



後設資料元素的互操作及其策略方法

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MAAT

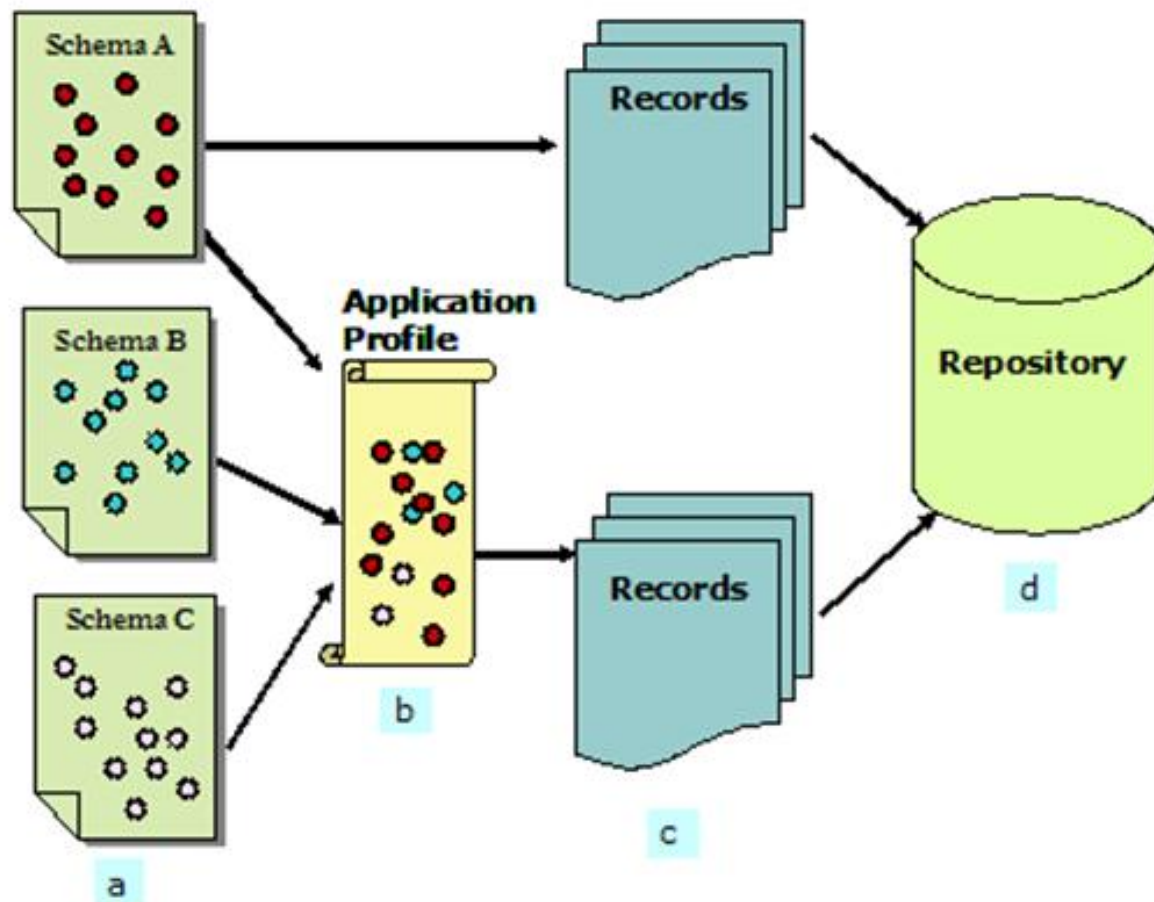
28 Aug., 2009



Outline

- 環境
- 名詞定義
- 現有方法
 - Derivation, Application Profiles, Crosswalks, Switching-across, Metadata Framework, Metadata Registry
- 實例
- 現有問題
- 必要的考量因素
- 建議方案

環境與資料對象





Interoperability¹

- NISO, 2004

Interoperability is the **ability** of **multiple** systems with **different** hardware and software platforms, data structures, and interfaces to **exchange data with minimal loss** of content and functionality.



Interoperability²

- Miller, 2000
 - Technical
 - Semantic
 - Political/Human
 - Inter-community
 - Legal
 - International

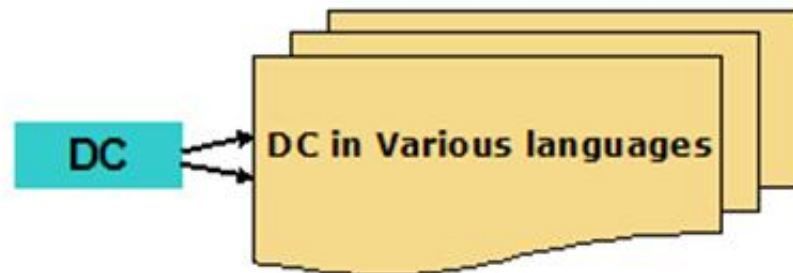
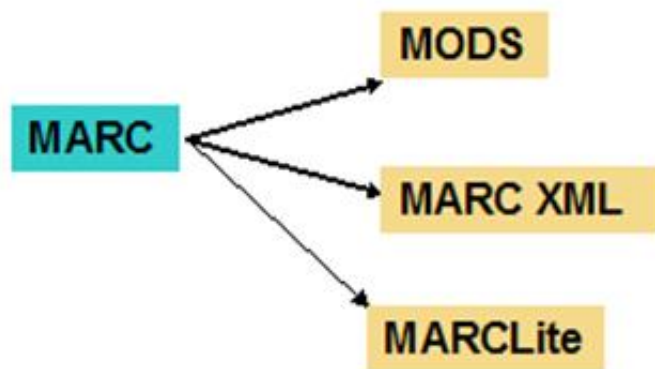




Interoperability Level

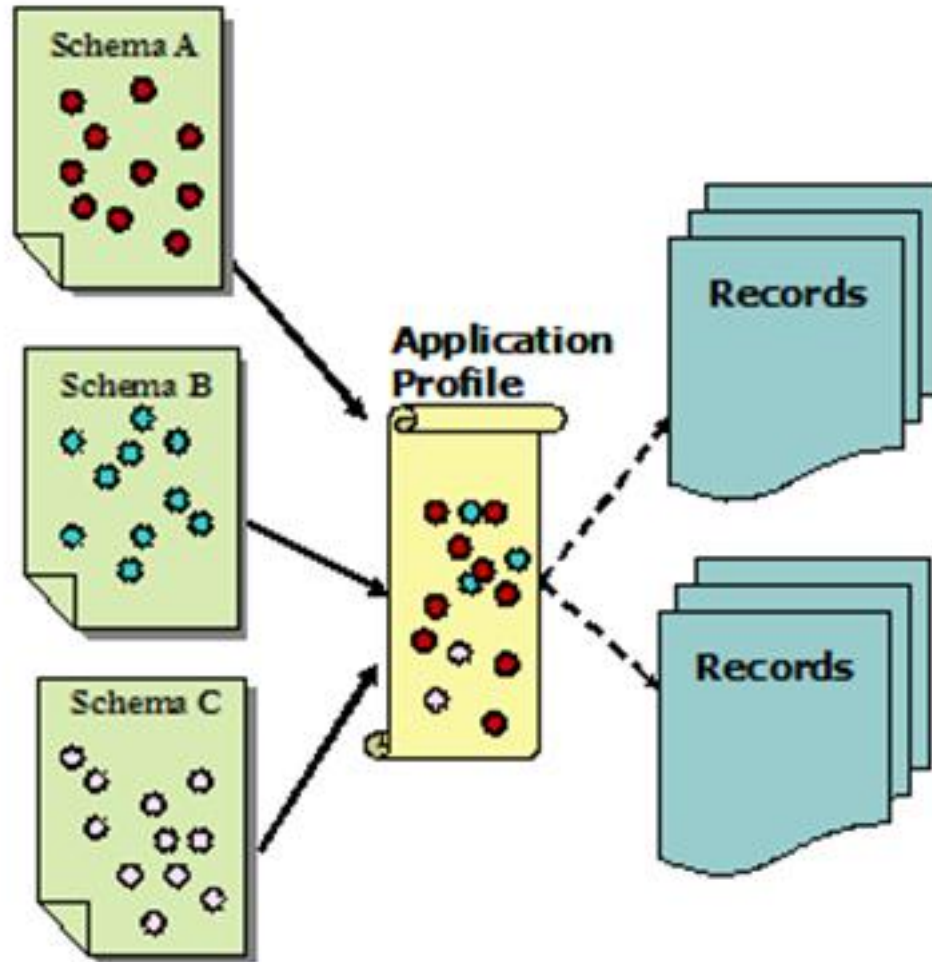
- Chan and Zeng, 2006
 - Element or schema
 - Record
 - Repository
- Woodley, 2008
 - Data field and structure & Data value
 - Syntactic, Structural and Semantics

Method – Derivation

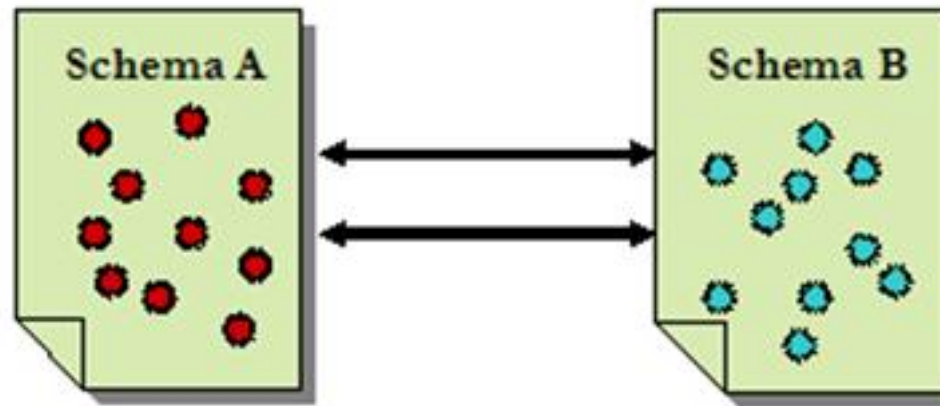




Method – Application Profiles



Method – Crosswalks

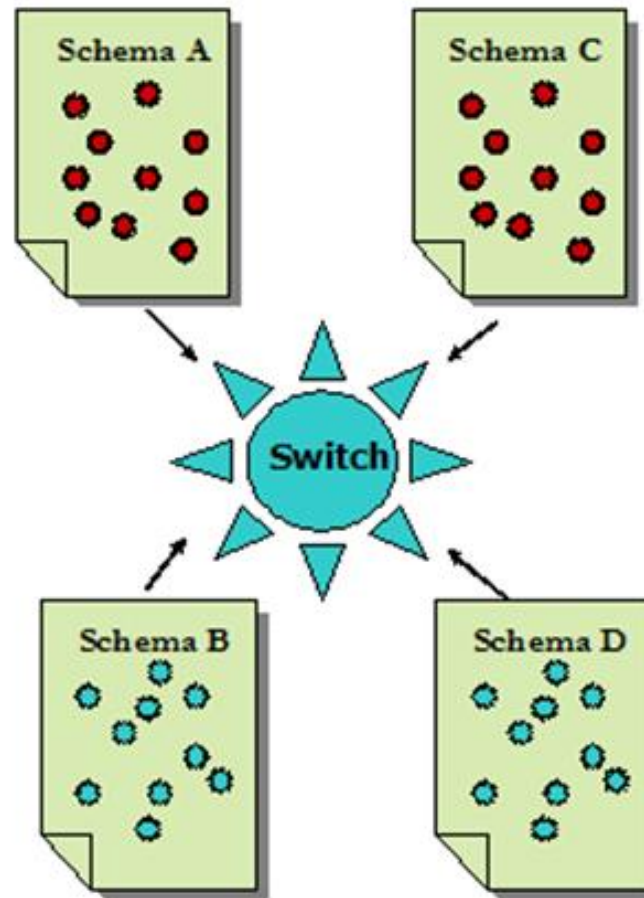




Absolute and relative crosswalking

| source \ target | Absolute crosswalking | Relative crosswalking |
|------------------------------------|-----------------------|-----------------------------|
| VAR Core (3.0) | Dublin Core | Dublin Core |
| <i>Technique</i> | ----- | <i>Format</i> |
| <i>Location.Current Repository</i> | ----- | <i>Contributor Coverage</i> |

Method — Switching-across¹





Method — Switching-across²

http://www.getty.edu - Getty Standards Program Crosswalk of Metadata Sta... PRINT CLOSE

Metadata Standards Crosswalk

NOTE: To see the full list of categories for any one of the standards below, click on the name of the standard. To print from your Web browser, use the landscape print format.

| CDWA | CCO | VRA 3.0 CoreCategories | MARC | Dublin Core | Object ID | FDA Guide | C |
|------------------------------|---------------------|--|---|-----------------------------|---------------------------|--|-------------------|
| OBJECT/ WORK (core) | | | 655 Genre/Form 300a Physical Description-Extent (e.g. 1 drawing) | | | | |
| Object/ Work - Catalog Level | | | | | | Document Classification-Catalogue Level (core) Document Classification-Group Type | |
| Object/Work-Type (core) | Work Type | Type | 655 Genre/Form | Type | Type of Object | Document Classification-Document Type | object |

Done Internet 11:09 PM



Method – Switching-across³

Standards and Guidelines

Metadata Standards Crosswalk

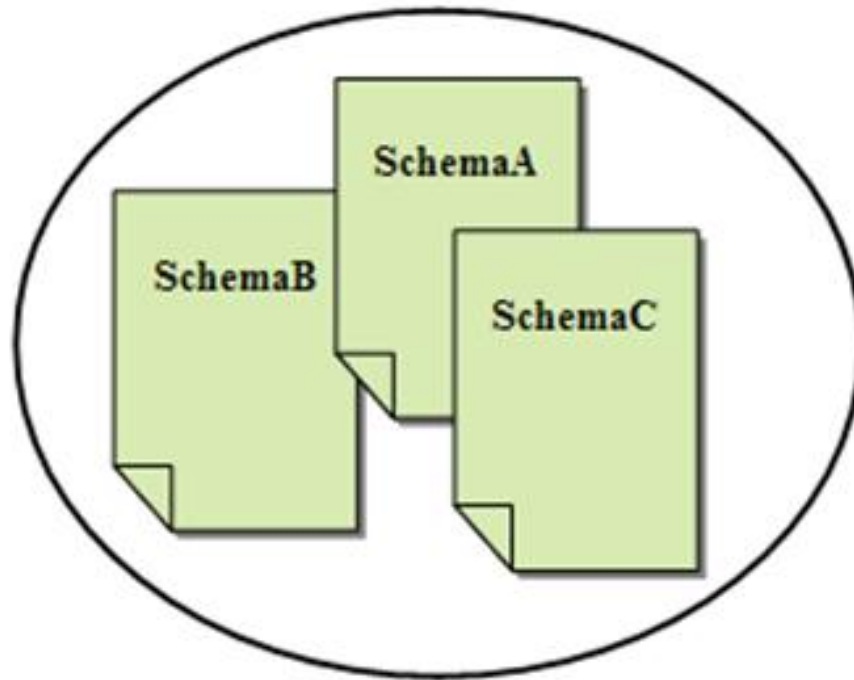
The crosswalk below includes only a partial list of the elements for each standard, focusing on the areas of overlap. This crosswalk is for planning purposes only; refer to the original standards if you are creating a technical mapping. For the full list of elements for any one of the standards below, click on the name of the standard at the top of the column. (To print this crosswalk from your Web browser, use the tabloid 11 x 17-inch paper size setting, landscape print format, .25-inch margins. Alternatively, print the PDF from the *Printer Friendly PDFs* link; see left-hand navigation.)

| CDWA | CCO [1] | CDWA Lite [2] | VRA 4.0 XML | MARC/AACR | MODS | Dublin Core | DACS | EAD [3] | Object ID | CIP |
|--|-----------|---------------------------|---|--|---------------------|---------------------------------|-------------------------------------|--|----------------|------------------------------|
| 1. OBJECT/ WORK (core) | | | | | | | | | | |
| 1.1. Catalog Level (core) | | <cdwaite: recordType> | <vra: work> or <vra: collection> | 655 Genre/Form 300a Physical Description - Extent | <genre> <extent> | | 1 Levels of Description | LEVEL attribute | | |
| 1.2. Object/Work Type (core) | Work Type | <cdwaite: objectWorkType> | <vra: worktype> in <vra: work> or <vra: collection> | 655 Genre - Form | <genre> | Type | 3.1 Scope and Content | <controlaccess> <genreform> (in <archdesc>) | Type of Object | object NAME |
| 1.4. Components/Parts | | | | 300a Physical Description - Extent | <extent> | Format, Extent | 2.5 Extent 3.1 Scope and Content | <physdesc> <extent> (in <archdesc>) | | quantit |
| 1.5. Remarks | | | | | | | 5.4 Accruals | | | |
| 2. CLASSIFICATION (core) | | | | | | | | | | |
| 2.1. Classification Term (core) | Class | <cdwaite: classification> | | 650 684 "Other classification number" | <classification> | Subject (classification schema) | | | | |
| 3. TITLES OR NAMES (core) | | | | | | | | | | |
| 3.1. Title Text (core) | Title | <cdwaite: title> | <vra: title> in <vra: work> or <vra: collection> | 24Xa Title and Title - Related Information | <title> | Title | 2.3 Title | <titleproper> (in <eadheader>) <unittitle> (in <archdesc>) | Title | objectT bibliogr Title |

Source: Harpring, 2009



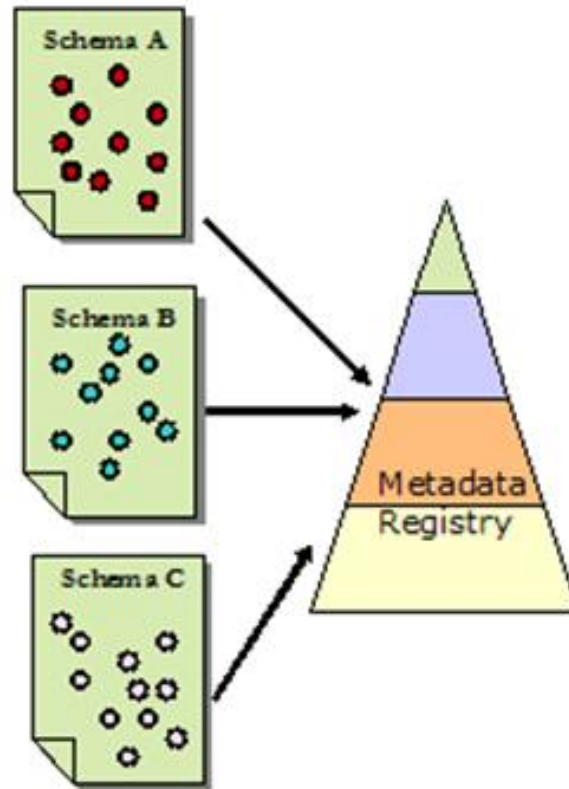
Method — Metadata Framework



Framework



Method—Metadata Registry





Method—Summary

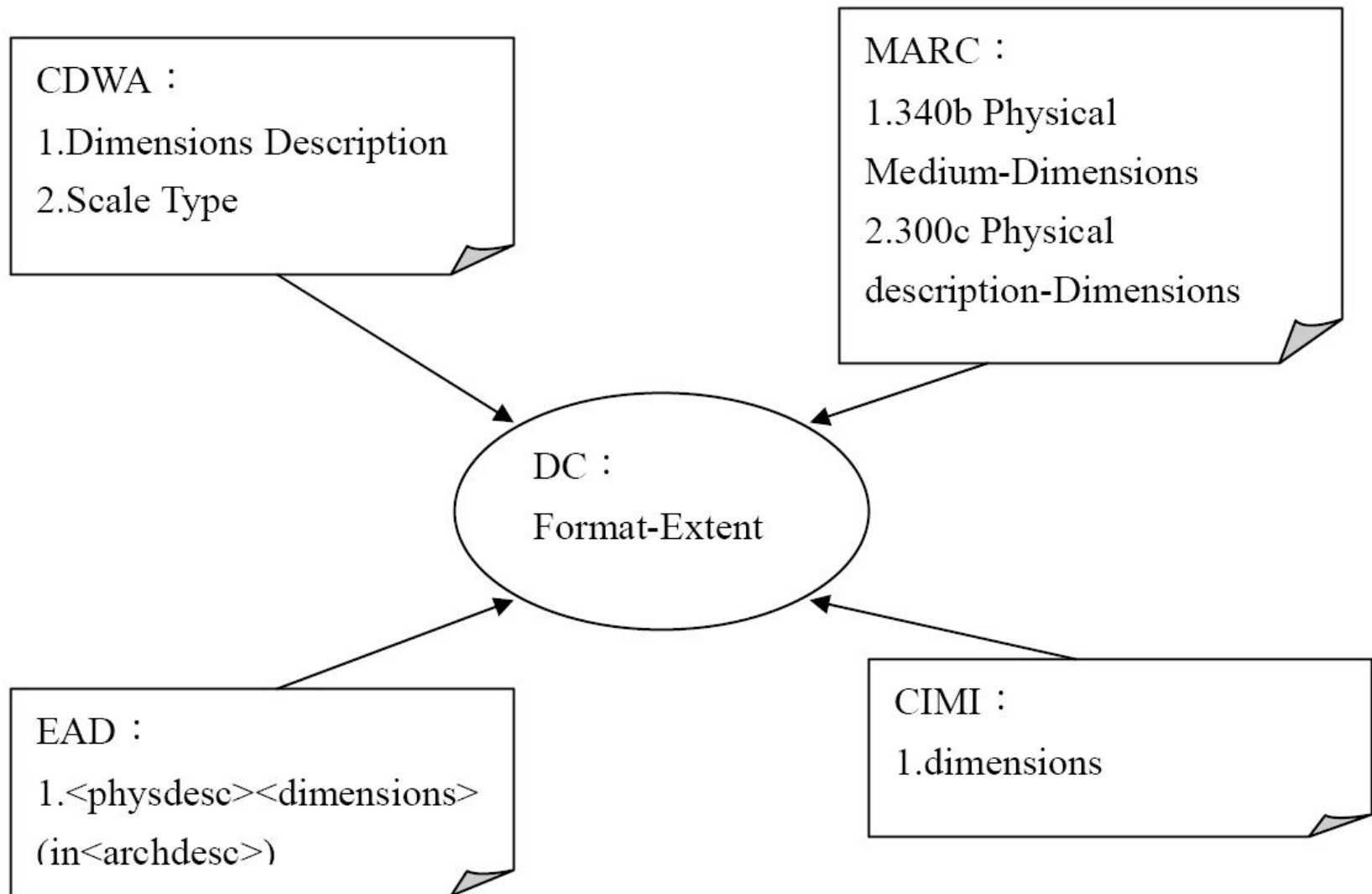
- Crosswalk是前述各式方法的根本基礎與必要的操作途徑
- 定義
 - Crosswalk對照
A crosswalk is a specification for mapping one metadata standard to another. (NISO, 2004)
 - Metadata Mapping比對
Metadata mapping is the process of identifying equivalent or nearly equivalent metadata elements of groups. (Baca, 2003, p. 49)



實例¹

| CDWA | MARC | EAD | Dublin Core |
|-------------------------------|---|--|--------------|
| Object/Work-Type | 655 Genre/form | <controlaccess><genreform> | Type |
| Titles or Names | 24Xa Title and Title— Related Information | <unittitle> | Title |
| Creation-Date | 260c Imprint— Date of Publication | <unitdate> | Date.Created |
| Creation-Creator- Identity | 1XX Main Entry 7XX Added Entry | <origination><persname> <origination><corpname> <origination><famname> <controlaccess><persname> <controlaccess><corpname> | Creator |
| Subject Matter | 520 Summary, etc. 6xx Subject Headings | <abstract> <scopecontent> <controlaccess><subject> | Subject |
| Current Location | 852 Location | <repository><physloc> | |

實例²



實例³

UK

DATE
03 08 1998

USA



Image Source:
<http://ahs.dcps.org>

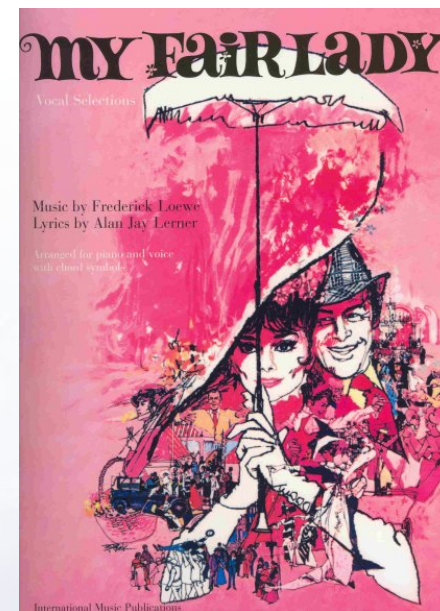
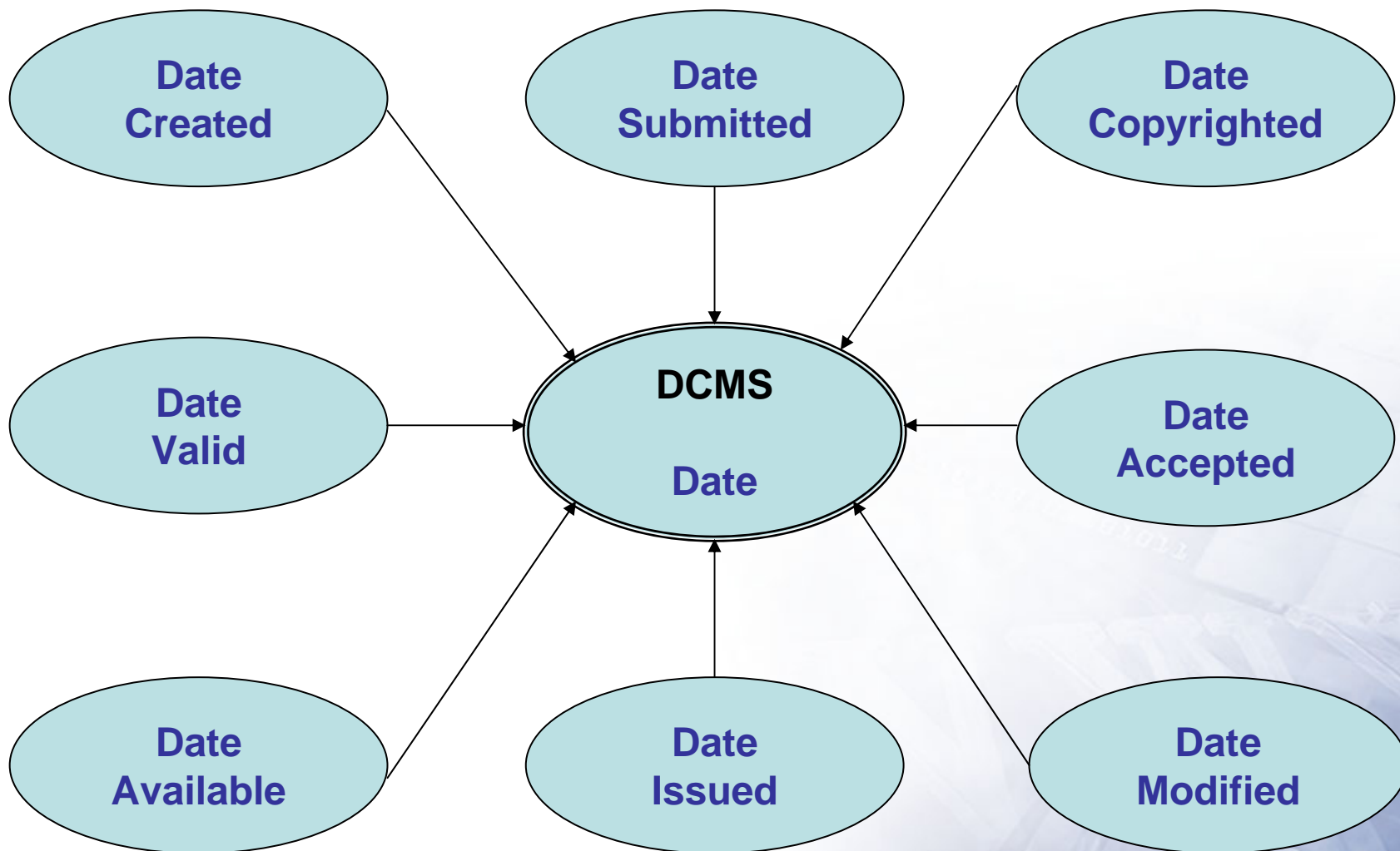


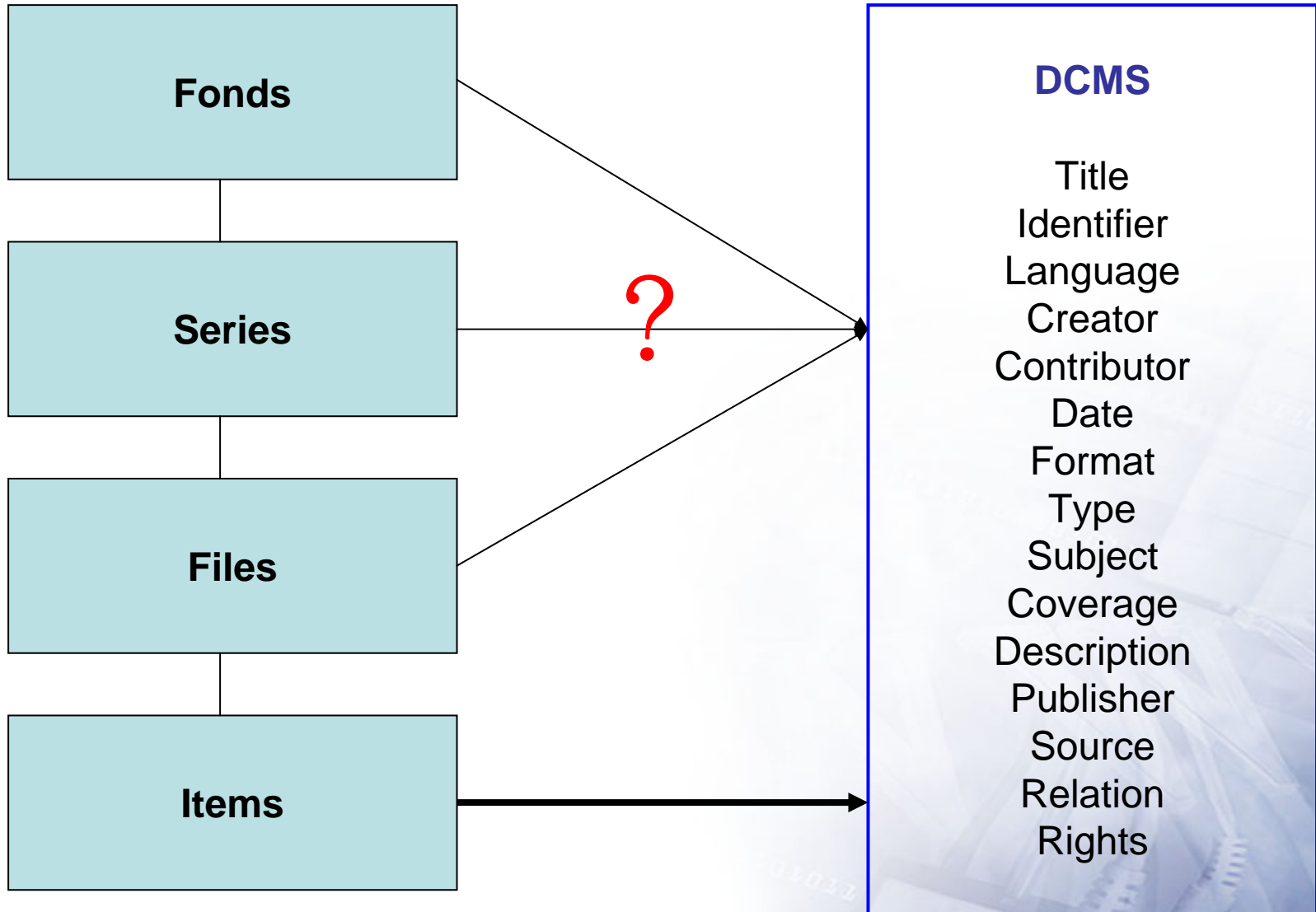
Image Source:
<http://suziebeezie.typepad.com>

1998年
3月8日 OR
8月3日

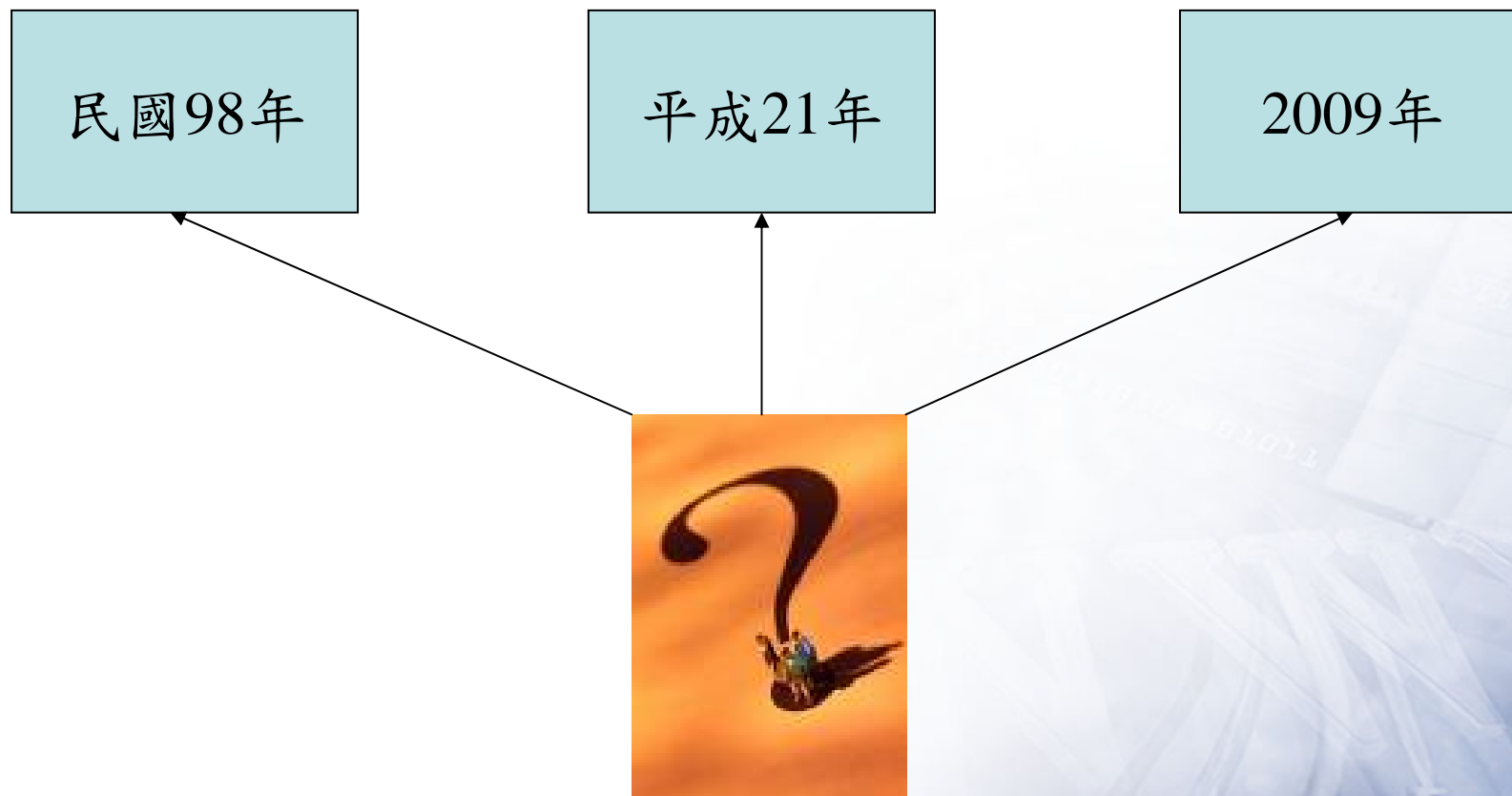
實例⁴



實例⁵



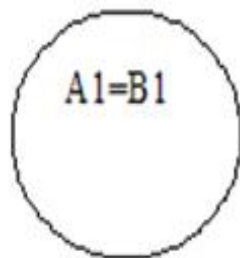
實例⁶



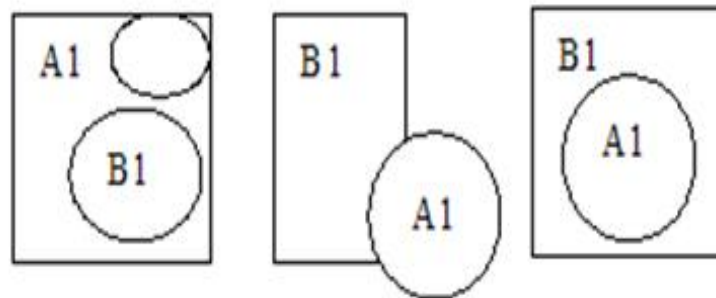


Absolute and relative equivalency

How they are mapped in crosswalks:



How they may exist in real schemas:





現有問題¹

- **semantic definition** of each metadata element;
- whether or not a metadata element is **mandatory, optional**, or mandatory based on certain **conditions**;
- whether or not a metadata element may **occur multiple times** in the same record;
- constraints due to the organization of metadata elements **relative to each other**, e.g., hierarchical parent-child relationships;
- **constraints** imposed on the value of an element (e.g., free text, numeric range, date, or a controlled vocabulary); and
- optional support for **locally defined** metadata elements.



現有問題²

- One to many
- Many to one
- Extra elements in source
- Unsolved mandatory elements in target
- Hierarchy
- Object: single versus multiple
- Logical resolution



必要的考量因素

- Syntactic
- Semantic
- Structural
- Domain
 - Context or culture
- Logical context



建議方案

- 對不同後設資料標準及其學科領域的了解
- 互操作的物件類型
 - 如：Single or compound object
- 各種策略方法的掌握
- 指引的導入
 - 標準規範（如：DC中文使用指引）
 - 後設資料標準的對照（如：國際標準的對照表、對照使用指引）
- 對照服務
 - http://metadata.teldap.tw/design/mapping/service_apply_mapping.php



Reference¹

- Baca, M. (2003) . Practical issues in applying metadata schemas and controlled vocabularies to cultural heritage information. *Cataloging & Classification Quarterly*, 36 (3/4) , 47-55
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Reference²

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報告完畢，敬請指教。