

UNSDI Gazetteer Framework for Social Protection in Indonesia

10th Conference on the Standardization of Geographical Names
(UNCSGN)

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CSIRO Australia

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GOVERNMENT AND COMMERCIAL SERVICES THEME

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CSIRO

Australia's national science agency

Revenue \$1.2bn 2010-11

One of the largest & most diverse in the world

6500+ staff over 55 locations

Ranked in top 1% in 14 research fields

20+ spin-off companies in six years

160+ active licences of CSIRO innovation

Building national prosperity and wellbeing



Wireless and broadband

Inventors of WiFi and research into remote and regional access to wireless broadband



Project context

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Project drivers – coordinated response

Multi-sectoral information

- Accurate
- Uptodate
- Timely
- Integrated
- Presented in meaningful ways
- Formal and informal

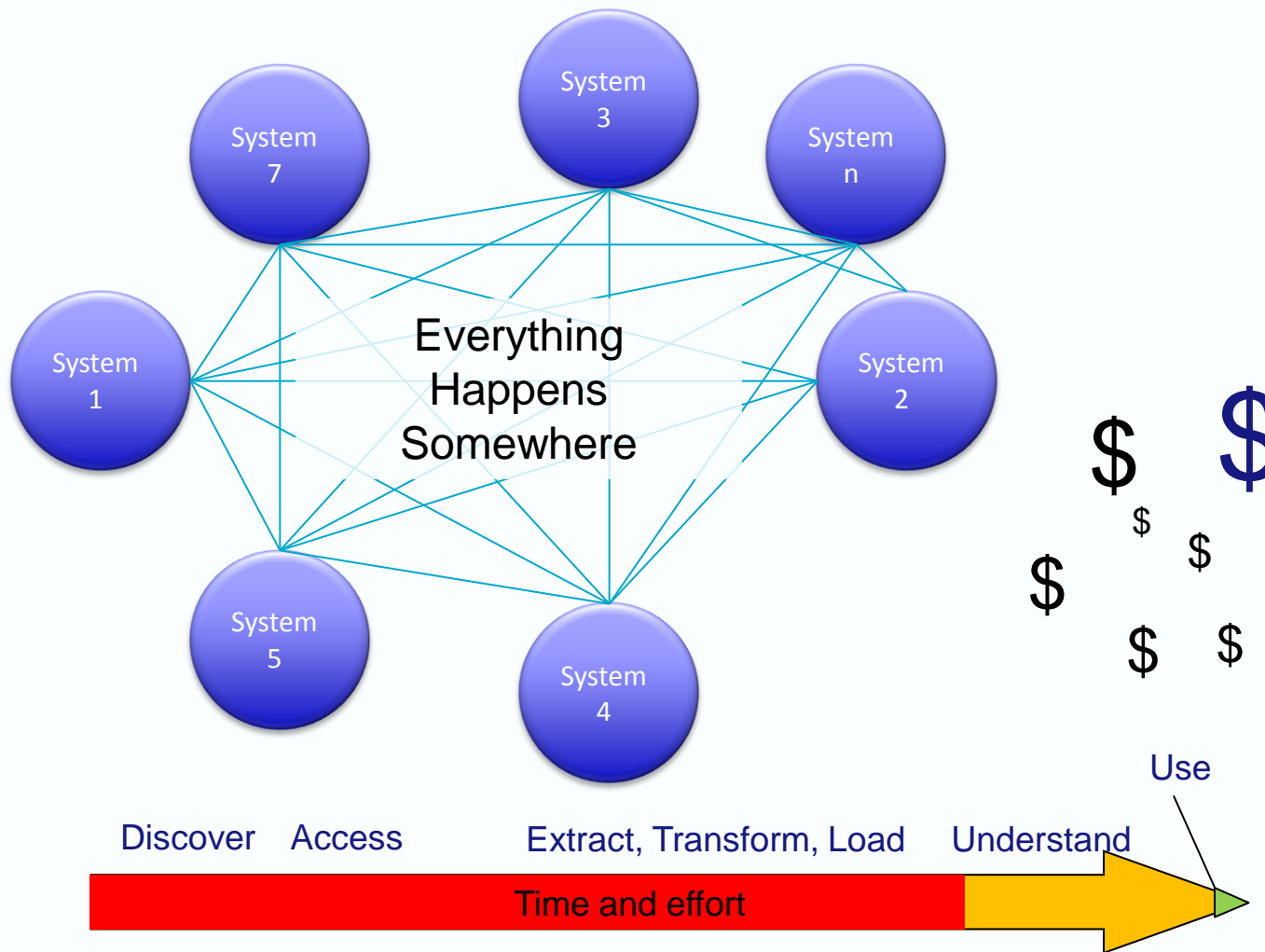


Social Protection

“preventing, managing, and overcoming situations that adversely affect people’s well being.^[1]”

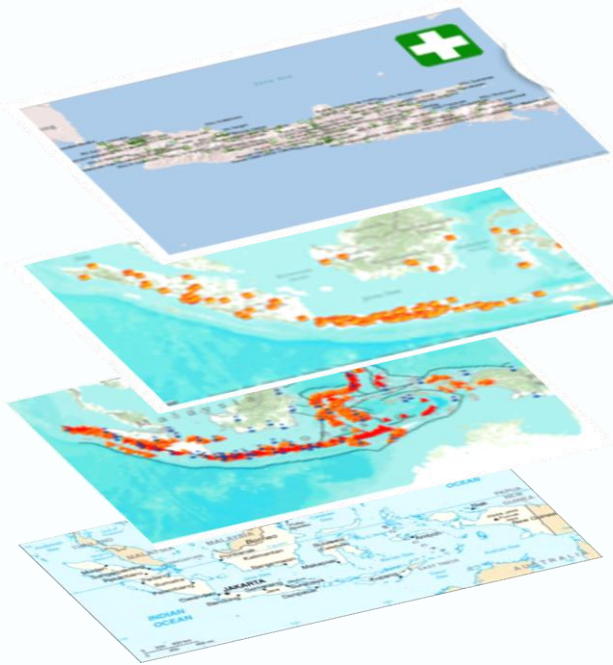
[¹United Nations Research Institute For Social Development](#)

The realities - Information silos



Everything Happens Somewhere

Explicitly geospatial



Spatial Data Infrastructure (SDI)

↔
Gazetteers

Implicitly geospatial
(geo-codeable)

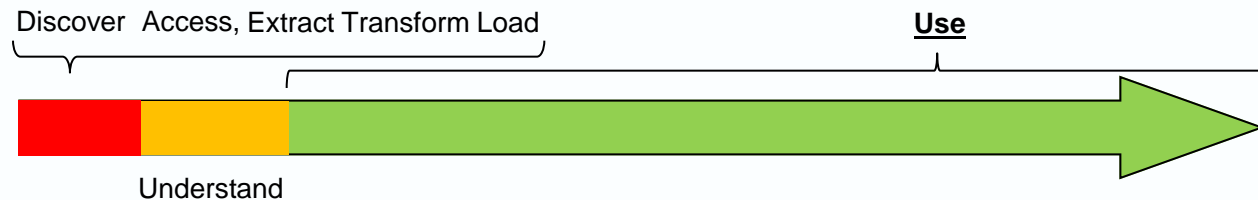
UNSTATS	Name	GRP'08 \$
IND03	NTB	8,080
IND05	NTT	4,769

BPS-ID	Name	GER '08	Tpop'10
003	Nusa Tenggara Barat	111.08	1,318,840
005	Nusa Tenggara Timur	112.09	335,805

One real world feature - **Multiple** representations
identities, versions

Project goals

fundamental, systemic improvement in information integration capability that enables more effective and cost-efficient sustained service delivery



Develop gazetteer framework - enable place names used in different systems to be registered and accessed through common mechanisms

Supporting Indonesia

Ina-SDI recognised as a pilot node of UNSDI

Resource Center Show: Web Content Only Help Sign In

Ina-Geoportal GALERI PETA GROUP KONTENKU

Mencari Peta, Aplikasi dan lain...

Geospasial untuk Negeri

Informasi geospasial menambah dan memperkuat pengetahuan kita mengatasi masalah keruangan

Galeri Peta Geospasial Indonesia

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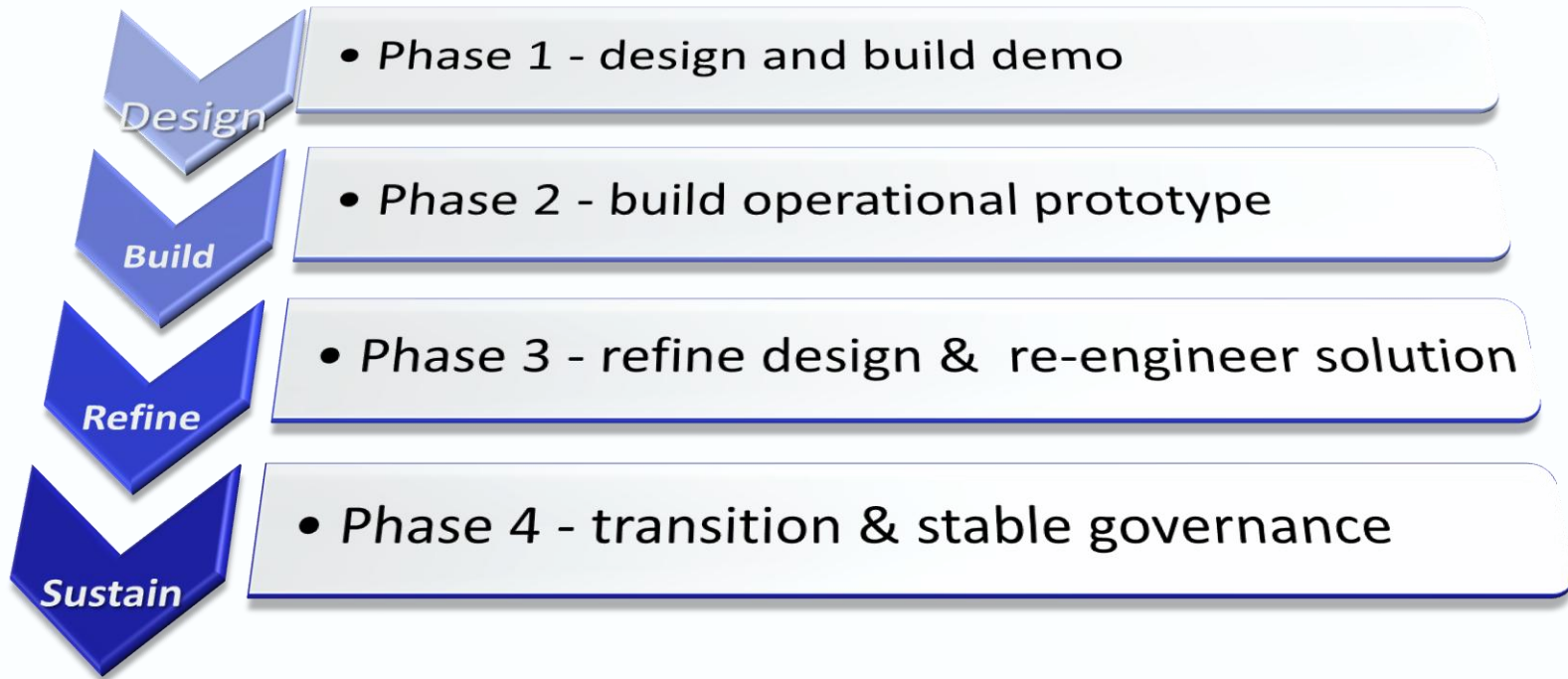
Moratorium Indicative Map
- 

stocktaking data hi-res kementerian/lembaga
- 

mosaick_landsat_all_indon
- 

Peta Indeks Komposit Utama (IKU) Daerah

Project phases



- **Technical framework** - demonstrator for stakeholder engagement
- **Institutional framework** - establish collaboration and agreements

Why Gazetteers?

The interoperability perspective

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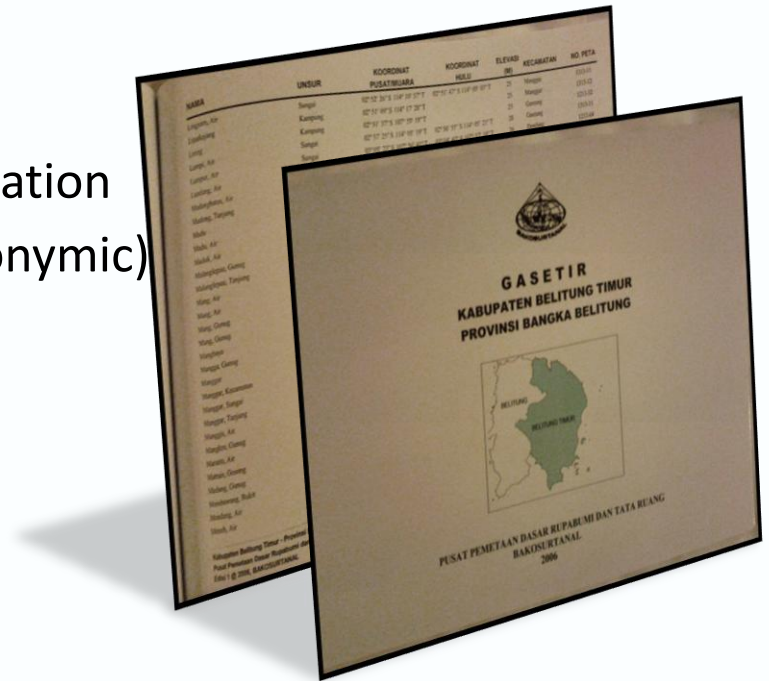
The role of gazetteers

Gazetteers – currently

- Authoritative/official list of names & location
- Map labels and maps lookup index (toponymic)
- Explicitly geospatial
- Implicitly geospatial



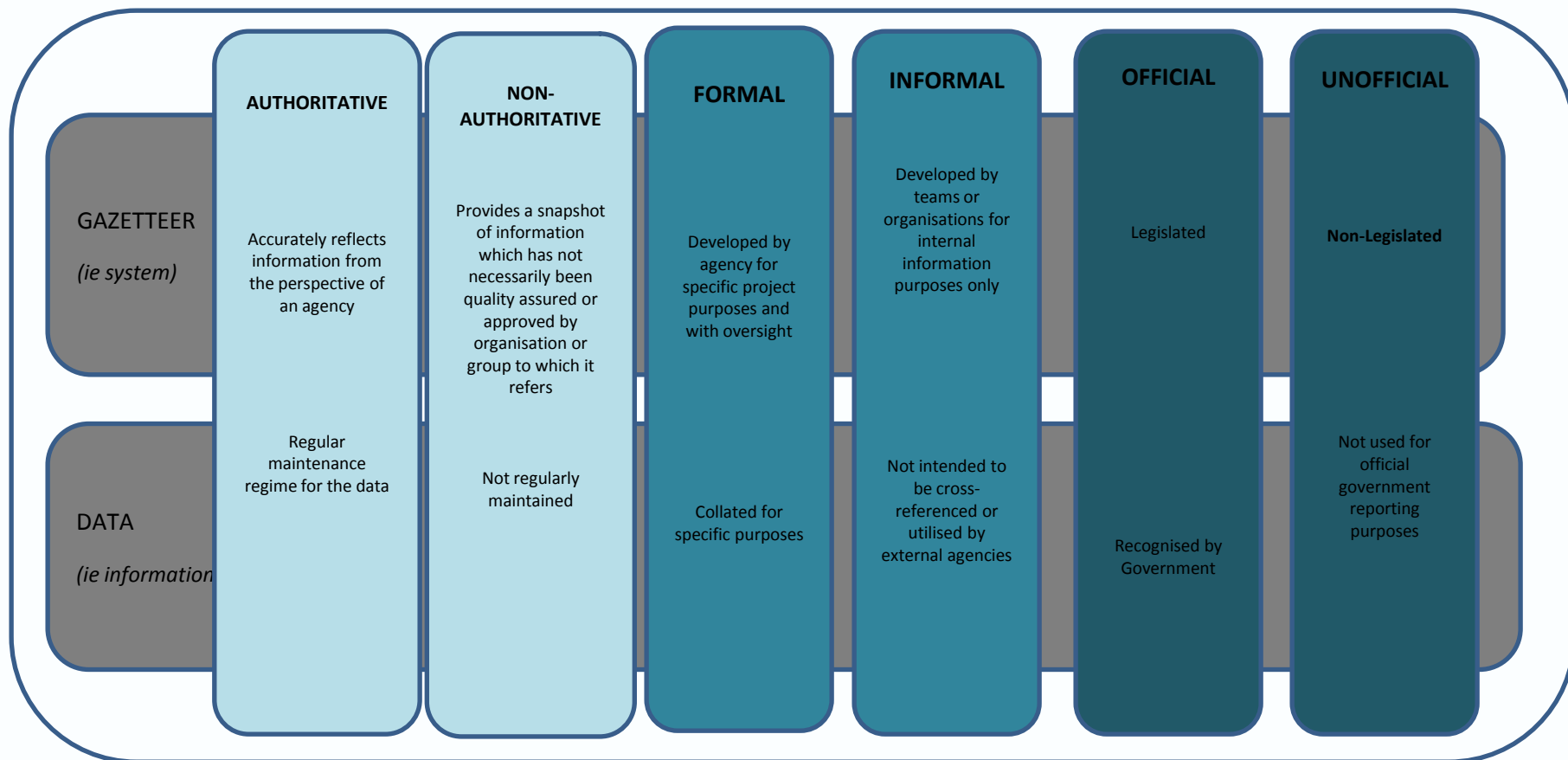
Gazetteers



Gazetteers - potentially

1. Set of indexes to spatial data in SDI
2. Mechanism to link geospatial and statistical information

Formality, authority & official



Gazetteers as spatial identifiers

- 80% of information has a geospatial dimension
- ‘spatial identifiers’ used distinguish between real world features described by data (*ISO 19112 Spatial Referencing by Identifier*)
- Gazetteers are indexes of spatial identifiers
- Gazetteers can be used to link information in disparate systems

Issues with gazetteers

Management

- Heterogeneity
- Gazetteers and underlying spatial feature disconnected
- Official, slow process
- Power of the crowd is fragmented
- Poor access mechanisms

Use

- Multiple overlapping gazetteers in use – Duplication
- Unclear provenance/authority
- Lack of standardisation – need customised tools
- No usage info - who is using what gazetteer
- Does not service real needs of users

The Gazetteer Framework

How will it work?

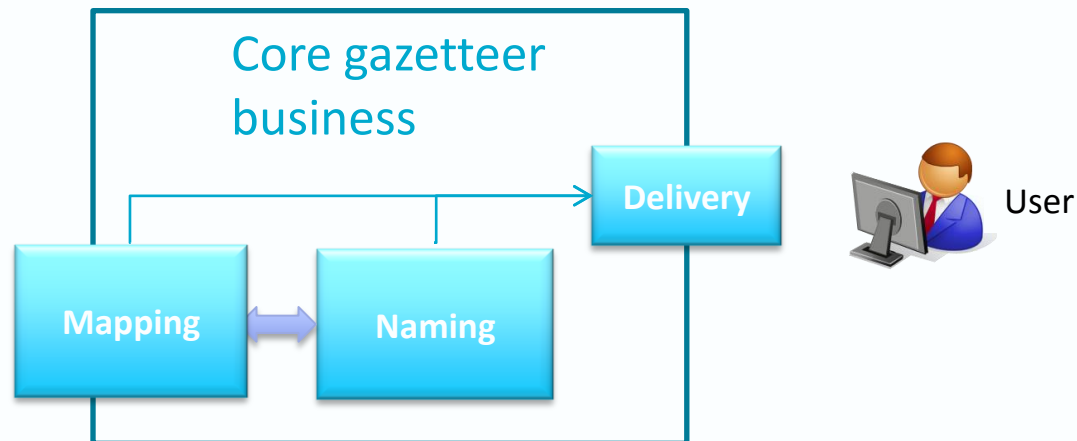
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Gazetteer framework

- Publish, register and subscribe to gazetteers
- Indexing, identity & integrate gazetteers
- Use gazetteers to link to applications
- Leveraging the crowd

+





One real world feature:
a bus station



BIG
National Gazetteer of Indonesia

Department of Transport
Gazetteer of Bus Terminals

Represented in multiple systems
using different names, and classified
and represented in different ways

Identifiers	Feature Type	Footprint
Merak, Stasiun Bis	Transport	Point

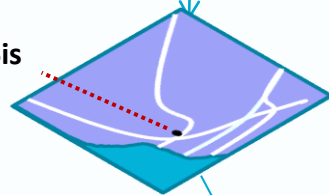
Identifiers	Feature Type	Footprint
Merak	Terminal	Polygon

Identifier	Feature Type	Footprint
Merak, Stasiun Bis	Transport	Point

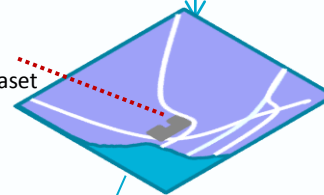
Identifier	Feature Type	Footprint
Merak	Terminal	Polygon



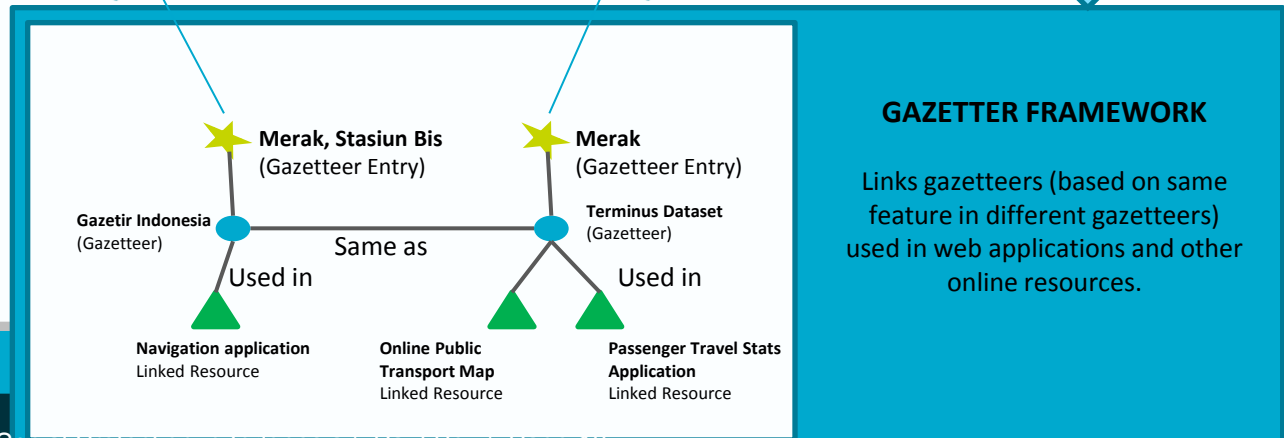
Merak, Stasiun Bis
Gazetir Indonesia



Merak
Terminus Dataset



Currently systems are
disconnected and difficult to integrate

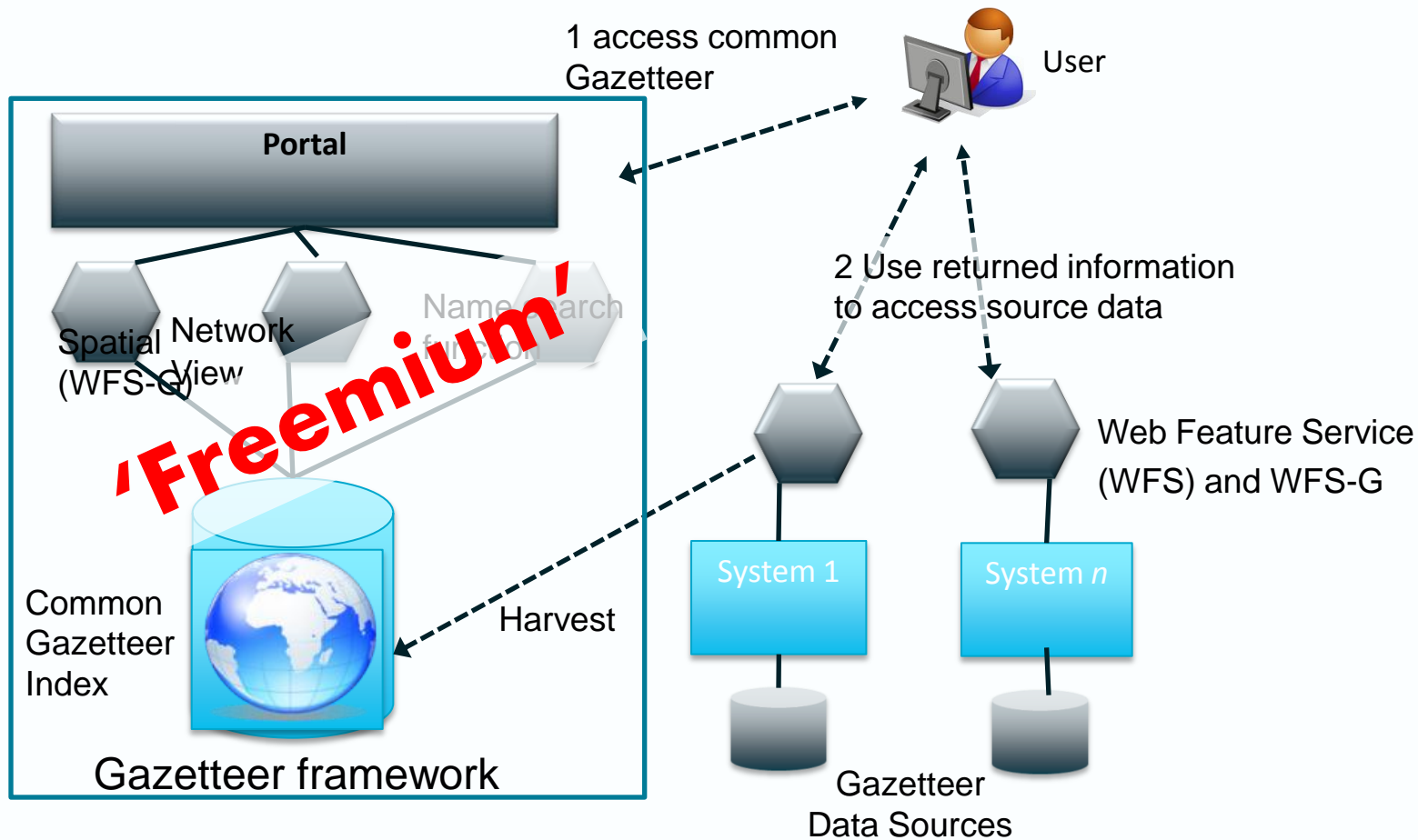


Architecture

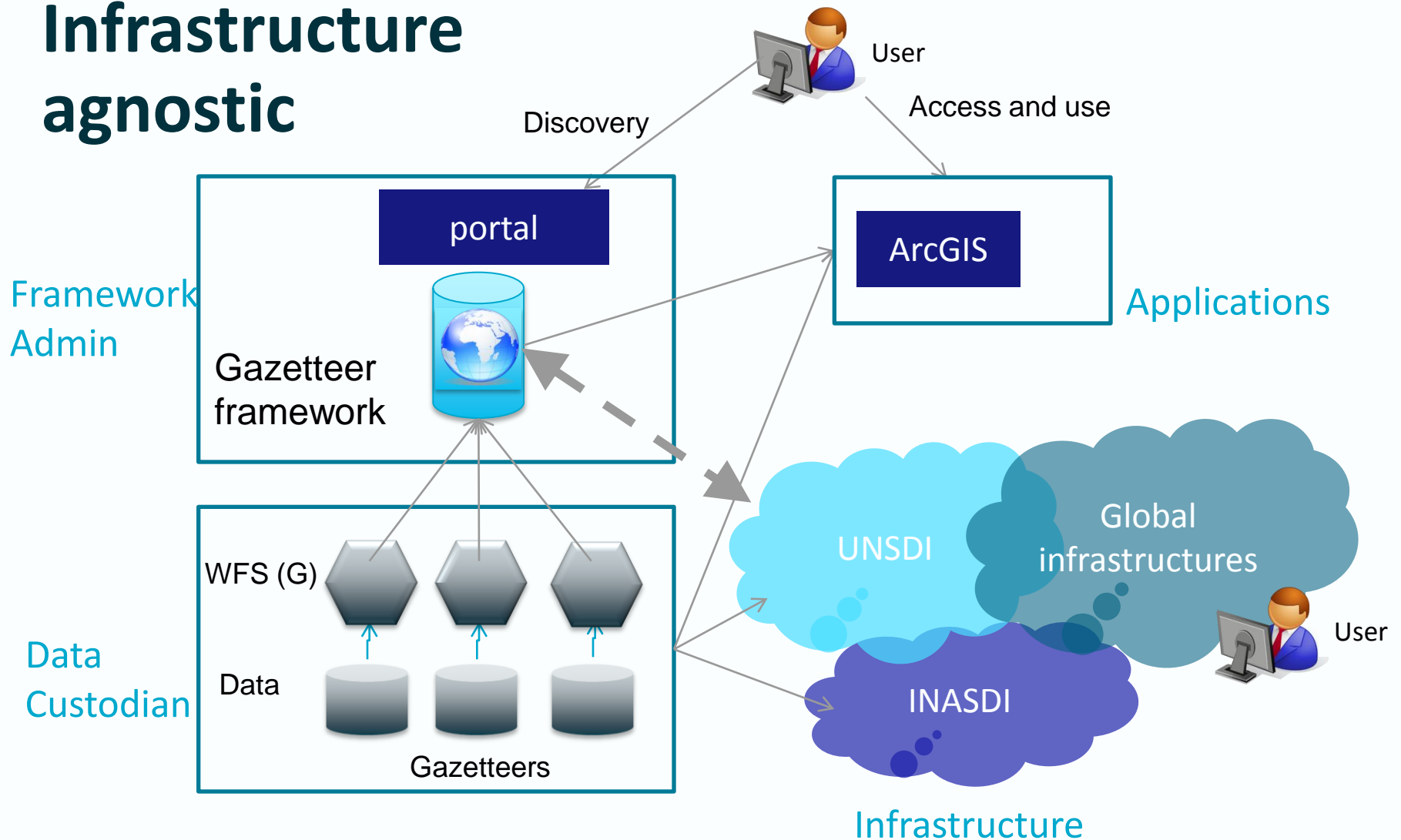
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Architecture



Infrastructure agnostic



The gazetteer framework – set of integrated index to spatial data across SDIs

Key Features

- An infrastructure – system of systems
- Improved process and management – identity, change
- Standardised data structures - multiple names, status, representations for one real world feature
- Standardised data access – web services and models
- Reusable tools and applications
- Leverage the crowd – tagging and extending gazetteers
- Links from index to source systems

The “game changers”

- Linked Data (using the Web better)
- Governance: UN-OICT, INSPIRE etc
- Cloud Computing
- Locally relevant global data sets
- Crowd-sourcing

Thank you

CSIRO

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