



Consolidation of Spatial Data and Data Sharing

Presentation By
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Date: 16 May 2016

Introduction

Spatial data is one of the building blocks in any location based work processes; required by almost all State Agencies from planning to decision making based on all relevant factors

Huge amount of spatial data is collected and disseminated by the State Agencies every year. As a result, spatial data consolidation plays a significant role in enabling data sharing among the stakeholders

A platform and mechanism to facilitate the management of imageries, textual and spatial data for cataloging and data sharing among the State Agencies from one centralised source must be established.

Issues with Data Sharing

- Refusal to share
 - Fear of loosing authority
 - Heavy investment, fear of no Return On Investment
 - Data collected by different organisations are often incompatible
 - Security reasons
- Data redundancy
 - Data conversion to meet immediate needs - being unable to share
 - Duplication effort/work
 - Non-standard, less accurate
 - Unable to update

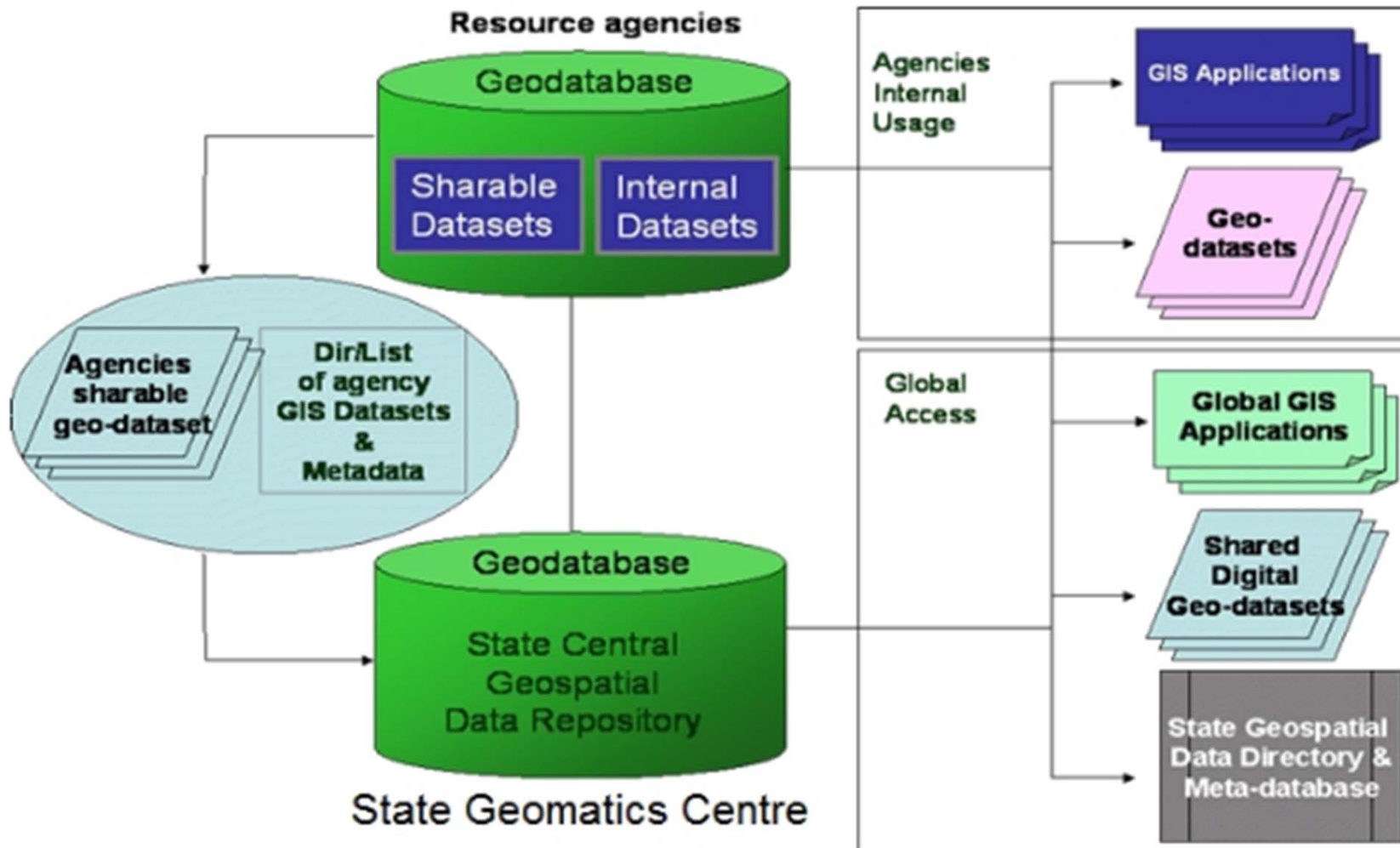
Efforts in fostering Data Sharing

- Centralised acquisition and hosting of third party spatial data and software
- Encourage data sharing when consulted
- Recommend/develop cross-agency projects
- State Geomatics Data Clearinghouse (SGDC)
- Spatial data Hosting and Retrieval System (SHARES)
- Enforce standards and formats

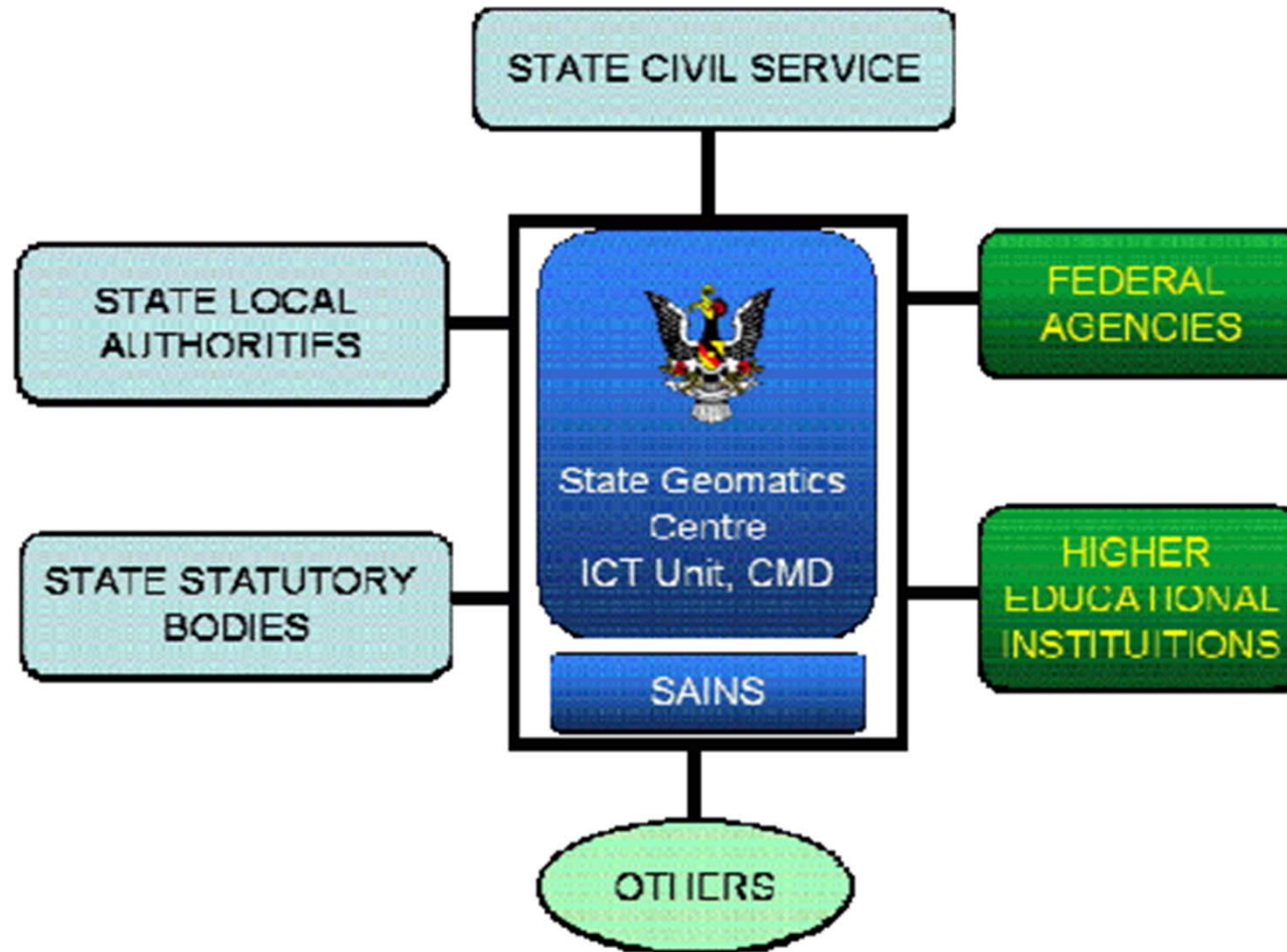
Concept of Spatial Data Hosting and Retrieval System (SHARES)

- A portal to host shareable data
- Metadata and data dictionary on spatial data
- Provide links and services to applications on data sharing
- Software license server
- A platform to share resources, experience and knowledge
- To create more spatial aware as well as skilled civil servants that are able to capitalise on spatial information and its applications thereof
- To minimise cost and maximise investment in GIS software and applications including use of SaaS model and Open Source.

State Geomatics Information Infrastructure



Who is taking care of the implementation?



State Geomatics Data Clearinghouse

SGDC
State Geomatics Data Clearinghouse

Home SHARE Framework Library Toolbox Geomatics Cafe

Resources
Data Tools Applications

ANNOUNCEMENT
SHARCS - Workshop (Terbitany)
Date: 24/12/2016 - 25/12/2016
Time: 9am - 1pm
Venue: Uluang

Point of Interest (POI) About Point of Interest (POI)

Legend

- Water Supply JKR
- River Water Pipeline
- Treated Water Pipeline
- Water Type
 - AI-KANG
 - Source Pump
 - Bukit Muzi
 - IGD/IGY-KANG
 - CLAMP/PIK
 - UGGING/UM/REK
 - Quarto 4x 4m
 - MAJEP
 - Max. Mahant
 - IT
 - ganga Panti
 - MB
 - Rem. on Control Valve
 - Prokuan Meter
 - Pump House
 - Storeroom
 - Settling Tank
 - Sluice Valve
 - Stand/Case Payment
 - Tank
 - Water Chit
 - Water Meter
 - Water Treatment Plant
 - Water Bridge

100 km
50 m

Visitor Statistics: 22667

Interactive Map

Welcome, Thomas Chai Ching Siang - 12/05/2016 [LOGOUT]

Hospital Uluang Serembak
KOD: HOSPITAL
Jenis: HOSPITAL
Pegawai: Dr. Chin Zin King
Contact Info
Alamat: Jalan Tun Ahmad Zaidi Adnan
Postkod: 95548
No Tel: 082-278966
No Fax: 882-242751
Locality Info
Bahagian: Kuching
Daerah: Kuching
Daerah Kecil: Kuching
GPS: 110.33854, 1.54301
Remarks
Coordinates Updated by State Service Modernisation Unit of Chief Minister's Department

Search for Satellite Imagery

Location: [Input Field]
Type: [Dropdown]
Year: 2014
Division: [Dropdown]
State constituency: [Dropdown]
Electment constituency: [Dropdown]
Search [Reset] [Selection Tools (Spatial)] [Edit Mode]

Search Results

ID	Location	Type	Year	Visible
PO2014_09_8100890	Benariang	Pirades	2014	<input checked="" type="checkbox"/>
PO2014_09_8096990	Stulang	Pirades	2014	<input checked="" type="checkbox"/>
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SP072814_09_0029000	Kerawit	Spot 5	2014	<input type="checkbox"/>
SP072814_09_0039000	Hukah	Spot 5	2014	<input type="checkbox"/>
SP072814_09_0049000	Rubau	Spot 5	2014	<input type="checkbox"/>
SP072814_09_0059000	Jawi	Spot 5	2014	<input type="checkbox"/>
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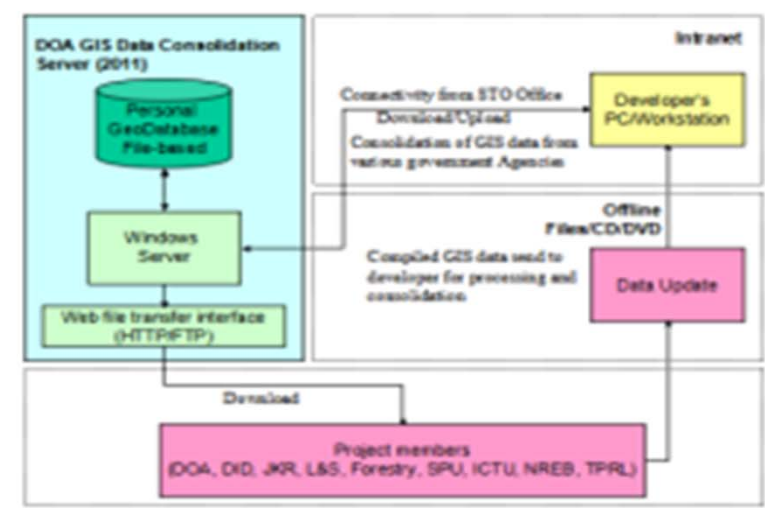
Data Compilation and Consolidation Activities

No.	Data Types	Agency
a.	Chemical/Physical Properties	DOA
b.	Substratum (nature and man)	
c.	Forest Depth	
d.	Drainage System (natural/river)	Department of Drainage & Irrigation Sarawak (DID)
e.	River Basin	
f.	Forest (Original, Secondary Forest)	Forest Department of Sarawak

GIS Data Listing

No.	Data Types	Agency	Scale	Projection	Coordinate System	Format	Access Method	Update Frequency	Notes
g.	Location								
h.	Time								
i.	Place								
j.	Tidal								
k.	State								
l.	Plant								
m.	Water								
n.	Topo								
o.	Carto								
p.	Topo								
q.	Satellite								
r.	Forest								
s.	Place								
t.	Soil								

Data Standardisation



Geospatial Data List from State Agencies

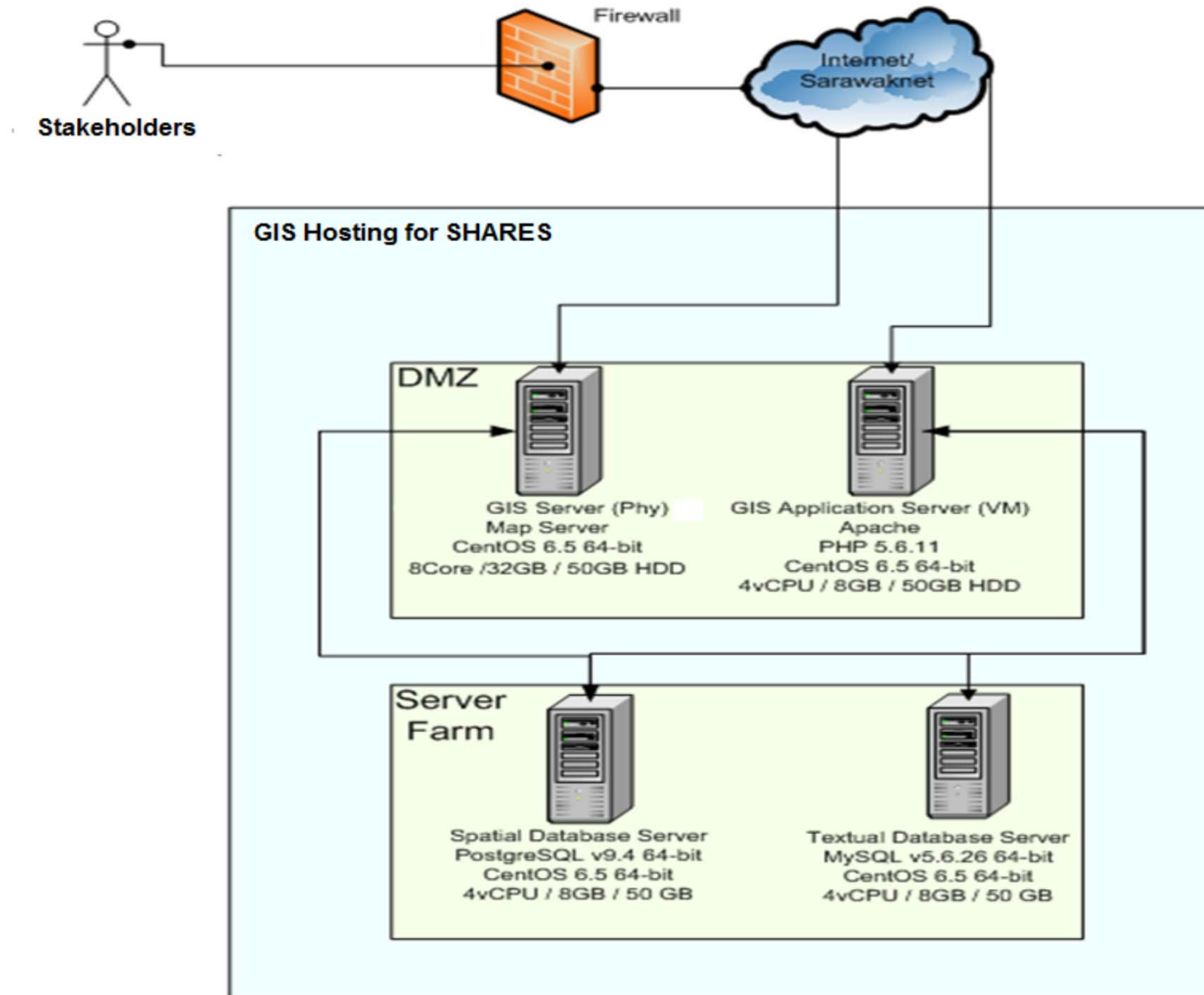
#	Layer/Dataset Name	Trustee Agency	Project											
			ICTU SHARES	LGCD eLA	DOA WIMCS	JKR Logging	JKR GEONFOS	DOA Peat Soil	MLD LandGIS	eR&DO	L&S	MPRE	MBKS	DBKU
1	Soil Map (with Soil Textual Information)	DOA	X		X			X	X	X				
2	Agriculture Capability Map		X		X			X	X	X				
3	Semi-Detailed Landcover Classification Data for Peat Soil areas (with plantation types information) - Balingian (completed), Matu Danu and Kut-Sawai - Onggong		X					X						
4	Settlement (yearly updated from RO)	SPU	X		X			X	X	X				
5	Parliament and State Constituency (Pilihan Raya Area Map)		X	X					X	X				

6	Drainage System (natural-river with main and single rivers)	JKR	21 Roads Implemented by JKR (State & Federal Roads)	X	X	X			X	X	X	X	
7	Major River Basin		22 Bridges	X									
8	Flood Prone Map (with Station information)		23 Lamp posts (only under JKR protocol roads)	X									
9	Hydrological Station Data (rainfall, water)		24 Proposed Water Supply Catchments	X						X	X	X	X

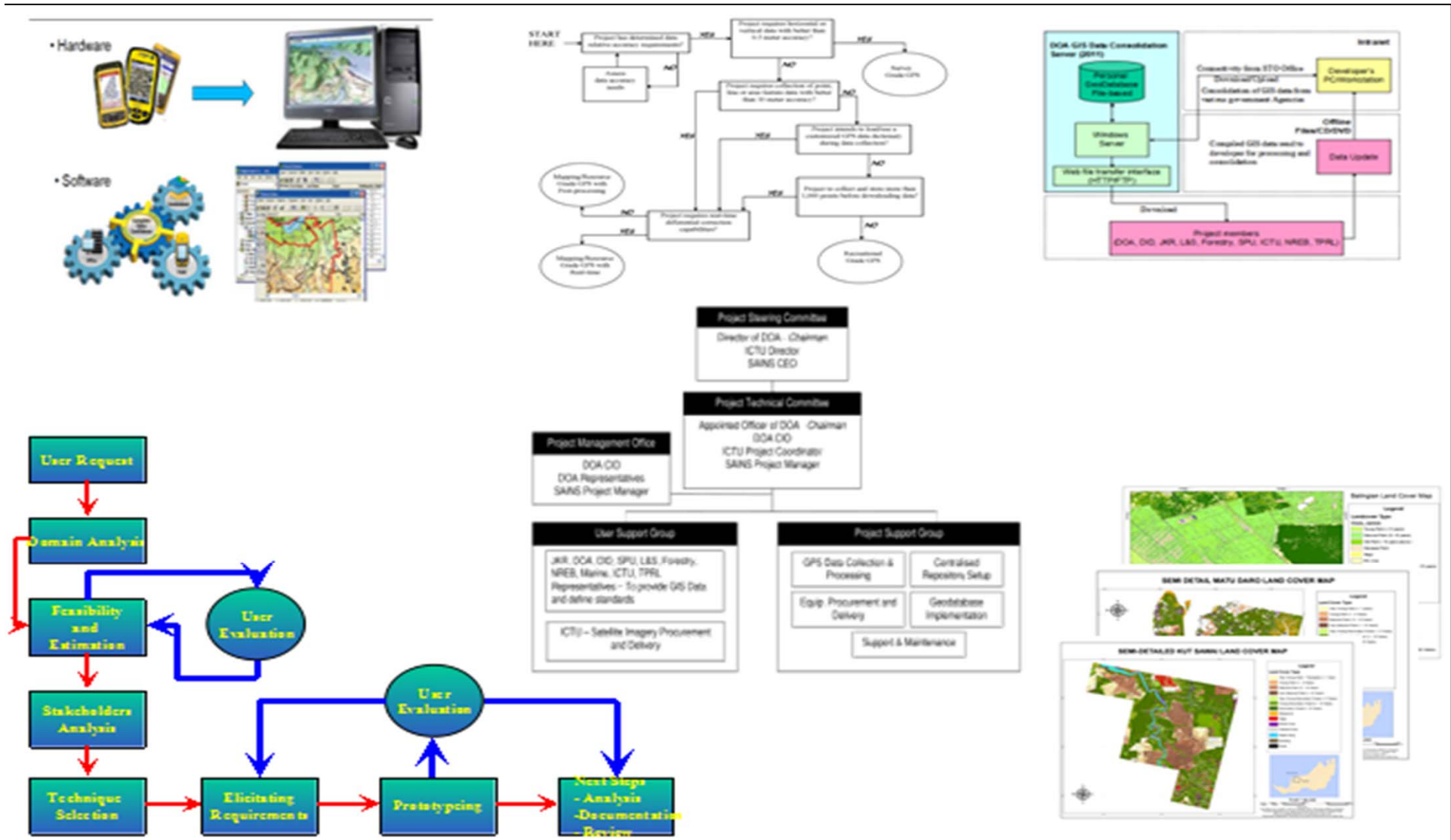
Originator	Required Dataset	User Agency (Requester)	Justification
L&S	GENERAL LANDCOVER MAP (50K)	DID	Diunakan apabila terdapat projek-projek iabatan yang memerlukan maklumat

Originator	Dataset	Description
DOA	HH0040_DID_MAIN_RIVER	A map showing main river in the State.
	HH0040_DID_SINGLE_RIVER	A map showing rivers in the State.
	DID_SARAWAK_BASINS	A map showing major river basin in the State.
	HL0010_DID_HYDROLOGICAL_STATION	A map showing rainfall station, water-level station and climate station in the State.
	DID_GROUNDWATER STATION	A map showing groundwater station in the State.
	DID_SCHEMES_LAYOUT	A map showing DID schemes in the State.
	DID_RURAL_ROAD	A map showing DID rural road projects in the State.
NREB	SARAWAK_FLOOD_PRONE	A map showing flood prone areas in the State based on historical event.
	SOIL 1:50,000	A map showing the distribution of the soil type in the State. The soil is classified, grouped and named based on their similar chemical and physical properties. This map is used by internal branches for agriculture and land development planning. Besides, this map has been requested by Agencies such as JKR, DID, FORESTRY, LAND AND SURVEY, SPU, MOMA, MLD, NREB, STATUTORY AGENCIES and PRIVATE SECTORS for their planning purposes.
	SOIL 1:500,000	A map showing the distribution of the Major Soil Group in the State. The soil is classified, grouped and named based on their major chemical and physical properties. This map is used by internal branches for agriculture and land development planning. Suitable for viewing purposes.
L&S	CADASTRAL (PARCEL LOT NUMBER)	A map showing the distribution of the Agriculture Capability Classes in the State. The capability class is rated based on the internal and external limitation for wide range of crops. This map is used by internal branches for agriculture and land development planning. Besides, this map has been requested by Agencies such as FORESTRY, LAND AND SURVEY, SPU, MOMA, MLD, STATUTORY AGENCIES and PRIVATE SECTORS for their planning purposes.
	AGRICULTURE CAPABILITY 1:125,000	A map showing the distribution of the Agriculture Capability Classes in the State. The capability class is rated based on the internal and external limitation for wide range of crops. This map is used by internal branches for agriculture and land development planning. Besides, this map has been requested by Agencies such as FORESTRY, LAND AND SURVEY, SPU, MOMA, MLD, STATUTORY AGENCIES and PRIVATE SECTORS for their planning purposes.
	AGRICULTURE CAPABILITY 1:250,000	A map showing the distribution of the Agriculture Capability Classes in the State. The capability class is rated based on the internal and external limitation for wide range of crops. This map is used by internal branches for agriculture and land development planning. Besides, this map has been requested by Agencies such as FORESTRY, LAND AND SURVEY, SPU, MOMA, MLD, STATUTORY AGENCIES and PRIVATE SECTORS for their planning purposes.

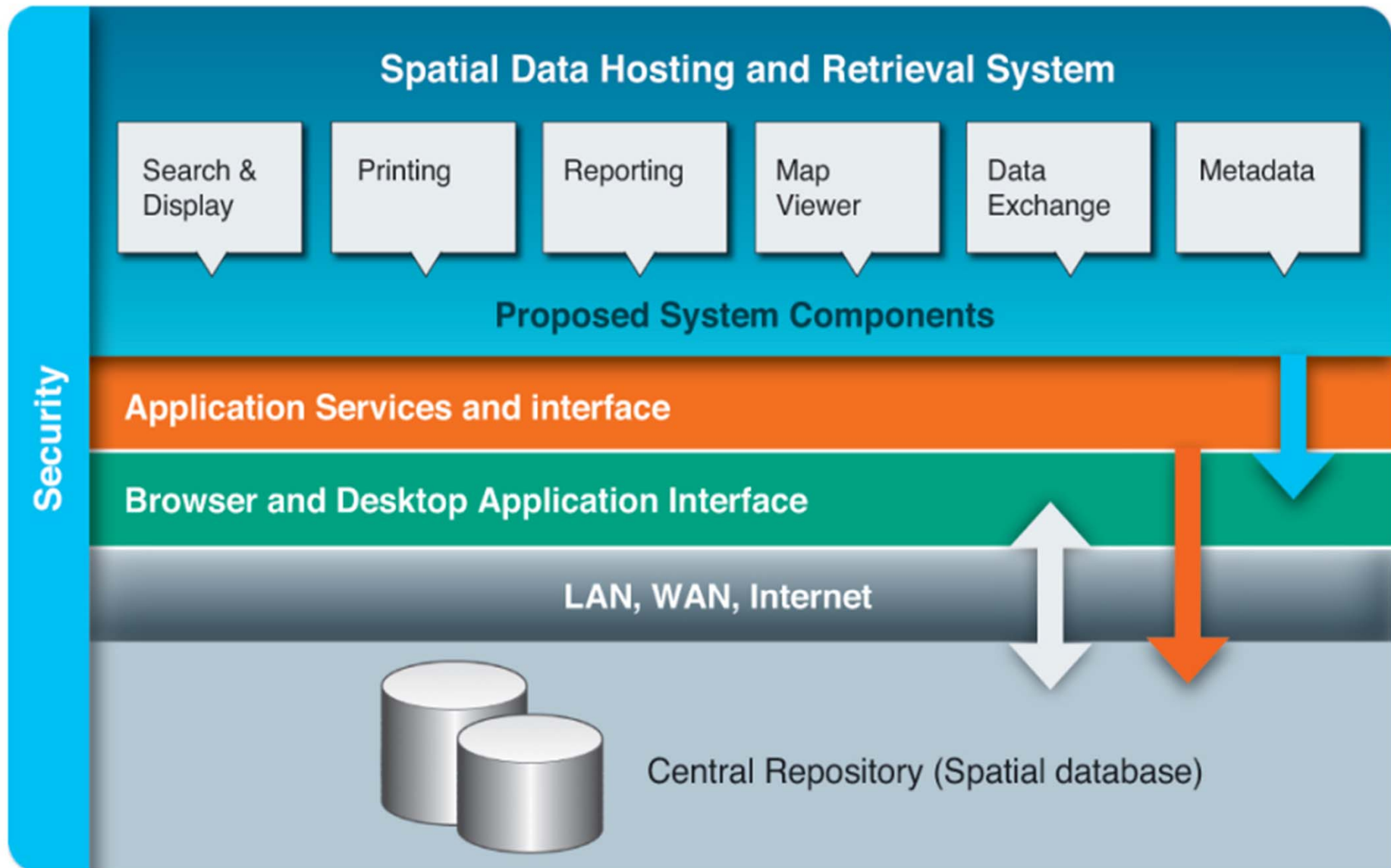
Setting up of Centralised Hosting Infrastructure



Brewing of the solution



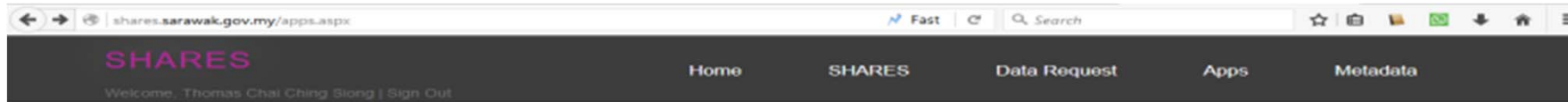
Conceptual Components of Spatial Database System



The Benefits

- ❖ Establishment of an organised and centralised spatial database, with related data for the utilisation of State Agencies for location related matters. This includes the formation of a comprehensive set of easily referenced metadata.
- ❖ Assist the State Agencies improve their services to the public by providing better quality, up-to-date, consistent, and fast response through the accessibility of the information via the central repository.
- ❖ Enable the sharing and exchanging of information/data throughout various agencies in the State for systematic data retrieval and presentation thus expediting data analysis for subsequent planning, maintenance and development.
- ❖ Development and implementation of a Web GIS Application to facilitate the sharing and exchange of information/data throughout various agencies in the State.
- ❖ Development and implementation of a Web Portal for all spatial related matters, to promote the application of GIS among the State agencies.

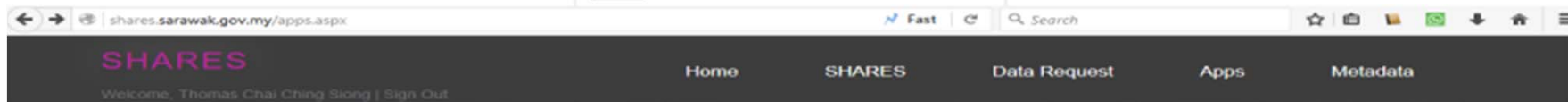
The Applications



Satellite Image Viewer
To catalogue and publish collection of available satellite imageries to State Public Service.
Trustee Agency: ICTU, Sarawak
[View](#)

Sarawak Peat Soil Database System
To establish an organised database of map and related data on peat soil in order to facilitate the sharing and exchange of information/data throughout various agencies in the State.
Trustee Agency: Department of Agriculture, Sarawak
[View](#)

JKR Road Mapping
To consolidate all the related data on road in order to facilitate the sharing and exchange of information/data throughout various agencies in the State.
Trustee Agency: Department of Public Work, Sarawak
[View](#)



Geotechnical Site Information System (GEOINFOS)
To catalogue Geotechnical Information of Site Investigation reports compiled by Jabatan Kerja Raya (JKR) Sarawak. The following Site Investigation information is available via the System:

- Viewing site location of Site Investigation project
- Identify Borehole information
- Searching Lab test information

Trustee Agency: Department of Public Work, Sarawak
[View](#)

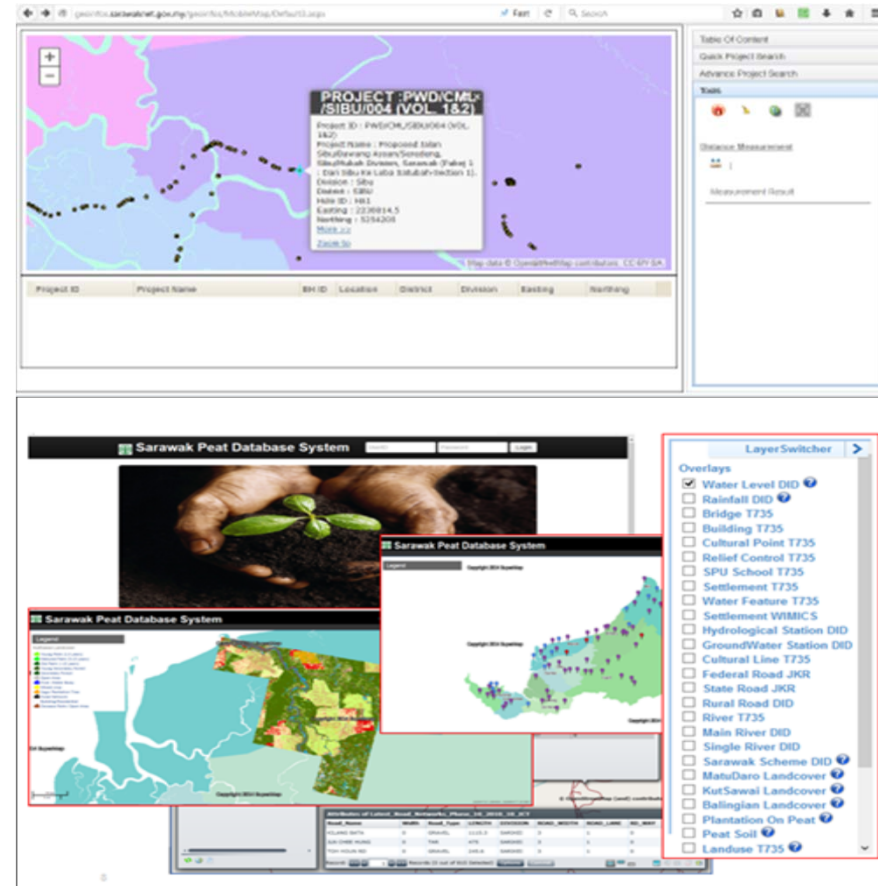
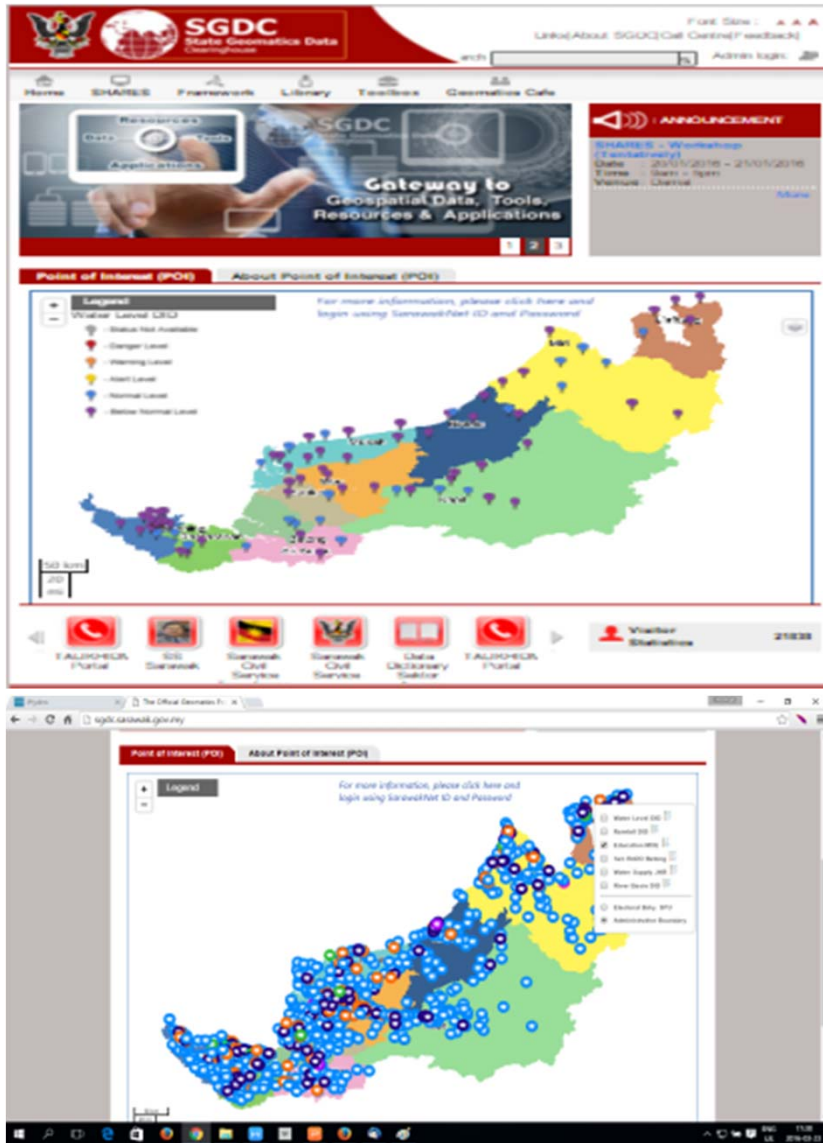
Agriculture Activities Information System (AAIS)
To establish corporate Geodatabase for DOA Sarawak to support planning and management operations for the 3 divisions in the department namely Inland Fisheries, Veterinary and Crop Industries Division. The objectives of the System are

- to expedite the consolidation of the available digital DOA GIS data into a centralised database
- to publish available data on the web for viewing and browsing
- to enhance the quality and coverage of the existing digital spatial data information
- to improve field data collection procedure using Mobile devices

Trustee Agency: Department of Agriculture, Sarawak
[View](#)

Point of Interest (POI) Interactive Map
To establish an integrated map to deliver location-based information to State Public Service.
Trustee Agency: State Service Modernisation Unit, Chief Minister's Department
[View](#)

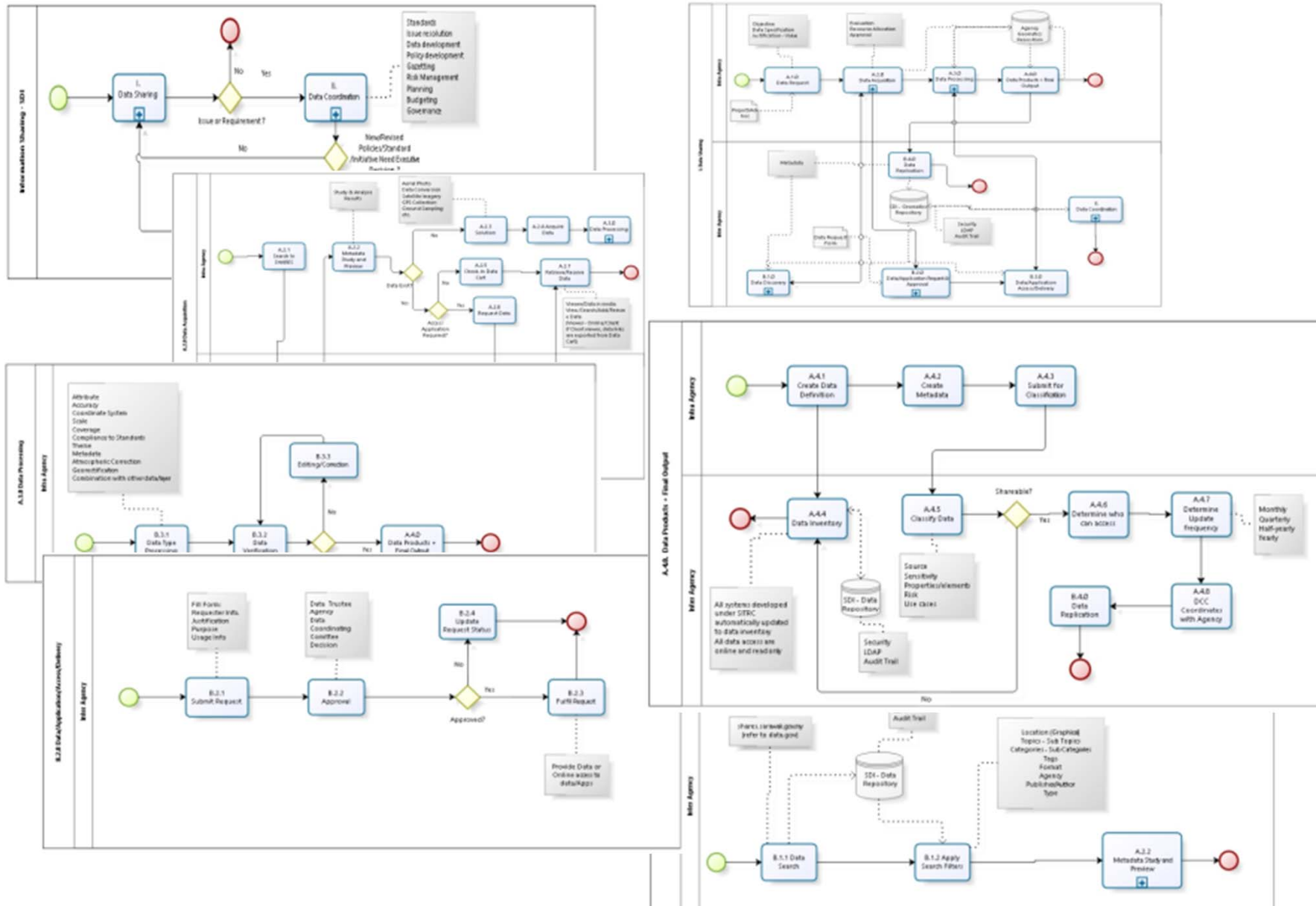
Examples of GIS Applications leveraging on the centralised Spatial Database System of SHARES



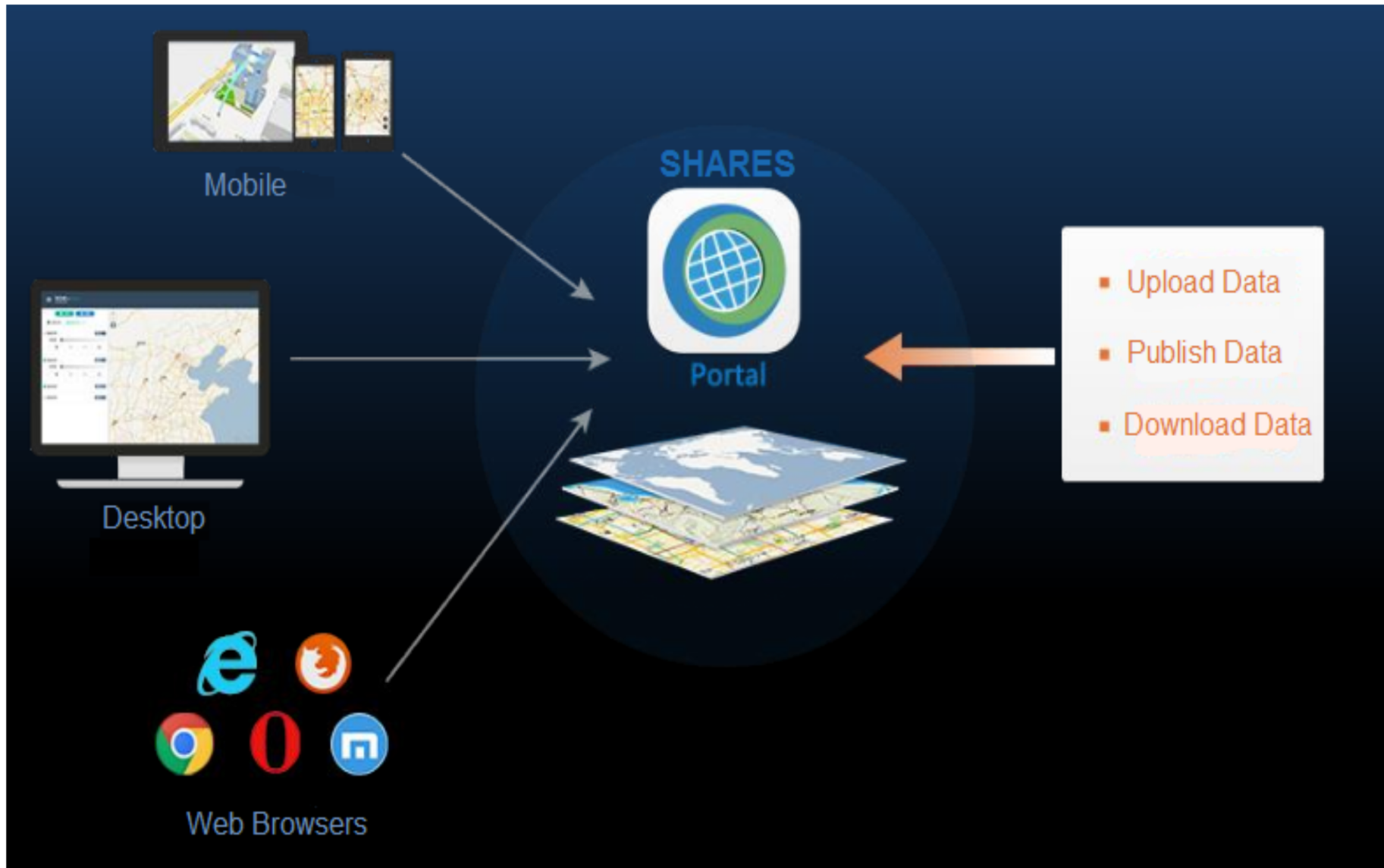
The Challenges

- ❖ Management of tasks which require strong cooperation from the participating Agencies at various levels. An ancillary policy environment will render such corporation and coordination,
- ❖ The administration of a regulatory framework which covers the policies, practices, and guidelines to formalise the direction of geomatics data and the methods in which it can be shared, used, and propagated must be formulated.
- ❖ All in all, the role of Government is changing speedily, from being the main contributor and provider of definitive spatial information to managing and coordinating spatial data by helping to pull together the stakeholders of geomatics information.

The Road Ahead - Make it better and make it right!



The Road Ahead - Extend the service to serve the public !



Chei-zu-tin-bar-te

Thank You