Proposal on DG UMID Resolution Protocol

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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

<Metadata xmlns="...">
  <TargetMaterial umidRef="U_A"/>
  <Title>Major League Baseball</Title>
</Metadata>
UMID based Material Search

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

③ and ④ constitutes the UMID Resolution Protocol

Uniform management of metadata associated with AV materials via UMID

Which AV material captures "Ichiro Homerun"?

It is "UMID='UA'" AV material.

I have it at "http://..."!

Ingest Server  
Near-line Material Server  
Archive  
Playout Server

Metadata Database

Application
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)

- UMID Name Server
- Domain-based UMID Representation
- Common Properties for Material (60 sec, 10 bit/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!