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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**

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



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

Attention is drawn to the possibility that some of the elements of this Technical Report may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TR 21449 was prepared by Tom Delsey for organizations involved in the administration of identifier systems and projects within Technical Committee ISO/TC 46, *Information and documentation*, Subcommittee SC 9, *Identification and description*.

Introduction

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 product as 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.

Technical Report 21449 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.

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 section 4.

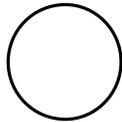
The second segment defines an **information architecture** that provides a structured representation of and definitions for the key entities (i.e., the objects, agents, activities, events, etc.) involved in each of the business functions and the primary relationships between those entities. Details of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

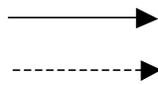
The fourth segment defines a generic set of **user transactions** and maps the attributes and relationships associated with the three entities of primary focus in the information architecture (*content*, *product*, and *property*) to those transactions. The mapping of attributes and relationships to transactions is intended to serve as the basis for defining a common set of descriptors required for the registration of content, products, and property. Details of the user transaction definitions and mapping are documented in section 7.

3 Diagramming Conventions

Conceptual Business Architecture (Figure 1)



A circle represents a function performed by an individual or organization operating within the overall context of production, distribution, and rights management.



The lines and arrows between the circles represent transactions between individuals and organizations performing the designated functions. Transactions of secondary relevance are represented by dashed arrows.



Information Model (Figures 2, 3, and 4)



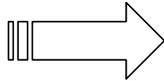
A rectangle represents an entity (i.e., an object, agent, activity, event, etc.) about which information is needed in order to support an intra- or inter-industry business function.



The lines and arrows connecting the rectangles represent relationships between the designated entities.



A dashed-line rectangle surrounding a group of two or more entities indicates that a relationship represented by an arrow contiguous with the dotted line may apply to any and/or all of the entities represented within the rectangle.



A block arrow functions as a page connector. The connector serves as a shorthand method of linking an entity to all related entities represented in the diagram referenced by the block arrow.

4 Conceptual Business Architecture

The purpose of the conceptual business architecture depicted in Figure 1 is to identify 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 to highlight the key business relationships between those functions. The architecture outlined here 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. It does not preclude the possibility of other perspectives on the same business environment or other conceptual business architectures designed to serve other purposes.

The diagram depicts nine distinct business functions (each of which is defined in Table 1). The business functions represent roles performed by individuals and organizations within the business environment. Any individual or organization may perform more than one designated function or role. Any function may be performed by a number of individuals and/or organizations. Functions may be performed simultaneously, in parallel, or sequentially.

The transactions depicted in the diagram reflect business dealings that take place between individuals and organizations in the course of performing the designated functions. The diagram reflects all intra- and inter-industry transactions of relevance within the context of content production, distribution, and rights management. However, for the purposes of focusing further analysis of functional requirements, a distinction has been made between transactions of primary relevance from the perspective of organizations providing registration services for content and products and those that are of secondary relevance from that perspective. Transactions considered to be of secondary relevance include those that currently fall outside the normal pattern of business associated with content production, distribution, and rights management and those that involve no direct dependency on the services or information provided by the registration authorities.

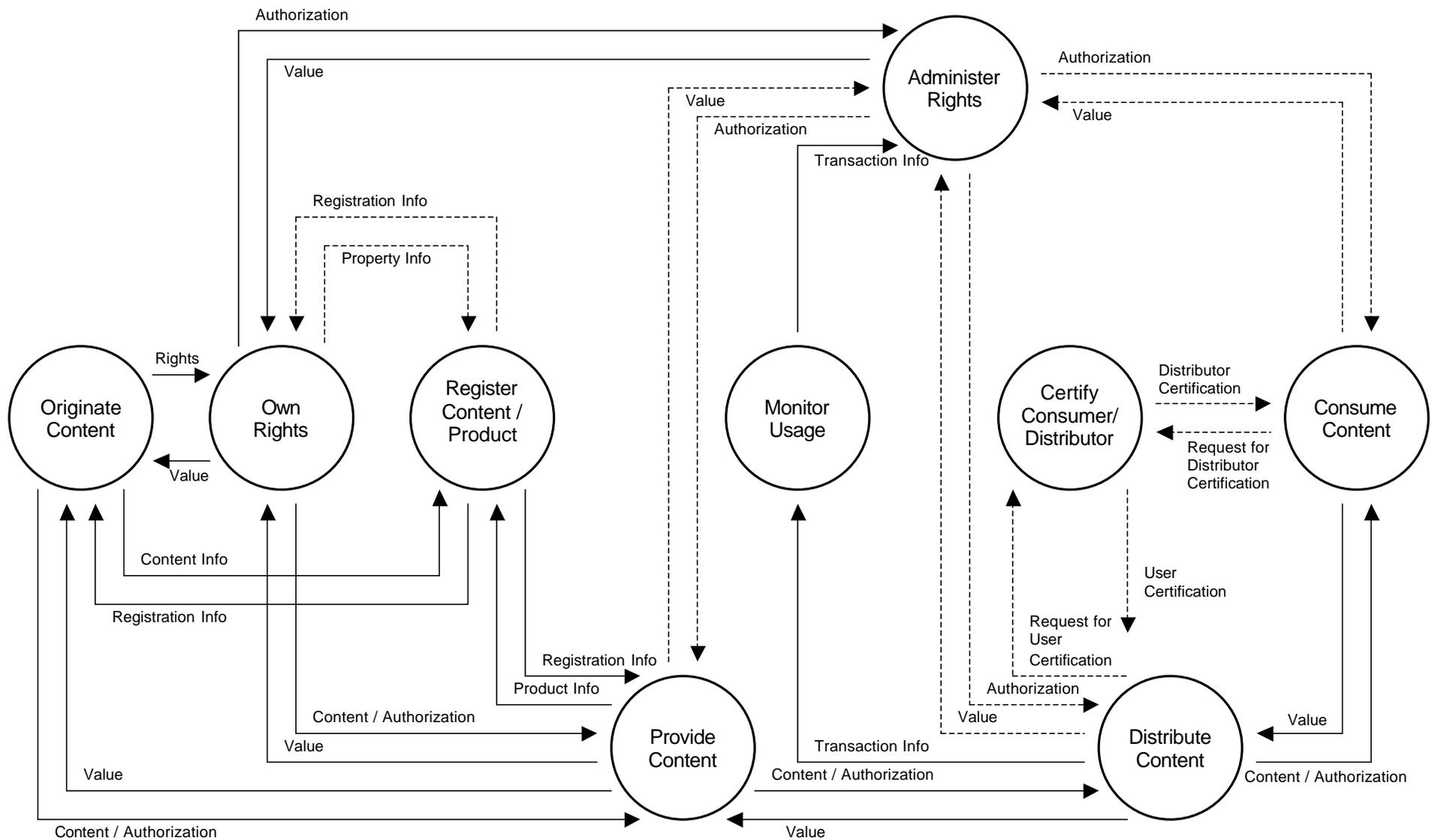


Figure 1: Conceptual Business Architecture for Content Delivery and Rights Management

Table 1: Conceptual Business Architecture – Role Definitions

<i>Function</i>	<i>Scope</i>
Originate Content	The creation, expression, or production of intellectual or artistic content. Includes the creation of content by writers, composers, artists, etc. (as authors of literary, musical, and artistic works) and by film and video producers (as authors of audiovisual works), the expression of content by performers, and the production of content by recording companies (as producers of phonograms) and broadcasters (as producers of broadcast signals), etc.
Own Rights	The ownership of legal title to a right or rights in a property. Includes ownership by first owners (authors, producers, performers, etc.), ownership by assignees, transferees, successors in title, etc.
Register Content / Product	The registration of content, products, or property. Includes registration by authorities and agencies responsible for the registration of monographic and serial publications, literary, musical, artistic, and audiovisual works, sound recordings, broadcast signals, etc.
Provide Content	The production and release of a product. Includes production and release of products by publishers, record producers, film and video producers, multimedia producers, etc.
Monitor Usage	The monitoring of distribution and usage of products. Includes monitoring the distribution of monographic and serial publications, sound recordings, films, video recordings, multimedia products, etc.
Administer Rights	The administration of intellectual property rights by or on behalf of an owner. Includes the direct administration of rights by the owner, the authorized administration of rights on behalf of the owner by agents, executors, publishers, film producers, collecting societies, etc., and the administration of rights by boards, trustees, etc. established by law to act on behalf of rights owners.

Certify Consumer / Distributor	The certification or authentication of consumers or distributors of products. Includes certification or authentication of consumers or distributors of monographic and serial publications, sound recordings, films, video recordings, multimedia products, etc.
Distribute Content	The distribution of a product. Includes distribution of publications, sound recordings, films, video recordings, multimedia products, etc.
Consume Content	The consumption of intellectual or artistic content. Includes purchase, licensing, use, etc. by consumers of monographic and serial publications, sound recordings, films, video recordings, multimedia products, etc.

5 Information Architecture

The information architecture for content delivery and rights management is depicted in a set of three interconnected entity-relationship diagrams (Figures 2, 3, and 4). Each of the diagrams focuses on a major business function: rights management (Figure 2); content production (Figure 3), and content distribution (Figure 4).

The entity-relationship diagrams provide a structured representation of 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. Each diagram is accompanied by a table containing definitions for the entities depicted in the diagram.

The legal framework for the management of intellectual property rights depicted in Figure 2 is based on an analysis of four key documents: the *Berne Convention*, the *Rome Convention*, the *WIPO Copyright Treaty*, and the *WIPO Performances and Phonograms Treaty*. Those documents reflect international agreements on intellectual property rights and serve as the basis for copyright and neighbouring rights legislation in more than 140 countries throughout the world.

Figure 2 is centred on the *property* (i.e., the work, performance, phonogram, broadcast signal, etc.) and its relationships (both direct and indirect) with the various objects, agents, activities, events, *et cetera* that form the legal framework for the management of intellectual property rights.

Figure 3 is centred on the *product* (i.e., the publication, sound recording, film, video recording, etc.) and its relationships (both direct and indirect) with the various objects, agents, activities, events, *et cetera* that come into play in the production cycle of content delivery.

Figure 4 is centred on the *product* as well, and highlights the relationships (both direct and indirect) of the *product* with the various objects, agents, activities, events, *et cetera* that come into play in the distribution cycle of content delivery.

Although each business function (rights management, production, and distribution) has been represented in a separate entity-relationship diagram, all three diagrams are linked through the *property*, *product*, *authorization*, and *use* entities. Each diagram can therefore be viewed as a segment of a larger diagram representing the information architecture for content delivery and rights management as a whole.

The diagrams depicting the information architecture also have a direct relationship with the conceptual business architecture (Figure 1). The entities representing agents in Figures 2, 3, and 4 (*originator*, *owner*, *agent*, *competent authority*, *user*, *producer*, *creator*, *registration authority*, *distributor*, *monitoring service*, *certification authority*, and *consumer*) parallel the business functions depicted in Figure 1.

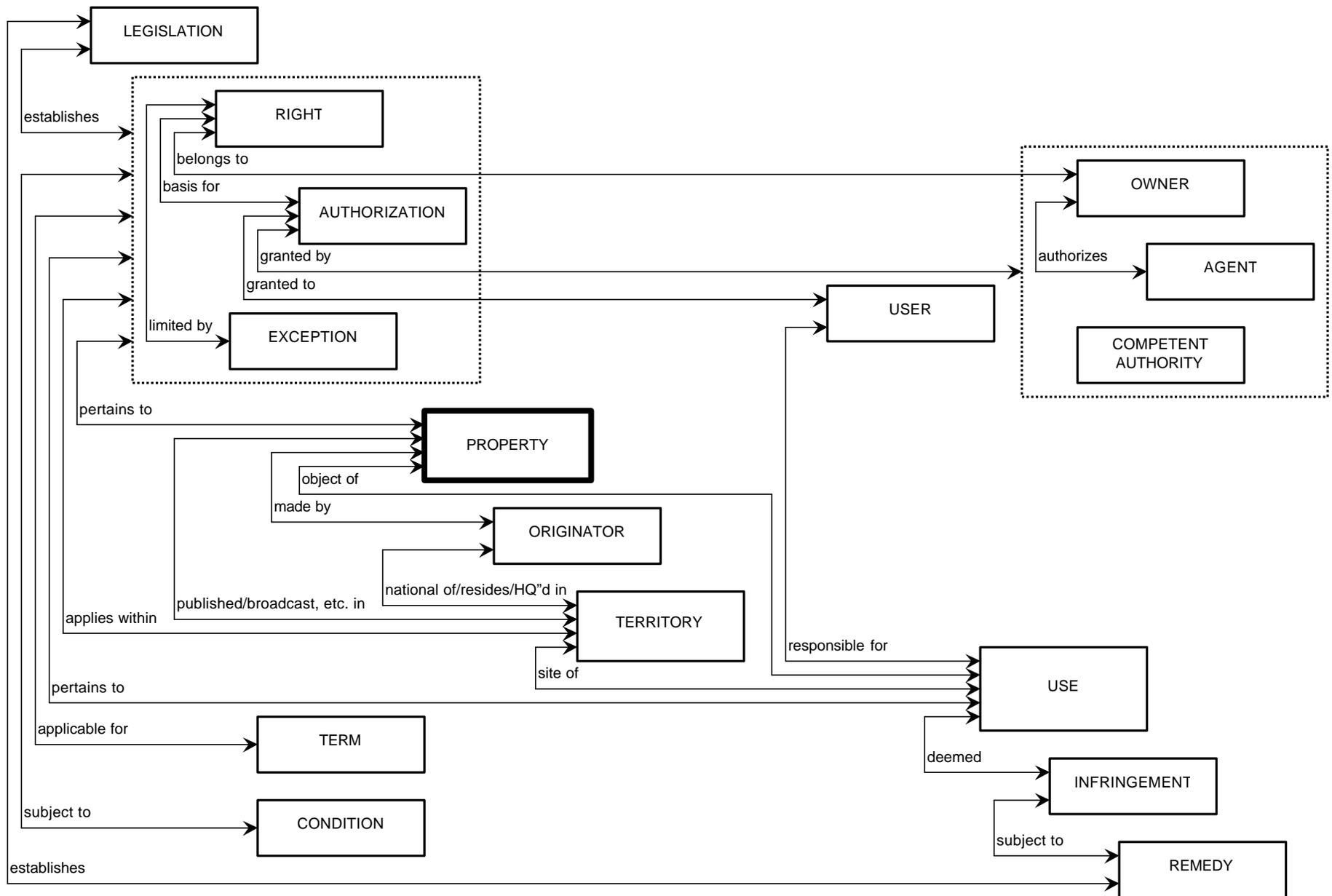


Figure 2: Legal Framework for Intellectual Property Management and Protection

Table 2: Intellectual Property Management and Protection – Entity Definitions

Entity	Definition
Legislation	An enactment of a legislative body. Includes laws, statutes, orders, directives, regulations, etc. established pursuant to a law relating to intellectual property.
Right	An entitlement established by legislation. Includes both economic and moral rights pertaining to all forms of intellectual property (literary, musical, artistic, and audiovisual works, performances, phonograms, broadcast signals, etc.).
Authorization	Permission granted by a rights owner, the owner's agent, or a competent authority. Includes written permissions, licences, contractual agreements, compulsory licences, etc.
Exception	An exclusion or limitation established by legislation. Includes exclusions of designated classes of intellectual property, limitations of designated rights, exceptions for designated non-infringing uses, etc.
Owner	An individual or organization holding legal title to a right or rights in a property. Includes first owners (authors, producers, performers, etc.), assignees, transferees, successors in title, etc.
Agent	An individual or organization authorized by an owner to act on his/her behalf. Includes literary agents, publishers representing anonymous authors, executors, collective societies, etc.
Competent Authority	A body authorized by legislation to act on behalf of an owner. Includes boards, trustees, etc. established by law, order, regulation, etc.
User	An individual or organization utilizing a property. Includes users authorized by licence, contract, permission, etc., users operating within the parameters of an exception, users engaged in infringing use.

Property	An entity to which property rights apply. Includes literary, musical, artistic and audiovisual works, performances, phonograms, broadcast signals, etc.
Originator	An individual or organization responsible for the creation or production of a property. Includes authors (as creators of literary, musical, and artistic works), performers (as creators of performances), film and video producers (as authors of audiovisual works), recording companies (as producers of phonograms), broadcasters (as producers of broadcast signals), etc.
Territory	A geographical area belonging to or under the jurisdiction of a governmental authority.
Term	A period of time during which a right is enforceable. Includes fixed periods linked to a designated event (e.g., the production, first publication, first broadcast, etc. of a property), periods extending from a designated event (e.g., the creation of a property) through a fixed length of time following a subsequent event (e.g., the death of an author), etc.
Condition	A stipulation, proviso, or limitation. Includes conditions attached to the enjoyment of a right or the exercise of an authorization or exception, payment of a royalty or tariff, etc.
Use	An act entailing utilization of a property. Includes reproduction, adaptation, translation, public performance, communication to the public, broadcasting, distribution, rental, etc.
Infringement	An encroachment or trespass on a right. Includes unauthorized use, use that exceeds the limitations stipulated in a licence, use that exceeds the parameters established for an exception, etc.
Remedy	A legal means to recover a right or to prevent or obtain redress for an infringement. Includes penalties established in law, judgments issued by the courts, settlements agreed to by the contestants in a dispute, etc.

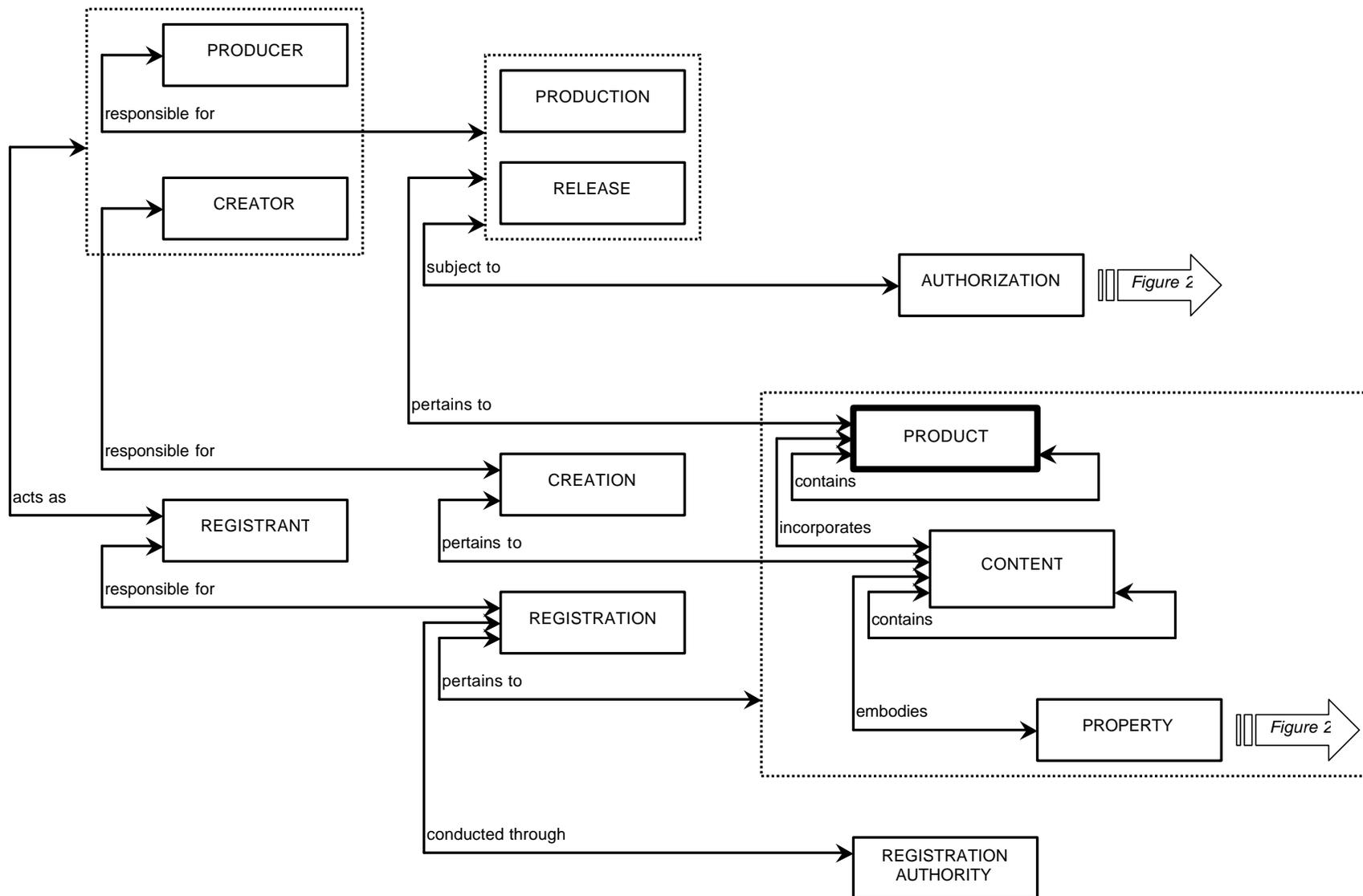


Figure 3: Production Cycle for Content Delivery

Table 3: Content Production – Entity Definitions

Entity	Definition
Producer	An individual or organization responsible for the making of a product. Includes publishers, record producers, film and video producers, etc.
Production	The act of making a product. Includes production of monographic and serial publications, sound recordings, films, video recordings, multimedia products, etc.
Release	The act of making a product available to the public. Includes publication, release of a sound recording, film, or video, broadcasting, communication to the public via electronic networks, etc.
Authorization	Permission granted by a rights owner, the owner's agent, or a competent authority. Includes written permissions, licences, contractual agreements, compulsory licences, etc.
Product	An object resulting from an act of production. Includes monographic and serial publications, sound recordings, film, video recordings, multimedia products, etc. Includes intermediate as well as final products. Includes product components and aggregate products as well as single-entity products.
Creator	An individual or organization responsible for the intellectual or artistic creation of content. Includes writers, composers, artists, performers, producers of sound recordings and films, etc.
Creation	The act of originating intellectual or artistic content. Includes the creation of literary, musical, artistic, and audiovisual works, the performance of such works, the original fixation of sound in a recording medium, etc.
Content	The intellectual or artistic substance of a product. Includes literary, musical, artistic, and audiovisual works, the performance of such works, the fixation of sound in a recording medium, etc. Includes content components and aggregate content as well as single-entity content.

Registrant	An individual or organization responsible for registering a product, content, or property. Includes producers, creators, rights owners, rights administrators, and other individuals and organizations with an interest in having a product, content, or property registered (e.g., national bibliographic agencies, information service providers).
Registration	The act of registering a product, content, or property. Includes registration of monographic and serial publications, literary, musical, artistic, and audiovisual works, sound recordings, broadcast signals, etc.
Registration Authority	An organization responsible for the registration of products, content, or property. Includes authorities responsible for the registration of monographic and serial publications, literary, musical, artistic, and audiovisual works, sound recordings, broadcast signals, etc.
Property	An entity to which property rights apply. Includes literary, musical, artistic, and audiovisual works, performances, phonograms, broadcast signals, etc.

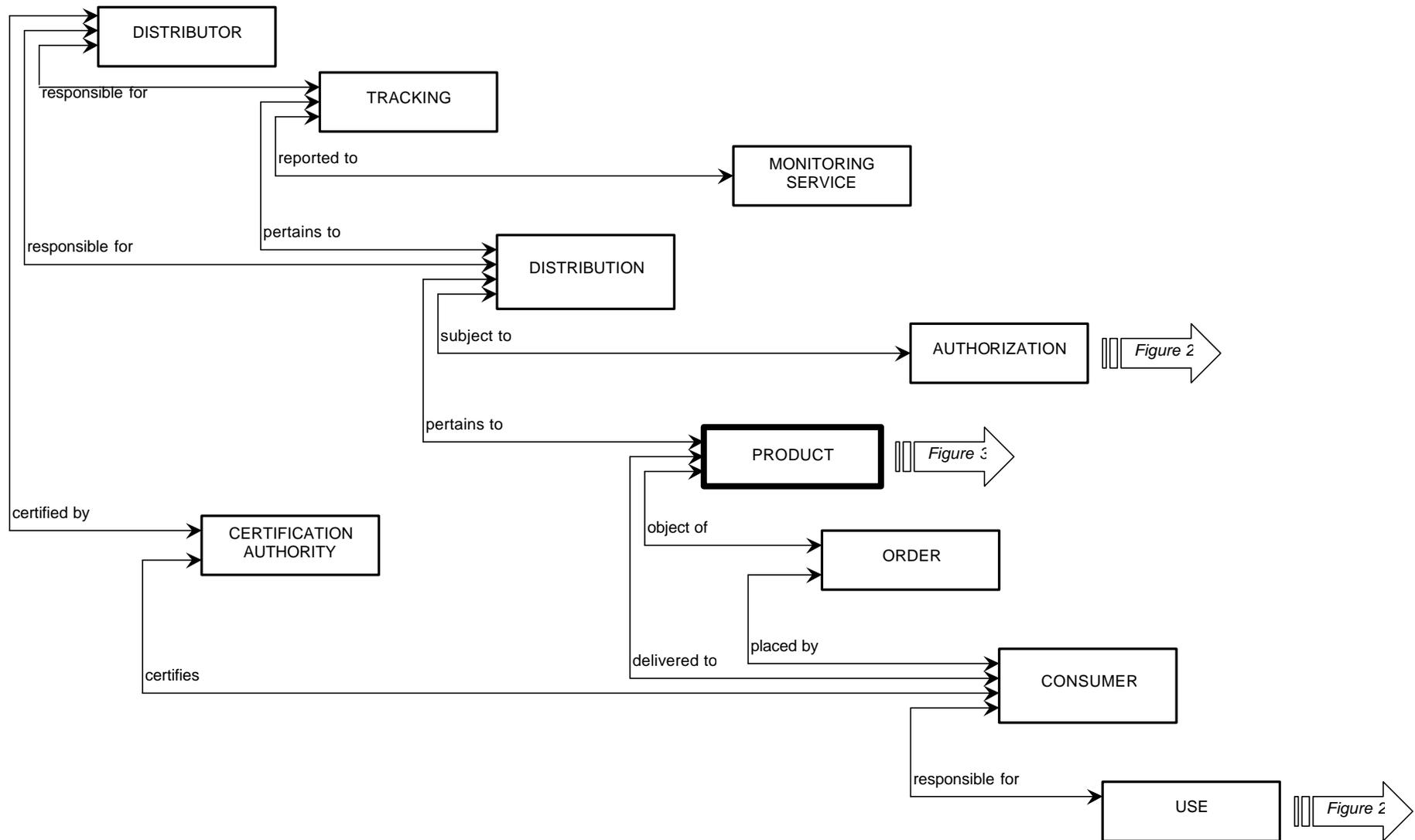


Figure 4: Distribution Cycle for Content Delivery

Table 4: Content Distribution – Entity Definitions

<i>Entity</i>	<i>Definition</i>
Distributor	An individual or organization responsible for the distribution of a product. Includes distributors of publications, sound recordings, films, video recordings, multimedia products, etc.
Tracking	The act of monitoring and compiling data on transactions. Includes tracking of transactions relating to the distribution of monographic and serial publications, sound recordings, films, video recordings, multimedia products, etc.
Monitoring Service	An individual or organization monitoring the distribution of products. Includes services monitoring the distribution of monographic and serial publications, sound recordings, films, video recordings, multimedia products, etc.
Distribution	The act of disseminating a product to consumers. Includes distribution of monographic and serial publications, sound recordings, films, video recordings, multimedia products, etc.
Authorization	Permission granted by a rights owner, the owner's agent, or a competent authority. Includes written permissions, licences, contractual agreements, compulsory licences, etc.
Product	An object resulting from an act of production. Includes monographic and serial publications, sound recordings, films, video recordings, multimedia products, etc.
Order	An authorization issued to a distributor to deliver itemized products on agreed conditions. Includes orders for monographic and serial publications, sound recordings, films, video recordings, multimedia products, etc.

Certification Authority	An individual or organization authenticating distributors or consumers of products. Includes services authenticating distributors or consumers of monographic and serial publications, sound recordings, films, video recordings, multimedia products, etc.
Consumer	A purchaser or end-user of a product. Includes consumers of monographic and serial publications, sound recordings, films, video recordings, multimedia products, etc.
Use	An act entailing utilization of a property. Includes reproduction, adaptation, translation, public performance, communication to the public, broadcasting, distribution, rental, etc.

6 Attributes and Relationships

Annex A contains a set of tables that list and define attributes of each of the entities identified in the information model (Figures 2, 3, and 4) and the relationships that operate between each of the entities.

For the purposes of this model, attributes are defined at a “logical” level (i.e., as characteristics of the entities to which they pertain, not as specifically defined data elements).

The attributes listed in the tables have been derived in part from an analysis of data elements defined for the ISO identifier schemas for books, serials, audiovisual works, musical works, textual works, and sound recordings, and in part from other relevant models (e.g., the model developed for the IFLA study on functional requirements for bibliographic records, and the model developed for the <indecs> project).

The relationships listed in the tables represent a consolidation of the relationships depicted in the information model (Figures 2, 3, and 4). The relationships depicted in the information model have been supplemented with additional relationships that operate between instances of the same entity type (e.g. the relationship between one product and another product—other edition, other format, reproduction, etc.).

7 User Transactions

The information architecture set out above and the set of logical attributes and relationships defined in Annex A provide a framework for analyzing the uses that are made of identifiers and descriptors in supporting the business transactions associated with content delivery and rights management.

The tables that follow map the attributes and relationships associated with the three entities of primary focus in the information architecture (*content*, *product*, and *property*) against a set of eight generic user transactions. The user transactions are defined as follows:

Search	Search for an entity corresponding to stated criteria (i.e., to search either a single entity or a set of entities using an attribute or relationship of the entity as the search criteria).
Identify	Identify an entity (i.e., to confirm that the entity described or located corresponds to the entity sought, or to distinguish between two or more entities with similar characteristics).
Select	Select an entity that is appropriate to the user's needs (i.e., to choose an entity that meets the user's requirements with respect to content, physical format, etc., or to reject an entity as being inappropriate to the user's needs).
Access	Access an entity either physically or electronically through an online connection to a remote computer.
Acquire	Acquire an entity through purchase, licence, loan, etc.
Open	Open an electronic entity by means of one or more software applications.
Use	Use an entity (i.e., to reproduce, record, communicate, broadcast, perform, adapt, translate, etc. an entity).
Control	Control the use of an entity (i.e., to restrict access to and use of an entity on the basis of proprietary rights).

In the left-hand column of the tables are listed the attributes and relationships defined for the three entities that form the centre of focus in the information model—*content*, *product*, and *property*. Under each relationship, at the next indentation, are listed the key attributes and relationships associated with the entity that functions as the object of that relationship. At the next indentation are listed the key attributes of the entity that forms the object of the secondary relationship.

For each attribute and relationship listed, the columns on the right-hand side of the table indicate the relevance of that attribute or relationship to each of the eight generic transactions. A solid square (■) indicates that data reflecting that attribute or relationship are considered necessary to provide a basic level of support for the designated transaction. An open square (□) indicates that data reflecting that attribute or relationship are considered useful to provide an enhanced level of support for the designated transaction.

Entity		S E A R C H	I D E N T I F Y	S E L E C T	A C C E S S	A C Q U I R E	O P E N	U S E	C O N T R O L
Attribute	Attribute of related entity								
Relationship	Relationship from related entity								
	Attribute of related entity								
Content (cont'd)									
Incorporated in ⇒ product						■	■		
<i>Attribute</i>									
Product identifier						■	■		
Title of product						■	■		
Type of product						■	■		
Name of issuing body						■	■		
Edition/issue designation						■	■		
Product status						■	■		
Frequency of issue						■	■		
Numbering						■	■		
Terms of availability						■	■		
Mode of access						■			
Access address						■			
<i>Relationship</i>									
Results from ⇒ production						■	■		
<i>Attribute</i>									
Date of production						■	■		
Place of production						■	■		
Subject of ⇒ release						■	■		
<i>Attribute</i>									
Date of release						■	■		
Place of release						■	■		
Responsibility of ⇒ producer						■	■		
<i>Attribute</i>									
Producer identifier						■	■		
Name of producer						■	■		
Contains ⇒ content					□	□			
<i>Attribute</i>									
Content identifier					□	□			
Title of content					□	□			
Type of content					□	□			
Form of expression					□	□			

Entity	S E A R C H	I D E N T I F Y	S E L E C T	A C C E S S	A C Q U I R E	O P E N	U S E	C O N T R O L
Attribute								
Relationship								
Attribute of related entity								
Relationship from related entity								
Attribute of related entity								
Content (cont'd)								
Embodies ⇒ property								■
<i>Attribute</i>								
Property identifier								■
Title of property								■
Type of property								■
Abridgement ⇒ content		<input type="checkbox"/>	<input type="checkbox"/>					
<i>Attribute</i>								
Content identifier		<input type="checkbox"/>	<input type="checkbox"/>					
Title of content		<input type="checkbox"/>	<input type="checkbox"/>					
Type of content		<input type="checkbox"/>	<input type="checkbox"/>					
Form of expression		<input type="checkbox"/>	<input type="checkbox"/>					
Augmentation ⇒ content		<input type="checkbox"/>	<input type="checkbox"/>					
<i>Attribute</i>								
Content identifier		<input type="checkbox"/>	<input type="checkbox"/>					
Title of content		<input type="checkbox"/>	<input type="checkbox"/>					
Type of content		<input type="checkbox"/>	<input type="checkbox"/>					
Form of expression		<input type="checkbox"/>	<input type="checkbox"/>					
Supplement ⇒ content		<input type="checkbox"/>	<input type="checkbox"/>					
<i>Attribute</i>								
Content identifier		<input type="checkbox"/>	<input type="checkbox"/>					
Title of content		<input type="checkbox"/>	<input type="checkbox"/>					
Type of content		<input type="checkbox"/>	<input type="checkbox"/>					
Form of expression		<input type="checkbox"/>	<input type="checkbox"/>					
Translation ⇒ content		<input type="checkbox"/>	<input type="checkbox"/>					
<i>Attribute</i>								
Content identifier		<input type="checkbox"/>	<input type="checkbox"/>					
Title of content		<input type="checkbox"/>	<input type="checkbox"/>					
Type of content		<input type="checkbox"/>	<input type="checkbox"/>					
Form of expression		<input type="checkbox"/>	<input type="checkbox"/>					
Language of content		<input type="checkbox"/>	<input type="checkbox"/>					

Entity		S E A R C H	I D E N T I F Y	S E L E C T	A C C E S S	A C Q U I R E	O P E N	U S E	C O N T R O L
Attribute									
Relationship									
	Attribute of related entity								
	Relationship from related entity								
	Attribute of related entity								
Content (cont'd)									
	Revision ⇨ content		<input type="checkbox"/>	<input type="checkbox"/>					
	<i>Attribute</i>								
	Content identifier		<input type="checkbox"/>	<input type="checkbox"/>					
	Title of content		<input type="checkbox"/>	<input type="checkbox"/>					
	Type of content		<input type="checkbox"/>	<input type="checkbox"/>					
	Form of expression		<input type="checkbox"/>	<input type="checkbox"/>					
	Adaptation ⇨ content		<input type="checkbox"/>	<input type="checkbox"/>					
	<i>Attribute</i>								
	Content identifier		<input type="checkbox"/>	<input type="checkbox"/>					
	Title of content		<input type="checkbox"/>	<input type="checkbox"/>					
	Type of content		<input type="checkbox"/>	<input type="checkbox"/>					
	Form of expression		<input type="checkbox"/>	<input type="checkbox"/>					
	Compilation ⇨ content		<input type="checkbox"/>	<input type="checkbox"/>					
	<i>Attribute</i>								
	Content identifier		<input type="checkbox"/>	<input type="checkbox"/>					
	Title of content		<input type="checkbox"/>	<input type="checkbox"/>					
	Type of content		<input type="checkbox"/>	<input type="checkbox"/>					
	Form of expression		<input type="checkbox"/>	<input type="checkbox"/>					
	Extraction ⇨ content		<input type="checkbox"/>	<input type="checkbox"/>					
	<i>Attribute</i>								
	Content identifier		<input type="checkbox"/>	<input type="checkbox"/>					
	Title of content		<input type="checkbox"/>	<input type="checkbox"/>					
	Type of content		<input type="checkbox"/>	<input type="checkbox"/>					
	Form of expression		<input type="checkbox"/>	<input type="checkbox"/>					

Table 5.2: Attributes and Relationships of Product Mapped to User Transactions

Entity	S E A R C H	I D E N T I F Y	S E L E C T	A C C E S S	A C Q U I R E	O P E N	U S E	C O N T R O L
Attribute								
Relationship								
Attribute of related entity								
Relationship from related entity								
Attribute of related entity								
Product								
<i>Attribute</i>								
Product identifier	■	■	■	■	■		■	■
Title of product	■	■	■	■	■		■	■
Type of product		■	■	■	■	■	■	■
Name of issuing body	<input type="checkbox"/>	■	■	■	■		■	■
Edition/issue designation		■	■	■	■		■	■
Product status				■	■			
Frequency of issue		■	■	■	■			■
Numbering		■		■	■			■
Terms of availability				■	■			
Medium		<input type="checkbox"/>	■					
Extent of product		<input type="checkbox"/>	<input type="checkbox"/>					
Product specifications			<input type="checkbox"/>			■		
Mode of access				■				
Access address	<input type="checkbox"/>			■				
<i>Relationship</i>								
Results from ⇒ production		■		■	■			■
<i>Attribute</i>								
Date of production		■		■	■			■
Place of production		■		■	■			■
<i>Relationship</i>								
Responsibility of ⇒ producer		■		■	■			■
<i>Attribute</i>								
Producer identifier		■		■	■			■
Name of producer		■		■	■			■

Entity		S	I	S	A	A	O	U	C
		E	D	E	C	C	P	S	C
		A	E	L	C	R	E	E	O
		R	N	E	S	E	N	S	N
		C	T	C	S	Q	S	E	T
		H	I	T	S	I	E	R	R
			F	I		R			O
			Y						L
Product (cont'd)									
Subject of ⇒ release			■		■	■			■
	<i>Attribute</i>								
	Date of release		■		■	■			■
	Place of release		■		■	■			■
	<i>Relationship</i>								
	Responsibility of ⇒ producer		■		■	■			■
	<i>Attribute</i>								
	Producer identifier		■		■	■			■
	Name of producer		■		■	■			■
Contains ⇒ product			□	□					
	<i>Attribute</i>								
	Product identifier		□	□					
	Title of product		□	□					
	Type of product		□	□					
	Name of issuing body		□	□					
	Edition/issue designation		□	□					
Incorporates ⇒ content			□	□					
	<i>Attribute</i>								
	Content identifier		□	■					
	Title of content		□	■					
	Type of content		□	■					
	Form of expression		□	■					
	Language of content		□	■					
	Subject of content			■					
Other edition ⇒ product			□						
	<i>Attribute</i>								
	Product identifier		□	□					
	Title of product		□	□					
	Type of product		□	□					
	Name of issuing body		□	□					
	Edition/issue designation		□	□					

Entity	S E A R C H	I D E N T I F Y	S E L E C T	A C C E S S	A C Q U I R E	O P E N	U S E	C O N T R O L
Attribute								
Relationship								
Attribute of related entity								
Relationship from related entity								
Attribute of related entity								
Product (cont'd)								
Other format ⇨ product		<input type="checkbox"/>	<input type="checkbox"/>					
<i>Attribute</i>								
Product identifier		<input type="checkbox"/>	<input type="checkbox"/>					
Title of product		<input type="checkbox"/>	<input type="checkbox"/>					
Type of product		<input type="checkbox"/>	<input type="checkbox"/>					
Name of issuing body		<input type="checkbox"/>	<input type="checkbox"/>					
Edition/issue designation		<input type="checkbox"/>	<input type="checkbox"/>					
Reproduction ⇨ product		<input type="checkbox"/>	<input type="checkbox"/>					
<i>Attribute</i>								
Product identifier		<input type="checkbox"/>	<input type="checkbox"/>					
Title of product		<input type="checkbox"/>	<input type="checkbox"/>					
Type of product		<input type="checkbox"/>	<input type="checkbox"/>					
Name of issuing body		<input type="checkbox"/>	<input type="checkbox"/>					
Edition/issue designation		<input type="checkbox"/>	<input type="checkbox"/>					
Successor ⇨ product		<input type="checkbox"/>	<input type="checkbox"/>					
<i>Attribute</i>								
Product identifier		<input type="checkbox"/>	<input type="checkbox"/>					
Title of product		<input type="checkbox"/>	<input type="checkbox"/>					
Type of product		<input type="checkbox"/>	<input type="checkbox"/>					
Name of issuing body		<input type="checkbox"/>	<input type="checkbox"/>					
Edition/issue designation		<input type="checkbox"/>	<input type="checkbox"/>					
Supplement ⇨ product		<input type="checkbox"/>	<input type="checkbox"/>					
<i>Attribute</i>								
Product identifier		<input type="checkbox"/>	<input type="checkbox"/>					
Title of product		<input type="checkbox"/>	<input type="checkbox"/>					
Type of product		<input type="checkbox"/>	<input type="checkbox"/>					
Name of issuing body		<input type="checkbox"/>	<input type="checkbox"/>					
Edition/issue designation		<input type="checkbox"/>	<input type="checkbox"/>					

Entity		S E A R C H	I D E N T I F Y	S E L E C T	A C C E S S	A C Q U I R E	O P E N	U S E	C O N T R O L
Attribute									
Relationship	Attribute of related entity								
	Relationship from related entity								
	Attribute of related entity								
Product (cont'd)									
Abstract/index ⇒ product									<input type="checkbox"/>
<i>Attribute</i>									
Product identifier									<input type="checkbox"/>
Title of product									<input type="checkbox"/>
Type of product									<input type="checkbox"/>
Name of issuing body									<input type="checkbox"/>
Edition/issue designation									<input type="checkbox"/>
Subseries ⇒ product									<input type="checkbox"/>
<i>Attribute</i>									
Product identifier									<input type="checkbox"/>
Title of product									<input type="checkbox"/>
Type of product									<input type="checkbox"/>
Name of issuing body									<input type="checkbox"/>
Edition/issue designation									<input type="checkbox"/>

Table 5.3: Attributes and Relationships of Property Mapped to User Transactions

Entity		S	E	A	R	C	H	I	D	E	N	T	I	F	Y	A	C	C	O	P	E	N	U	S	E	C	O	N	T	R	O	L
Attribute	Relationship																															
	Attribute of related entity																															
	Relationship from related entity																															
	Attribute of related entity																															
Property																																
<i>Attribute</i>																																
	Property identifier																															
	Title of property																															
	Type of property																															
	Date of creation																															
<i>Relationship</i>																																
	Subject to ⇒ right																															
<i>Attribute</i>																																
	Right identifier																															
	Title of right																															
	Type of right																															
	Scope of right																															
	Effective date of right																															
	Right revision date																															
<i>Relationship</i>																																
	Established by ⇒ legislation																															
<i>Attribute</i>																																
	Legislation identifier																															
	Title of legislation																															
	Limited by ⇒ exception																															
<i>Attribute</i>																																
	Exception identifier																															
	Title of exception																															
	Type of exception																															
	Scope of exception																															
	Effective date of exception																															
	Exception revision date																															

Entity	Attribute	Relationship	Attribute of related entity	Relationship from related entity	Attribute of related entity	S E A R C H	I D E N T I F Y	S E L E C T	A C C E S S	A C Q U I R E	O P E N	U S E	C O N T R O L
Property (cont'd)													
		Belongs to ⇒ owner										■	■
			<i>Attribute</i>										
			Owner identifier									■	■
			Name of owner									■	■
			Address									<input type="checkbox"/>	<input type="checkbox"/>
		Applies within ⇒ territory										■	■
			<i>Attribute</i>										
			Territory identifier									■	■
			Name of territory									■	■
		Applicable for ⇒ term										■	■
			<i>Attribute</i>										
			Beginning date of term									■	■
			Ending date of term									■	■
			Contingent event									■	■
			Duration of term									■	■
		Subject to ⇒ condition										■	■
			<i>Attribute</i>										
			Type of condition									■	■
			Condition requirement									■	■
			Effective date of condition									■	■
			Expiry date of condition									■	■
			Condition revision date									■	■
		Subject of ⇒ authorization										■	■
			<i>Attribute</i>										
			Authorization identifier									■	■
			Title of authorization									■	■
			Type of authorization									■	■
			Scope of authorization									■	■
			Effective date of authorization									■	■
			Authorization revision date									■	■

Entity	Attribute	Relationship	Attribute of related entity	Relationship from related entity	Attribute of related entity	S E A R C H	I D E N T I F Y	S E L E C T	A C C E S S	A C Q U I R E	O P E N	U S E	C O N T R O L
Property (cont'd)													
<i>Relationship</i>													
		Responsibility of ⇒ user											■
<i>Attribute</i>													
		User identifier											■
		Name of user											■
	Made by ⇒ originator						■						■
<i>Attribute</i>													
		Originator identifier						■					■
		Name of originator				■	■						■
		Address											□
		Date of death											■
<i>Relationship</i>													
		National of ⇒ territory											■
<i>Attribute</i>													
		Territory identifier											■
		Name of territory											■
	Resides ⇒ territory												■
<i>Attribute</i>													
		Territory identifier											■
		Name of territory											■
	Headquartered in ⇒ territory												■
<i>Attribute</i>													
		Territory identifier											■
		Name of territory											■
	Published in ⇒ territory												■
<i>Attribute</i>													
		Territory identifier											■
		Name of territory											■

Entity	S E A R C H	I D E N T I F Y	S E L E C T	A C C E S S	A C Q U I R E	O P E N	U S E	C O N T R O L
Attribute								
Relationship								
Attribute of related entity								
Relationship from related entity								
Attribute of related entity								
Property (cont'd)								
Broadcast in ⇨ territory								■
<i>Attribute</i>								
Territory identifier								■
Name of territory								■
Embodied in ⇨ content								■
<i>Attribute</i>								
Content identifier								■
Title of content								■
Version designation								■
<i>Relationship</i>								
Incorporated in ⇨ product								■
<i>Attribute</i>								
Product identifier								■
Title of product								■
Edition/issue designation								■

Annex A

Tables of Entity Attributes and Relationships

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Annex A

Tables of Entity Attributes and Relationships

The tables that follow list and define attributes of each of the entities identified in the information model (Figures 2, 3, and 4) and the relationships that operate between each of the entities. To facilitate reference, the tables are organized alphabetically according to the name of the entity.

For the purposes of this model, attributes are defined at a “logical” level (i.e., as characteristics of the entities to which they pertain, not as specifically defined data elements).

The attributes listed in the tables have been derived in part from an analysis of data elements defined for the ISO identifier schemas for books, serials, audiovisual works, musical works, textual works, and sound recordings, and in part from other relevant models (e.g., the model developed for the IFLA study on functional requirements for bibliographic records, and the model developed for the *indécs* project).

The relationships listed in the tables represent a consolidation of the relationships depicted in the information model (Figures 2, 3, and 4). The relationships depicted in the information model have been supplemented with additional relationships that operate between instances of the same entity type (e.g. the relationship between one product and another product—other edition, other format, reproduction, etc.).

Table A1: Agent – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Agent identifier	A number or code that is uniquely associated with the agent, and serves to differentiate that agent from other agents.
Name of agent	A word, character, or group of words and/or characters by which the agent is known. Includes names of individuals and of organizations.
Date of birth	The date an individual was born.
Date of death	The date an individual died.
Date of establishment	The date an organization was established (e.g., date of incorporation).
Date of dissolution	The date an organization was dissolved.
Address	The address of the agent's residence or place of business.
<i>Relationship</i>	<i>Definition</i>
Authorized by ⇔ owner	The relationship between the agent and an owner by whom the agent is authorized.
Grants ⇔ authorization	The relationship between the agent and an authorization granted by the agent.

Table A2: Authorization – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Authorization identifier	A number or code that is uniquely associated with the authorization, and serves to differentiate that authorization from other authorizations.
Title of authorization	A word, phrase, or group of characters naming the authorization.
Type of authorization	A categorization or generic descriptor for the authorization (e.g., authorization for public performance).
Scope of authorization	The specific scope of application of an authorization.
Effective date of authorization	The date the authorization comes into force.
Authorization revision date	The date the authorization was last revised.
<i>Relationship</i>	<i>Definition</i>
Established by ⇨ legislation	The relationship between the authorization and the legislation under which the authorization is established.
Based on ⇨ right	The relationship between the authorization and a right on which the authorization is based.
Granted by ⇨ owner	The relationship between the authorization and a rights owner who grants the authorization.
Granted by ⇨ agent	The relationship between the authorization and an agent who grants the authorization.
Granted by ⇨ competent authority	The relationship between the authorization and a competent authority who grants the authorization.

Granted to ⇨ user	The relationship between the authorization and a user to whom the authorization is granted.
Pertains to ⇨ property	The relationship between the authorization and a property to which the authorization pertains.
Applies within ⇨ territory	The relationship between the authorization and a territory within which the authorization applies.
Pertains to ⇨ use	The relationship between the authorization and a use to which the authorization pertains.
Applicable for ⇨ term	The relationship between the authorization and a term during which the authorization is applicable.
Subject to ⇨ condition	The relationship between the authorization and a condition that is attached to the authorization .
Pertains to ⇨ production	The relationship between the authorization and a production that is subject to the authorization.
Pertains to ⇨ release	The relationship between the authorization and a release that is subject to the authorization.
Pertains to ⇨ distribution	The relationship between the authorization and a distribution that is subject to the authorization.

Table A3: Certification Authority – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Certification authority identifier	A number or code that is uniquely associated with the certification authority, and serves to differentiate that certification authority from other certification authorities.
Name of certification authority	A word, character, or group of words and/or characters by which the certification authority is known.
Date of establishment	The date a certification authority was established (i.e., date of initiation as a certification authority).
Date of dissolution	The date a certification authority was dissolved (i.e., date the organization ceased to function as a certification authority).
Address	The address of the certification authority's place of business.
<i>Relationship</i>	<i>Definition</i>
Certifies ⇒ distributor	The relationship between the certification authority and a distributor certified by the certification authority.
Certifies ⇒ consumer	The relationship between the certification authority and a consumer certified by the certification authority.

Table A4: Competent Authority – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Competent authority identifier	A number or code that is uniquely associated with the competent authority, and serves to differentiate that competent authority from other competent authorities.
Name of competent authority	A word, character, or group of words and/or characters by which the competent authority is known. Includes names of individuals and of organizations.
Date of establishment	The date the competent authority was established (e.g., date of incorporation).
Date of dissolution	The date the competent authority was dissolved.
Address	The address of the competent authority's place of business.
<i>Relationship</i>	<i>Definition</i>
Grants ⇨ authorization	The relationship between the competent authority and an authorization granted by the competent authority.

Table A5: Condition – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Title of condition	A word, phrase, or group of characters naming the condition.
Type of condition	A categorization or generic descriptor for the condition (e.g., educational use, private use).
Condition requirement	A specific requirement that must be met in order to satisfy the condition.
Effective date of condition	The date the condition comes into force.
Expiry date of condition	The date the condition ceases to have force.
Condition revision date	The date the condition was last revised.
<i>Relationship</i>	<i>Definition</i>
Applies to ⇒ right	The relationship between the condition and a right to which the condition applies.
Applies to ⇒ authorization	The relationship between the condition and an authorization to which the condition applies.
Applies to ⇒ exception	The relationship between the condition and an exception to which the condition applies.

Table A6: Consumer – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Consumer identifier	A number or code that is uniquely associated with the consumer, and serves to differentiate that consumer from other consumers.
Name of consumer	A word, character, or group of words and/or characters by which the consumer is known. Includes names of individuals and of organizations.
Address	The address of the consumer's residence or place of business.
<i>Relationship</i>	<i>Definition</i>
Places ⇒ order	The relationship between the consumer and order placed by the consumer.
Receives ⇒ product	The relationship between the consumer and a product delivered to the consumer.
Certified by ⇒ certification authority	The relationship between the consumer and a certification authority responsible for certifying the consumer.
Responsible for ⇒ use	The relationship between the consumer and a use for which the consumer is responsible.

Table A7: Content – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Content identifier	A number or code that is uniquely associated with the content, and serves to differentiate that content from other content.
Title of content	A word, phrase, or group of characters naming the content. Includes titles of works, parts of works, compilations of works, etc.
Version designation	A number, date, term, phrase, etc. that serves to differentiate a particular version of the content from related versions with the same title, etc. (e.g., "revised 2001-04-29").
Type of content	A categorization or generic descriptor for the content (e.g., novel, biography, symphony).
Form of expression	The form in which the content is expressed (e.g., alpha-numeric notation, musical notation, spoken word, musical sound, cartographic image, sculpture, dance).
Extent of content	A quantification of the extent of the content (e.g., number of words in a text, statements in a computer program, images in a comic strip).
Content specifications	Specification of the intellectual and/or artistic particulars of the content (e.g., the medium of performance for a musical composition, the technique used to create a motion picture, the coordinates, scale, projection, etc. of a cartographic image).
Language of content	The language or languages in which the content is expressed.
Subject of content	The subject matter of the content. Includes subject descriptors, subject classification codes, content summaries, etc.

<i>Relationship</i>	<i>Definition</i>
Incorporated in ⇨ product	The relationship between the content and a product in which the content is incorporated.
Results from ⇨ creation	The relationship between the content and the creation from which it results.
Contains ⇨ content	The relationship between the content and sub-content contained within the content.
Embodies ⇨ property	The relationship between the content and a property embodied in the content.
Abridgement ⇨ content	The relationship between the content and an abridgement, condensation or expurgated version of the content.
Augmentation ⇨ content	The relationship between the content and a version of the content augmented with textual annotations, critical commentary, biographical matter, illustrations, data files, etc.
Supplement ⇨ content	The relationship between the content and supplementary content.
Translation ⇨ content	The relationship between the content and a translated version of the content.
Revision ⇨ content	The relationship between the content and a revised or updated version of the content.
Adaptation ⇨ content	The relationship between the content and an adapted version of the content.
Compilation ⇨ content	The relationship between the content and a compilation containing the content.
Extraction ⇨ content	The relationship between the content and an extract of the content.

Table A8: Creation – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Creation identifier	A number or code that is uniquely associated with the creation, and serves to differentiate that creation from other creations.
Type of creation	A categorization or generic descriptor for the creation (e.g., composing).
Date of creation	The date(s) the creation occurs.
Place of creation	The city, town, or other locality associated with the creation of the content.
<i>Relationship</i>	<i>Definition</i>
Responsibility of ⇨ creator	The relationship between the creation and a creator who is responsible for the creation.
Pertains to ⇨ content	The relationship between the creation and content to which the creation pertains.

Table A9: Creator – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Creator identifier	A number or code that is uniquely associated with the creator, and serves to differentiate that creator from other creators.
Name of creator	A word, character, or group of words and/or characters by which the creator is known. Includes names of individuals and of organizations.
Date of birth	The date an individual was born.
Date of death	The date an individual died.
Date of establishment	The date an organization was established (e.g., date of incorporation).
Date of dissolution	The date an organization was dissolved.
Address	The address of the creator's residence or place of business.
<i>Relationship</i>	<i>Definition</i>
Responsible for ⇒ creation	The relationship between the creator and the creation of content for which the creator is responsible.
Acts as ⇒ registrant	The relationship between the creator and the role the creator plays as registrant of content or property.

Table A10: Distribution – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Distribution identifier	A number or code that is uniquely associated with the distribution transaction, and serves to differentiate that distribution transaction from other distribution transactions.
Type of distribution	A categorization or generic descriptor for the distribution transaction (e.g., licence).
Extent of distribution	A quantification of the amount of distribution (e.g., a site licence covering 200 users).
Date of distribution	The date(s) the distribution transaction occurs.
<i>Relationship</i>	<i>Definition</i>
Subject to ⇒ tracking	The relationship between the distribution and a tracking transaction to which the distribution is subject.
Responsibility of ⇒ distributor	The relationship between the distribution and a distributor who is responsible for the distribution.
Subject to ⇒ authorization	The relationship between the distribution and an authorization to which the distribution is subject.
Pertains to ⇒ product	The relationship between the distribution and a product to which the distribution pertains.

Table A11: Distributor – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Distributor identifier	A number or code that is uniquely associated with the distributor, and serves to differentiate that distributor from other distributors.
Name of distributor	A word, character, or group of words and/or characters by which the distributor is known. Includes names of individuals and of organizations.
Date of birth	The date an individual was born.
Date of death	The date an individual died.
Date of establishment	The date an organization was established (e.g., date of incorporation).
Date of dissolution	The date an organization was dissolved.
Address	The address of the distributor's residence or place of business.
<i>Relationship</i>	<i>Definition</i>
Responsible for ⇒ distribution	The relationship between the distributor and the distribution of a product for which the distributor is responsible.
Responsible for ⇒ tracking	The relationship between the distributor and the tracking of the distribution of a product for which the distributor is responsible.
Certified by ⇒ certification authority	The relationship between the distributor and a certification authority responsible for certifying the distributor.

Table A12: Exception – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Exception identifier	A number or code that is uniquely associated with the exception, and serves to differentiate that exception from other exceptions.
Title of exception	A word, phrase, or group of characters naming the exception.
Type of exception	A categorization or generic descriptor for the exception (e.g., fair use exception).
Scope of exception	The specific scope of application of an exception (e.g. communication to the public).
Effective date of exception	The date the exception comes into force.
Exception revision date	The date the exception was last revised.
<i>Relationship</i>	<i>Definition</i>
Established by ⇨ legislation	The relationship between the exception and the legislation under which the exception is established.
Limits ⇨ right	The relationship between the exception and a right the exception limits.
Pertains to ⇨ property	The relationship between the exception and a property to which the exception pertains.
Applies within ⇨ territory	The relationship between the exception and a territory within which the exception applies.
Pertains to ⇨ use	The relationship between the exception and a use to which the exception pertains.
Applicable for ⇨ term	The relationship between the exception and a term during which the exception is applicable.

Subject to ⇒ **condition**

The relationship between the exception and a condition that is attached to the exception.

Table A13: Infringement – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Infringement identifier	A number or code that is uniquely associated with the infringement, and serves to differentiate that infringement from other infringements.
Type of infringement	A categorization or generic descriptor for the infringement (e.g., moral rights infringement).
Scope of infringement	The specific scope of the infringement.
Extent of infringement	A quantification of the amount of infringement (e.g., illegal importation of 3,000 copies of a work).
Date of infringement	The date(s) the infringement occurs.
<i>Relationship</i>	<i>Definition</i>
Results from ⇒ use	The relationship between the infringement and a use from which the infringement results.
Subject to ⇒ remedy	The relationship between the infringement and a remedy pertaining to the infringement.

Table A14: Legislation – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Legislation identifier	A number or code that is uniquely associated with the legislation, and serves to differentiate that legislation from other legislation.
Title of legislation	A word, phrase, or group of characters naming the legislation. Includes official titles, short titles, citation titles, etc.
Type of legislation	A categorization or generic descriptor for the legislation (e.g., copyright legislation).
Effective date of legislation	The date the legislation comes into force.
Legislation revision date	The date the legislation was last revised.
<i>Relationship</i>	<i>Definition</i>
Establishes ⇒ right	The relationship between the legislation and a right established under the legislation.
Establishes ⇒ authorization	The relationship between the legislation and an authorization established under the legislation.
Establishes ⇒ exception	The relationship between the legislation and an exception established under the legislation.
Establishes ⇒ remedy	The relationship between the legislation and a remedy established under the legislation.

Table A15: Monitoring Service – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Monitoring service identifier	A number or code that is uniquely associated with the monitoring service, and serves to differentiate that monitoring service from other monitoring services.
Name of monitoring service	A word, character, or group of words and/or characters by which the monitoring service is known.
Date of establishment	The date a monitoring service was established (i.e., date of initiation as a monitoring service).
Date of dissolution	The date a monitoring service was dissolved (i.e., date the organization ceased to function as a monitoring service).
Address	The address of the monitoring service's place of business.
<i>Relationship</i>	<i>Definition</i>
Receives reports of tracking ⇨	The relationship between the monitoring service and a tracking transaction that is reported to the monitoring service.

Table A16: Order – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Order identifier	A number or code that is uniquely associated with the order, and serves to differentiate that order from other orders.
Type of order	A categorization or generic descriptor for the order (e.g., purchase order).
Date of issue	The date the order was issued.
Date of recall/cancellation	The date the order was recalled or cancelled.
Extent of order	The number of units in the order (e.g., item count).
<i>Relationship</i>	<i>Definition</i>
Pertains to ⇨ product	The relationship between the order and a product to which the order pertains.
Placed by ⇨ consumer	The relationship between the order and the consumer who placed the order.

Table A17: Originator – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Originator identifier	A number or code that is uniquely associated with the originator, and serves to differentiate that originator from other originators.
Name of originator	A word, character, or group of words and/or characters by which the originator is known. Includes names of individuals and of organizations.
Date of birth	The date an individual was born.
Date of death	The date an individual died.
Date of establishment	The date an organization was established (e.g., date of incorporation).
Date of dissolution	The date an organization was dissolved.
Address	The address of the originator's residence or place of business.
<i>Relationship</i>	<i>Definition</i>
Made ⇒ property	The relationship between the originator and a property made by the originator.
National of ⇒ territory	The relationship between the originator and a territory in which the originator holds citizenship.
Resides in ⇒ territory	The relationship between the originator and a territory in which the originator resides.
Headquartered in ⇒ territory	The relationship between the originator and a territory in which the originator maintains its headquarters.

Table A18: Owner – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Owner identifier	A number or code that is uniquely associated with the owner, and serves to differentiate that owner from other owners.
Name of owner	A word, character, or group of words and/or characters by which the owner is known. Includes names of individuals and of organizations.
Date of birth	The date an individual was born.
Date of death	The date an individual died.
Date of establishment	The date an organization was established (e.g., date of incorporation).
Date of dissolution	The date an organization was dissolved.
Address	The address of the owner's residence or place of business.
<i>Relationship</i>	<i>Definition</i>
Owns ⇨ right	The relationship between the owner and a right belonging to the owner.
Authorizes ⇨ agent	The relationship between the owner and an agent authorized by the owner.
Grants ⇨ authorization	The relationship between the owner and an authorization granted by the owner.

Table A19: Producer – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Producer identifier	A number or code that is uniquely associated with the producer, and serves to differentiate that producer from other producers (e.g., ISBN publisher prefix).
Name of producer	A word, character, or group of words and/or characters by which the producer is known. Includes names of individuals and of organizations.
Date of birth	The date an individual was born.
Date of death	The date an individual died.
Date of establishment	The date an organization was established (e.g., date of incorporation).
Date of dissolution	The date an organization was dissolved.
Address	The address of the producer's residence or place of business.
<i>Relationship</i>	<i>Definition</i>
Responsible for ⇒ production	The relationship between the producer and the production of a product for which the producer is responsible.
Acts as ⇒ registrant	The relationship between the producer and the role the producer plays as registrant of a product or property.

Table A20: Product – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Product identifier	A number or code that is uniquely associated with the product, and serves to differentiate that product from other products.
Title of product	A word, phrase, or group of characters naming the product. Includes titles of books, serials, sound recordings, films, video recordings, etc. Includes variant titles, former titles, abbreviated titles, key titles, etc.
Type of product	A categorization or generic descriptor for the product (e.g., sound recording, film).
Name of issuing body	The name of the body responsible for issuing the product. Includes names of issuing bodies as they appear in the product, names of issuing bodies in standardized form.
Edition/issue designation	A word or phrase appearing in the product that normally indicates a difference either in content or in form between the product and a related product previously issued by the same publisher/distributor (e.g., second edition), or simultaneously issued by either the same publisher/distributor or another publisher/distributor (e.g., large print edition, British edition).
Product status	The status of a product with respect to its continuing publication (i.e., whether the product is currently published or has ceased publication).
Frequency of issue	The frequency with which successive issues/updates of a product are released (e.g., monthly, quarterly).
Numbering	The designation of volume/issue, etc. and/or date appearing in a serial publication or other successively issued or updated product.
Terms of availability	The terms under which the producer or distributor will make the product available for sale, licence, lease, distribution, etc.
Medium	The medium in which a product is issued/communicated.

Extent of product	A quantification of the physical extent of the product (e.g., number of pages, number of frames).
Product specifications	Specification of the physical particulars of the product (e.g., encoding characteristics, presentation format, recording density).
Mode of access	The means of accessing a remote electronic resource (e.g., World Wide Web).
Access address	An alpha-numeric code used to facilitate remote access to an electronic resource (e.g., URL).
<i>Relationship</i>	<i>Definition</i>
Results from ⇒ product	The relationship between the product and the production from which it results.
Subject of ⇒ release	The relationship between the product and the release of the product.
Contains ⇒ product	The relationship between the product and a sub-product contained within the product.
Incorporates ⇒ content	The relationship between the product and content incorporated in the product.
Other edition ⇒ product	The relationship between the product and another edition of the product.
Other format ⇒ product	The relationship between the product and another format of the product.
Reproduction ⇒ product	The relationship between the product and a reproduction of the product.
Successor ⇒ product	The relationship between the product and a successor product.
Supplement ⇒ product	The relationship between the product and a supplementary product.

Abstract/index ⇒ **product**

The relationship between the product and a product that abstracts and/or indexes the product.

Subseries ⇒ **product**

The relationship between the product and a product that forms a subseries.

Table A21: Production – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Production identifier	A number or code that is uniquely associated with the production, and serves to differentiate that production from other productions.
Type of production	A categorization or generic descriptor for the production (e.g., printing).
Extent of production	A quantification of the amount of production (e.g., a print run of 5,000 copies).
Date of production	The date(s) the production occurs.
Place of production	The city, town, or other locality associated with the production of the product.
<i>Relationship</i>	<i>Definition</i>
Responsibility of ⇨ producer	The relationship between the production and a producer who is responsible for the production.
Subject to ⇨ authorization	The relationship between the production and an authorization to which the production is subject.
Pertains to ⇨ product	The relationship between the production and a product to which the production pertains.

Table A22: Property – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Property identifier	A number or code that is uniquely associated with the property, and serves to differentiate that property from other properties.
Title of property	A word, phrase, or group of characters naming the property (e.g., title of a work).
Type of property	A categorization or generic descriptor for the exception (e.g., literary work, performance).
Date of creation	The date the property was created.
<i>Relationship</i>	<i>Definition</i>
Subject to ⇒ right	The relationship between the property and a right that attaches to the property.
Subject of ⇒ authorization	The relationship between the property and an authorization that pertains to the property.
Subject of ⇒ exception	The relationship between the property and an exception that pertains to the property.
Object of ⇒ use	The relationship between the property and a use that is made of the property.
Made by ⇒ originator	The relationship between the property and the originator of the property.
Published in ⇒ territory	The relationship between the property and a territory in which the property is first published, or published simultaneously with its first publication.
Broadcast in ⇒ territory	The relationship between the property and a territory in which the property is first broadcast, or broadcast simultaneously with its first broadcast.

Embodied in ⇨ **content**

The relationship between the property and content that embodies the property.

Table A23: Registrant – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Registrant identifier	A number or code that is uniquely associated with the registrant, and serves to differentiate that registrant from other registrants (e.g., ISRC registrant code).
Name of registrant	A word, character, or group of words and/or characters by which the registrant is known. Includes names of individuals and of organizations.
Address	The address of the registrant's residence or place of business.
Registrant contact	The name, title, address, telephone number, etc. of an individual acting as the contact for the registrant.
<i>Relationship</i>	<i>Definition</i>
Is ⇨ producer	The relationship between the registrant and a producer acting as the registrant.
Is ⇨ creator	The relationship between the registrant and a creator acting as the registrant.
Responsible for ⇨ registration	The relationship between the registrant and the registration of a product, content, or property for which the registrant is responsible.

Table A24: Registration – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Registration identifier	A number or code that is uniquely associated with the registration, and serves to differentiate that registration from other registrations. (Note: the identifier assigned to a product or content may serve as a proxy identifier for the registration).
Type of registration	A categorization or generic descriptor for the registration (e.g., registration of a serial publication).
Date of registration	The date the registration occurs.
<i>Relationship</i>	<i>Definition</i>
Responsibility of ⇨ registrant	The relationship between the registration and a registrant who is responsible for the registration.
Pertains to ⇨ product	The relationship between the registration and a product to which the registration pertains.
Pertains to ⇨ content	The relationship between the registration and content to which the registration pertains.
Pertains to ⇨ property	The relationship between the registration and a property to which the registration pertains.
Conducted through ⇨ registration authority	The relationship between the registration and a registration authority responsible for the registration (e.g., an ISAN registration agency).

Table A25: Registration Authority – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Registration authority identifier	A number or code that is uniquely associated with the registration authority, and serves to differentiate that registration authority from other registration authorities.
Name of registration authority	A word, character, or group of words and/or characters by which the registration authority is known.
Date of establishment	The date a registration authority was established (i.e., date of accreditation as a registration authority).
Date of dissolution	The date a registration authority was dissolved (i.e., date the organization ceased to function as a registration authority).
Address	The address of the registration authority's place of business.
<i>Relationship</i>	<i>Definition</i>
Conducts ⇨ registration	The relationship between the registration authority and the registration of a product, content, or property that the registration authority has processed.

Table A26: Release – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Release identifier	A number or code that is uniquely associated with the release, and serves to differentiate that release from other releases.
Type of release	A categorization or generic descriptor for the release (e.g., publication, broadcasting).
Date of release	The date the release occurs.
Place of release	The city, town, or other locality associated with the release of the product.
<i>Relationship</i>	<i>Definition</i>
Responsibility of ⇨ producer	The relationship between the release and a producer who is responsible for the release.
Subject to ⇨ authorization	The relationship between the release and an authorization to which the release is subject.
Pertains to ⇨ product	The relationship between the release and a product to which the release pertains.

Table A27: Remedy – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Remedy identifier	A number or code that is uniquely associated with the remedy, and serves to differentiate that remedy from other remedies (e.g., an identification code for a judgment).
Type of remedy	A categorization or generic descriptor for the remedy (e.g., fine, court costs).
Scope of remedy	The specific scope of the remedy.
Extent of remedy	A quantification of the amount of the remedy (e.g., the amount of an award for damages).
Date of issue of remedy	The date the remedy is issued.
Date of compliance with remedy	The date by which any remedial action must be taken.
<i>Relationship</i>	<i>Definition</i>
Applies to ⇒ infringement	The relationship between the remedy and an infringement to which the remedy applies.
Established by ⇒ legislation	The relationship between the remedy and legislation under which the remedy is established.

Table A28: Right – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Right identifier	A number or code that is uniquely associated with the right, and serves to differentiate that right from other rights.
Title of right	A word, phrase, or group of characters naming the right.
Type of right	A categorization or generic descriptor for the right (e.g., reproduction right).
Scope of right	The specific scope of application of a right (e.g. reprographic reproduction).
Effective date of right	The date the right comes into force.
Right revision date	The date the right was last revised.
<i>Relationship</i>	<i>Definition</i>
Established by ⇒ legislation	The relationship between the right and the legislation under which the right is established.
Belongs to ⇒ owner	The relationship between the right and the owner of the right.
Basis for ⇒ authorization	The relationship between the right and an authorization granted under the right.
Limited by ⇒ exception	The relationship between the right and an exception that limits the right.
Pertains to ⇒ property	The relationship between the right and a property to which the right pertains.
Applies within ⇒ territory	The relationship between the right and a territory within which the right applies.

Pertains to ⇨ use	The relationship between the right and a use to which the right pertains.
Applicable for ⇨ term	The relationship between the right and a term during which the right is applicable.
Subject to ⇨ condition	The relationship between the right and a condition that is attached to the right .

Table A29: Term – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Beginning date of term	The date on which the term begins.
Ending date of term	The date on which the term ends.
Contingent event	An event on which the duration of the term is contingent (e.g., the death of an author).
Duration of term	The length of the term relative to a contingent event (e.g., the length of protection following the production of a sound recording).
<i>Relationship</i>	<i>Definition</i>
Applies to ⇒ right	The relationship between the term and a right to which the term applies.
Applies to ⇒ authorization	The relationship between the term and an authorization to which the term applies.
Applies to ⇒ exception	The relationship between the term and an exception to which the term applies.

Table A30: Territory – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Territory identifier	A number or code that is uniquely associated with the territory, and serves to differentiate that territory from other territories.
Name of territory	A word, character, or group of words and/or characters by which the territory is known. Includes official and unofficial names.
<i>Relationship</i>	<i>Definition</i>
Location of ⇨ originator	The relationship between the territory and an originator who is a national of, a resident of, or is headquartered in the territory.
Site of release of ⇨ property	The relationship between the territory and a property that is first published, broadcast, etc. in the territory.
Governed by ⇨ legislation	The relationship between the territory and legislation that applies within the territory.
Site of ⇨ use	The relationship between the territory and a use of a property that occurs in the territory.

Table A31: Tracking – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Tracking identifier	A number or code that is uniquely associated with the tracking transaction, and serves to differentiate that tracking transaction from other tracking transactions.
Type of tracking	A categorization or generic descriptor for the tracking transaction.
Extent of tracking	A quantification of the extent of the tracking transaction.
Date of tracking	The date the tracking transaction occurs.
<i>Relationship</i>	<i>Definition</i>
Responsibility of ⇨ distributor	The relationship between the tracking transaction and a distributor who is responsible for the tracking.
Reported to ⇨ monitoring service	The relationship between the tracking transaction and a monitoring service to which the tracking transaction has been reported.
Pertains to ⇨ distribution	The relationship between the tracking transaction and a distribution transaction to which the tracking transaction pertains.

Table A32: Use – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
Use identifier	A number or code that is uniquely associated with the use, and serves to differentiate that use from other uses.
Type of use	A categorization or generic descriptor for the use (e.g., reproduction).
Scope of use	The specific scope of the use (e.g. reprographic reproduction).
Extent of use	A quantification of the amount of use (e.g., a single performance in public before an audience of 800).
Date of use	The date(s) the use occurs.
<i>Relationship</i>	<i>Definition</i>
Responsibility of ⇨ user	The relationship between the use and a user who is responsible for the use.
Pertains to ⇨ property	The relationship between the use and a property to which the use pertains.
Occurs in ⇨ territory	The relationship between the use and a territory in which the use occurs.
Subject to ⇨ right	The relationship between the use and a right to which the use is subject.
Subject to ⇨ authorization	The relationship between the use and an authorization to which the use is subject.
Subject to ⇨ exception	The relationship between the use and an exception to which the use is subject.
Deemed ⇨ infringement	The relationship between the use and an infringement that is deemed to have resulted from the use.

Responsibility of ⇨ consumer The relationship between the use and a consumer who is responsible for the use.

Table A33: User – Attributes and Relationships

<i>Attribute</i>	<i>Definition</i>
User identifier	A number or code that is uniquely associated with the user, and serves to differentiate that user from other users.
Name of user	A word, character, or group of words and/or characters by which the user is known. Includes names of individuals and of organizations.
Date of birth	The date an individual was born.
Date of death	The date an individual died.
Date of establishment	The date an organization was established (e.g., date of incorporation).
Date of dissolution	The date an organization was dissolved.
Address	The address of the user's residence or place of business.
<i>Relationship</i>	<i>Definition</i>
Granted ⇔ authorization	The relationship between the user and an authorization granted to the user.
Responsible for ⇔ use	The relationship between the user and a use for which the user is responsible.

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