The following was presented at DMT'12
(May 20-23, 2012).

The contents are provisional and will be
superseded by a paper in the
DMT'12 Proceedings.

See also earlier Proceedings (1997-2011)
http://ngmdb.usgs.gov/info/dmt/

Evolution of web mapping applications at Alaska's Geological Survey as of 2012

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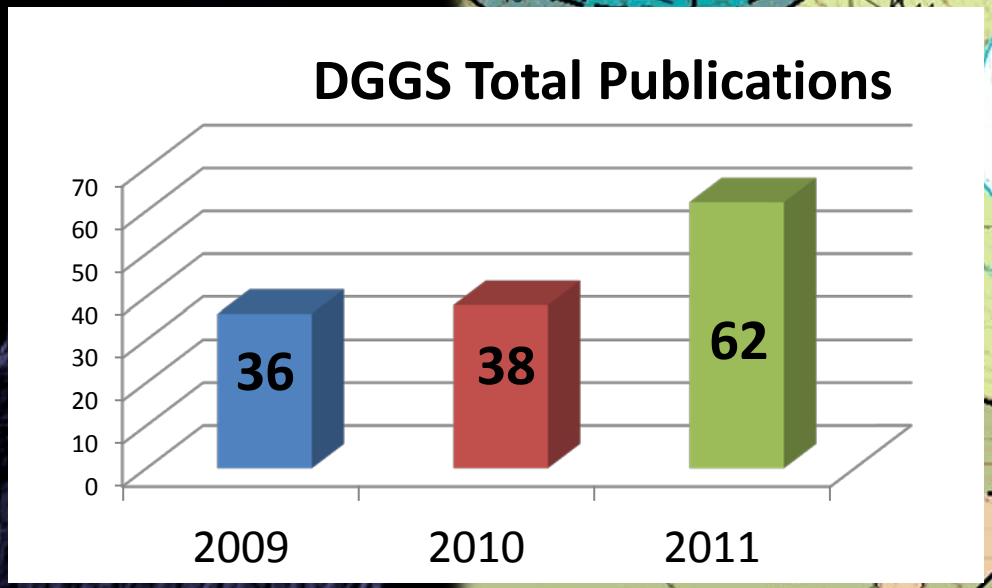
In the absence of a speaker, slides have been annotated to improve clarity.

Digital Geologic Data is the Future



Available Tools

Open Source Software - overwhelming choice

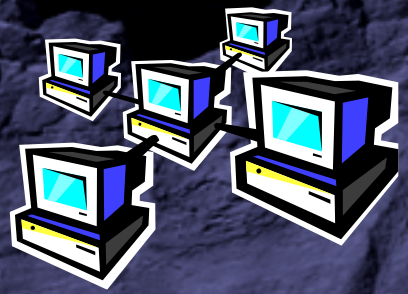
- Open standards facilitate data interoperability
- People share code back to the community
- No vendor lock-in
- Lower maintenance cost allows for more staff funding
- Data maintenance and outreach are manual

Commercial Software - ESRI's ArcGIS Server

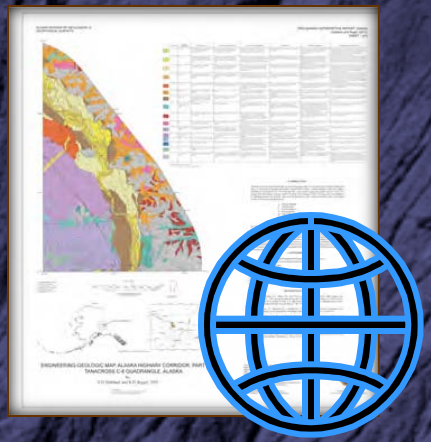
- Users are already familiar with ESRI software
- Easy to implement
- Facilitates interconnected data
- Specific system and data requirements to meet

Factors that drive what tools to use

Available Resources

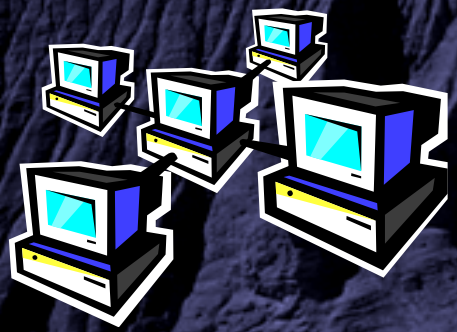


Project Parameters



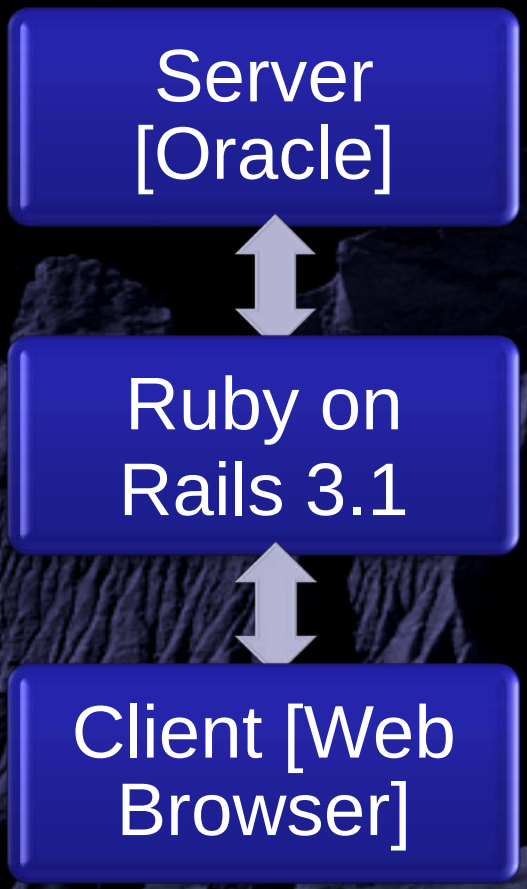
Can we build it?
Yes, we can!
(Uh, I think so…)

Who has the expertise to build it and maintain it?



Will your IT infrastructure support it?
Is it sustainable?

Geologic Map Index of Alaska - beta



Connects via ActiveRecord (maps relational data to objects in programming)

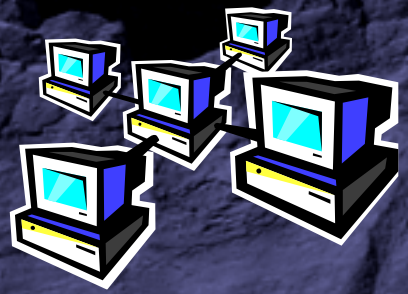
Sends out JSON feed to browser (standardized data exchange language)

Open Layers 2.11; Ext JS 4.1 (Extended JavaScript library) (user interface toolkits for web applications)

http://www.dggs.alaska.gov/mapindex/

Factors that drive what tools to use

Available Resources



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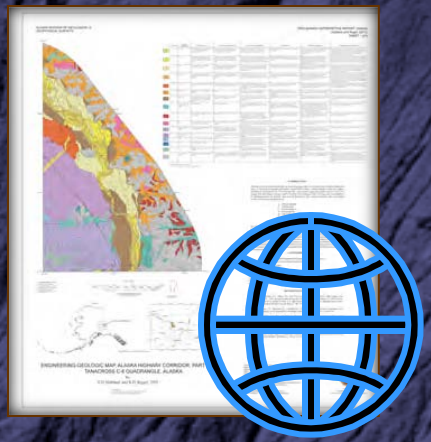
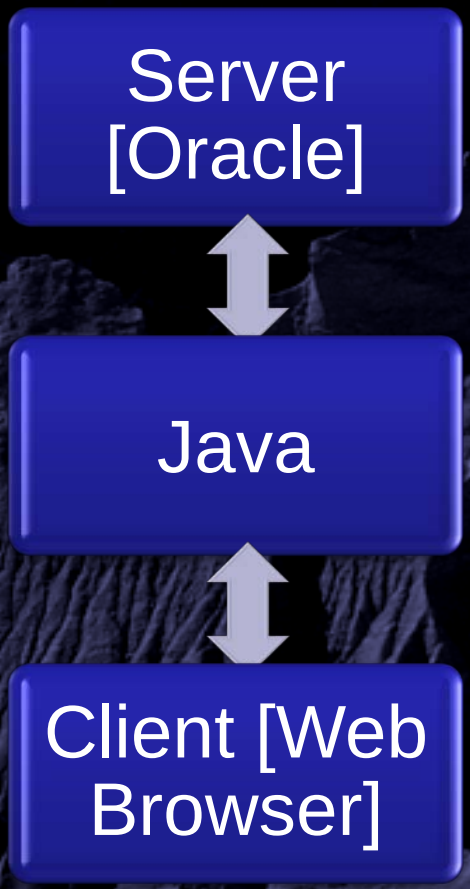


Flexibility is inversely proportional to Ease of Development

Simple application, minimal to no programmer time, probably easier using ArcGIS Server solution

Complicated application, extensive programmer time, probably easier using Open Source solution

Alaska Geologic Data Index - beta



Connects via Hibernate (maps relational data to objects in programming)

Sends out JSON feed to browser (standardized data exchange language)

Open Layers 2.11; jQuery UI 1.6 (user interface toolkits for web applications)

http://www.dggs.alaska.gov/agdi/

Optimize data transfer to cut back on server hits and speed up user data requests

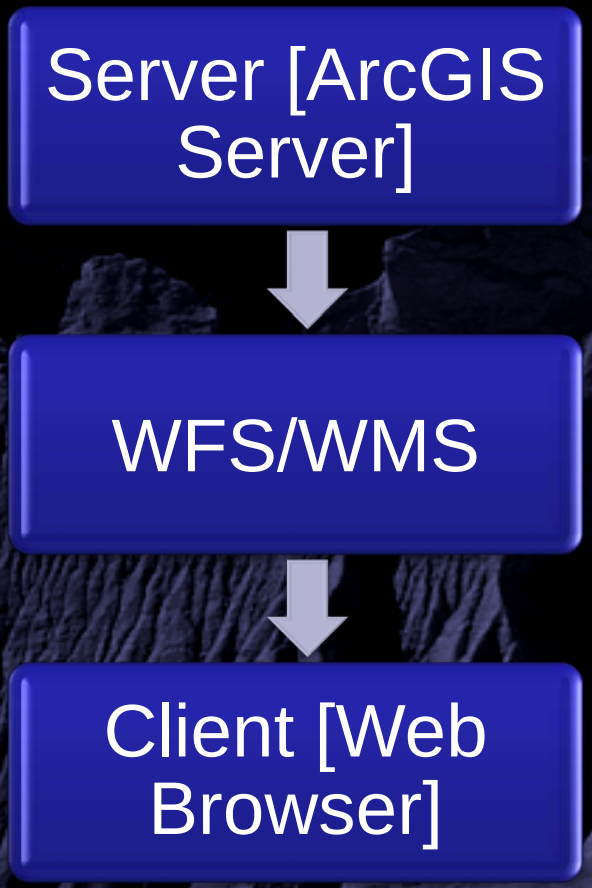
Server side

- Manages access to data
- Transforms data to make interpretable for client
- Indexes data

Client side

- Acts as front end to server
- Renders the data

Alaska Airborne Geophysical Data - beta



Processes data and outputs services

Interface standard

Pulled down using JavaScript; displayed to user with Open Layers 2.11; jQuery UI 1.6 (user interface toolkits for web applications)

http://www.dggs.alaska.gov/gp/

As Yet Unanswered Questions

- When we start getting a lot of traffic, how will they perform?
- Is ArcGIS Server best tool for web maps?
- Do we need to switch to one type (philosophy of minimization)?

- Will serving out geodatabase data internally be successful?
- Haven't done Arc multiuser geodatabase yet…
- Implications for GIS storage in Oracle vs. an Arc geodatabase
- Move away from Oracle?
- Would Arc costs be feasible if State pulls funding?

Photo by DGGS staff