

International Standard Audiovisual Number

June 2016



WELCOME EVERYONE

ISAN International Agency
rue Cornavin 5
CH-1201 Geneva

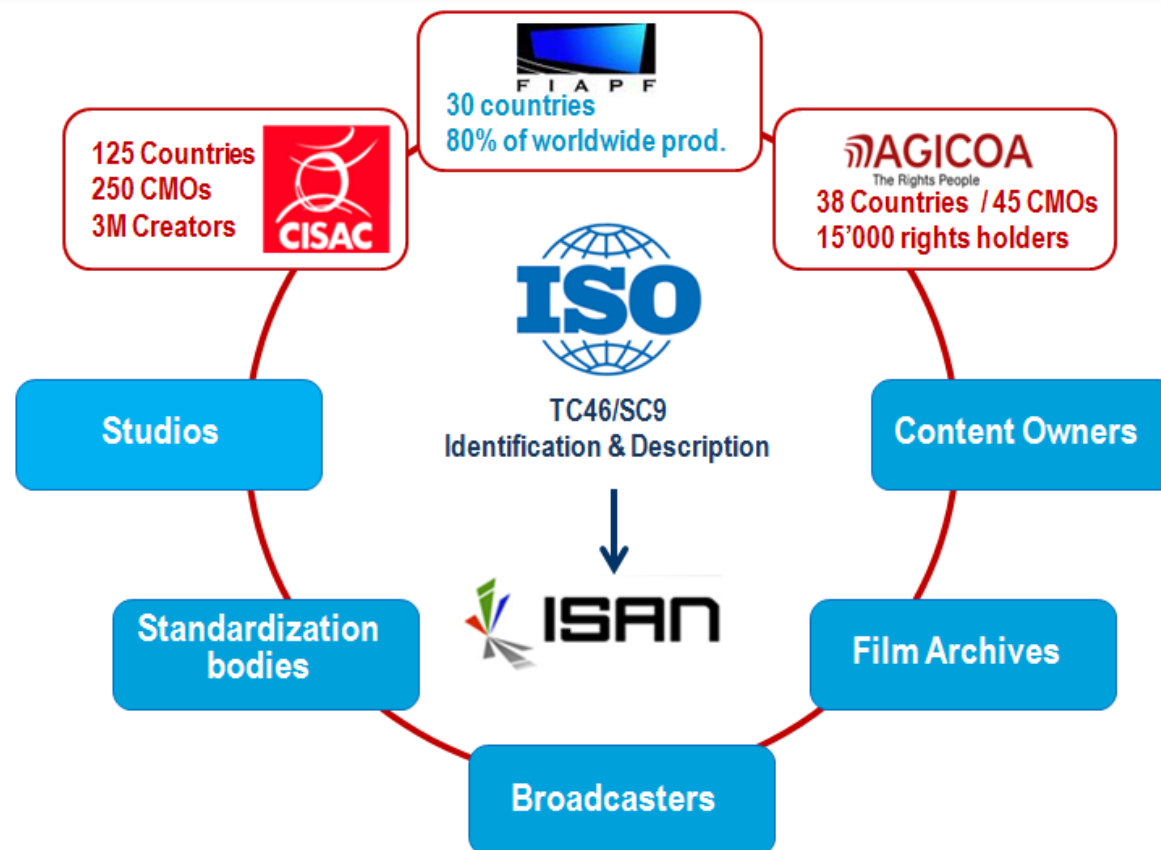
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What is ISAN ?

International Standard Audiovisual Number



ISAN Organization Overview

ISAN = ISO 15706

... 163 countries



- ✓ ISO is **the owner of the ISAN standard** and related IP (**ISAN Registry**, etc...)
- ✓ ISAN is **maintained and reviewed by ISO** with the approval of its members
- ✓ The management of ISAN and operational & implementation specification is delegated to ISAN-IA (via the Registration Authority Agreement) who reports to ISO.

Registration Authority Agreement (RAA): defines the **Role, Responsibility and Obligations** of ISAN-IA and ISAN RA



- ✓ **Manage & Operate the ISAN Standard** in compliance with the ISO RAA, report to ISO
- ✓ Operate the ISAN Registry and make sure it is accessible to all ISAN users.
- ✓ Appoint & support ISAN Registration Agencies (ISAN RA)
- ✓ Specifies with ISAN RA recommended practice.

Registration Agency Agreement: defines the Role, Responsibility and Obligations ISAN RA in accordance with ISO RAA

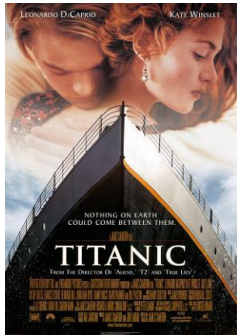


The Registration Agency (RA) is established to serve a **specific country or region**

- ✓ Deliver the **ISAN Registration Service** to local audiovisual users
- ✓ Facilitate the **access to the ISAN Registry**
- ✓ Make sure that ISAN complies with local needs and practices

ISAN applies to all audiovisual contents

Works



Versions of work

Editing versions : director's cut, censored, ...

Languages versions: dubbing, subtitling, audio description...

Media versions: Celluloid, DCP, Tape, DVD, Blu-ray, digital file...

Related content & related items

Trailer



Behind The Scenes



Making Of



Sound Track



Closed Captions



etc...





What is ISAN ?

ISAN is a Global Standard Identifier

ISAN 1234-5678-9101-0004-X-0000-00A1-Y

Diagram illustrating the structure of an ISAN (International Standard Audiovisual Number) with color-coded segments and brackets:

- Root:** 1234-5678-9101 (Red)
- Episode:** 0004 (Orange)
- Version:** 0000-00A1 (Green)
- Check:** X (Blue)
- Final Character:** Y (Grey)

Arrows indicate the sequence: Root → Episode → Check → Version → Final Character.

Serie 1234-5678-9101-0000-E-0000-0000-A

Episode 1234-5678-9101-0004-X-0000-0000-A

Work 1234-5678-9101-0000-E-0000-0000-A

Version 1234-5678-9101-0004-X-0000-00A1-Y

URN:ISAN: 0000-0001-DB15-0000-X-0000-000C-N

ISAN is a registered Namespace Identifier (NID) with IETF and IANA. ([IETF RFC 4246](https://tools.ietf.org/html/rfc4246))



ISAN Work & Version Metadata Elements

Minimal descriptive metadata required to unduplicate AV works

SINGLE AV WORK

Title of audiovisual work/content
+ alternate titles (when applicable)

Duration (in minutes and/or seconds)

Original language(s)

Work Type (Feature Film, Documentary, TV entertainment, etc...)

Year of reference (Copyright or production)

Country (or countries) of **reference**

Color Kind

Year of first publication

Main production company

Full name of principal **director(s)**

Full name of **participants** (actors scriptwriter, etc...)

External **IDs** (e.g. ISRC, UMID, EIDR, ...)

Work **Composites** (list of ISAN



EPISODIC WORK

Title of the Serial

Episode Title

Episode Number

Season

VERSION of an AV Work

Version Type

- Language, Edition (Clips,...) (*Expression*)
- Media (*Manifestation*)
- Related Content (e.g. Bonus, Soundtrack ...)
- Related Item (e.g. Boxed set, ...)

Parent Relationship

Title & Descriptive Name

Release Year / Date

Version Running Time

External Identifiers (ISRC, UPC, EIDR...)

Spoken & Written Languages

Image Details (Color, Definition, Ratio, 2D/3D)

Media embodiment (DVD, BR, EST, VOD,...)

Audio & Video codec + encoding profiles

Distribution (countries + channel/platform)

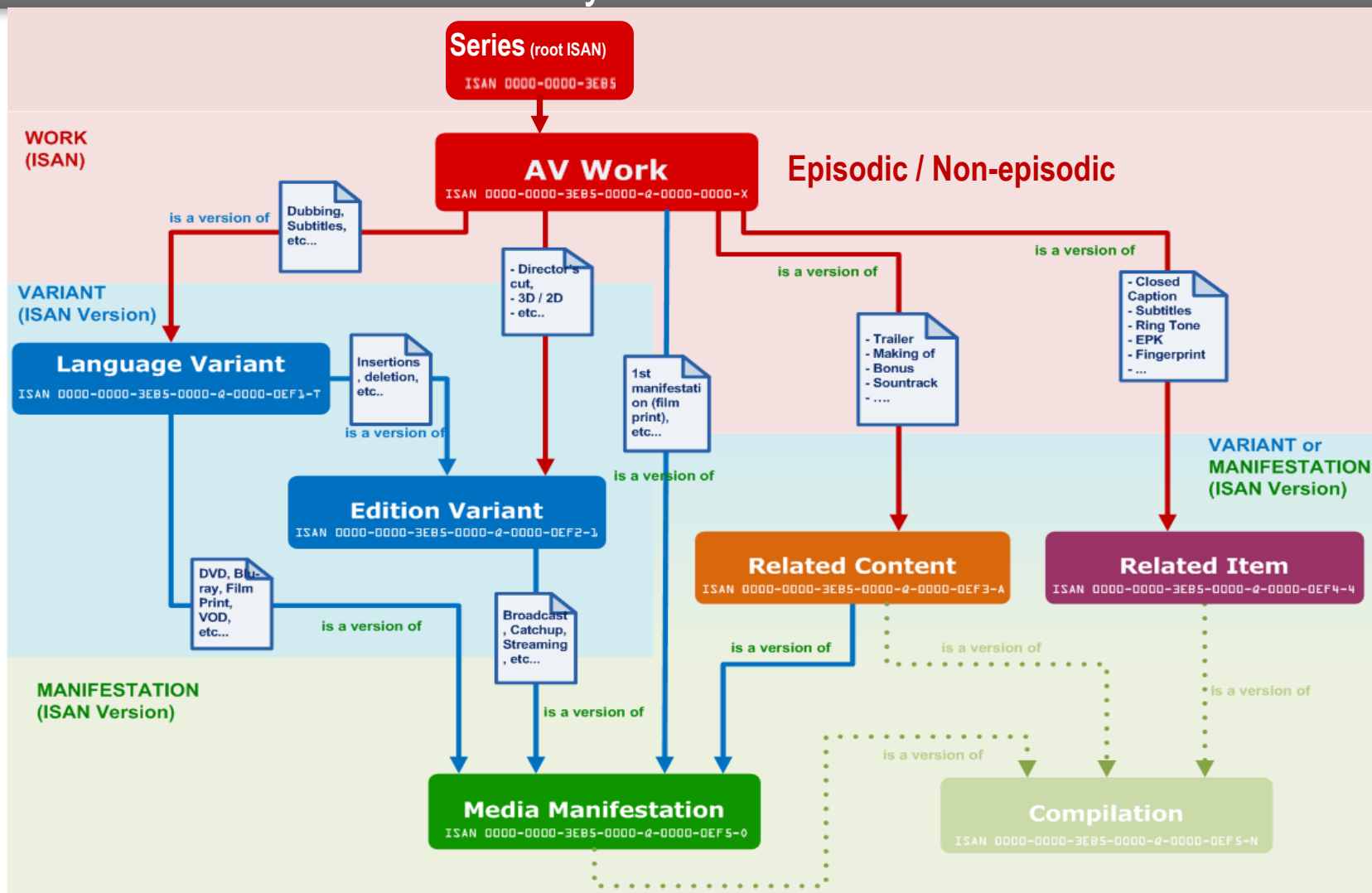
Rating & Content Alert

Version Composites (list of Version ISAN)

Resolution Service Provider (3rd party DB)

Up to 3 customizable metadata fields

ISAN Work & Version hierarchy



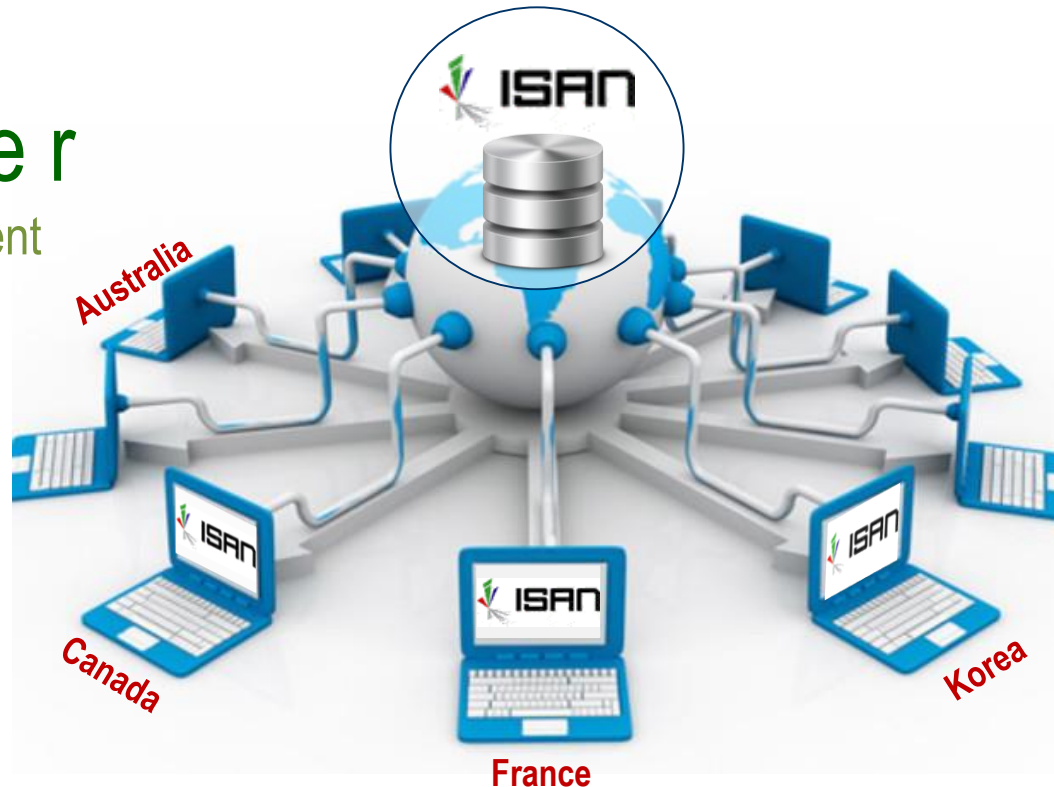


ISAN is operated by...

A worldwide network of Registration Agencies

Register

Audiovisual content



Search Lookup

ISAN Identifiers

connected to the central ISAN registry



How does ISAN work?

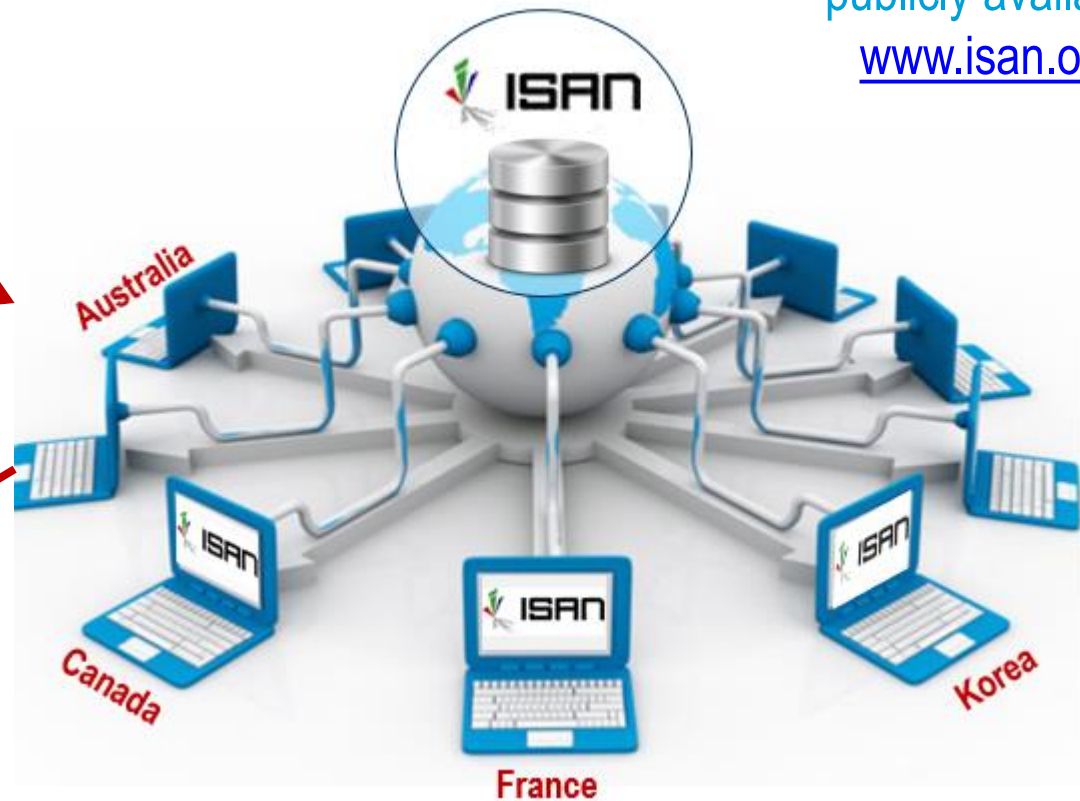
The producer creates the ISAN



Title: Casino Royale
Year: 1966
Dir: John Huston

ISAN and meta-data are publicly available

www.isan.org



ISAN 0000-0001-6046-0000-T-0000-0000-O

...then, everyone can use it and create Versions



ISAN is to be attached to the content / content package



SMPTE Metadata Dictionary
Broadcast Exchange Format (BXF)



Content Protection & Copy
Management



Preferred content identifier for ATSC transport
stream



VOD Content Description
Advertising distribution



ISO 26428 – ISO 26433



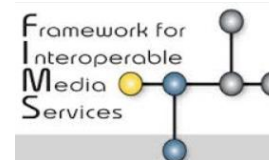
ISAN 0000-0002-6523-0000-Q-0000-0000-X



www.tv-anytime.org



ISO/IEC 13818-1 Generic coding of audio & video
ISO/IEC FDIS 21000 Multimedia Framework



iTunes



EN 15744: Minimum set of metadata for cinematographic works

EN 15907: Enhancing interoperability of metadata



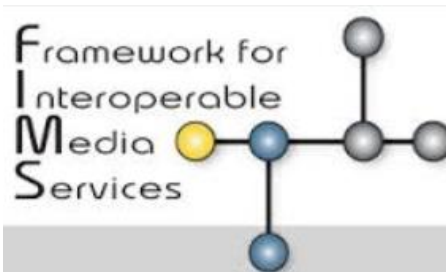
Digital Cinema

- **Digital Cinema Package (DCP)**: collection of digital files used to store and convey Digital DC audio, image, and data streams. DCP is an MXF standard implementation.
- **Composition Playlist File (CPL)** defines the playback order during the screening.
- The **CPL is defined with a UUID**, a same CPL can have different UUIDs (e.g. replacement of a DCP).
- The CPL contains a **content version ID** (version of the content described in the CPL),
- **ISO 26429-7 recommends to use ISAN** as in the example taken from the std:

```
<cpl:Id>urn:uuid:6922e3fe-98de-4347-b832-92e400509d5b</cpl:Id> => CPL ID is a UUID
<cpl:AnnotationText>First D-Cinema Feature</cpl:AnnotationText>
<cpl:IssueDate>2001-12-17T09:30:47-05:00</cpl:IssueDate>
<cpl:Issuer>Major US domestic distributor</cpl:Issuer>
<cpl:Creator>Reliable Packaging Software v1.4</cpl:Creator>
<cpl:ContentTitleText>The Jazz Singer</cpl:ContentTitleText>
<cpl:ContentKind>Feature</cpl:ContentKind>
<cpl:ContentVersion>
<cpl:Id>urn:isan:0123-1230-3210-2310-1-1234-1234-X</cpl:Id> => ContentVersion ID is an ISAN
<cpl:LabelText>English (Theatrical)</cpl:LabelText>
</cpl:ContentVersion>
```

In the DC standard, the ContentVersion ID is aimed to assist users and softwares in the programming and tracking of the content. (DC logs)

```
<ebucore:identifier typeLabel="ISAN"  
  typeLink="http://www.ebu.ch/metadata/cs/ebu_IdentifierTypeCodeCS.xml#3.2">  
  <dc:identifier>ISAN 0000-0001-DB15-0000-X-0000-000C-N</dc:identifier>  
</ebucore:identifier>
```



FIMS enables to associate EBU Core metadata to content



Material Exchange Format



ISAN URN representation: **URN:ISAN: 0000-0001-DB15-0000-X-0000-000C-N**

- ✓ to link between essence and Metadata stored within MXF files,
- ✓ to link between the material stored in MXF files and external Metadata that could be stored in databases or Metadata files,
- ✓ to link between Metadata stored in MXF files and external Metadata that could be stored in databases or Metadata files.

When using SMPTE 377M: Descriptive Metadata Scheme

"identifier kind" = **ISAN**

"identifier locator"=**urn:smppte:ul:060e2b34.01010101.01011101.00000000**

AMWA AS-03 & AS-11

AMWA AS-03 and AS-11 are subset of MXF for the delivery of finished programming from producers & distributors to broadcast stations

DMS-AS-03 shall include the following mandatory properties:

- AS-03 Identifier Kind – an enumerated string value indicating the kind of program identifier
e.g. "ISAN"
- AS-03 Identifier – the identifier, as a text string
e.g. "ISAN 0000-0001-8947-0000-8-0000-0000-D"

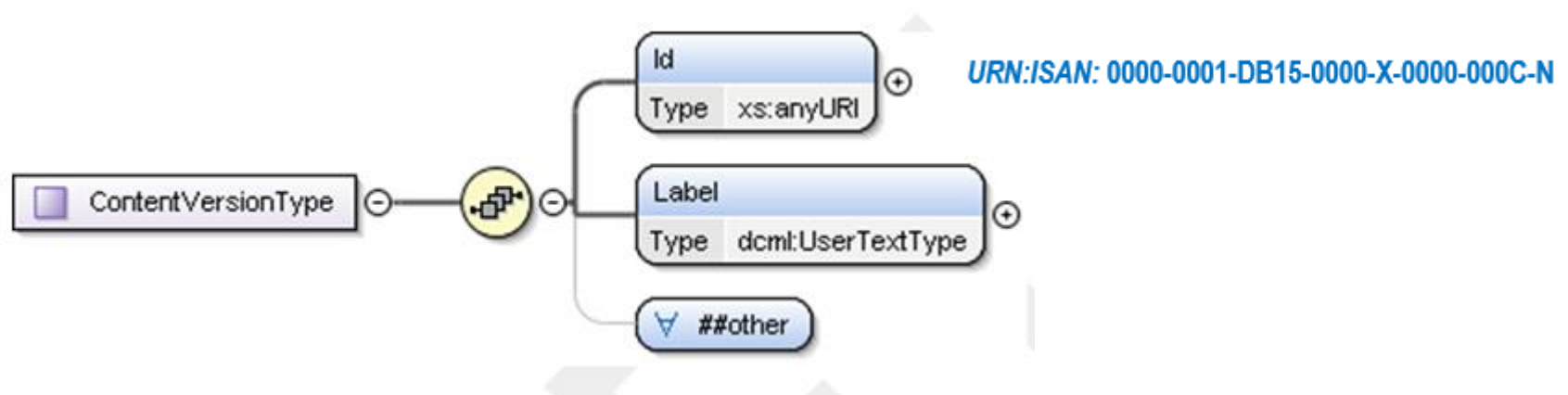
AMWA AS-11 is the format used by UK DPP for the delivery of content to UK broadcasters

Other Identifier type	Description of other identifier, e.g. ISAN.	UKDPP_Other_Identifier_Type
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Interoperable Master Format IMF

- ✓ File-based interchange of multi-version, finished audio-visual works.
- ✓ IMF supports multi-language, multi-reel, subtitles / closed captions, video inserts and after-the-fact delivery of content with “supplemental packages.”

Composition Playlist



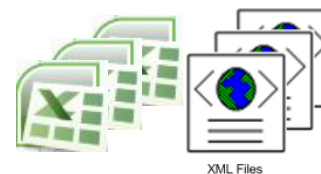
Accessing the ISAN Registry

Rest API



registration
search
lookup

Files



Bulk registration
Bulk search / matching

Web interface



Web Application

registration
search
lookup



registry
snapshots



User Copy

Local search
& lookup

ISAN REST API

- ✓ REST API: read and write data in the ISAN Registry
- ✓ Data encoded in XML (Same schema as for file based data exchange) and JSON
- ✓ Double authentication:
 - ✓ API authentication : HTTP authorization header
 - ✓ ISAN registry authentication: custom X-ISAN authorization header

```
apiSignatureValue = Base64 (api_username:api_password)  
isanSignatureValue = Base64 (isan_username : MD5 (isan_password))
```

- ✓ Swagger active documentation <http://web.isan.org/api/>
- ✓ List of operations
 - ✓ Register a new work or version of a work
 - ✓ Search in the ISAN Registry (Query)
 - ✓ Update informations for existing works or versions
 - ✓ Resolve ISAN codes or external identifiers (Lookup)
 - ✓ List child versions from an ISAN (hierarchical Registry browsing)

ISAN Registry API: Search & Lookup functions

✓ Lookup Service (ISAN resolutions / external IDs resolutions)

- ✓ Retrieve the metadata associated to an ISAN (all ISAN representations: classic, URI, ..)
- ✓ Validate an ISAN (check digits, existence, active/inactive)
- ✓ Translate ISAN ↔ External IDs

✓ Search Service

- ✓ Perform search in the ISAN registry
- ✓ Filtering, Sorting, Pagination:

GET /api/works?**filter=string&sorting=string&limit=n&page=i**

- ✓ Search criteria (filter): « AND » combination between : Work Type, Serial Type, Title, Year, Duration, Participants (name / role), root ISAN (episodes of a serial)

To retrieve all feature films released on 2013
filter="setype::SW/wktype::FF|yor::2013"

To retrieve all documentaries or films where Clint Eastwood has participated
filter="any::Clint Eastwood/wktype::DO,FF"

=> supported operators: OR (|), exclusions (_), numeric intervals([xx-yy])

- ✓ Sorting: ascending (by default), descending (-) order, multiple fields are supported (**sorting**).
- ✓ Pagination: define the number of results per pages (**limit**) and call results page by page (**page**),



ISAN Users Worldwide

9500 ISAN Registrants from **73** Countries

+1000 new
adopters every year

Producers

Collecting Societies

Distributors

Data Providers

Film archives / databases

Studios

Post Production

Market Analytics

Broadcasters

Public Organisations

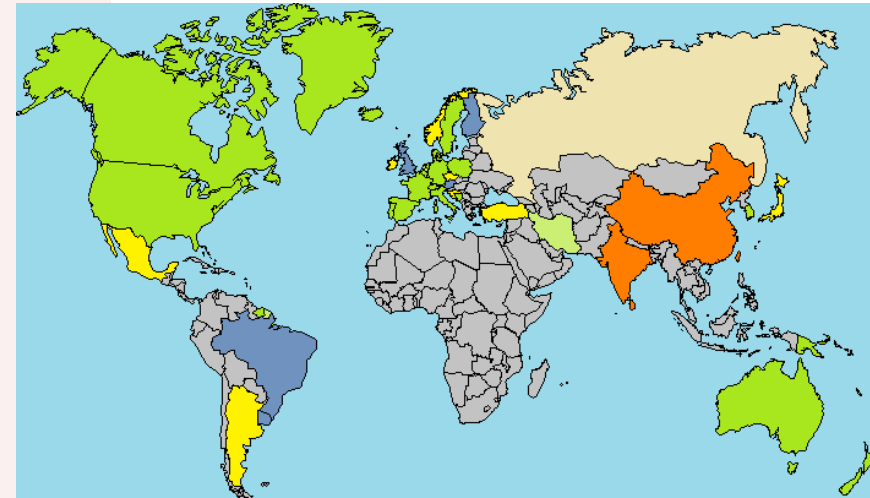
Authors

Digital Platform

Performers

Media Funds

17 Appointed
ISAN Registration
Agencies (RA)



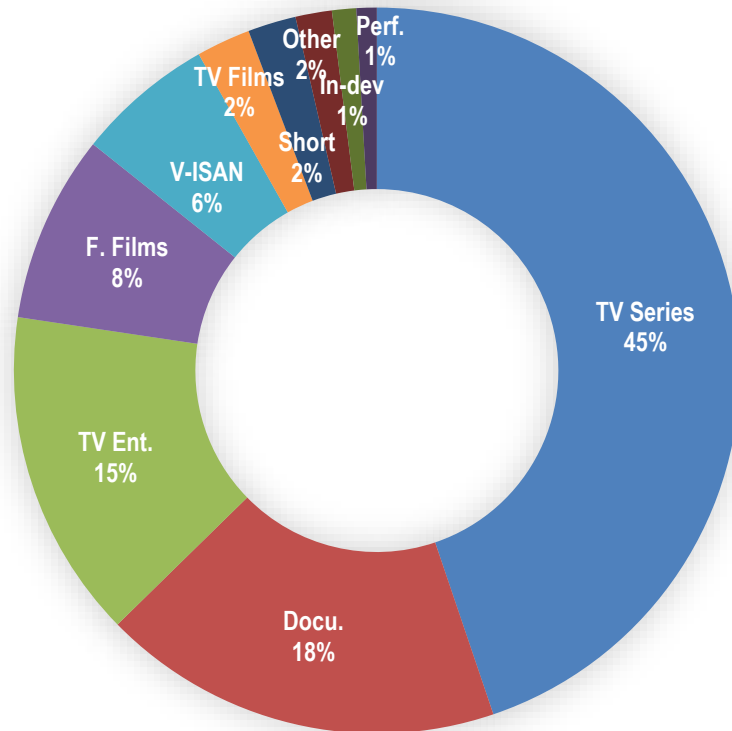
+ 2 Candidate agencies

+11'000 ISAN Users



ISAN in numbers: The ISAN Registry

+1'000'000 ISAN



70'000 New ISAN / Year

ISAN identify productions from

Europe (50%)

Lat. America (4%)

Asia (3%)

N. America (43%)

21% produced after 2010

51% produced after 2000

90% produced after 1965

Collecting societies



A collage of logos for various media companies and services, including:

- Apple logo (grey square with a white apple)
- iTunes logo (black text)
- arte logo (stylized 'a' and 'r' in orange and red)
- filmotech.com logo (black text with a red dot)
- tu descarga segura logo (black text)
- SRF logo (red square with white text)
- Schweizer Radio und Fernsehen logo (black text)
- dailymotion logo (blue text)
- YouTube logo (red and white text)
- MYTFI logo (red and blue text)
- CBCtelevision logo (red and white text)
- francetvpluzzVAD logo (black text with a red dot)
- M7 Group logo (blue square with white text)
- univers|ciné logo (black and red text)
- BT logo (blue and red text)
- Liberty Global logo (black text)
- RTL logo (red, yellow, and blue text)
- A stylized globe logo (red and white)

A collage of logos for various French media companies and organizations, including pluriMedia, OFS, GfK, eurodataTV, TELEBOY, GGmedia, CNC, ina, Lumière, bbbm, ALLOCINE, and Hadopi.

A collage of logos for various technology and media companies, including Microsoft, Cisco, bmat, Imagine Communications, Blu-print, Qualis Audio, opencube, MediaGeniX, civo, pci, semsoft, DREAMLOGIC, Scenarist BD, and etc.

Screen Australia

PROCIREP

KOFIC

GEDIPE

Bell FUND

CMF FMC

egeda

CNC

COGECO FUND

Generalitat de Catalunya

Gobierno de Canarias

film institut

OMDC

EUSKO JAURLARITZA

GOBIERNO VASCO

etc.

FIAPF

SAA

ICA

Writers Guild of Canada

EURO CINEMA

DGC

JVA

JAPAN VIDEO SOFTWARE ASSOCIATION

CISAC

EUROCOPYA

EUROPEAN EXPRESSION OF ART MANAGEMENT ASSOCIATION OF PRODUCERS FOR FILMS, ANIMATION, COPYING

DGA

etc.

ISAN Use Case: Content Recommendation

Cisco Videoscape Media Suite EPG

Better monetize content with ISAN

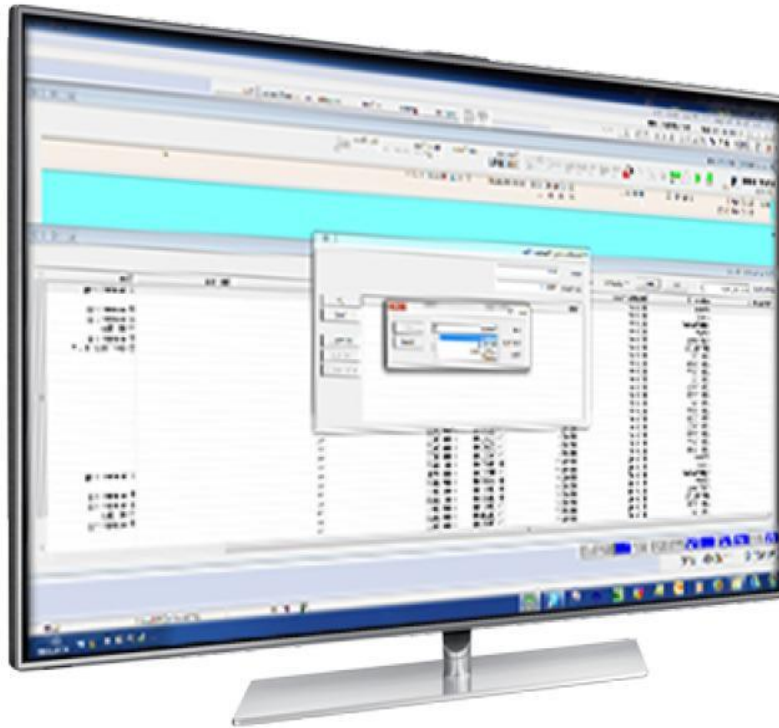


ISAN binds linear content with recommended non linear content such as other episodes of a serie, supplemental material or similar movies ... for purchase or rental.

[more on www.cisco.com...](http://www.cisco.com...)

ISAN Use Case: Linear & file based content delivery

Imagine D-Series DSX™ Advanced Playout Automation



Linear & File based content delivery is empowered with open metadata exchange via BXF, MXF, AAF and ISAN.

Read more on imaginecommunications.com ...



Some referenced use of ISAN

- **Film funds:** Australia, Canada, Denmark, France, Korea, Netherlands, Spain, Norway (proj)...
- **Film or Video Production Tax Credit:** Canada (CAVCO), Italy, Serbia
- **Film festivals:** France, Spain, Switzerland, Italy, Korea
- **Film distribution (reporting):** Switzerland, Spain, Korea, France (CNC cinedi platform, DC logs)
- **Management of rights:** Producers, Authors, Music, Performers (project) + Apple, itv, etc...
- **Data providers, analytics:** Europe (France, Spain, Switzerland, ...) Lat. Am. + other in project
- **Film databases:** France (Allociné, CNC vod search, Hadopi vod search), Lumière (EAO), ...
- **Legal deposit:** France (INA), mandatory in Serbia, + others in consideration
- **Open rights registry:** Spain, UK (© hub), in project: France (WG : Lescure report)
- **Censorship comission:** Italy, Netherlands (project), Others...
- **Digital Patforms:** iTunes (VoD, EST), YouTube (VoD), Euro VoD (proj.), Filmotech (Spain),...
- **Anti-piracy:** Blu-ray, French Hadopi, UGC (YouTube, Daylimotion), rights infringements (Italy)
- **Broadcasting:** itv (UK), Cable & Sat (Europe) in project





THANK YOU



ISAN helps promote, provide and protect.

Visit ISAN at www.isan.org

regis.flad@isan.org

Idzard van der Puyl <ivdp@procirep.fr>

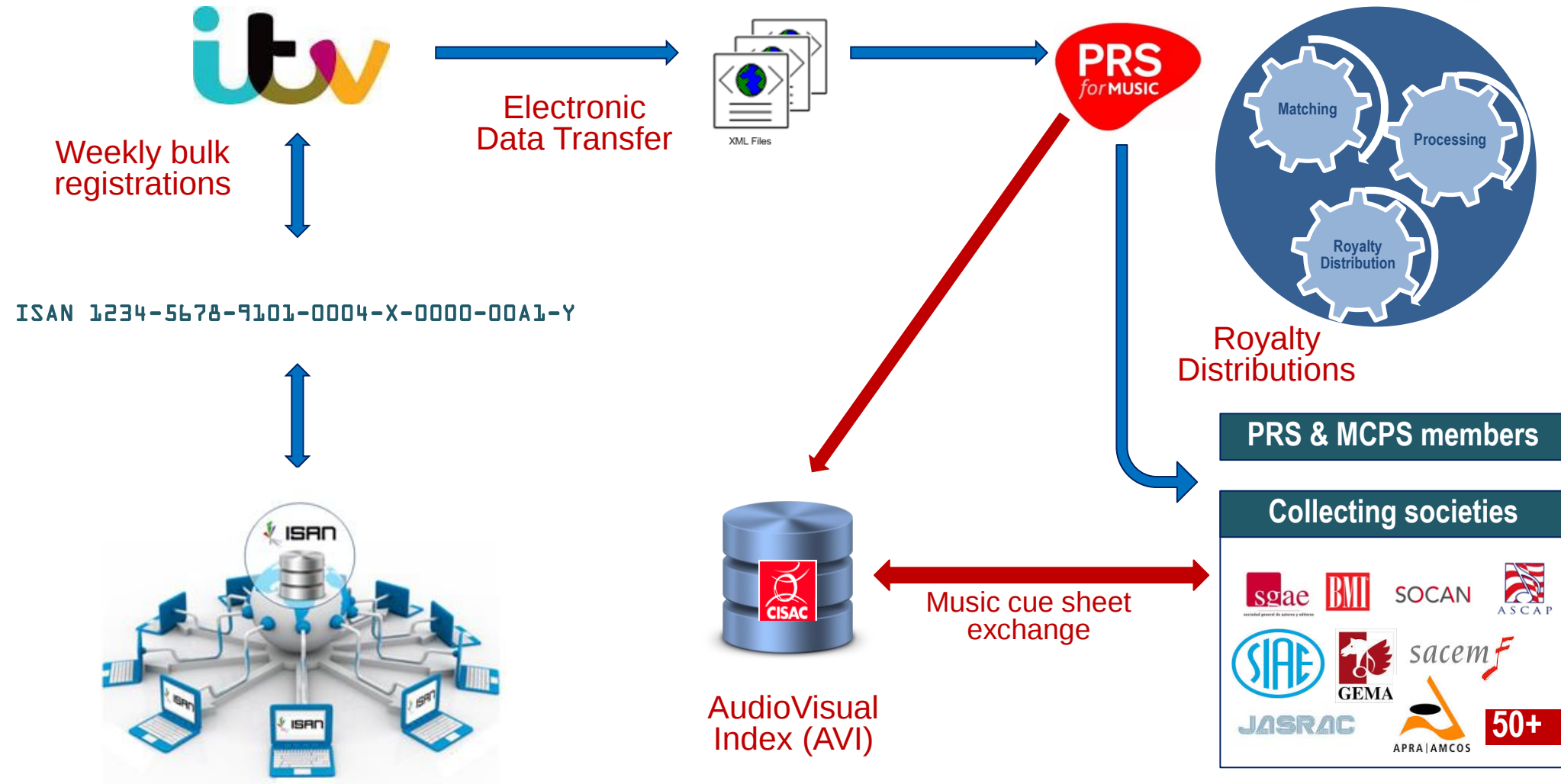


Use Case: ISAN simplifies music reporting of TV productions

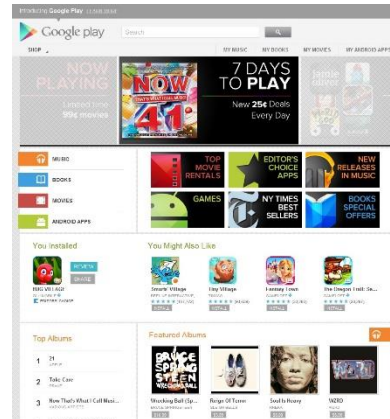
- With the shift to digital the amount of data to process by CMOs has dramatically increased
- ITV, major commercial broadcaster in UK, has registered +100'000 productions with ISAN
- ITV use ISAN as a key identifier for their productions and is using ISAN in business message transactions such as music reporting to PRS for Music (as a start)
- ITV's ISANs are being populated in CISAC's AudioVisual Index (AVI), an important source of music cue sheets (music rights in AV content) for music rights societies
- The first time a production is broadcast, the full metadata set (including music cue sheet) needs to be reported.
- Thereafter for repeats and catch-up services, the ISAN is reported without the need for music cue sheets (saving of 23 metadata fields replaced by one ISAN)
- This is particular useful for catch-up content on 3rd platforms in the UK (BT Vision, Virgin Media, iPlayer, ITV player, 4OD, YouView etc.)

The use of ISAN brings greater automation to the music reporting process by ITV in the UK and reduces the cost for processing rights by PRS for music

ISAN Use Case: Automated workflow for music rights processing with ISAN



ISAN Use Case: Packaging Transactional VoD Content with YouTube



[more on code.google.com ...](http://more.on.code.google.com...)

Packaging Transactional VOD Content with YouTube

```
<?xml version="1.0" encoding="utf-8"?>
  <package name="lionsgateuk-youtube-UPC12345-GBCA-insert-20111230T113857">
    <feature>
      <filename source="/assets/UPC12345/path-to-feature.mp4">UPC12345-GBCA-feature-
        CougarHunting-8.mp4</filename>
      <audiolanguage>fr</audiolanguage>
      <rating system="BBFC">18</rating>
    </feature>
    ...
    <metadata>
      <isan>0000-0000-D07A-0090-Q-0000-0000-X</isan>
    </metadata>
    ...
  </package>
```

ISAN Use Case: Packaging Film Content for the iTunes Store



When the ISAN is added to the iTunes Film package, it is included in the content usage logs delivered by Apple

- Easy rights management by CMOs
- Easy analytics on sales

iTunes Package Film Specification 5.0

[more on www.apple.com ...](http://www.apple.com)

```
<?xml version="1.0" encoding="UTF-8"?>
<package xmlns="http://apple.com/itunes/importer" version="film5.0">
  <provider>Paramount</provider>
  <language>en-US</language>
  <video>
    <type>film</type>
    <subtype>feature</subtype>
    <vendor_offer_code>408CH98720X103</vendor_offer_code>
    <vendor_id>09736156444</vendor_id>
    <isan>0000-0000-03B6-0000-O-0000-0000-2</isan>
    <upc>09736156444</upc>
    <country>US</country>
    ...
  </video>
</package>
```