

Figure 1: Conceptual Overview of System

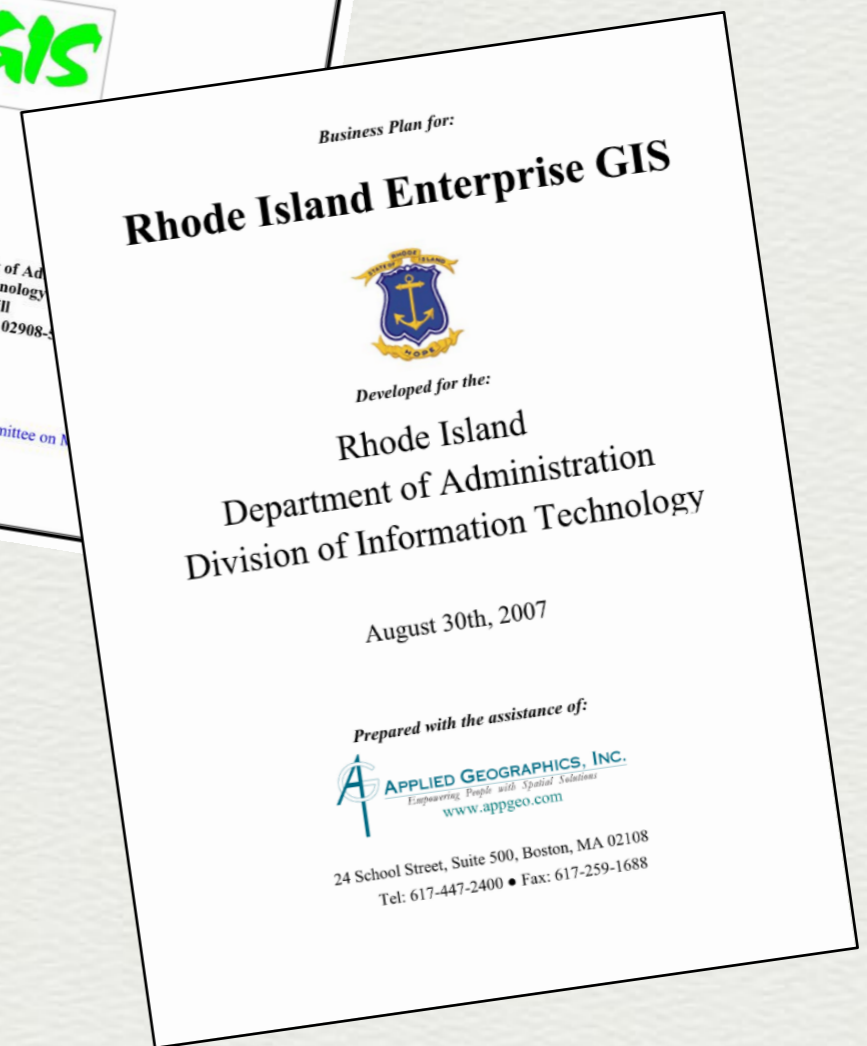
State of Rhode Island Enterprise GIS Architecture
NEURISA Day 2011, October 3rd, Old Sturbridge Village

"All common Rhode Island GIS map layers in one place, automatically synced with stand-alone copies to support day-to-day operations and a worst-case scenario."

My long one-liner

How did we get here?

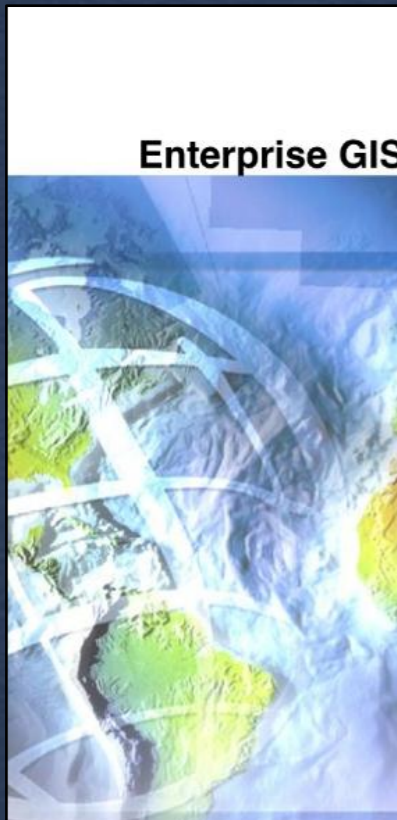
- RIGIS Strategic Plan (2006)
- State of RI Enterprise GIS Business Plan (2007)
- Several State GIS meetings
- Excess computing capacity
- Strong desire to share
- Limited funding sources
- Fear of out-of-date data
- Duplication of effort



Enterprise GIS

System Architecture

for the State of Rhode Island



Enterprise GIS

Prepared for: State of Rhode Island
 Date: 9/26/2011
 Prepared by: Danny Krohn

 Enterprise Implementation
 Environmental Systems
 380 New York Street
 Redlands, California 92373-3900
 Phone: (909) 793-2853

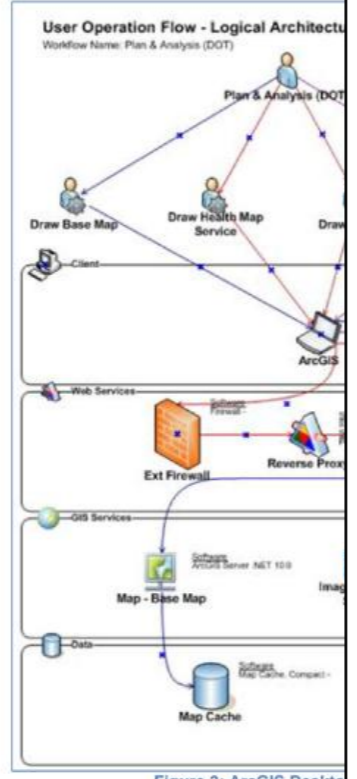


Figure 3: ArcGIS Desktop

This pattern applies to user workflow

Dept	Workflow
DOT	GIS Editing
DOT	Map Production
DOA	Planning & Analysis
Health	Planning & Analysis
ENV	Project Work

The State reports that "primary" sites have machines with 1Gbps backbones. Other sites have 100Mbps backbones.

7.2 Target Design

As previously described, the target design provides a service, and application resources available to users throughout the State, along with local department resources.

7.2.1 Design Over-All

The following diagram shows a map-based infrastructure relationships of the system.

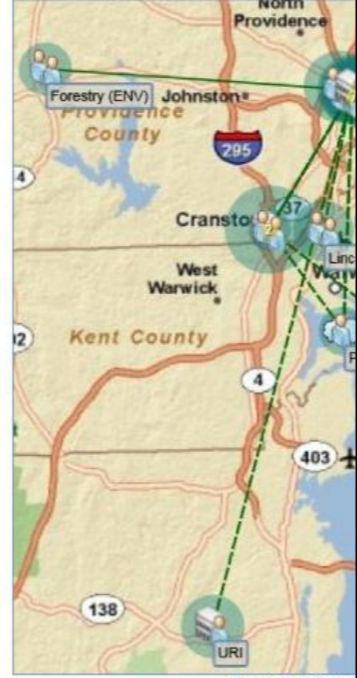


Figure 11: Solution

The touch-stone of the design is a common set of applications and services to business units throughout the State. This design provides a user pathway to provide critical GIS-based services to business units and users throughout the State. The diagram below illustrates the number of servers at each site.

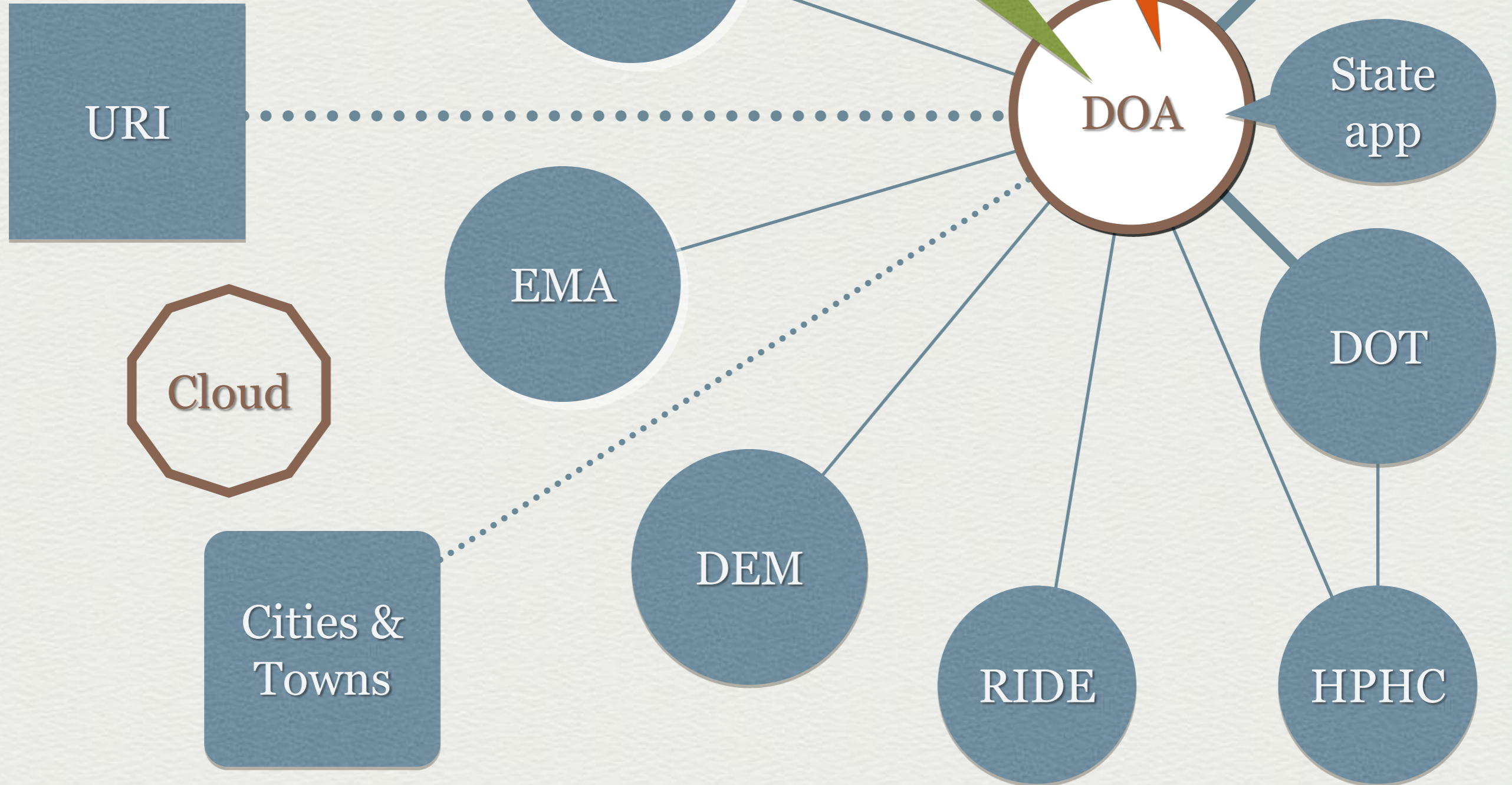
Site	Server Role	Model	Virtual	Core	% Util	Spec / Core	Active/Passive
2 Cap Hill	APP_SVR	ProLiant SL170z G6 (2.93 GHz, Intel Xeon X5570)	FALSE	8	2.4	30.75	1
2 Cap Hill	DB_SVR	PowerEdge M600 (Intel Xeon E5430, 2.66 GHz)	FALSE	8	2.2	13	1
2 Cap Hill	GIS_SVR	ProLiant SL170z G6 (2.93 GHz, Intel Xeon X5570) ³⁰	TRUE	4	37.8	30.75	1
HDOC	GIS_SVR	PowerEdge 2950 III (Intel Xeon X5470, 3.33 GHz)	FALSE	8	1.3	16.75	1/1
New London	DB_SVR	PowerEdge R210 (Intel Xeon L3426, 1.86 GHz)	FALSE	4	N/A	19.27	1
New London	GIS_SVR	PowerEdge R210 (Intel Xeon L3426, 1.86 GHz)	FALSE	4	47.6	19.27	1
URI	DB_SVR	PowerEdge T300 (Intel Xeon E3113, 3.00 GHz)	FALSE	2	N/A	21.25	1
URI	GIS_SVR	PowerEdge R410 (Intel Xeon X5560, 2.80 GHz)	FALSE	8	N/A	28	1
URI	WEB_SVR	PowerEdge 2900 III (Intel Xeon X5260, 3.33 GHz)	FALSE	4	N/A	17.42	1

³⁰ This is an 8 core system in its physical form. Any number of cores (4 or greater) can be used for the hypervisor. The specification of this system is simply to indicate an appropriate class of processor technology. The key factor is the per-core spec rate (30).

The 5 Ws and the H

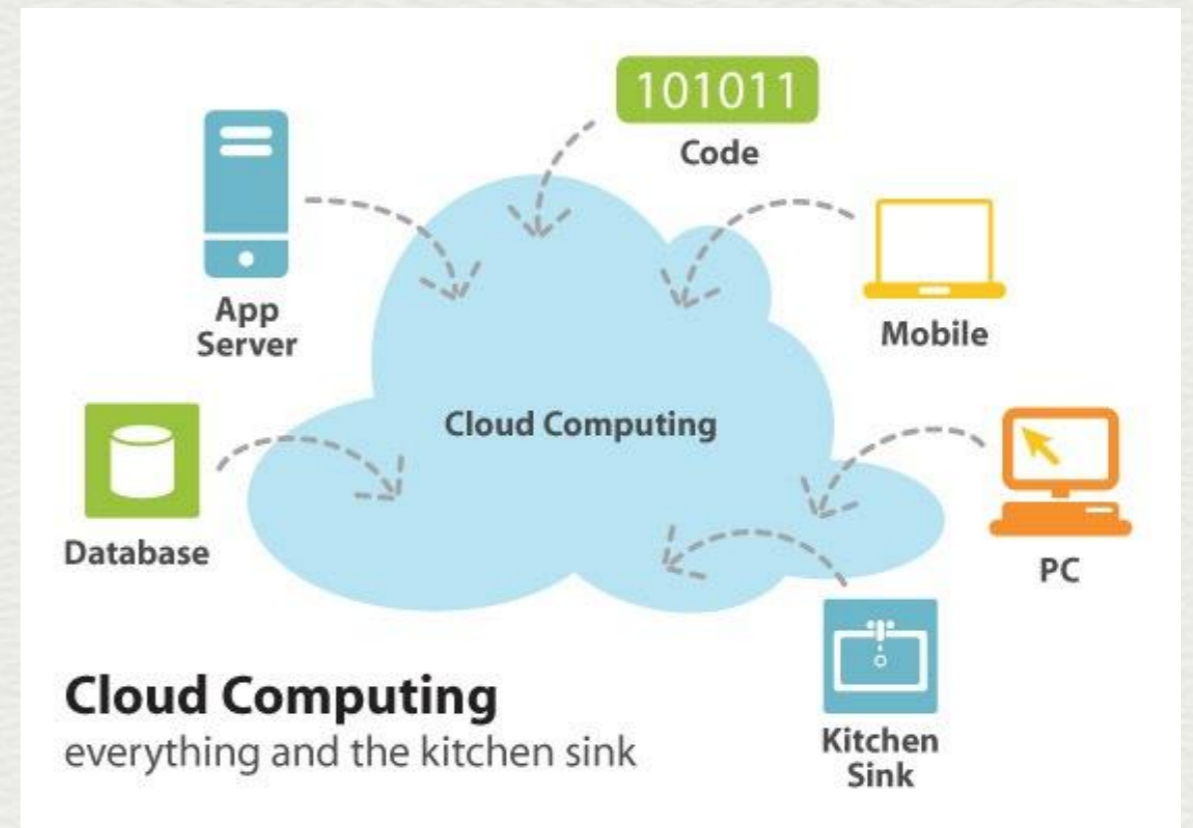
- Who? State of Rhode Island first; Municipalities later
- What? Enterprise GIS Implementation
- When? Starting Q4'11; Pushed by other project needs
- Where? Centralized on Capitol Hill, linked elsewhere
- Why? Single definitive up-to-date source, platform
- How? RIEMA funded; Esri planned; DoIT supported

RIGIS Database Replication Model



Our Questions

- What needs should be met by the cloud?
- Should this be built out solely with department projects?
- Can we do this ourselves, or do we need a separate line item for outside help with implementing all or part of this?



Next Steps

- Secure funding
- Create shopping list
- Refer projects to this document
- Create project proposal for DoIT
- Determine DoIT liaison



Things to Consider

- Balancing government's need to protect information and have it accessible when the internet is down, with industry trends towards crowdsourcing and the cloud.
- How your IT group feels about GIS, and how it fits into the way that their group is organized.
- Agencies that are not yet using GIS, but would take advantage of common resources if available.
- Enterprise License Agreements (ELAs) vs. Open Source solutions to remove limitations for new users.

Shane White
State of Rhode Island
Department of Administration
Division of Planning
shane.white@doa.ri.gov
<http://edc.uri.edu/rigis>
401-222-6483

Listserv: RIGIS-L
Twitter: RIGIS
Blogger: RIGISnews
LinkedIn: ShaneWhiteGIS

RIGIS Coordinator
NEURISA At-Large
NEARC At-Large
NSGIC Secretary