

# Los Angeles County Enterprise GIS



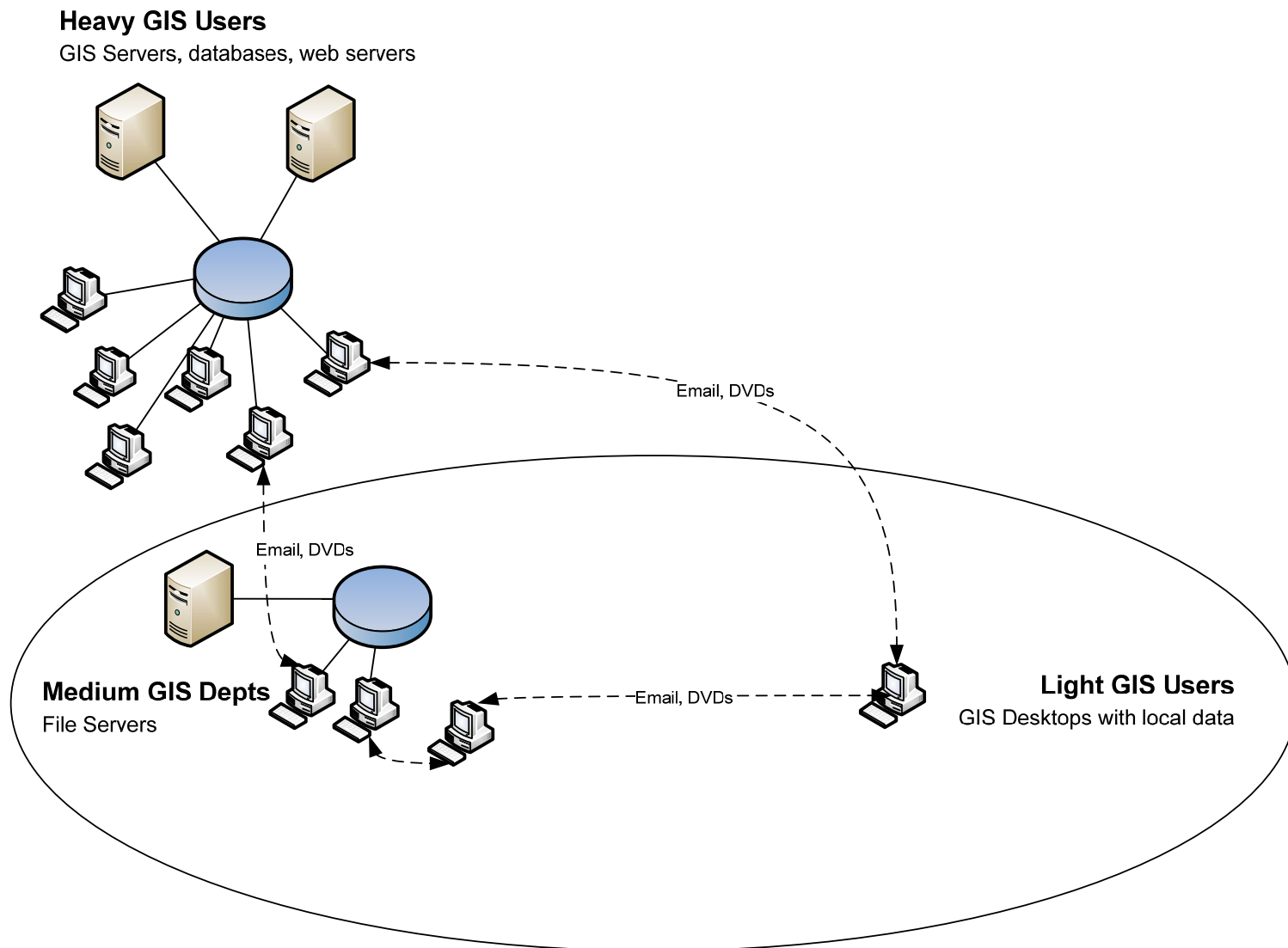
Government Technology Forum  
September 14, 2010



# Background

- FY 2001-02 technology reviews indicated that many departments identified GIS needs and were planning or developing duplicate GIS systems and data.
- CIO study commissioned in 2002 recommended establishing an EGIS Program to:
  - Better leverage County investments in GIS technology
  - Reduce department redundancies
  - Increase data sharing
  - Expand access to GIS technology

# Historic GIS Environment



# My role

- CIO established the position of the Geographic Information Officer (GIO) in November 2006.
- Work in concert with County departments
  - Show benefits of the technology to departments to increase adoption
  - Support coordinated investments to reduce duplication
- Oversee countywide projects
  - LAR-IAC (regional imagery consortium)
  - CAMS (Countywide Address Management)
- Oversee GIS strategy within the County
  - 2007 - Established a County GIS Steering Committee
  - 2008 - 2009 Established a central GIS infrastructure



# 2009 GIS Assessment

- LA County Chief Executive Office requested an update of the original study.
- GIS Assessment was conducted in September – October 2009
- Initial report presented to the CEO in February 2010.

# GIS Service Delivery

## GIS Data Maintenance

- Maintain GIS data and existing map products (e.g., parcel maps)

## GIS Infrastructure

- Administer the County's hardware, software, database administration and security.

## GIS Application Development

- Develop customized and packaged GIS software and systems that support department business needs.

## GIS Analysis

- GIS analysis and reporting and is most closely integrated to department programs.

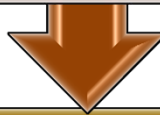
## GIS Administration

- Day-to-day management of GIS services. It includes activities such as procurement, administration and management, and project management

# GIS Organizational Models

## Decentralized GIS

Each agency is responsible for its own GIS services



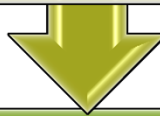
## Centralized GIS Infrastructure

GIS infrastructure services is centralized and maintained within a single agency for economies of scale. Other agencies perform GIS application development, analysis and data maintenance.



## Centralized GIS Infrastructure and Application Development

GIS infrastructure and application development that provide economies of scale are provided centrally. Other data maintenance and analysis are performed by individual agencies.

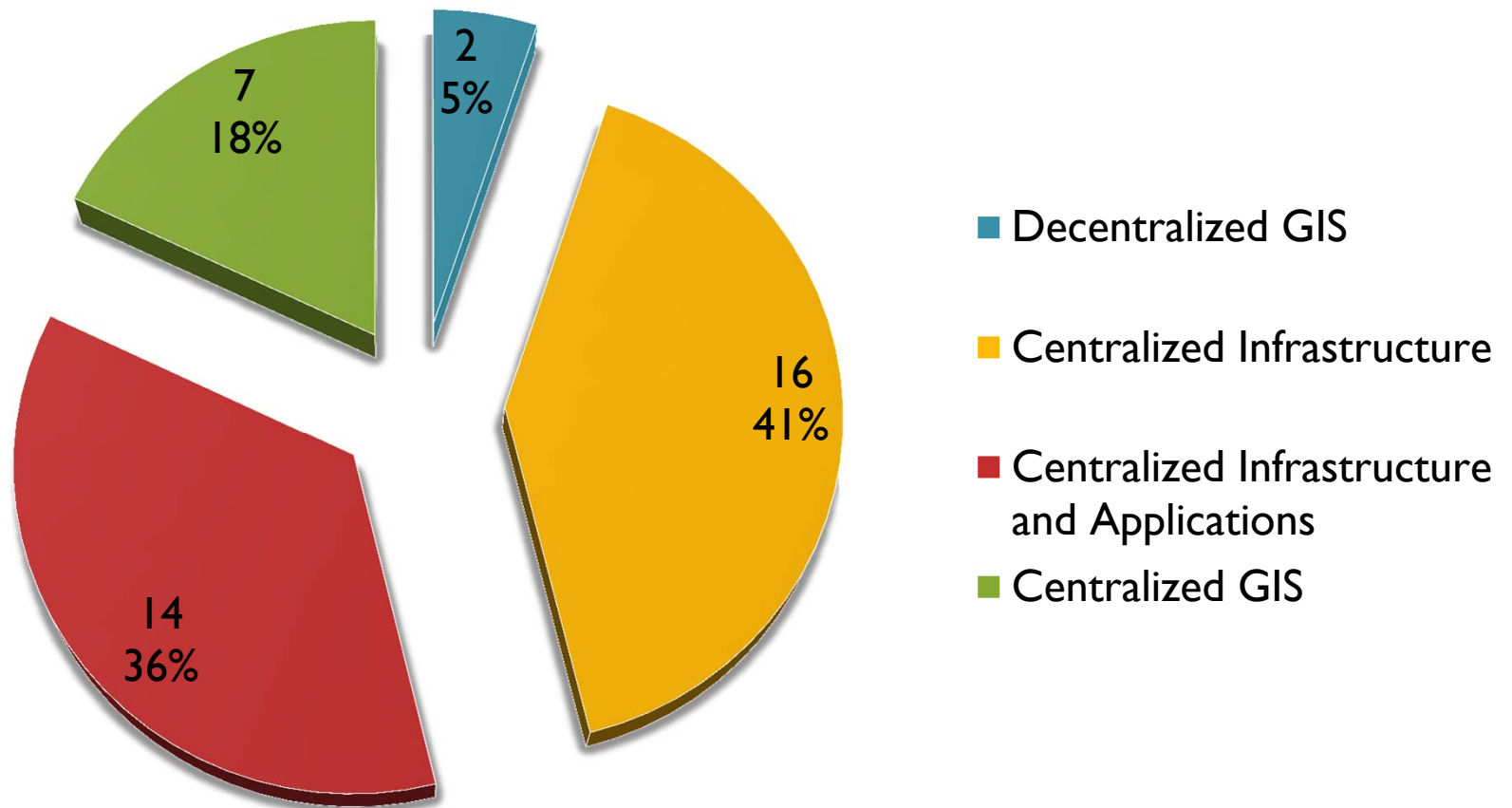


## Centralized GIS

A single agency provides all GIS resources, including data maintenance, analysis, and mapping, for the entire jurisdiction

# GIS Organization Models

Responses from NACo Survey



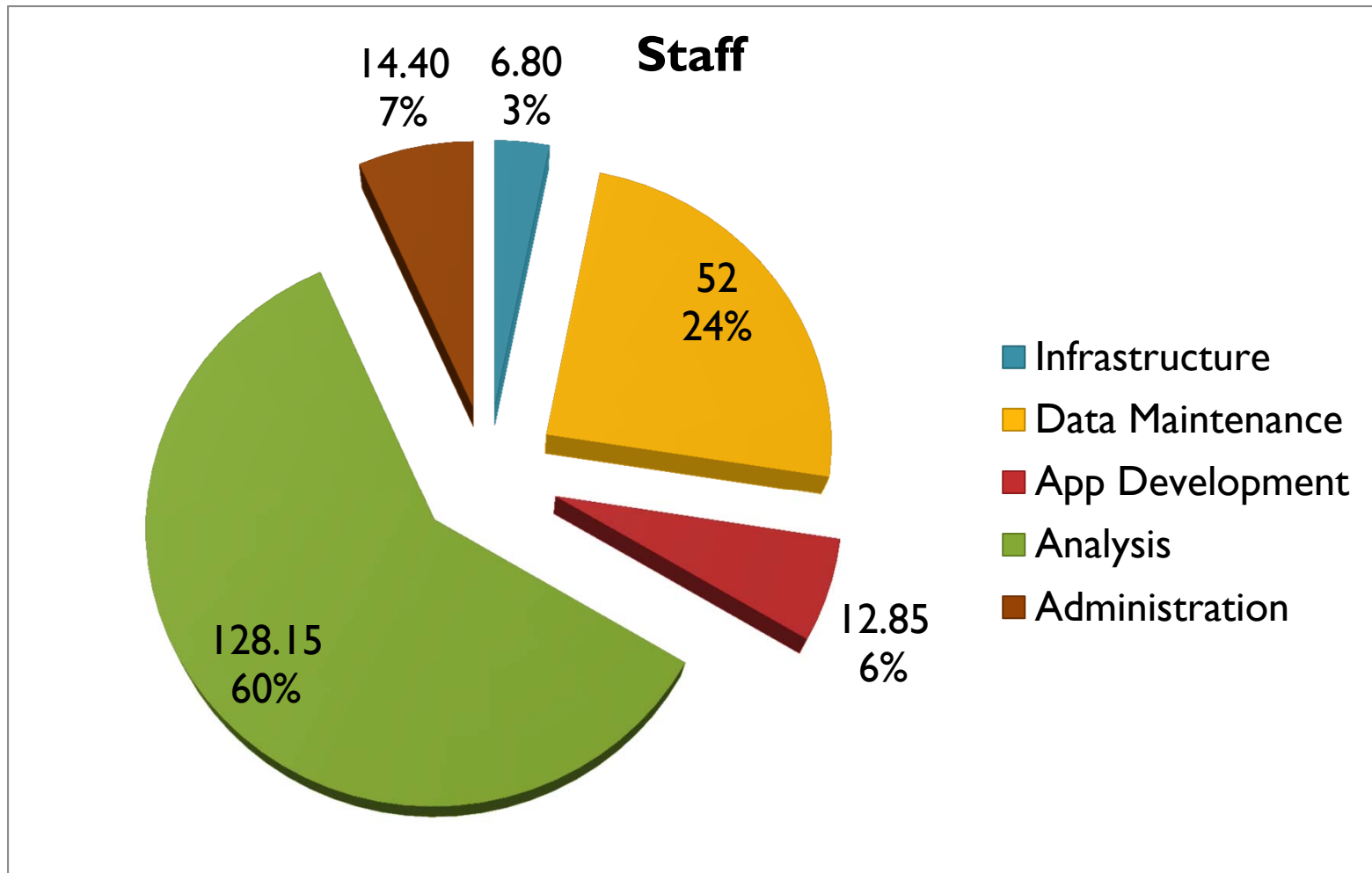
# Summary

- 33 County Departments use GIS

Functional Area	Spending
Staffing	\$18,331,587
Servers	\$529,932
Software	\$604,540
Application Development	\$2,070,224
Contracts	\$3,646,205
<b>Total</b>	<b>\$25,182,489</b>

# Staffing

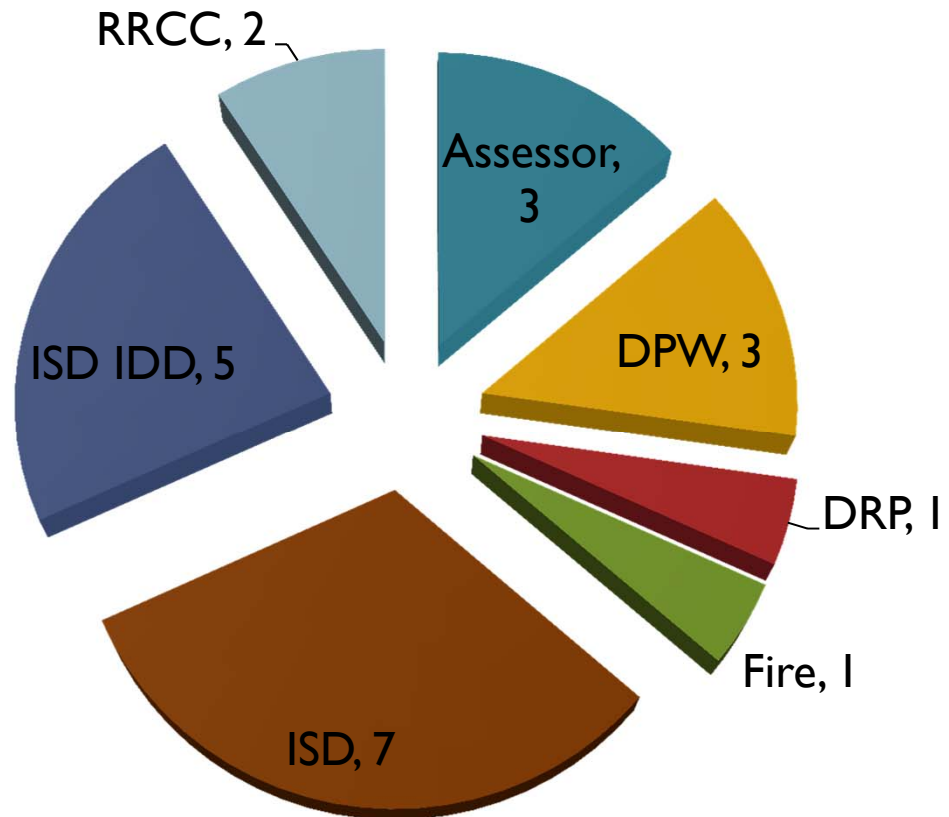
- GIS staff grew from 41 to 214 FTEs between 2002 & 2009
- 79 classifications doing GIS



# GIS Servers

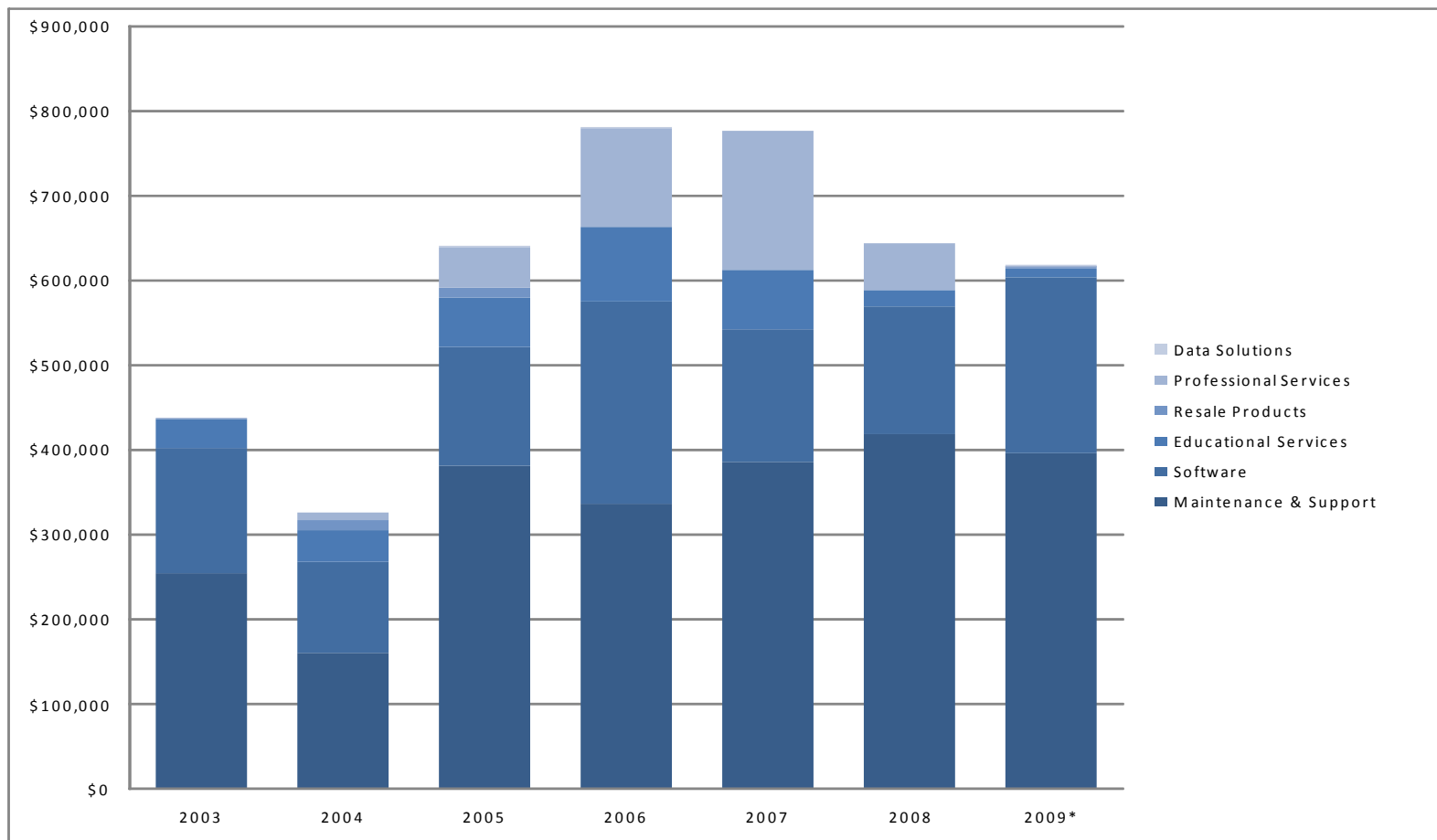
- 61 Total GIS Servers in the County
- 22 internet facing

## Internet GIS Servers



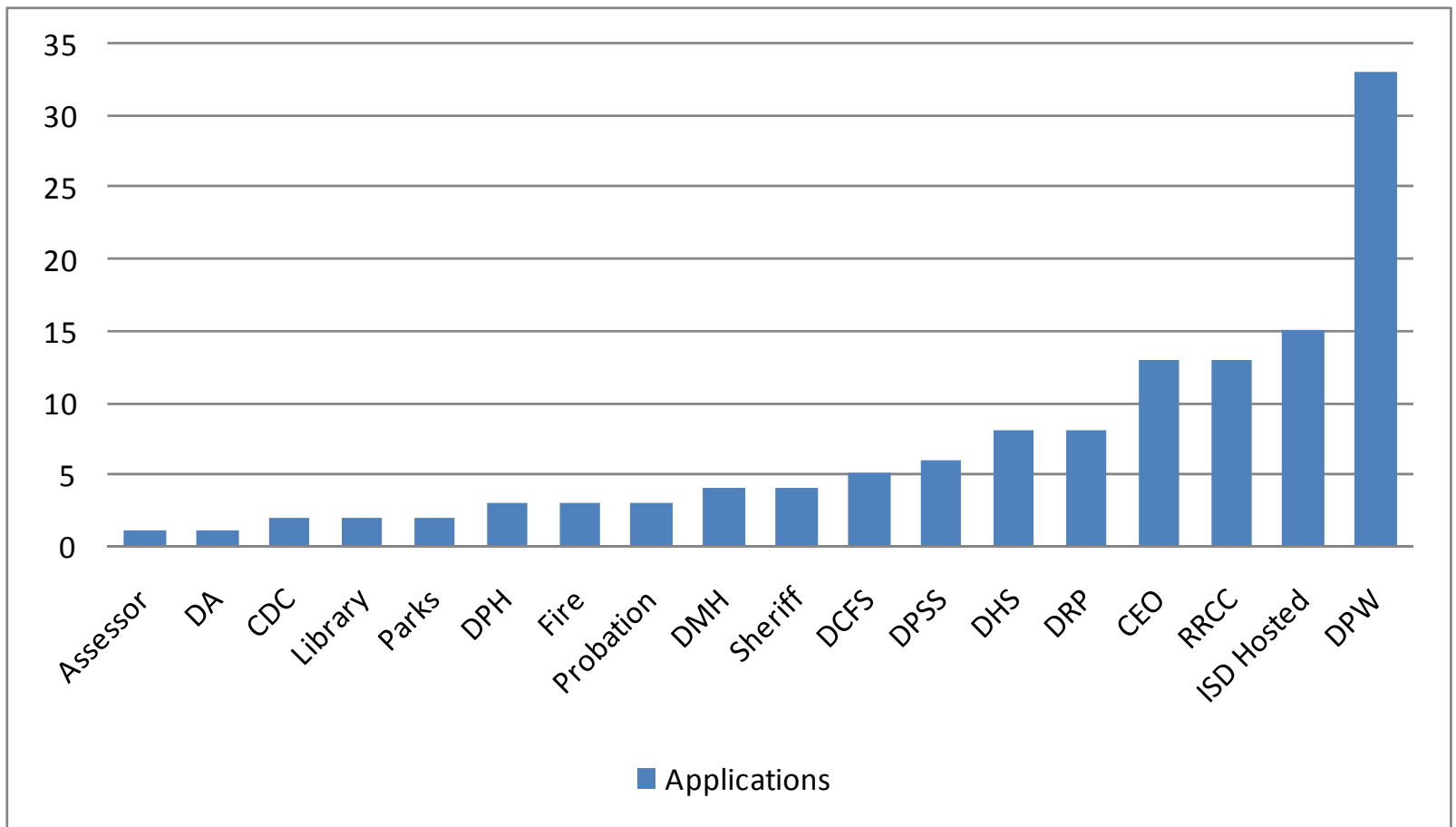
# GIS Software

- 461 Licenses of ESRI Software
- \$600,000 per year spend on average



# GIS Applications

- 126 GIS Applications / 24,000 users





# Opportunities for Improvement

- **Centralize GIS Data Storage**
  - Reduce duplication of hardware and storage
  - Improve data sharing
- **Centralize Management of GIS Software**
  - Reduce software to staff ratio of 2:1
  - Overinvestment in most expensive software
  - Reduce management time with single contract
- **Standardize application development**
  - Increase code re-use
  - Increase application development speed
- **Create standard GIS classifications**
  - Improve recruitment and retention of GIS staff
  - Improve County GIS expertise



# Centralized GIS Infrastructure

- Most common GIS Organizational Model
  - Consolidate GIS Infrastructure service delivery.
- Staff supporting other service delivery types continue with existing departments
- GIS Software still “owned” by departments.



# LA County Enterprise GIS (eGIS)

- Hosted at the County Data Center,
- Managed by Internal Services Department.
- Extends an existing service
  - 22 departments currently using
- Supports full range of GIS capabilities
  - A subscription to “GIS out of the box”



# LA County Enterprise GIS (eGIS)

- Central GIS data storage and access
  - Data acquisition included
    - (e.g. LAR-IAC imagery, CAMS addresses, streets, demography data)
  - Authoritative GIS data
    - Data portal for data discovery and sharing
    - County standard base maps
  - Standard GIS services for rapid development (mash-ups)
    - Mapping
    - Geocoding
    - Overlay and identification
  - Standard Application Development Tools



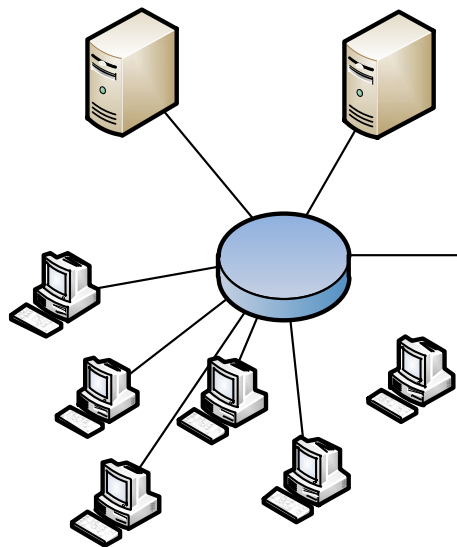
# LA County Enterprise GIS (eGIS)

- **Single GIS software maintenance contract**
  - Desktop GIS Software costs passed to departments
  - Opportunities for software sharing and cost reductions

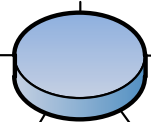
# eGIS Diagram

## Heavy GIS Users

Internal GIS Servers and databases

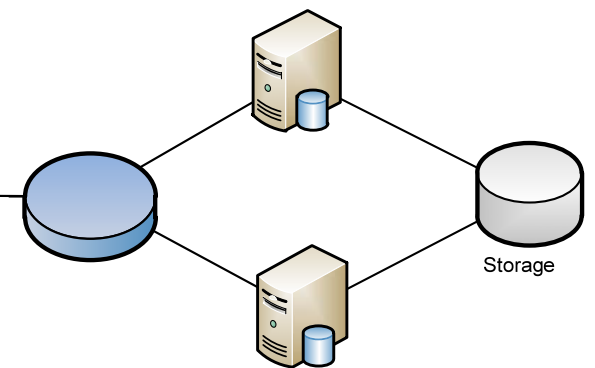


## Intranet



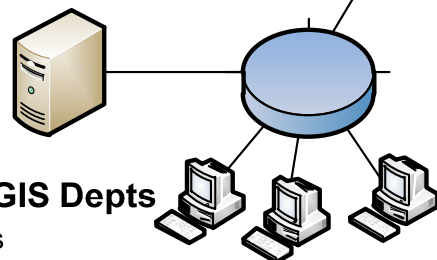
## Enterprise GIS

GIS Servers, databases, web servers



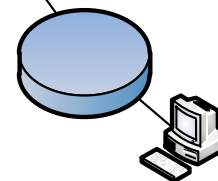
## Medium GIS Depts

File Servers



## Light GIS Users

GIS Desktops with local data





# eGIS Benefits

- **GIS Infrastructure hardware**
  - Reduce number of servers from 22 to 7
  - \$260,000 per year in savings
- **Reduced Infrastructure staffing**
  - Reduce countywide from 7.3 to 3.5 FTE
  - \$600,000 per year in savings
- **Reduced GIS Software costs**
- **Enhanced Data sharing**
- **Faster application development**



# eGIS Next Steps

- Complete transition of all GIS applications to eGIS infrastructure.
- Transition all GIS software to single eGIS maintenance contract.
- Have fun! Go build apps!



# eGIS Service samples

- **Web Mapping**
  - [Aerial Imagery](#)
  - [Terrain Map](#)
  - [Street Map](#)
  - [Base map](#)
- **Overlay**
  - [Street Labeling](#)
  - [Parcel](#)
- **Geocoding**
  - [ESRI version](#)
  - [Derived Version](#)



# eGIS Application samples

- GIS Data Portal
  - <http://egis3.lacounty.gov/dataportal>
- A couple of examples:
  - [Referral Address Validation](#)
  - [Mental Health Provider Search](#)
  - [Property Search Site](#)
- County GIS Viewers
  - [View data from the Central GIS Repository](#)
- Automated Vehicle Locator
  - [See vehicles on a real-time map](#)



# GIS Day 2010

## Learn about GIS activities in the County

November 16<sup>th</sup>, 2010

9am – 1pm

Public Works Headquarters

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