

Mash up Governmental Geo-Services

A Case Study for Assessment Mapping

Stephen Dixon stephen.dixon@snb.ca

Xiaolun Yi xiaolun.yi@snb.ca

October, 2009



Outline

- **Stephen Dixon**
 - **Service New Brunswick (SNB)**
 - **Creating Research Capacity**
 - **Research at Service New Brunswick**
 - **Research Model**
- **Xiaolun Yi**
 - **Geo Services**
 - **Consuming Geo-Services (Mash Up)**
 - **Assessment Mapping (Demo)**
 - **Dynamic Web Mapping Services**

Service New Brunswick

- Assented to November 3, 1989
- Crown Corporation
 - *“To provide excellence in access to information to government services for citizens and business”*
- Four Lines of Business
 - Government Service Delivery
 - Registries
 - Property Assessment
 - Geographic Information



39 Service Centres

Teleservices



Online

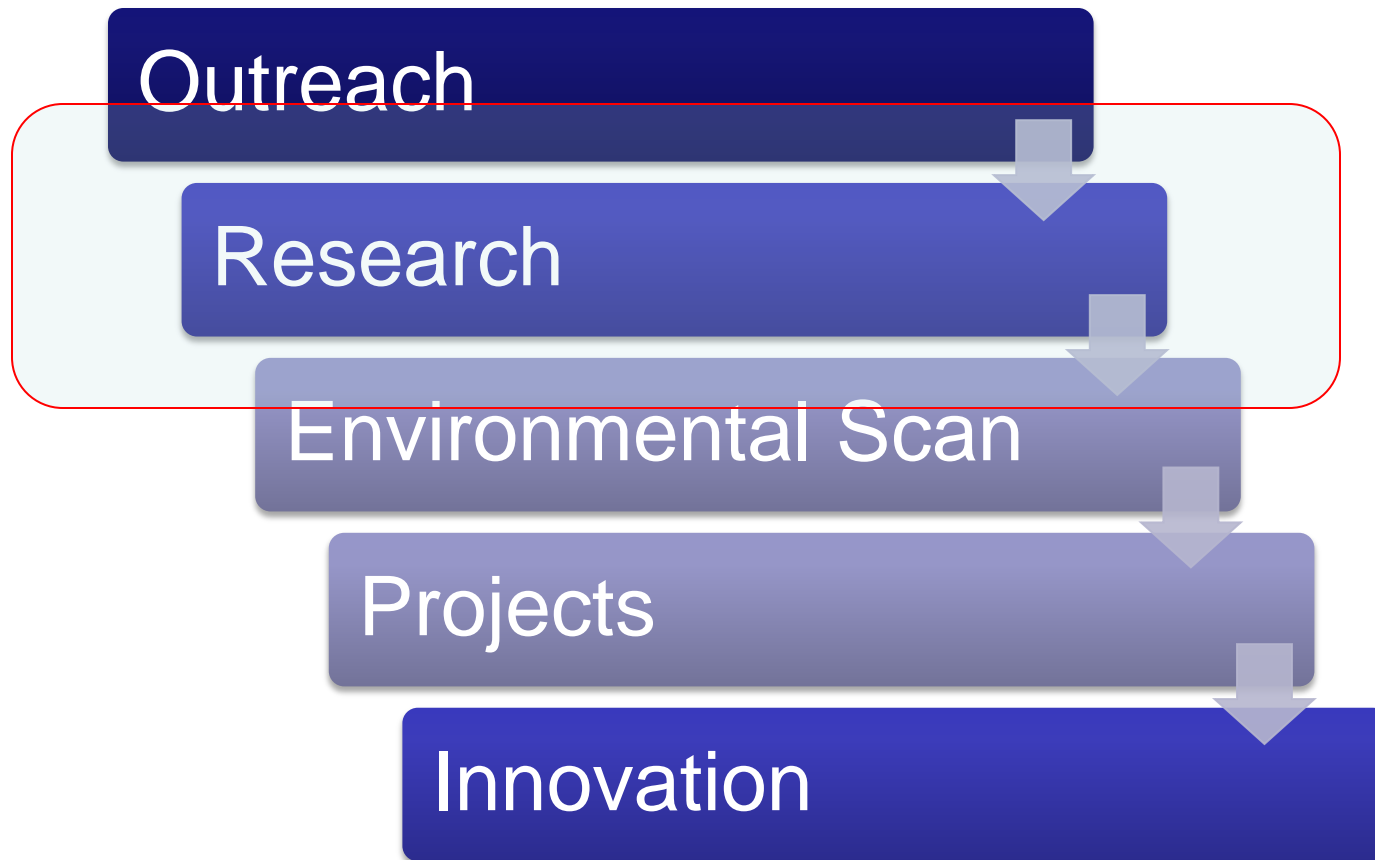


Two Research Projects

NB SDI Usability

Research Model

Research Branch



Innovation

“Successful implementation of new/creative ideas... improvements”

Feeding innovation

- Research
- Ideas
- Environmental scanning
- Brainstorming / ideation

Research at SNB

- What is research?
- How to identify research?
- Who identifies research?
- How is research funded?
- What governance model should SNB around research?
- Other processes and research (i.e. IDEA)

How to engage in research?

- **Research criteria vs. Development criteria**
- **Integrate**
 - **Mindset**
 - **Governance**

Research vs. Development

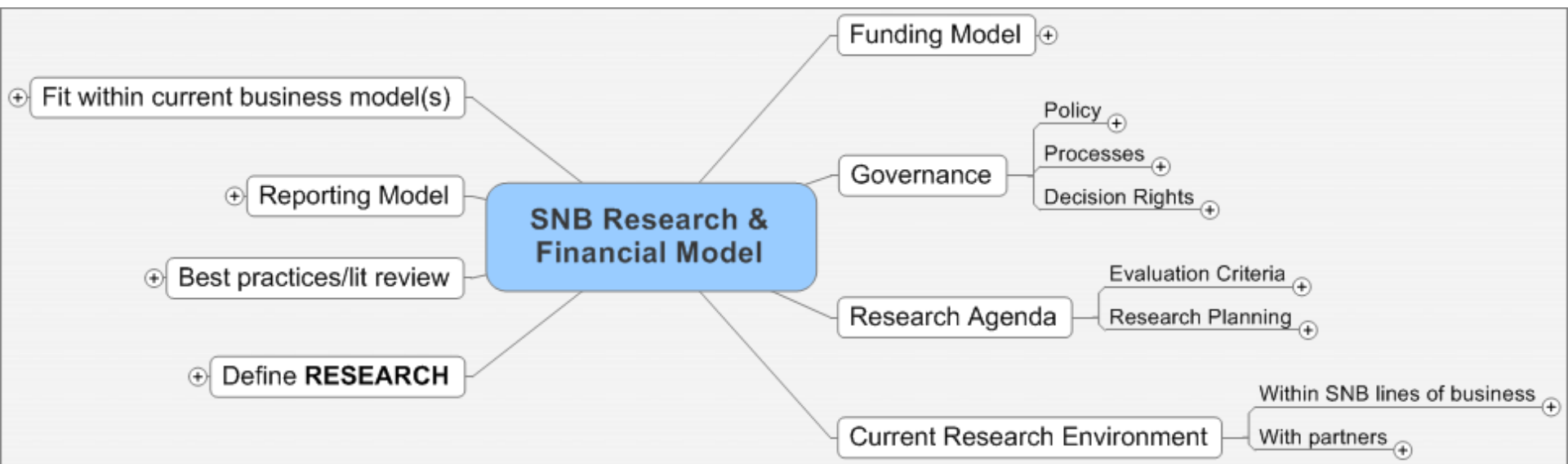
- **Research – Can we do it?**
- **Development – We will do it.**

Next Steps

Commitment to research and innovation

Let's get it right!

Issue



Research at SNB

SNB Research Model

Knowledge Management

Feeds Innovation

Creates New Capability

Research Question

What is the most effective model for conducting research at SNB?

To investigate, through ontological modeling, the structures and relationships of SNB and to develop a research framework to effectively conduct research at SNB.

Ontology

Barry Smith provides the following definition: (<http://ontology.buffalo.edu/>)

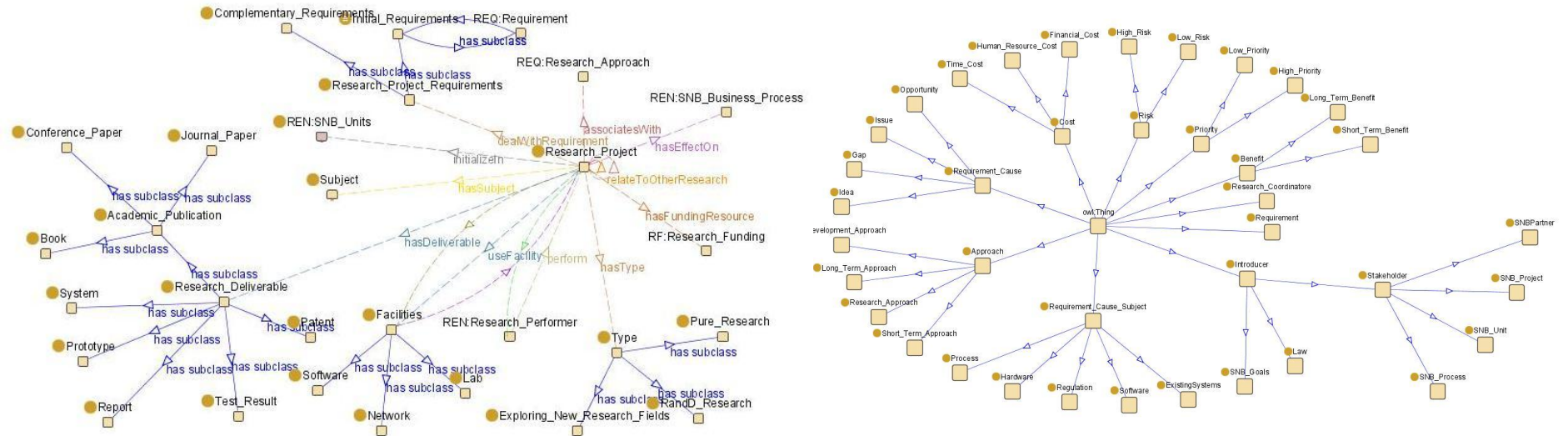
“Ontology is the science of what is, of the kinds and structures of objects, properties, events, processes and relations in every area of reality. For an information system, an ontology is a representation of some pre-existing domain of reality which:

- (1) reflects the properties of the objects within its domain in such a way that there obtains a systematic correlation between reality and the representation itself
- (2) is intelligible to a domain expert
- (3) is formalized in a way that allows it to support automatic information processing “

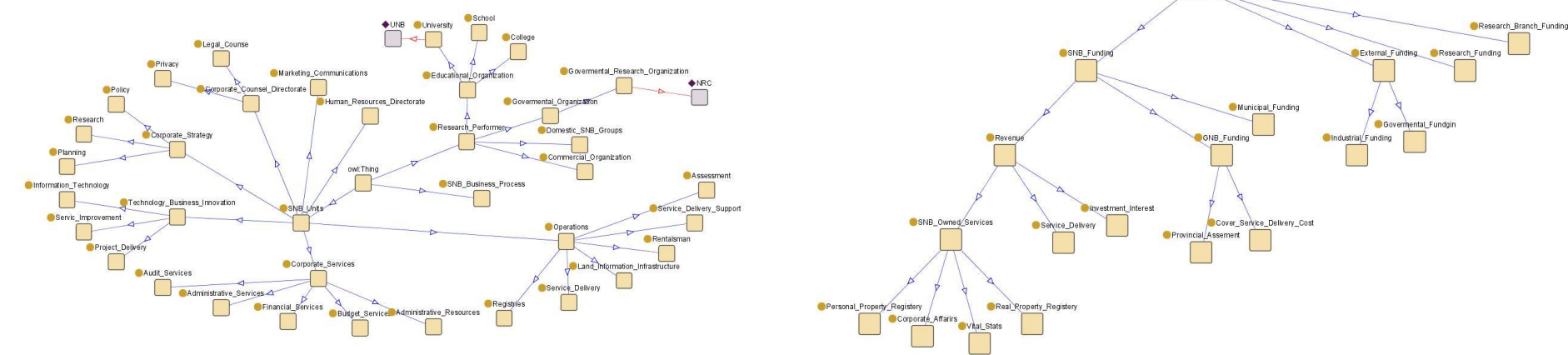
Research Model Research

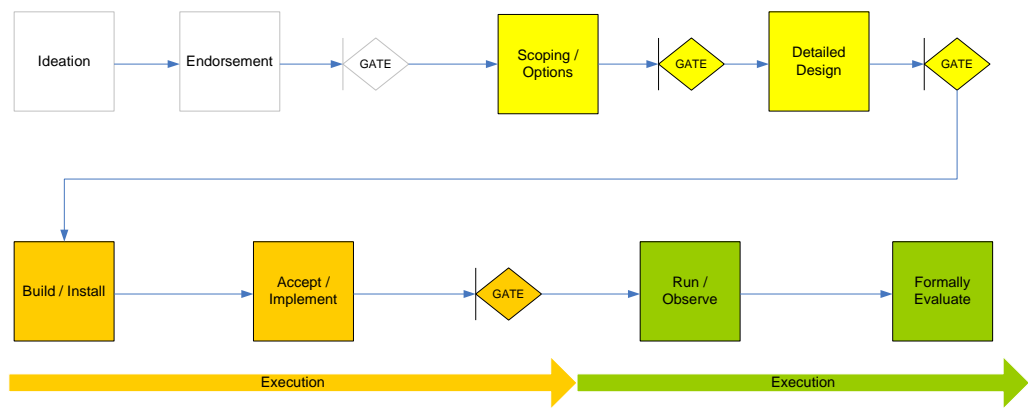
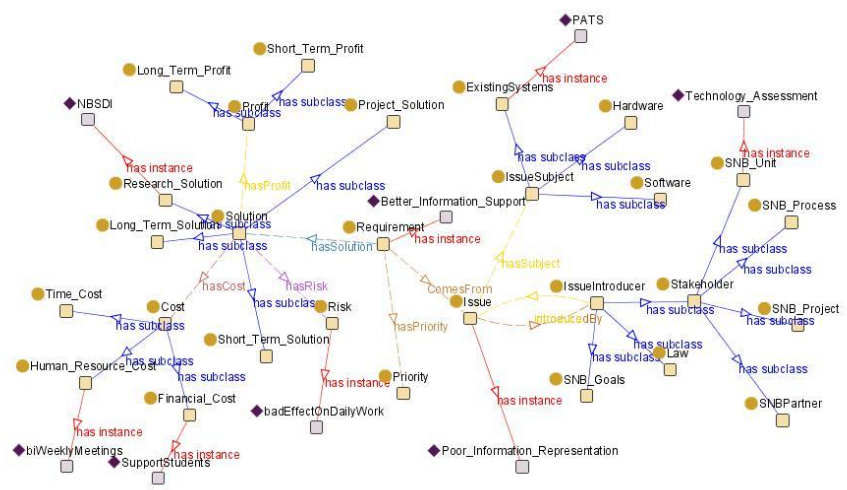
- **Research Model - ontological modeling approach**
- **NB SDI - as an instance of research**

SNB Ontology Model(s)

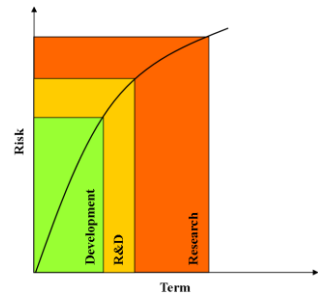
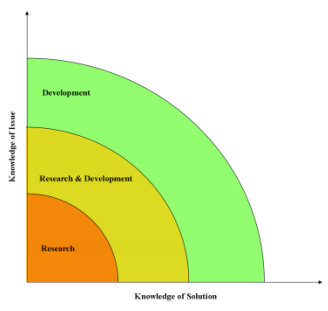
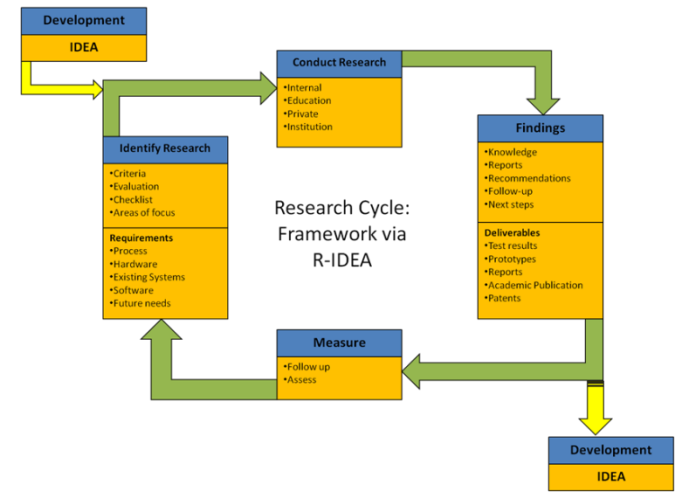


Capture of SNB entities and relationships





Initiation		Definition		Execution			Assessment	
Identification	Evaluation	Scoping	Proposing	Research Activity	Deliverables	Recommendations	Follow-up	Knowledge management



Outcomes of Research

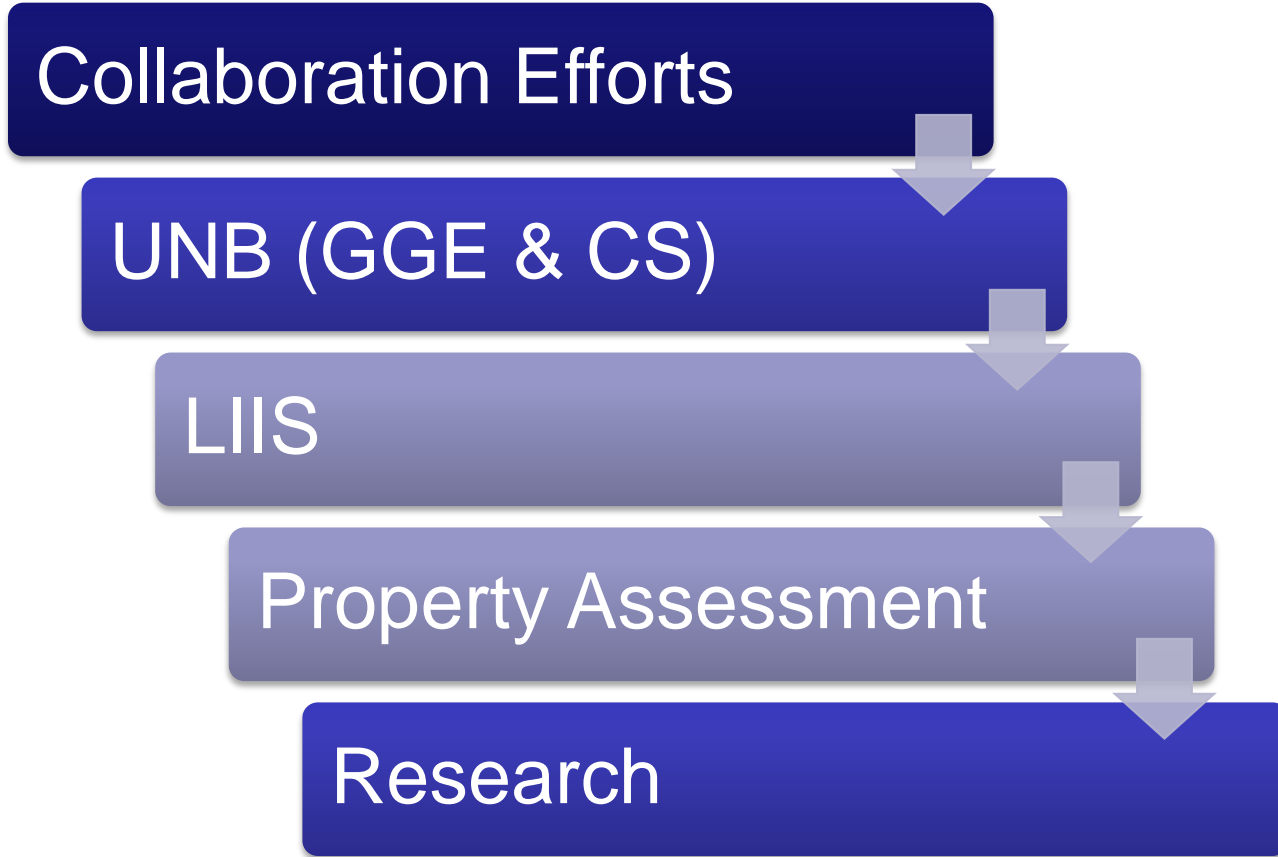
Knowledge... current and future activity

Prototypes... maybe several

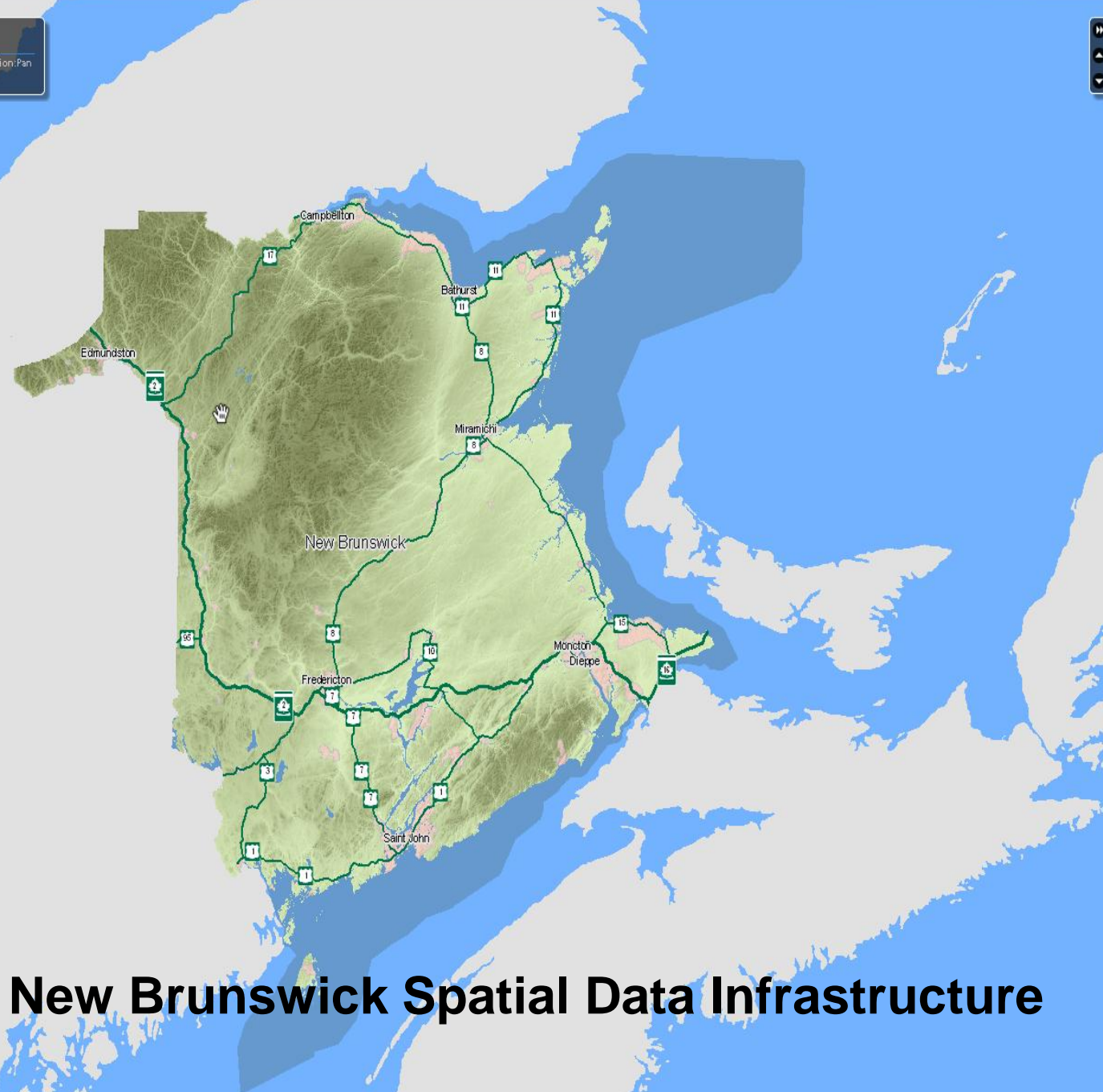
Develop... research moves to development

Implement... prototypes are ready to go

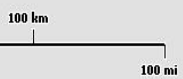
Instance of Research



GeoNB Map Viewer
Current Action: Pan



Potential for the New Brunswick Spatial Data Infrastructure

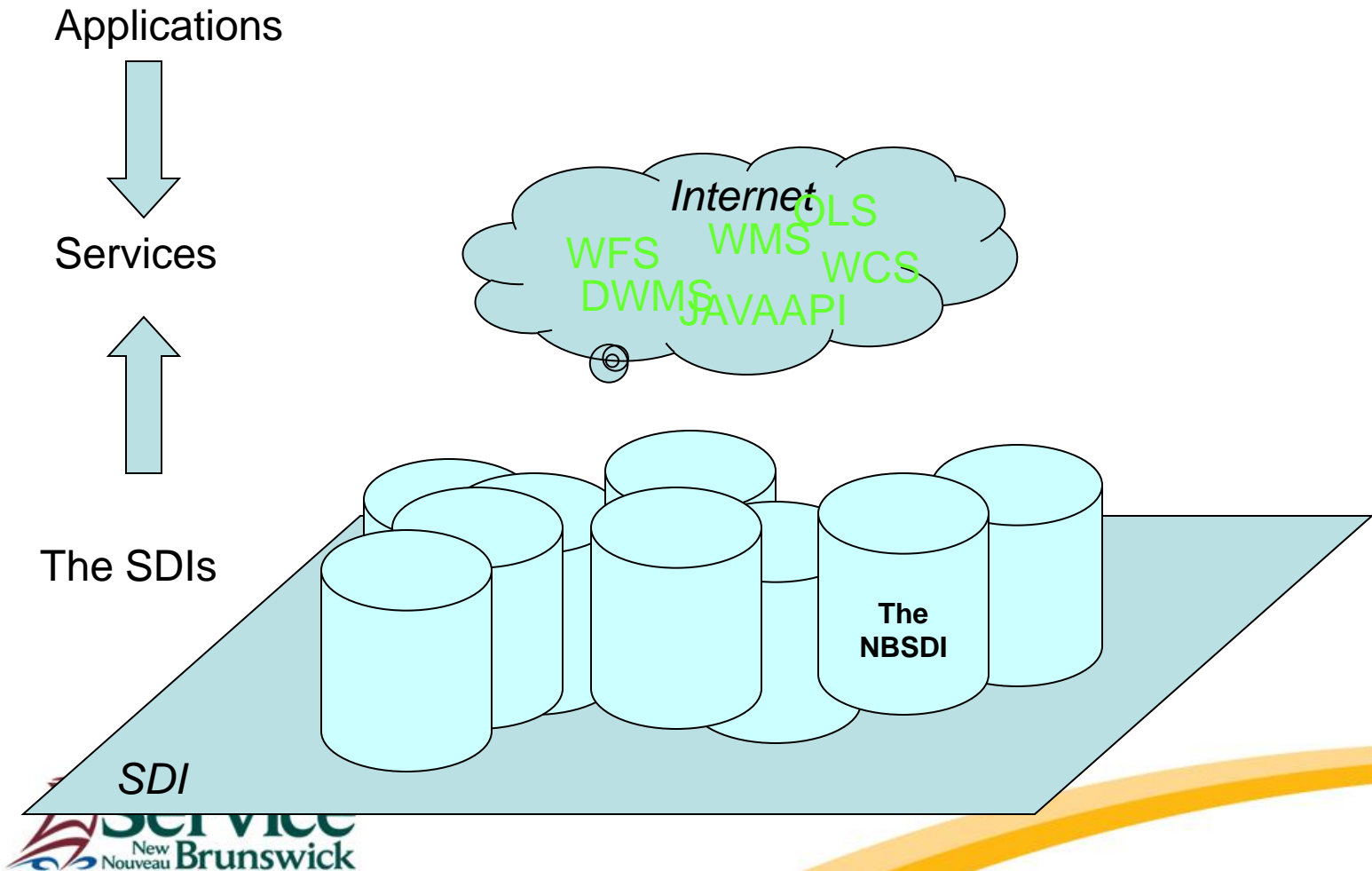


A Case study for assessment mapping

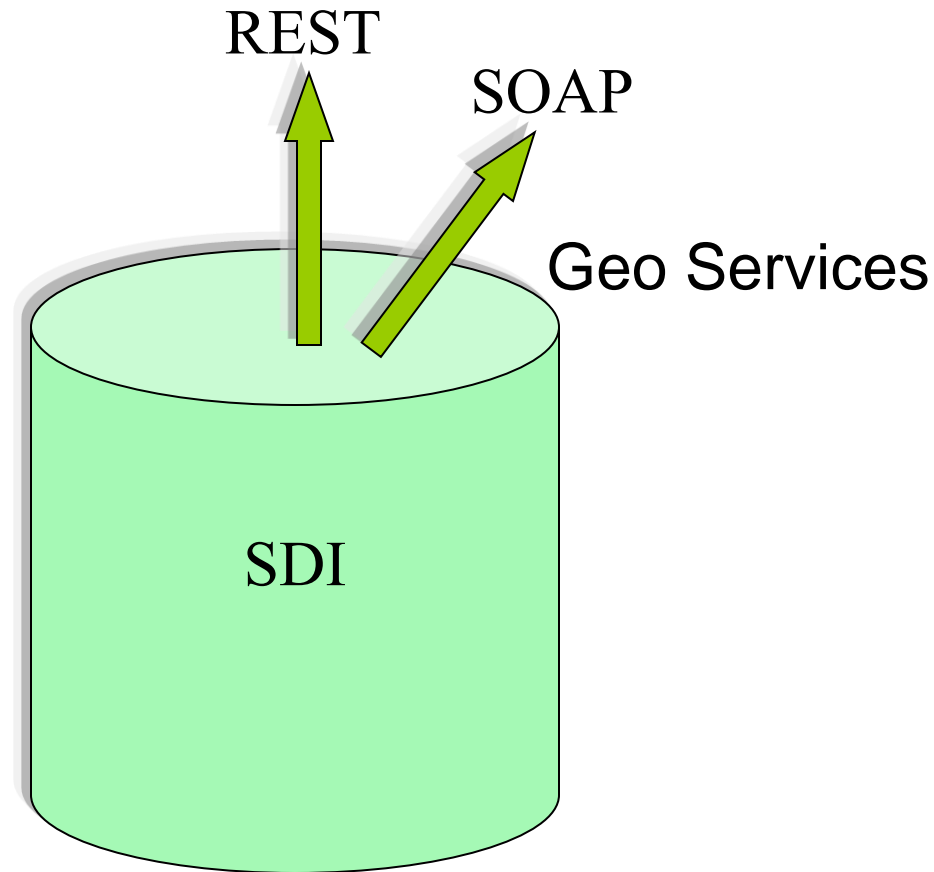
GOVERNMENT GEO-SERVICES MASHUP

“Assessment branch needs maps from others and will generate its own maps as well. We believe that the NBSDI will facilitate its mapping needs.”

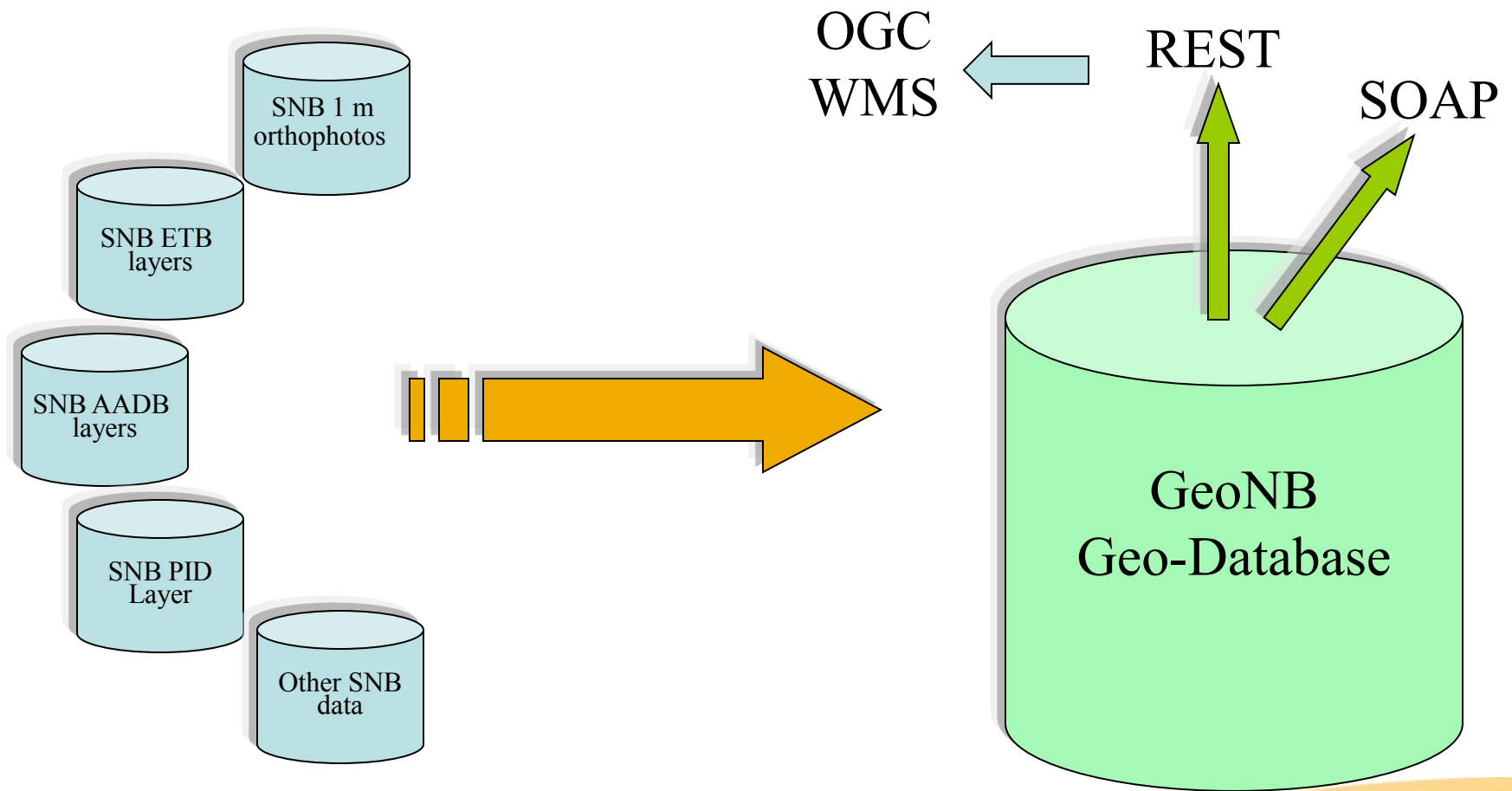
Service-Centered SDI



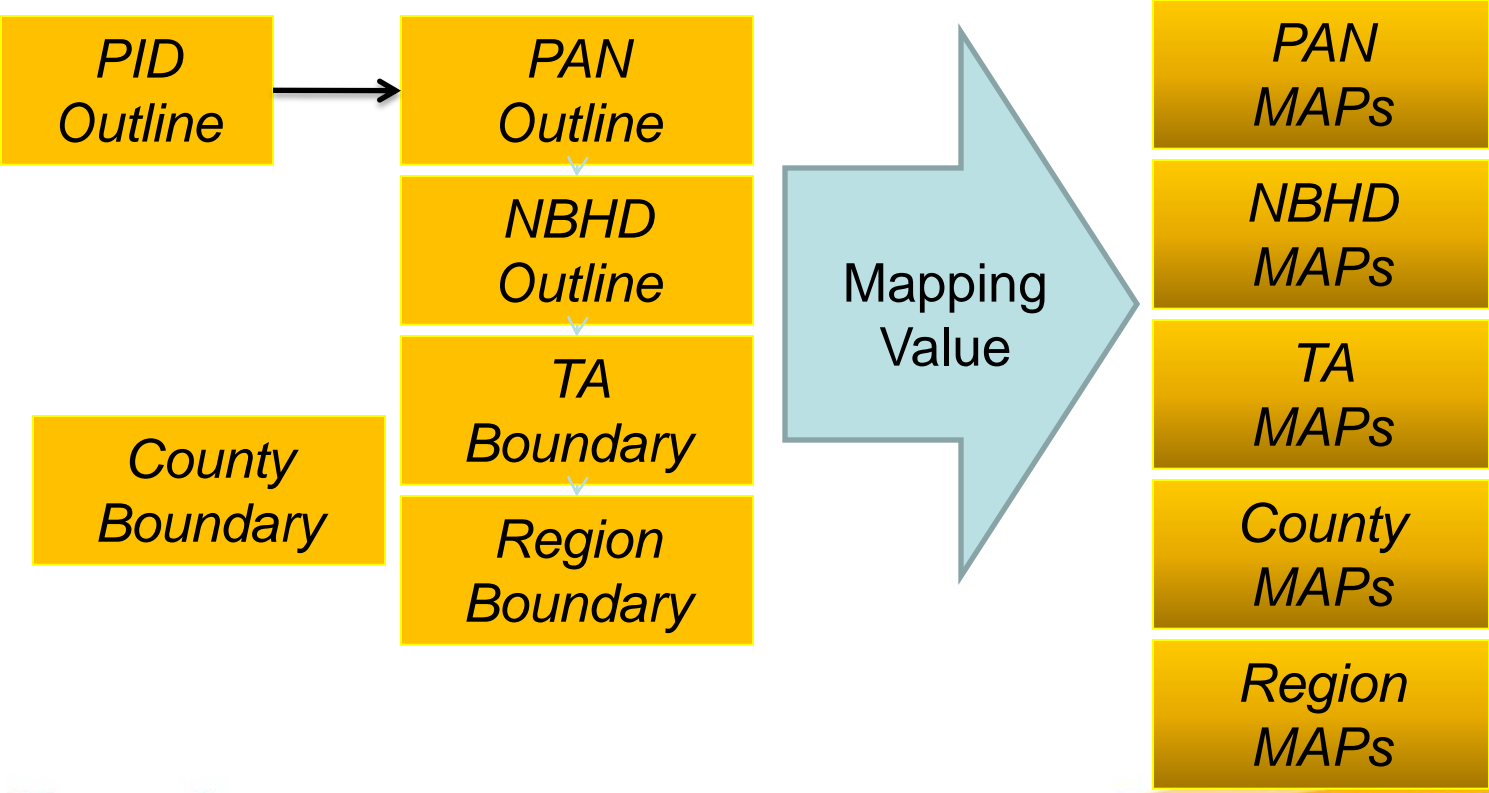
SDI Geo Services



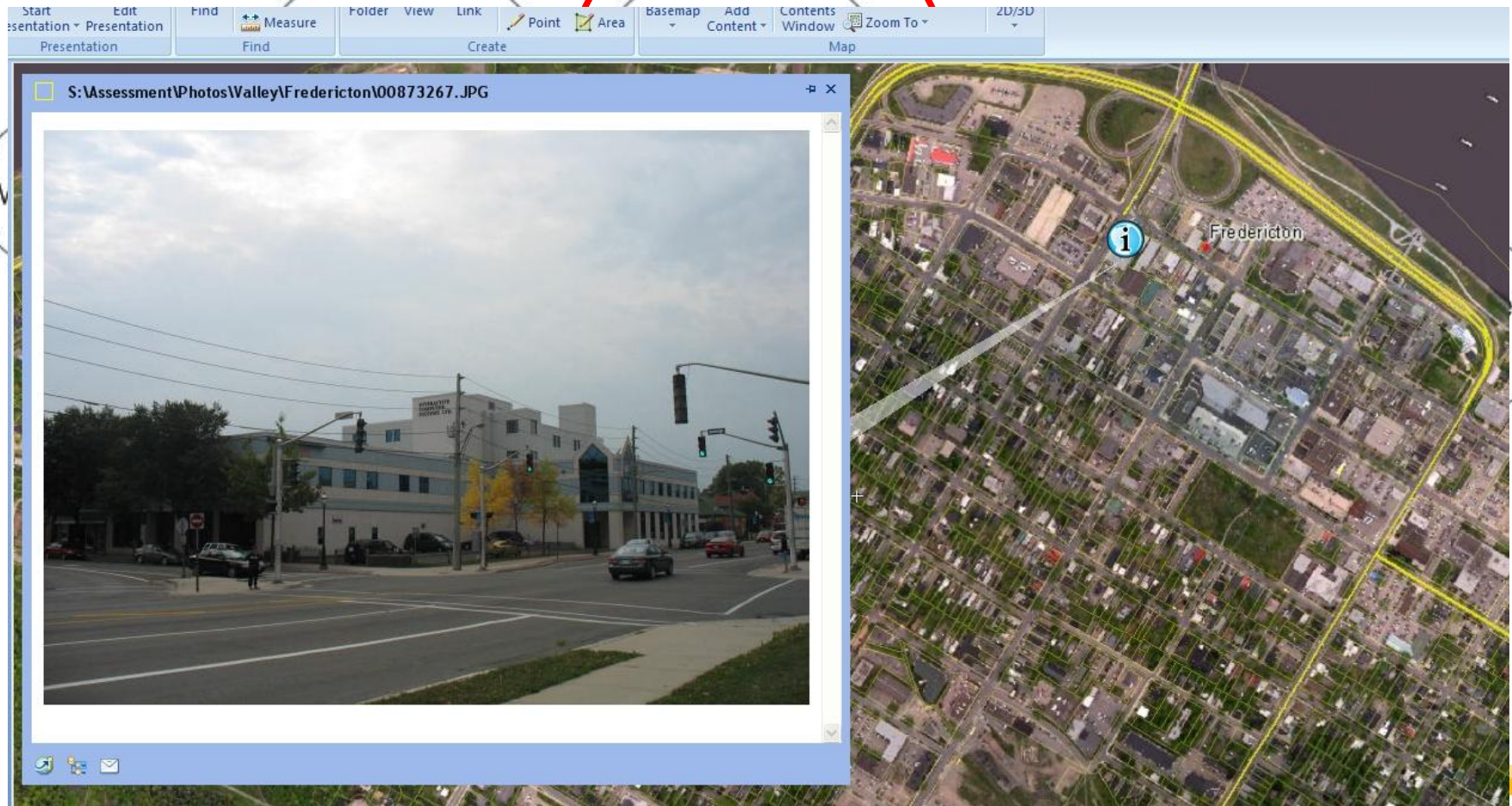
GeoNB Data Services



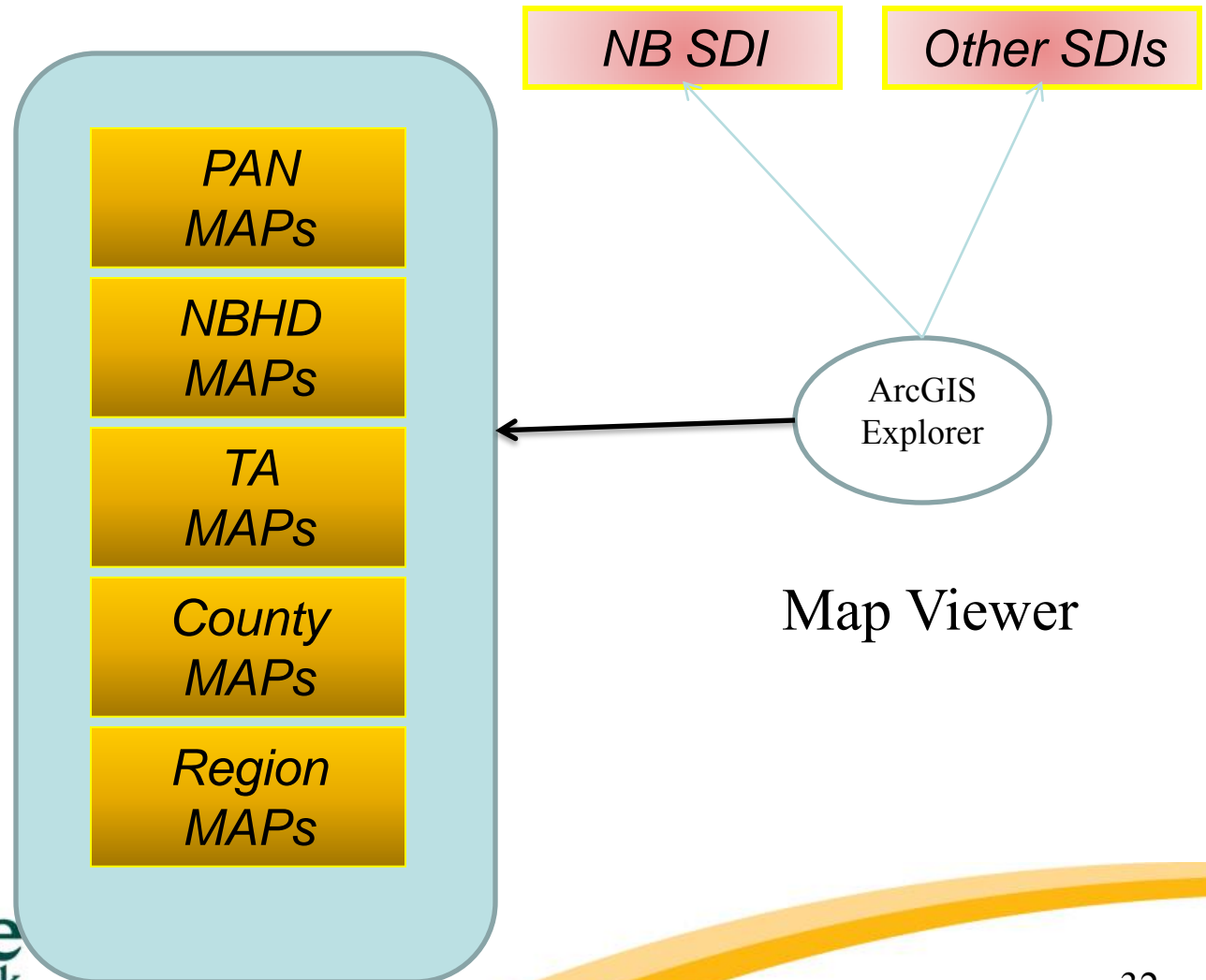
Assessment Mapping



Consuming SDI Geo-Services



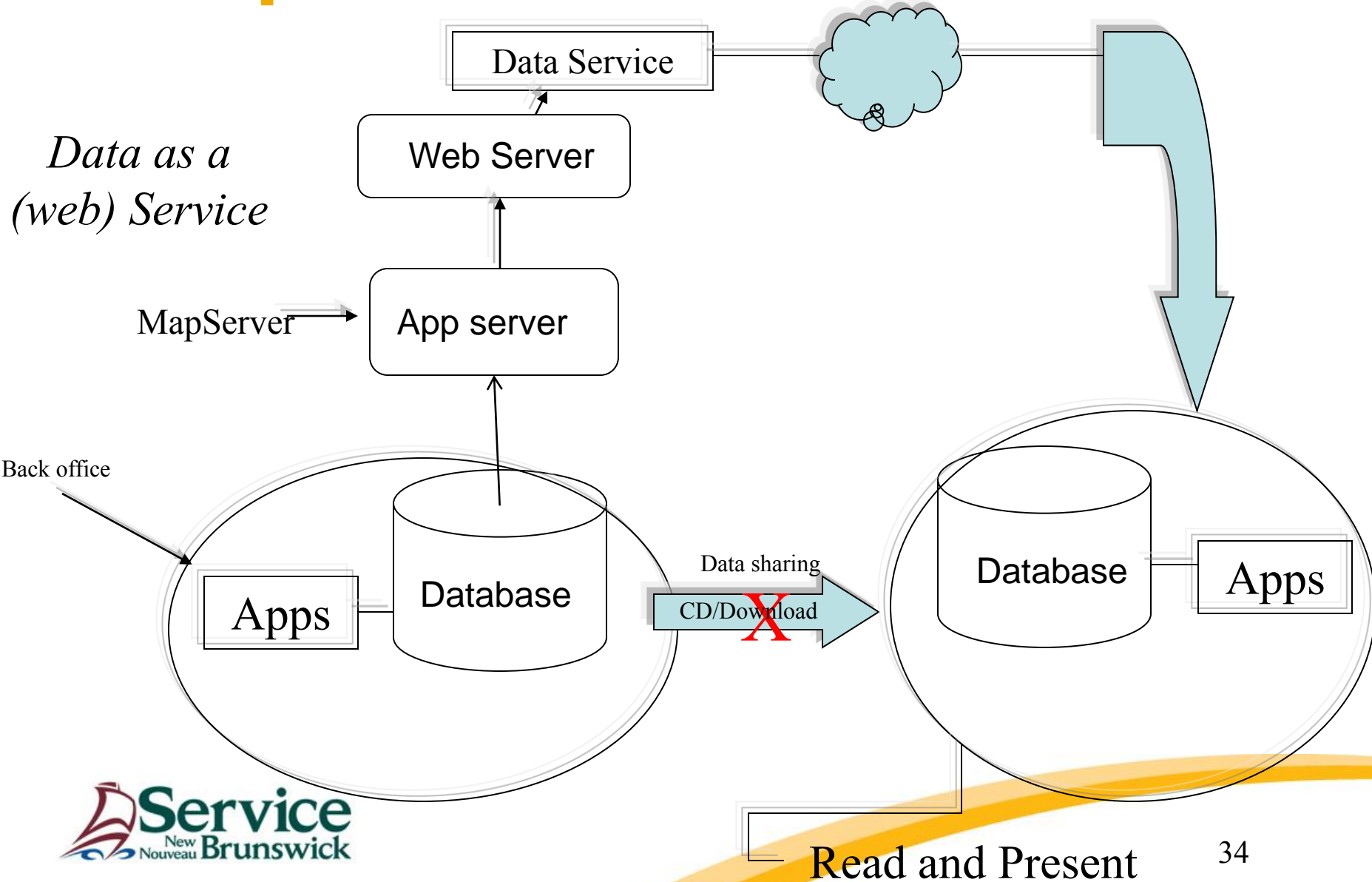
Mash-up Geo-Services of SDI



Demo

Go

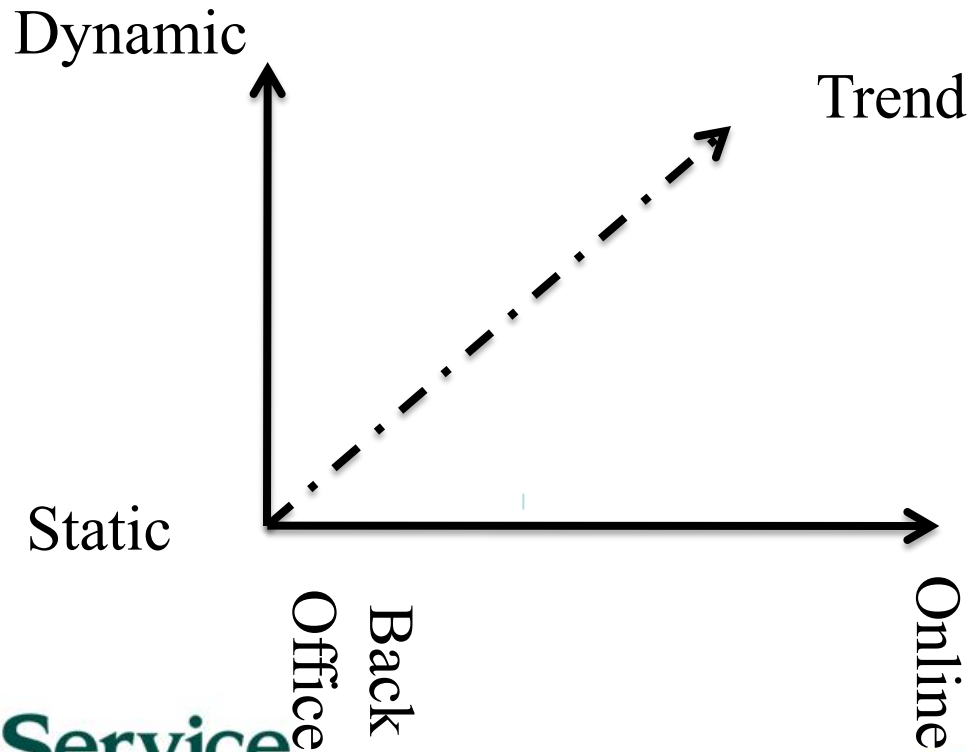
GeoSpatial Data Service



Mapping Trend

From Static to dynamic

From back office to online



Consumer Types of SDI

Mapping Needs

Type	Back Office Mapping	Web Mapping	
1	No	No	
2	Yes	No	
3	No	Yes	
4	Yes	Yes	

Consumer Types of SDI

Mapping Facilities

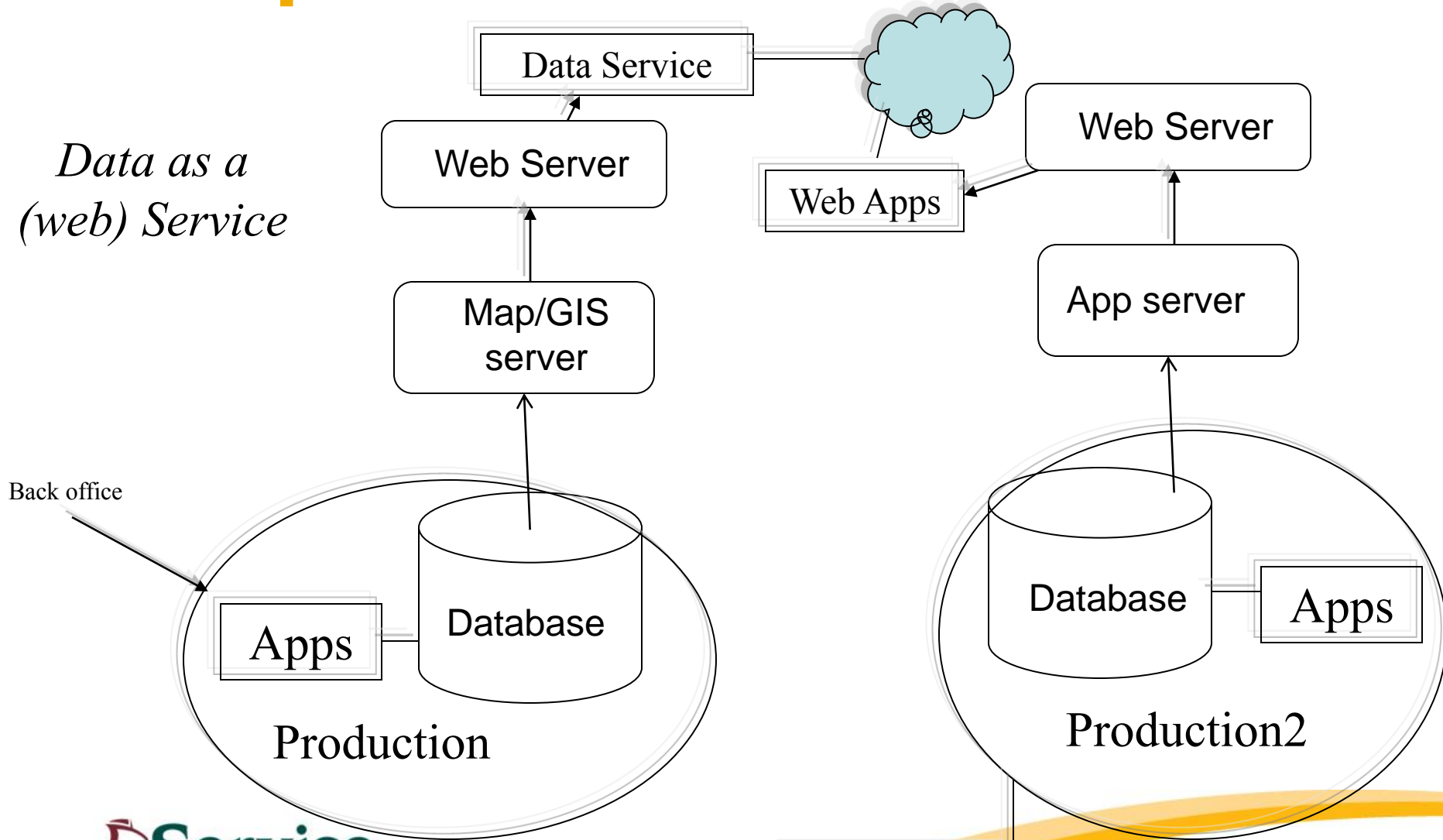
Type	Back Office Mapping	Web Mapping	
1	No	No	
2	Yes	No	
3	No	Yes	
4	Yes	Yes	

Challenge

How to geo-enable the departments (organization) who do not have web mapping facilities?

GeoSpatial Data Service

*Data as a
(web) Service*



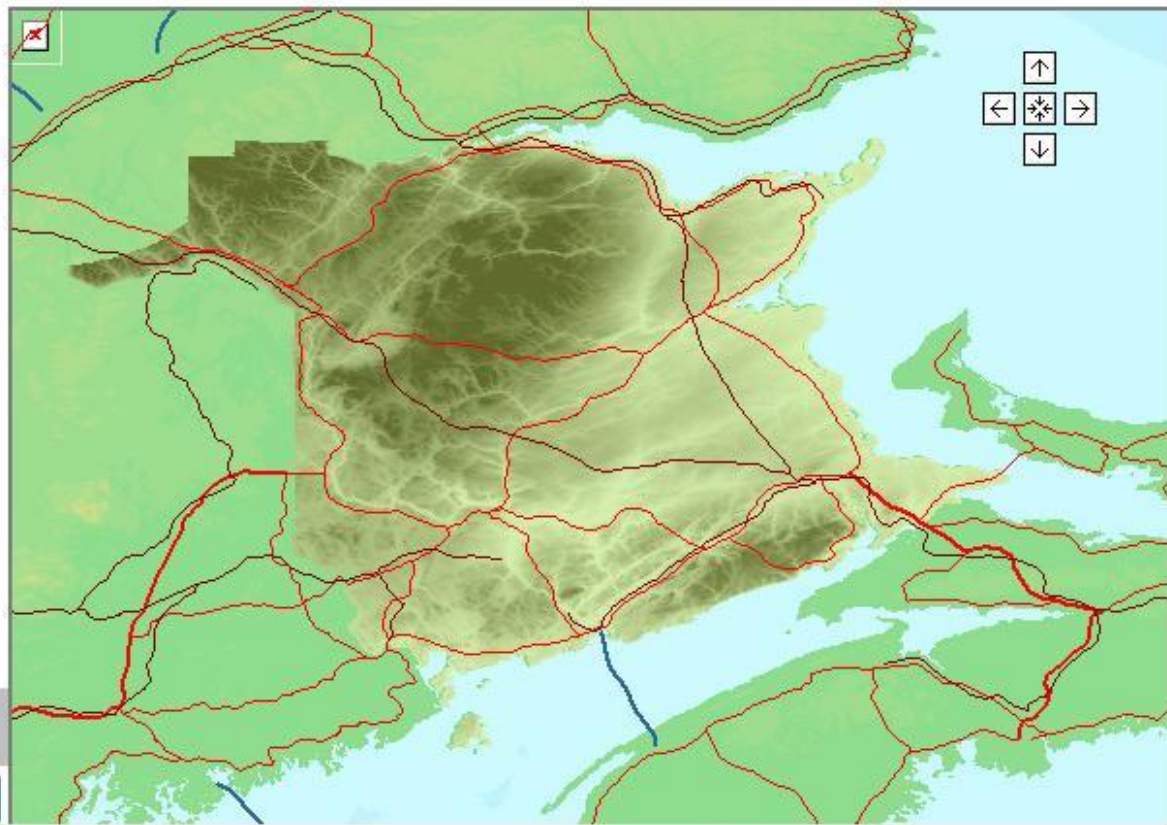
WMS LAYERS

- PAN
- PID
- City Name
- Civic Address
- Railway
- Road
- City Ortho Photo Map
- NB_Ortho Photo Map
- NB_DEM_10M

Other Location

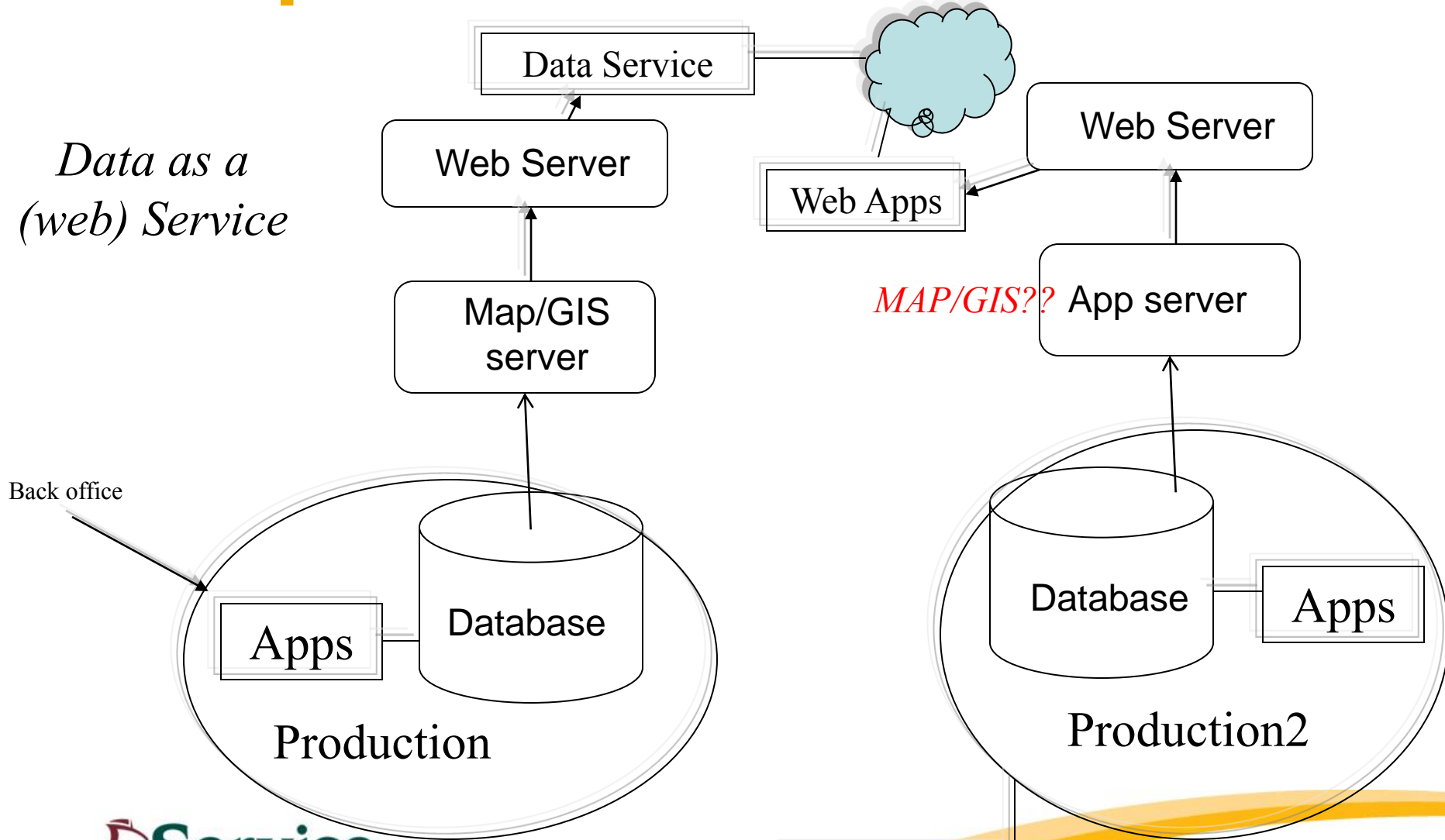
N/A

E1E 1.25X New Brunswick

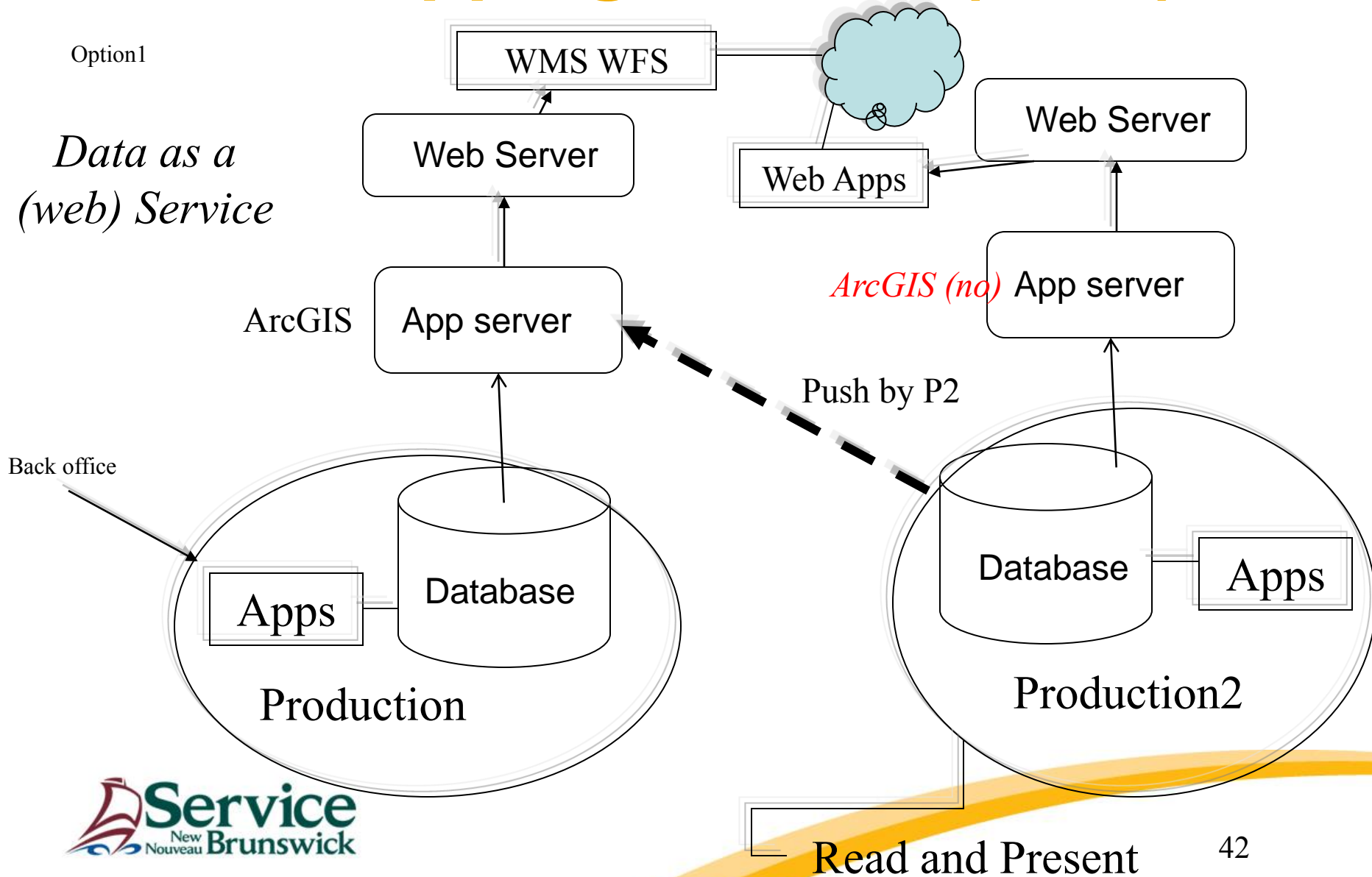


GeoSpatial Data Service

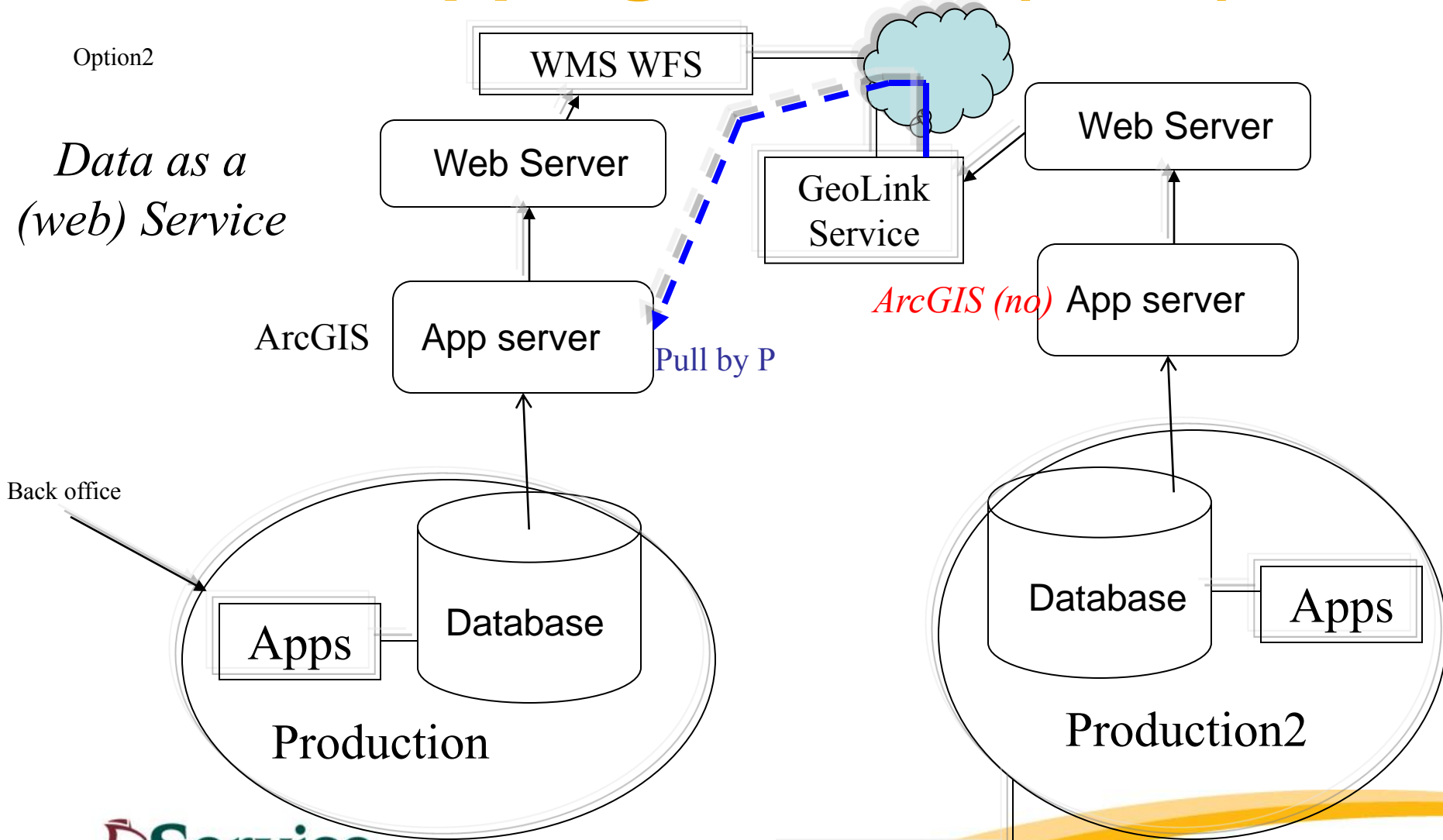
*Data as a
(web) Service*



Broker Mapping Service (BMS)

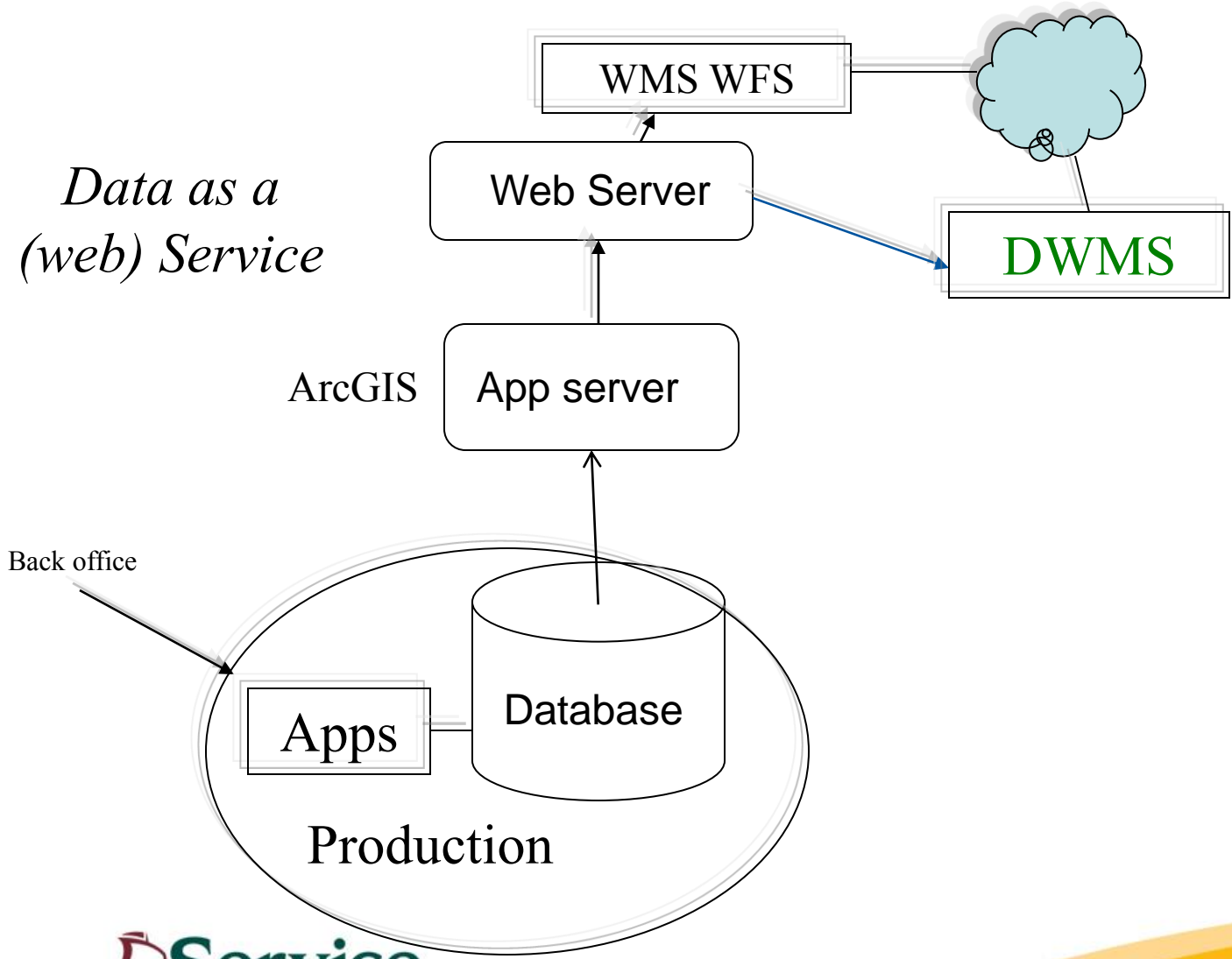


Broker Mapping Service (BMS)

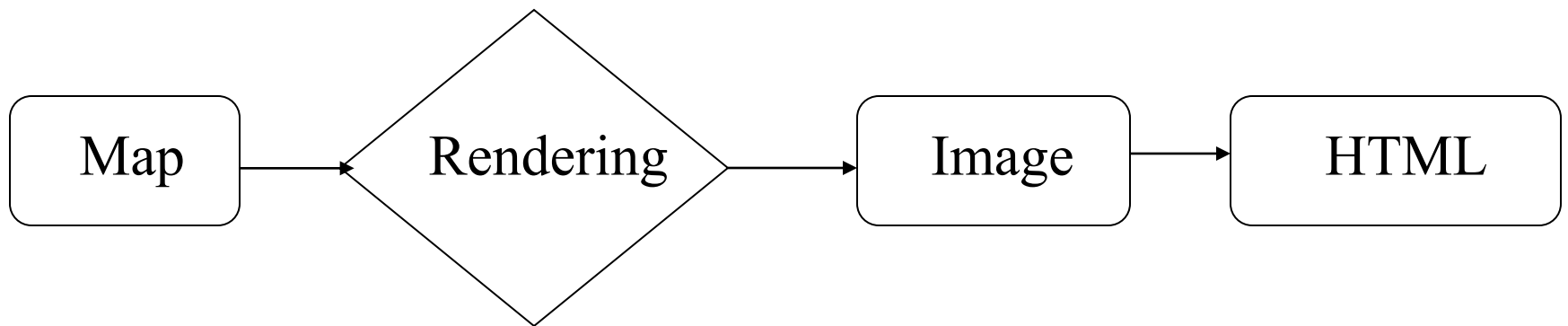


Dynamic Web Mapping Service (DWMS)

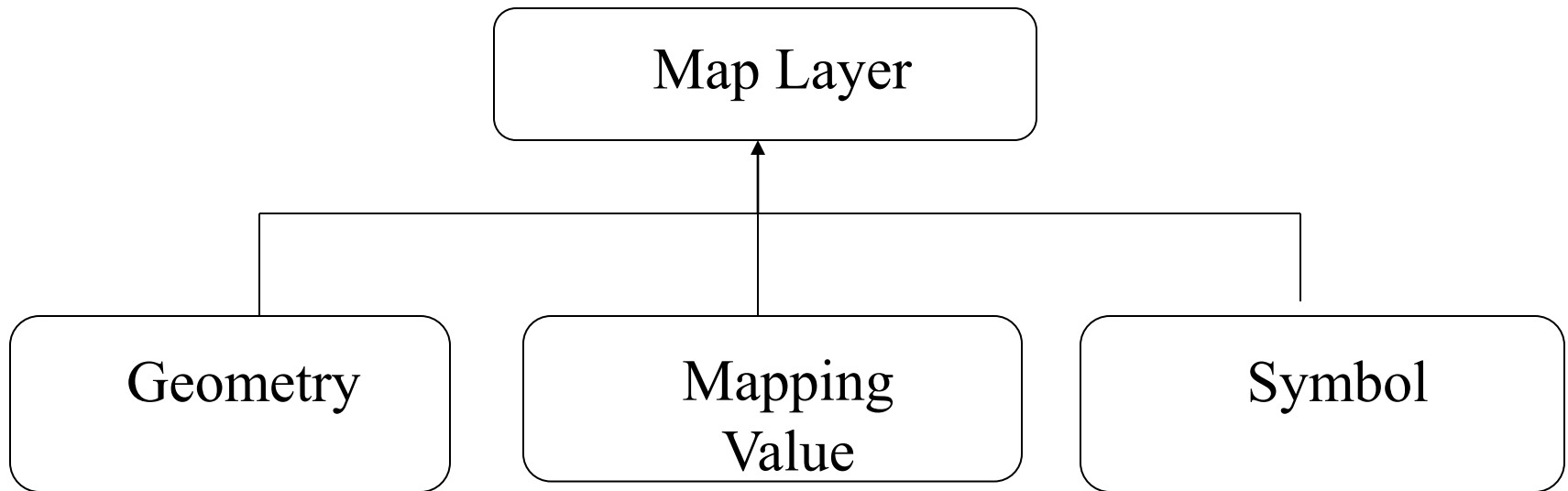
Data as a (web) Service



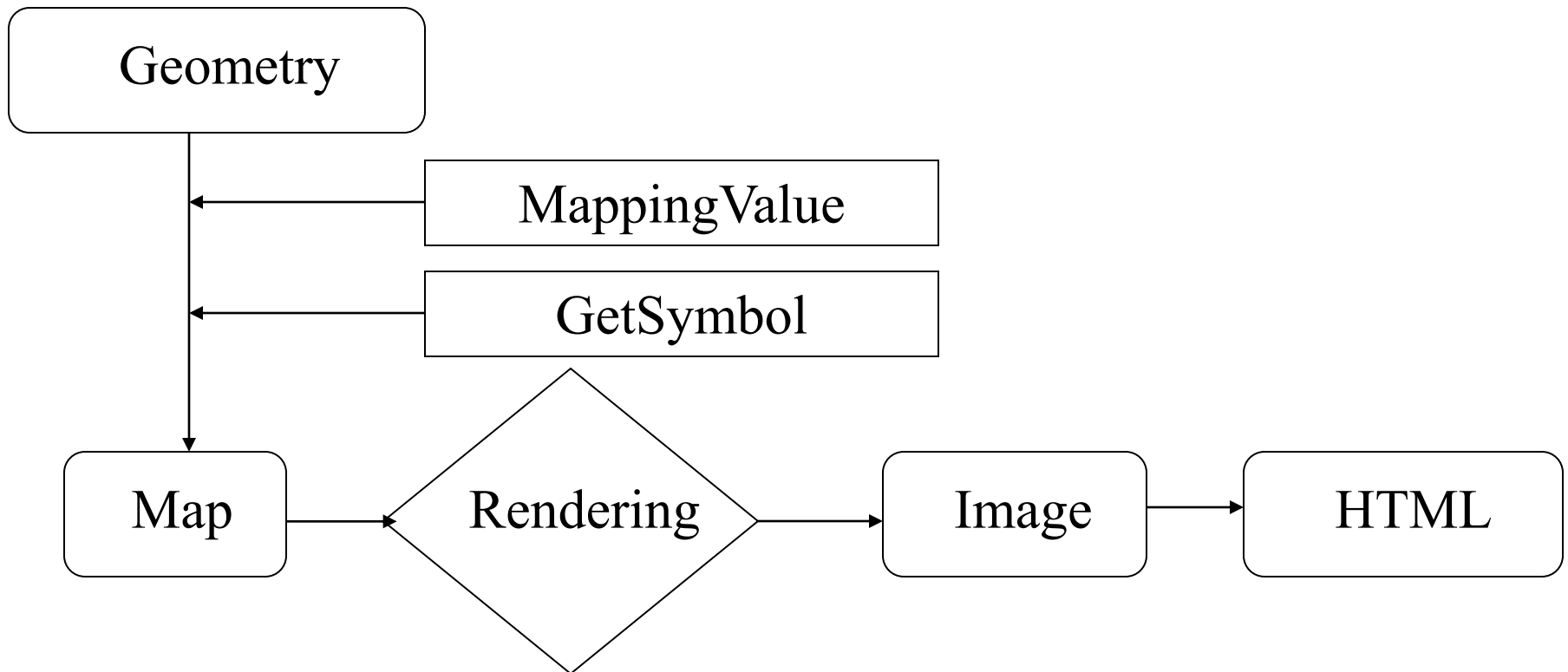
Static Web Mapping



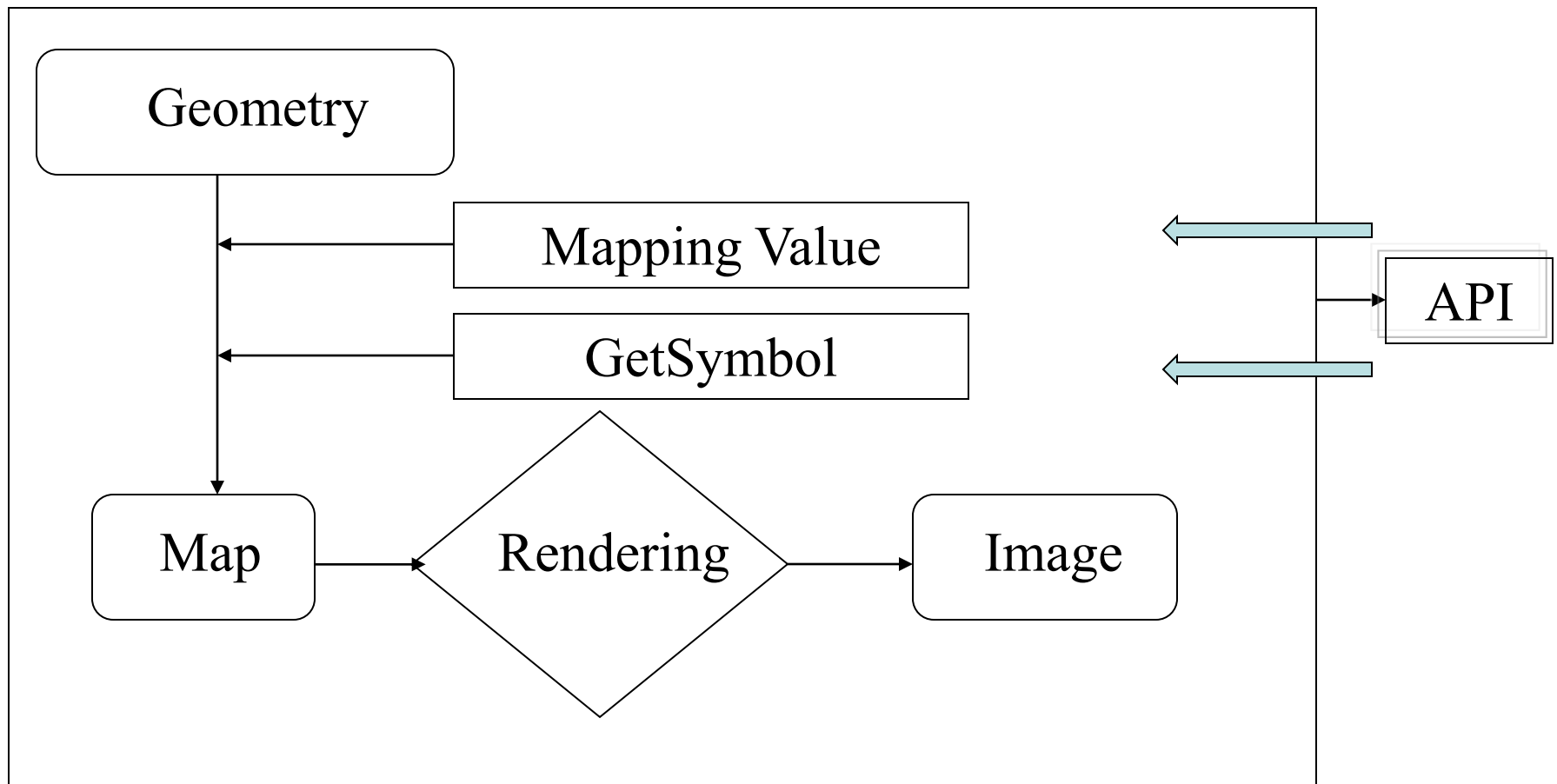
A Map Layer



Dynamic Web Mapping



Dynamic Web Mapping Service



Dynamic Web Mapping

Demo

Conclusion

A stakeholder could be geo-enabled through leveraging the SDIs without the need to make substantive individual investments in geospatial technologies and support staff.

Thanks/Questions

Stephen Dixon stephen.dixon@snb.ca

Xiaolun Yi xiaolun.yi@snb.ca