

SA2#125, 22 – 26 January 2018
Gothenburg, Sweden

S2-180143: Study proposal for 5G multicast-broadcast services



(e)MBMS more suitable for verticals than MBB



MBMS initially developed for video broadcasting and streaming services

- Later updated to support V2X, public safety, CloT. However, simple devices may not support MBMS protocol stack.

(e)MBMS not yet widely used

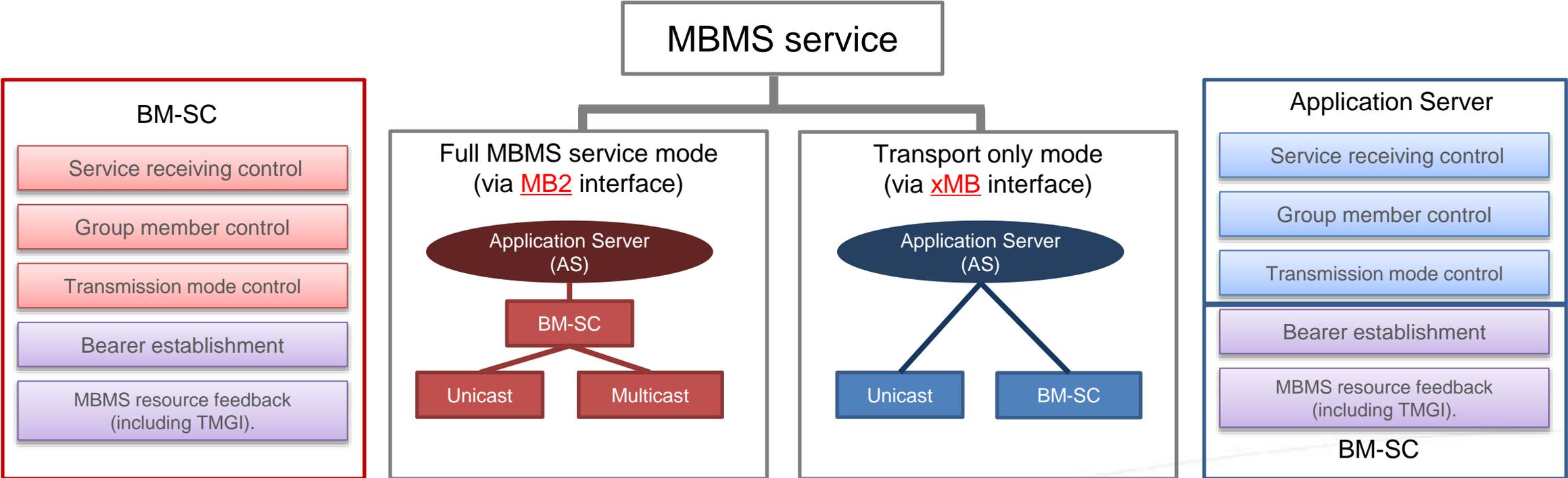
- **Use Cases:** Most of OTTs do not need the use case of many users simultaneously receiving the same content;
- **Business Model:** Most of OTTs do not pay MNOs for data volume and they do not care much about underlying network/spectrum resource efficiency. Normally OTTs do not have business agreements with MNOs.
- **Motivation for MNOs:** hard for them to launch MBMS without cooperation with application provider.

Vertical providers have more interest

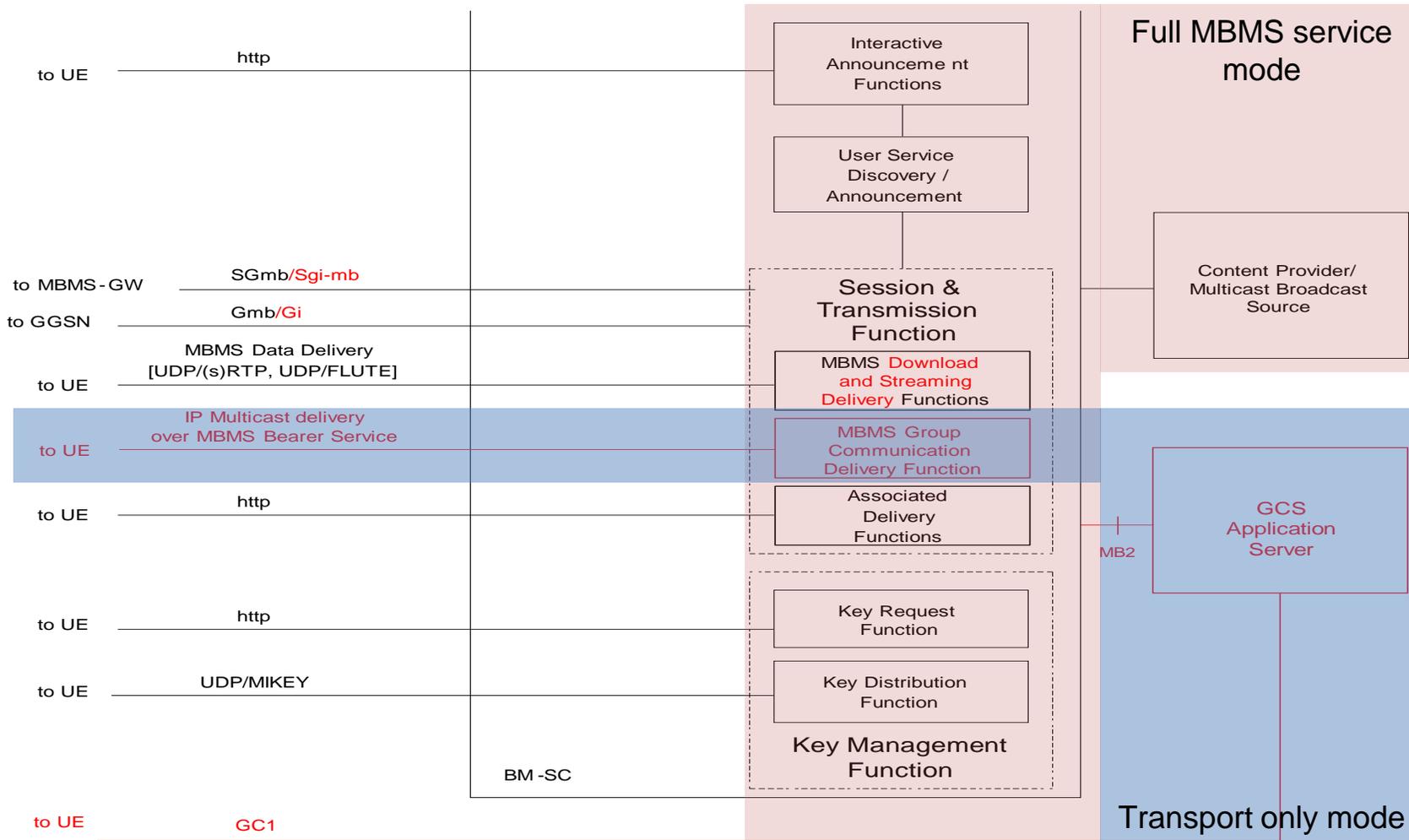
- **Use Cases:** Vertical applications have a lot of group/broadcast scenarios (e.g., IoT Software upgrade, V2X, public safety, ...)
- **Motivations:** Application providers may either deploy dedicated networks themselves or rent it from MNOs. In both cases, they care about saving network resource.

Different service models for different requirements

Full Service mode vs. Transport Only mode



Full set of BM-SC functionalities



MBMS system provides full service layer capability.

BM-SC aware of content stream and capable of transforming the content stream into 3GPP compliant stream.

BM-SC can decide whether to switch an MBMS user service between broadcast or unicast service.

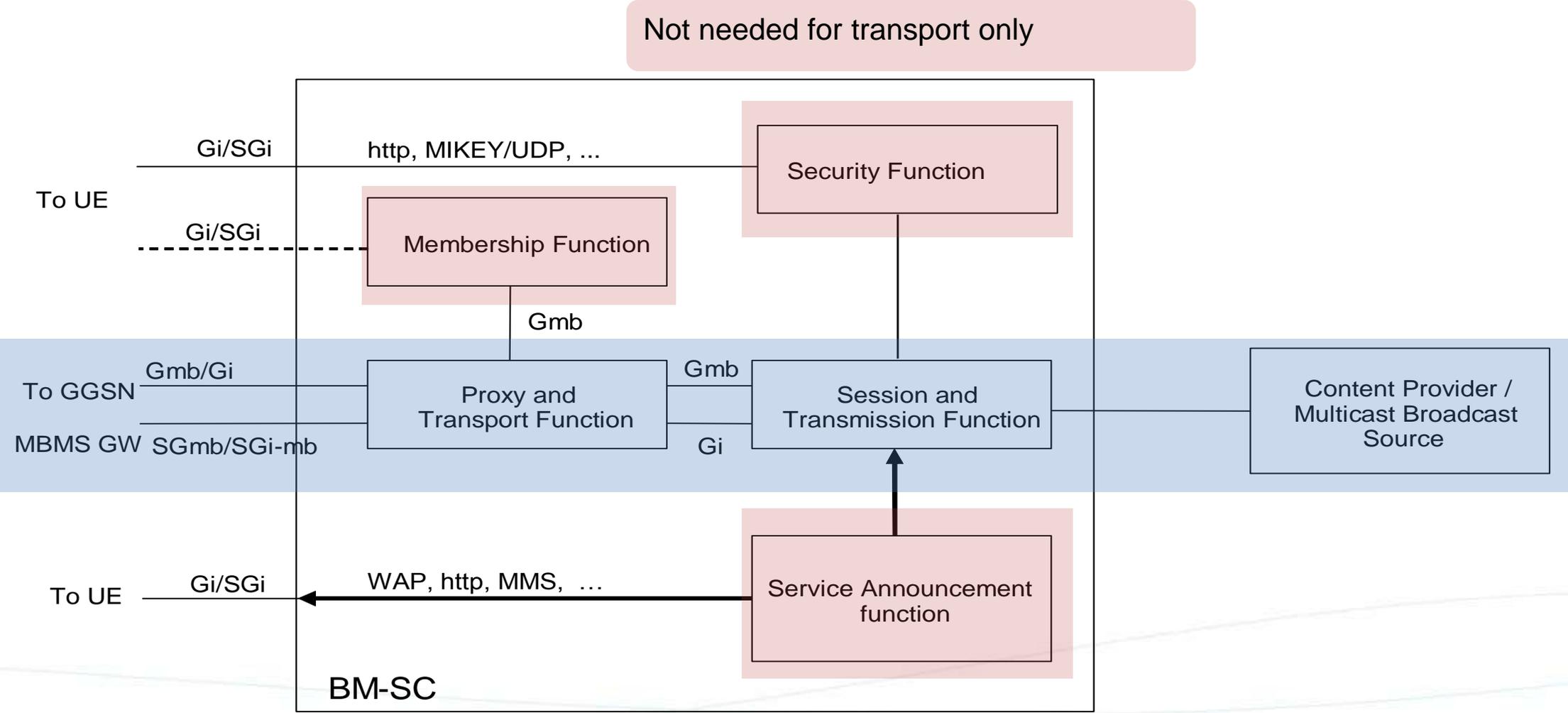
3GPP network provides only transport of **data/video** content in a transparent manner.

3rd party content provider's signalling and data transferred via MBMS bearer(s) are transparent to BM-SC and the MBMS bearer service.

All other service aspects, e.g. decision of whether to send data over broadcast or unicast, is not within 3GPP network, and is performed by application server.

For detailed structure and services see TS 23.246

Not all functionalities needed for transport only mode

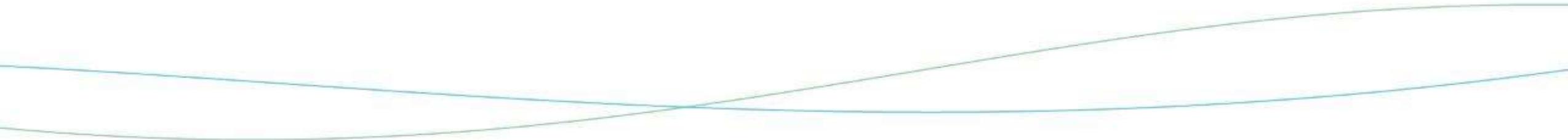


Proposal

Identify and evaluate potential enhancements to the 5G system architecture to provide basic capabilities which might be used for different vertical businesses/third party providers.

Functional granularity and modularity to fulfil dynamic deployments of network functions (e.g., for MIoT, public safety and eV2X), as well as a common "transport" mechanism with optional additional functions that can be deployed to cover additional use cases thus reducing complexity of an all-encompassing architecture.

1. Support for SBI (Service Based Interface) and functional modularity.
2. Support for slicing.
3. Enable flexible (i.e., distributed vs. centralized) network deployment and operation (e.g., CP-UP separation).
4. Support for group messaging.
5. Flexible broadcast/multicast service (see TS 22.261).
6. Support for reliable data transmission and low latency (see TS 22.186).
7. Support the use cases and requirements for public safety (see TS 22.179 and TS 22.280).



Thank You.

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