# RTP Payload for AMR-WB+ audio codec

`draft-sjoberg-avt-rtp-amrwbplus-00.txt`

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# AMR-WB+ background

- AMR-WB+ = **A**daptive **M**ulti-**R**ate **W**ide**b**and **Plus**

- AMR-WB+ is an an audio extension to the AMR-WB speech codec
  - Currently being specified by 3GPP TSG SA WG4
  - Target applications: 3GPP packet switched streaming and multimedia messaging
  - Specifications to be finalized in 3GPP Release 6 timeline (March 2004)

- AMR-WB+
  - Includes all AMR-WB speech modes (6.6 – 23.85 kbit/s)
  - Includes AMR-WB VAD/CNG
  - 20ms transport frames
  - Four audio extension modes
    - Bit-rates in range 14 – 24 kbit/s
    - Mono and stereo modes
    - Employs sampling frequencies 16/24/32 kHz
  - Relaxed delay requirements → not for conversational applications

# AMR-WB+ RTP payload format

- Based on AMR-WB RTP payload format (RFC 3267)
  - Employs identical payload structure:


- Timestamp rate 96 kHz
- Supports (as optional features)
  - Robust sorting
  - Frame CRC
  - Interleaving
- Does NOT support
  - Bandwidth efficient mode of operation
  - RTP-level multi-channel transport
- MIME subtype registration
  - “Audio/AMR-WB+”
  - Parameters for controlling the optional features

# AMR-WB+ RTP payload format

Changes compared to the AMR-WB RTP payload format

- Timestamp rate changed from 16 kHz to 96 kHz
  - AMR-WB+ employs sampling frequencies 16/24/32 kHz, 96 kHz smallest common integer multiple
- No bandwidth efficient mode of operation
  - Potential savings in packet size negligible
  - Octet-based processing in streaming servers reduces complexity
- No RTP-level multi-channel transport
  - Some of the AMR-WB+ coding modes support stereo encoding

# Next steps

- 3GPP TSG SA WG4 follow-up
  - Reflect possible changes in codec design work into the draft
  - Finalize the open issues in the draft once the 3GPP specifications are available
- Feedback from the AVT group
  - Questions?
  - Comments?
  - Suggestions?
- A working group item?
  - Standards track