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Title: aDORe, A Modular and Standards-Based Digital Object Repository at the Los Alamos National Laboratory (Poster)

Author(s): Jeroen Bekaert
Xiaoming Liu
Herbert Van de Sompel

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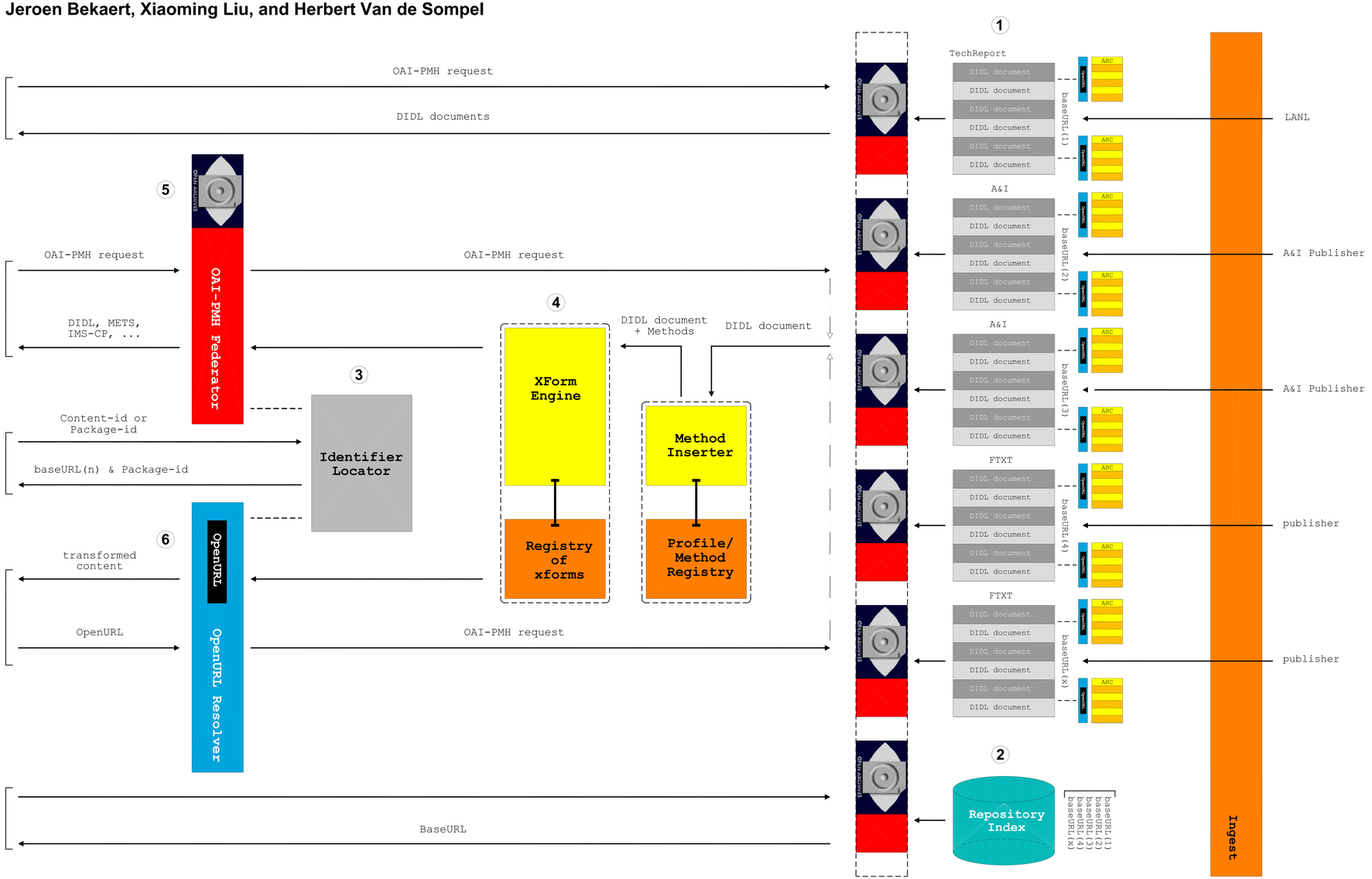
aDORe, a modular and standards-based Digital Object Repository

Digital Library Research & Prototyping Team - Research Library - Los Alamos National Laboratory

Jeroen Bekaert, Xiaoming Liu, and Herbert Van de Sompel



Over the last two years, the Digital Library Research and Prototyping Team of the LANL Research Library has worked on the design of the aDORe repository architecture aimed at ingesting, storing, and making accessible to downstream applications an ever growing heterogeneous collection of Digital Objects. The aDORe architecture is highly modular and standards-based:

1. At the right hand side of the poster, a multitude of **Autonomous OAI-PMH Repositories** are shown. Each of these autonomous repositories stores a collection of OAIS Archival Information Packages (OAIS AIPs) each of which packages a Digital Object. The MPEG-21 Digital Item Declaration Language (MPEG-21 DIDL) is used as the XML-based format to represent each Digital Object and to package it as a DIDL XML document. To keep the size of the DIDL documents small, and hence to make them easier to process, constituent datastreams of the Digital Object are provided by reference and are physically stored in Internet Archive ARC files.

2. The **Repository Index** is shown below the Autonomous OAI-PMH Repositories. It is a registry that keeps track of the creation and location of all the Autonomous OAI-PMH Repositories in the aDORe environment. This component is also accessible through the OAI-PMH.

3. The left center of the poster shows the **Identifier Locator**. For each OAIS AIP stored in aDORe, this component contains the identifiers associated with the OAIS AIP itself and with the Digital Object it represents. It also contains the location of the Autonomous OAI-PMH Repository in which the OAIS AIP and hence the Digital Object reside. When multiple versions of the same Digital Object exist, the Identifier Locator keeps track of all locations. The Identifier Locator can be populated through batch loading or OAI-PMH harvesting. It can be queried in a variety of ways, including SRW and the Handle protocol.

4. To the right of the Identifier Locator, the poster shows the **Transform Engine** and its associated components (XForm Registry, Method Inserter, Profile/Method Registry). These extra components are introduced to facilitate the dynamic binding of methods to stored OAIS AIPs, Digital Objects, and their constituent datastreams upon dissemination.

5. At the top left, the poster shows the **OAI-PMH Federator**. This component provides a front-end to the complete environment for requesting OAIS Dissemination Information Packages (OAIS DIPs). These OAIS DIPs can be the stored OAIS AIPs themselves, or transformations thereof. This front-end allows OAI-PMH harvesters to recurrently and selectively collect batches of OAIS DIPs from aDORe, and hence to create multiple, parallel services using the collected objects. The OAI-PMH Federator interacts with other components of the environment mainly using the OAI-PMH, thereby hiding all architectural details and complexities from downstream harvesters. This front-end makes use of the Transform Engine to apply services to OAIS AIPs that were specified in a dissemination request.

6. At the bottom left, the poster shows the **OpenURL Resolver**. This component provides a front-end to the aDORe environment for requesting OAIS Result Sets. An OAIS Result Set is a dissemination of an individual Digital Object or of its constituent datastreams for immediate presentation to end-users. These disseminations can be obtained using requests that are compliant with the NISO OpenURL Standard. This front-end makes use of a Transform Engine to apply services to OAIS AIPs, Digital Objects, or constituent datastreams that were specified in a dissemination request.

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