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Title: Discussion on 5G_MBS Objectives A) and B)

Document for: Discussion

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Agenda Item: 8.7

Work Item / Release: 5G_MBS / Rel-17

Key Diverging Requirements between Objectives A) and B)

- Key difference 1:
  - Objective B) Requires support of legacy LTE radio, including procedures, TMGI, etc.
  - Objective A) Opportunity for clean slate solution end-to-end, removing “baggage” from 8+ releases ago.
- Key difference 2:
  - Objective B) Focus only on broadcast service only
  - Objective A) Requires efficient support of services with both unicast and broadcast components.
- Key difference 3:
  - Objective B) Service layer for TV and radio broadcast only
  - Objective A) Supports a variety of different services

Motivation for a new native 5G MBS architecture (Objective A)

Key deficiencies of carrying 4G approach into 5G MBS:

- Complexity of eMBMS which results from the tight integration of radio and service layer.
- Initial tight service/transport design with only video streaming in mind.
- This however implies the need to deploy additional centralized architectural entities (BM-SC) to manage the integration of radio and service layer and the related TMGIs
- Other services with very different requirements (C-V2X, MCPTT, Public Safety, C-IoT group communication, etc) were added, carrying the baggage of original design.

Towards a clean slate 5G MBS solution

- 5G needs to provide a solution for transporting multiple different services.
  - A common “fit all services” service layer approach, will produce a complex service layer and hence complex overall system.
- For many uses cases, e.g. ethernet broadcast, IP multicast, the 3GPP service layer is not needed
  - Example: multiple devices need to receive multicast data from the same multicast IP address. The multicast address may have been pre-provisioned as part of the related application or may be delivered to the device by other means.
- Efficient unicast/broadcast delivery switching is needed
- Reliable delivery with low latency requirements

BOTTOMLINE:

- **On one hand a clean slate end-to-end 5G solution can provide a more efficient MBS flow delivery mechanism, with more efficient unicast/broadcast switching and reliability at lower requirements, Objective A shall not carry the baggage of LTE solution.**
- **One the other hand, 5G Broadcast TV and Radio services requires to offer broadcast over legacy LTE broadcast solution, where many aspects of LTE solution are unavoidable in RAN and CN.**
- **The two Objectives should be considered separately.**

Thank you!