

FS_5MBS

Organization of work



S2-1908996



Table of contents

- 1 Study item objectives
- 2 Work tasks
- 3 Steps for SA2#135
 - 1 TR skeleton
 - 2 TR scope
 - 3 Definitions/new terms
 - 4 Architectural assumptions and functional split
 - 5 Key issues

1. Study item objectives (SP-190625)

Objective set A

- Define framework (also functional split between (R)AN and CN) to support MC/BC services, e.g., ad-hoc MC/BC streams, transparent IPv4/IPv6 MC delivery, IPTV, software delivery over wireless, group communications and MC/BC IoT applications, V2X applications, public safety
- Support different levels of services (e.g., transport only vs. full service mode)
- Enable flexible (i.e., distributed vs. centralized) network deployment and operation (e.g., CP-UP separation)
- Address whether and how relevant QoS and PCC rules are applicable to MC/BC services
- Support use cases and requirements (e.g. service continuity) for public safety, identified in SA1 and SA6 specifications (e.g., TS 22.179/280)

Objective set B

Support BC architecture for TV Video and Radio Services in 5GS (including linear TV, Live, smart TV, and managed and OTT content, radio services) contain the following components:

- Shared broadcast services amongst multiple providers.
- Allow Video/TV/Radio services to devices with no subscription (e.g., Free to air TV) or with 3rd party content provider subscription only.
- Provision/service to receive-only devices such as fixed TVs or vehicular receivers.
- Enabling combination of BC services with UC services from same provider (similar to DVB-I, HbbTV, etc.)

2. Work tasks (post SA2#134)

Work Task 1: General services

- 1.1 Levels of service
- 1.2 Functionality definition and allocation
- 1.3 QoS and PCC rules
- 1.4 Combination of broadcast and unicast services from single provider
- 1.5 Multiple operator support

Work Task 2: TV/Radio specific services

- 2.1 Receive only devices; Devices w/o subscription or w/ 3rd party content provider subscription
- 2.2 Combination of broadcast and unicast services from single provider

See update in 'Huawei 2' document

3.1 SA2#135: TR skeleton

Contents

Foreword	5
1 Scope	7
2 References	7
3 Definitions of terms and abbreviations	7
3.1 Terms	7
3.2 Abbreviations	7
4 Architectural Assumptions and Principles	7
5 Key Issues	7
5.X Key Issue #X: Title	7
5.X.1 Description	7
6 Solutions	8
6.X Solution #X: Title	8
6.X.1 Key Issue mapping	8
6.X.2 Functional description	8
6.X.3 Procedures	8
6.X.4 Impacts Analysis	8
6.X.5 Evaluation	8
7 Evaluation	8
8 Conclusions	8

See 'Huawei 3' document

3.2 SA2#135: TR scope

1 Scope

This Technical Report studies and evaluates architectural enhancements to the 5G System to address the following objectives.

Objective A: Enabling general MBS services over 5GS.

Support general multicast/broadcast services, e.g., ad-hoc multicast/broadcast streams, transparent IPv4/IPv6 multicast delivery, IPTV, software delivery over wireless, group communications and broadcast/multicast IoT applications, V2X applications, public safety.

Objective B: Enabling TV/Radio specific services over 5GS.

In addition to Objective A, Objective B is to support broadcast architecture for TV Video and Radio Services in 5GS (including linear TV, Live, smart TV, and managed and OTT content, radio services).

See 'Huawei 4' document

3.3 SA2#135: Definitions/new terms

Unicast communication: communication in which the service is individually provided to single UEs. It allows providing different data to different UEs.

Multicast communication: communication in which same service and same data are provided to sets of UEs (i.e., not all UEs in the multicast coverage are authorized to receive the data) in a resource efficient way.

Broadcast communication: communication in which same service and same data are provided to all UEs (i.e., all UEs in the broadcast coverage are authorized to receive the data) in a resource efficient way.

MBS: Multicast/Broadcast Service

MBS session: session established to support multicast or broadcast communication.

See 'Huawei 5' document

3.4 SA2#135: Architectural assumptions

See 'Huawei 5' document

See 'Qualcomm 1' document

3.5 (Initial) Key Issues

1. MBS session management
 - Content distribution between ingress point and RAN (how to get data around the network)?
 - Content distribution between ingress point and UE (how to logically describe data, e.g., PDU session?)
2. Different levels of access control
 - Which users are supposed to receive the content?
 - Which level of access control (e.g., Service control, Session control) shall be supported for multicast/broadcast?
3. Service continuity (due to change of gNB)
 - Within MBS
 - MBS – UC
4. QoS/PCC support
 - Including reliability
5. Service switch (MBS – UC) not due to mobility

See 'Huawei 6/7/8' and 'Qualcomm 2/3' documents

Thank you!