

CIO Preferred Technologies for Geographic Information Systems (GIS)

This document outlines the preferred technologies for Geographic Information Systems (GIS) technologies and products in the County of Los Angeles. Developing preferred standards will support the Chief Information Office’s mission of reducing redundant development platforms, streamlining the management and maintenance of GIS data and applications.

Overview

Geographic Information Systems preferred technologies are broadly divided into the following tiers:

- GIS Data Development and maintenance tier
- GIS Data storage tier, including database and enabling technologies
- GIS Data deployment and communication protocol tier
- GIS Application Development tier

Tier	Preferred Technologies	Source of Standard	Alternate(s)	Emerging Technologies
Data Development	ESRI ArcGIS Desktop	De-facto	MapInfo	QGIS, gvSIG
Data Storage	SQLServer with ESRI SDE Oracle with ESRI SDE	County Preferred Technologies	SQL Server Spatial Oracle Spatial	PostgreSQL
GIS Data Deployment	ESRI ArcGIS Server	De-facto		GeoServer, OpenGEO
GIS Communication	ESRI REST API	De-facto	SVG	
	SOAP	W3C		
	WFS (Web Feature Service) WMS (Web Mapping Service)	OGC (Open Geospatial Consortium) OGC (Open Geospatial Consortium)		

GIS Application Development	Latitude Geographics	CIO Identified	Orion
	Geocortex Products		
	ESRI Application Development		
	Custom coding		
Mobile Application Development	TBD	TBD	TBD
Alternate Map sources	Google Maps		OpenStreetMap
	Bing Maps		

GIS Application Development Tier

As GIS server technologies were adopted, County departments identified the need for a GIS Application Development Framework. This framework would enable GIS applications to be developed through a standard configuration tool rather than custom coding.

Deploying such a tool would:

- Reduce development costs;
- Increasing development speed;
- Reduce application maintenance costs;
- Reduce application upgrade costs;
- Support code-sharing and re-use;
- “Future-proof” applications as underlying technologies from ESRI were upgraded,
- Add new functionality as the framework was upgraded.

Geocortex IMF

In 2005, the Department of Regional Planning compared available off the shelf solutions, and identified Geocortex IMF from Latitude Geographics as the solution best suited to deploy applications based upon ESRI’s Server technology (ArcIMS). Latitude Geographic was selected because it offered:

- The best integration with ESRI’s Server technology (ArcIMS);

- The simplest configuration framework;
- The most comprehensive set of GIS tools (features and functions)
- The widest set of configuration options;
- Clearest technology upgrade path;
- Best pricing.

Regional Planning developed a number of applications using Geocortex IMF, including GIS-NET, Z-NET, SUB-NET, and OV-NET.

In 2007, the enterprise GIS Committee reviewed available software and expanded scope of this software to an enterprise-wide application framework. An ITF grant funded a Countywide license and the development of seven department specific GIS applications, including DPSS, DHS, Parks, CDC, Probation, Library, Public Health, and the development of a Countywide Property Search System.

Geocortex Essentials

As ESRI migrated from ArcIMS to ArcGIS Server, Latitude Geographics migrated to Geocortex Essentials, which provided the same framework for ArcGIS Server as their IMF product did for ArcIMS. Geocortex Essentials has continued to be used as the County's preferred Application Development Framework because it:

- Is a product with regular development cycles rather than un-supported code;
- continues to have tight integration with ESRI's ArcGIS server technology;
- supports new releases of ESRI ArcGIS Server technology;
- includes of technical support and training;
- provides the ability to share code between applications;
- receives regular upgrades and addition of new features and functions as part of the product;
- supports for new and emerging platforms including mobile devices;
- supports for new operating systems and standards, including iOS, Android, and HTML5;

The following departments are currently deploying applications using Latitude's Essentials Products:

1. Regional Planning
2. Public Works
3. LA County
4. Public Health

5. Parks
6. CEO

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