Overview

December 2015
Millions of film and TV products created each year

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

What EIDR is Not
- Profit-making
- Rich commercial metadata
- Ownership or rights information
- US-only

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

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 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
- Sony Pictures
- FOX
- Showtime
- HBO
- ITV

Distributors

- Google
- Netflix
- Comcast
- Vudu
- Verizon
- Time Warner Cable
- Microsoft

Reporting, tracking, business intelligence

- EXACTUALS
- Rightsline
- mediapartners
- RENTRAK
- RSG Media
- FilmTrack

Infrastructure and media services

- Cisco
- deluxe
- Adobe
- Verance
- Technicolor
- Prime Focus
- Vobile
- V2 Solutions
- RiverSand

Metadata

- Baseline
- Rovi
- RED BEE
- WEST10

Industry & standards organizations

- NTT
- JLabs
- Motion Picture Association of America
- NCSU
- The Cooper Union for
National Research Initiatives
- CableLabs
- MovieLabs
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

<table>
<thead>
<tr>
<th>Annual Revenue</th>
<th>Basic User Fee</th>
<th>Promoter Fee (includes Basic User Fee)</th>
<th>Board fee (includes Promoter Fee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; $100M</td>
<td>$5,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$100M - $500M</td>
<td>$10,000</td>
<td></td>
<td>$40,000</td>
</tr>
<tr>
<td>$500M - $1B</td>
<td>$20,000</td>
<td>$35,000</td>
<td></td>
</tr>
<tr>
<td>&gt;$1B</td>
<td>$25,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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)

- Season 1
- Season 2

Seasons (Abstractions)

- IsSeasonOf
- Season 1
- Season 2

Episodes (Abstractions)

- IsEpisodpeOf
- Episode 1
- Episode 2
- ... Episode N
- IsPromotionFor

Edits (Performances)

- IsEditOf
- Broadcast Edit
- Broadcast Edit
- Broadcast Edit

Manifestations (Digital)

- IsManifestationOf
- Retail EST (EN, FR)
- Retail EST (EN, FR)
- Retail EST (EN, FR)
- Social Upload
- UGC Upload

Similar Hierarchy Here
# Simple Example

<table>
<thead>
<tr>
<th>BASE OBJECT DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EIDR ID</strong></td>
</tr>
<tr>
<td><strong>Structural Type</strong></td>
</tr>
<tr>
<td><strong>Mode</strong></td>
</tr>
<tr>
<td><strong>Referent Type</strong></td>
</tr>
<tr>
<td><strong>Title</strong></td>
</tr>
<tr>
<td><strong>Lang:</strong> ja</td>
</tr>
<tr>
<td><strong>Alternate Title</strong></td>
</tr>
<tr>
<td><strong>Lang:</strong> fr</td>
</tr>
<tr>
<td><strong>Alternate Title #2</strong></td>
</tr>
<tr>
<td><strong>Lang:</strong> en</td>
</tr>
<tr>
<td><strong>Alternate Title #3</strong></td>
</tr>
<tr>
<td><strong>Lang:</strong> ja</td>
</tr>
<tr>
<td><strong>Original Language</strong></td>
</tr>
<tr>
<td><strong>Mode:</strong> Audio</td>
</tr>
<tr>
<td><strong>Associated Org</strong></td>
</tr>
<tr>
<td><strong>ID Type:</strong> EIDRPartyID</td>
</tr>
<tr>
<td><strong>Release Date</strong></td>
</tr>
<tr>
<td><strong>Country of Origin</strong></td>
</tr>
<tr>
<td><strong>Status</strong></td>
</tr>
<tr>
<td><strong>Approximate Length</strong></td>
</tr>
<tr>
<td><strong>Alternate ID</strong></td>
</tr>
<tr>
<td><strong>Type:</strong> Baseline</td>
</tr>
<tr>
<td><strong>Alternate ID #2</strong></td>
</tr>
<tr>
<td><strong>Type:</strong> IVA</td>
</tr>
<tr>
<td><strong>Alternate ID #3</strong></td>
</tr>
<tr>
<td><strong>Relation:</strong> IsSameAs</td>
</tr>
<tr>
<td><strong>Alternate ID #4</strong></td>
</tr>
<tr>
<td><strong>Domain:</strong> bfi.org.uk</td>
</tr>
<tr>
<td><strong>Alternate ID #5</strong></td>
</tr>
</tbody>
</table>

**EIDR Supports Unicode**

**EIDR Has Tested Data Model with Japanese Movies and Television**
Totoro’s relations

Metadata

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
Close to 100% of Member New Releases Have EIDR IDs
## EIDR Operations: Content database details

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

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

Also significant numbers 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 Partnerships: 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
- Ratings
- Archives
- Digital cinema packages
- Box office sales tracking

EST/Online
- UltraViolet
- All online retail
- Avails
- Metadata
- Mezz file delivery
- Standardized content discovery
- Reviews
- Home video sales reporting

TV Broadcast
- Direct audience measurement
- Cross-platform tracking
- Int’l TV distribution
- Music cue sheets
- Rights collections
- BXF, ATSC, EBU, etc, metadata mappings

Video On-Demand
- 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
Integration Points
- WB’s MSB metadata management system to the EIDR directory. Requests and applies new EIDR #’s to WB titles.
  - WB’s MSB system to the Avails system (RRTS) to provide the EIDR # on avails titles
    - Facilitating Microsoft reporting back to WB with EIDR detail

Benefits Identified
- Reduction in QC efforts
- Reduction in customer queries
- Improved reporting / invoicing capabilities
Case study – Google Play avails

• Google Play deploys EMA Avails spec w/ EIDR IDs today
  – Primarily 1\textsuperscript{st} and 2\textsuperscript{nd}-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
NHK and others are selling content on Google Play in the USA today. Existing distribution model using EIDR is being extended to all regions/territories.

Google requires EIDR for efficiency, faster time-to-market.
# Quantified savings

## Processing Time for Batch of 1000 Avail Updates

<table>
<thead>
<tr>
<th>Activity</th>
<th>Before use of EMA Avails w/ EIDR</th>
<th>After use of EMA Avails w/ EIDR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title matching, de-dupe, parsing, including research &amp; partner communications</td>
<td>~25 hours</td>
<td>0.1 hour</td>
</tr>
<tr>
<td>Apply final updates &amp; audit</td>
<td>~25 hours</td>
<td>0.1 hour</td>
</tr>
<tr>
<td>Total</td>
<td>50 hours</td>
<td>0.2 hour</td>
</tr>
</tbody>
</table>

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

10/1/2014
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.
EIDR Business Cases – Internal Management

- SAP Financial
- DCAS Client Avails
- Metadata Service Bureau
- TOPS Content Ordering Workflow
- DEPOT Digital Content Publishing UV, SuperTicket, etc.
- MARS DAM System
- GATOR MAM System
- Digital Compass Asset Repository
- WB2B B2B Portal
ITV

• 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 all 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
Metadata enrichment

Reviews

Vendor Metadata

Comments from Friends

Studio Metadata

Cast Bios & Filmography

Related Product Offers

Discovery, 2nd screen, customer engagement, sell-up

EIDR
**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