



ABU 2012 Seoul



UMID and Its Applications for AV Material Management

Yoshiaki Shibata

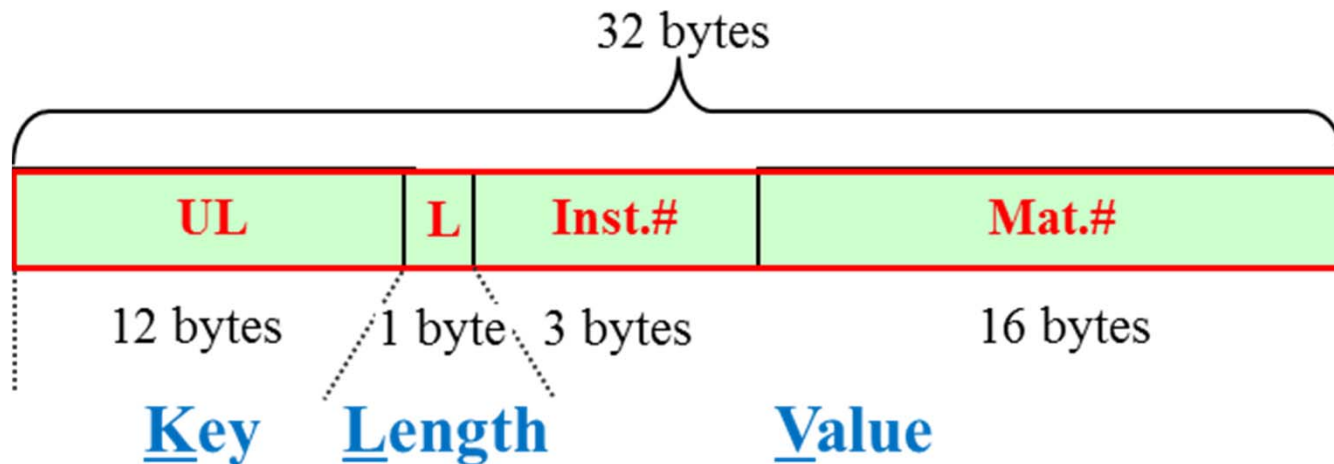
Chair, SMPTE TC-30MR SG UMID Applications
(metaFrontier.jp, LLC)

Outline

- ▶ What is the UMID ?
- ▶ Introduction to UMID Applications
- ▶ Requirements for the UMID Applications
- ▶ UMID Application Project in SMPTE
- ▶ Conclusions

What is the UMID ?

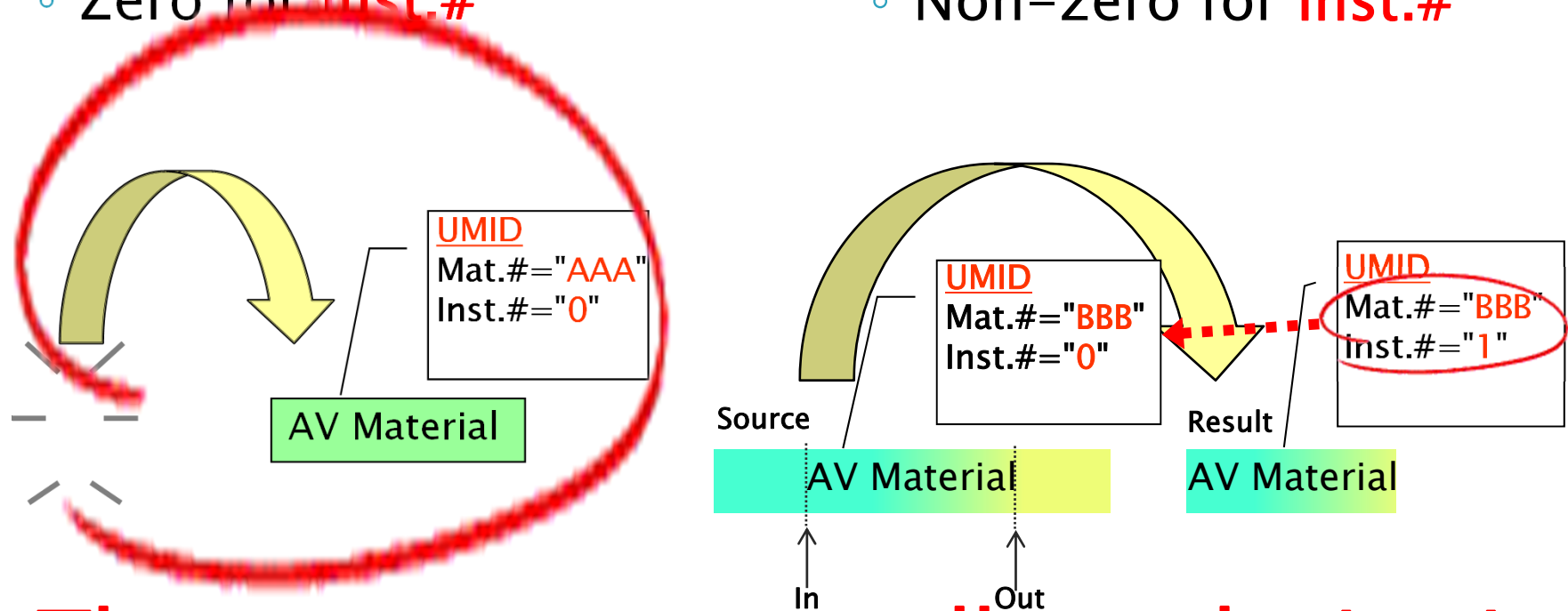
- ▶ Unique Material IDentifier
 - Specified by SMPTE ST 330 and RP 205 (in 2000)



- **UL**: SMPTE Universal Label (Key)
- **L**: Length of Value part in byte (Length)
- **Inst.#**: Instance Number
- **Mat.#**: Material Number (Globally Unique ID) } (Value)

Two Distinct Uses of the UMID

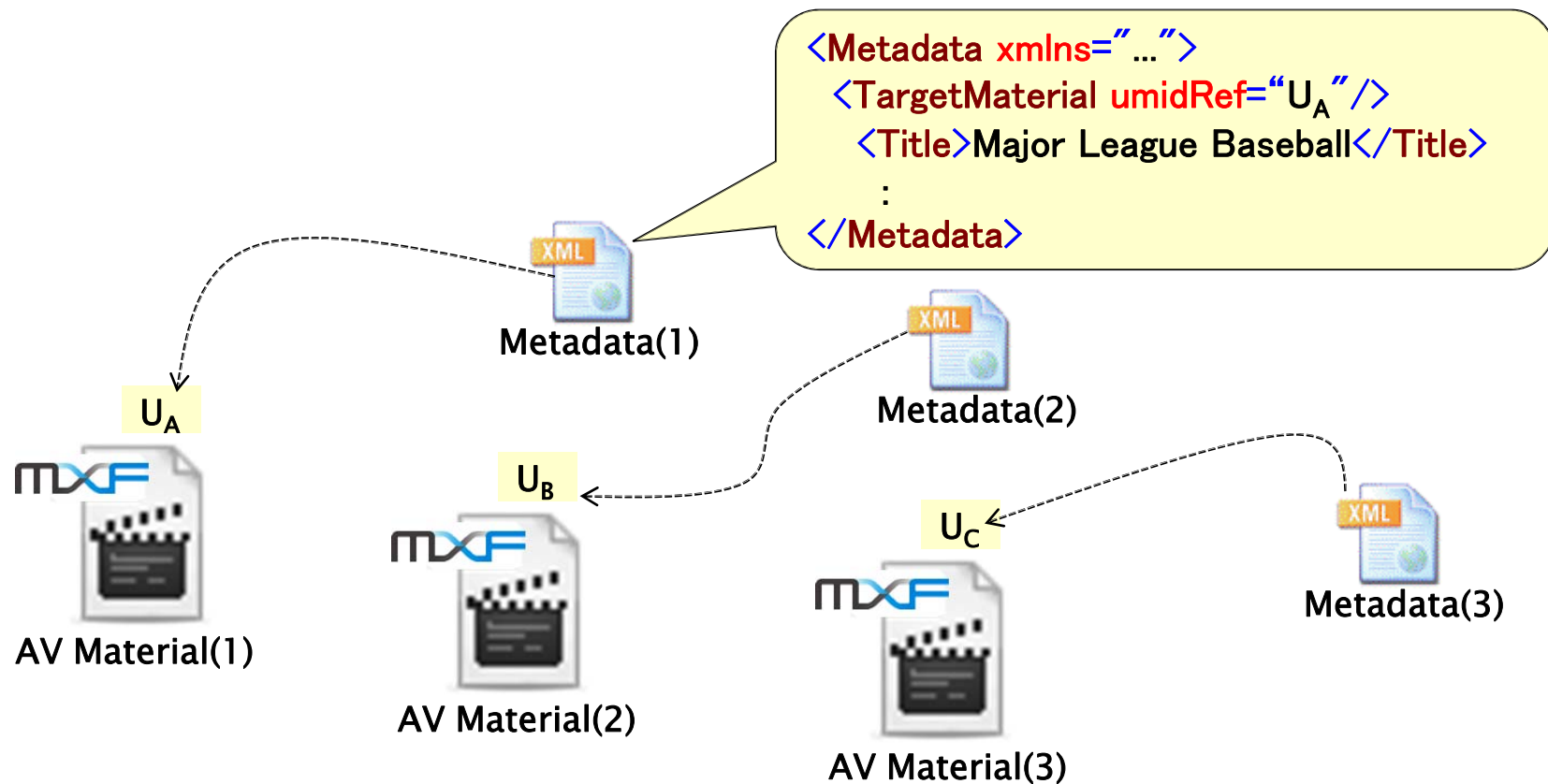
- ▶ As a unique identifier
 - New value for **Mat.#**
 - Zero for **Inst.#**
- ▶ As a linking tool
 - Shared value for **Mat.#**
 - Non-zero for **Inst.#**



These uses are mutually exclusive !

How to use UMID as an Identifier

- ▶ To associate an AV material with its metadata





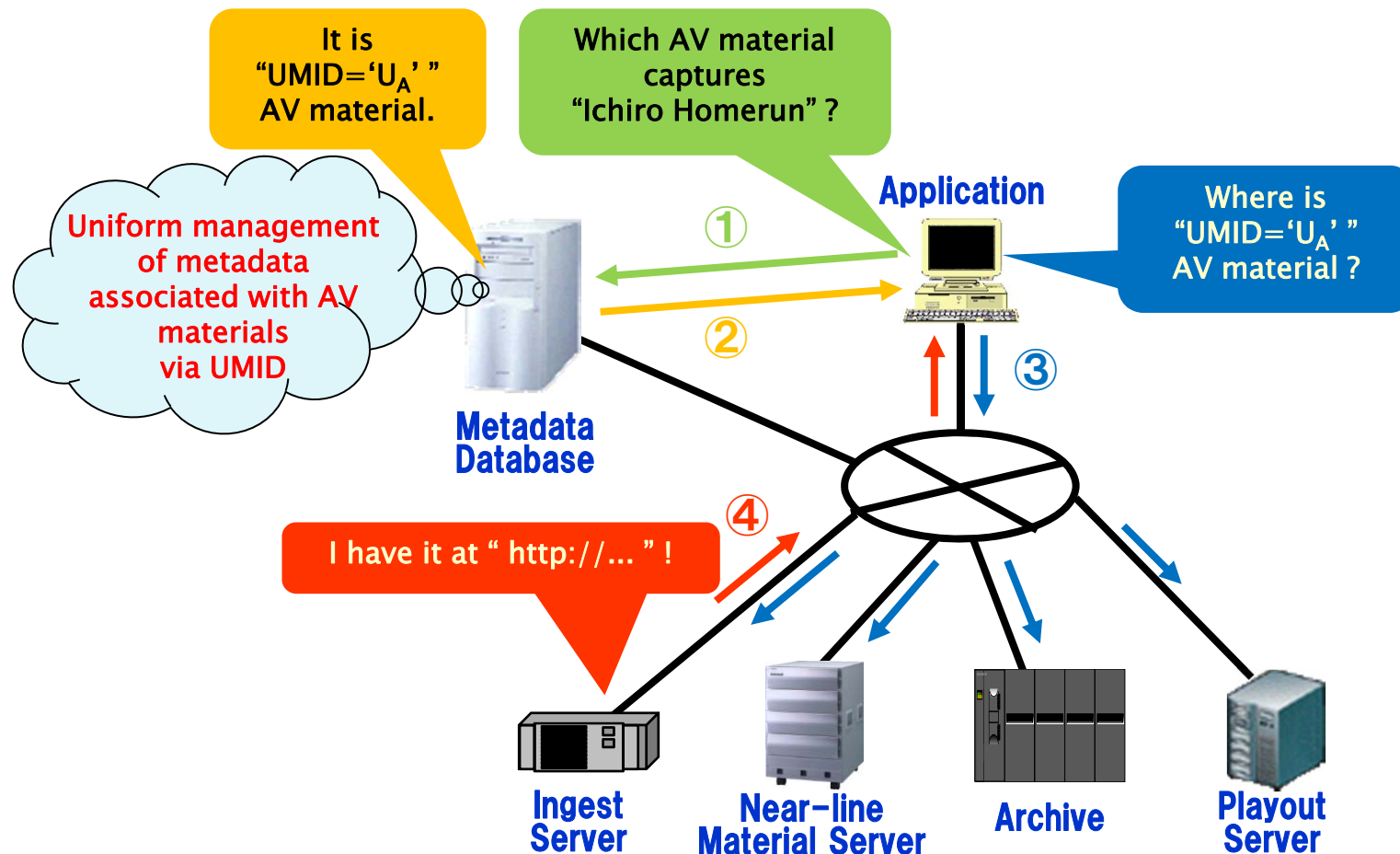
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Introduction to UMID Applications

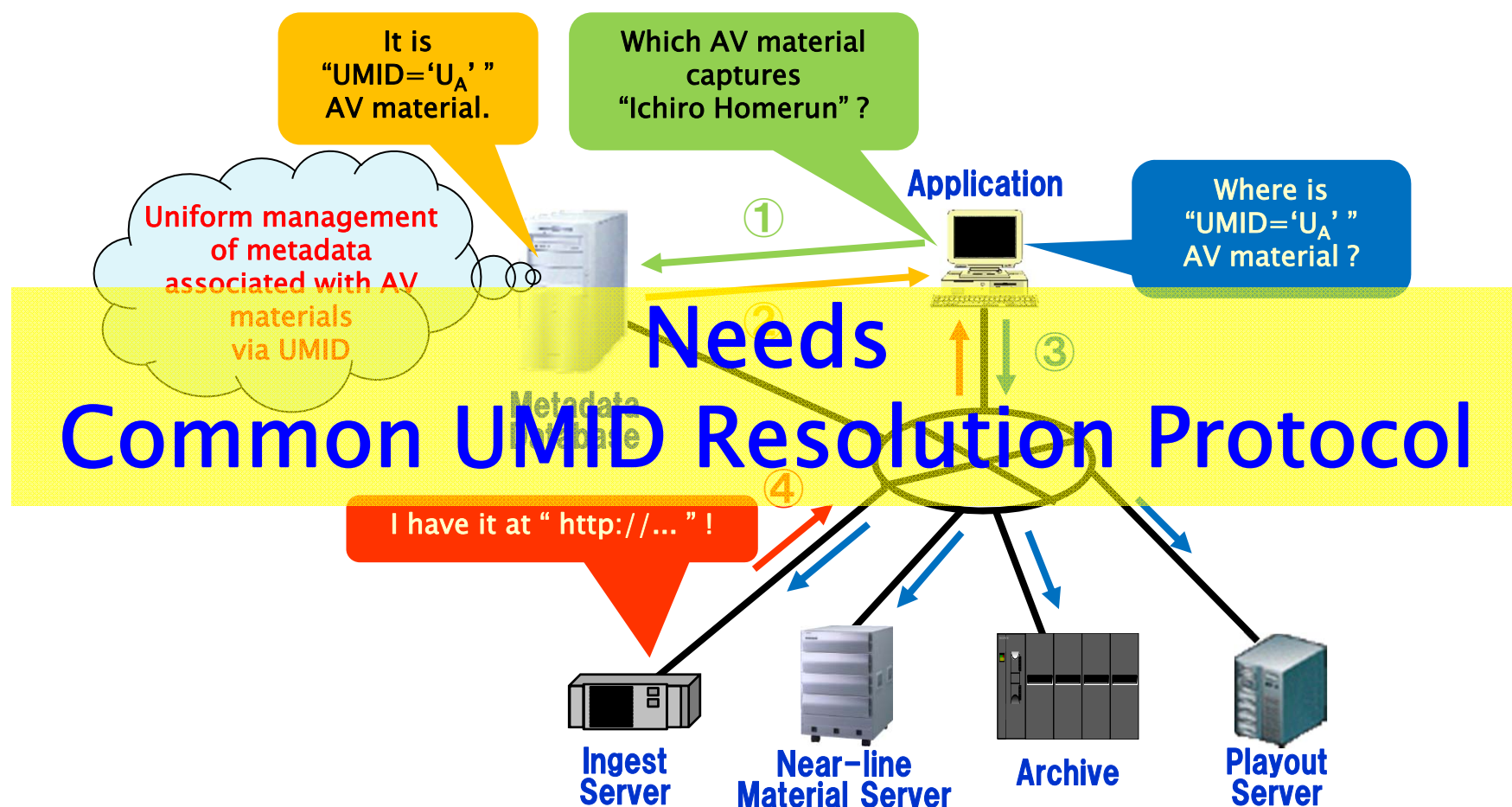
UMID based Material Search

- ▶ Because of huge difference in their data sizes ...



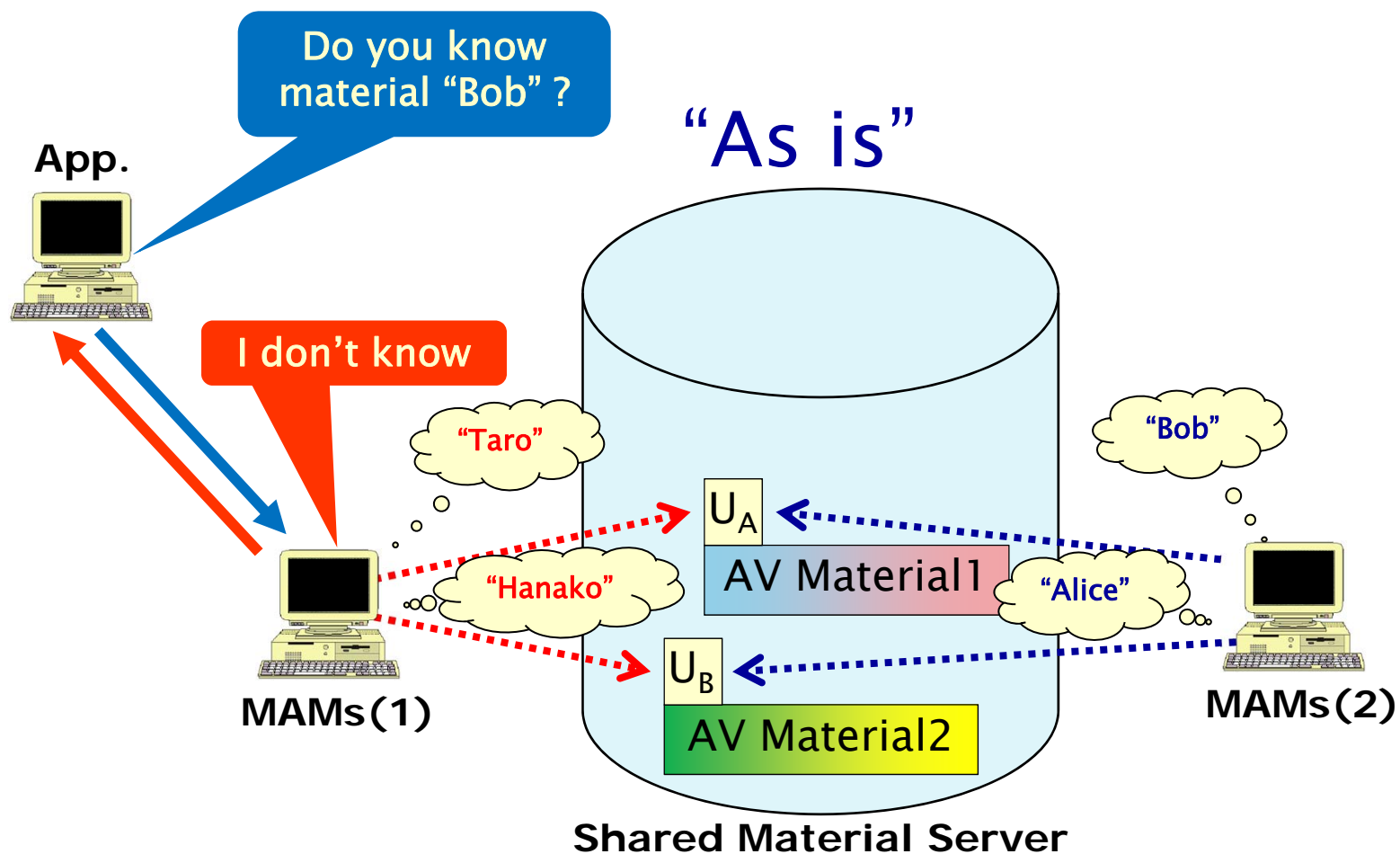
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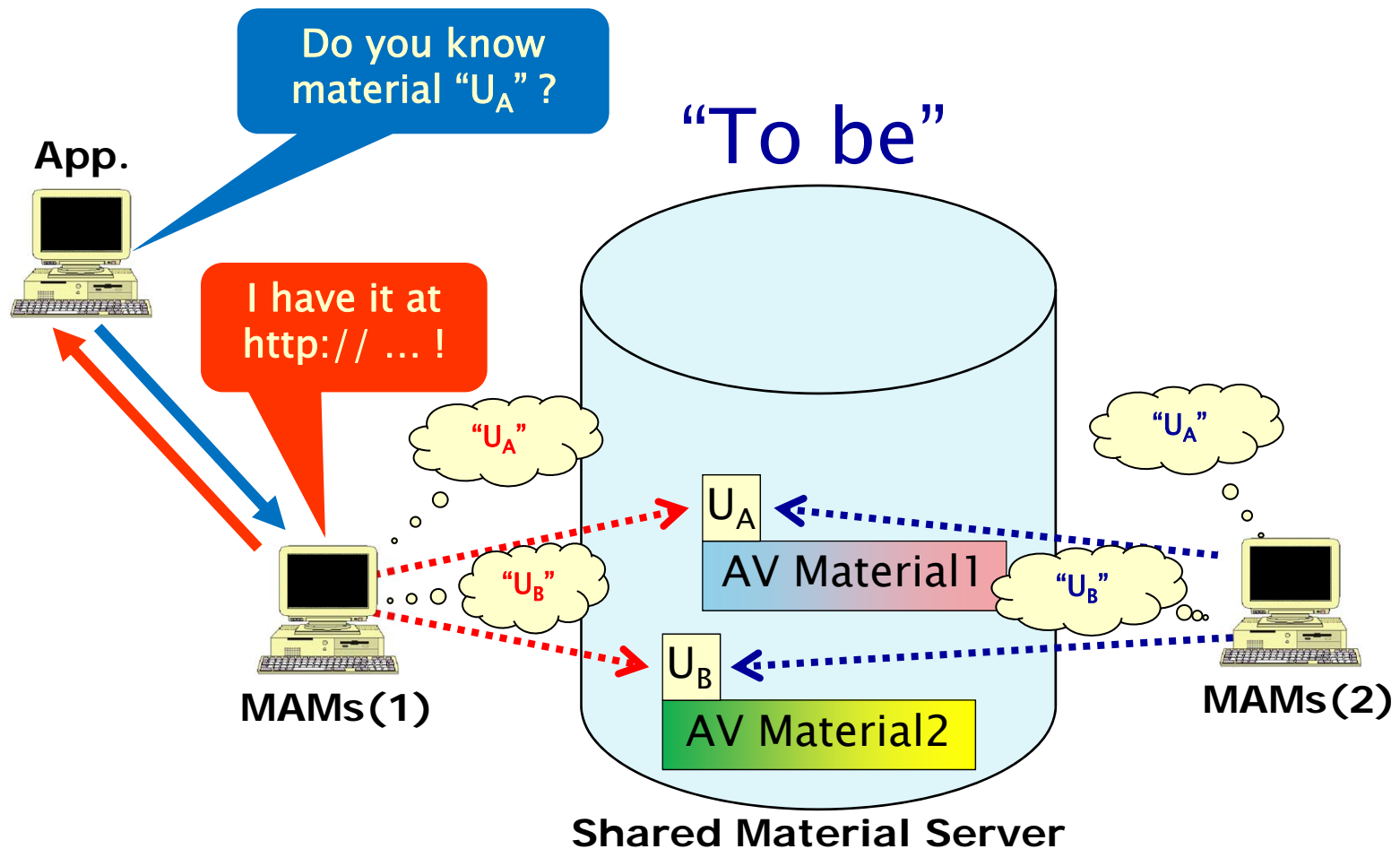
Cooperation of Multiple MAMs

- ▶ via UMID as a common AV material identifier



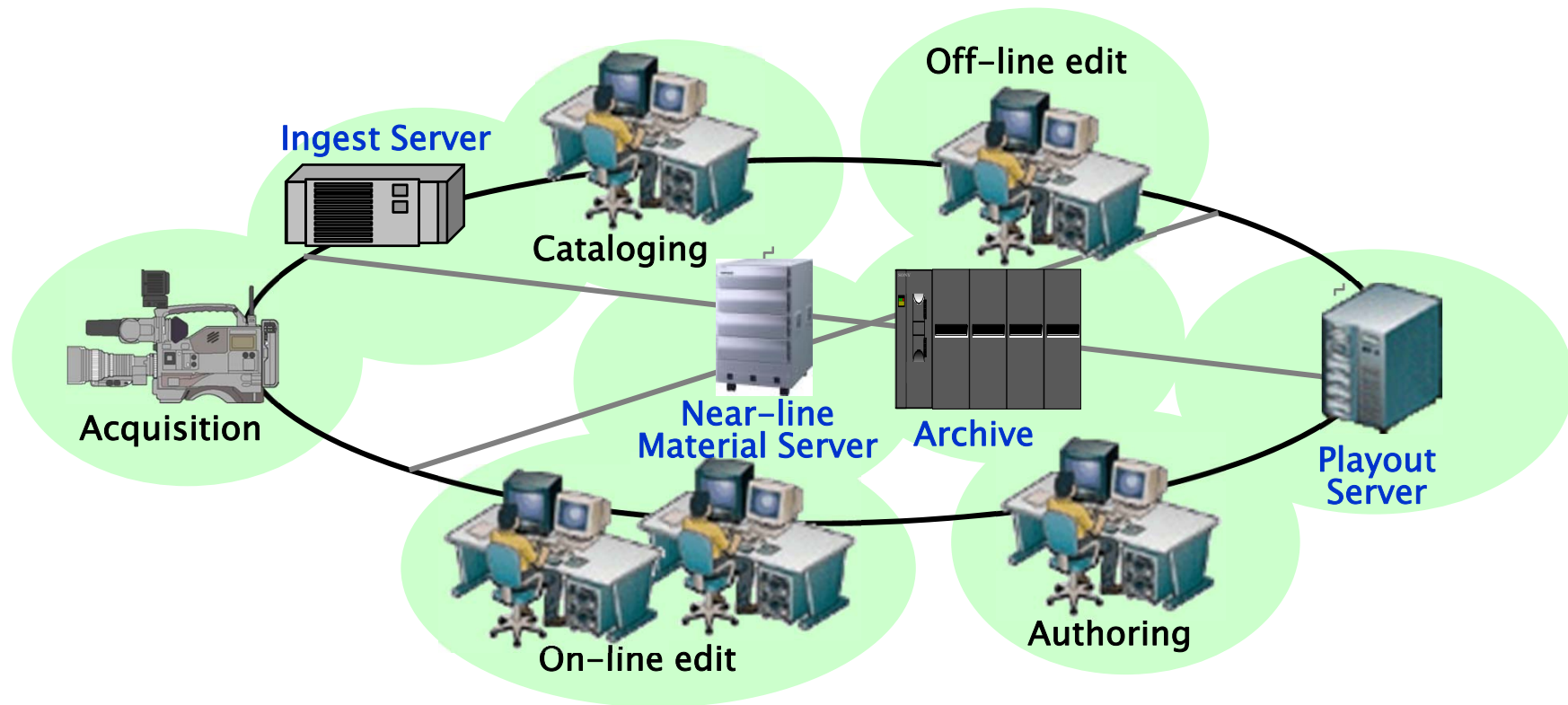
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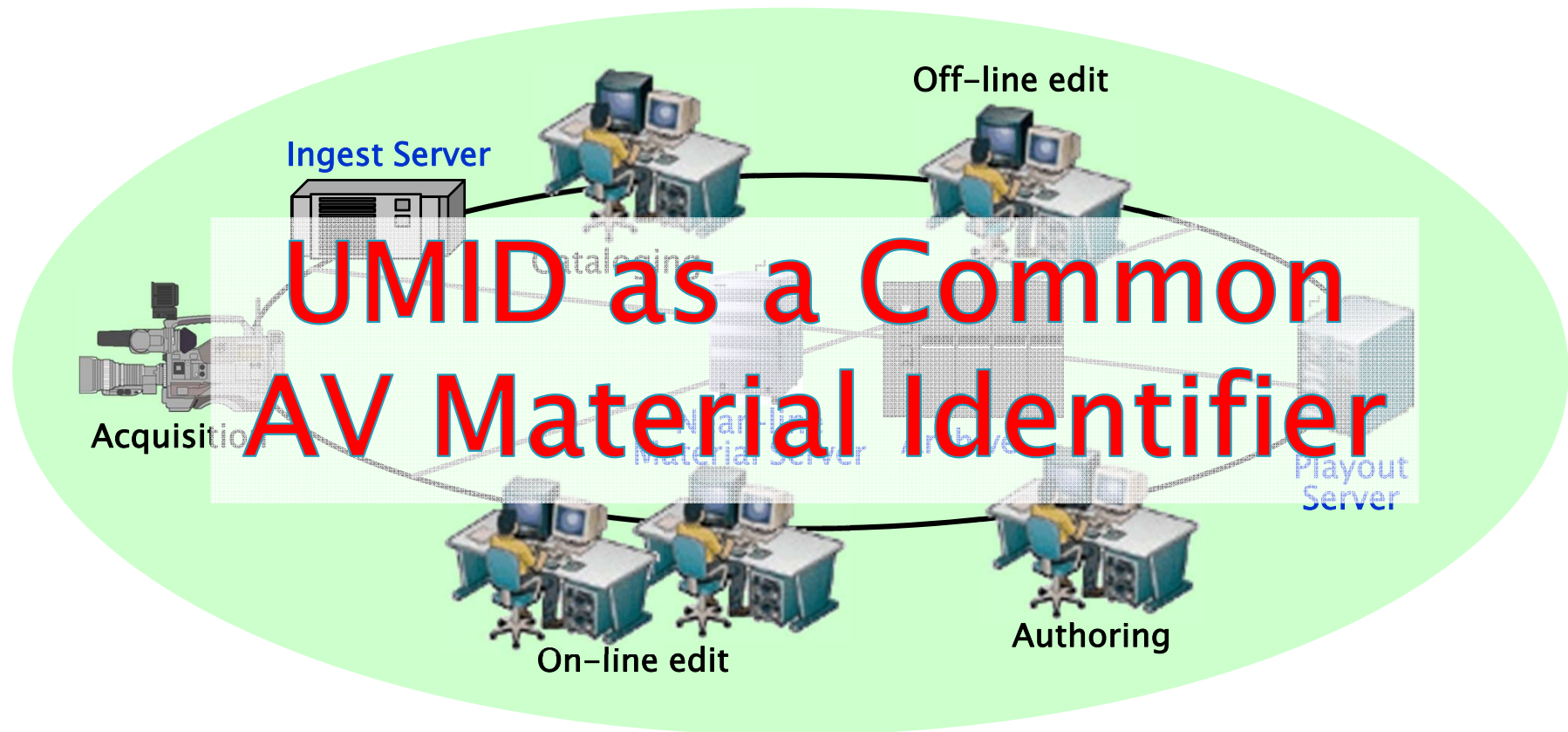
UMID in “Best-of-Breed” System

- ▶ When appropriately treated, UMID may be used as a common AV material identifier over the system



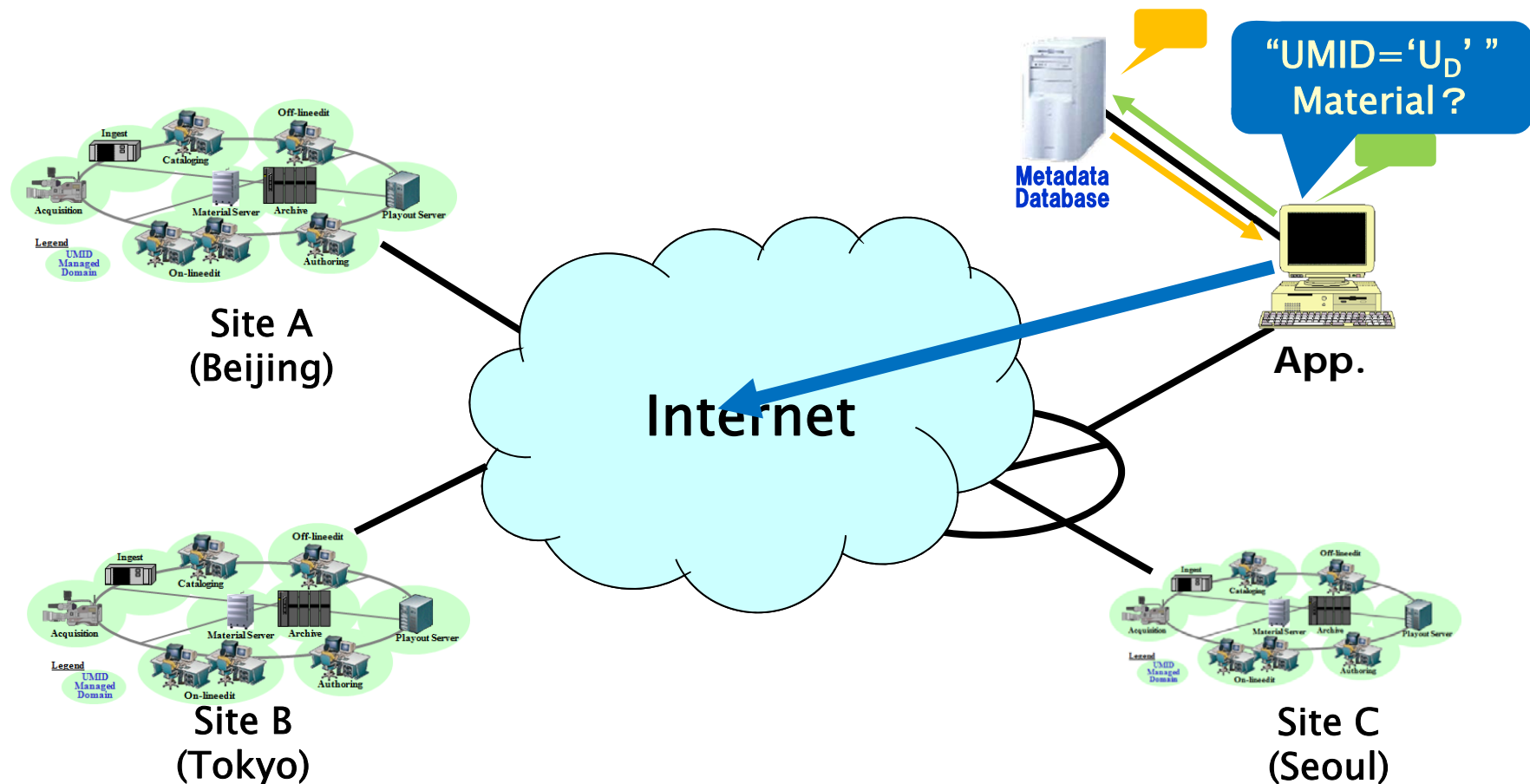
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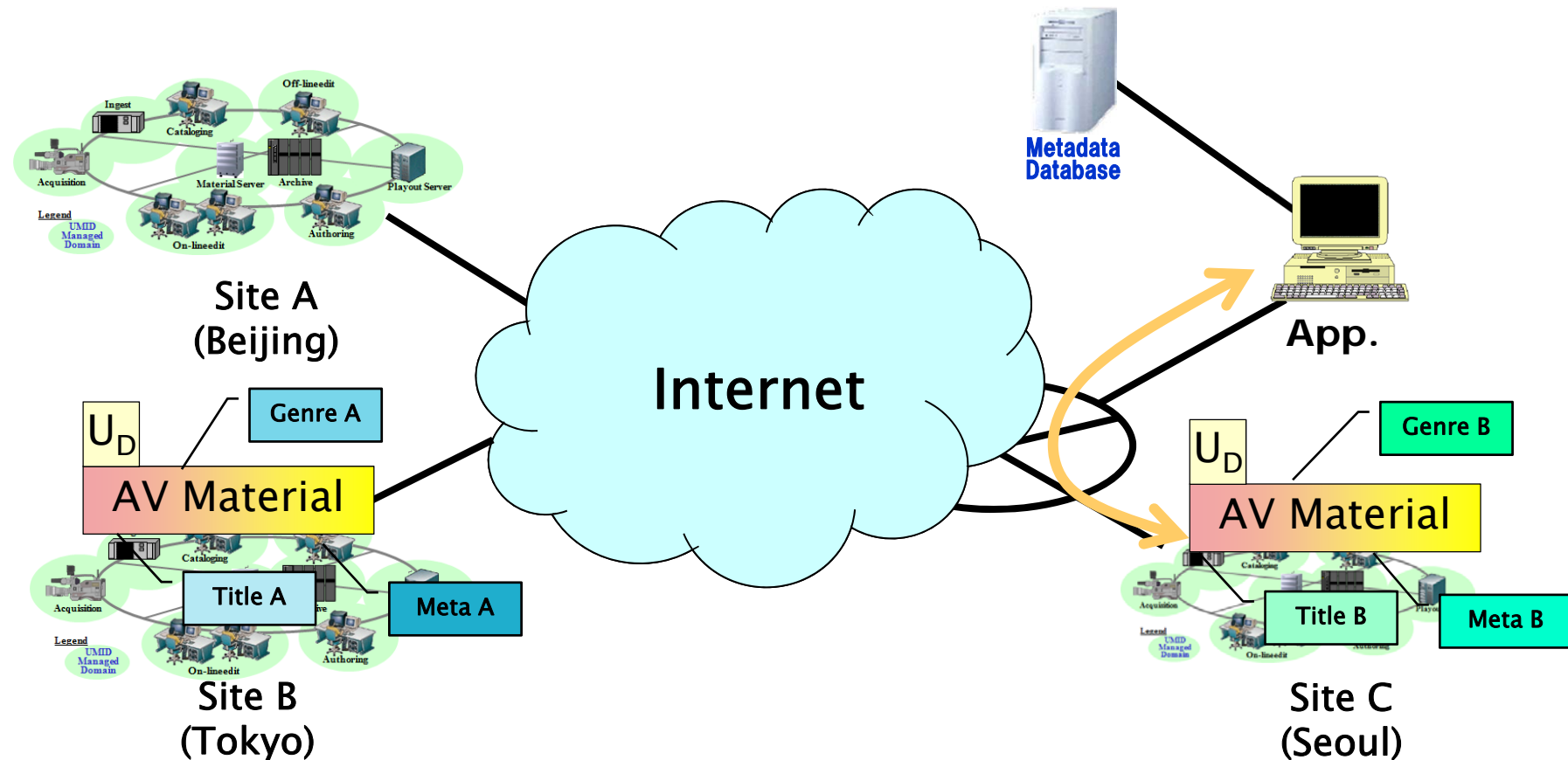
Globally Distributed Material Management by UMID

- ▶ Because of UMID as a *globally* unique identifier



Globally Distributed Material Management by UMID

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Globally Distributed Material Management by UMID

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Requirements for the UMID Applications

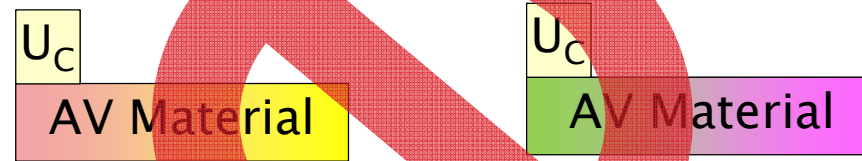
To Make it Happen in Practice

- ▶ Needs industry common **UMID resolution protocol**
 - To resolves a given UMID of AV material to its URL
- ▶ Clarifies **UMID Application Principles**
 - To realize UMID based AV material management

UMID Application Principles

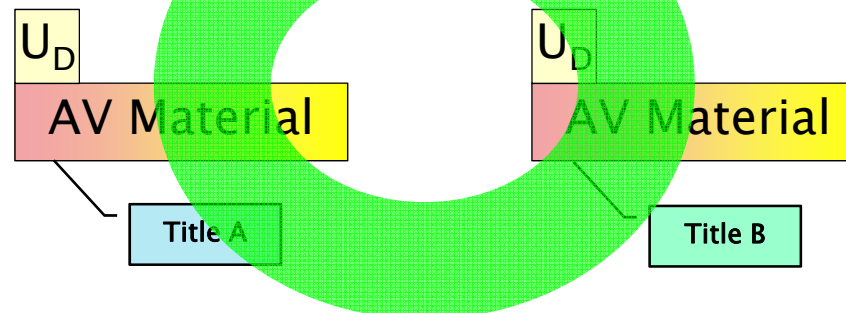
▶ Principle 1: UMID Integrity

- Different AV materials **shall** be identified by different UMIDs



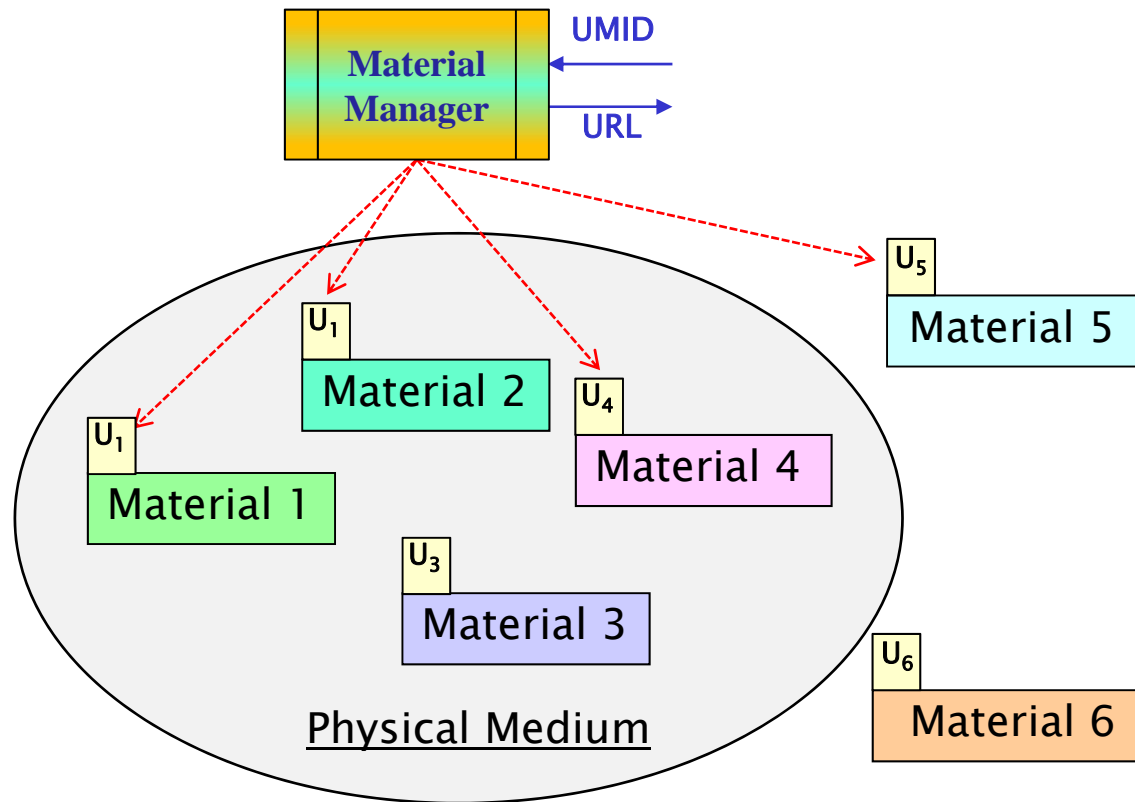
▶ Principle 2: UMID Identification

- AV materials representing an identical essence at their playout **may** share the same UMID



UMID Managed Domain

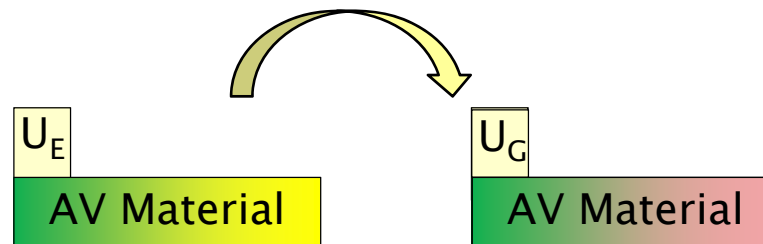
- ▶ To implement “UMID Application Principles”



Material 1, 2, 4 and 5 constitute “UMID Managed Domain”

How Material Manager Behaves

- ▶ For AV material import into UMID Managed Domain
 - Attach a newly created UMID
 - Except for AV materials from other **UMID Managed Domains**
- ▶ For AV material modification
 - Replace existing UMID with a new UMID value





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UMID Applications Project in SMPTE

TC-30MR SG UMID Applications

- ▶ Proposed on March 8
- ▶ Approved on April 10
- ▶ Ready to go on May 15

- ▶ Chair

- Yoshiaki Shibata

- ▶ Editor

- Jim Wilkinson

- ▶ # of Participants

- 43 (as of Oct.1)

SG: Study Group

The screenshot shows a web browser window displaying the SMPTe UMID Applications portal. The page title is "SMPTe: UMID Applications - Windows Internet Explorer". The URL is "https://www.smpte.org/apps/org/workgroup/portal/project/details.php?project_id=90". The page content includes the SMPTe logo and the text "Society of Motion Picture & Television Engineers". The main content area is titled "UMID Applications" and shows project details for "TC-30MR". The project type is "SMPTe Engineering Project (ANSI)", the project contact is "Mr. Yoshiaki Shibata", and the project state is "TC Assignment". The project was updated on "2012-04-12". The progress is shown as "0% Complete". The project description is "Study Group on best practice of UMID applications. To identify typical UMID application principles, collate the fundamental rules every UMID-aware product needs to adopt, and identify relevant technologies needed to be additionally standardized." The project scope is "Explore the best practice of UMID applications. Identify typical UMID application principles and collate the fundamental rules every UMID-aware product needs to adopt. Identify relevant technologies needed to be additionally standardized." The project tasks are "Task 1 - Collate existing practices of UMID application via relevant paper/patent search and the UMID application conference to be organized for the Geneva meetings (Sept. 2012); A meeting where those who have been keen to the UMID applications are invited to make a short presentation on their own trials of UMID usage. - Analyze these existing practices to identify the principles and best practices of UMID applications; - Explore the RP 205 revision strategy; - Provide an intermediate report for". The project relationships are "Assigned Groups: TC-30MR Metadata & Registers, Visibility: General Public". The contribution summary shows "Contributions: Latest Contribution: 2012-03-09 8:36 AM".

Scope of the Study Group (SG)

- ▶ Explore **the Best Practice** of UMID applications.
 - UMID based AV Material Management, etc.
- ▶ Identify typical **UMID Application Principles**
 - How to implement “UMID Managed Domain”
- ▶ Identify relevant **Technologies** needed to be **Additionally Standardized**.
 - UMID Resolution Protocol, etc.

SG Action Plan



Action

2012									2013		
Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.

Promotions



Bristol



Geneva



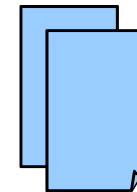
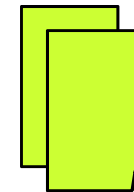
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UMID App. Conference



Paper/patent survey

Intermediate report

- UMID app. principles
- Best practices

Final report

- Future standardization

UMID Application Conference

- ▶ **Held on September 13 @ Geneva**
 - as a part of SMPTE Engineering Meeting in Geneva
- ▶ **Following 8 titles presented**
 - “Introduction to UMID”
 - “Technical Requirement for Program Package Exchange”
 - “UMID implementation in P2 MXF OP-Atom”
 - “UMID Digital Signature – Securing the Digital Media Universe”
 - “The use of UMIDs in the production of Sports related news”
 - “Why so many globally unique identifiers? And why only one?”
 - “Identification in the IP Studio”
 - “Globally distributed material management by UMID”
- ▶ **More than 50 experts attended with active Q&A sessions**

SG Action Plan



Action

Meeting

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Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.

Promotions



Bristol



Geneva



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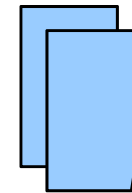
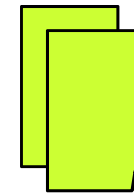


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Paper/patent survey

UMID App. Conference

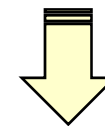


Intermediate report

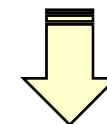
- UMID app. principles
- Best practices

Final report

- Future standardization



New Activity



New Activity

Call for Participation

- ▶ **Any interested parties are welcome join us!**
 - To **contribute** your experience and knowhow on the AV material management to the industry
 - To **obtain** your worldwide presence and new business opportunities in the industry
- ▶ **How to join SMPTE** (www.smpte.org/membership)
 - Institutional Sustaining Membership
 - \$975-\$15,000/year
 - Individual Membership
 - \$135/year for the regular membership
 - +\$200/year for participating in Standard Community

Conclusions

- ▶ **UMID: the industry common AV material identifier**
 - To be the media IT infrastructure for AV material management in a global sense
- ▶ **Some additional rules are required to achieve it**
 - UMID Application Principles
 - UMID Resolution Protocols, etc.
- ▶ **UMID Application Project in SMPTE**
 - Currently studying existing practices of UMID application, etc.
 - Actual standardization activities will happen shortly
 - We need your expertise from Asia-Pacific regions!

Contact to: info@metafrontier.jp

Also see “Latest Status of UMID and its Applications in File-based Workflow”
to be published in ABU Tech. Rev. Oct. 2012