

3GPP TSG-SA WG4 Meeting #82
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Agenda Item 7
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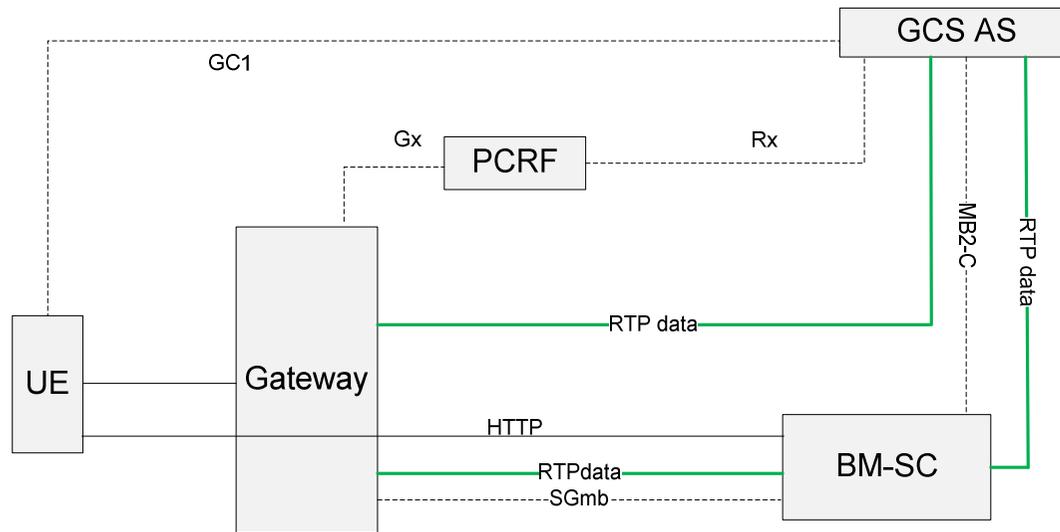
S4-150114

MCPTT Discussion

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GCSE background



MCPTT user plane transport model

- Reference: TS 23.468

codec

- MBMS supported codec (26.346)
 - If audio is supported, then the following two audio decoders should be supported
 - Enhanced aacPlus
 - Extended AMR-WB
 - Speech
 - Both AMR and AMR-WB are mandatory
- Codec mentioned in Stage 1 spec (TS22.179)
 - Only AMR-WB is mentioned (refer to sec 5.14).
- Issues:
 - Speech codec referred in TS22.179 mismatch with codec supported in TS 26.346
 - Does audio codec defined in TS26.346 also apply to MCPTT? SA6 guidance is expected.

Media Handling by both GCS AS and BM-SC

- GCS AS
 - In 23.468, GCS acts as the media source. The data transferred via MBMS bearer(s) by the GCS AS is transparent to the BM-SC
- BM-SC
 - In 26.346, BM-SC acts as the media source.
- Issues:
 - To comply with SA2/SA6 decision, the BM-SC processing behavior of RTP payload should be clarified.
 - The media processing behavior between GCS-AS and BM-SC is not clarified yet.

Un-sync between unicast and broadcast

End to end delay for media transport estimation when using broadcast bearers (TR 36.868)

Description	Time (ms)	Comments
Talker UE → eNB	10	Reference: Annex B.2 of 3GPP TR 36.912 [6]
eNB→SGW/PGW→ →BM-SC	20	Out of RAN WG2 scope, the value 20ms, is shown as an example representative of the time required for the procedure. Backhaul transmission delay of 10ms on each network interface is assumed
BM-SC → eNB	40	Assumes SYNC sequence length = 40ms = MSP/2. The eNB processing time and M1 delay are captured into the 40ms.
MSP (Read MSI)	80	MSP = 80ms
eNB → Receiving UEs	10	Receiving and processing
Total	160	

End to end delay for media transport estimation when using unicast bearers (TR 36.868)

Description	Time (ms)	Comments
Transmitting Group Member UE → eNB	10	Reference: Annex B.2 of 3GPP TR 36.912 [6]
eNB→SGW/PGW→GCSE AS→eNB	20	Out of RAN WG2 scope, the value 20ms, is shown as an example representative of the time required for the procedure. Backhaul transmission delay of 10ms on each network interface is assumed. Reference: 3GPP TR 36.912 [6]
eNB→ Receiving Group Member UE	10	Reference: Annex B.2 of 3GPP TR 36.912 [6]
Total	40	

- Issues:
 - Due to different transportation delay between unicast and broadcast bearer, un-sync issue exists within the same MCPTT group using different bearer modes(unicast vs broadcast)
 - The E2E delay over MBMS bearer is still long, performance improvement is expected

USD

- GCS AS
 - In 23.468, GCS obtains service description information including: TMGI, FlowID, service description, BM-SC IP address and port number, and an expiration time from the BM-SC. UE will receive this information from GCS-AS to activate MBMS reception. Those service description information is just a part of USD
- BM-SC
 - In 26.346, UE will retrieve the USD from the BM-SC, and perform MBMS reception per USD information.
- Issues:
 - Does the BM-SC still send the USD to the UE? It is unclear.
 - The co-ordination of service description information received from GCS AS and USD information received from BM-SC is unclear

Security

- GCS AS
 - In Rel-13, the security of MCPTT needs to be resolved.
 - The data transferred via MBMS bearer(s) by the GCS AS is transparent to the BM-SC
- BM-SC
 - In 26.346, BM-SC does provide key distribution and RTP payload encryption defined by 33.246
- Issues:
 - It is unclear whether key distribution and RTP encryption feature are needed by BM-SC to support MCPTT.

Profile for MCPTT

- BM-SC
 - In 26.346, '*alternativeAccessDelivery*' is used for PSS streaming service mobility support. In 23.468, the GCS already provide make before break or break before make procedure to address mobility issue.
- Issues:
 - The element and/or attribute of USD applied to MCPTT needs investigation. The profiling of USD will help MCPTT support

Summary

Proposal:

- The listed issues need to be included in the MCPTT work in SA4
 - Codec support
 - Media handling
 - Un-sync between unicast and broadcast issue and MBMS performance improvement
 - USD
 - Security
 - Profile
- Coordination between SA4 and SA6 are expected to address these issues.