

# Proposal on DG UMID Resolution Protocol

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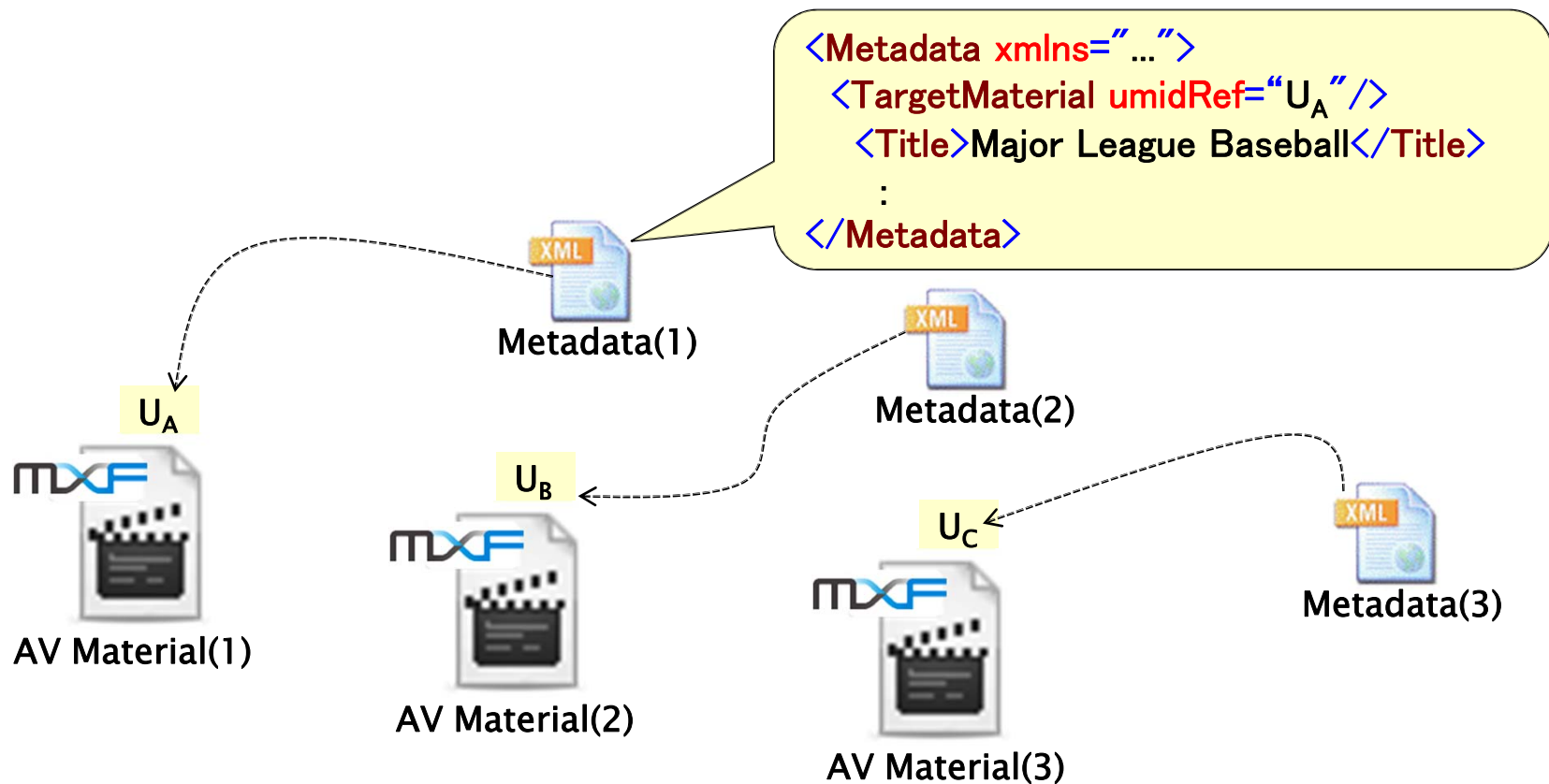
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# Project Overview

- ▶ Project Description
  - This project will produce a new SMPTE standard that specifies the UMID resolution protocol, an industry common method for a given UMID to be converted into the corresponding URL of its audiovisual (AV) material uniquely identified by the UMID.
- ▶ Chair
  - Yoshi Shibata
- ▶ Document Editor
  - Jim Wilkinson

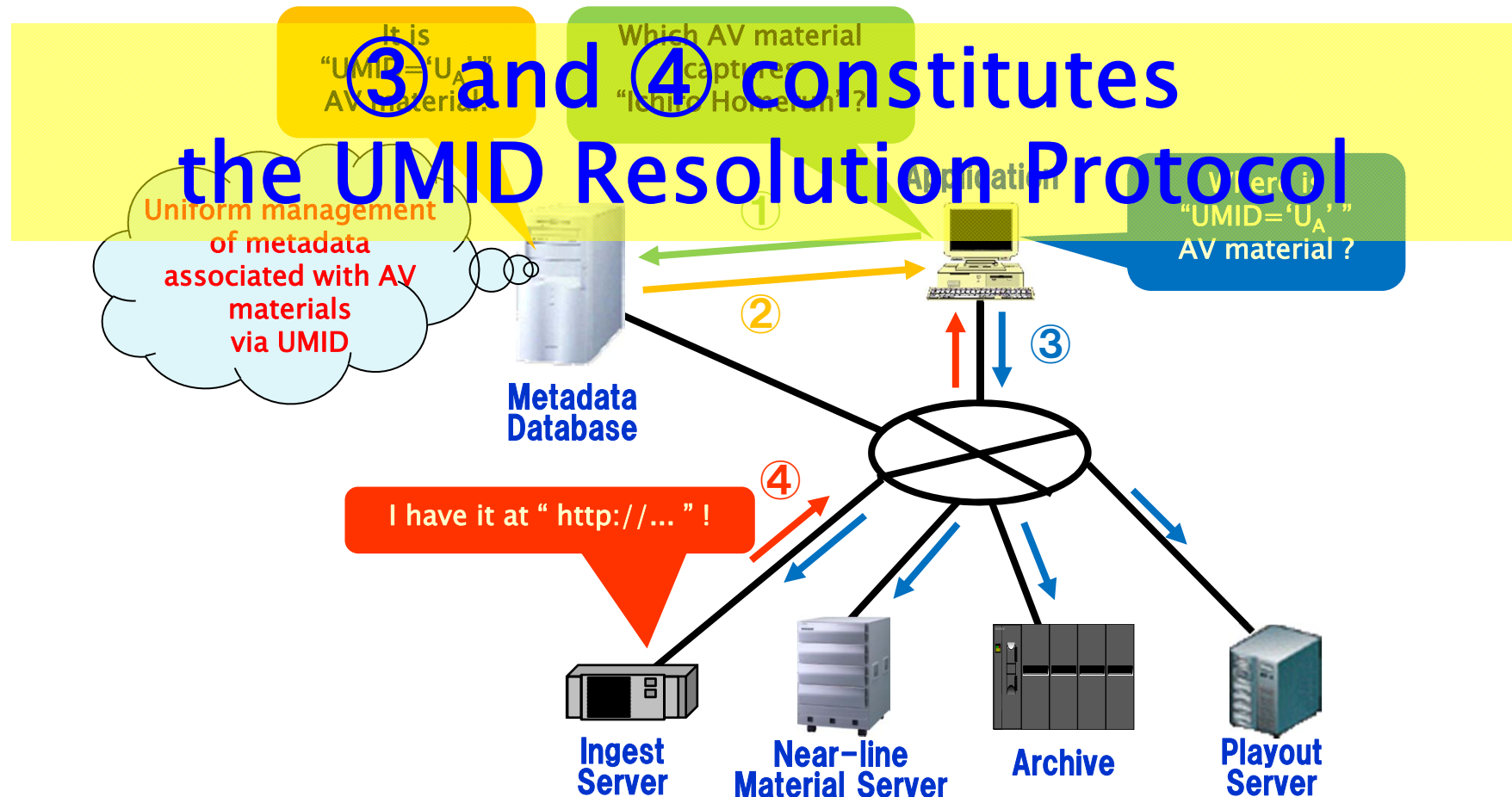
# How to use UMID as an Identifier

- ▶ To associate an AV material with its metadata



# UMID based Material Search

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

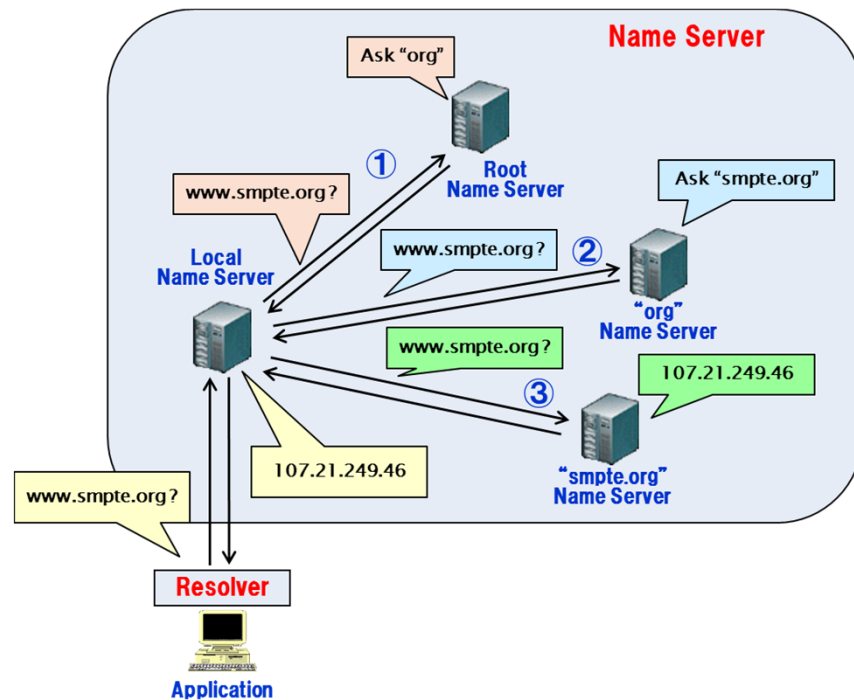


# Requirements

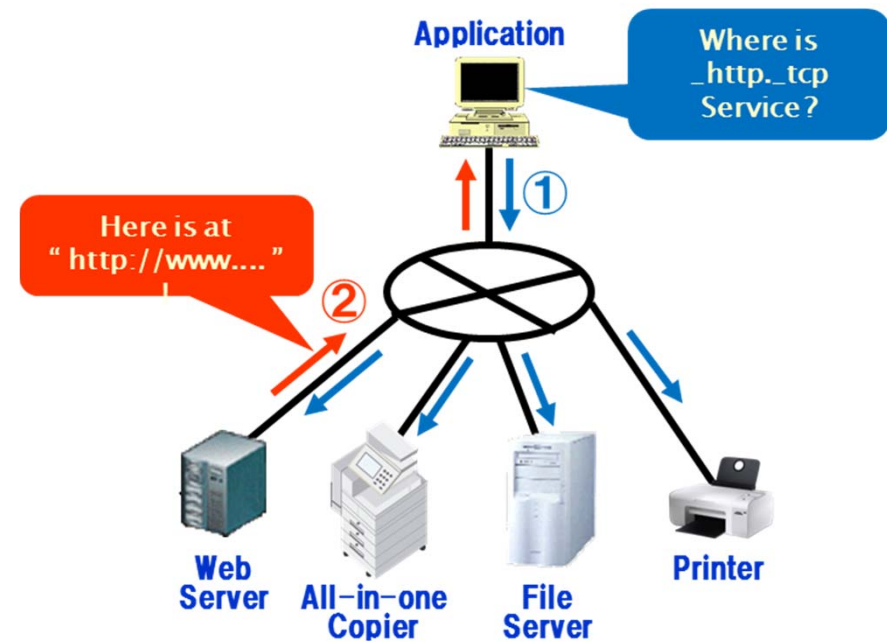
- ▶ Must provide a method for a given UMID to be converted to the URL of a material.
- ▶ Should provide basic technical information of a material together with the URL so that an application can judge its playability in advance.

# DNS (Domain Name System)

- ▶ Conventional (Unicast) DNS
- ▶ Multicast DNS (Zeroconf)



**For Domain Name Resolution  
(Done for any Internet access)**



**For Service Discovery  
(Adopted ST 2071-3)**

# DNS-based UMID Resolution

- ▶ Why DNS-based?
  - To take full advantage of the well-established technology
    - Aggregation Server, Registration, Query, Response, Security, Future extensions, Existing expertise
  
- ▶ How to realize it?
  - SMPTE should define the followings:
    - DNS technology family as normative reference
    - Domain-based UMID representation
    - A set of `key=value` parameters to compose “Response” (incl. URL)
      - To provide basic technical info



# Preliminary Experiment

- ▶ Using “BIND” (Server) and “nslookup” (client)

```
C:\Windows\system32\cmd.exe
C:\>
C:\>nslookup -type=txt 0d20.13000000.d2c9036c.8f195343.ab7014d2.d718bdfd._umid._udp.local 127.0.0.1
Server:localhost
Address: 127.0.0.1
0d20.13000000.d2c9036c.8f195343.ab7014d2.d718bdfd._umid._udp.local text =
    "dur=60"
    "depth=10"
    "sample=422"
0d20.13000000.d2c9036c.8f195343.ab7014d2.d718bdfd._umid._udp.local text =
    "url=http://ingSrv.local/20130831/sports/file5.mxf"
    "codec=j2k"
    "wrapper=mxf"
local nameserver = ns1.local
ns1.local internet address = 127.0.0.1
C:\>
```

**UMID Name Server**

**Domain-based UMID Representation**

**Common Properties for Material (60sec, 10bit/pixel, YUV422)**

**Media File Specific Properties (URL, JPEG2000, MXF)**



# Specific Tasks

- ▶ To review the Study Report Part 2–1 Section 2 “UMID Resolution Protocol” as input.
- ▶ To carefully analyze the items that need to be normative.
- ▶ To provide sample implementations using existing tools (e.g. DNS).
- ▶ To create new text for the standard and to progress it through SMPTE due–process to publication.

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**Thanks!**