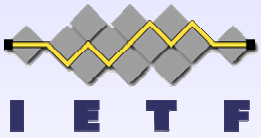

63rd meeting - Paris, France

(July 31-August 5, 2005)

Requirement of service provider for the Data Broadcasting Service over the IPTV

draft-lkchoi-mmusic-iptvdbs-req-00.txt

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I . Introduction (Motivation)

- **Progressive convergence of IP-based communication and broadcasting**
  - → **Bidirectional interactive high quality services**
  - → **IPTV with interactive data broadcasting services (DBS)**
- **DBS Standard**
  - **DVB-MHP, OCAP, ACAP**
  - **We are preparing the IPTV DBS service!**
  - **→We need the IP-based DBS standard in view of network.**
- **Proposal : Requirements for the DBS over IPTV**
  - **Multicasting with unicasting transmission requirements**
  - **Network requirements**
  - **Receiver, Media format and security requirements**

II . DBS Use Cases

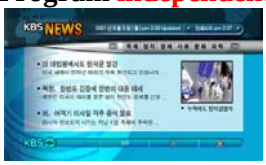
- **Program linked use cases**



- **Program supplementary use cases**



- **Program independent use case**




III . General Requirements

- **Independence of DBS data transmission**
  - **Various delivery mechanisms of DBS data**
  - **Supporting of different data transmission formats according to the service scenario of service provider.**
- **DBS interactivity of multiple accesses**
  - **Communication with any number of DBS receivers interactively and simultaneously.**
  - **Access with any other DBS subscriber in multiparty communication sessions.**

IV . Multicasting with Unicasting Transmission

- **Previous DBS**
  - **Based on the unidirectional transmission.**
  - **Incomplete DBS due to limited bandwidth of uplink.**
    → Many service providers prefer multicasting transmission.
    → Restricted contents delivery and low subscriber satisfaction
- **DBS over IPTV**
  - **Enough bandwidth for uplink and downlink.**
    : IPTV is able to provide interactive DBS vividly
  - **Multicasting and unicasting transmission simultaneously.**
- **REQ MUL-1**
  : IPTV DBS transmission method SHOULD be able to support multicasting and unicasting together according to its service plan
  - **Multicasting : high simultaneity with many user request**
  - **Unicasting : low simultaneity with interactive request**

IV . Multicasting with Unicasting Transmission

Example of DBS flow diagram

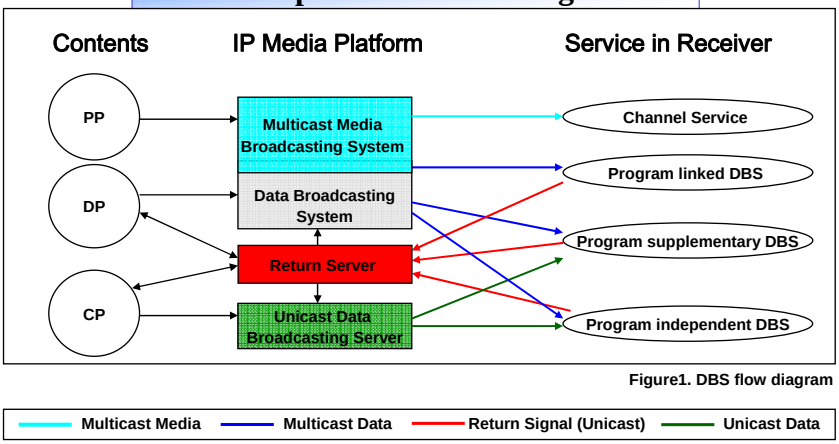


Figure1. DBS flow diagram

IV . Multicasting with Unicasting Transmission

- **REQ MUL-2**
  - **Classification of In-Band Group for the Video/ Audio program and Out-of-Band Group for IMG data.**

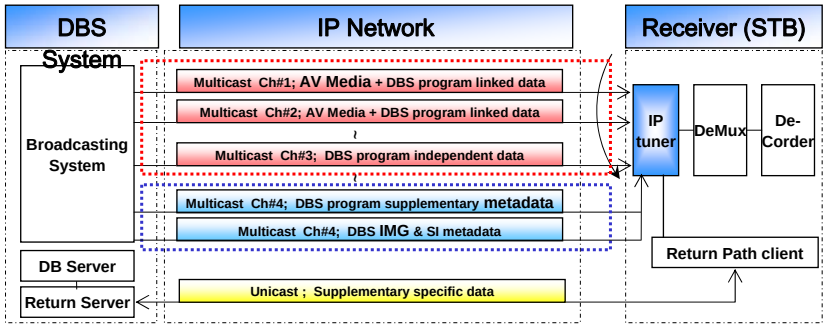


Figure2. transmission diagram

- **REQ MUL-3**
  - **IGMP multicast group join with IP network specific parameter such as IP address and port.**

V . Network

- **Bandwidth**
  - **Prerequisite bandwidth of each DBS data for total necessary bandwidth of DBS.**
  - **Priority regeneration of DBS data stream for the quick reflection of user's service order.**
- **Reliability**
  - **Reliable data transmission.**
  - **Use of QoS and FEC for low packet loss with correction.**
  - **Monitoring packet loss for acceptable error rate.**
- **Congestion control**
  - **Internet-friendly congestion control.**
  - **Control of application data lifetime.**

VI . Receiver, Media format and Security

- **Receiver**
  - **Bidirectional interaction with DBS sender.**
  - **Several multicasting channel join.**
  - **Synchronization of DBS data between receiver and server.**
- **Media format**
  - **Supporting any media format for the flexibility of multimedia contents.**
- **Security**
  - **Guarantee of DBS security and confidential delivery of data.**
  - **Different access according to the authorization level .**
  - **Checking access level of subscriber for the security.**

VII . Application of proposal to in Service

VIII . Next for the Standard

- **Is it possible to adapt this draft to the MMUSIC WG Document ?**
  → **I really want to work for the MMUSIC.**

- **Please e-mail for the detailed discussion.**
  biorock@kt.co.kr

- **Thank you very much for your attention !**