Overview

December 2015

Millions of film and TV products created each year

Digital encodings of movies, TV shows, clips

Packages Retailer SKUs

Network , Pay TV Distributions

Formats, Regions, Languages, Subtitles

Versions Edits

Episodes

Movies

Cumulative unique assets for distribution
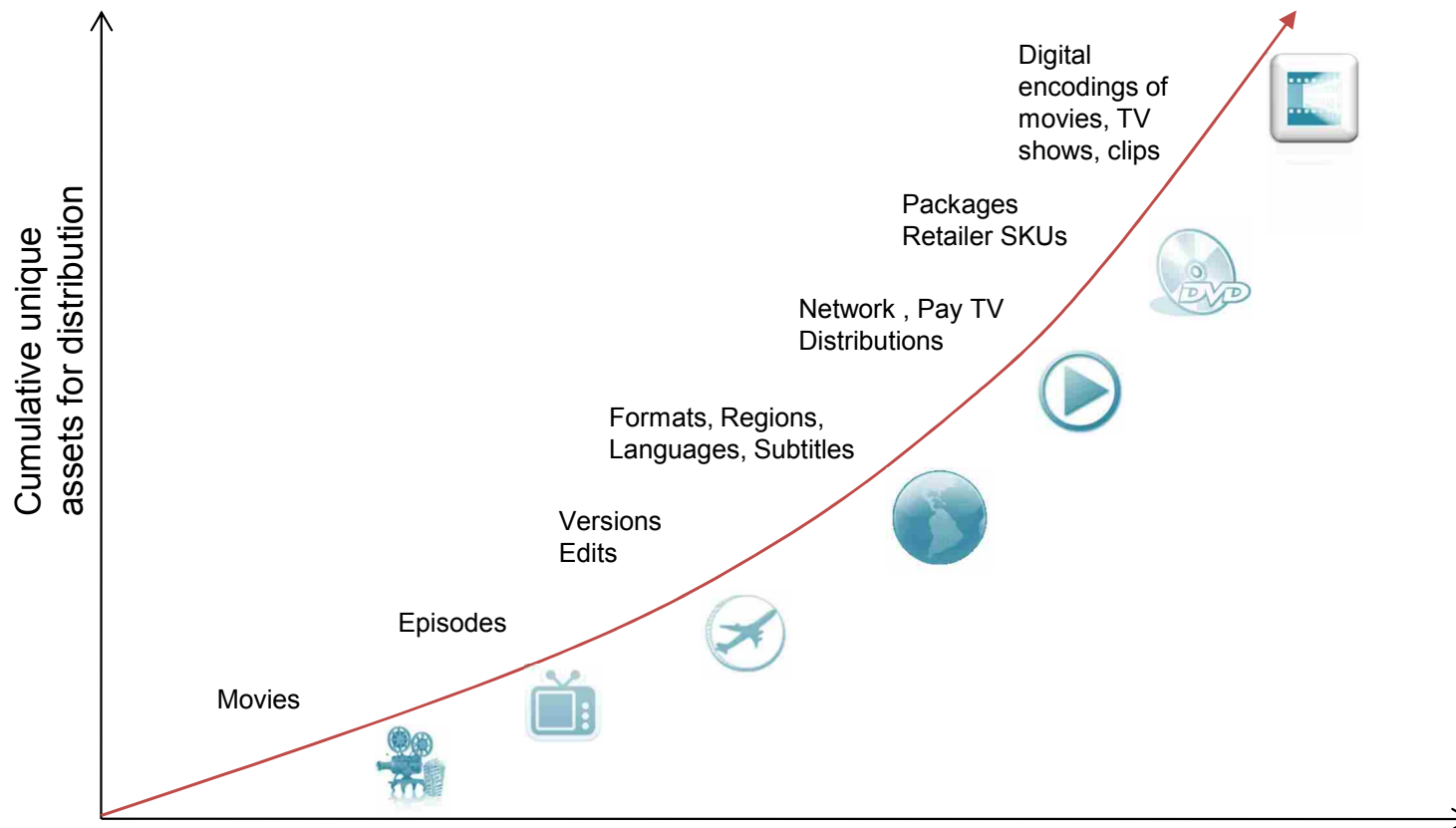
Digital technology + new formats + new devices have caused the number of unique assets to explode

What is EIDR – one page summary

What EIDR is

- Global registry for unique identification of movie and TV content
- Designed for automated machine-to-machine communication
- Flexible data hierarchy down to the product & SKU level, incl. edits, clips, composites, encodings, and relationships

EIDR Purpose

- Make digital distribution competitive
- Help reduce costs
- Improve collaboration and automation across multiple application domains & platforms
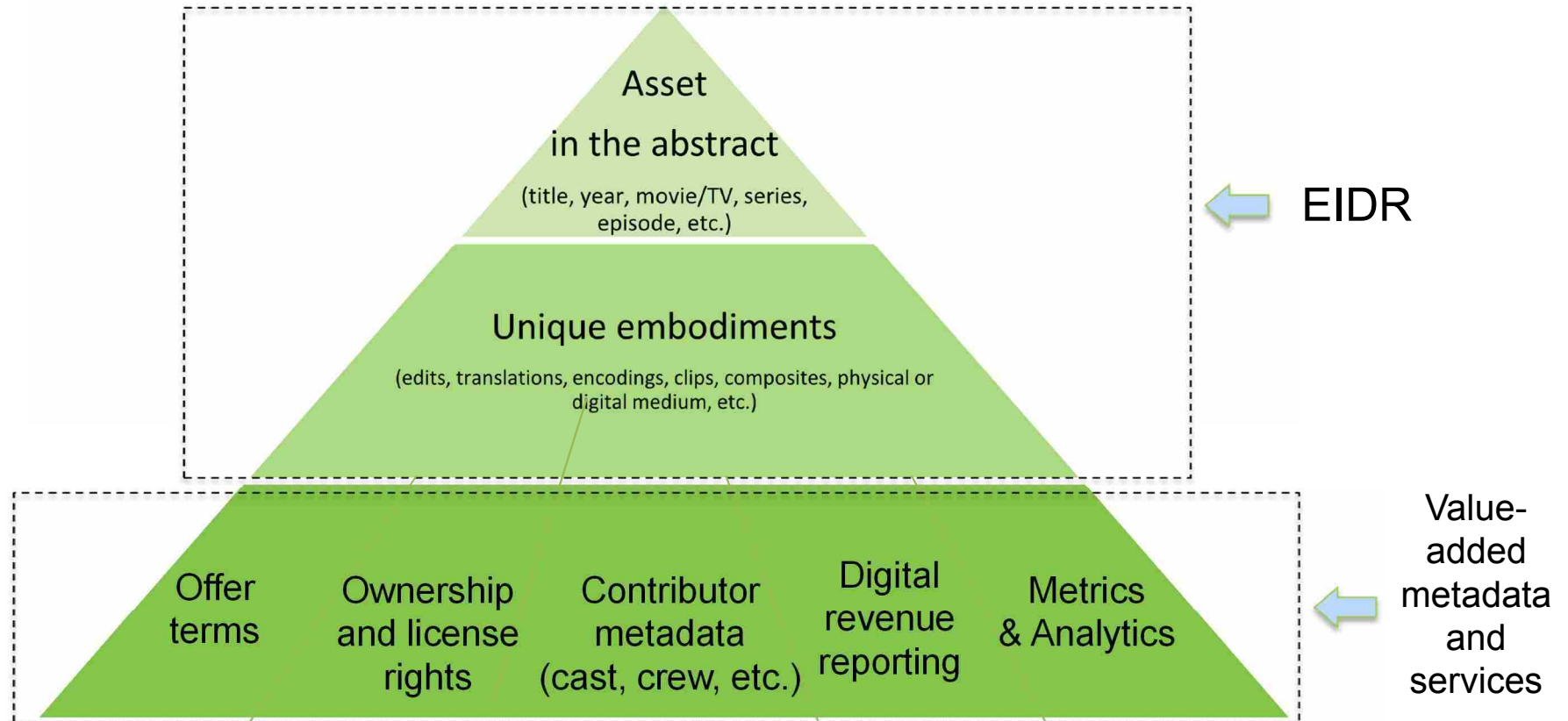- Enable new businesses and create new efficiencies

What EIDR is Not

- Profit-making
- Rich commercial metadata
- Ownership or rights information
- US-only

EIDR Technology Summary

- Interoperable, standards-based infrastructure
- Built on ISO Digital Object Identifier (DOI) standard
- Application integration through public APIs and schemas, freely available SDK for members
- Efficient infrastructure for new and existing applications

EIDR – enabling scalable content services

Asset
in the abstract
(title, year, movie/TV, series, episode, etc.)

Unique embodiments
(edits, translations, encodings, clips, composites, physical or digital medium, etc.)

Offer terms

Ownership and license rights

Contributor metadata (cast, crew, etc.)

Digital revenue reporting

Metrics & Analytics

EIDR

Value-added metadata and services

EIDR provides a common link for an unlimited number of value-added services.
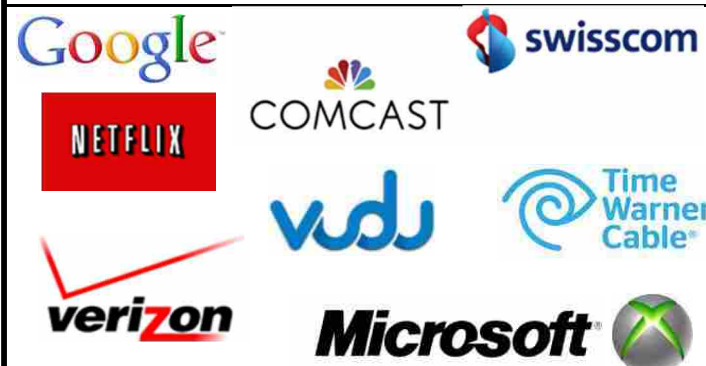
What EIDR helps the industry do

- More profitable online distribution
- Automated VOD delivery, ingestion & dynamic ad insertion
- Direct audience measurement across platforms
- Accurate metadata matching & acquisition
- Faster data roll-up across platforms, workflows, and channels
- Efficient catalog matching & ingest
- Standardized content discovery across operators, vendors, platforms & geographies
- Automated rights reporting & recovery

EIDR Member Ecosystem

Studios and Broadcasters

Disney · NBC UNIVERSAL · Paramount A Viacom Company · SONY PICTURES · FOX · Warner Bros · UNIVISION · HBO · itv · SHOWTIME · PBS

Distributors

Google · NETFLIX · COMCAST · swisscom · vudu · Time Warner Cable · verizon · Microsoft · Xbox

Reporting, tracking, business intelligence

EXACTUALS · rightsline · mediamorph · RENTRAK · RSG MEDIA · FilmTrack

Infrastructure and media services

CISCO · deluxe · Adobe · viaccess-orca · technicolor · VERANCE EVOLUTION IN SOUND TECHNOLOGY · PRIME FOCUS · V2 SOLUTIONS · Vobile · riversand

Metadata

baseline · rovi · RED BEE · WEST10

Industry & standards organizations

NTT · JLabs Japan Cable Laboratories · MOTION PICTURE ASSOCIATION OF AMERICA · The Corporation for National Research Initiatives · doi · CableLabs · movie labs

Who is EIDR?

Independent non-profit registration agency

- Built and run by the industry
- Supported by annual member dues
  - Tiered dues based on size
  - Membership open to large and small ecosystem players
- Board of directors chosen from among promoter members
  - 9-member board with ability to expand as needed
- Commitments in by-laws to cost-recovery model, open terms of use, and IP non-assert
- Participants control new features and technical development through Technical Working Group

Straightforward annual fee structure

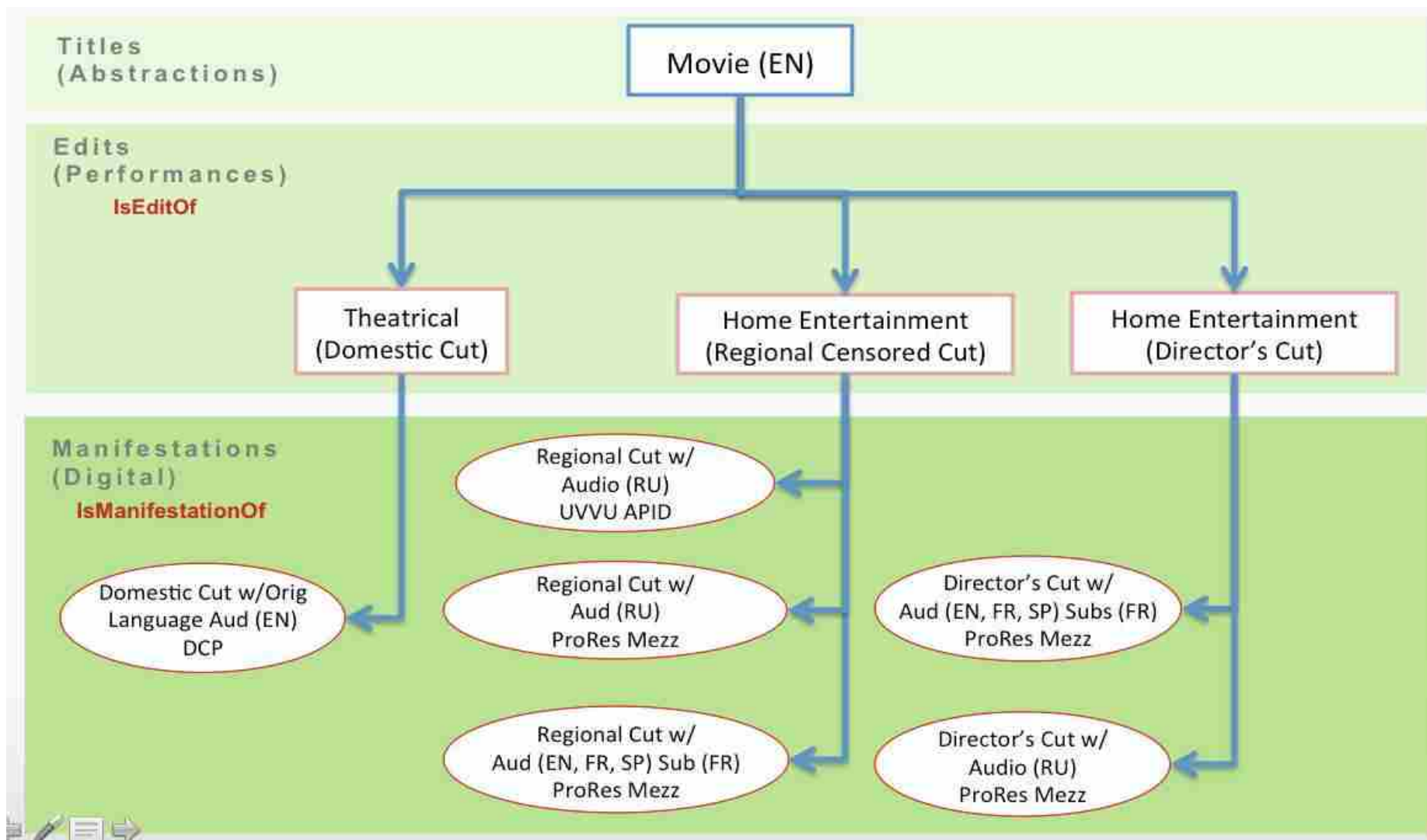| Annual Revenue	Basic User Fee	Promoter Fee (includes Basic User Fee)	Board fee (includes Promoter Fee)
< $100M	$5,000		
$100M - $500M	$10,000	$35,000	$40,000
$500M - $1B	$20,000		
>$1B	$25,000		

Fees will be set annually by the EIDR Board of Directors on a cost-recovery basis.
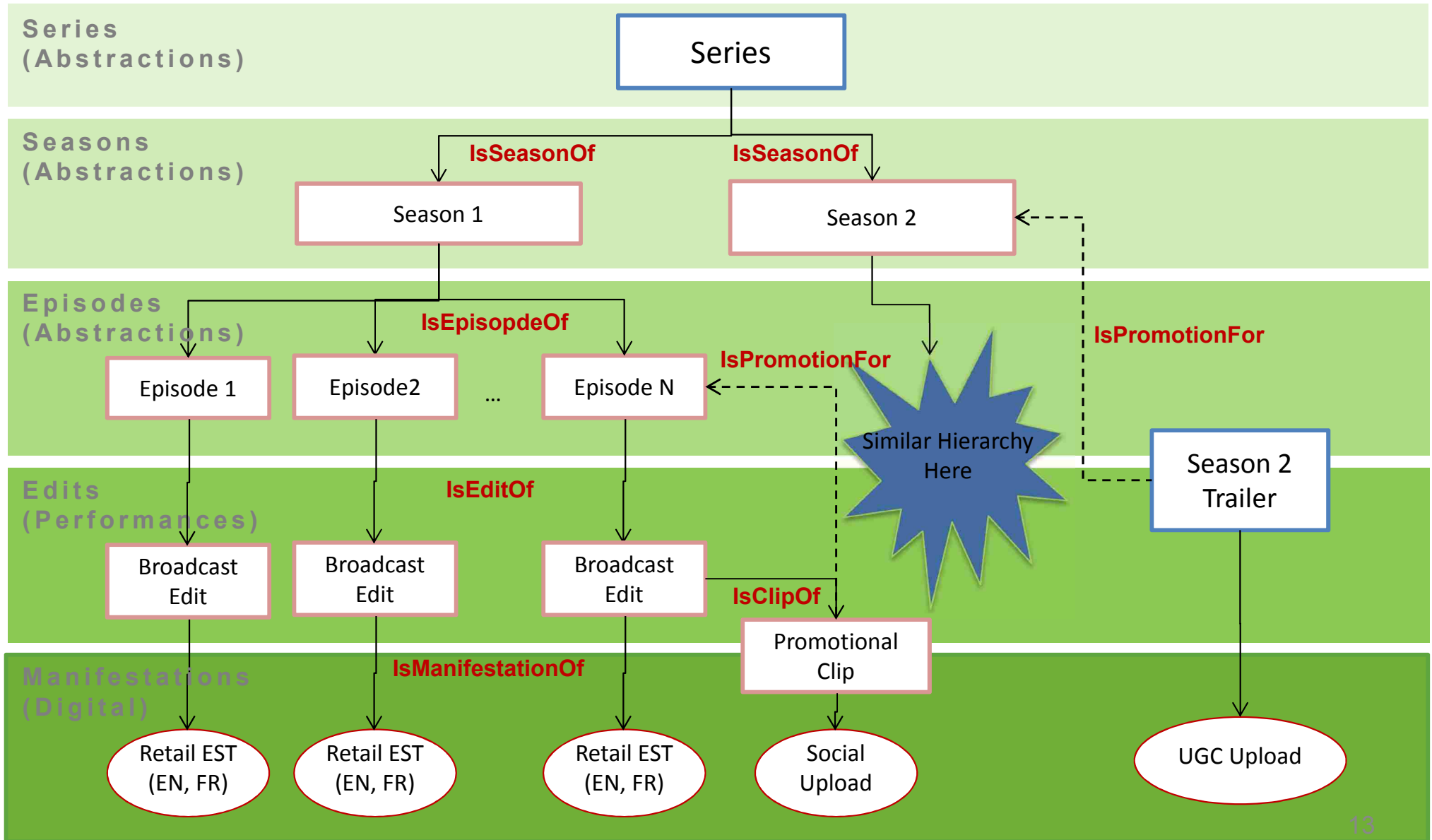
Japanese Contributions to EIDR

- Membership
    - NTT Labs
    - Japan Cable Labs
    - J.COM (as member of US CableLabs)

- Research
    - Both NTT Labs and Japan Cable Labs have investigated EIDR and informed their stakeholders about the technology and business use cases.

Data Model

Example EIDR movie hierarchy with multiple versions

Example EIDR episodic hierarchy

Series (Abstractions)

Series

Seasons (Abstractions)

IsSeasonOf — Season 1
IsSeasonOf — Season 2

Episodes (Abstractions)

IsEpisopdeOf

Episode 1 — Episode2 — ... — Episode N

IsPromotionFor

IsPromotionFor

Edits (Performances)

IsEditOf

Broadcast Edit — Broadcast Edit — Broadcast Edit

Similar Hierarchy Here

Season 2 Trailer

IsClipOf

Manifestations (Digital)

IsManifestationOf

Retail EST (EN, FR) — Retail EST (EN, FR) — Retail EST (EN, FR)

Promotional Clip

Social Upload

UGC Upload

Simple Example

Base Object Data

EIDR ID	10.5240/7481-838B-59CA-63D0-B9A8-E
Structural Type	Abstraction
Mode	AudioVisual
Referent Type	Movie
Title	Tonari no Totoro
	Lang: ja Title Class: transliterated
Alternate Title	Mon voisin Totoro
	Lang: fr Title Class: regional
Alternate Title #2	My Neighbor Totoro
	Lang: en Title Class: regional
Alternate Title #3	となりのトトロ
	Lang: ja Title Class: release
Original Language	ja
	Mode: Audio Type: primary
Associated Org	studio ghibli
	ID Type: EIDRPartyID Party ID: 10.5237/00B3-C33F Role: producer
Release Date	1988-04-16
Country of Origin	JP
Status	valid
Approximate Length	PT1H28M
Alternate ID	4678958
	Type: Baseline
Alternate ID #2	5219
	Type: IVA
Alternate ID #3	tt0096283
	Relation: IsSameAs Type: IMDB
Alternate ID #4	150404739
	Domain: bfi.org.uk Type: Proprietary
Alternate ID #5	0000-0001-07AD-0000-Y-0000-0000-9

EIDR Supports Unicode

EIDR Has Tested Data Model with Japanese Movies and Television

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![EIDR - Entertainment Identifier Registry]

Totoro's relations

Metadata   Relationships

CURRENT   **Movie** | Tonari no Totoro | 10.5240/7481-838B-59CA-63D0-B9A8-E
Referent Type: Movie **Structural Type:** Abstraction **Publication Status:** valid **Release Date:** 1988-04-16

Abstraction

Edit | Tonari no Totoro | 10.5240/5E77-654E-9734-02C2-BABF-Q
Referent Type: Movie **Structural Type:** Performance **Publication Status:** valid **Release Date:** 1988

Japanese Theatrical

Edit | Tonari no Totoro | 10.5240/67FA-7039-EF9D-1DF6-274D-C
Referent Type: Movie **Structural Type:** Performance **Publication Status:** valid **Release Date:** 1993-05-07

Fox dubbed version

Edit | Tonari no Totoro | 10.5240/3ABA-4AC9-5CF6-4217-A219-T
Referent Type: Movie **Structural Type:** Performance **Publication Status:** valid **Release Date:** 2006

Disney dubbed version
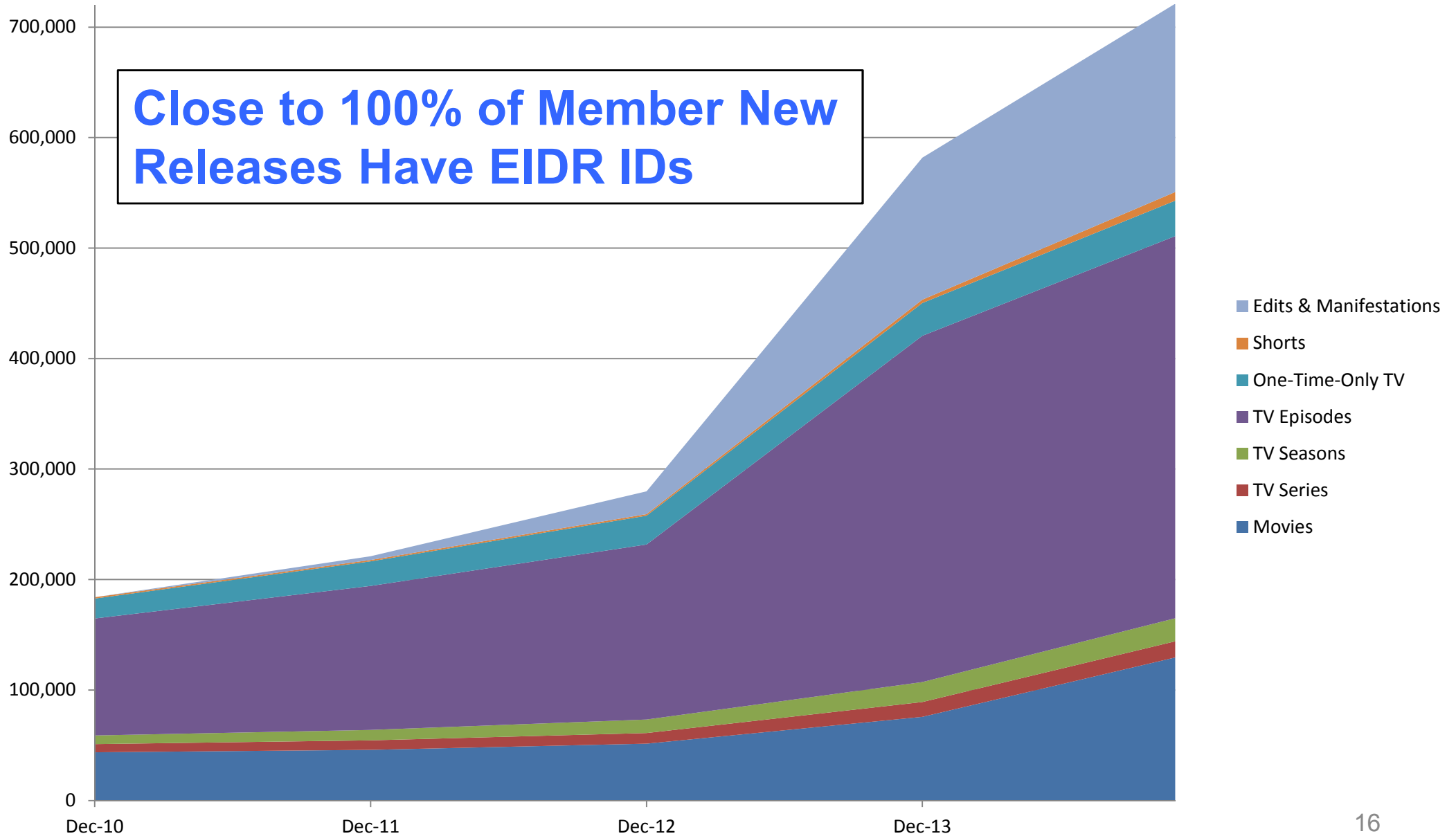
EIDR Operations: Content database details

Category	Today	2014	2013	2012	2011
Total records	**788,218**	**723,709**	**581,798**	**279,900**	**221,146**
Original/title-level content:					
Movies	135,024	130,137	75,800	51,496	45,774
Shorts	12,258	7,919	3,039	1,406	1,224
One-Time-Only TV	33,967	32,323	29,709	26,112	22,199
Series	16,288	14,881	13,409	9,613	8,719
Seasons	23,107	20,804	18,082	12,197	9,486
Episodes	369,978	346,458	313,328	158,371	130,284
Edits	182,792	161,389	121,513	18,293	1,855
Manifestations	14,371	9,576	6,866	2,046	1,621

10/27/2015

![EIDR - Entertainment Identifier Registry]

Operations: Alternate ID's: Largest

Alt. ID Type	Oct. 2015	YE 2014
Sony	201,278	198,079
Rotten Tomatoes (reviews)	96,474	86,267
Internet Movie Data Base (IMDB)	95,114	86,974
Warner Bros	83,872	75,011
Baseline (value-add metadata)	65,890	65,417
Cinemasource (value-add metadata)	48,001	35,531
Netflix	40,412	33,467
Comcast	35,242	0

Also significant numbers from from ISAN, British Film Institute, Veronica, Red Bee, Amazon, ITV, NBCUniversal, and others

Operations: Alternate ID's
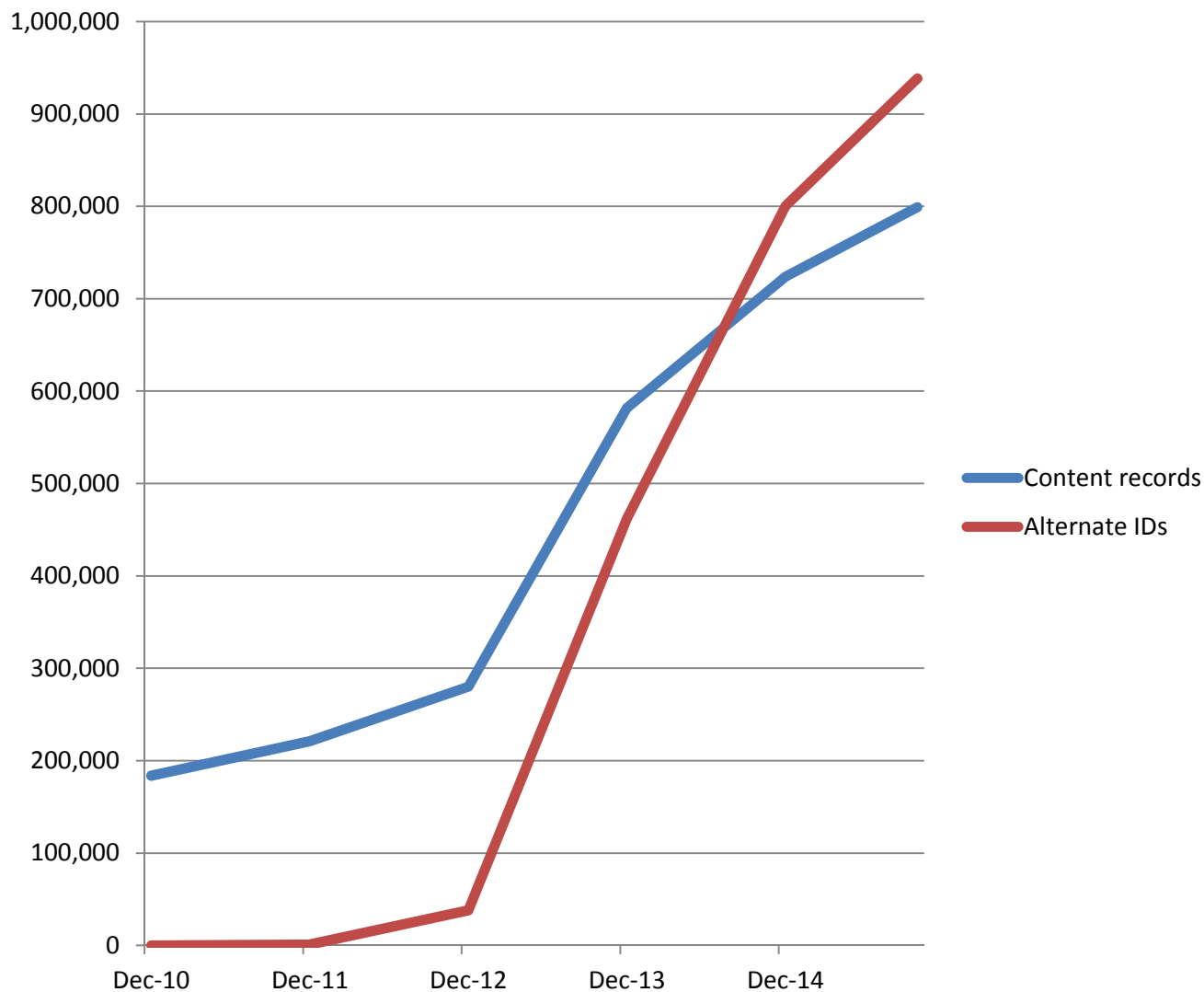
EIDR Flexibility and Interoperability

- ID format guidelines
  - Standard, binary, URN, URI, compressed.
- Inclusion in other standards
  - IETF: RFC 7032 (URN)
  - SMPTE recommended practices: RP 2079, RP 2089
  - SMPTE file formats: carriage in IMF, BXF
  - FIMS/AMWA/UK Digital Production Parnership: AS-03, AS-11
  - European Broadcasters Union: EBUCore
- Mapping guidelines for other metadata standards
  - ISAN, EN 15907, EBUCore
  - Work with ATSC, DVB, SMPTE
  - Alt-ID for mapping across systems
- Digital Entertainment Group: electronic sales reporting
- Electronic Merchants Association: Avails publication and ordering

Use Cases

Developing applications across media windows

Theatrical	EST/Online	TV Broadcast	Video On-Demand
• Ratings • Archives • Digital cinema packages • Box office sales tracking	• UltraViolet • All online retail • Avails • Metadata • Mezz file delivery • Standardized content discovery • Reviews • Home video sales reporting	• Direct audience measurement • Cross-platform tracking • Int'l TV distribution • Music cue sheets • Rights collections • BXF, ATSC, EBU, etc, metadata mappings	• MVPD VOD ingestion & delivery • VOD ad insertion • CableLabs specs • Guide data • Search & recommendations • Parental ratings • VOD sales tracking

Case study - Warner Bros & Xbox Live

- EIDR added to ordering, delivery, sales and royalty reporting

- Results for one studio and one retailer
  - Direct savings = 650 hours/year (partial implementation)
  - Future savings = 1,100 add'l hours/year (full implementation)
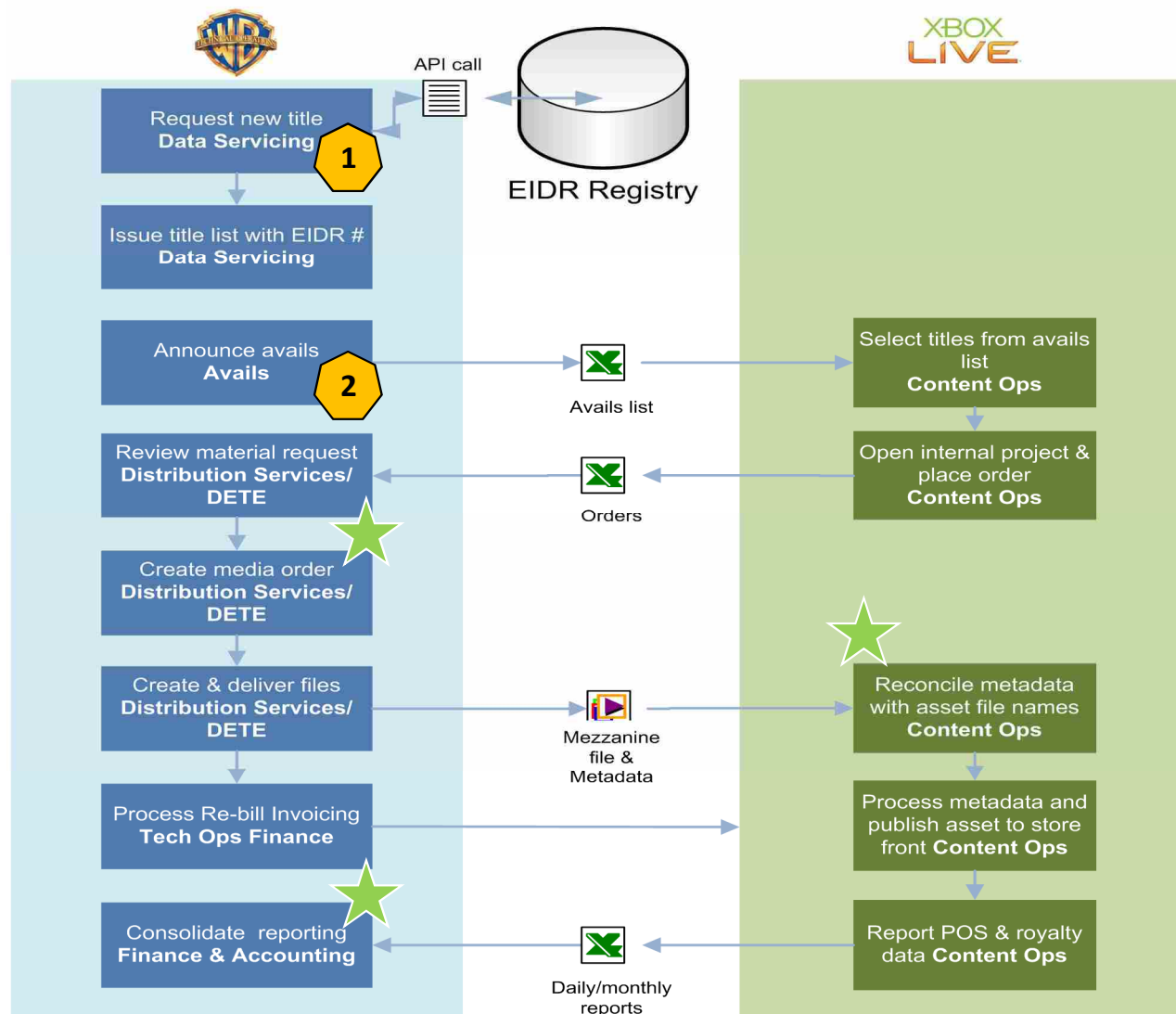
- Assume 5 partners = 8,750 hours/year

Diagram - Warner Bros & Xbox Live

Integration Points

- WB's MSB metadata management system to the EIDR directory. Requests and applies new EIDR #'s to WB titles. **(1)**
- WB's MSB system to the Avails system (RRTS) to provide the EIDR # on avails titles **(2)**
  - Facilitating Microsoft reporting back to WB with EIDR detail

Benefits Identified

- Reduction in QC efforts
- Reduction in customer queries
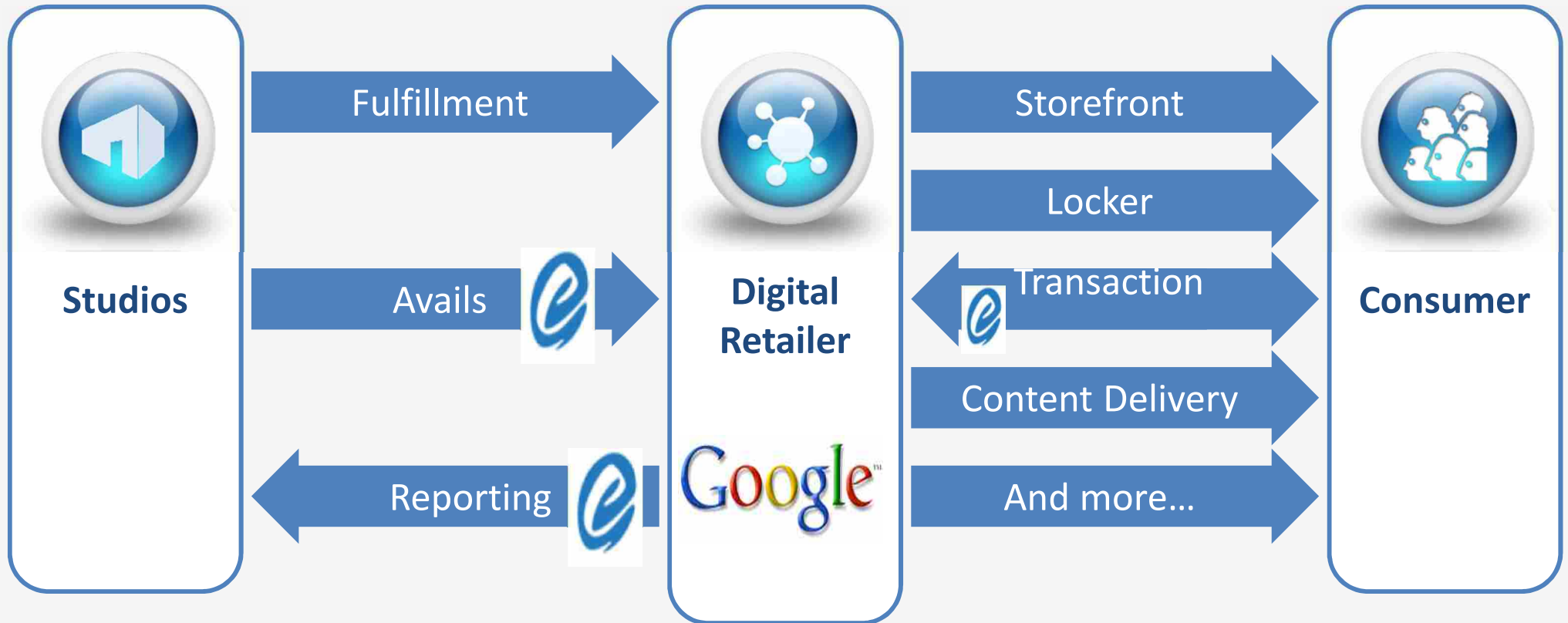- Improved reporting / invoicing capabilities

Warner Bros. flow:
- Request new title **Data Servicing** — API call → EIDR Registry **(1)**
- Issue title list with EIDR # **Data Servicing**
- Announce avails **Avails** **(2)** → Avails list
- Review material request **Distribution Services/ DETE** ← Orders
- Create media order **Distribution Services/ DETE**
- Create & deliver files **Distribution Services/ DETE** → Mezzanine file & Metadata
- Process Re-bill Invoicing **Tech Ops Finance**
- Consolidate reporting **Finance & Accounting** ← Daily/monthly reports

Xbox Live flow:
- Select titles from avails list **Content Ops**
- Open internal project & place order **Content Ops**
- Reconcile metadata with asset file names **Content Ops**
- Process metadata and publish asset to store front **Content Ops**
- Report POS & royalty data **Content Ops**

Case study – Google Play avails

- Google Play deploys EMA Avails spec w/ EIDR IDs today
  - Primarily 1st and 2nd-level EIDR IDs

- Already deployed with 2 major partners
  - In progress with two more studios

- Asking all content partners to adopt
  - In discussions w/ partners across North America & Europe

Google Play

Studios		Digital Retailer		Consumer
	Fulfillment →		Storefront →	
	Avails →		Locker →	
			← Transaction	
			Content Delivery →	
	← Reporting	Google	And more… →	

NHK and others are selling content on GooglePlay in the USA today.
Existing distribution model using EIDR is beng extended to all regions/territories
Google requires EIDR for efficiency, faster time-to-market.

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Quantified savings

Processing Time for Batch of 1000 Avail Updates		
	Before use of EMA Avails w/ EIDR	After use of EMA Avails w/ EIDR
Title matching, de-dupe, parsing, including research & partner communications	~25 hours	0.1 hour
Apply final updates & audit	~25 hours	0.1 hour
Total	**50 hours**	**0.2 hour**

Reduces 50-hour reconciliation to <1/2 hour of processing time. Benefits multiply across *tens of thousands* of avails.

Netflix

Studios

Fulfillment →

Avails →

Reporting ←

Digital Retailer

NETFLIX

Storefront →

Locker →

← Transaction

Content Delivery →

And more... →

Consumer
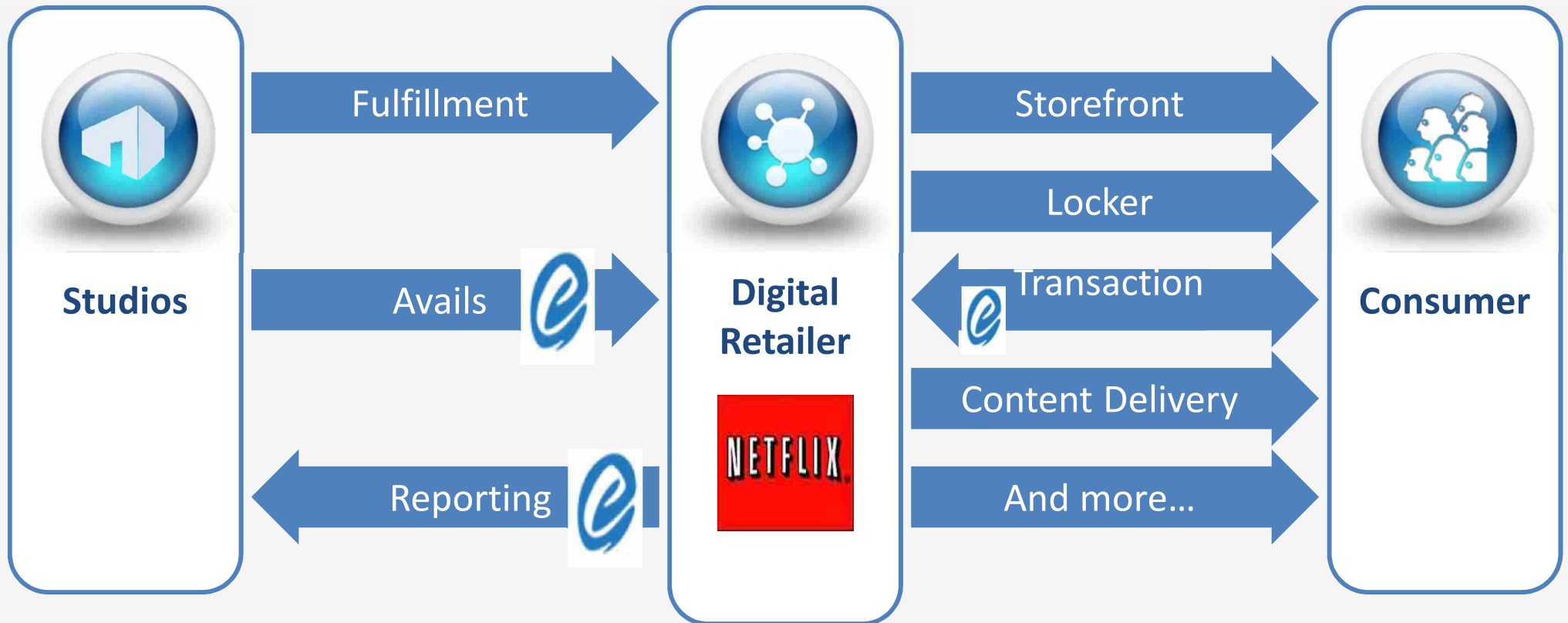
Netflix supports Japanese content in the USA today.
Existing distribution model using EIDR can be easily extended to Japan.
Netflix will soon launch IMF for distribution.
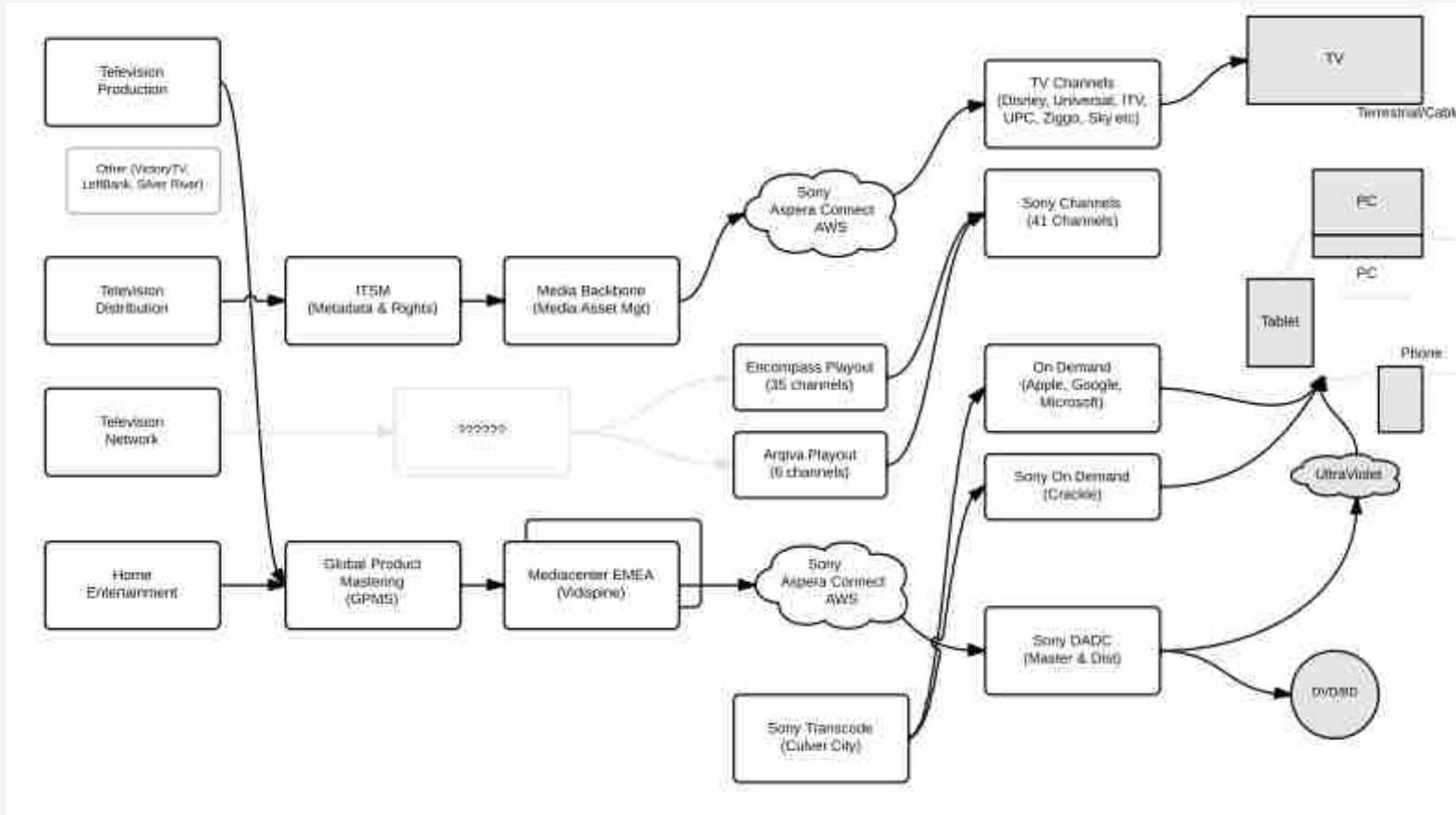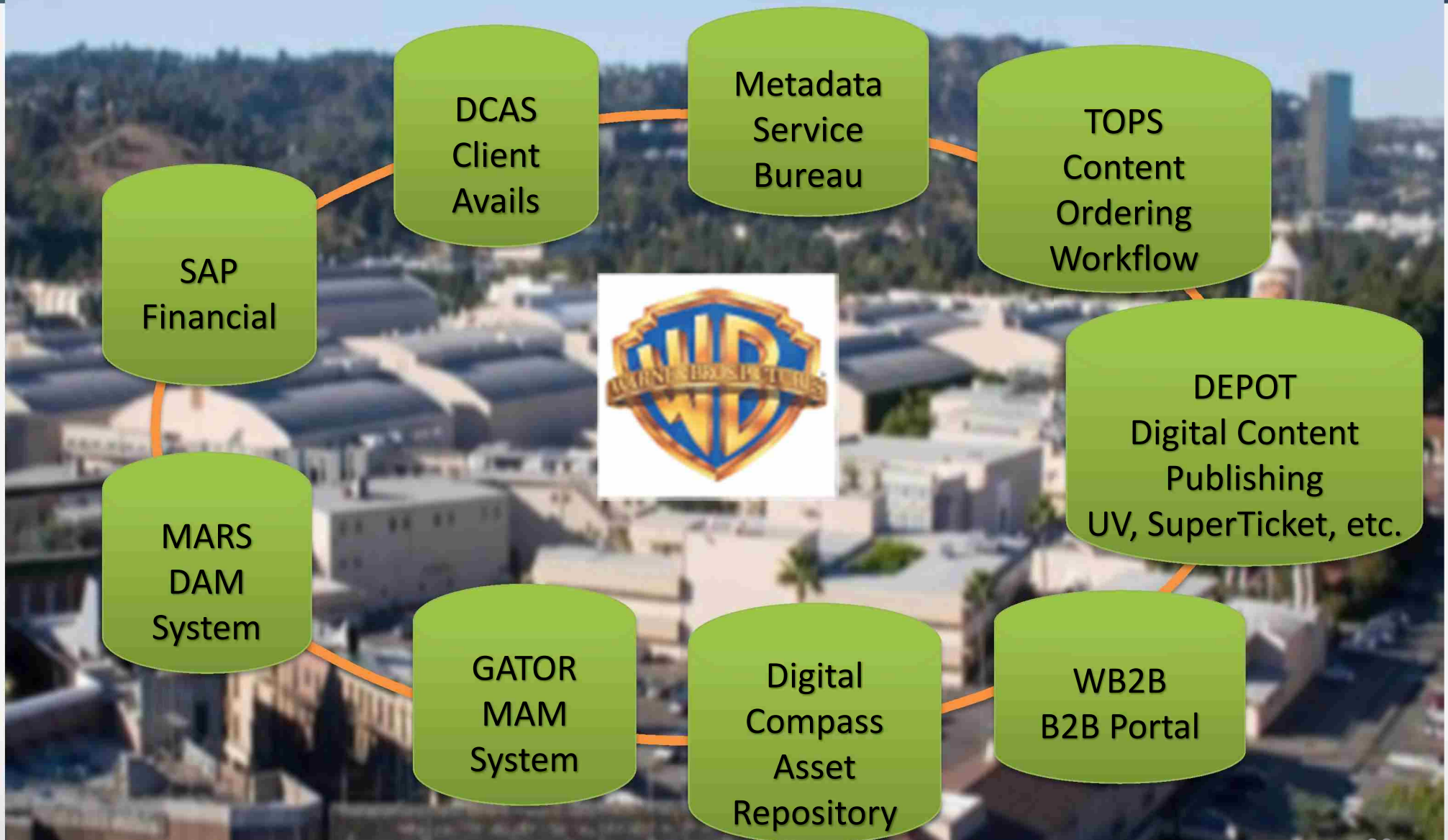
- Joined last year
  - ITV Broadcast: UK's second-largest broadcaster
  - ITV Studios: produces content for ITV and other broadcasters
  - ITV also commissions content
  - ITV also licenses content in
  - ITV owns rights to large British film and TV catalogs
- By the end of this year, all content will have EIDR IDs
  - Internal metadata and broadcast management
  - Licensing content overseas
  - Managing on-demand platforms
  - Distributing content produced by ITV Studios
- Will simplify production, sourcing, broadcast, post-broadcast, and long-term catalog management

British Film Institute

- National Archive for <u>all</u> UK film
- 90% complete with EIDR IDs for
  - All feature length British fiction films (post 1930)
  - All known UK film pre-1930
  - Short films, documentaries, and TV are next
- Has allowed them to
  - Rationalize and clean up their own systems
  - Use shared ID for other projects
    - Collating with ITV film catalog to support distribution projects
    - Automated licensing through UK Copyright Hub
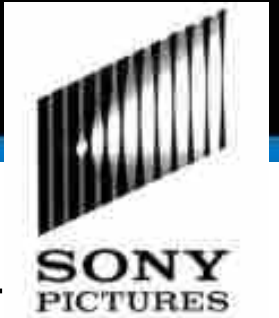   - EIDR IDs and Linked Content Coalition (LCC) specs
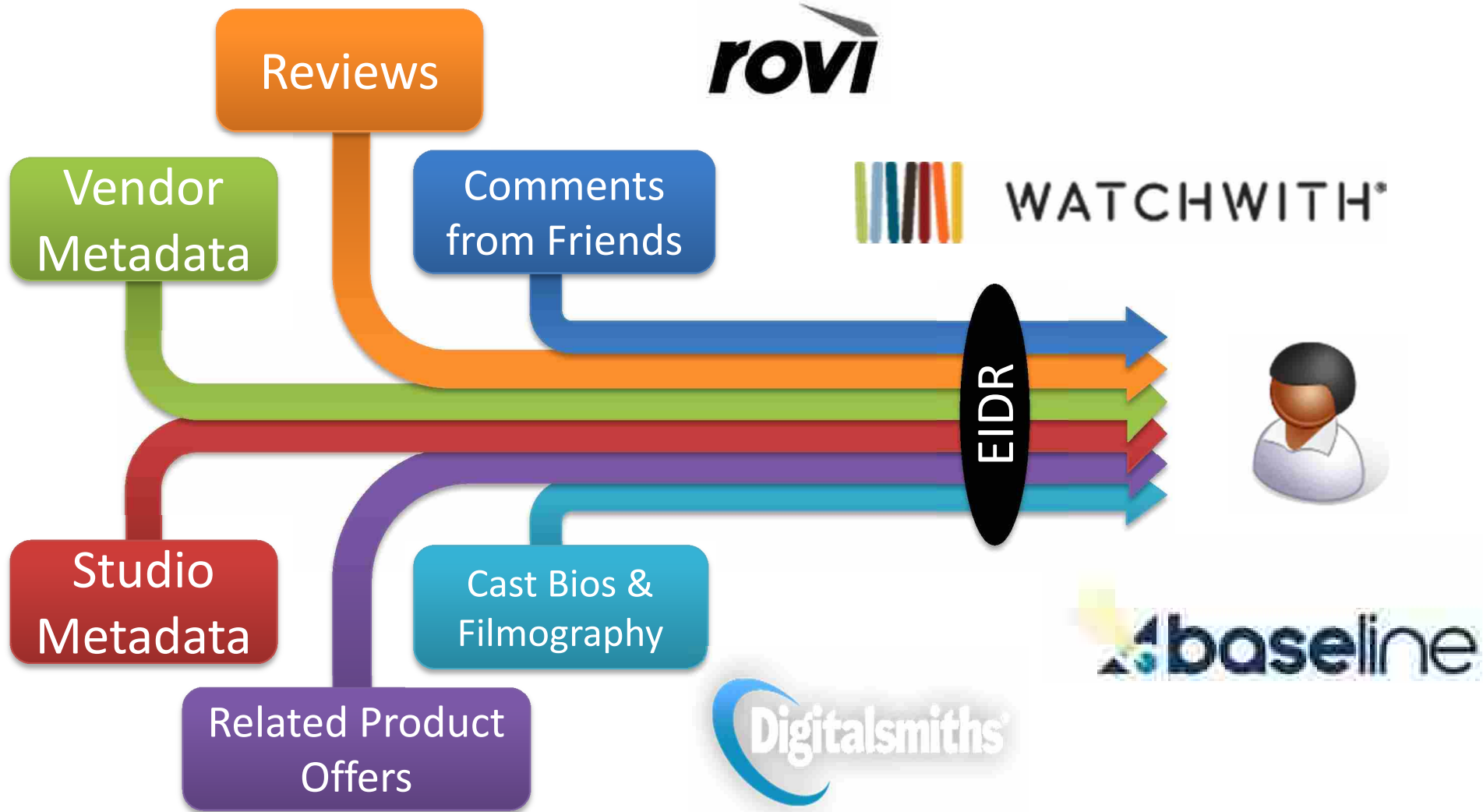
Alt ID Example: Greenlight Movie Production

- **Need:** To greenlight a project, comparable films analyzed to help predict likely return on investment.

- **Issue:** To obtain a complete picture of competitive title performance, data from multiple sources covering multiple territories and distribution channels must be collated. This requires significant manual effort.

- **Solution:** Use common identifiers to link data from multiple sources.
  - Sony internal IDs were used to retrieve previously matched Internet Movie Database IDs from EIDR linked records
  - Rovi IDs could be used to match additional Sony internal and EIDR records, pulling in more IMDb IDs
  - EIDR's matched Flixster IDs (online movie sales) were used to pull customer ratings via the Rotten Tomatoes API

Ad industry benefits

- Panel ratings not sufficient for new TV platforms

- Ad industry needs to measure viewership across platforms
    - Smart phones, tablets, PCs, connected TVs, etc.

- Direct measurement offers greater reach and accuracy

- Requires standardized IDs for programs and ads

- CIMM-TAXI industry group endorses EIDR as program ID
    - $500M annual savings from automated work flows
    - $2B annual upside in new and better ad opportunities

- Supported by research chiefs of ESPN, Viacom, NBC, CBS, and others

Industry needs a uniform ID for all programs to automate direct measurement of viewership.

Delivers a data analysis advantage

- Link performance data from multiple sources
  - Theatrical
  - Home video - EST, iVOD, SVOD, UltraViolet
  - MVPDs – VOD, EST
  - Advertising – C3, C7, direct measurement, DAI
- Multiple vendors
  - Rentrak, Nielsen, DEG data tracking, MediaMorph
- Related titles
  - Series/season/episode
  - Franchises
- International & domestic

Faster, cheaper, better analysis

EIDR glues it all together

- Goal = end-to-end automation of the digital supply chain
  - Order, ingest, market, upsell, track, report, reconcile, pay
  - Common, resolvable ID from start to finish
- Standards drive automation
- Specs bound with one common ID

Summary

Equal, open access

- **Anyone** can use it
- **Any member** can register new records
- Published **API**
- **Religion-free** support for multiple development and integration models

Practical management

- **Cross-company**
- **Cross-industry**
- **Collaborative**
- **Cheap**

Infrastructure

- Providing IDs for commercial audio-visual works
- **Sharp focus** on the ID reduces complexity, provides clarity, speeds adoption

Technology

- Based on international **standards**
- **Interoperability** a primary design point
- **Improves efficiency** in existing processes
- Supports creation of **new** products and services