



# Metadata Architecture and Application for the National Digital Archives Program in Taiwan Progress Report

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# *Outline*

- **Supportive boundary**
- **Project list**
- **Attributes of these projects**
- **Standards used**
- **Major achievements**
  - **A model for metadata standard selection**
  - **A metadata continuum model**
  - **Metadata – information interaction**
  - **Generic metadata attributes**
  - **A two-parallel strategy for cross-working**
  - **Chinese Copyright of Metadata standards and int'l collaboration**
  - **On-demand metadata service**





## *Supportive boundary*

- **MAAT (Metadata Architecture and Application Team) supports 37 disciplinary projects of the National Digital Archives Program in Taiwan, which is sponsored by the NSC from 2001, for cultural heritage.**
- **These projects are heterogeneous.**





# *Projects<sup>1</sup>*

- **The Digital Archives of Rubbings and Archaic Texts**
- **Digital Archives of Chinese Archaeological Data**
- **Digital Archive for Rare Books of Fu Ssu-Nien Library**
- **Digital Library for Ethnological Specimen, Photos and Archives**
- **Taiwan Aborigine: Ping-pu group**





## *Projects<sup>2</sup>*

- **Digital Library of Taiwan Herbarium**
- **Zoological Research of Taiwan: Fish and Mollusks**
- **Digital Library Project of National Museum of Natural Science**
- **Digital Library Project of National Museum of History**
- **Taiwan Memory Digital Photo Museum**







# *Projects<sup>3</sup>*

- **Digital Museum of Taiwan's Social and Humanities Video Archive**
- **Linguistics Anchoring and Language Archive of Digital Archives**
- **Digital Archives Project of Chinese Painting and Calligraphy at the National Palace Museum**
- **Digital Library Project of Chinese Antiquities at the National Palace Museum**





# *Projects<sup>4</sup>*

- **GIS Project for Modern Chinese Historic Atlas and Aerial Photos**
- **Digital Archives Project of the Office of Governor-General in Taiwan**
- **Digital Library Project for Official Economic and Diplomatic Archives**
- **Digital Archives Program: Academia Historica**
- **Knowledge Base of Taiwanese Earthquake (921)**





# *Attributes of these Projects*

## *1<sup>st</sup> – data types and styles<sup>1</sup>*

- **Chinese rubbings**
- **Rare books**
- **Archives (focused on non-current records, such as economy, foreign affairs, ancient administrative documents in Ming and Ching Dynasty)**
- **Corpus – modern language, poetry, etc.**







# *Attributes of these Projects*

## *1<sup>st</sup> – data types and styles<sup>2</sup>*

- **Artifacts at the National Palace Museum in Taiwan, such as Chinese paintings, calligraphy, jade, china, enamel, lacquer works, and so on**
- **Specimen – fish, plants in Taiwan**
- **Field works**
- **Films and photos**





# *Attributes of these projects*

## *2<sup>nd</sup> – research disciplines*

- **Arts and the humanities**
  - Aboriginal study / Ethnology
  - Archaeological study
  - Arts
  - Linguistics
  - History
  - Chinese literature, such as poetries in Tang and Sung Dynasty
- **Social Sciences**
  - Economy
  - Diplomatic affairs
- **Bio-diversity**





# *Attributes of these projects*

## *3<sup>rd</sup> - functionality*

- **Description**
- **Resources discovery**
- **Filtering**
- **Exhibition**
- **E-Preservation**
- **Rights-Management**
- **Organizational Management**
- **Others**





# *Attributes of these projects*

## *4<sup>th</sup> - communities*

- **Archives**
- **Libraries**
- **Museums**
- **Herbaria**





# *Standards Used<sup>1</sup>*

- **CDWA**  
**The Digital Archive of Rubbings and Archaic Texts, Digital Archives Project of Chinese Painting and Calligraphy at the National Palace Museum, Digital Archives Project of Chinese Antiquities at the National Palace Museum**
- **CIDOC of ICOM**  
**Taiwan Aborigines**
- **OLAC**  
**Linguistics Anchoring and Language Archive of Digital Archives**







## *Standards Used<sup>2</sup>*

- **EAD**  
**Digital Archives Project of the Office of Governor-General in Taiwan, Digital Library Project for Official Economic and Diplomatic Archives, Digital Archives Program: Academia Historica**
- **TEI Lite**  
**Digital Archive for Rare Books of Fu Ssu-Nien Library**
- **HISPID**  
**Digital Library of Taiwan Herbarium**





## *Standards Used<sup>3</sup>*

- **CSDGM**  
**Digital Library of Taiwan Herbarium**  
**Zoological Research of Taiwan: Fish and Mollusks**
- **ECHO – an FRBR-based**  
**Digital Museum of Taiwan’s Social and Humanities Video Archive**





## *Standards Used<sup>4</sup>*

- **ADL-based Gazetteer**  
a collaborative project with UCB under sponsored by NSF (A multilingual gazetteer system for integrating spatial and cultural resources)
- **MARC21-based**  
For person and family Metadata
- **DC**  
All projects





# *Standards Used<sup>5</sup>*

## *Status Quo Progress*

- **Standards used**
  - **Adopt a standard, or an application profile approach**
  - **Generic: Dublin Core**
  - **Domain-specific: CDWA, EAD, CSDGM, HISPID 3, , OLAC, Species 2000, TEI Lite, USMARC-21, and so on.**
  - [A list](#)





# *Major Achievements*

- **A Model for Metadata Standard Selection**
- **A Metadata Continuum Model**
- **Metadata – Information Interaction**
- **Generic Metadata Attributes**
- **A two-parallel Strategy for cross-walking**
- **Chinese Copyright of Metadata Standards and International Collaboration**
- **On-demand Metadata Service**







# *A Model for MD Standard Selection*

*Community  
Layer*

**Library, Archives, Museum, Herbarium**

*Data Type  
Layer*

**Rubbing, Rare Book, Photo, Audio, Film  
Specimen, Archive, Field Report, etc.**

*Discipline  
Layer*

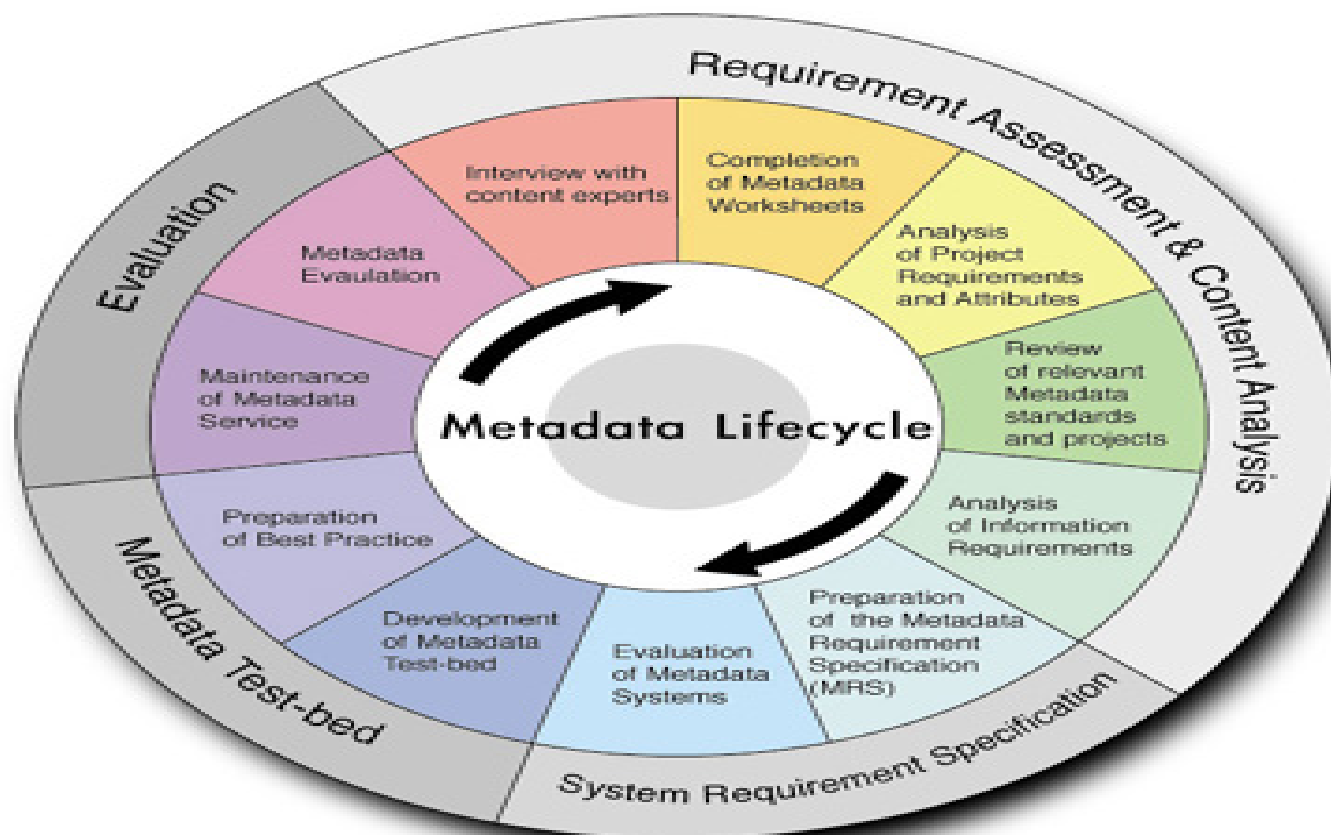
**Art, Archaeology, History, Ethnology  
Linguistics, Biodiversity, Gene, etc.**

*Function  
Layer*

**Resource Discovery, Description, Exhibition  
Rights management, Preservation, etc.**



# Metadata Continuum Model

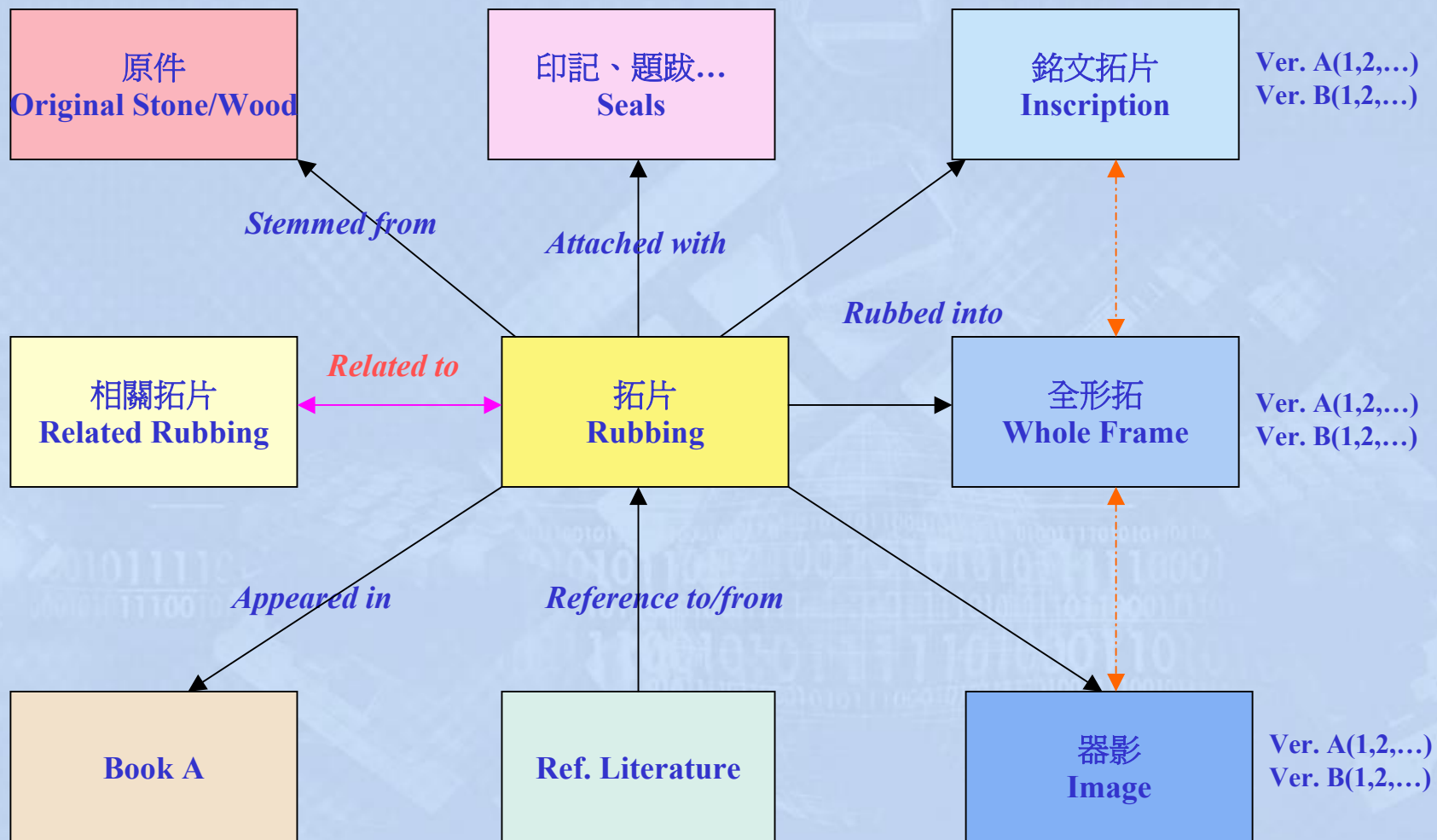




# *Metadata System Service*

- 4 phases, and 12 steps
- **Phase 1: Requirement Assessment & Content analysis**
- **Phase 2: System Requirement Specification**
  - **Metadata Specification**
  - **Metadata System Evaluation**
- **Phase 3: Metadata Testbed**
  - **Including Best Practice**
- **Phase 4: Evaluation**
- <http://www.sinica.edu.tw/~metadata>





## Context-centric approach: Chinese Rubbings





(<http://fishdb.sinica.edu.tw>)

New Page 3 - Netscape

檔案(F) 編輯(E) 檢視(V) 移至(G) 通訊家族(C) 說明(H)

上一頁 下一頁 重讀 首頁 搜尋 Netscape 列印 安全 停止

網址: [http://zorm.zias.sinica.edu.tw/d/mp\\_prepare/lnormal/recognize/knowfish.htm](http://zorm.zias.sinica.edu.tw/d/mp_prepare/lnormal/recognize/knowfish.htm)


立即的訊息 奇摩站 KIMO! 臺灣魚類資料庫 蕃薯藤 台灣的魚類世界2

## 認識台灣產食用魚類

紅甘鯪 *Seriola dumerili* (Risso,1810) *Seriola*

分類地位: 鯪科  
Carangidae

中文俗稱: 紅甘  
英文俗稱: Greater amberjack



體長: 最大尾叉長可達150公分,一般在35~50公分左右。

查詢此魚種在 **ICLARM** 魚庫之資訊: **FishBase**

形態特徵: 體呈長圓形,稍側扁,腹面圓。脂性眼瞼不發達。齒細小,上下頷各有一寬大之齒帶,鰓骨、鰭骨及舌面皆有齒。側線無稜鱗。尾柄兩側之肉質稜脊幼時不明顯,隨著成長而逐漸發展。第一背鰭具有7硬棘。無離鰭。幼魚時,頭部具斜暗帶,體側具5條暗帶;中魚時,體側及各鰭呈黃色、橄

棲所生態: 棲所區域較廣,由水深18~360公尺之間,三、兩成群游動。主要以無脊椎動物及小魚為食。

地理分布: 廣泛分布於世界熱帶及亞熱帶海域。本省各地均產。

利用: 一般漁法以一支釣、拖網、定置網捕獲。肉質鮮美,可作生魚片,亦可煎食、煮湯。

## FishBase (ICLARM)

Species Summary - Microsoft Internet Explorer

檔案(F) 編輯(E) 檢視(V) 我的最愛(A) 工具(T) 說明(H)

About this page  
Propos de cette page  
Acerca desta página

### Species Summary for *Seriola dumerili* Greater amberjack



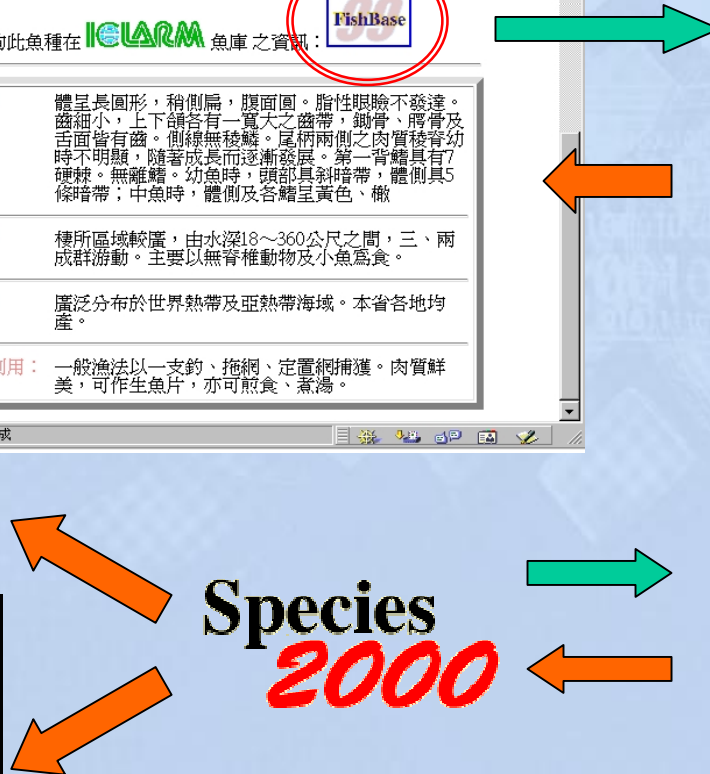
*Seriola dumerili* (Risso, 1810)

**Family:** [Carangidae](#) (Jacks and pompanos)  
**Order:** Perciformes (perch-likes)  
**Class:** Actinopterygii (ray-finned fishes)  
**English name:** Greater amberjack  
**Distribution:** Circumglobal. Indo-West Pacific: South Africa, Arabian Gulf, southern Japan and the Hawaiian Is., south to New Caledonia; Mariana and Caroline Is. in Micronesia. Western Atlantic: Nova Scotia, Canada to Brazil; also from the Gulf of Mexico and the Caribbean Sea (Ref. 9626). Eastern Atlantic: British coast (vagrant) to Morocco and the Mediterranean. Distribution in eastern central Atlantic along the African coast is not well established due to past confusion with *S. carpenteri* (Ref. 7097).  
**Biology:** Inhabits deep seaward reefs; occasionally entering coastal bays. Feeds primarily on fishes such as the bigeye scad, also feeds on invertebrates (Ref. 4233). Small juveniles associate with floating plants or debris in oceanic and offshore waters. Juveniles form small schools or solitary (Ref. 5213). Utilized fresh and frozen; eaten pan-fried, broiled and baked (Ref. 9987).  
**Max. size:** 190.0 cm TL; max.weight: 81 kg  
**Environment:** reef-associated, marine  
**Climate Zone:** subtropical  
**Importance:** fisheries: minor commercial; aquaculture: commercial; gamefish; aquarium: show aquarium  
**Status of threat:** Not in IUCN Red List  
**Dangerous:** reports of ciguatera poisoning  
**Taxonomic**  
**Coordinator:** [Heenstra, Philip C.](#)  
**Main Ref:** [Paxton, I.R., D.F. Hoese, G.R. Allen and J.E. Hanley., 1989. \(Ref. 7300\)](#)

More information: [Synonyms](#) [FAO areas](#) [Countries](#)  
[Key facts](#) [References](#) [Collaborators](#)



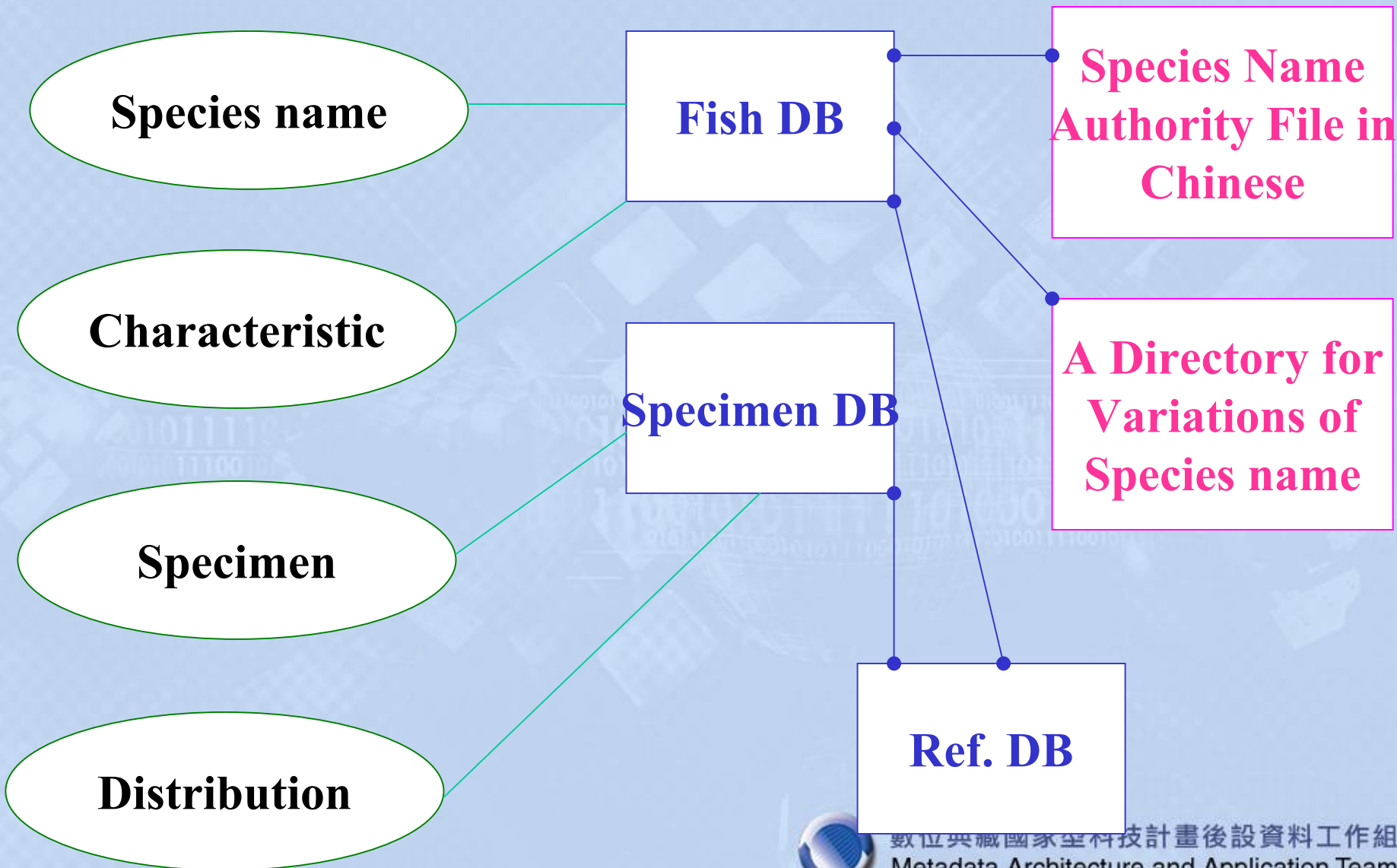
# Species 2000

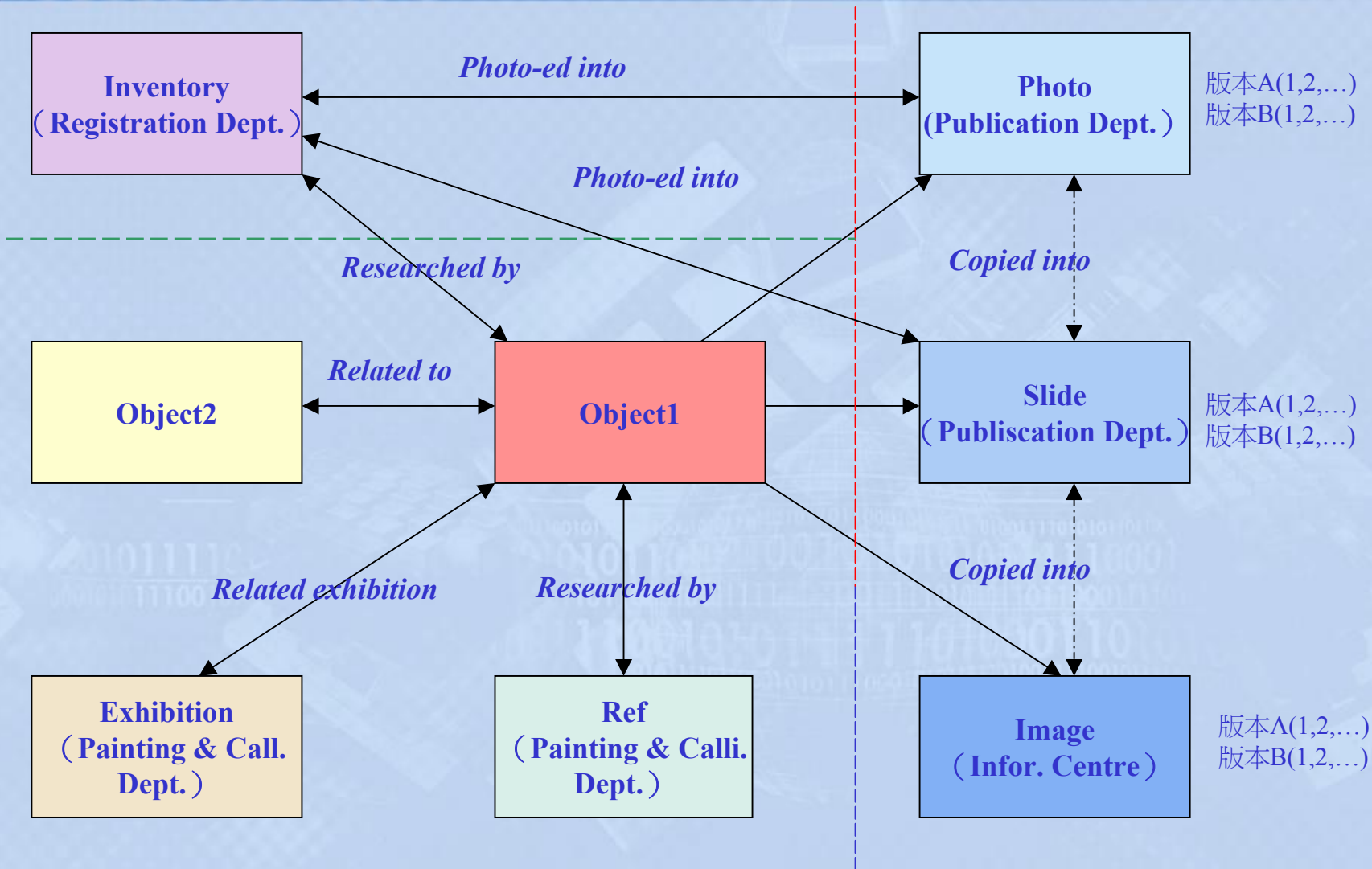






# *Context-centric: Fish DB*



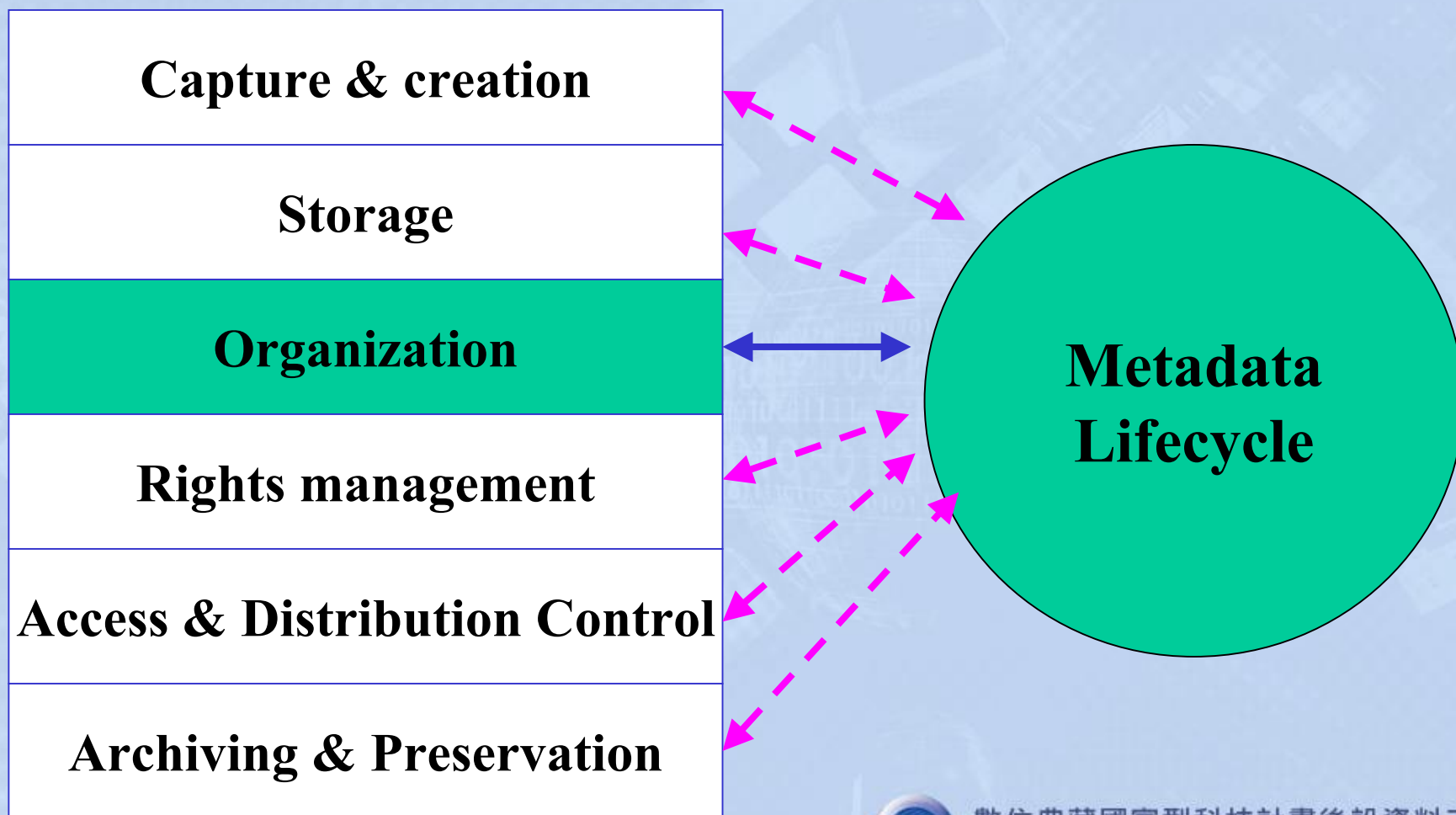


## Context-centric: artworks at NPM



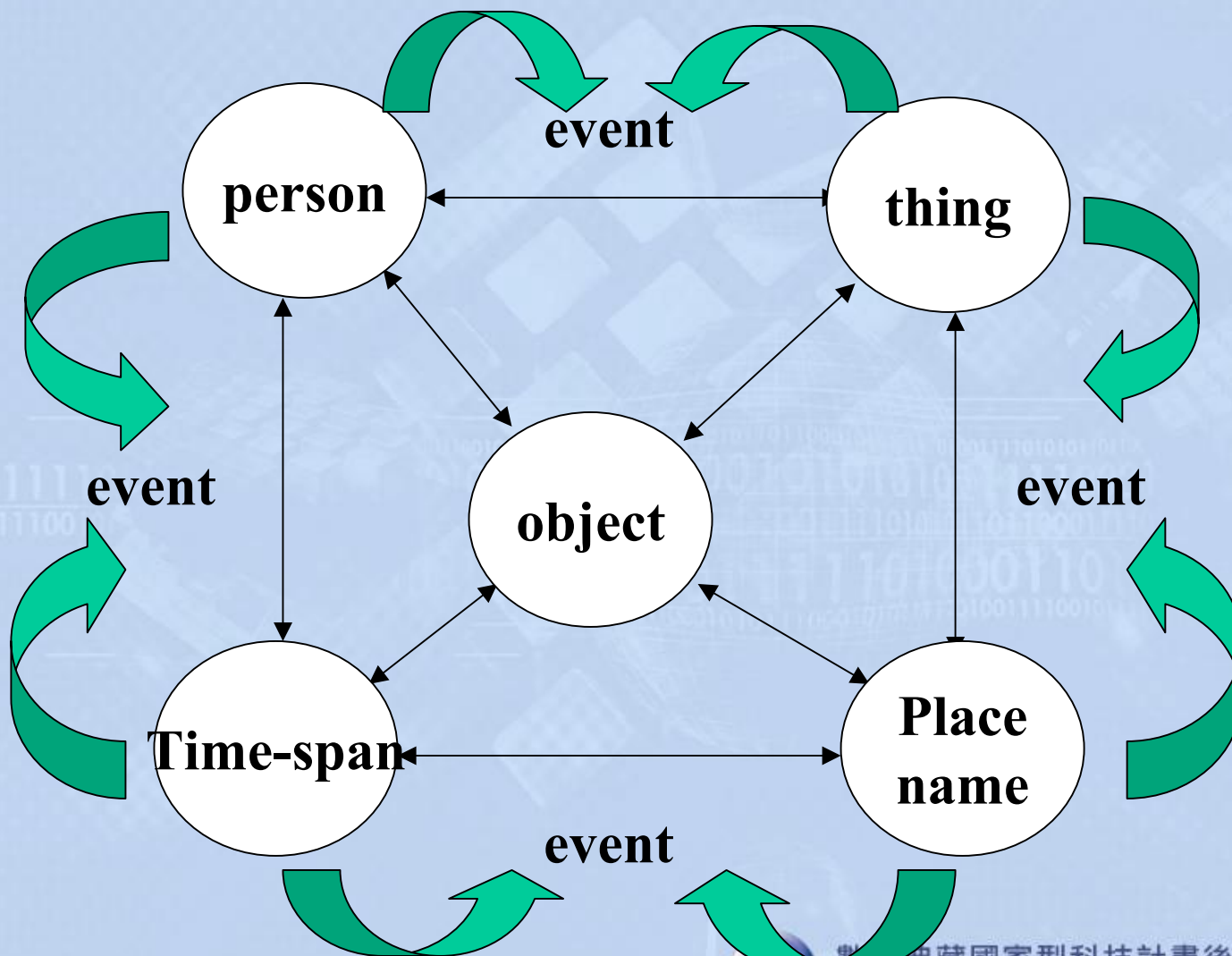


# *Metadata- Information Interaction*





# *Generic Metadata Attributes*





# *Generic Metadata Attributes<sup>2</sup>*

## *Application Profile Approach*

- **Person, Family, and Institute**  
MARC 21-based
- **Time-span**  
under development
- **Place Name**  
A hybrid approach of ADL and TGN will be examined.
- **Event**  
under development based on ABC Model

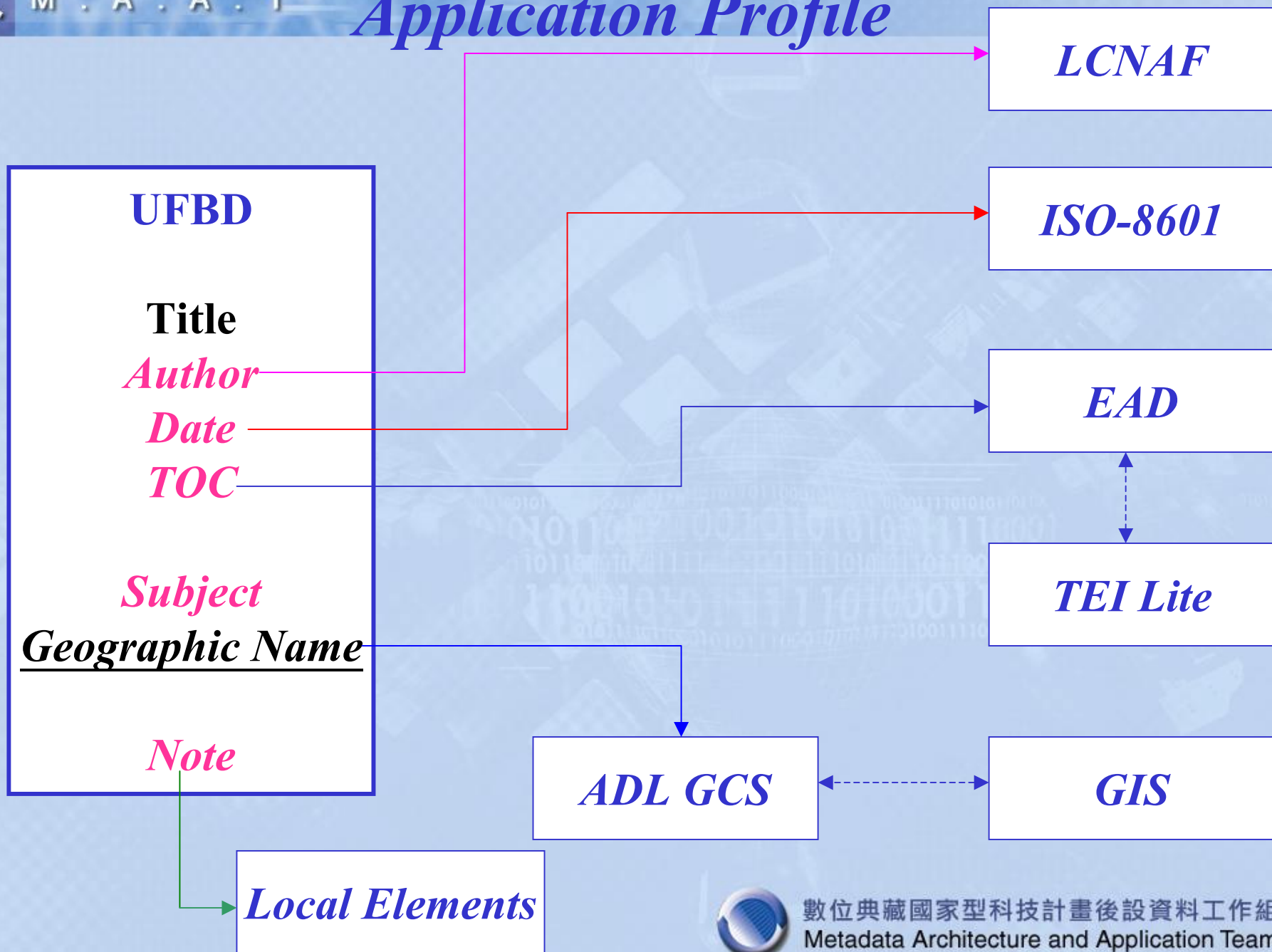
**All will be constructed to be various thesaurus systems.**







# Application Profile





# *Parallel Strategy*

*Generic*

**Dublin Core**



*Domain-specific*

**CDWA, EAD, FGDC, TEI Lite  
and so on.**

**For the public, and  
a base for cross-domain  
interoperability.**

**For a discipline-oriented,  
in-depth, and precise search.**





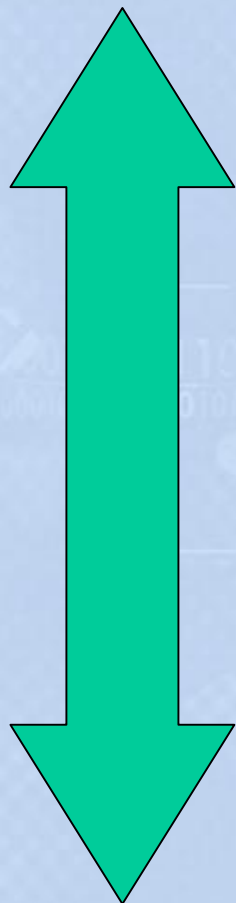
# *Standards – Intl' collaboration*

- **Copyright for Chinese version**
  - ADL
  - CDWA
  - EAD
  - MIDAS
  - HISPID
  - OLAC – by The Linguistics Anchoring and Language Archive of Digital Archives
  - TEI Lite





# *On-demand Metadata Service*



**Generic**

**Community**

**Disciplinary Domain**

**Local specific**





## *Future Works*

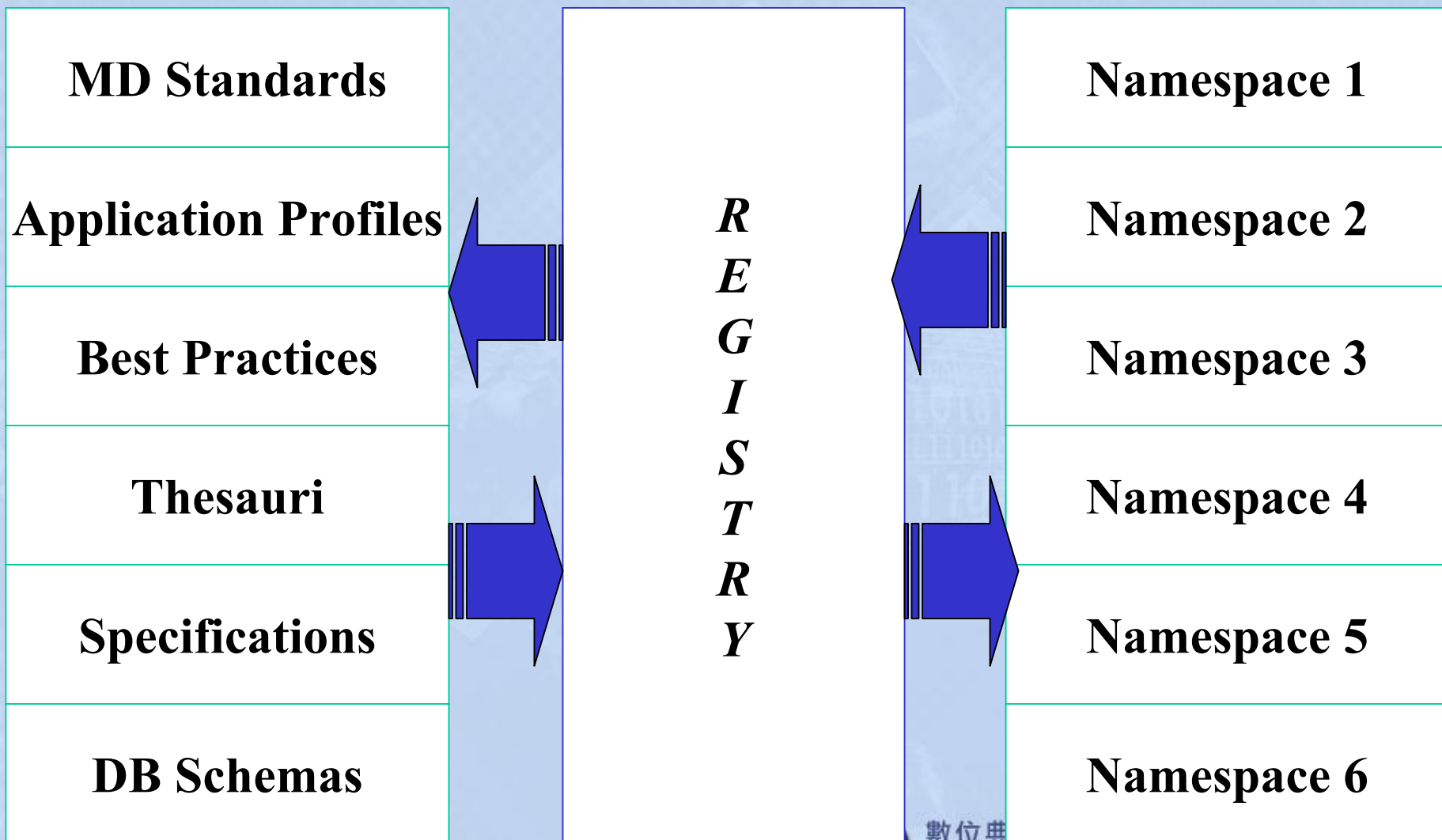
- **Metadata Registry**
- **Metadata Klearinghouse**







# *Metadata Registry*





*Thank for your join, and  
welcome any comments!*

