



INFORMATION-TECHNOLOGY PROMOTION AGENCY, JAPAN

Open Government Data Projects in Japan

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Information-technology Promotion Agency,
Japan

About IPA

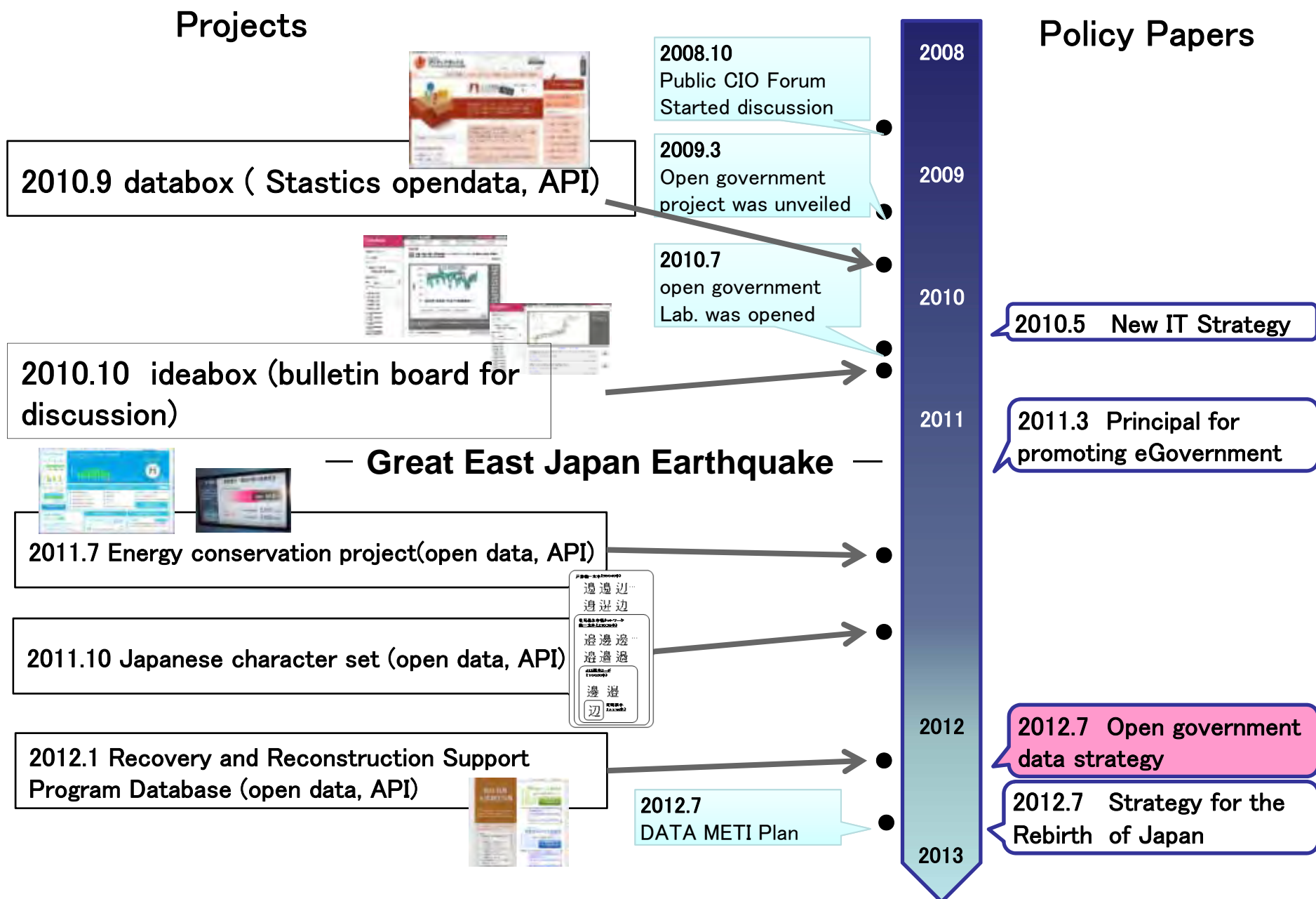
<http://www.ipa.go.jp/>



Information-technology Promotion Agency (IPA)

- Established as an “Incorporated Administrative Agency” based on the Law on Promotion of Information Processing (enacted May 22, 1970, Law No.90).
- 100% funded by Japanese government.
- Working with METI, CAS and other government organizations to realize and ensure secure and reliable IT environment..

Dawn of Open Government Data



Before “Open Government Strategy” issued in 2012

- Many kind of government data had been opened.

The Government Portal Site “e-Gov” (since Apr.2001)

The e-Application System has been operated at the Government Portal Site “e-Gov” enabling to accept multiple administrative procedures such as applications and reports at the single gateway through Internet.

- ▶ The e-Application Systems in ministries have been integrated to “e-Gov” for one-stop services. Some systems which are not integrated yet are scheduled to be consolidated into “e-Gov” sequentially.
- ▶ The “e-Government Customer Support Centre” is opened to deal with various inquiries on how to use “e-Gov”.

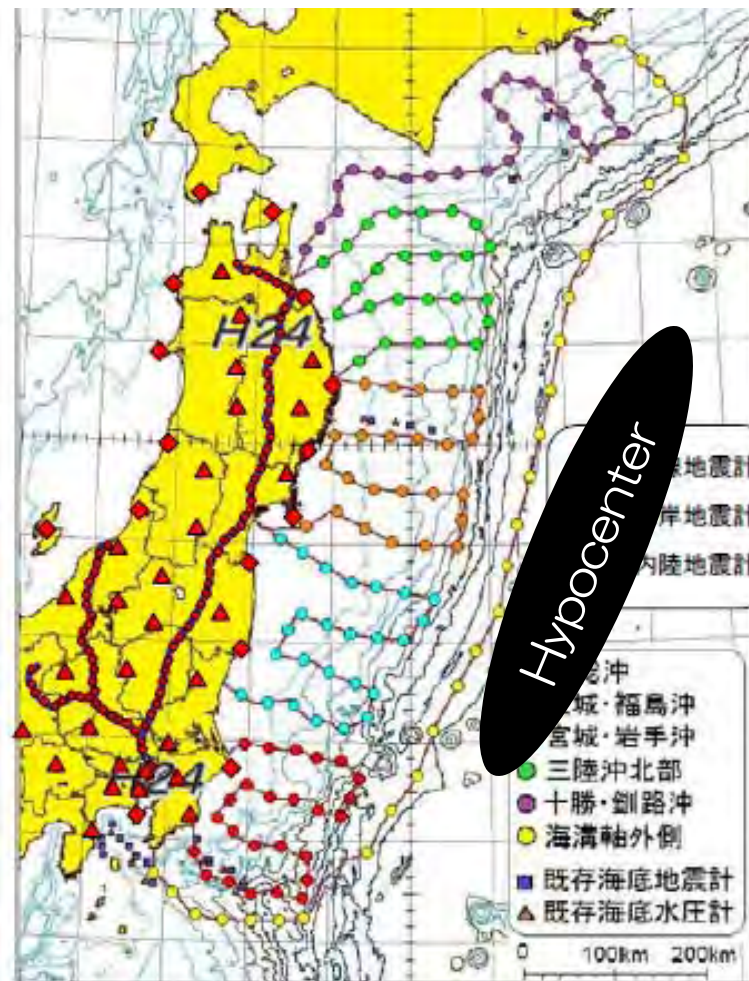


Earthquake early-warning system

- Real-time data link
- All trains stopped safely before the Earthquake wave attack in 2011



(Map & Photo: JR EAST)

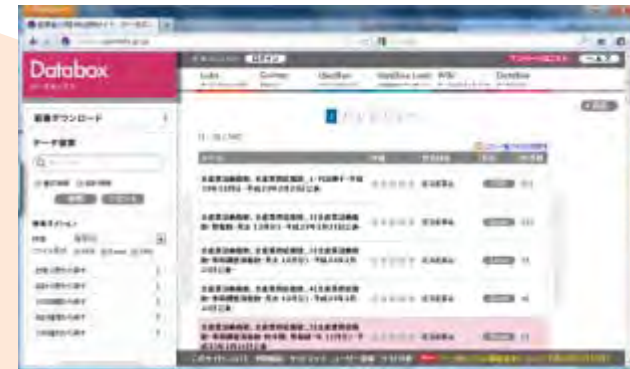


Open Government Lab. (Oct. 2010)

Discussion Board



Data box



Open Government Lab.



Text Analysis

3/14 11:30



Idea box



Portal of official twitter

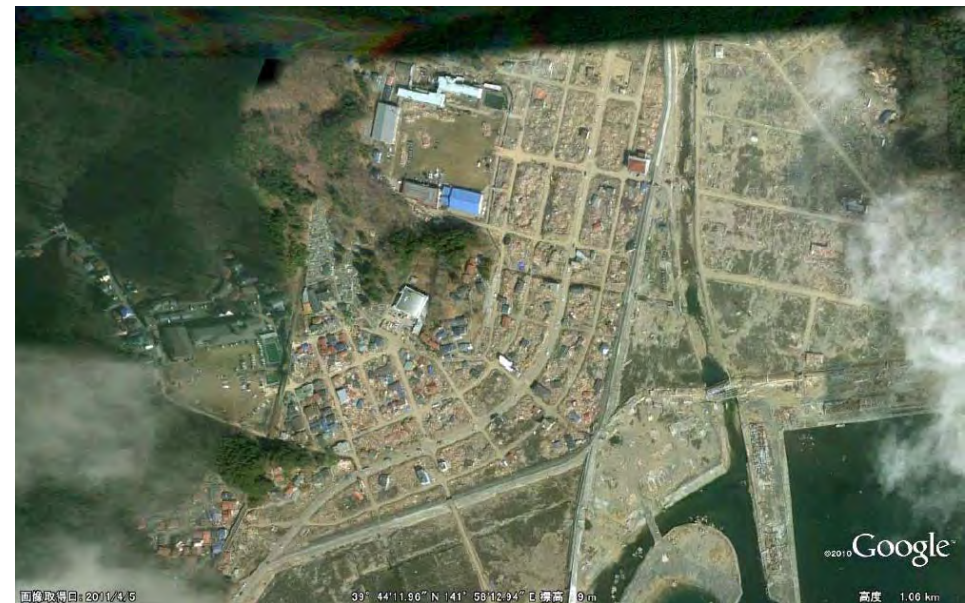


Before “Open Government Strategy” issued in 2012

- Many kind of government data had been opened. But ..
 - Low coordination
 - Published by each ministry in each way
 - Developed individually by each ministry
 - Low interoperability
 - Data format
 - Semantics
 - Character code
 - Low reusability
 - Licensing
 - Technology

The Great Earthquake, March 11 2011

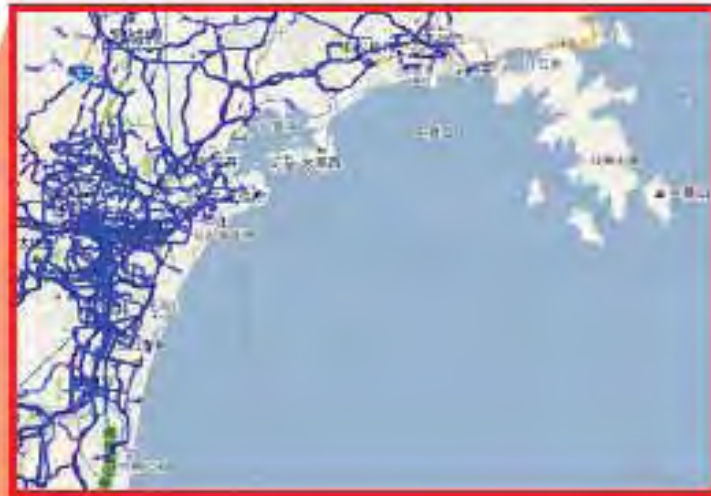
- 20,403 peoples died
- 112,612 houses were lost , 142,575 houses were seriously damaged
- Number of peoples in emergency evacuation centers
 - 386,739 (1 week after)
 - 147,536 (1 month after)
 - 88,361 (3 months after)



A lot of demand..

- Data
 - Who is where
 - Who needs what / who can provide what
 - Availability of road / energy / water / food ...
 - Pollution level
 - ...
- Collaboration
 - G/G G/B G/C B/B B/C C/C

Traffic record map to find “travelable road”

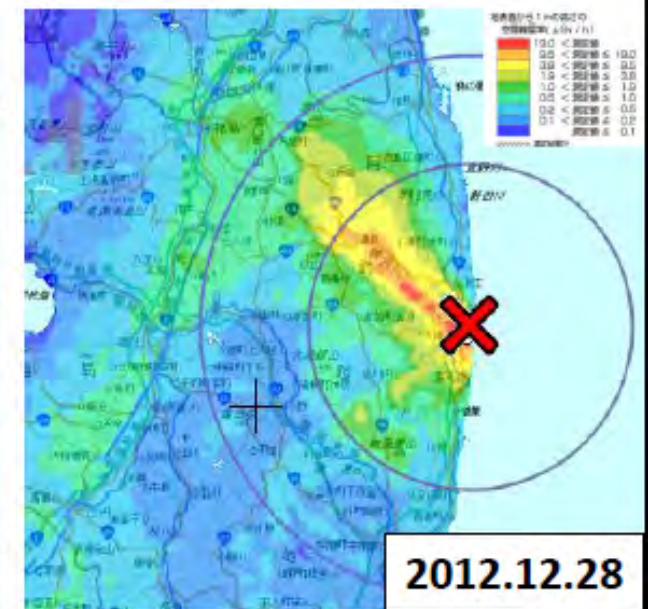
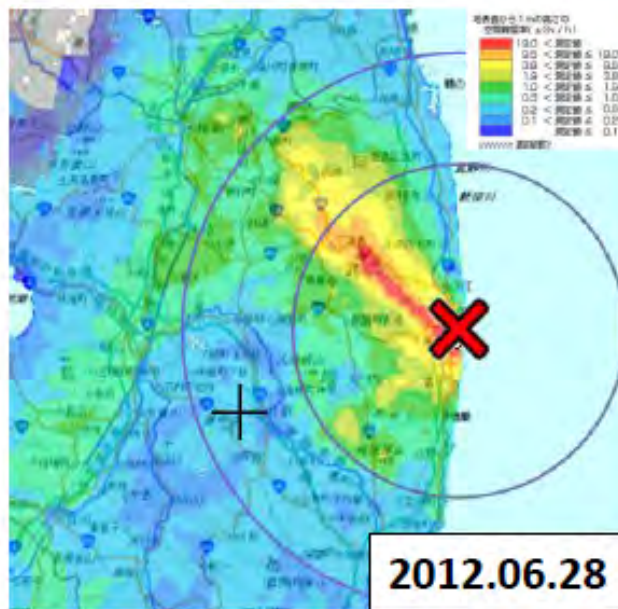
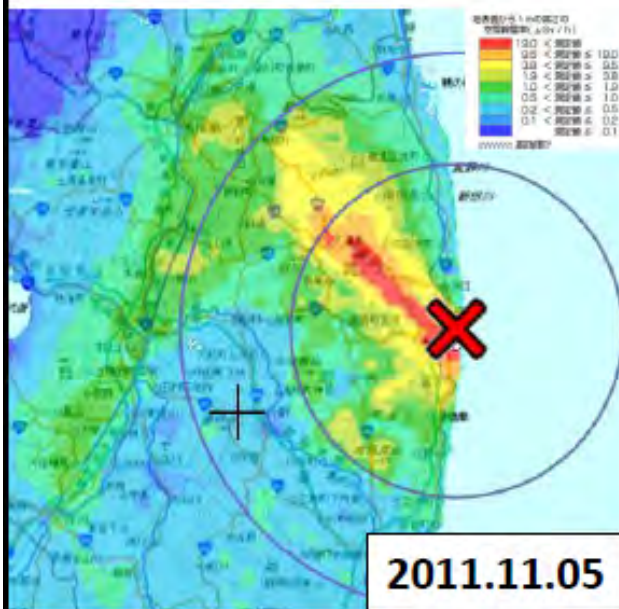
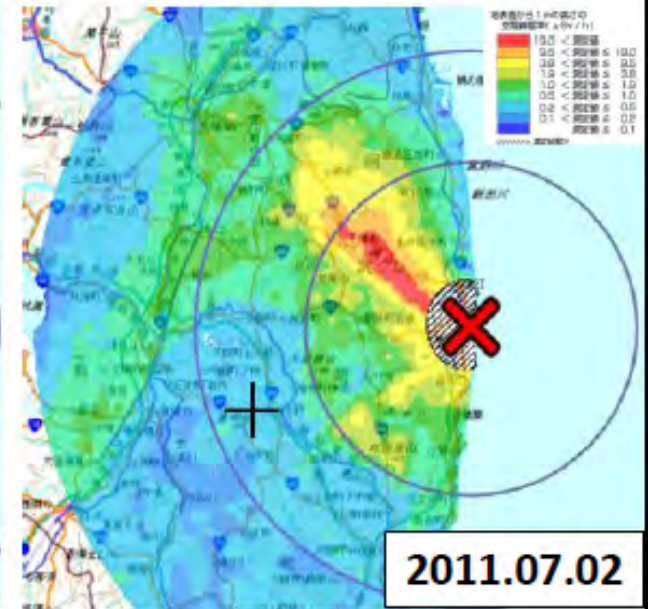
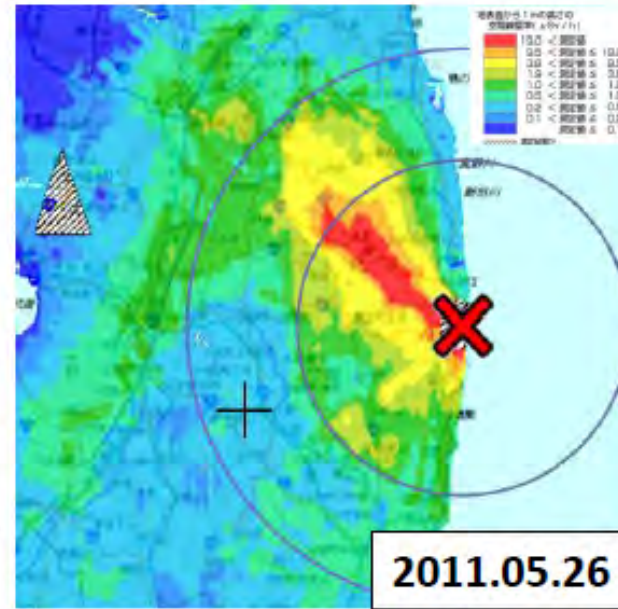
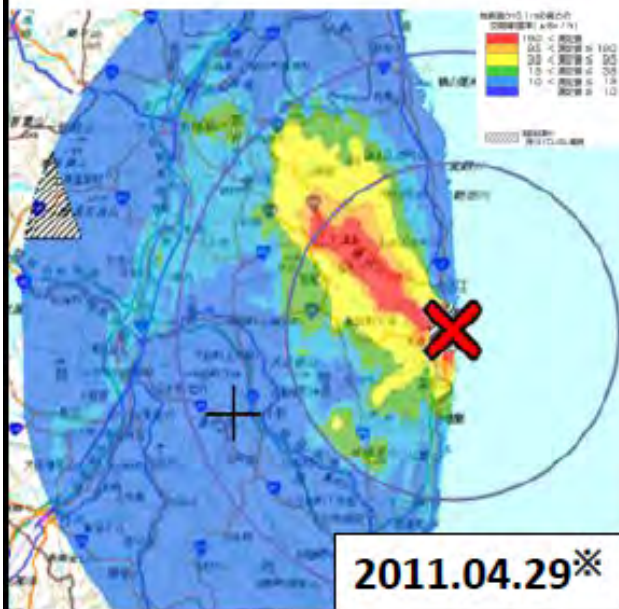


“ITS Japan”,
NPO

Honda,
Pioneer,
Toyota,
Nissan,
Google

Courtesy of
Hajime Amano
President of ITS JAPAN

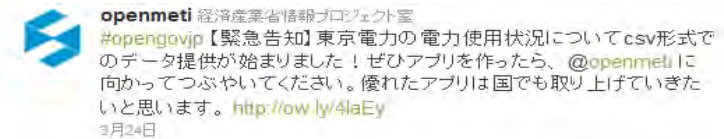
航空機モニタリングの結果について（地表面から1mの高さの空間線量率($\mu\text{Sv/h}$)）



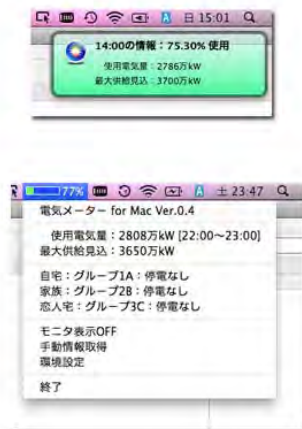
文部科学省 放射線量等分布マップ拡大サイトより（※2011.04.29 のみ凡例が異なります）

Public appeal for energy saving

- METI (IT Project Office) made a public appeal on its Twitter account for an application that transmit current energy usage data from TEPCO



- Many (more than 50) attractive applications were developed by volunteers



Recovery and Reconstruction Support Program Database

- This is a one-stop service site where users can search through a wide variety of support programs operated by the central and local governments.



One Stop Search Service for citizens

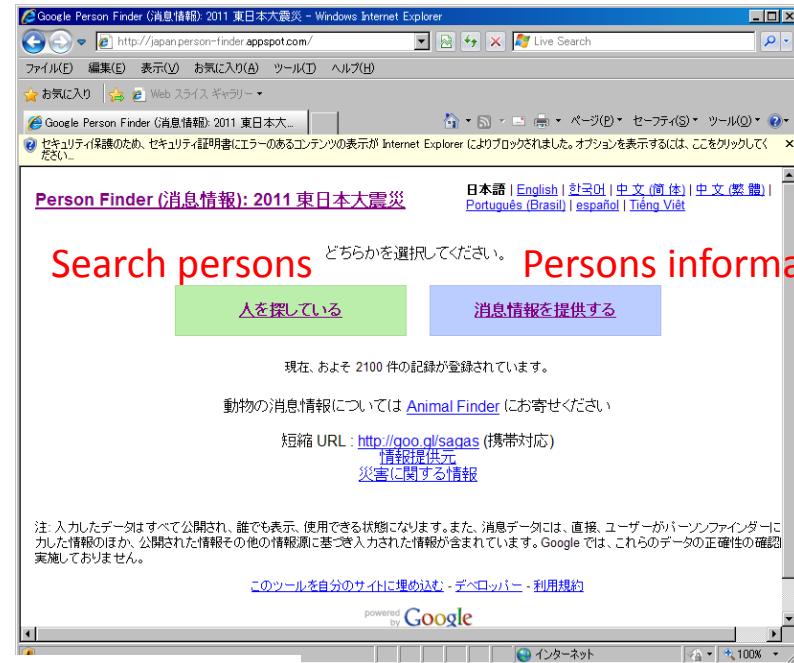
Bulletin board at evacuation center



Google Person Finder

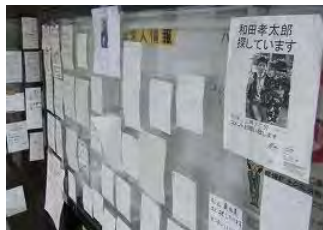
Google Person Finder: 2011 Japan Earthquake

- An open source web application
- A registry and message board
- Search for information about each other's status and whereabouts
- Google provide the service on the day.



Voluntary progression was made a week later.

Bulletin board
at shelter



Someone take photos of
survivors name list.
And upload it on the web.



Someone type it from
hand writing to text.



Well coordinated
spontaneously



Residents record database vs. GIS



Character code problem

- ideographic variation -

Moji-Joho-Kiban Ideograph set

邊 邊 辺 ……
戸籍(55,266)
Defined by MOJ

邊 邊 邊

邊 邊 邊 ……
住民登録(19,563)
Defined by MIC

邊 邊 邊

邊 邊 JIS (10,000)

Daily use Ideographs (2,136)
Recommended by Ministry of Education

辺

邊
邊
…
…

We recognized

- Importance of efficient data connection
- Importance of reusable open data
- Lack of interoperability
 - Data structure
 - Semantics
 - Character code

Policy paper of Open Government Data Strategy

July 2012

IT Strategic Headquarters

Cabinet Secretariat, Government of Japan

Open Government Strategy

I . Objectives

1. Transparency and accountability
2. Participation of citizens
3. Innovation and economic growth
 - Private sectors -> Business opportunity
 - Public sectors -> cost down / efficiency

Open Government Strategy

II . Directions

1. Government shall actively release public data.
2. Public data shall be released in machine-readable formats.
3. The use of public information shall be encouraged whether for commercial or non-commercial purposes.
4. Specific measures shall be taken promptly.

Open Government Strategy

III. Specific Measures

1. Promoting the Use of Public Data

- i. Identification of Public Data Use Needs
- ii. Examination and Organization of Issues Relating to Current Data Provision Methods
- iii. Development of Private Sector Services

2. Development of Environments for the Use of Public Data

- i. Creation of Rules Necessary for the Use of Public Data
- ii. Development of Data Catalogs
- iii. Promotion of Standardization of Data Formats and Structures
- iv. Investigation of Support to Provider Agencies

Opening reusable data

- Datameti.go.jp
- Project started in November 2012
- Published 200 datasets in March 2013
- Using CC for licensing
- Raw data (but almost all are in xls / pdf)

data.meti.go.jp

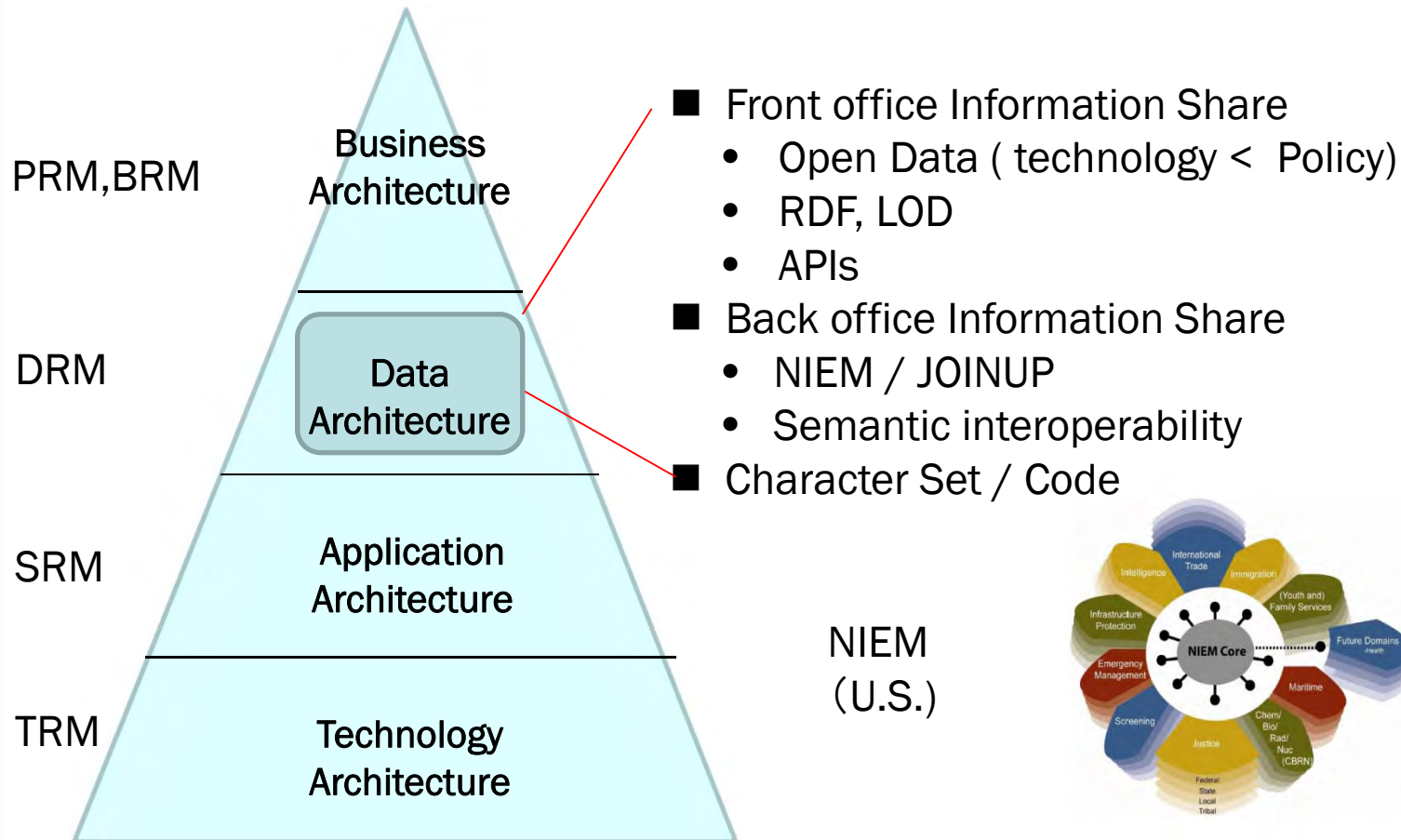
2011FY	Code	100	150	200	250	400	450	500	550	600	700	
< エネルギーバランス表簡易表 / エネルギー単位表 >												
		石炭 Coal	石炭製品 Coal Prod.	原油 Oil	石油製品 Oil Product	天然ガス Natural Gas	都市ガス Town Gas	再生可能 New & Ren	事業用水力 Large-Sca	原子力 Nuclear En	発電電力 Electricity	
		MJ	kWh	MJ	kWh	MJ	MJ	MJ	MJ	MJ	MJ	
Code	Ener	<< エネルギー単位表 >>	1	1	1	1	1	1	1	1	1	
2011FY	Display Unit	石炭+	石炭製品+	原油+	石油製品+	天然ガス+	都市ガス+	再生可能+	事業用水力+	原子力+	発電電力+	
		TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	TJ	
1000	Prim	一次エネルギー	4665110	26181	7978559	2120563	4690377	0	844432	724337	885960	0
1100	In	国内産出	0	0	29630	0	148937	0	844431	724337	885960	0
1200	Im	輸入	4665110	26181	7948929	2120563	4541440	0	0	0	0	0
1500	T	総供給	4665110	26181	7978559	2120563	4690377	0	844432	724337	885960	0
1600	Ex	輸出	-71	-29414	0	-1016476	0	0	0	0	0	0
1700	St	供給在庫 (+取崩 /-積増)	0	-3689	-8753	15067	216041	0	0	0	0	0
1900	I	国内供給	4665039	-6922	7969806	1119154	4906419	0	844432	724337	885960	0
2000	Ener	エネルギー転換	-4177276	1255624	-7933776	6164060	-4869221	1485642	-806461	-724337	-885960	3363100
2100	P	事業用発電	-1984388	-177602	-459125	-678328	-2971738	-63851	-132034	-573447	-885960	3233492
2200	A	自家発電	-231005	-116685	-59	-273292	-31247	-76503	-323266	-150890	0	497727
2300	In	産業用蒸気	-208858	-36321	-78	-253408	-22827	-68241	-345910	0	0	0
2350	Di	地域熱供給	0	0	0	-844	0	-17003	-5562	0	0	-4126
2400	To	一般ガス製造	0	0	0	-52793	-1719030	1741241	0	0	0	0
2500	C	石炭製品製造	-1745056	1699224	0	-10970	0	0	-437	0	0	0
2600	O	石油製品製造	0	0	-7476938	7652921	4395	0	0	0	0	0
2700	O	他転換・品種振替	24772	0	0	-18858	0	18858	0	0	0	0
2800	T	純転換部門計	-4144536	1368616	-7936201	6364428	-4740446	1534501	-807208	-724337	-885960	3727094
2900	O	自家消費・送配損失	-21642	-106453	-62	-270234	-117920	-48859	0	0	0	-363994
3000	(O	他転換増 (+受入 /-払出)	0	0	0	59591	0	0	0	0	0	0
3500	F	消費在庫 (+取崩 /-積増)	-11099	-6539	2487	10276	-10855	0	747	0	0	0

IMI (Infrastructure for Multilayer Interoperability)

Japanese word “IMI” means “semantics”



- 2012.11 Study project launched
- 2013.3 α version of core vocabulary
- 2013.4 Started the project for actual system



NIEM
(U.S.)

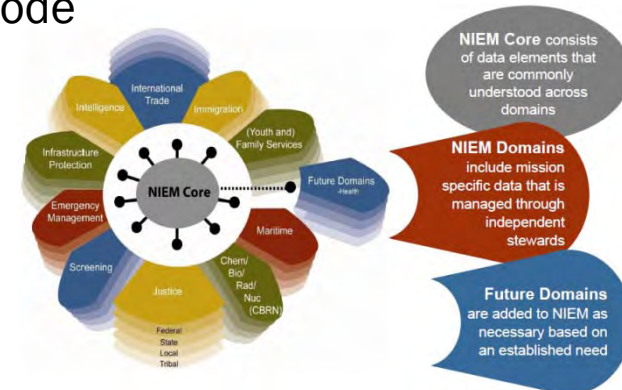


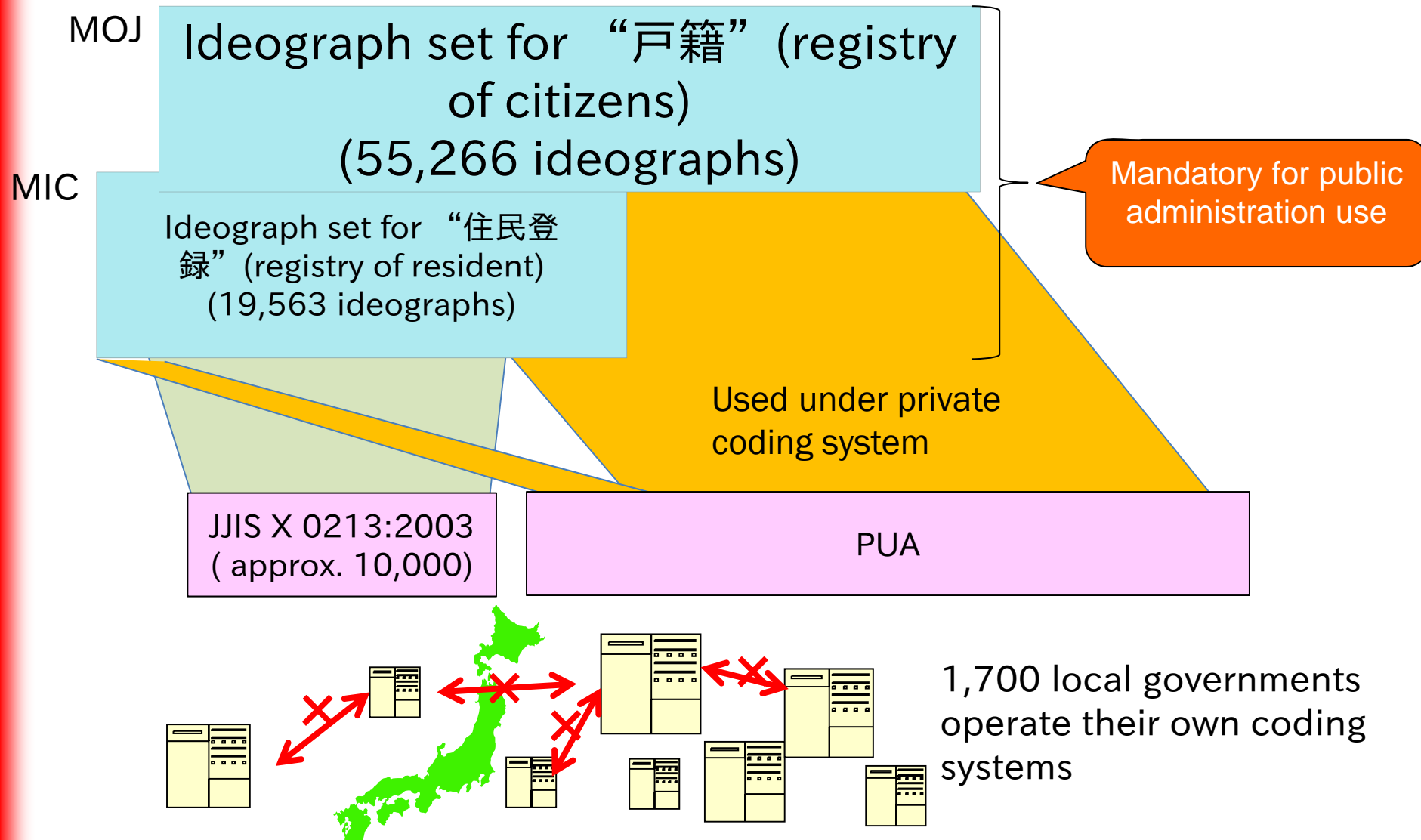
Image of IMI vocabulary database

- Define the meaning, usage, relationship, data type of basic words

項目名 (Type/Sub-properties)	英語名	データタイプ	項目説明	項目説明 (英語)	キーワード	サンプル値	Usage Info
人	PersonType						
氏名	PersonName	PersonNameType	氏名	Name of a Person		-	
性別	Gender	<abstract element, no type>	性別	Gender of a Person		-	
<i>Substitutable Elements:</i>							
性別コード	GenderCode	CodeType	性別のコード	Gender of a Person		1	APPLIC標準仕様V2.3 データ一覧
性別名	GenderText	TextType	性別	Gender of a Person			
現住所	PresentAddress	AddressType	現住所				
本籍		AddressType	本籍				
...
...

項目名 (Type/Sub-properties)	英語名	データタイプ	...
氏名	PersonNameType		
氏名	FullName	TextType	
フリガナ		TextType	
姓	FamilyName	TextType	
カナ		TextType	
姓		TextType	
...

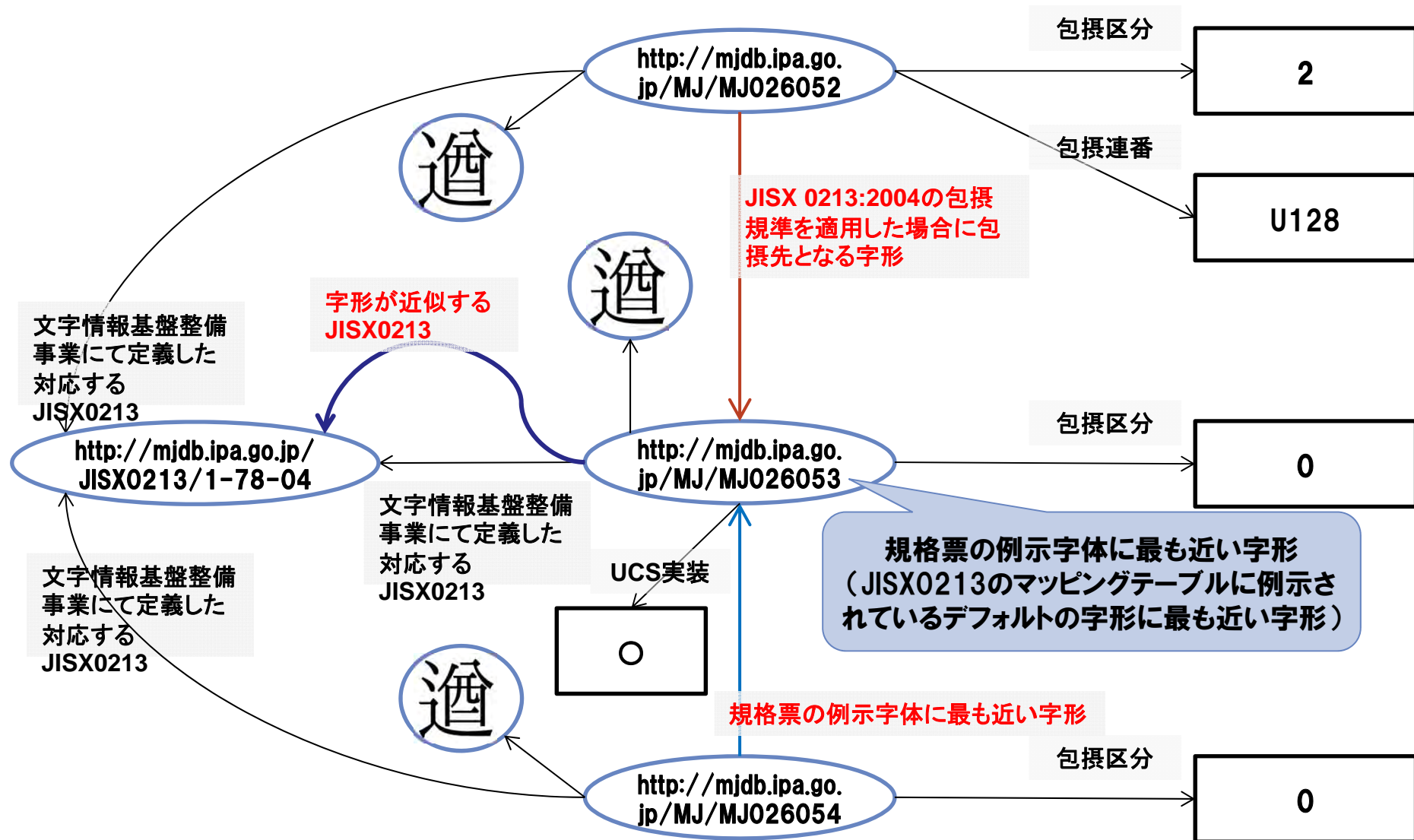
Character code problem



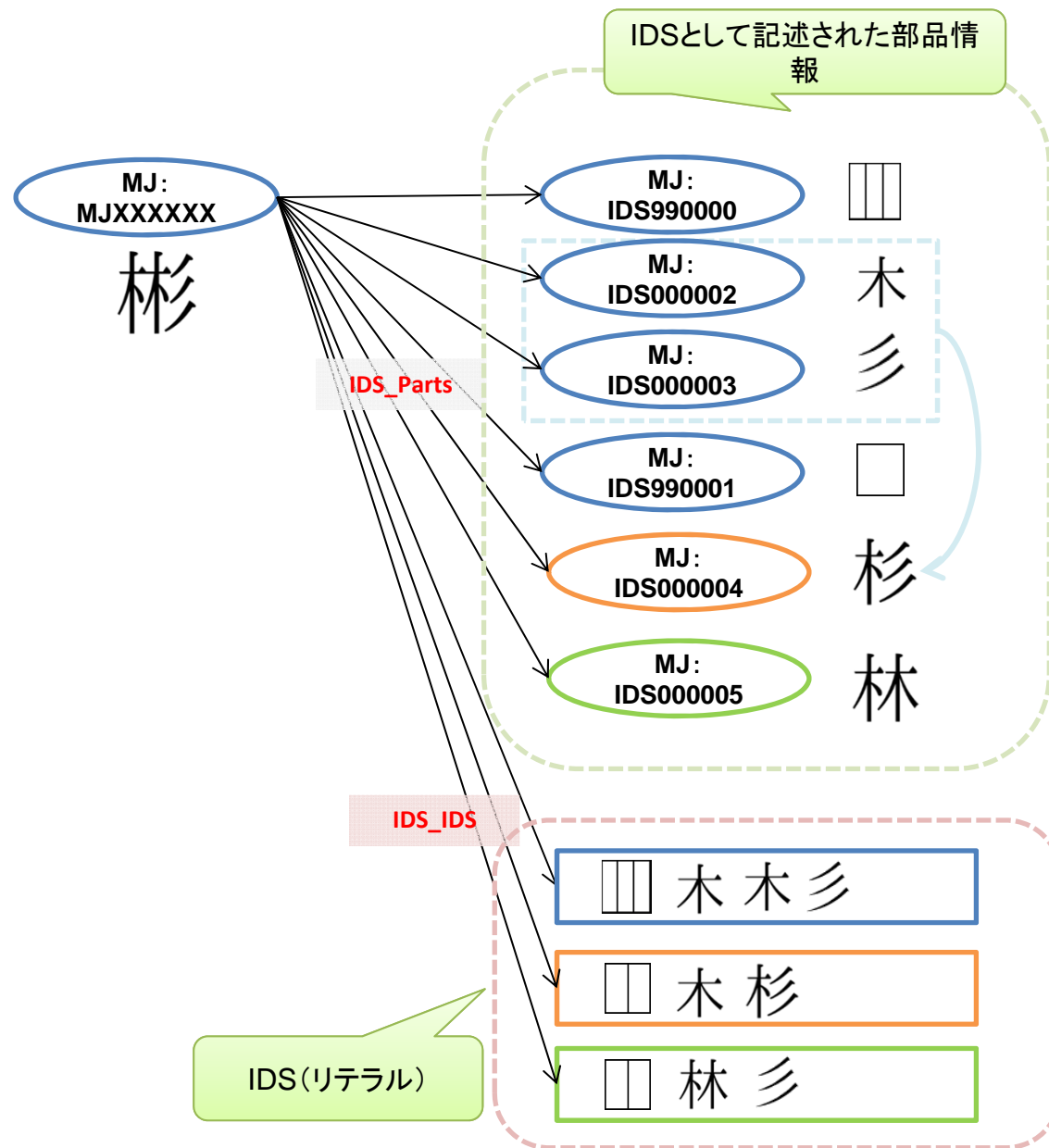
Character set infrastructure project

- 60,000 characters fonts in open license
... done (2011.5)
- Application to ISO standardization
... done (2012.11)
- Registration of ideographic variation
selector codes to UTC ... on going
- RDF based character information database
... project started (2012.11)

Relationship of ideographic variation (Characters with similar shape)



Description of character structure

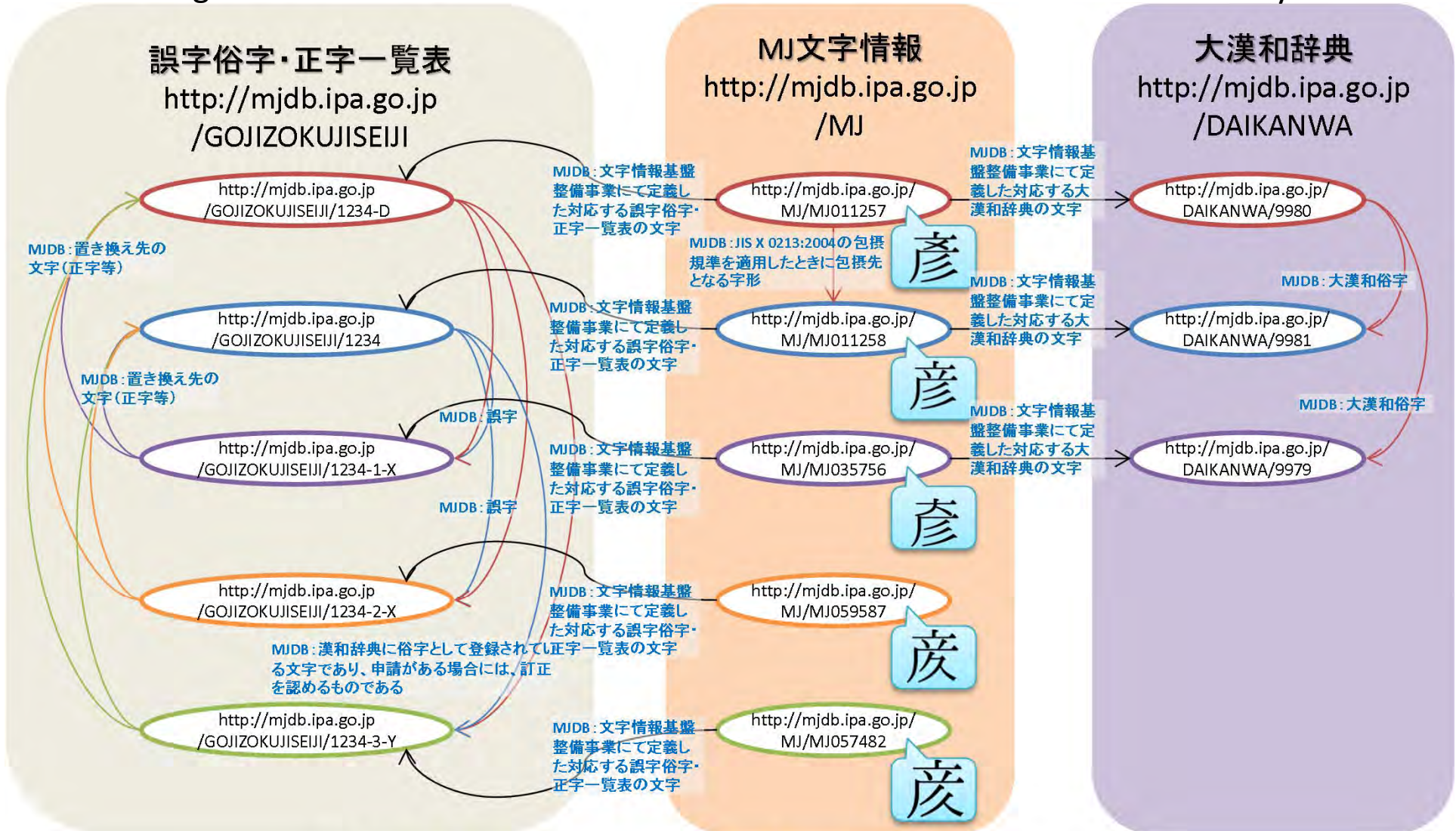


Description of Relationship (example of “regulation” and “commercial dictionary”)

Government regulation
for usage in human name

Font provided by IPA

Commercial
dictionary



MJDB : <http://mjdb.ipa.go.jp/dcmjdb/terms/> (MJDBの語彙を表す仮URI)

Conclusion

- We are about to dawn of open government data
- We did many things but lack of coordination
- Semantics and character code interoperability are challenge in Japan
- We don't want to re-invent existing technology
 - use open standards
 - do international collaboration