


# Core Data Model Mapping project 2

# Past Core Data Model Mapping project

- ◆ In 2014, we completed core data mapping trial project among EU, US and Japan.

Core Data Model Mapping Directory

The **Core Data Model Mapping Directory** hosts a collection of mappings between the Core Vocabularies and related Core Data Models. Visit the Core Vocabularies page on Joinup for more information. The available data models and their connecting mappings can be explored by browsing through the Directory.

[How to contribute](#) | [Browse the directory](#) | [Search for mappings](#) | [SPARQL endpoint](#) | [Downloadables](#)

### Browse the mappings

The platform has mappings available for the following vocabularies:

- Core Vocabularies:
  - Examples of some entry points are:
    - the Person Family Name property (Core Vocabularies);
    - the Address Post Code Property;
    - the Person Country Of Birth Property;
  - [Tree visualisation of the core vocabulary mapping](#)
- Target Core Data Models:
  - NIEM 3.0
  - Stelselcatalogus
  - UN/CEFACT CCL 13B
  - MUG- Bill
  - Core Vocabularies RDF Schemas
  - OASIS UBL Common Library 2.1
  - KoSIT - XOY
  - Swedish Company data model
  - eIDAS minimum dataset
  - IMI Core Vocabulary 2.2
  - FSB Canonical Data Model PersonServices
- DCAT-AP Open Data Support Mappings:
  - Browsable View
  - Tree Visualisation of the DCAT-AP configuration mappings in Open Data Support
- SDMX - DCAT-AP Mappings:
  - Browsable View
  - Tree Visualisation of the SDMX to DCAT-AP mappings



# Background: Why now?

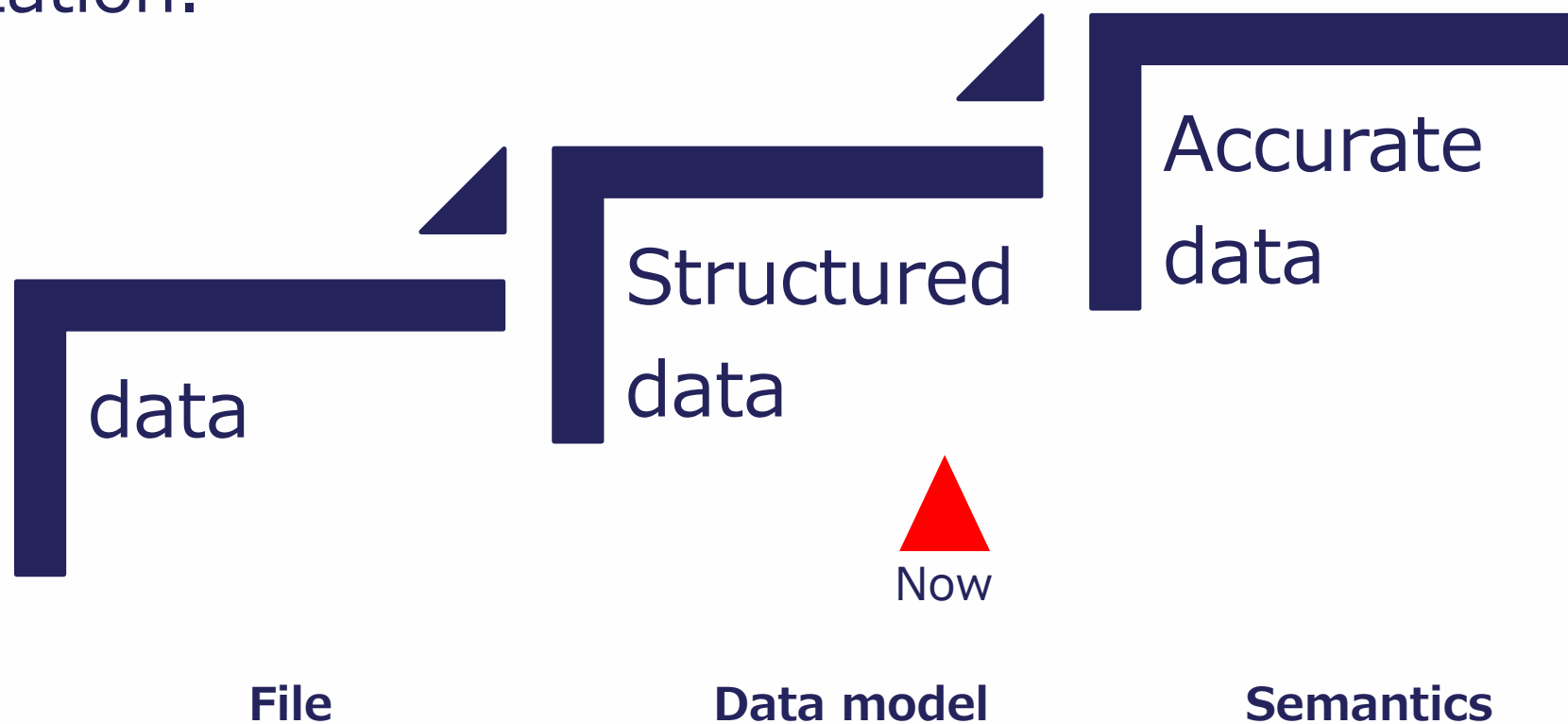
- ◆ The data models in each country have matured.
  - NIEM3.0 -> NIEM6.0
  - Core vocabraries1.0 -> Core vocabraries2.0
  - IMI2.2 -> IMI3.0(draft)
- ◆ Data sharing and data related services, such as data spaces, is being focused on and promoted.
- ◆ AI needs qualified data what is designed by authorized data models.

# Objectives

- ◆ This project aims to develop interoperability mechanism for the international, high-quality exchange of core social data.
- ◆ Firstly, we will organize an interoperable data model and its interrelationships, and secondly, we will develop a traceable system and improve its operational methods.

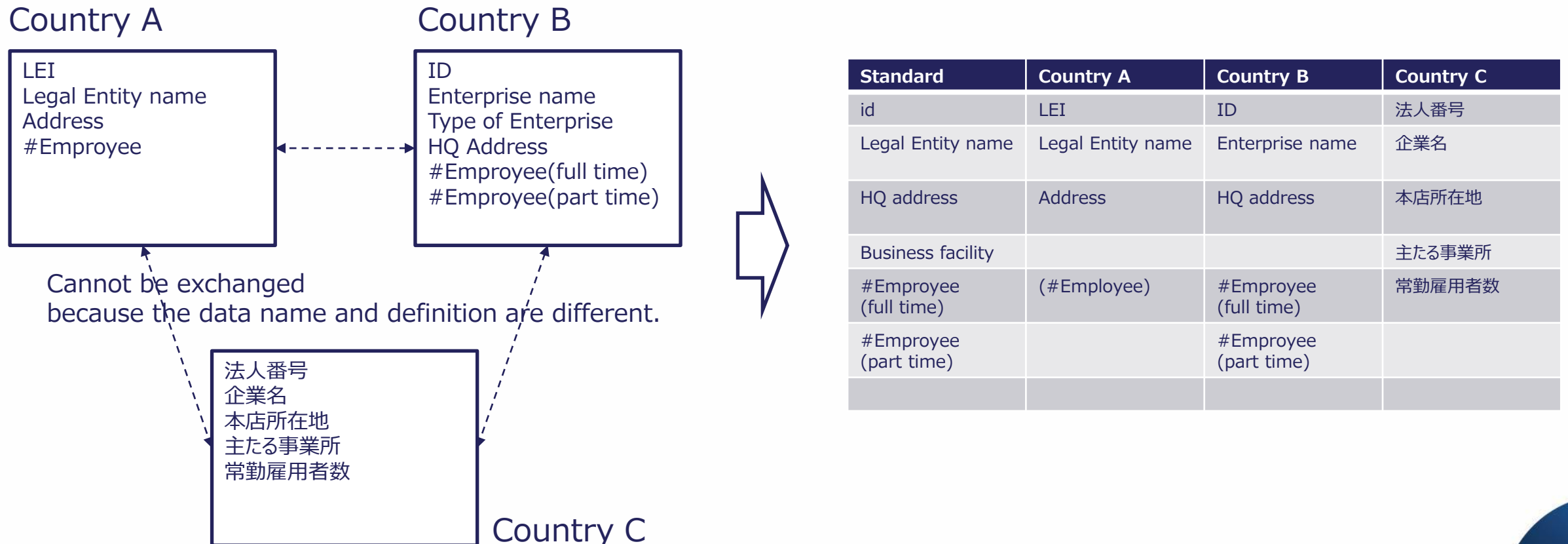
# This is the 3rd stage

- ♦ As the importance of data has increased, it has become possible to share it, but ensuring accuracy is becoming more important as we move towards full-scale utilization.



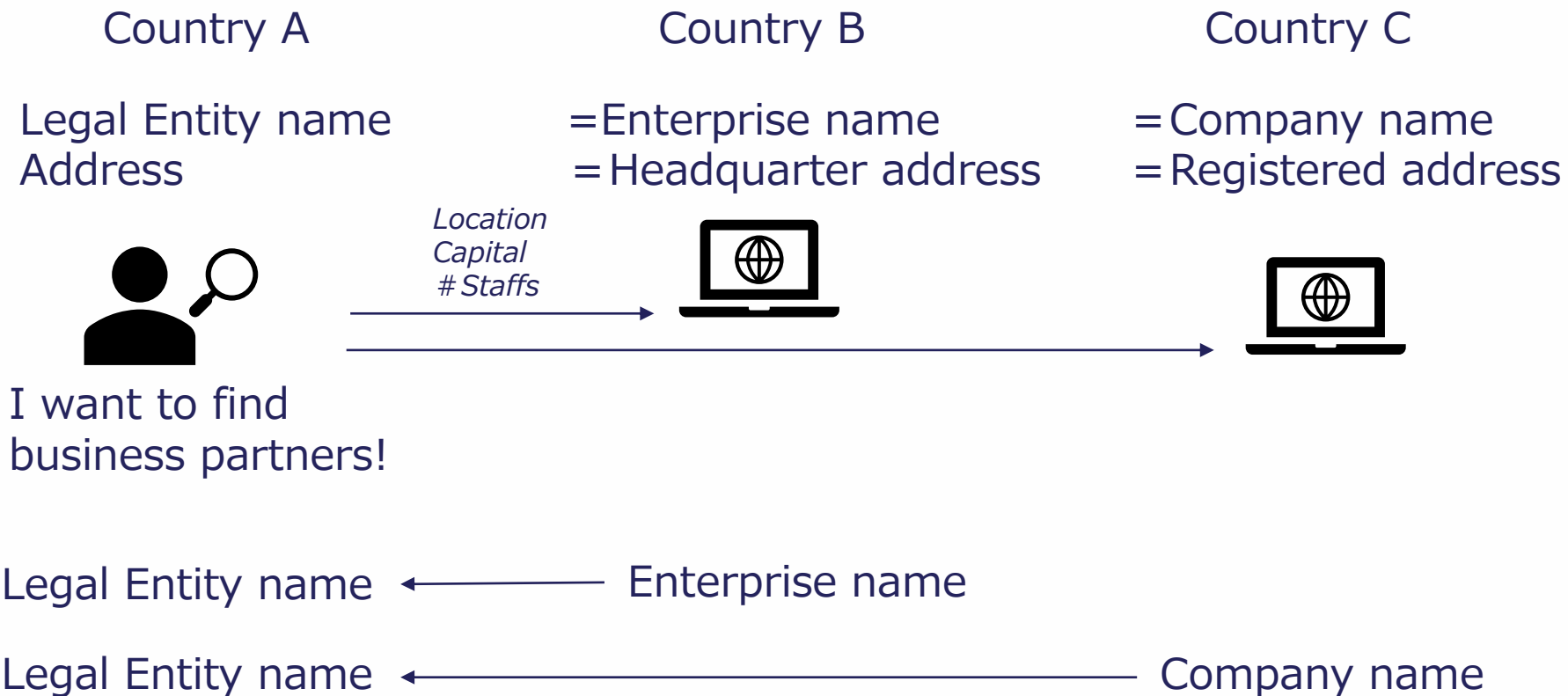
# Benefits of the data model mapping

- ◆ Once the data structure and interrelationships are clear,
- ◆ data conversion and utilization can be done accurately.



# Use Case: Selection of business partners

- ◆ We can find candidates easily from the national business registries.



- ✓ Data integrity issues like this also arise in corporate activities such as M&A and marketing.



# Target area: Core vocabularies

- The core vocabulary is the foundation for interoperability, and we intend to map this part.

GIF

Government  
Interoperability  
Framework

Guidebooks

GIF Guidebook

Character data guidebook

Master data design guidebook

Code design guidebook

API guidebook

Data management guidebook

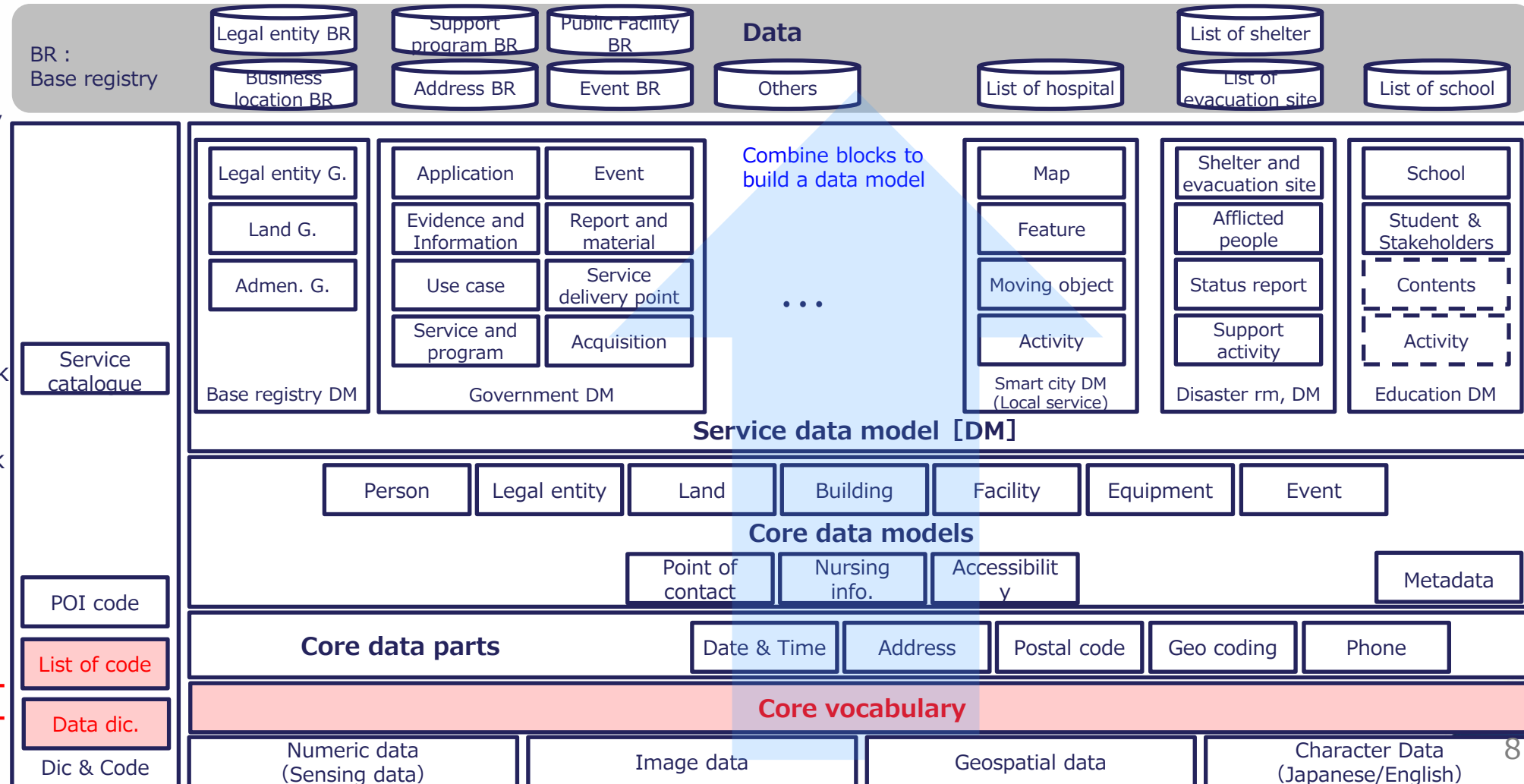
Data specialist guidebook

Architecture guidebook

Data quality guidebook

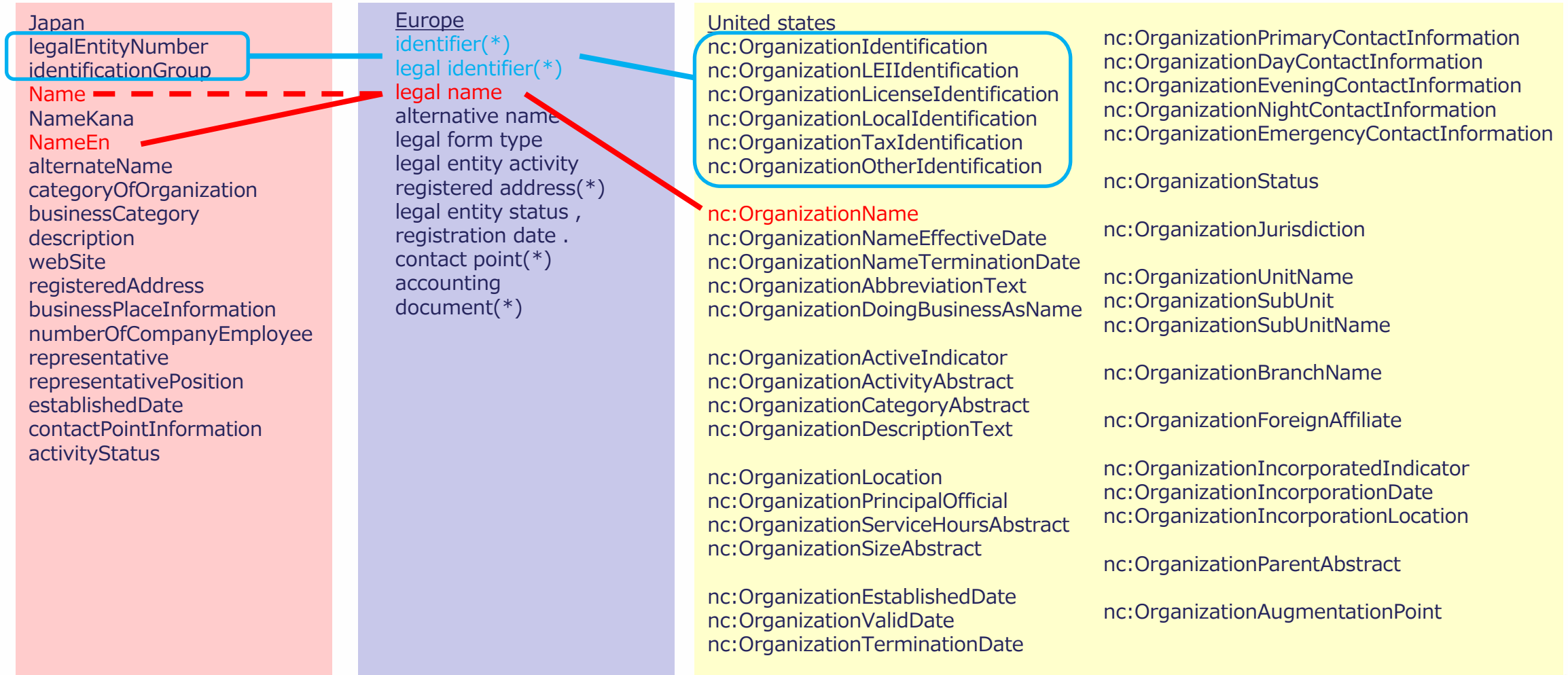
Metadata guidebook

IMI





# Comparison of Core business data model

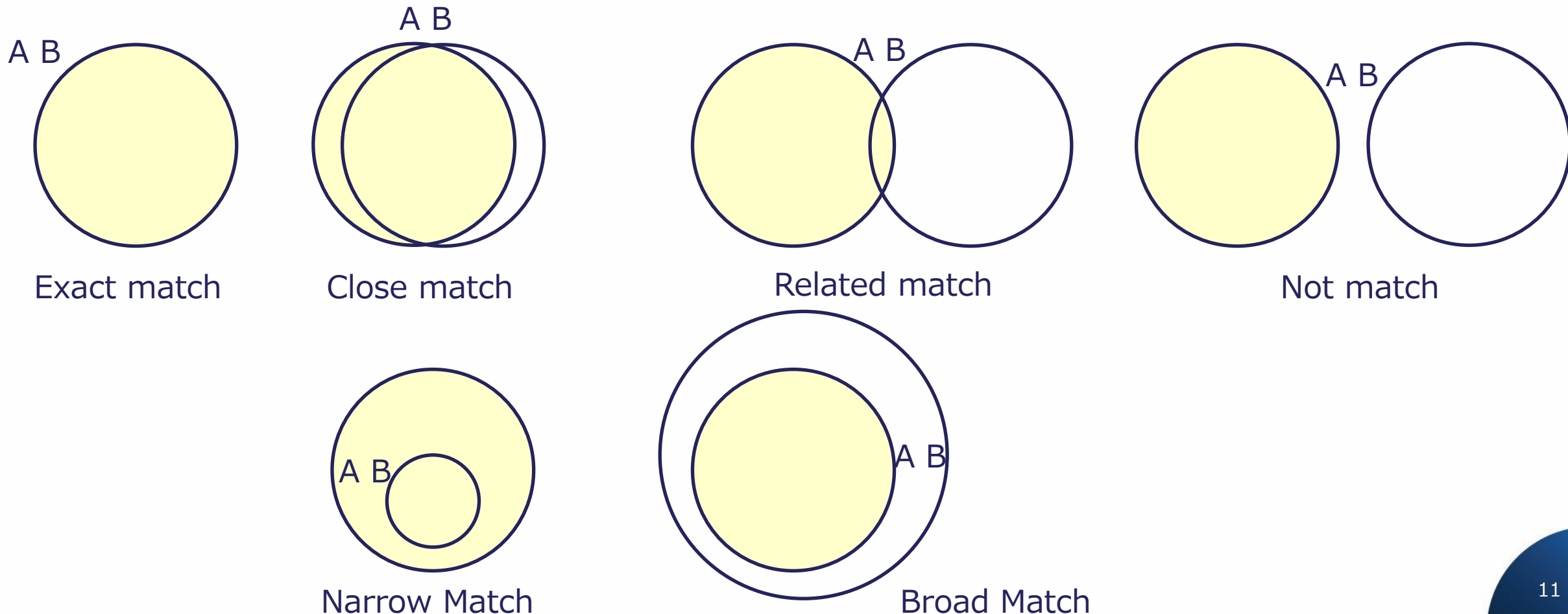


# Barriers from language

- ♦ There are differences even when referring to the same object.
  - Deference of Labels
    - Enterprise
    - Corporation
  - Deference of Definition
    - Enterprise name include the type of the Enterprise, or not.
  - Deference of representation
    - Japanese
    - English
  - Deference of Legal status
    - Defined in law, or not

# Barriers from Semantics

- ♦ Even if they express the same thing, the connotations are often not the same.



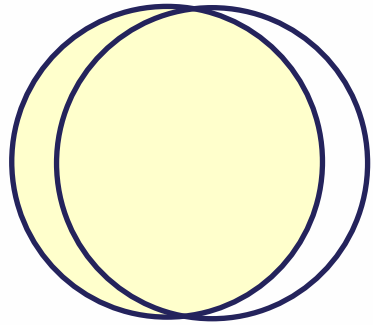
# Steps for data mapping

# Use existing mechanisms

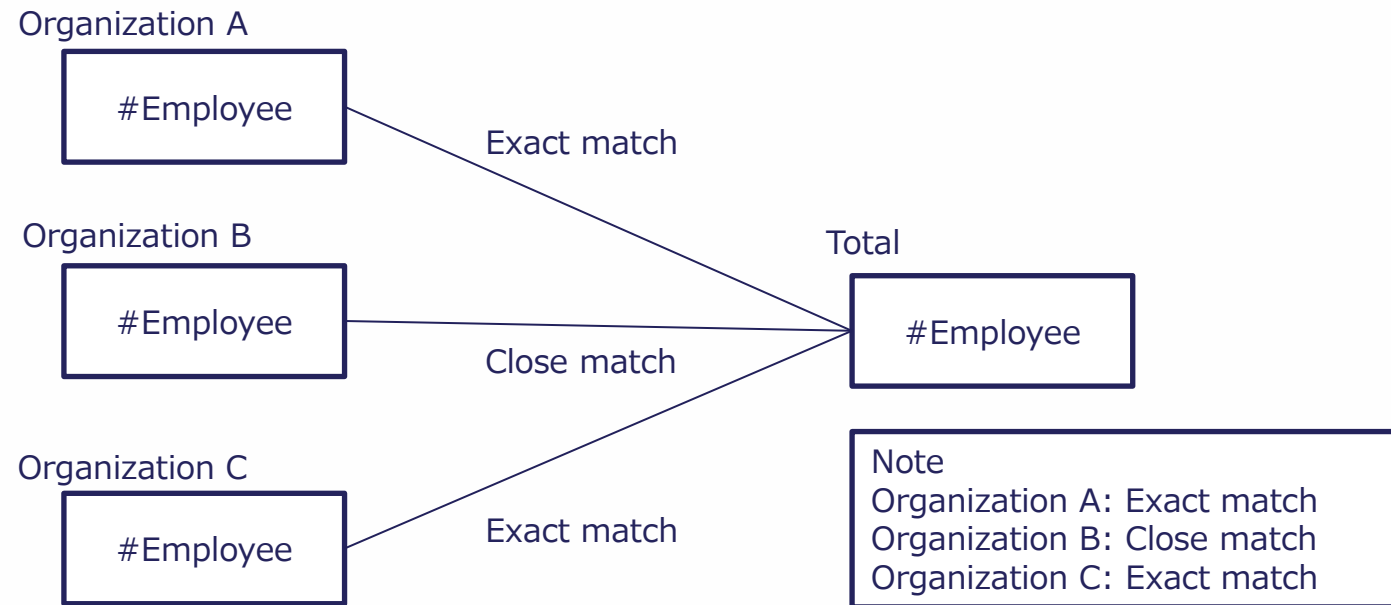
- ♦ Some industries and businesses have developed mechanisms for international data collaboration.
- ♦ Currently, there is a need for mechanisms for cross industries.
  - Existent common data activities
    - LEI
    - UN/CEFACT
    - FOAF
    - Passport
    - \*\*\*\*\*

# How to handle the not exact match data item?

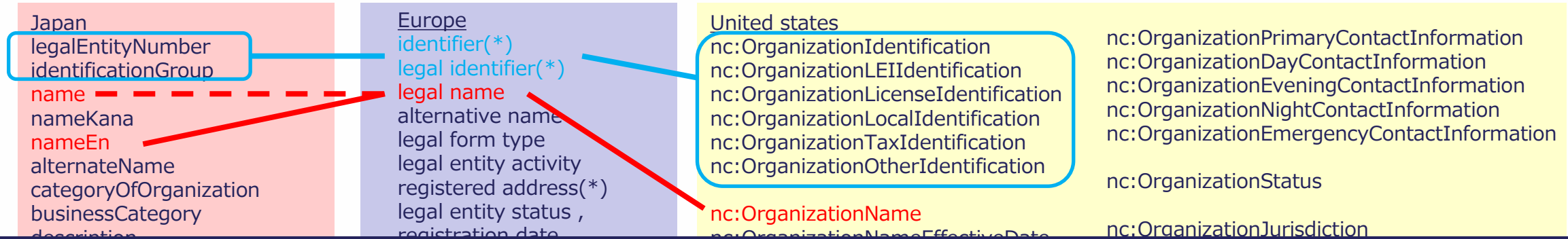
- ♦ When aggregating data for the same item, it will be necessary to have a rule that clearly states the precautions.



Close match case



# Conversion of data



## Japan

legalEntityNumber:5010005007126  
IdentificationGroup:Japan corporation number  
Name:独立行政法人情報処理推進機構  
NameEn:Information Technology Promotion Agency

## Japan->US

nc:OrganizationIdentification  
nc:IdentificationID: 5010005007126  
nc:IdentificationIssuerCountry: Japan  
nc:IdentificationIssuerOrganization: Tax agency  
nc:OrganizationName: Information Technology Promotion Agency

## Japan->EU

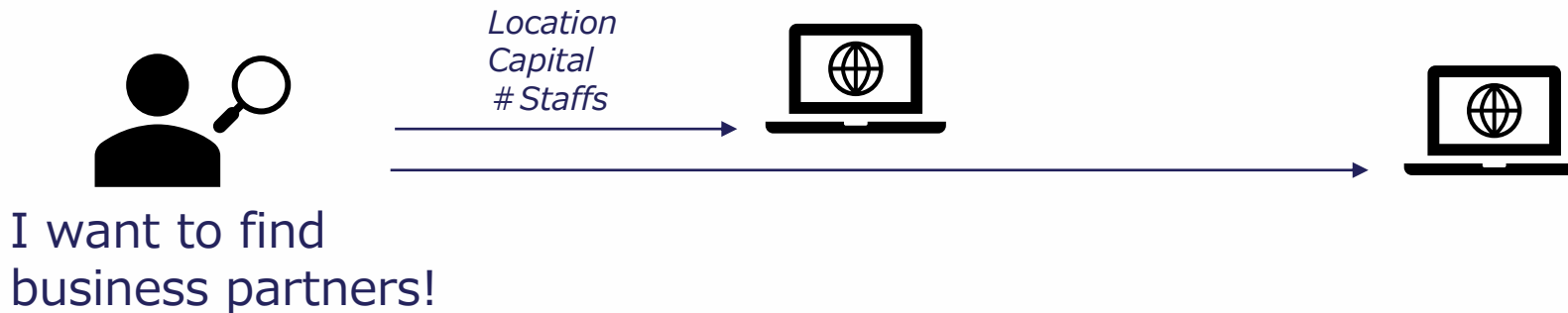
identifier:  
legal identifier:  
notion:5010005007126  
schemaAgency: Japan Tax Agency  
schemaName: Corporate ID  
legalName: Information Technology Promotion Agency



# How to handle the local issue?

- ◆ There are many domestic rules and culture.

Country A	Country B	Country C(JP)
Legal Entity name[Legal]	=Enterprise name[Legal]	=Company name (JP) [Legal] =Company name (EN)
Address	=Headquarter address	=Registered address



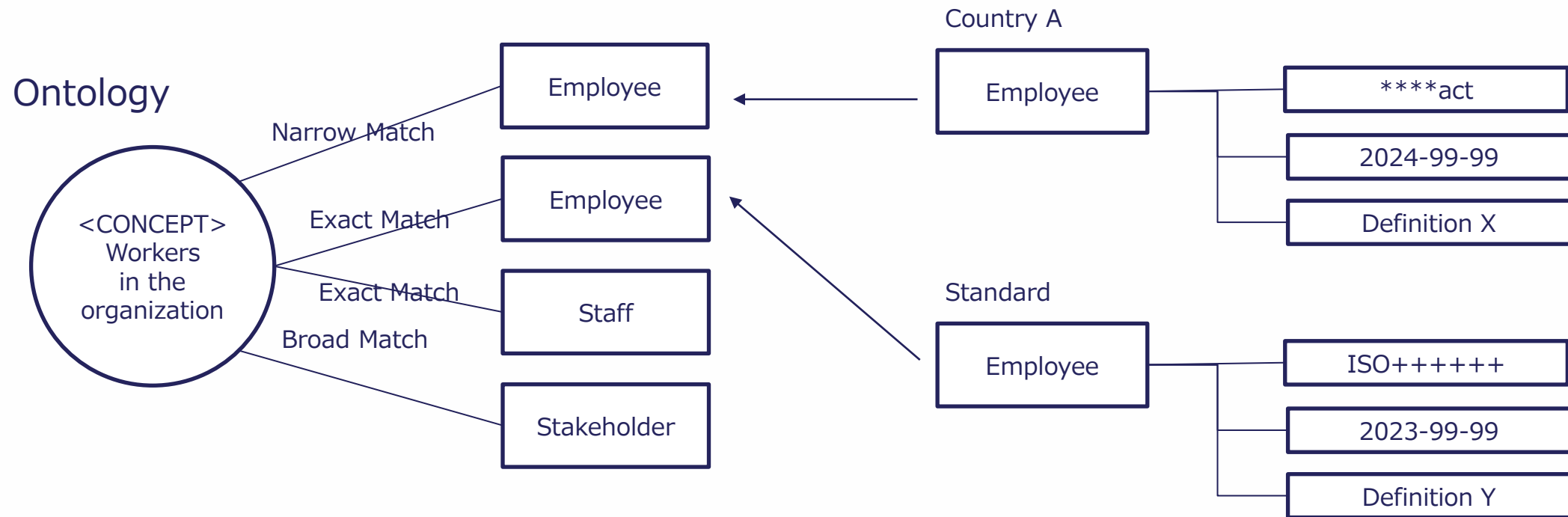
Legal Entity name ← Enterprise name

Legal Entity name ← Company name (EN)

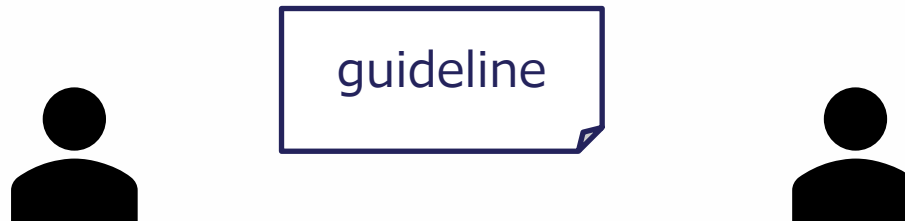
If this company only have Japanese name, then...

# Next Step: Ontology and dictionary

- ♦ We will make a data dictionary to ensure accuracy at the semantic level.



- ◆ We will make a guideline of data mapping operation.



## Japan

legalEntityNumber:5010005007126  
IdentificationGroup:Japan corporation number  
Name:独立行政法人情報処理推進機構  
NameEn:Information Technology Promotion Agency

## EU->Japan

identifier: dt1113234465887  
IdentificationGroup: Country A Tax Agency Enterprise ID  
Name:  
NameEn: Digital Technology company

## Japan->EU

identifier:  
legal identifier:  
notion:5010005007126  
schemaAgency: Japan Tax Agency  
schemaName: Corporate ID  
legalName: Information Technology Promotion Agency

## EU

identifier: 344544353  
legal identifier:  
notion: dt1113234465887  
schemaAgency: Country A Tax Agency  
schemaName: Enterprise ID  
legalName: Digital Technology company

- ◆ 2025-03
  - Core Business data model mapping
    - JP-US, JP-EU
  - Guideline β
- ◆ 2026-03
  - Person, Facility, Land
  - Guidelines

IPA