The SIAR Project

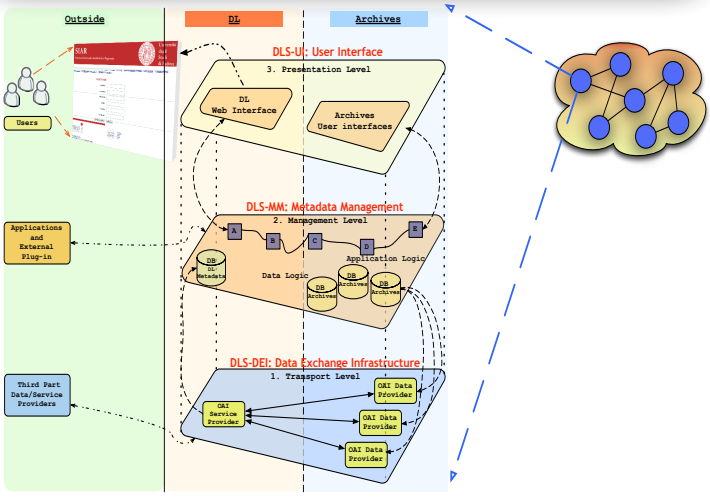
Gianmaria Silvello
Information Management Systems (IMS) Research Group
Department of Information Engineering
University of Padua, Italy
silvello@dei.unipd.it

The Aim of the Project

The SIAR (Sistema Informativo Archivistico Regionale) is a project which aim is to develop a distributed Digital Library System (DLS) for sharing archival metadata; these are maintained in several archives spread across the Italian Veneto Region.

The Veneto Region archives belong to different kinds of institutions and in this context, we have to satisfy a strong requirement for cooperation and interoperability: the autonomy of all these institutions has to be preserved as well as their way of managing and organizing the archives.

The SIAR Architecture



SIAR is a DLS developed as a three-layer architecture, composed of the metadata transport layer, the metadata management layer and the presentation layer. Thanks to the OAI-PMH protocol adoption, SIAR has a way of both transporting and sharing metadata in a distributed environment.

Archival Metadata

Archival description metadata should meet the following three main requisites:

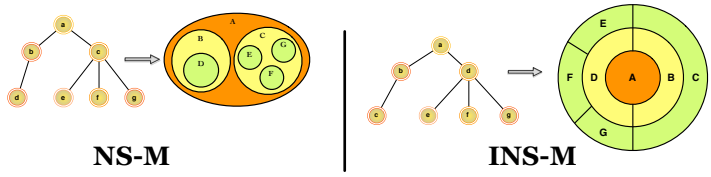
1. **Context**
2. **Hierarchy**
3. **Variable Granularity**

The only standard defined for archival descriptive metadata is the Encoded Archival Description (EAD) metadata format. EAD metadata format addresses hierarchy and context requirements but it does not address the variable granularity one [1].

EAD is not well-suited to be exchanged in a distributed environment:
- very large XML file with a deep hierarchical internal structure;
- item level information is typically buried very deeply in the hierarchy;
- several degrees of freedom in tagging practice, which may turn out to be problematic in the automatic processing.

The NESTOR Framework

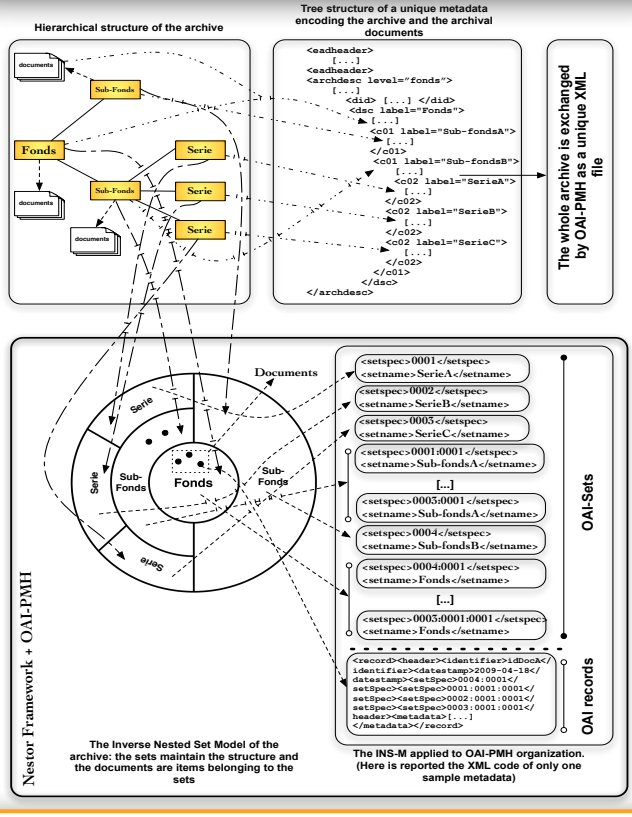
The NESTOR (NEsted SeT for Object hieRarchies) Framework is based on two set data models: **The Nested Set Data Model** (NS-M) and **The Inverse Nested Set Data Model** (INS-M).



NS-M **INS-M**

These models exploit the advantages of the use of sets in place of a tree structure. The foundational idea behind these set data models is that an opportune set organization can maintain all the features of a tree data structure with the addition of some new relevant functionalities [2].

Combining OAI-PMH and NESTOR in the SIAR



References

[1] N. Ferro and G. Silvello, "*A Methodology for Sharing Archival Descriptive Metadata in a Distributed Environment*", in LCNS 5173 (ECDL 2008), pp. 268-279, Springer.
[2] N. Ferro and G. Silvello, "*The NESTOR Framework: How to Handle Hierarchical Data Structures*", in print (ECDL 2009).

Acknowledgments

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