



Publishing Provenance Information on the Web using Memento Datetime Conneg

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Overview

- Introduction
- Architecture
- Metadata Model
- Memento Datetime conneg
- Publishing Provenance

Introduction

Digital Dark Ages

Project Archipel

- Disseminate content & provenance information as LOD
- Enable long-term preservation

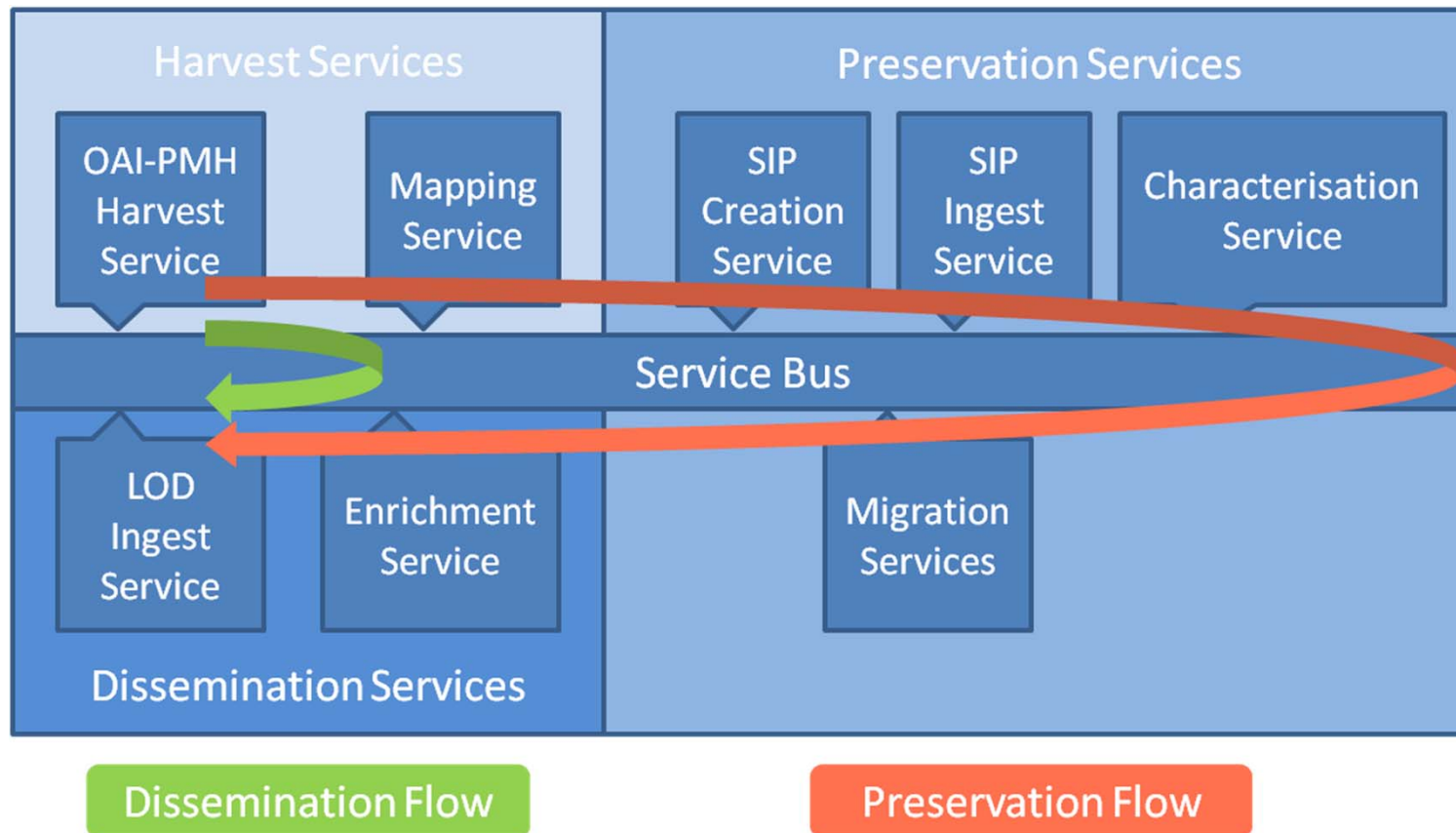
<http://www.archipel-project.be/>

Problems

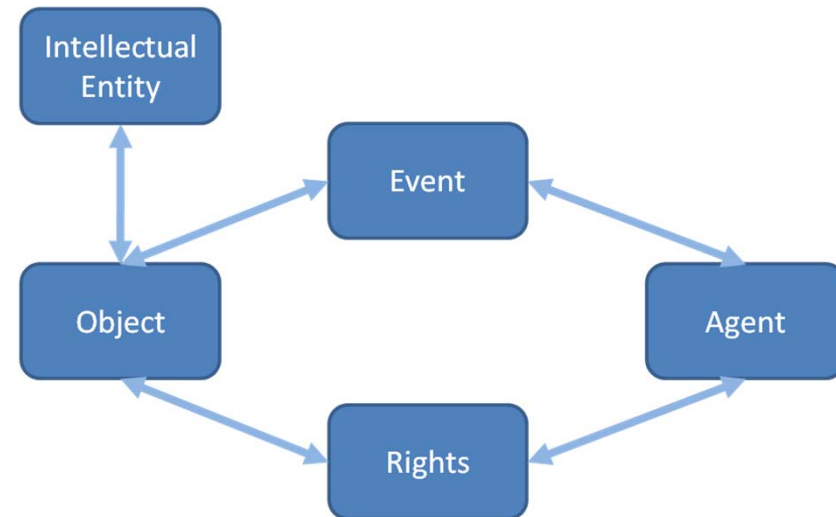
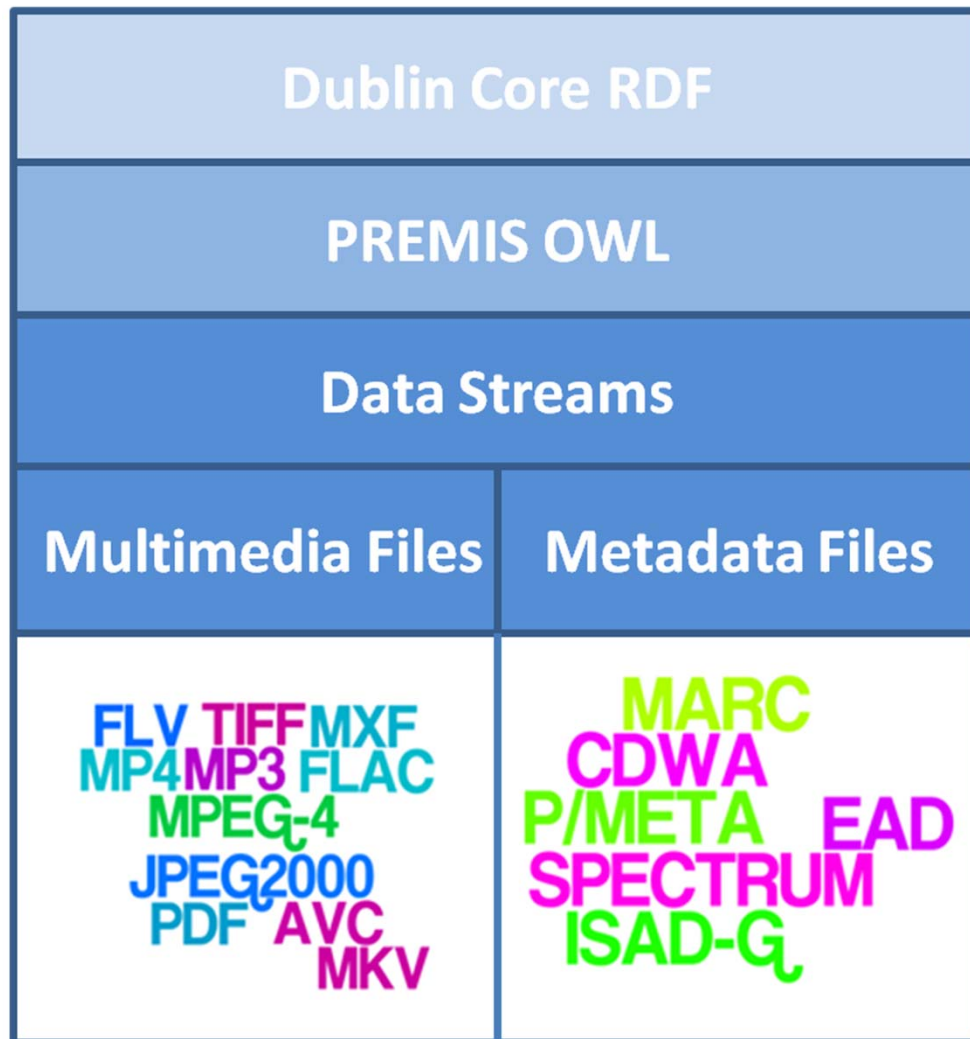
- Persistent URIs (versioning of LOD)
- Temporality Enrichments
- Publication of Provenance



Architecture



Metadata Model





Memento Datetime Conneg



Original
resource



TimeBundle



TimeGate



Memento

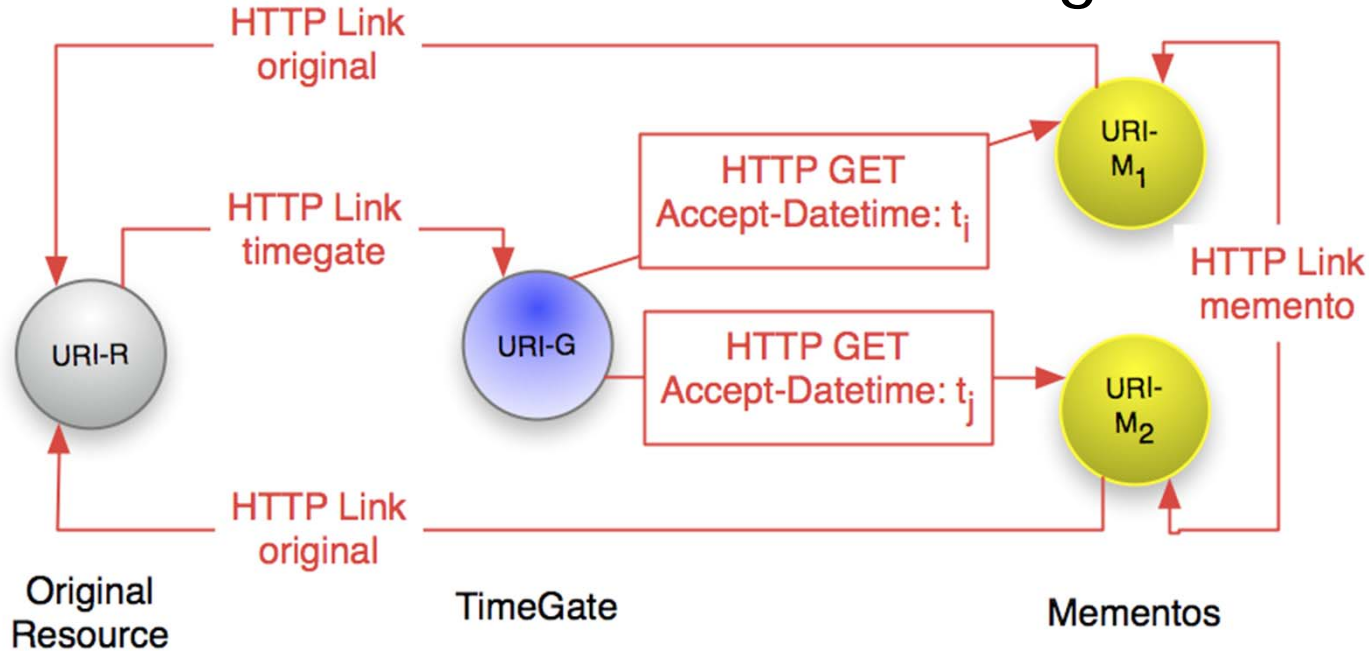


TimeMap



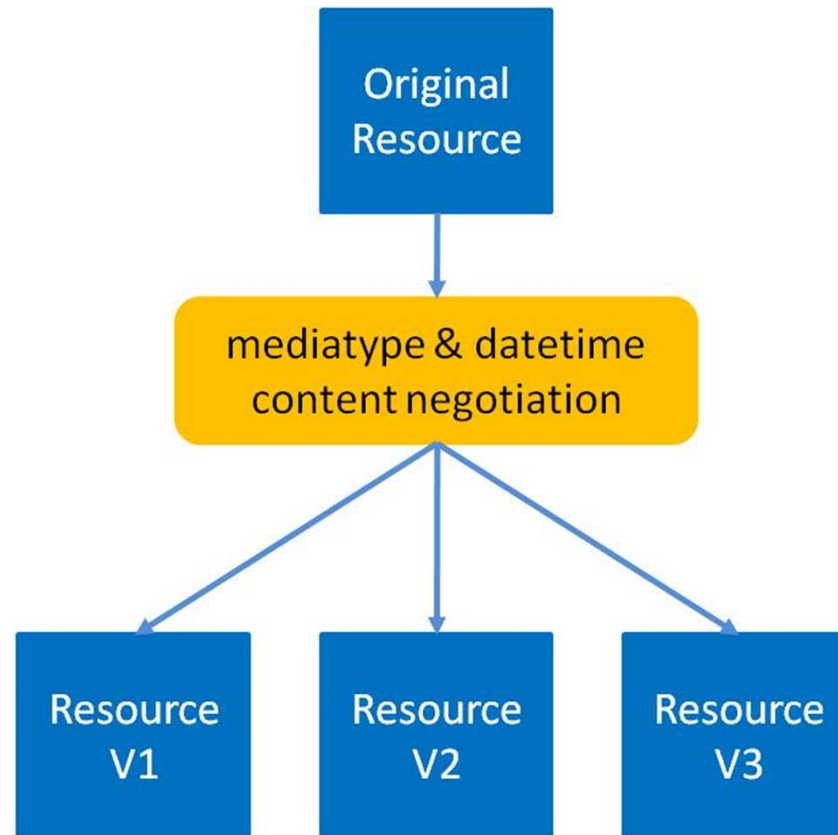


Memento Datetime Conneg



- 1: UA --- HTTP GET/HEAD; Accept-Datetime: T_j ----> URI-R
- 2: UA <-- HTTP 200; Link: URI-G ----- URI-R
- 3: UA --- HTTP GET/HEAD; Accept-Datetime: T_j ----> URI-G
- 4: UA <-- HTTP 302; Location: URI-M_j; Vary; Link:
 URI-R,URI-T,URI-M_j,----- URI-G
- 5: UA --- HTTP GET URI-M_j; Accept-Datetime: T_j --> URI-M_j
- 6: UA <-- HTTP 200; Memento-Datetime: T_j; Link:
 URI-R,URI-T,URI-G,URI-M_j ----- URI-M_j

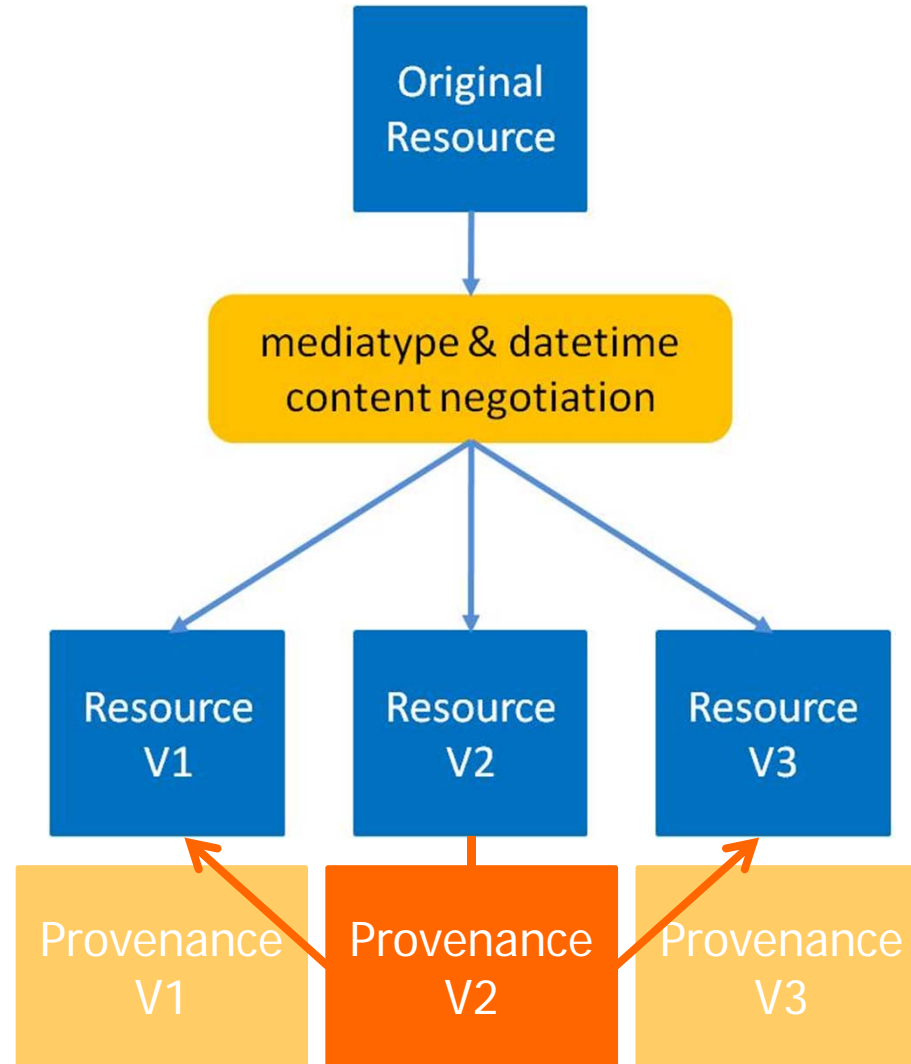
Memento Datetime Conneg



Problem 1: Persistent URIs

Problem 2: Temporality Enrichments

Publishing Provenance



Original
resource



Publishing Provenance
TimeBundle



TimeGate



Memento



TimeMap



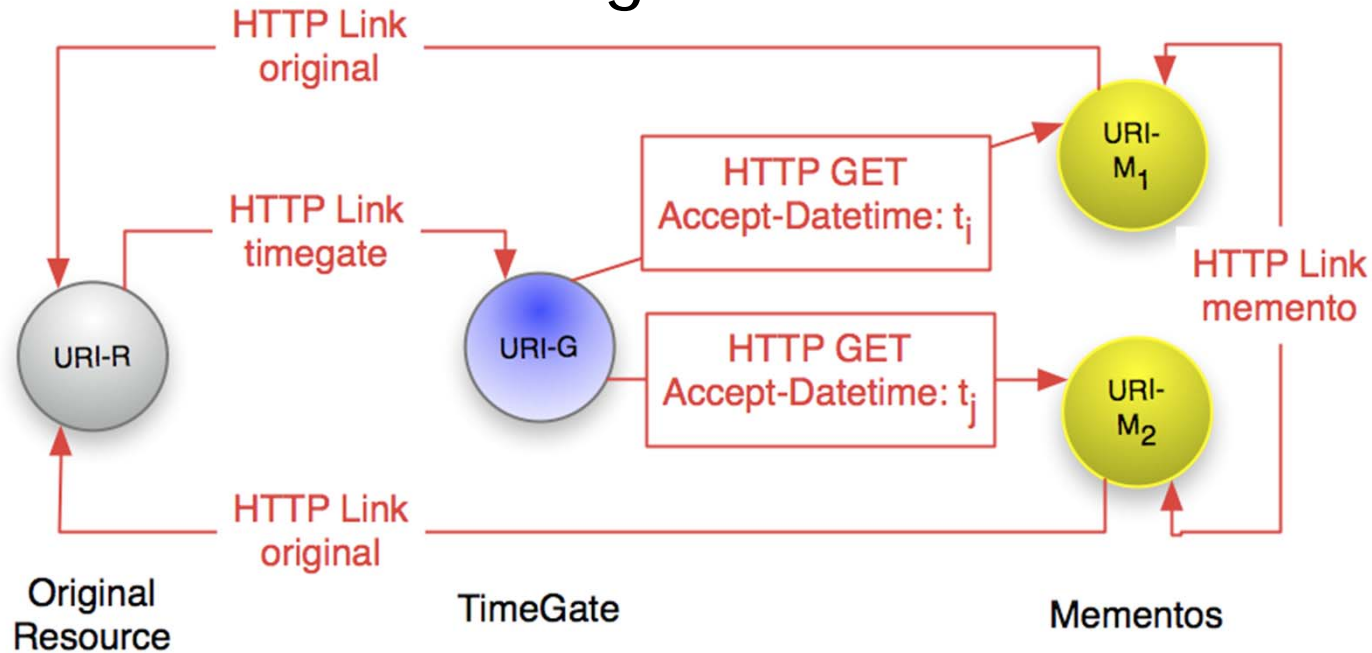
Provenance of Memento



Provenance HTTP
Link in Memento
Response

Problem 3: Publishing Provenance

Publishing Provenance



- 1: UA --- HTTP GET/HEAD; Accept-Datetime: T_j ----> URI-R
- 2: UA <-- HTTP 200; Link: URI-G ----- URI-R
- 3: UA --- HTTP GET/HEAD; Accept-Datetime: T_j ----> URI-G
- 4: UA <-- HTTP 302; Location: URI-M $_j$; Vary; Link:
URI-R,URI-T,URI-M $_j$,----- URI-G
- 5: UA --- HTTP GET URI-M $_j$; Accept-Datetime: T_j --> URI-M $_j$
- 6: UA <-- HTTP 200; Memento-Datetime: T_j ; Link:
URI-R,URI-T,URI-G,URI-M $_j$, **URI-P $_j$** ----- URI-M $_j$



Publishing Provenance

Provenance records: datetime conneg

- first memento (URI-P0)
- last memento (URI-Pn)
- memento (URI-Pj)
- previous memento (URI-Pi)
- next memento (URI-Pk)
- timemap (URI-Tp)

+

- resource of provenance (URI-Mj)



Publishing Provenance

Provenance records: datetime conneg

To allow switching between resource and provenance of that resource.

- first memento (URI-P0)
- last memento (URI-Pn)
- memento (URI-Pj)
- previous memento (URI-Pi)
- next memento (URI-Pk)
- timemap (URI-Tp)

+

- resource of provenance (URI-Mj)



Conclusions

- Disseminate content & provenance information as LOD
- Enable long-term preservation
- Persistent URIs (versioning of LOD)
- Retain Temporality Enrichments



Conclusions

- 5-star deployment scheme:
 - 6 stars for supporting datetime conneg
 - Preserve temporality when enriching
 - 7 stars for publishing provenance
 - Allow quality checkers, License checkers, etc. (→ use cases Provenance XG)

Future Work

- Standardisation PREMIS OWL
- Extend MementoFox plugin to catch provenance HTTP link
- PREMIS OWL suited for publishing provenance on the Web?
- Focus on the use of Provenance

