

LATEST ADVANCEMENTS IN THE USE OF SDI FOR DISASTER MANAGEMENT: THE EXPERIENCE CASE FROM INDONESIA GEOSPATIAL DATA INFRASTRUCTURE (INA-SDI)



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GEOSPATIAL INFORMATION AGENCY (Badan Informasi GeoSpasial: BIG)



GFDRR
Global Facility for Disaster Reduction and Recovery



Cooperative Governance
Traditional Affairs



ISDR





GEOSPATIAL INFORMATION AGENCY

Brief Introduction

BAKOSURTANAL

- THE NATIONAL POLICY REVIEWERS IN THE FIELD OF SURVEYS AND MAPPING
- NATIONAL BODY OF TRUSTEE IN THE FIELD OF SURVEYS AND MAPPING AND SDI



**BADAN INFORMASI
GEOSPASIAL**

GEOSPATIAL INFORMATION AGENCY (BIG)

- THE NATIONAL ORGANIZER FOR TOPOGRAPHIC SURVEY AND BASE MAPPING
- NATIONAL BODY OF TRUSTEE IN DEVELOPMENT OF THEMATIC MAPS
- THE NATIONAL ORGANIZER FOR SPATIAL DATA INFRASTRUCTURE



1. TO ENDORSE SINGLE REFERENCE FOR INTEGRITY OF GEOSPATIAL INFORMATION IN INDONESIA;
2. TO ENSURE THE AVAILABILITY AND ACCESS OF GEOSPATIAL INFORMATION WITH ACCOUNTABILITY;
3. TO ACHIEVE USEFULNESS OF GEOSPATIAL INFORMATION THROUGH COOPERATION , COORDINATION, INTEGRATION AND SYNCHRONIZATION; AND
4. TO ENCOURAGE THE USE OF GEOSPATIAL INFORMATION IN GOVERNMENT ACTIVITY AND PEOPLE'S DAILY LIFE

LAW 4/2011, DICTUM 22



GEOSPATIAL INFORMATION AGENCY
BADAN INFORMASI GEOSPASIAL (BIG)



DISASTER MANAGEMENT IN INDONESIA
Brief Introduction

INDONESIAN HOSTS MOST OF HAZARDS

PAPUA EARTHQUAKE



KRAKATOA ERUPTION



JAKARTA FLOOD



KALIMANTAN FOREST FIRE



ACEH TSUNAMI

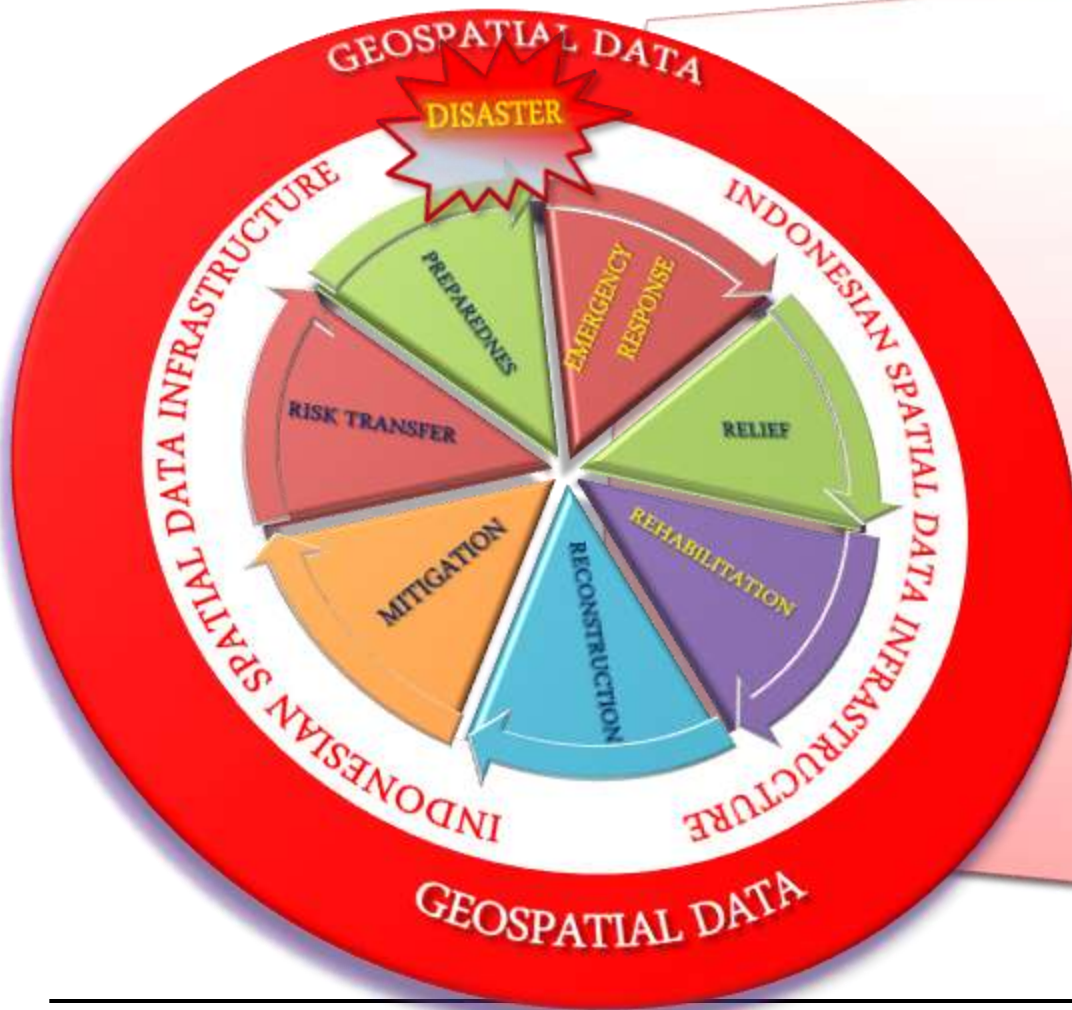


- Asia-Pacific Disaster Report 2010 stated people in the Asia Pacific is 4 times more susceptible than the impact of natural disasters in Africa, and 25 times more vulnerable than in North America and Europe. [1]
- From 6 types of natural disasters, United Nations International Strategy for Disaster Reduction (UNISDR) rank Indonesia first in the two natural disasters (tsunami and landslide), third in the earthquake, and sixth in the flood.
- 4408 natural disasters occurred over the past 5 years (2004-2009) in Indonesia: 71 earthquakes; 2 Tsunami; 24 Volcanic eruption; 469 landslide events; 1916 floods; 158 Flooding with landslides; 1083 Drought 580 Hurricanes; and 105 Tides.
- The UN report estimates: more than 18 million peoples affected by natural disasters in Indonesia from 1980 to 2009.

[1] <http://www.eastasiaforum.org>, 2010)

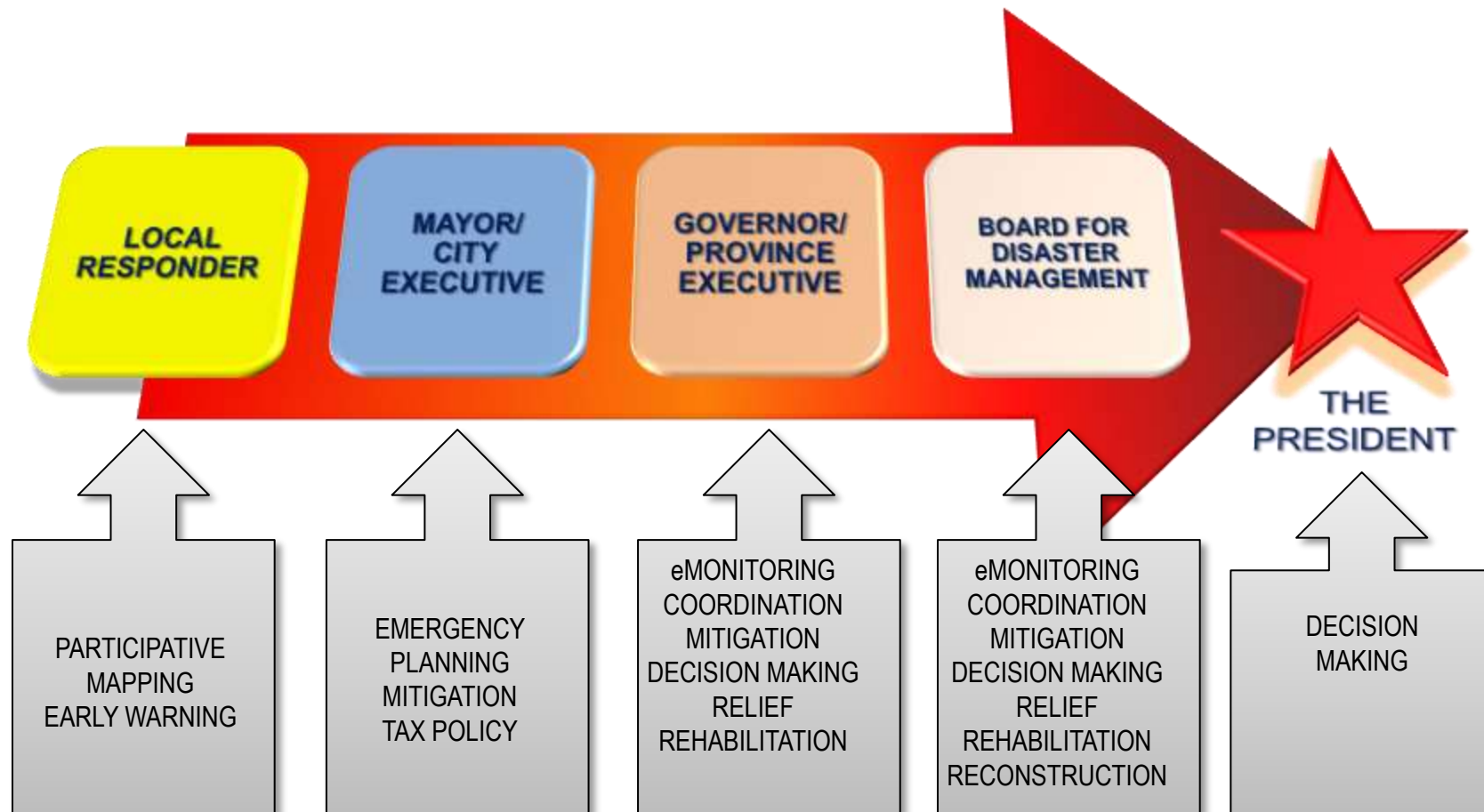
- **BNPB** is the **Indonesian National Board for Disaster Management** (Indonesian: *Badan Nasional Penanggulangan Bencana*), by law has the task to assist the President of the Republic of Indonesia: planning and coordinating the implementation of disaster management and emergency response activities in an integrated manner; and implement disaster management and emergency response from before, during, and after including disaster prevention, preparedness, emergency response, and recovery.
- **BIG** is the **Geospatial Information Agency** (Indonesian: *Badan Informasi Geospasial*), by law has the task to assist the President of the Republic of Indonesia: planning, organizing and coordinating the development of geospatial information for disaster management activities.

INDONESIA HOSTS MOST OF HAZARDS

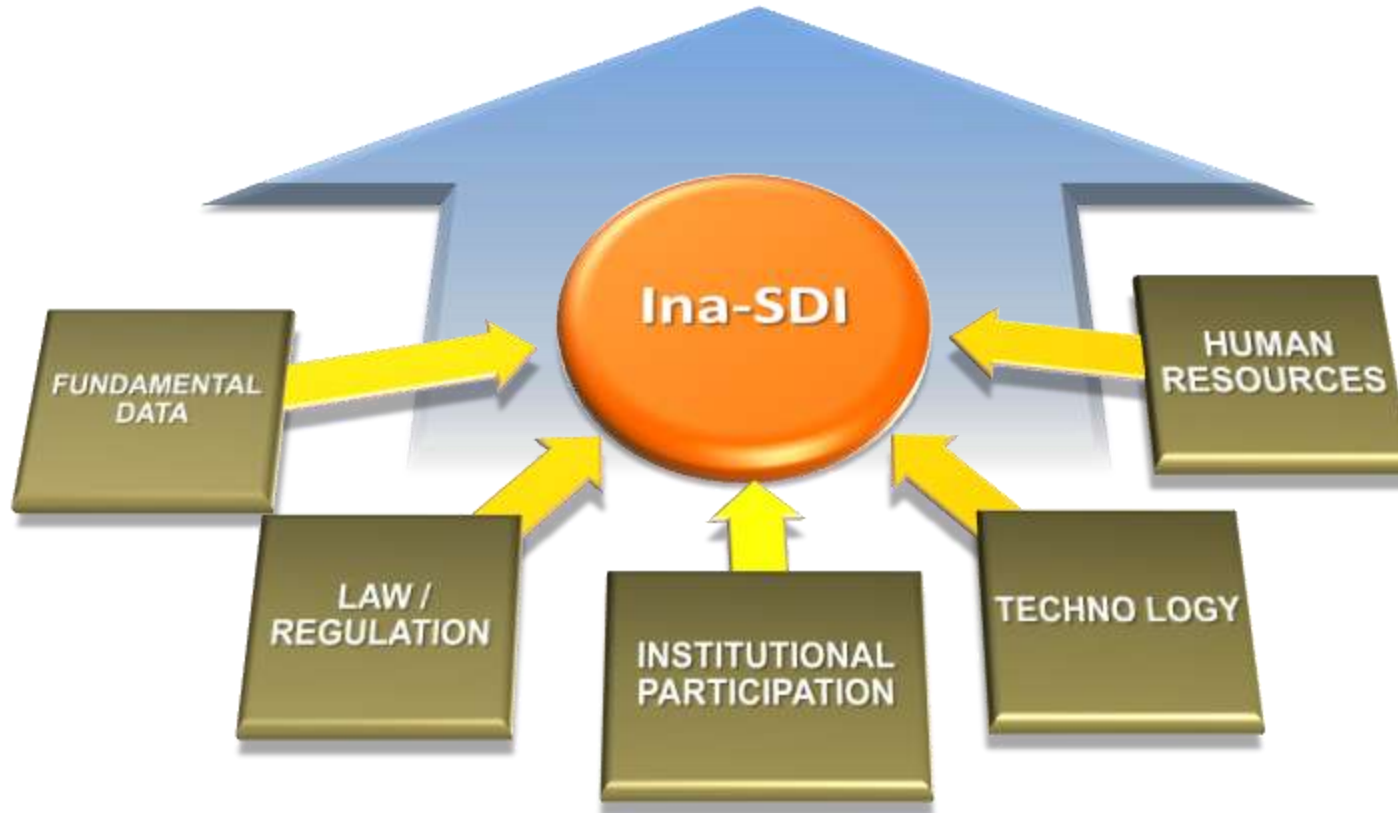


- **EXTRA-TERRESTRIAL:**
 - ASTEROID IMPACT
- **INTERNAL GEO-DYNAMIC PROCESSES:**
 - EARTHQUAKE, TSUNAMI, VOLCANIC ERUPTION
- **EXTERNAL GEO-DYNAMIC PROCESSES:**
 - LANDSLIDE, SOIL EROSION, LAND DEGRADATION
- **HYDRO-METEOROLOGICAL:**
 - FLOODS, TROPICAL STORMS, DROUGHT
- **ECOLOGICAL / ENVIRONMENTAL:**
 - POLLUTION, CROP DISEASE,
- **EPIDEMICS:**
 - SARS, HIV / AIDS, AVIAN FLU
- **TECHNOLOGICAL:**
 - INDUSTRIAL ACCIDENTS
- **CONFLICTS:**
 - PUBLIC DISORDERS, TERRORISM

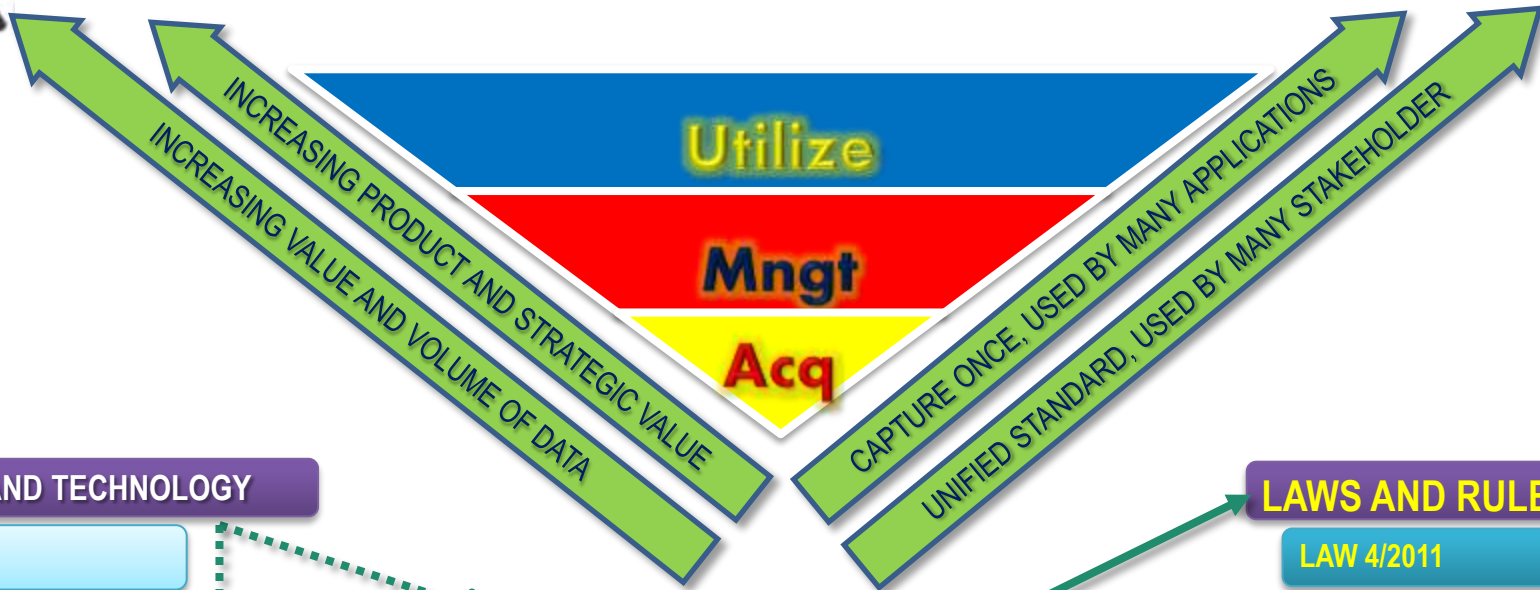
INDONESIA PREPARE MAPS FOR MOST OF HAZARDS



geoSpatial Data Sharing
Indonesia- geoSpatial Data Infrastructure (Ina-SDI)



INDONESIA SDI (INA-SDI): PHILOSOPHY



KNOWLEDGE AND TECHNOLOGY

- HARDWARE
- SOFTWARE
- DATA COMMUNICATION
- DATA MANAGEMENT

HUMAN RESOURCES

- COMPETENCY
- PROFESSIONAL CERTIFICATION
- FUNCTIONAL STRUCTURE
- CAPACITY BUILDING

INSTITUTIONAL ARRANGEMENT

- DISTRIBUTED NODE**
 - ORGANIZING THEMATIC MAPPING
 - JOINTLY ORGANIZING BASE MAPPING (WITH B.I.G.)
- CLEARINGHOUSE UNIT**
 - DISTRIBUTION AND ACCESS RIGHT
- CONNECTING NODE**
 - ACCESS SYSTEM & INTEROPABILITY
 - WORKING GROUP & EXPERT GROUPS

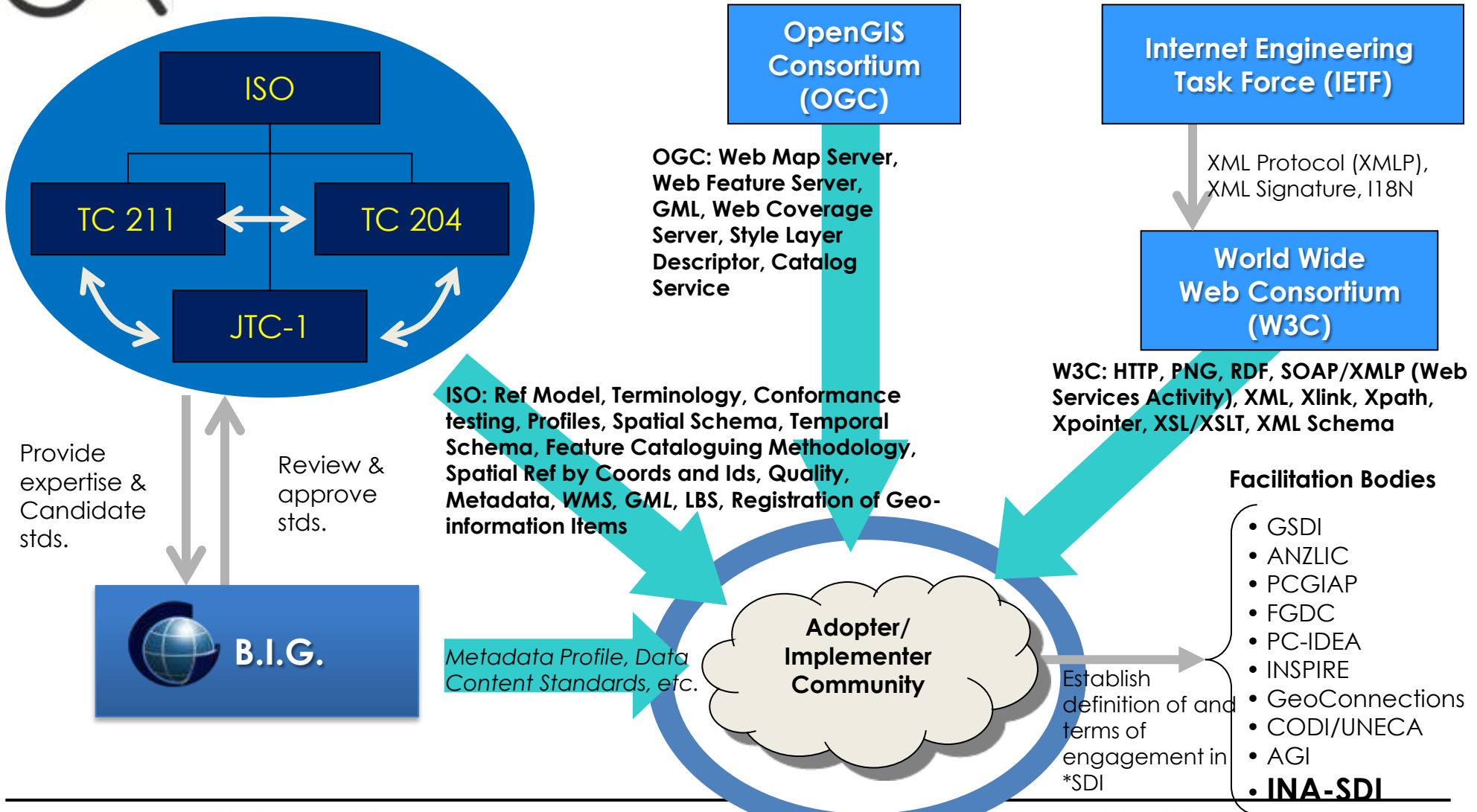
LAWS AND RULES

- LAW 4/2011
- PRESIDENTIAL DECREE 85/2007
- LOCAL GOV'T RULE
- GOVERNOR'S DECREE

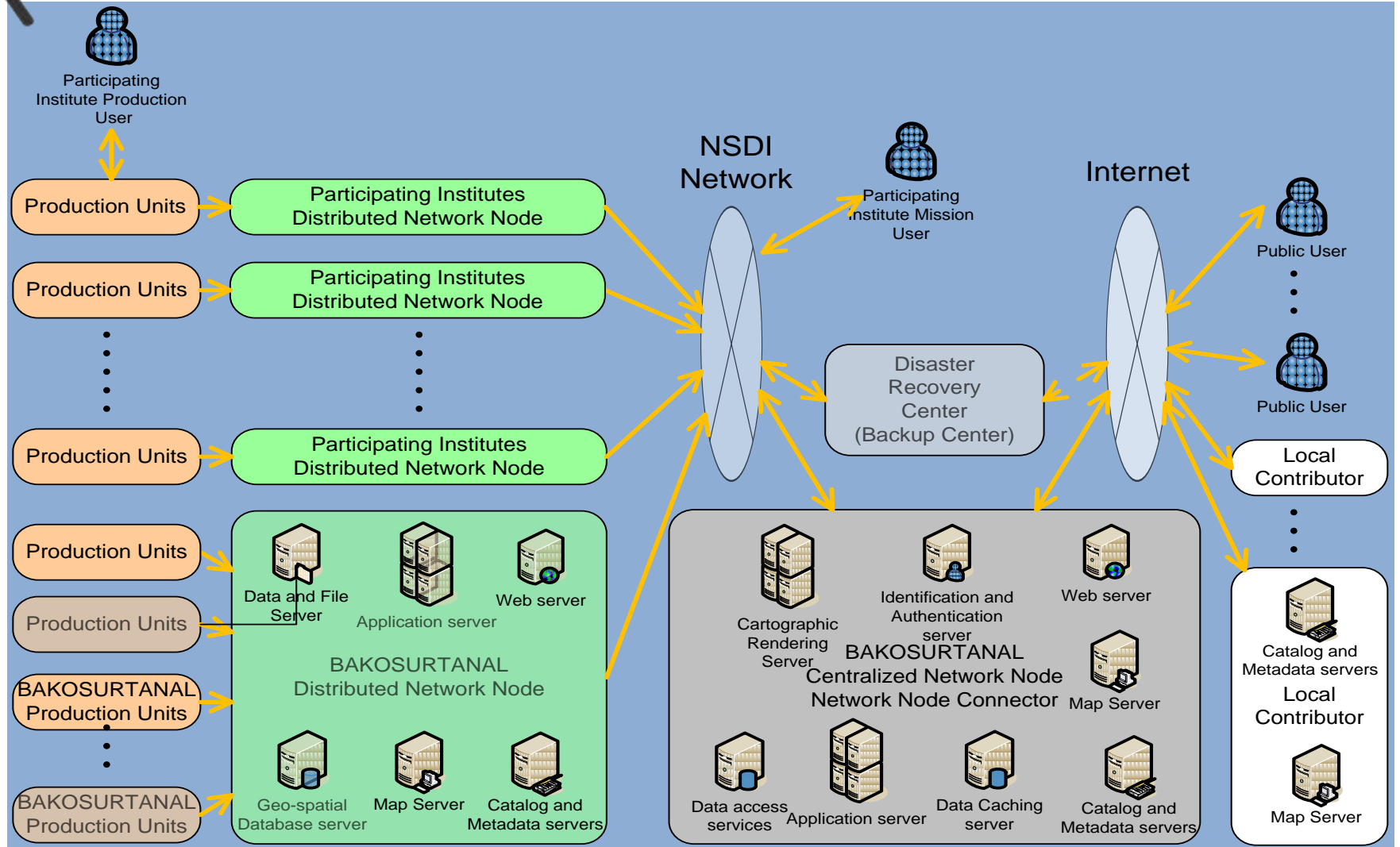
STANDARDIZED DATA

- NATIONAL STANDARD
- SECTORAL DECREE
- STANDARD OF PRODUCTS
- STANDAR OF SERVICES

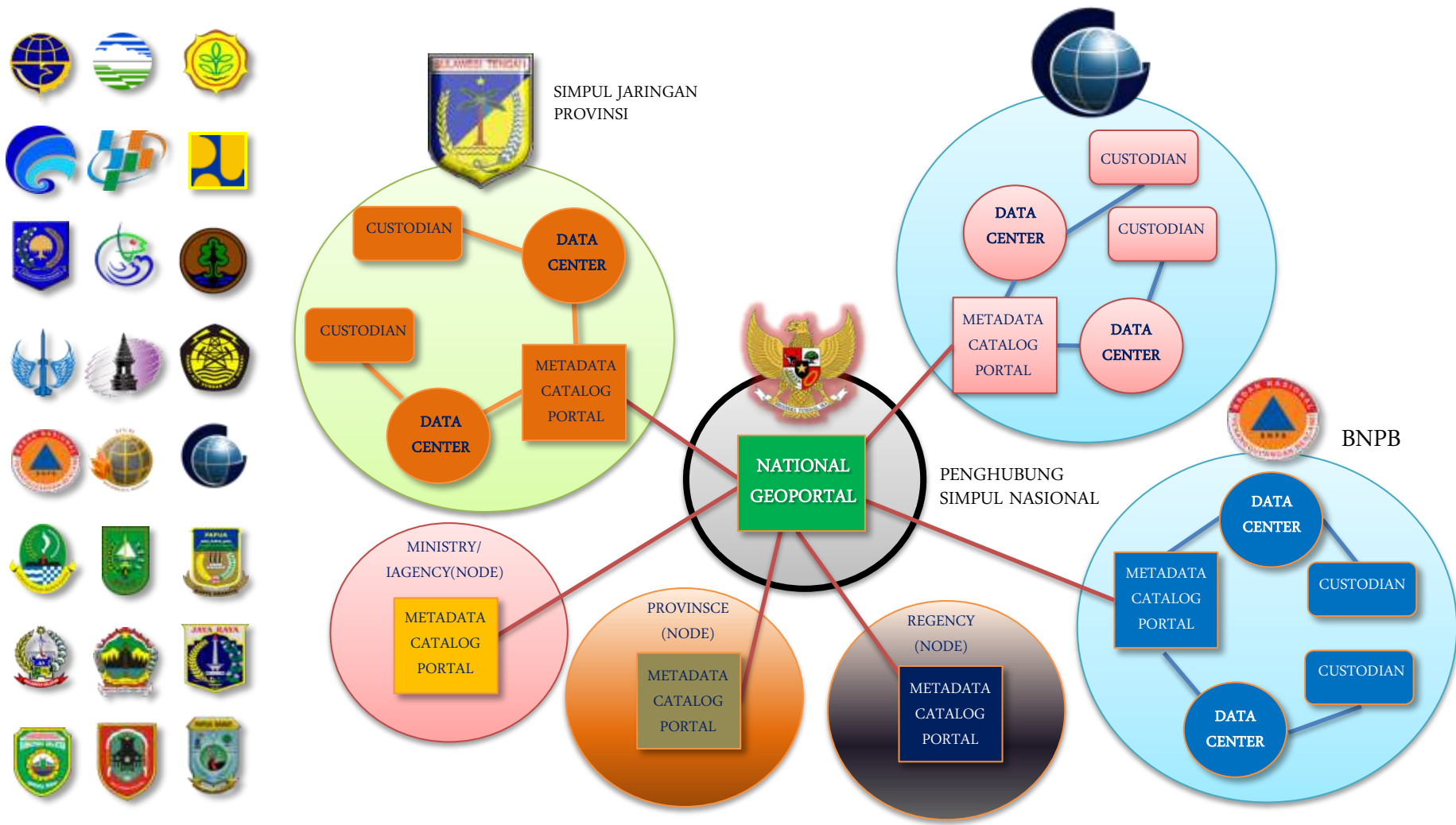
INA-SDI: TECHNICAL FOUNDATION



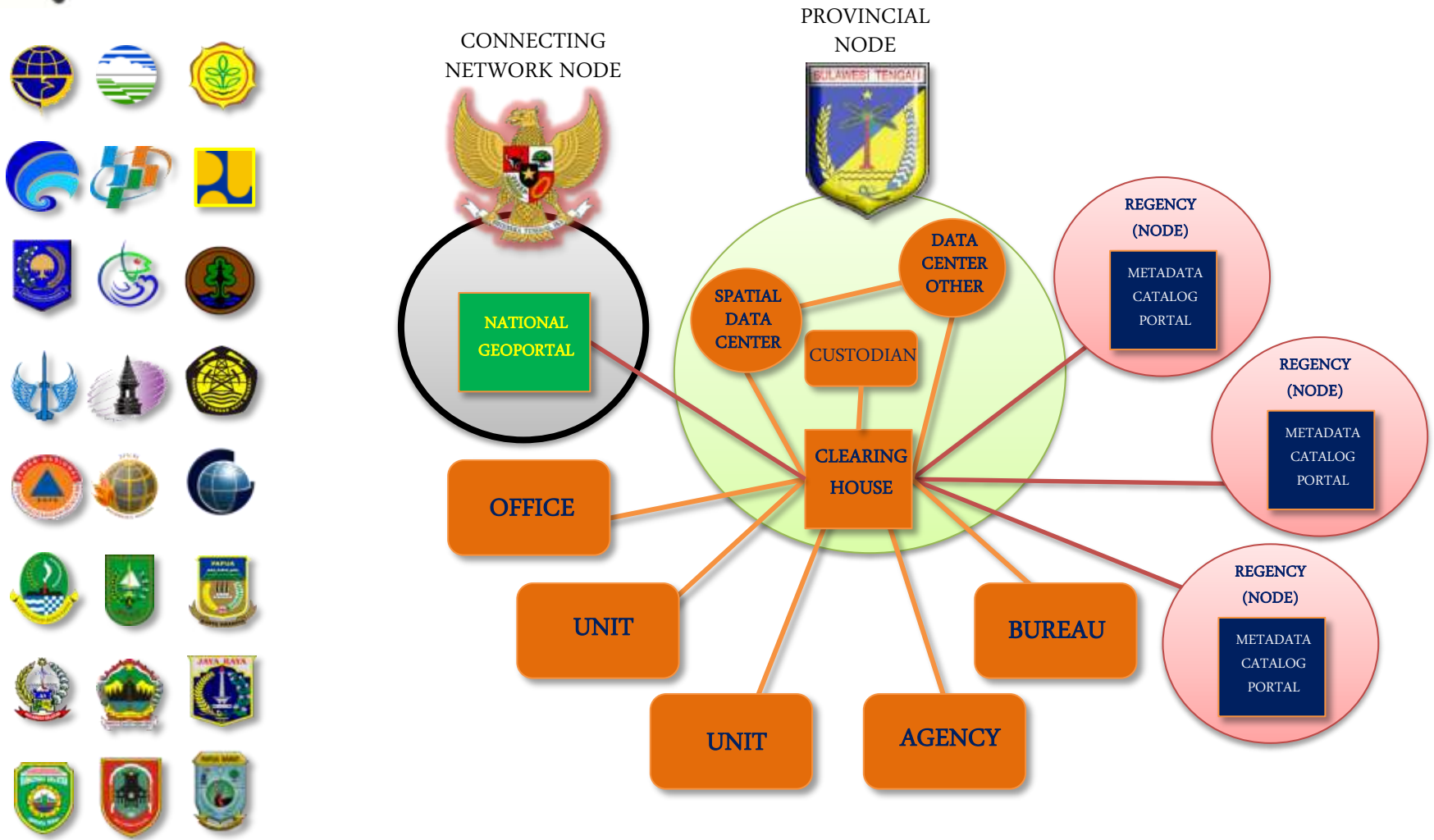
INA-SDI: Architecture Design



INA-SDI: OUR GROWING MEMBERS



DISTRIBUTED NETWORK NODE: TYPICAL TOPOLOGY IN 57 MINISTRIES, 33 PROVINCES AND 500 REGENCIES





MAIN FUNCTION:

- ❖ Search & Discover
- ❖ Integrate
- ❖ Analyse (GIS Desktop Tools)
- ❖ Share (data and application)
- ❖ Produce the Maps
- ❖ Publish the Geospatial Information
- ❖ Access via Mobile Device

Now ..., you can create and publish maps in an integrated manner in a common georeference → One Map Policy, One Solution, for the Nations!

The screenshot displays the 'My Map' interface of the INA-GEOPORTAL. At the top, there are navigation and utility icons: Details, Add, Basemap, Save, Share, Print, Measure, and Bookmarks. The main area is a map of Indonesia with a search panel on the left and a zoomed-in search panel on the right. Both panels have a search bar with the text '(e.g., parcels, fire...)' and a 'Go' button. Below the search bar, there are dropdown menus for 'In:' (set to 'A GIS server') and 'URL:'. The search results are listed under the heading 'What'. The results include: geoservices.ina-sdi.or.id, geoservice.bakosurtanal.go.id, webgis.dephut.go.id, sigi.pu.go.id, sig.deptan.go.id, gis.dephub.go.id, gis.budpar.go.id, and sumsel.geoappliance.com. Red boxes highlight the search results in both panels, and red lines connect the two panels, indicating a zoomed-in view of the same search results.

Ina-SDI | **Indikasi Wilayah Administrasi dan Tutupan Lahan** | New Map | Geospasial Untuk Negeri Home | Help | Sign In

Details | Add | Edit | Basemap | Save | Share | Print | Find address or place

Contents

- ina-gps track tol jktbdg-cipularang
 - Bandung-Jakarta
 - Jakarta-Bandung
- batas_administratif
 - Batas Administrasi
 - Provinsi

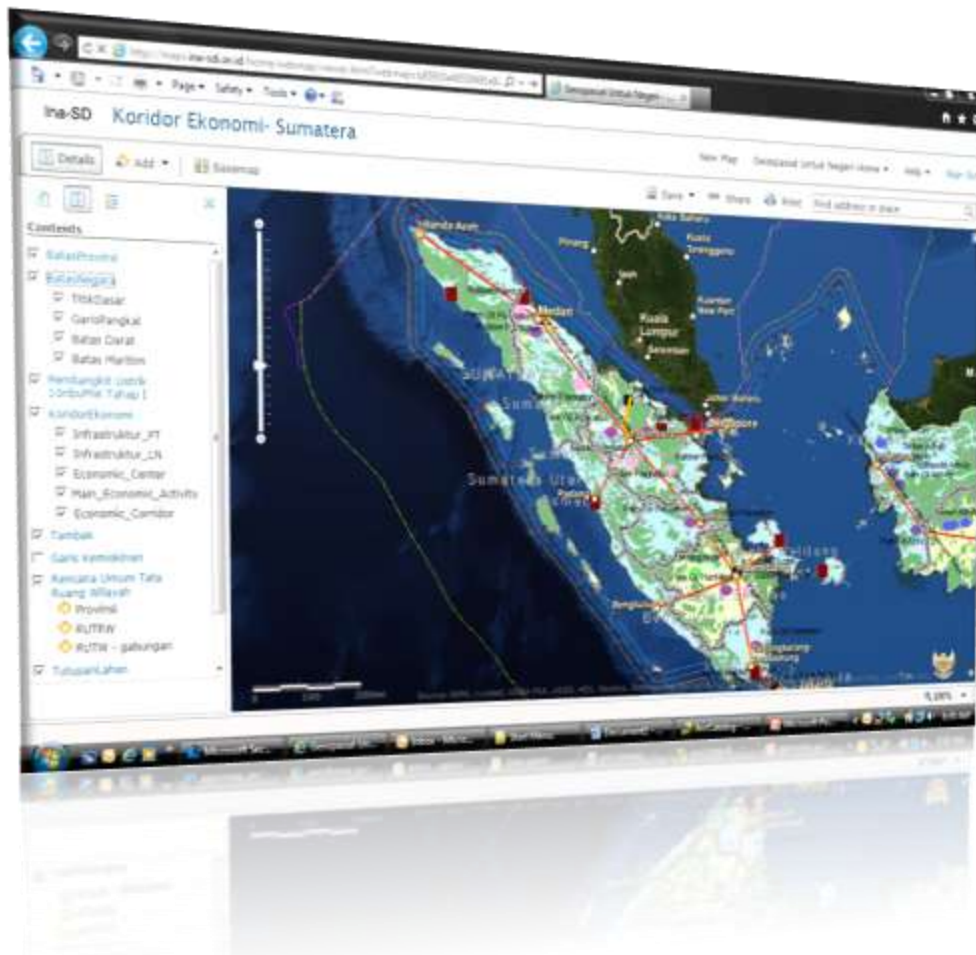
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[http://geoservices.ina-sdi.or.id:](http://geoservices.ina-sdi.or.id)

Power Plant 10.000MW Phase I (ESDM);
Fishpond (KKP); Poverty Line (BPS)



[http://geoservice.bakosurtanal.go.id:](http://geoservice.bakosurtanal.go.id)

State Borde; Provincial Border; Land Cover



[http://gis.dephub.go.id:](http://gis.dephub.go.id)

Conectivity of Economic Corridors



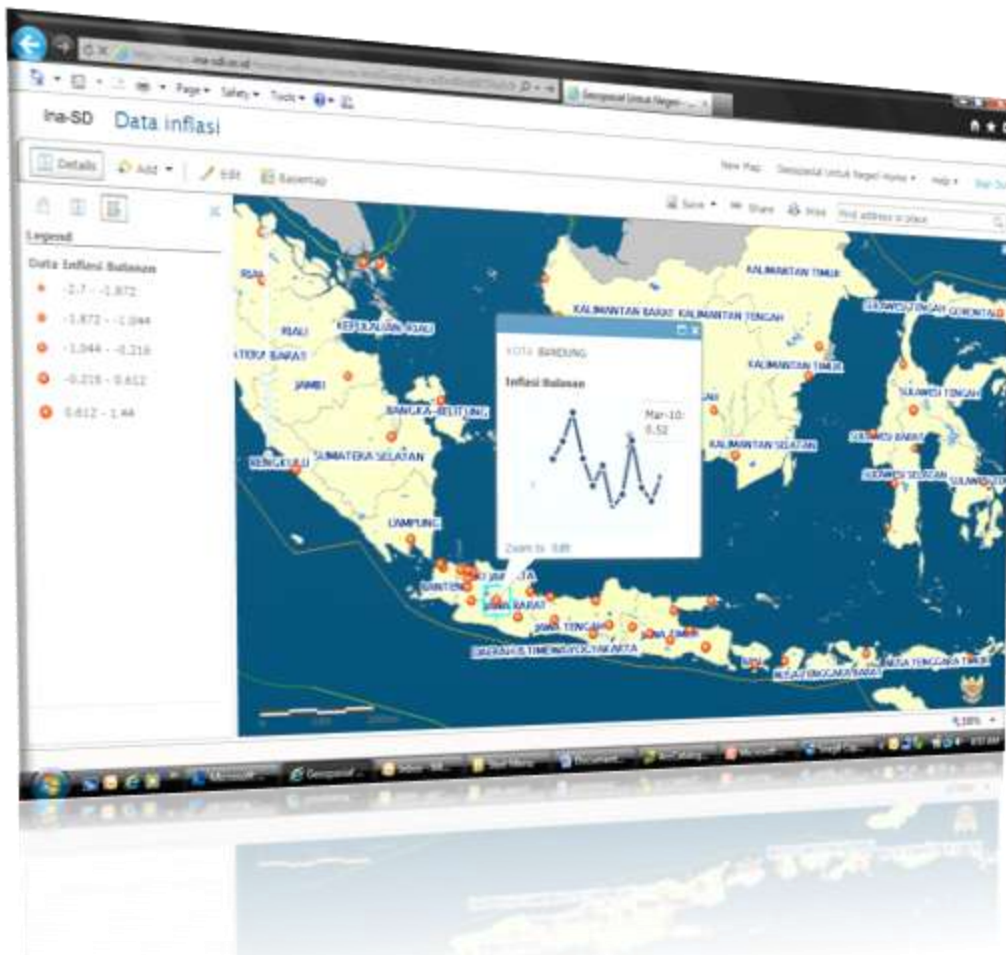
[http://sigi.pu.go.id:](http://sigi.pu.go.id)

Spatial Plannings



[http://sumsel.geoappliance.com:](http://sumsel.geoappliance.com)

Spatial Plannings



[http://geoservices.ina-sdi.or.id:](http://geoservices.ina-sdi.or.id)

Power Plant 10.000MW Phase I (ESDM);
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[http://geoservice.bakosurtanal.go.id:](http://geoservice.bakosurtanal.go.id)

State Border; Provincial Border; Land Cover



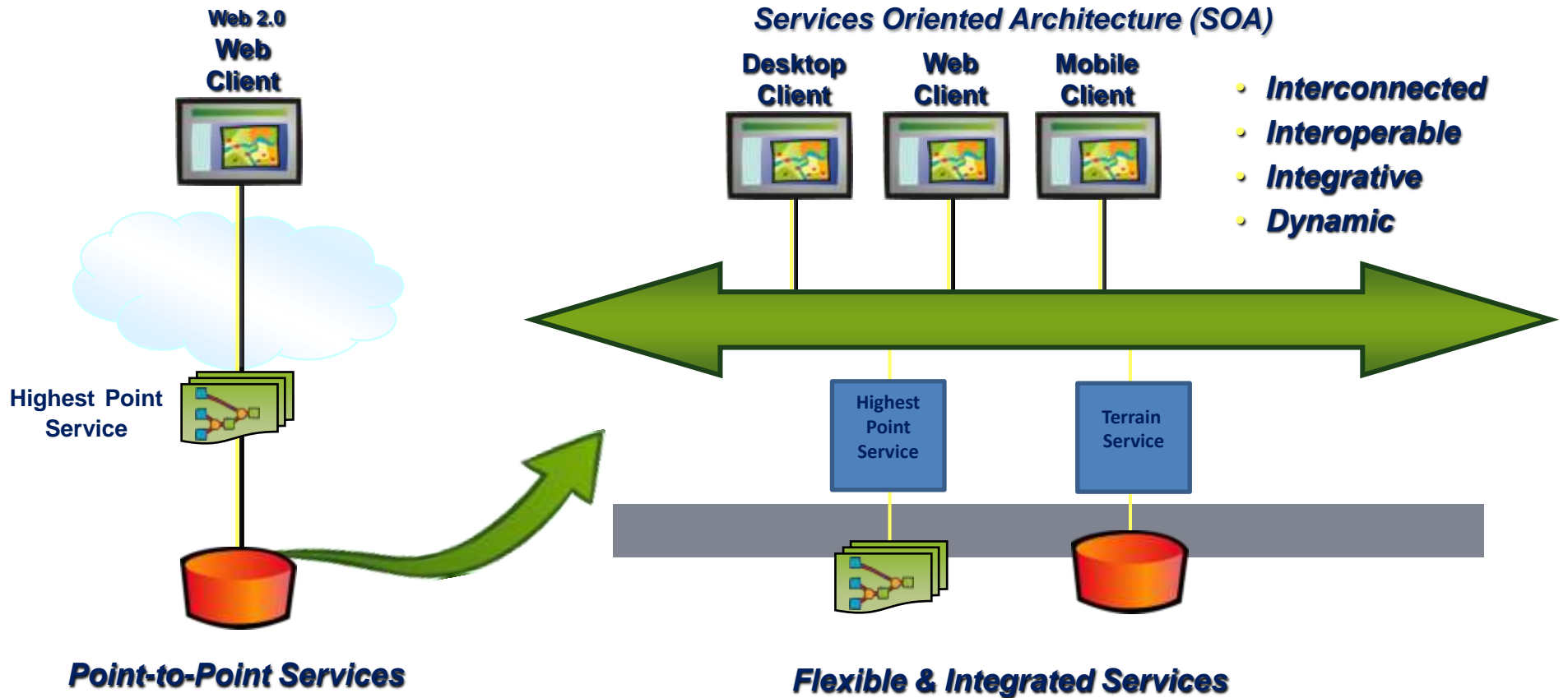
[http://gis.dephub.go.id:](http://gis.dephub.go.id)

Poverty Line (BPS)



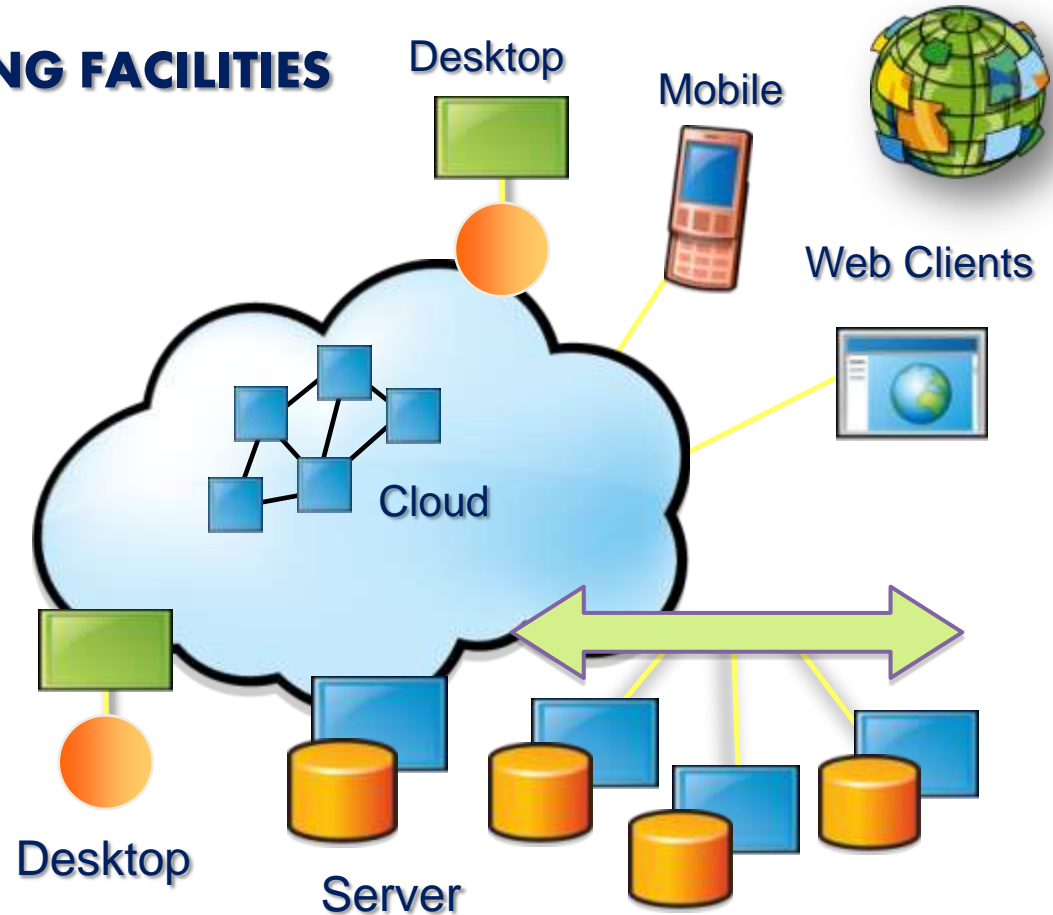
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Spatial Plannings

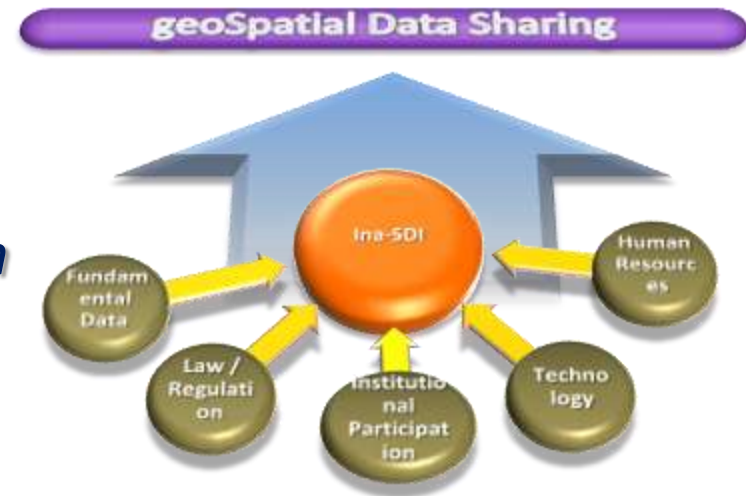


GEOSPATIAL CLOUD COMPUTING FACILITIES

- ❖ Powerful Computer Server & Workstation
- ❖ Unlimited Bandwidth
- ❖ High Capacity and Low Cost Storage Media
- ❖ Mobile GIS
- ❖ Cloud



- *Spatial Data Infrastructure plays important roles in supporting decision makings fastly, effectively in government business.*



- *Geospatial Data and Information that accurate and up-to-date able to represent current situation of certain location and to determine level of quality of decision in all levels of governance.*
- *Strong Political Will from Custodians to implement 'data sharing' is key success in development of Ina-SDI.*



Thank You - Dank U - NGIYATHOKOZA –
Ke a leboha - Ke A Leboga - Siyabonga –
INKOMU - ndo livhuwa – Ro Livhuwa –
ENKOSI - ngiyabonga

Badan Informasi Geospasial (Geospatial Information Bureau)
Jl. Raya Jakarta Bogor Km.46 – Cibinong, Indonesia. <http://www.big.go.id>