



RTP Payload and File Storage Formats for VMR-WB

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August 2004

(Refer to <draft-ietf-avt-rtp-vmr-wb-01.txt> for more details)



Outline

- Status of VMR-WB standard
- New features in VMR-WB Internet Draft
 - Interoperability with AMR-WB (Offer-answer model considerations)
 - New MIME parameter “mode-set”
 - File storage formats
 - Other features and changes
- Remarks



Status of VMR-WB standard

- VMR-WB is a complete cdma2000 standard as of July 2004.
- VMR-WB specification has been published by 3GPP2 and TIA as C.S0052-0 v1.0 and TIA-1016, respectively.
- VMR-WB software is available via 3GPP2/TIA (C.R0052-0 v1.0).
- VMR-WB has been accepted as the default wideband speech codec for cdma2000 multimedia streaming services (C.S0046-0)
- VMR-WB support in “.3g2” and “.cmf” file formats has been approved for the next release of C.S0050-A (file formats).
- VMR-WB has been also proposed as the narrowband/wideband speech codec for cdma2000 multimedia messaging services (C.S0045-A).



New features in VMR-WB Internet Draft

- Interoperability with AMR-WB (Offer-answer model considerations)
 - Using the VMR-WB interoperable mode, a VMR-WB enabled terminal can also declare itself capable of AMR-WB with limited mode set (i.e., only AMR-WB codec modes 0, 1, and 2 are allowed) and octet-align mode of operation.

Example:

```
m=audio 49120 RTP/AVP 98 99
a=rtpmap:98 VMR-WB/16000/1
a=rtpmap:99 AMR-WB/16000/1
a=fmtp:99 octet-align=1; mode-set=0,1,2
```

- This feature guarantees that there will be no signaling conflict in the IP network using VMR-WB and AMR-WB.
- This feature enables single SIP/SDP sessions for interoperable interconnections.



New features in VMR-WB Internet Draft

- New MIME parameter “mode-set”
 - This parameter was added to ensure compatibility with non-IP terminals that do not support all modes of operation of the VMR-WB codec.

For example: cdma2000 Service Option 62 does not support VMR-WB mode 3 and the future cdma2000 Service Option 63 only supports VMR-WB mode 4.

- This parameter further allows an AMR-WB enabled terminal also declare itself capable of VMR-WB as follows:

```
m=audio 49120 RTP/AVP 98 99
a=rtpmap:98 AMR-WB/16000
a=rtpmap:99 VMR-WB/16000
a=fmtp:99 payload_format=1; mode-set=3
```



New features in VMR-WB Internet Draft

- File storage formats
 - The VMR-WB ID supports single channel and multi-channel storage formats.
 - The single channel storage format was included for the following reasons:
 - Given the codec itself is not a stereo audio codec, this is a simple and efficient storage format
 - The current 3GPP2 specification and software support this format
 - It ensures compatibility with legacy implementations of RFC 3267 in the interoperable mode
 - The distinction between AMR-WB interoperable and non-interoperable storage formats, enables efficient decoding by an AMR-WB decoder without opening and digging into the file contents (separate magic numbers, distinctive file extensions)



New features in VMR-WB Internet Draft

- Other features
 - Discontinuous and continuous transmission modes
 - Multimode narrowband and wideband speech processing
 - Header-free and octet-aligned payload formats
 - The header-free payload format is ideal for cdma2000 VoIP using non-interoperable modes (lower delay, less overhead)
- Recent changes and updates
 - All comments by AVT co-chair have been addressed.
 - All References, Tables, and Figures are updated
 - The requirement for two SIP/SDP interoperable sessions is removed.
 - Text and Figures are properly reformatted.
 - Unnecessary normative language has been removed.



Remarks

All comments received prior to and during this meeting will be addressed in the next version of the VMR-WB Internet Draft.

Version -02 of the VMR-WB Internet Draft will be posted on August 9, 2004.