
**Content Delivery and Rights
Management — Functional requirements
for identifiers and descriptors for use in
the music, film, video, sound recording
and publishing industries**

*Mise à disposition de contenus et gestion de droits — Spécifications
fonctionnelles des identificateurs et descripteurs à l'usage des
industries musicales, cinématographiques, vidéographiques,
phonographiques et de l'édition*



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Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report. A Technical Report is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

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ISO/TR 21449 was prepared by Technical Committee ISO/TC 46, *Information and documentation*, Subcommittee SC 9, *Identification and description*.

Introduction

This Technical Report was prepared by Tom Delsey for organizations involved in the administration of identifier systems and projects within ISO/TC 46, SC 9.

Recent advances in digital technology have prompted significant change within the music, film, video, sound recording and publishing industries. These so-called “content” industries are all actively engaged in adapting conventional modes of production and distribution to exploit new technologies for the creation, storage and communication of information. Major industry players are repositioning themselves in relation not only to their traditional competitors but to new entrants in the field as well, many of which have emerged from other industries within the broader information/communications sector. The new technologies and a new competitive environment together are driving industries right across that broader sector to develop new business models in order to maintain and strengthen their respective positions in the marketplace.

Within this new technological and economic environment, infrastructure has become a key factor for strategic positioning. It is no longer sufficient to have in place an infrastructure designed to support a specific industry; increasingly all industries within the information/communications sector rely on a technological infrastructure that is cross-sectoral and, in effect, global in design and scope. In that context, standardization becomes an issue of much greater significance. Within the content industries, increased recognition of the strategic importance of standardization is evidenced by a growing number of industry-wide and cross-sectoral initiatives aimed at developing the models, standards and protocols that are needed to support electronic commerce more efficiently and effectively. The development of a Multimedia Framework (MPEG-21) by the joint ISO/IEC Moving Picture Expert Group is the most recent and perhaps the most far-reaching of such initiatives.

As one element of the new multimedia infrastructure, standardized mechanisms for the identification and description of digital items are becoming increasingly important as a means of supporting content-related business transactions on a cross-sectoral and global basis. Within the publishing and sound recording industries, standard identifiers have been used for decades as a means of facilitating product distribution and remuneration. With the transition to networked delivery of digital content, there is a growing need for efficient and reliable mechanisms for identifying not only the products such, but the intellectual property embodied in the product as well. Standard identifiers play an increasingly important role in facilitating and tracking a multitude of transactions conducted throughout the lifecycle of a digital item and across the spectrum of the supply chain. As a result, issues relating to integrity, scalability, and flexibility in the design of standard identifiers take on new importance, and “interoperability” becomes a key consideration.

From a business perspective, the interest of the content industries in networking infrastructure stems primarily from a recognition of the essential role that infrastructure will play in future exploitation of market potential. Digital item identification and description will serve as key elements of that infrastructure, and will form an integral part of the technology that will support efficient business transactions and protect commercial rights and interests in a networked environment.

From an operational perspective, the effective design and application of standards for digital item identification and description will be critical for the support of activities throughout the supply chain, from content creation and production through to distribution and the tracking of usage. To be fully effective in a multimedia environment, digital item identifiers and descriptions will have to function on an all-inclusive scale. They will have to encompass a broader range of content than they do currently; they will have to differentiate between product and property; and they will have to be applied at multiple levels of aggregation and decomposition. Scalability and flexibility will be essential. Above all, digital item identifiers and descriptions will have to function in a multifaceted, cross-sectoral environment where interoperability is critical.

This Technical Report was developed to provide the content industries with a shared frame of reference for describing the nature of the business and information transactions that take place between and among them in the course of production, distribution, and rights management, and a structured statement of requirements to guide the further development of identification and description schema in support of those functions.

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Content Delivery and Rights Management — Functional requirements for identifiers and descriptors for use in the music, film, video, sound recording and publishing industries

1 Scope

The business and information architectures outlined in this Technical Report are designed specifically to assist organizations involved in the development and administration of identification and description schemas for intellectual content and products in understanding the relationships between their organizations and other content industry players involved in production, distribution, and rights management. This Technical Report does not preclude the possibility of other perspectives on the same environments or other business and information architectures designed to serve other purposes.

The functional requirements for identifiers and descriptors set out in this Technical Report are centred on intra- and inter-industry business transactions relating to production, distribution, and rights management in the content industries (i.e., the music, film, video, sound recording and publishing industries).

The information model presented in this Technical Report is focussed specifically on the requirements of the originators, producers, distributors, registration authorities, and rights administrators involved in the development and delivery of intellectual and artistic content. It does not reflect business functions such as marketing and archiving, nor does it directly reflect transactions between secondary service providers such as libraries, archives and museums.

2 Approach

This analysis of functional requirements for identifiers and descriptors, for use in the content industries, is set out in four segments.

The first segment defines a **conceptual business architecture** that identifies the functions performed by individuals and organizations involved in the production and distribution of intellectual or artistic content and the management of rights associated with that content, and highlights the key business relationships between those functions. The conceptual business architecture provides a perspective on the business environment designed specifically to assist the organizations responsible for the development and administration of identification and description schemas for intellectual content and products in understanding the relationships between their organizations and other content industry players involved in production, distribution, and rights management. Details of the conceptual business architecture are documented in Clause 4.

The second segment defines an **information architecture** that provides a structured representation of, and definitions for, the key entities (i.e., the objects, agents, activities, events, etc.) involved in each of the business functions and the primary relationships between those entities. Details of the information architecture are documented in Clause 5.

The third segment identifies and defines the **attributes and relationships** associated with each of the entities identified in the information architecture. Details of the attribute and relationship definitions are documented in Annex A.

The fourth segment defines a generic set of **user transactions** and maps the attributes and relationships associated with the three entities of primary focus in the information architecture (*content*, *product* and *property*) to those transactions. The mapping of attributes and relationships to transactions is intended to