

Open Source Software: Is it Worth the Effort?

presented by

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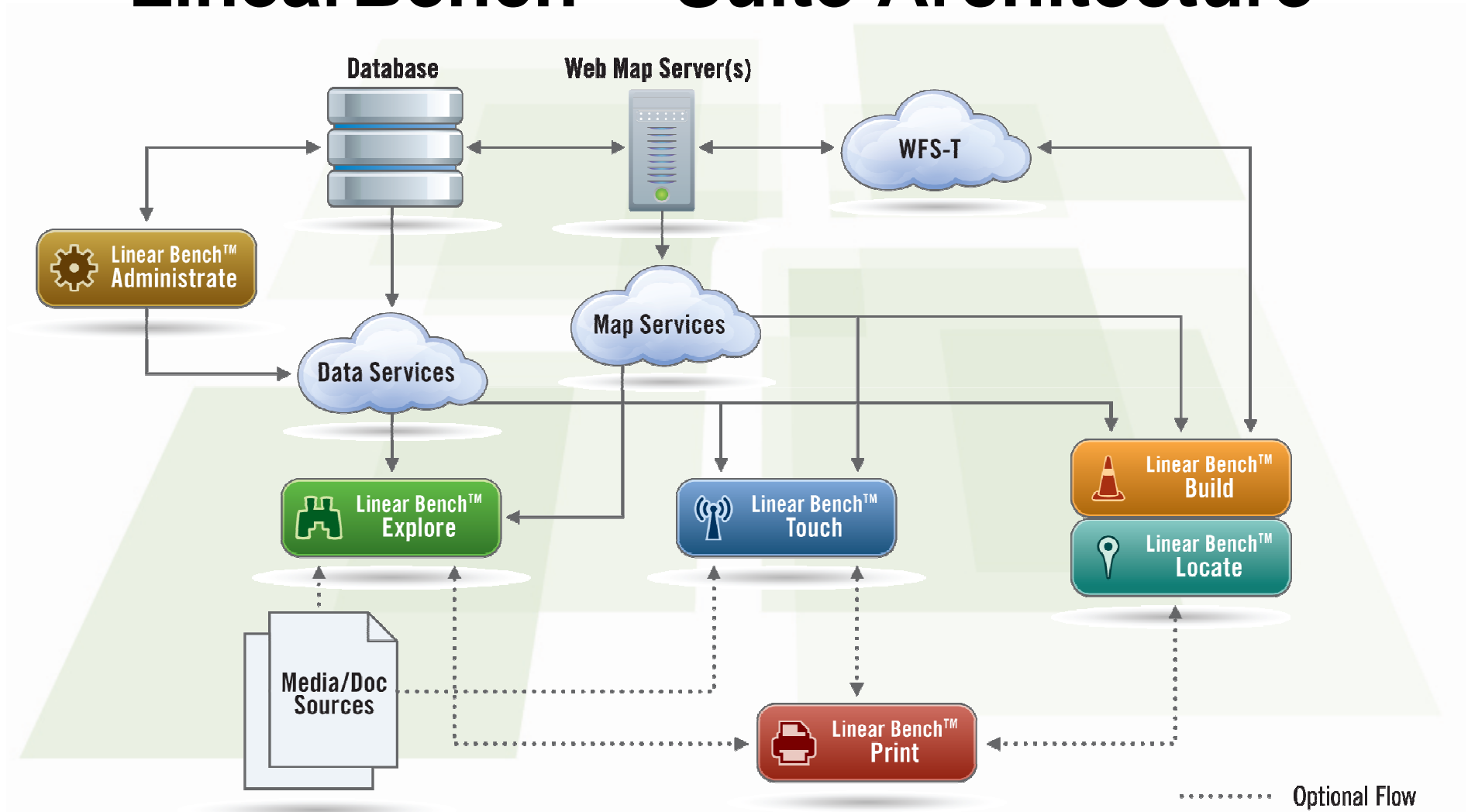
Gistic Research, Inc



Prelude – LinearBench Demo

- [OSS Application Demo - LB Explore](#)
- Architecture:
 - Web service-based, multi-tiered web application
- Key OSS components of the software:
 - OpenLayers API
 - FLOT API, JQuery
 - Ext JS
 - Python Libraries, GDAL, etc.
- Development environment:
 - Map Server: GeoServer, ArcGIS Server
 - Web Server: Apache HTTP, Microsoft IIS
 - Database: Oracle, MS SQL Server

LinearBench™ Suite Architecture



Topics

- What is OpenSource Software (OSS)?
- Licensing considerations
- Conclusions

What is OSS? (1 of 2)

- Acronyms
 - OSS - Open Source Software
 - FOSS - Free and Open Source Software
 - FLOSS - Free/Libre and Open Source Software
- What does “Free” mean?
 - Freedom to copy, use and distribute NOT price
 - Is FOSS free? Is freely available software FOSS?
- Common features
 - Source code and object code delivered for a fee or free of charge, for personal or commercial use, in its entirety or partially
 - Recipient has right to modify and distribute modified work
 - Collaboration
 - Delivered as-is
 - Subject to US export control limitations

What is OSS? (2 of 2)

- Origins of OSS
 - Started as movement in academia, involved use of public funds
- Carried forward by non-profit groups/foundations
 - Mozilla Foundation, Apache Foundation ...
- Embraced by private sector and governments
 - Redhat, Oracle, Autodesk, Microsoft ...
 - US Department of Defense ...
- Advocacy Groups
 - Open Source Initiative (OSI)
 - Free Software Foundation (FSF)
 - Open Source Geospatial Foundation (OSGeo)
- Vibrant communities in GIS (e.g. FOSS4G, OSGeo)

What Can OSS Do?

- There are OSS versions for most software applications
- OS, Tools, Programming Languages
- Servers - Web, Application, Database
- GIS Domain
 - www.opensourcegis.org
- UDOT Research 2009

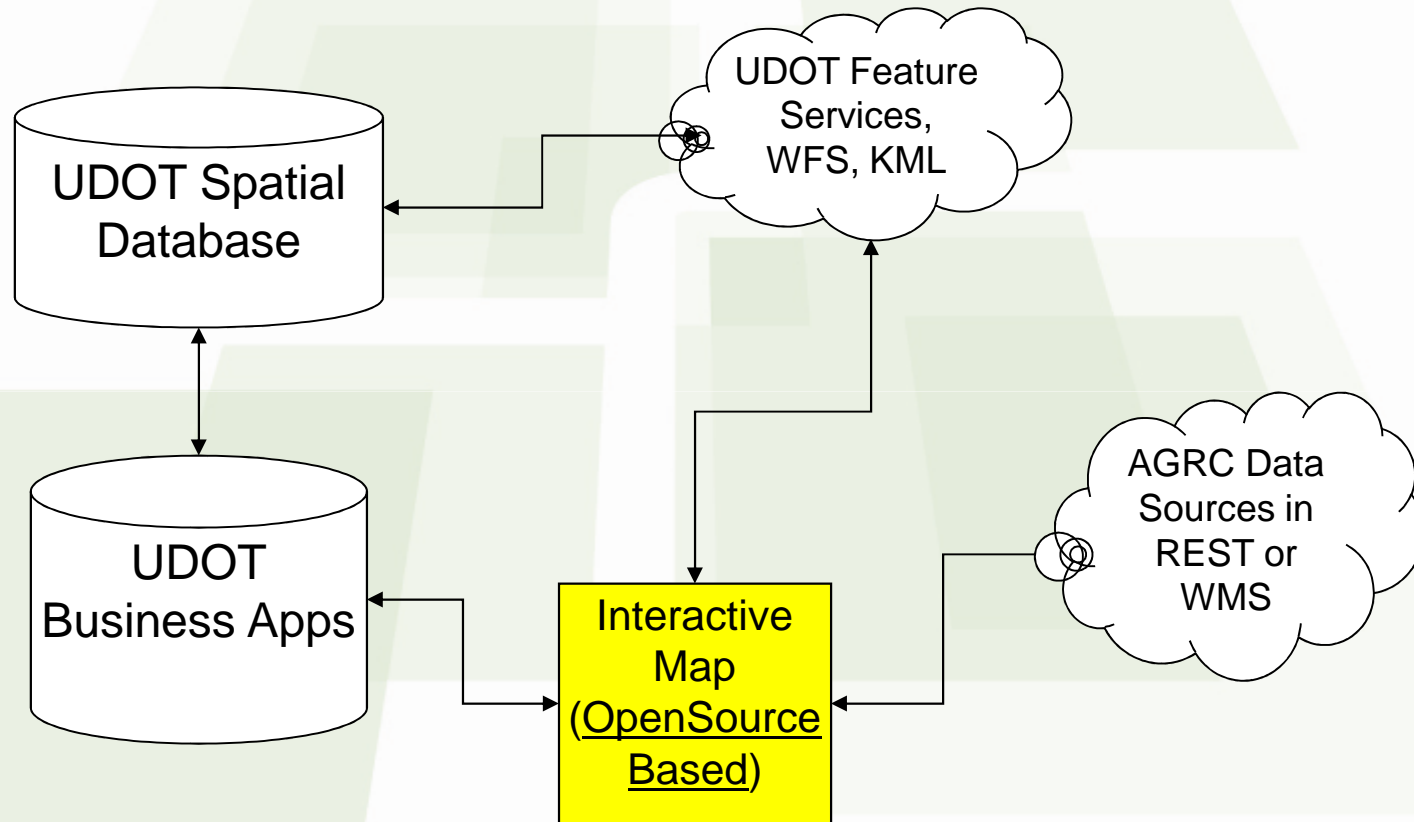
UDOT Mapping Needs

- Mapping capabilities reveal data quality issues, especially for LRS-based data
 - Completeness
 - Location accuracy
- Needed map-based interactive tool that:
 - Enabled user to add or modify event locations
 - Could be used by many operational systems, i.e. loosely coupled
 - Met LRS requirements

UDOT I-Map Research

- Prototype applications
 - OSS
 - Esri technologies
- Criteria
 - Architecture fitness
 - Functional requirements
 - Performance
 - User experience
 - Ease of development/maintenance
 - Cost

I-Map General Architecture



OSS Consumers' General Obligations

Item	Original		Derivatives		
	End-User Application	SDK	Derivative as End-User Application	Derivative as SDK	Modification
Created By	Authors	Authors	Developers	Developers	Developers, Contributors
Description or Examples	Apache, OpenOffice, Linux, GeoServer, MapServer	jQuery, Python Lib	End-user applications derived from the OSS	SDK derived from the OSS	Bug fixes and enhancements
Distribution to	All	All	Intended recipients as end users	Intended recipients as developers	All
Access to Source Code	All	All	?	?	All
Redistribution	Yes	Yes	Yes	Yes	Yes

Licensing Comparison (1 of 2)

Author	Example	License	Style	Copyleft	GPL v3 Compatible
Apache Software Foundation	HTTP Server, Tomcat	Apache License 2.0	Permissive	No	Yes
Python Software Foundation	Python	PSFL	Permissive	No	Yes
Mozilla Foundation	Firefox	MPL 2.0	Weakly Protective	Limited	Yes
Idaho State University	MapWindow GIS	MPL 1.1	Weakly Protective	Limited	No
AutoDesk, GeoServer	MapGuide, GeoServer	LGPL 2.1	Weakly Protective	Limited	Yes
University of California	OpenLayers	Modified BSD	Permissive	No	Yes
Sencha	Ext JS, Touch, Chart	GNU GPL 3.0	Protective	Yes	Yes

Licensing Comparison (2 of 2)

License	Redistribution						
	Combined with non-OSS	Attribution	Trade-mark Use	License Replication	Source		
					Original Code	Modified Code	New/ Derived Code
Apache License 2.0	Yes	Yes	No	Yes	No Req	No Req	No Req
PSFL	Yes	No	Yes	Yes	No Req	No Req	No Req
MPL 2.0	Yes	Yes	?	Yes	Include as MPL	Include as MPL	No Req
MPL 1.1	Yes	Yes	?	Yes	Include as MPL	Include as MPL	No Req
LGPL 2.1	Yes	Yes	?	Yes	Include as LGPL	Include as LGPL	No Req
Modified BSD	Yes	Yes	No	Yes	No Req	No Req	No Req
MIT	Yes	Optional	Optional	Yes	No Req	No Req	No Req
GNU GPL 3.0	No	Yes	?	Yes	Include as GPL	Include as GPL	Include as GPL

Conclusions

- OSS is not necessarily free of cost
- OSS greatly enriches our resources and options
- OSS licensing is complex and murky
- OSS is becoming a major force in the software landscape
- Keep an open mind to embracing OSS

Thank You!