved by OA/OIT prior to any new procurement for geospatial data storage, servers, or software titles for new Internet/intranet geospatial applications or resources that are otherwise available through OA/OIT.

- Agencies shall incorporate language into the procurement documents (e.g. RFP, RFQ, etc.) indicating the vendor response is to describe how the Commonwealth's existing GESA can be leveraged, enhanced, and built upon as part of the proposed solution.

8.   Related ITPs/Other Reference

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-SFT000 *Software Development Life Cycle (SDLC) Policy*
- ITP-SFT010 *Geospatial Information Systems*
- ITP-SYM006 *Desktop and Server Software Patching Policy*

9.   Authority

Executive Order 2016-06, Enterprise Information Technology Governance

10.   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.

11.   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-INFGT002 *Geospatial Enterprise Server Architecture* & supporting documents into ITP Added References section