

MPEG-21 Media Contract Ontology in RAI: a new way to manage audiovisual rights

How was it born?

Over the last two decades the multiplication of distribution platforms for radio and tv contents has led to more complex scenarios of exploitation rights. As a consequence copyright risks to become a bottleneck for an efficient use and distribution of archival audiovisual materials.

To overcome this problem in 2008 Rai, together with other European broadcasters (BBC and ORF) and AV archives (INA and B&G), took part in the PrestoPRIME, a project financed by the European Union aiming to develop practical solutions for preservation and accessibility of digital collections.

Rai's first outcome in this research context was the publication in 2009 on PrestoPRIME website (<https://library.avanet.nl/glossary-of-rights/>) of a "Glossary of Rights" which provides definitions for terms used in audiovisual contracts and in rights management activities.

The contact with a team of University of Catalonia which was working on the Media Value Chain Ontology (MVCO, ISO/IEC 21000-19, part 19 of MPEG-21) led in 2010 to Rai's second outcome in the PrestoPRIME project: an AudioVisual Rights Ontology created in relation to the concepts identified within the Glossary.

Later this ontology became an MPEG standard with the name of Media Contract Ontology (MCO), part 21 of MPEG-21. It was published in two editions, the first in 2013 and the second in 2018.

How does it work?

MCO uses Web Ontology Language (OWL) to express audiovisual rights in a flexible, unambiguous and machine-readable way. It puts in relation Intellectual Property Rights with the conditions for their exploitation:

The rights and conditions used in media contracts include, among others, the following exploitation rights:

- rights for communication to the public (from a single place where the public is not present, by broadcasting, or otherwise making the work available);
- fixation rights;
- distribution rights;
- reproduction rights;
- transformation rights (all forms of modification); and
- public performance rights (the work is showed or played in public).

When permitted, such actions correspond to wide powerful rights that are usually restricted by requiring a number of conditions.

Some of the conditions present in contract clauses are:

- access policy, for restricting how or if the final user is charged (or not) for fruition;
- delivery modality, regarding who has control (and how they have control) of the time and place of fruition;
- device, regarding the type of equipment used by the final user for fruition;
- means, regarding the technology used for delivering content to the public;
- service access policy, regarding how, if any, access to service delivery is restricted;
- user time access, regarding whether fruition time for the user is restricted; and
- the number of runs, time period, territory, and language.

(Delgado, Llorente, Boch, Rodríguez, 2016)

The combination between the Intellectual Property Rights and a set of conditions gives rise to a number of exploitation permissions.

From MCO to a new rights management system

MCO facilitates the conversion of narrative contracts to digital ones and allows the creation of new contracts in machine-readable electronic format. Even if RAI chose to continue using a narrative format for media contracts, since 2016 a new rights management system based on the MPEG-21 MCO has been adopted. The central element of this system is the “rights sheet”, where rights’ information of the original narrative contract is expressed through MCO in a machine-readable way.

To complete the transition from the old to the new rights management, RAI envisage the release of a Multimedia Certification System of the Rights, which will consent to establish a link between the rights sheets and the multimedia file of a program. Once the connections are in place, professional users of RAI Multimedia Catalogue will be able to employ rights as a search filter and to know the main exploitation permissions of a program via a graphic interface.

Papers on Media Contract Ontology

- J. Delgado, S. Llorente, L. Boch, V. Rodríguez, White Paper on MPEG-21 Contract Expression Language (CEL) and Media Contract Ontology (MCO), ISO/IEC JTC1/SC29/WG11 N15996, 2016, <https://mpeg.chiariglione.org/standards/mpeg-21/media-contract-ontology>

- P. Kudumakis, T. Wilmering, M. Sandler, V. Rodríguez - Doncel, L. Boch, J. Delgado, MPEG Intellectual Property Rights Ontologies, ISO/IEC JTC 1/SC 29/WG 11 N18500, 2019, <https://mpeg.chiariglione.org/standards/mpeg-21/white-paper-mpeg-ipr-ontologies>