



Open Digital Rights Language (ODRL)

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0 Status

This document is an early draft and a **work-in-progress** and may be updated and/or replaced by other documents at any time.

The intention is to promote this draft document amongst multiple communities interested in the expression of Digital Rights Management statements and semantic interoperability across these communities.

ODRL will be standardised via an appropriate, open, and non-competitive organisation with an open process for the future maintenance of the standard. *ODRL* has no license requirements and is available in the spirit of “open source” software.

Comments are welcome to the editors from all interested parties.

Change Bars indicate modifications from Version 0.5

1 Overview

Digital Rights Management (DRM) involves the description, layering, analysis, valuation, trading and monitoring of the rights over an enterprise's assets; both in physical and digital form; and of tangible and intangible value. DRM covers the digital management of rights - be they rights in a physical manifestation of a work (eg a book), or be they rights in a digital manifestation of a work (eg an ebook). Current methods of managing, trading and protecting such assets are inefficient, proprietary, or else often require the information to be wrapped or embedded in a physical format [HIGGS].

A key feature of managing online rights will be the substantial increase in re-use of digital material on the Web as well as the increased efficiency for physical material. The pervasive Internet is changing the nature of distribution of digital media from a passive one way flow (from Publisher to the End User) to a much more interactive cycle where creations are re-used, combined and extended ad infinitum. At all stages, the Rights need to be managed and honoured with trusted services.

Current Rights management technologies include languages for describing the terms and conditions, tracking asset usages by enforcing controlled environments or encoded asset manifestations, and closed architectures for the overall management of rights.

The Open Digital Rights Language (*ODRL*) provides the semantics for DRM in open and trusted environments whilst being agnostic to mechanisms to achieve the secure architectures.

1.1 The Bigger Picture

It is envisaged that *ODRL* will “plug into” an open framework that enables peer-to-peer interoperability for DRM services. (See [ERICKSON] for an overview of this area). However, *ODRL* can also be used as a mechanism to express rights statements on its own and to plug into existing DRM architectures, for example, the Electronic Book Exchange [EBX] framework.

The editors consider that traditional DRM (even though it is still a new discipline) has taken a closed approach to solving problems. That is, the DRM has focused on the *content protection* issues more than the *rights management* issues. Hence, we see a movement towards “Open Digital Rights Management” (ODRM) with clear principles focused on interoperability across multiple sectors and support for fair-use doctrines.

The ODRM Framework consists of Technical, Business, Social, and Legal streams as shown in Figure 1.

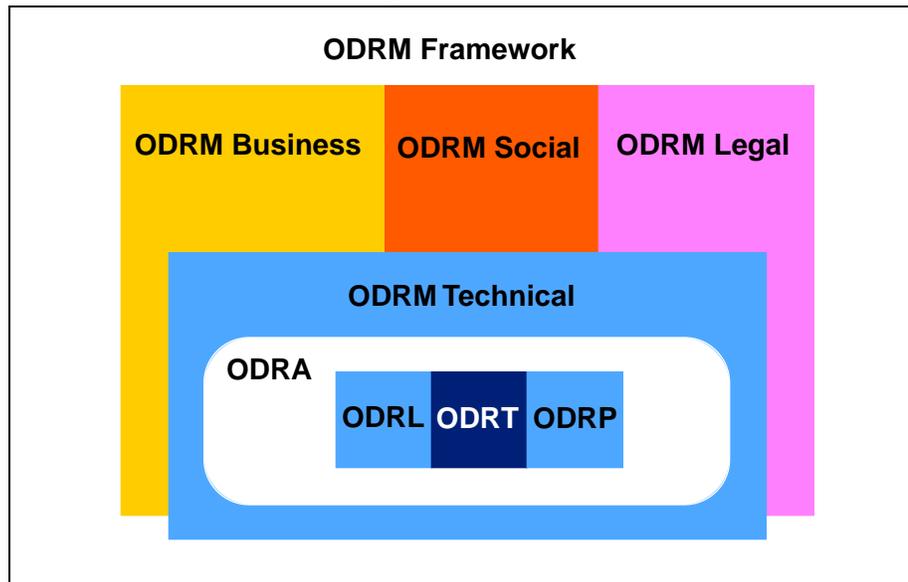


Figure 1. ODRM Framework

The ODRM Technical stream consists of an Architecture (ODRA), Trading Protocol (ODRT) and Protection (ODRP) mechanisms with *ODRL* clearly focused on solving a common and extendable way of expressing Rights assertions within this Architecture.

The ODRM Architecture exists in other forms that are specific to other communities needs, such as Privacy metadata. Hence, ODRA can be

achieved by abstracting and reusing such architectures to enable trusted metadata expressions about digital assets.

1.2 About this Specification

This document, along with its normative references, includes all the specification necessary for the implementation of interoperable *ODRL* applications.

The key words *must*, *must not*, *required*, *shall*, *shall not*, *should*, *should not*, *recommended*, *may*, and *optional* in this specification are to be interpreted as described in [RFC2119] which defines the significance of each particular requirement.

Examples used in this document are for demonstration purposes only.

2 ODRL

ODRL complements existing analogue rights management standards by providing digital equivalents, and supports an expandible range of new services that can be afforded by the digital nature of the assets in the Web environment. In the physical environment, *ODRL* can be used to enable machine-based processing for Rights management.

ODRL is a standard vocabulary for the expression of terms and conditions over assets. *ODRL* covers a core set of semantics for these purposes including the rights holders and the expression of permissible usages for asset manifestations. Rights can be specified for a specific asset manifestation (format) or could be applied to a range of manifestations of the asset.

2.1 Scope

ODRL is focused on the semantics of expressing rights languages. *ODRL* can be used within trusted or untrusted systems for both digital and physical assets. However, *ODRL* does not determine the capabilities nor requirements of any trusted services (eg for content protection, digital/physical delivery, and payment negotiation) that utilises its language. Clearly, however, *ODRL* will benefit rights transactions over digital assets as these can be captured and managed as a single transaction. In the physical world, *ODRL* expressions would need an accompanying system with the distribution of the physical asset.

ODRL defines a core set of semantics. Additional semantics can be layered on top of *ODRL* for third-party value added services.

ODRL does not enforce or mandate any policies for DRM, but provides the mechanisms to express such policies. Communities or organisations, that establish such policies based on *ODRL*, do so based on their specific business or public access requirements.

ODRL depends on the use of unique identification of assets. This is a very difficult problem to address and to have agreement across many sectors and is why identification mechanisms and policies of the assets

is outside the scope of *ODRL*. Sector-specific versions of *ODRL* may address the need to infer information about the asset manifestation from its unique identifier.

ODRL model is based on an analysis and survey of sector specific requirements (models and semantics), and as such, aims to be compatible with a broad community base. *ODRL* aims to meet the common requirements for many sectors and has been influenced by the ongoing work and specifications/models of the following groups:

- <indec> [INDECS]
- Electronic Book Exchange [EBX]
- IFLA
- DOI Foundation [DOI]
- ONIX
- MPEG
- IMS
- Dublin Core Metadata Initiative [DCMI]

ODRL proposes to be compatible with the above groups by defining an independent and extensible set of semantics. *ODRL* does not depend on any media types as it is aimed for cross-sector interoperability.

2.2 Foundation Model

ODRL is based on a simple, yet extensible, model for rights management which involves the clear separation of Parties, Assets, and Rights descriptions. This is shown in Figure 2.

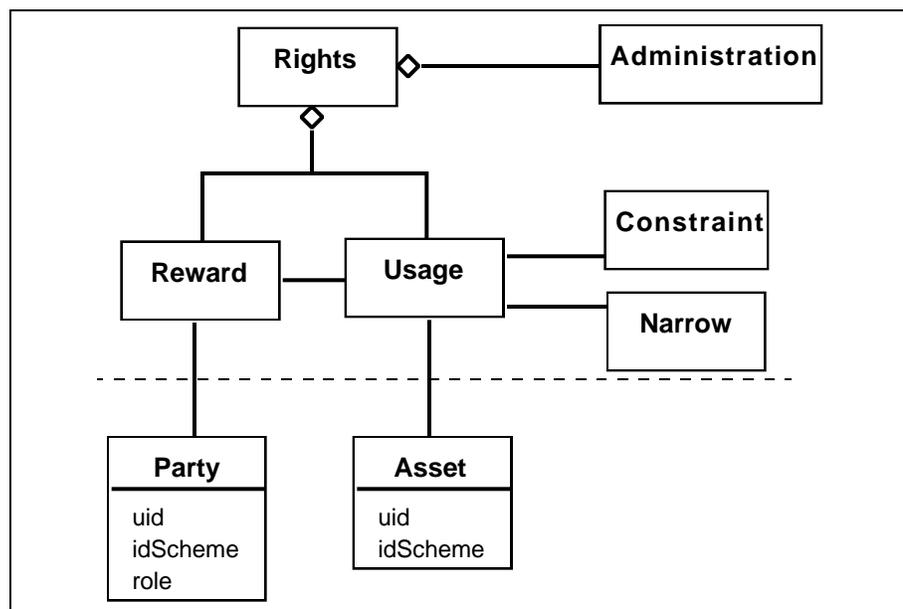


Figure 2. ODRL Foundation Model

The *Rights* entity consists of *Usage*, *Constraint*, *Narrow*, and *Reward* which together enable the expression of digital rights over the identified *Asset* and their *Rights Holders* (parties). The Parties' Role with respect to their *Rewards* can also be expressed.

The description of the *Party* and *Asset* entities is outside the scope of *ODRL*. What is in scope is that these entities must be referenced by

using unique identification mechanisms (such as [URI], [DOI], [ISBN] etc).

The Asset entity (sometimes referred to as a Work, Content, Creation, or Intellectual Property), is viewed as a whole entity. If the Rights are assigned at the Asset's subpart level, then such parts would require to also be uniquely identifiable. However, *ODRL* can specify constraints on subparts of the asset.

The Rights entity also consists of an Administration entity that captures the responsible parties and valid dates of the Rights expression.

Complete and formal semantics for the *ODRL* Foundation Model properties and attributes are specified in Section 3.1 "Foundation Semantics" on page 12.

2.2.1 Example

The *ODRL* Foundation Model can be expressed using XML. A pseudo-example is shown below:

```
<rights>
  <asset>
    <uid idscheme="URI">http://byeme.com/myasset.pdf</uid>
  </asset>
  <usage>
    <usage-type>
      ...
      <constraint> ... </constraint>
    </usage-type>
    <usage-type>
      ...
      <constraint> ... </constraint>
    </usage-type>
    ...
  </usage>
  <narrow> ... </narrow>
  <reward>
    <reward-type>
      <party>
        ...
        <role> ... </role>
      </party>
    </reward-type>
    ...
  </reward>
  <admin>
    <party> ... </party>
    <datetime> .. </datetime>
  </admin>
</rights>
```

Complete and formal syntactical examples are given in Section 4 "Syntax" on page 21.

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