



ISAN

INTERNATIONAL STANDARD
AUDIOVISUAL NUMBER

ISAN Frequently Asked Questions

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Q: What is ISAN?

A: ISAN (pronounced Eye-SAN) is a voluntary numbering system for the identification of audiovisual content (both works and versions of works). It was developed within an ISO (International Organization for Standardization) working group (Technical Committee 46, Sub-Committee 9). ISO spent over seven years developing this standard with contributions and feedback from dozens of media companies, producers, authors and collecting societies, as well as broadcast standards organizations. The standardization project was administered by [AGICOA](#) (Association of International Collective Management of Audiovisual Works), [CISAC](#) (International Confederation of Societies of Authors and Composers) and [FIAPF](#) (International Federation of Film Producers Associations), all three representing several international and national organizations involved with audiovisual production.

The International Standard that forms the foundation of the ISAN system was published in 2002 as ISO 15706, Information and documentation—International Standard Audiovisual Number (ISAN). In 2006, the ISAN standard was extended to support version identification with ISO 15706-2. Together, they describe a complete audiovisual content identification and metadata system.

Q: What is the structure of ISAN?

A: ISAN has been designed to be read by humans and processed in information systems, as a 24-bit hexadecimal number or as a 96-bit binary number. The structure of ISAN has been designed to meet the diverse needs of the entire audiovisual supply chain.



The ISAN, a 96-bit number is comprised of three segments: a root, an episode or part, and a version. A root is assigned to a core work. Subsequent film parts or television episodes that relate to the root work can have the same root, but different "episode or part" component. (If a core work does not have associated parts or episodes, then the episode segment is filled with zeros.) Works (and their episodes or parts) that have been modified in some way (for example, different audio or subtitle tracks) can have different versions. When the 96-bit ISAN is represented in hexadecimal form it has 24 digits (made up of the numbers 0-9 and the letters A-F):

00000000D07A009000000000

However, a printed ISAN designed for human reading always begins with the ISAN label, appears with hyphens to separate the number into more manageable groups of digits, and adds two check characters (made up of the letters A-Z) to help identify transcription errors. The resulting number appears as follows:

ISAN 0000-0000-D07A-0090-Q-0000-0000-X

ISAN-IA has also developed a recommended practice for encoding the ISAN in a two-dimensional barcode.



Q: What are ISAN codes used for?

A: An ISAN uniquely distinguishes one audiovisual work from all other audiovisual works. An ISAN is a centrally registered and permanently assigned reference number. The work it references is identified by a metadata set. ISAN-IA in Geneva and its appointed Registration Agencies work together to prevent duplicate assignments of ISANs with the same metadata set. This descriptive information includes the title, director, type, duration and dozens of other fields related to the work. This metadata applies to all types of works, including versions of feature films, documentaries, television programs, videos, games, trailers, advertising, and live broadcasts.

These ISAN codes are as well the unique identification of specific versions or other content related to an audiovisual work and will be used in production and distribution systems, broadcasting applications and electronic program guides.

Other methods of identifying audiovisual works, such as by title, can result in confusion about the specific work being referenced. For example, one title can be very similar to another. Titles also change when a work is distributed beyond its country (or countries) of origin and the title is translated into other languages. Because each ISAN is a unique number that is permanently assigned to an audiovisual work, it can identify that work across national boundaries and language barriers. As a unique identifier, the ISAN and its related metadata set are useful in a wide range of computerized applications, particularly those which involve databases or the exchange of information about audiovisual works and related versions.

Some of its possible applications are:

- Films, documentaries, TV series, animation, etc.
- Video - airline video industry, corporate video, training, music, etc.
- Broadcast – worldwide broadcast standards including ATSC, ARIB and DVB (including sports events, television entertainment, etc..)
- Games – videogames, interactive discs, etc.
- Advertising, trailers, excerpts, etc...

Many other audiovisual formats and solutions are actively considering ISAN codes for audiovisual identification.

ISANs can be incorporated in both digital and physical media, such as theatrical release prints, DVDs, publications, advertising, and packaging, as well as licensing contracts to uniquely identify works. The root and episode segments of an ISAN (the first 64 bits or 16 hexadecimal characters) remain the same for an audiovisual work, irrespective of any changes in ownership and across all distribution formats, including film, tape, optical, disk, broadcast or Internet Protocol (IP). The version segment is naturally different whenever it is necessary to distinguish one version of a work from another. But once fixed, remains the same regardless of ownership changes. The ISAN identifier is compatible with many draft and final standards including: AACCS, DCI, MPEG, DVB, and ATSC to name a few.

ISANs can only be issued by appointed Registration Agencies (RAs) via the ISAN System following a strict set of guidelines to ensure data accuracy and system integrity. To promote worldwide usage, ISAN services are offered to the market through registration agencies. ISANs have already been assigned to a large back stock of audiovisual works. ISAN registration is typically done digitally in a process that involves the vetting of XML data to the ISAN-IA central repository for consideration. After data duplication and quality checks are performed most requests are quickly approved and registered. Once an ISAN is assigned it cannot be deleted—only modified by the registrant, the registrant's designated registration agency, or the International Agency.

Q: What is an "audiovisual work"?

A: For the purposes of the ISAN, the term "audiovisual work" covers any fixation of motion imagery.

The ISAN standard defines "audiovisual work" as follows: audiovisual work: work consisting of a sequence of related images, with or without accompanying sound, which is intended to be made visible as a moving image through the use of devices, regardless of the medium of initial or subsequent fixation.

Examples of the types of audiovisual works to which ISAN may be assigned are: motion pictures (e.g. feature films) and short films, trailers (i.e. previews, productions for television or other means of delivery, including individual episodes of television series, industrial, educational and training films, commercials, broadcasts and recordings of live events (such as sports events and newscasts), video games, music video clips, composite and multimedia works if they contain a significant audiovisual component, as well as non-linear works including compilations.

The ISAN is the unique reference number for an audiovisual work and should be included as a data element in any systems used to manage and process information about audiovisual works. Collective Management societies, for example, will use the ISAN when they exchange and process information about the use of audiovisual works.

For audiovisual works in digital form (e.g. DVD), the ISAN is embedded into the appropriate master copies of the work and transferred to any subsequent copies made from those masters. The MPEG 2, MPEG 4, VC-1 standards (for the coded representation of audiovisual and multimedia objects) provides options to include the ISAN identifier in the file format.

For audiovisual works in analogue form (e.g. celluloid film), the ISAN will be securely affixed to the master and any other archival copies. For new works, that could involve printing the ISAN on the master negative. For works already in existence, that would involve securely linking the work and its ISAN in some form of permanent record, archive or inventory. It could also involve physically recording the ISAN on the container of the master version, whenever possible. The ISAN will also be included in the documentation and packaging for an audiovisual work.

Q: How does the ISAN affect copyright registration?

A: It doesn't - because the ISAN is not related in any way to copyright, in either the European or North American sense of that term. The ISAN is an identification number without any legal implication or meaning. It has no value as prima facie evidence regarding the copyright status or ownership of a work.

The scope of the ISAN standard clearly states:

"The issuance of an ISAN shall in no way be related to any process of copyright registration, nor shall the issuance of an ISAN provide evidence of the ownership of rights in a work."

Q: What are the main ISAN benefits?

A: ISAN main benefits are:

- **Unique ID:** The purpose of each ISAN is to act as a unique international identifier of each audiovisual work (AV work) linked to its descriptive information (metadata), hosted in a central repository (managed by ISAN-IA).
- **Work Identifier:** Each AV work (including all its components and versions) has one unique ISAN. Each ISAN identifies only one AV work. ISAN is a permanent identifier for an AV work and is never reused or changed.

- **Version Identifier:** Each version of an AV work can have a different unique ISAN. That ISAN cannot be used to identify any other version of that or any other work. (The root and episode segments of the ISAN will be the same for all versions of that work, only the version segment changes.)
- **Representative of the Industry:** ISAN has been defined by the audiovisual industry.
- **Highly Available:** ISAN and its related descriptive information are accessible through the Internet at all times by users (both registrants and readers).
- **Highly Reliable:** ISANs and its related descriptive information are hosted in secure and highly available data centers. Disaster recovery and failover plans will meet or exceed common industry best practices for security and reliability.
- **Data Integrity:** Each AV work has one unique ISAN. Each ISAN identifies only one AV work. ISAN is a permanent identifier for an AV work and is never reused.
- **Asset Management:** ISAN helps registrants and other users of ISAN with efficient inventory management, particularly in a digital environment.
- **Usage Reporting:** By requiring an ISAN to be listed in broadcast logs via various international broadcasting standards, tracking of uses is facilitated. In digital distribution, the ISAN is integrated into the work itself typically within the file or stream header.
- **Collection Management:** When filing for administration through collection management, works identification and rights registration is more efficient, providing potential savings in time and cost. This enables quicker, more reliable and efficient distributions by collection societies and speeds the velocity of trade payments to all parties.
- **Database Interoperability:** ISAN facilitates electronic information exchanges between different commercial and consumer focused database systems such as a studios financial system, or a theater chains digital cinema distribution tracking database.
- **Digital Merchandizing Potential:** ISAN can be used in the audiovisual e-commerce environment to enable, promote and cross-promote digital merchandizing and related audiovisual marketing and commerce.

Q: Who are the Primary Users of ISAN?

A: An ISAN enables commerce for several industries, including feature films, digital cinema, program guide services, Internet content and gaming. This means there are two major users; commercial companies and end consumers. The initial major users include producer or publishers for library management, optical media identification and digital cinema distribution projects. Other users include digital broadcast, cable, and many other value chain participants, including:

- Those interested in the licensing of audiovisual works and in the management of permissions and payments for use of these works such as the stakeholders/rights-holders including (but not limited to) producers, writers, directors, actors, developers, composers;
- Parties involved in the administration of rights for audiovisual works, such as collecting societies to assist in the allocation of royalties;
- Those releasing or exhibiting different versions of works to an audience, such as television broadcasters; distributors and publishers;
- Those who manage databases about audiovisual works and/or rely on electronic exchange of data, such as television listing services;
- Those who track and report on the use of versions of audiovisual works such as audience measurement and ratings companies;

- Those managing the cataloguing and/or preservation of collections of audiovisual works, such as archivists;
- Organizations involved with engineering and encoding standards for the television, motion picture and broadcasting industries;
- Those who need to exchange accurate data about specific versions of audiovisual works such as parties involved in anti-piracy measures, customs officials and Interpol.

Q: Can ISAN be used to prevent or identify piracy?

A: ISAN is just a unique identifier and is not a method to protect digital assets. It is used to identify works, not protect them. However, ISAN-IA have lately licensed from Microsoft its new High Capacity Color Barcode (HCCB) technology developed by Microsoft Research to assist in the identification of commercial audiovisual works, and in the same time have partnered with Datatrace an Australian company providing technology for counterfeit security protection through nanotechnology that is invisibly embedded within the material and ink of the ISAN barcode and product packaging.



This unique combination of these technologies enables ISAN-IA to offer media publishers the ability to connect to consumers using interactive services and provide counterfeit protection in a single package.

Q: Can or will ISAN be used to identify a unique copy of an audiovisual work?

A: No. Specific versions of video content are identified with the ISAN code, not specific, unique copies. This is not like a product key for software. This is more like an ISBN number for books or an ISWC for music.

Q: Is an ISAN required for audiovisual works?

A: No. The ISAN is a voluntary numbering system. There is no requirement to adopt or implement ISAN for audiovisual works. Members of the audiovisual community will implement ISAN by choice, not obligation. ISAN is an industry-driven numbering system. It is a tool to facilitate business, by the industry and for the industry. The efficiency and precision that the ISAN provides for identifying audiovisual works and related versions, makes the ISAN a logical business decision -- but it isn't a mandatory one.

Q: Who is supporting/using this?

A: The airline video industry organization, WAEA and its content delivery standard will use ISAN. The MPEG4 systems layer explicitly includes a field for ISAN values and major studios in the USA (Hollywood), in Europe and Asia are already setup to obtain the ISAN numbers.

Broadcast standards such as ATSC, ARIB and DVB are all in various states of adopting, recommending and requiring ISAN content IDs to support guide and search services on next generation TV services.

Apple iTunes and CableLabs VoD latest specifications, as well as OpenEPG and TVAnytime has integrated ISAN. As well as Harris in their D-Series software.

Optical media standards such as AACS (for HD DVD and Bluray) have made ISAN mandatory in their specifications (as part of the ContentID).

Microsoft's new tool called Microsoft Windows Media Encoder Studio Edition, is a powerful tool for high-quality offline encoding using Microsoft's implementation of the VC-1 video standard, called WMV9. It natively supports the inclusion of ISAN metadata as standard metadata attributes. This metadata can then be exposed throughout the value chain, from encoding, to content management, delivery, and playback (for instance, through Windows Media Player on a PC or Cell phone).

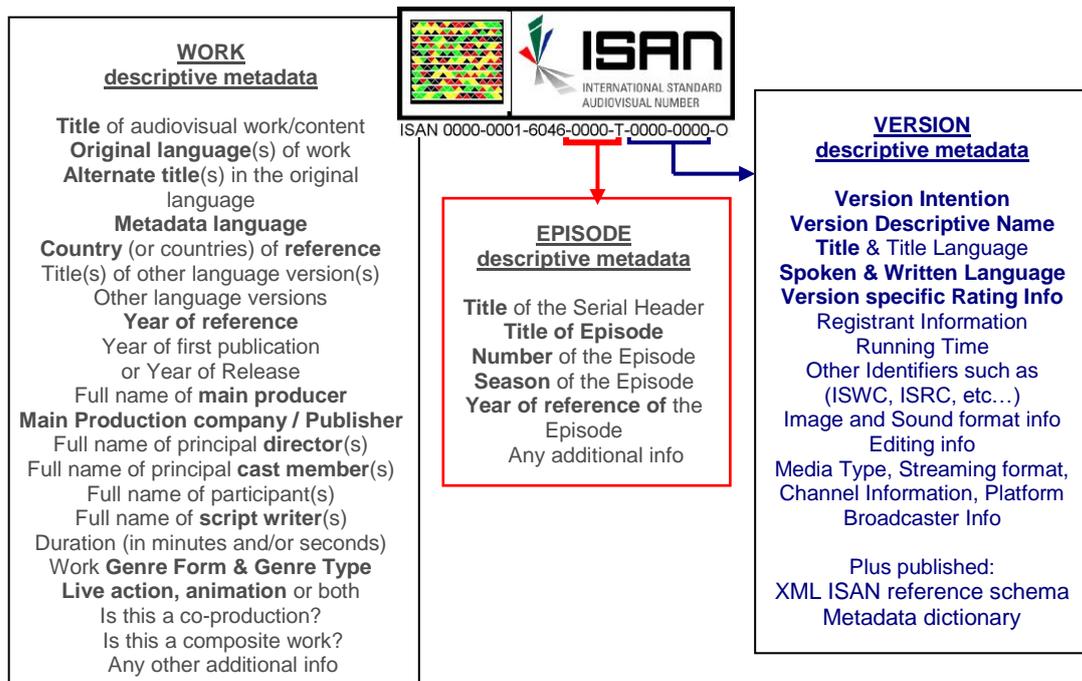


Q: Who can apply for an ISAN?

A: All potential applicants for ISAN must apply first to an ISAN registration agency for a login in order to be recognized as a registrant within the ISAN system. The entity or person to whom an ISAN is given should have the capacity to permanently attach or link that ISAN to the specific audiovisual work that it identifies (i.e. producer, publisher, broadcaster). The purpose of this pre-registration process is to minimize the opportunity for unauthorized persons to obtain legitimate ISANs for stolen intellectual property and fraudulent purposes. This pre-registration process only applies to first-time ISAN applicants; it is not repeated for any subsequent ISAN applications from the same registrant. New applicants for registrant status will be asked to submit some form of proof of their involvement in the audiovisual industry (e.g. membership in or sponsorship by a recognized trade association, declaration of activity in the audiovisual industry, funding by a public agency, etc.) and will have to approve and agree on ISAN Registrant Terms & Conditions.

Q: What is ISAN-IA?

A: ISAN International Agency or ISAN-IA (pronounced E-SAN-ya) is responsible for promoting ISAN worldwide, for appointing Registration Agencies, and for running and managing the ISAN system where ISANs as well as related metadata are stored in a centralized repository. ISAN-IA collects metadata via authorized ISAN Registration Agencies who accept ISAN applications from registrants (producers, publishers, etc...) with specific descriptive information (metadata) about their audiovisual works or related versions such as;



The ISAN system and ISAN central repository are accessible online to registered users.

ISAN-IA maintain a 24/7 live XML based web service for code and metadata lookups in collaboration with their Registration Agencies worldwide.

The ISAN identification and metadata system supports over 90 different content specific tags, and more than 50 worldwide ratings systems in over 30 languages.

Large catalog of audiovisual content can be registered via a 'massive load' process, using XML format and document exchange.

ISAN Services

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Core information

ISAN	0000-0001-8CFA-0000-I-0000-0000-K 		
Type	Film	Kind	Live Action
Year of reference	2005	Year of 1st publication	2005
Duration	97 MIN		
Colour	Yes		
Composite	No		

Production information

Coproduction	Yes
Production companies	Outsider Productions Mandarin Films M6 Films Pathé
Countries of reference	France
Original languages	French
Rating Informations	

Title information

Original	Language	Title
Yes	FRE	Les chevaliers du ciel

Participants information

Type	Firstname / Lastname
Director	G�rard Pir�s
Screenwriter	Gilles Malen�on
Actor	Clovis Cornillac
Actor	Benoit Magimel
Actor	G�raldine Pailhas
Actor	Alice Taglioni
Actor	Philippe Torreton



Click on  to display the 2D barcode for this ISAN

Q: What is the difference between ISAN and ISAN-IA?

A: ISAN is the ISO standard. ISAN-IA is the ISAN Registration Authority mandated by ISO, founded in 2003 as a Swiss Non-profit organization chartered to implement the standard worldwide including a 24/7 operation of a database and XML based web service and managing Registration Agencies worldwide.

Q: Who runs/owns/created ISAN-IA?

A: ISAN-IA is run daily by Patrick Attallah its CEO/Managing Director reporting to ISAN-IA's Administration Committee formed by senior members of AGICOA, CISAC and FIAPF, represented by:

- Andr  Chaubeau - Managing Director of AGICOA & Member of ISAN-IA's Administration Committee
- Eric Baptiste - Managing Director of CISAC & Member of ISAN-IA's Administration Committee
- Lawrence Safir - FIAPF representative & Chairman of ISAN-IA's Administration Committee.

Q: Where ISAN-IA is located? Where are their offices?

A: Geneva, Switzerland is the HQ.

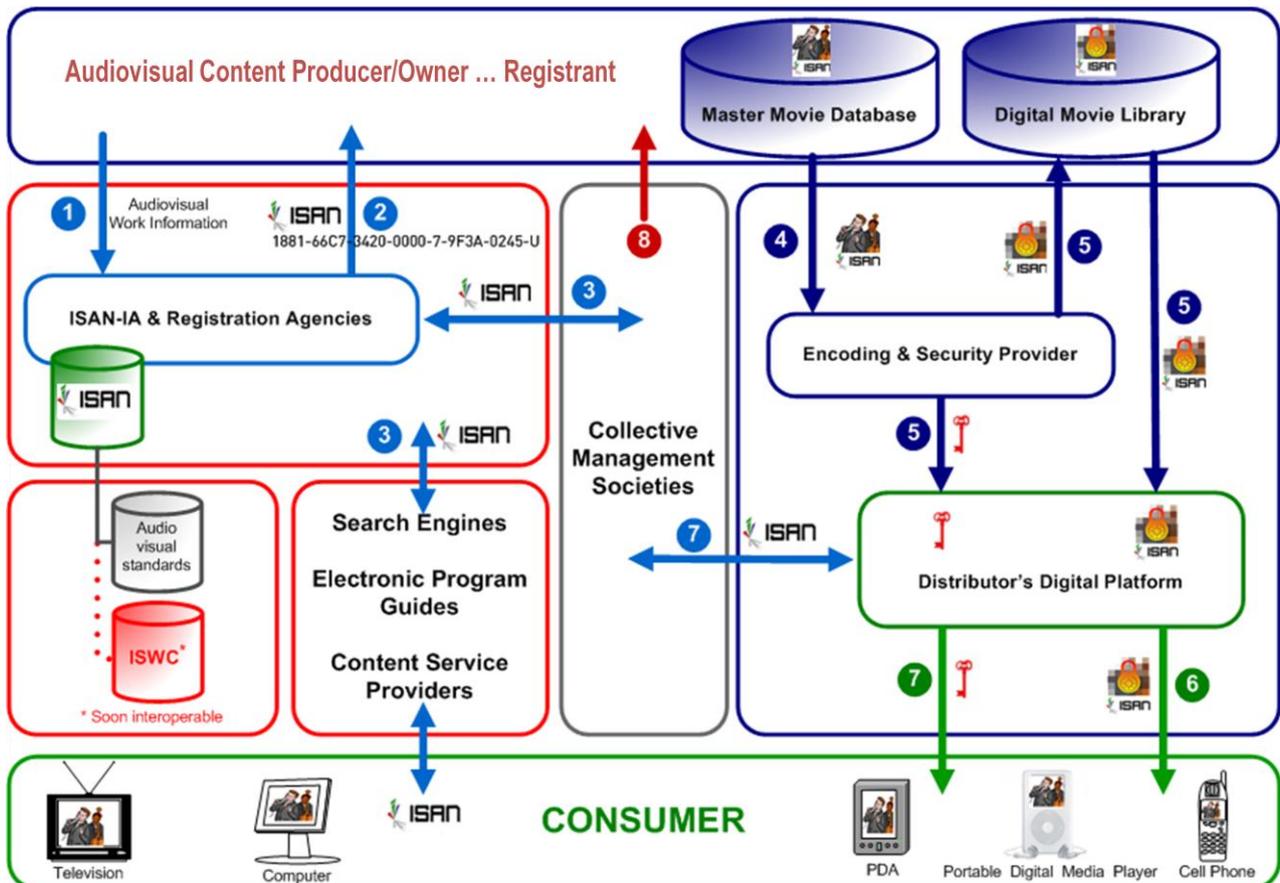
Currently there are 17 appointed [Registration Agencies](#), 10 in Europe (France, Germany, Italy, Netherlands, Poland, Serbia, Spain, Sweden, Switzerland, and UK), 4 in the North America (Secure Path, Microsoft Studios, ISAN IFTA RA, and ISAN Canada), 1 in Australia, 1 in Iran and 1 in Brazil. Other applicants have filed to become RAs (in Argentina, Belgium, China, Czech Republic, India, Japan, Mexico, Portugal, Romania) and are under consideration by the ISAN-IA's Administration Committee.

Q: Where do you order codes and how much it costs?

A: First become an ISAN Registrant of a Registration Agency and then submit your AV content for an ISAN code. Cost is typically 35 CHF list price for an ISAN and 10 CHF for a VISAN (version of an ISAN). Steep volume discounts is applicable for large catalogs.

Q: Who assigns the ISAN?

A: The ISAN system is administered by the ISAN International Agency (ISAN-IA) that coordinates the overall system and maintains a central register of all ISAN assignments. The ISAN International Agency appoints, and oversees the work of, individual ISAN registration agencies that are established to serve specific countries, regions or market sectors. These registration agencies receive and process applications for ISAN and assign the actual numbers to specific works and related versions.



Q: How can ISAN be encoded?

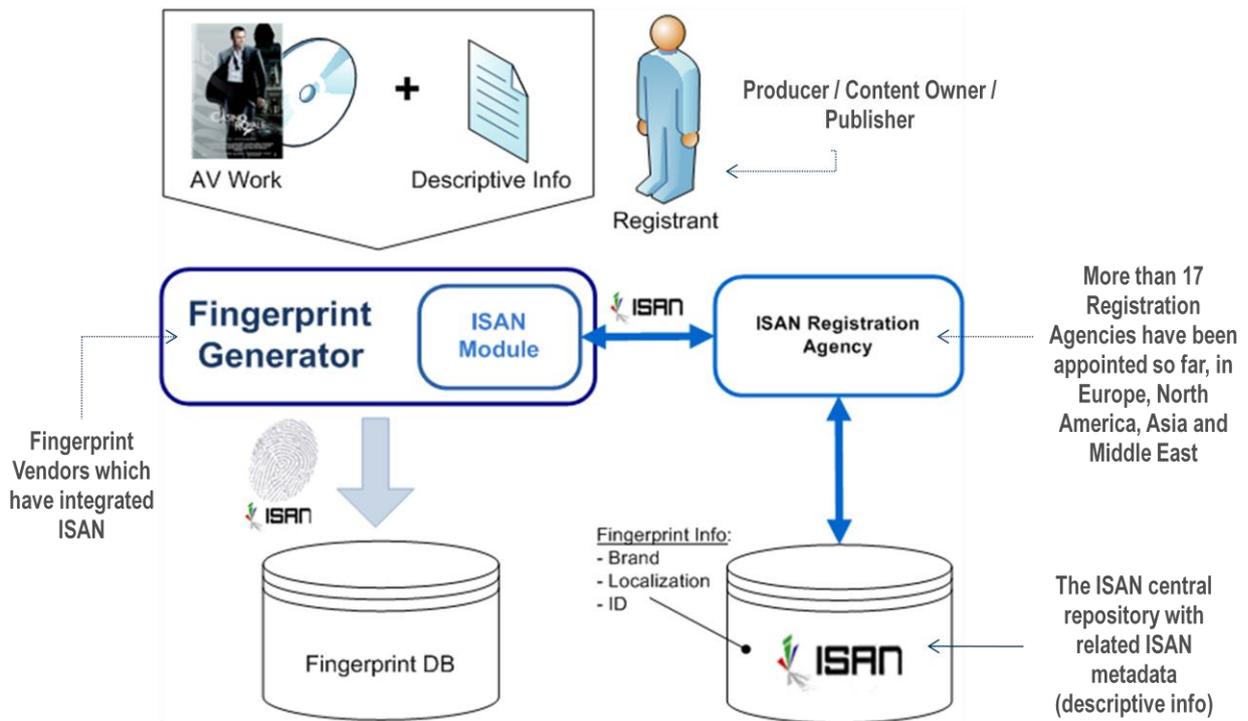
A: There are several standard ways in which an ISAN can be encoded. It can be printed, in binary form, included as XML or Uniform Resource Name (URN), as better explained in the following document:

<http://www.isan.org/docs/ISAN%20Implementation%20in%20WindowsMedia%20May%202006.pdf>

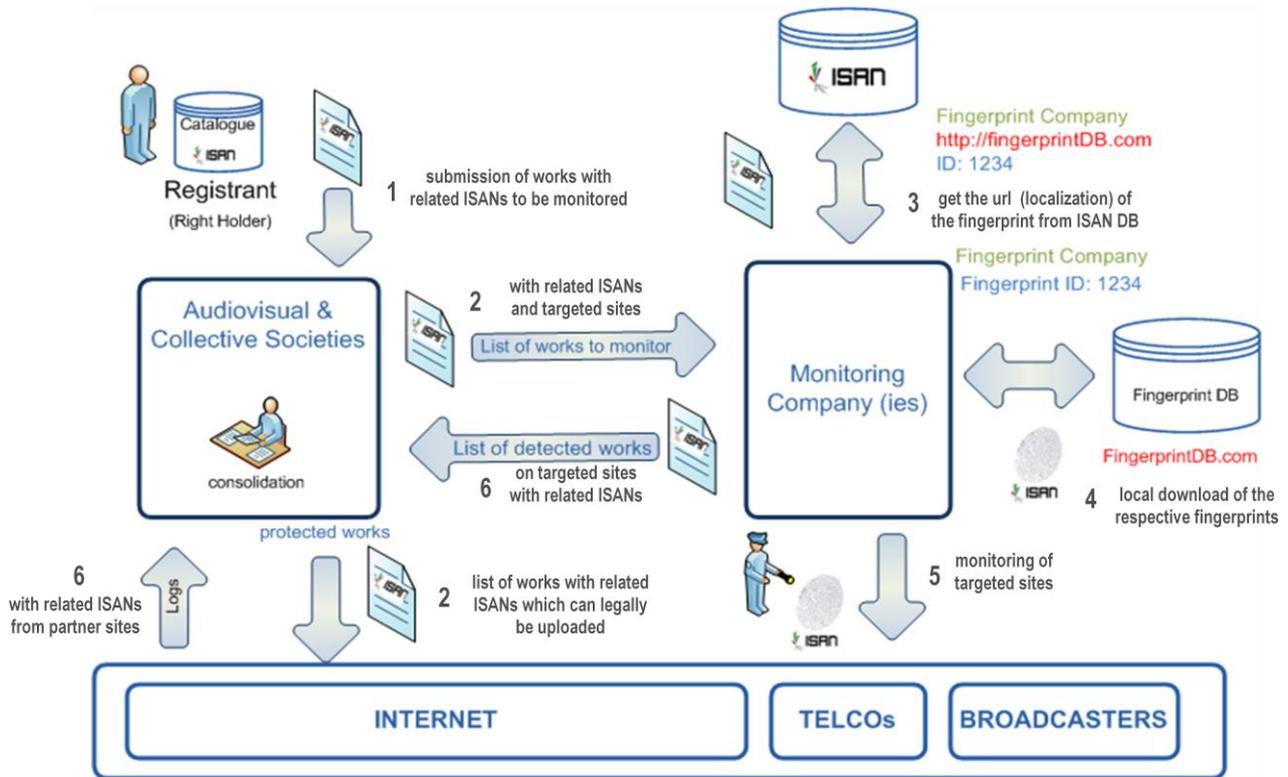
Q: How can ISAN relates to fingerprint?

A: ISAN can be associated to either fingerprinting or watermarking solution, enabling better identification of the content and therefore facilitating tracking and reporting.

FINGERPRINTING INGEST PROCESS



The content monitoring, using the combined of 'fingerprint' and ISAN solution



The Video Sharing case

