

I E T F
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Requirement of service provider for
the **Data Broadcasting Service** over the **IPTV**

draft-lkchoi-mmusic-iptvdb-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 . 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.

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III . 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

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IV . Multicasting with Unicasting Transmission

Example of DBS flow diagram

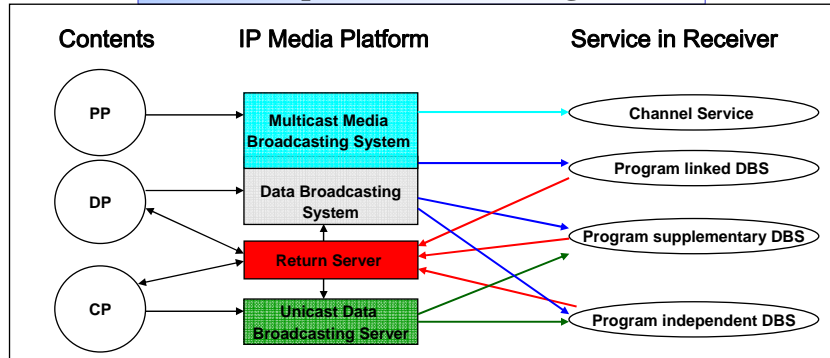


Figure1. DBS flow diagram



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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.

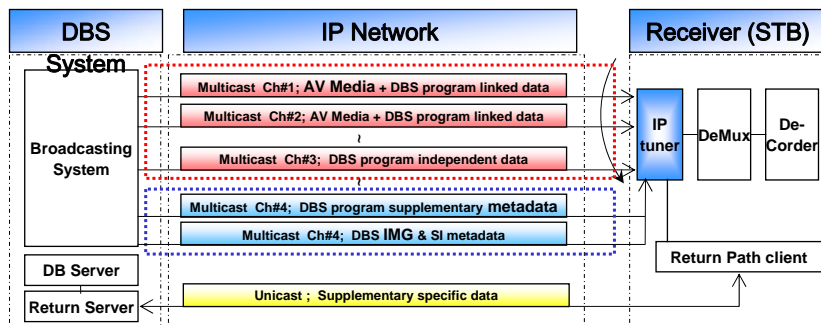


Figure2. transmission diagram

◆ REQ MUL-3

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

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IV . Multicasting with Unicasting Transmission

◆ SDP (Session Description Protocol) ; RFC 2327

- IP multicast session
 - Multicast address for media
 - Transport Port for media
- IP unicast session
 - Remote address for media
 - Transport port for contact address

◆ We apply the updated SDP for the combination of multicast and unicast to the IPTV

- To treat supplementary and independent DBS.
 - These need both transmission method simultaneously.

Example> 1. news, weather, traffic situation of transportation.
2. messenger or SMS service with TV program.

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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.**

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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.

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 !**