

**Information Technology Supporting Documentation
Commonwealth of Pennsylvania
Governor's Office of Administration/Office for Information Technology**

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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. Also, since a centralized enterprise geospatial server architecture did not exist prior to 2005, each agency was forced to create its own database, storage, and geospatial application deployment architectures, resulting in duplicate expenditures by each agency.

Geospatial Enterprise Server Architecture (GESA) provides the Commonwealth with the capability to leverage all of 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.

The GESA supports the following concepts.

1. **Shared Services** – Built once and used by everyone, the GESA supports the Commonwealth shared services architecture model for Commonwealth geospatial assets.
2. **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.
3. **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.
4. **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.

* Predefined supplemental document type codes are listed below:

APP = Appendix **BPD** = Best Practice Document **GEN** = General Information Document
OPD = Operations Document **RFD** = Existing Supporting Document Referenced by this ITP **WHP** = White Paper

5. **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.
6. **Security** - Secure access to geospatial data and applications.
7. **Open Geospatial Consortium (OGC)** - Supports Open Geospatial Consortium (OGC) standards for interoperable data sharing.