

MP3

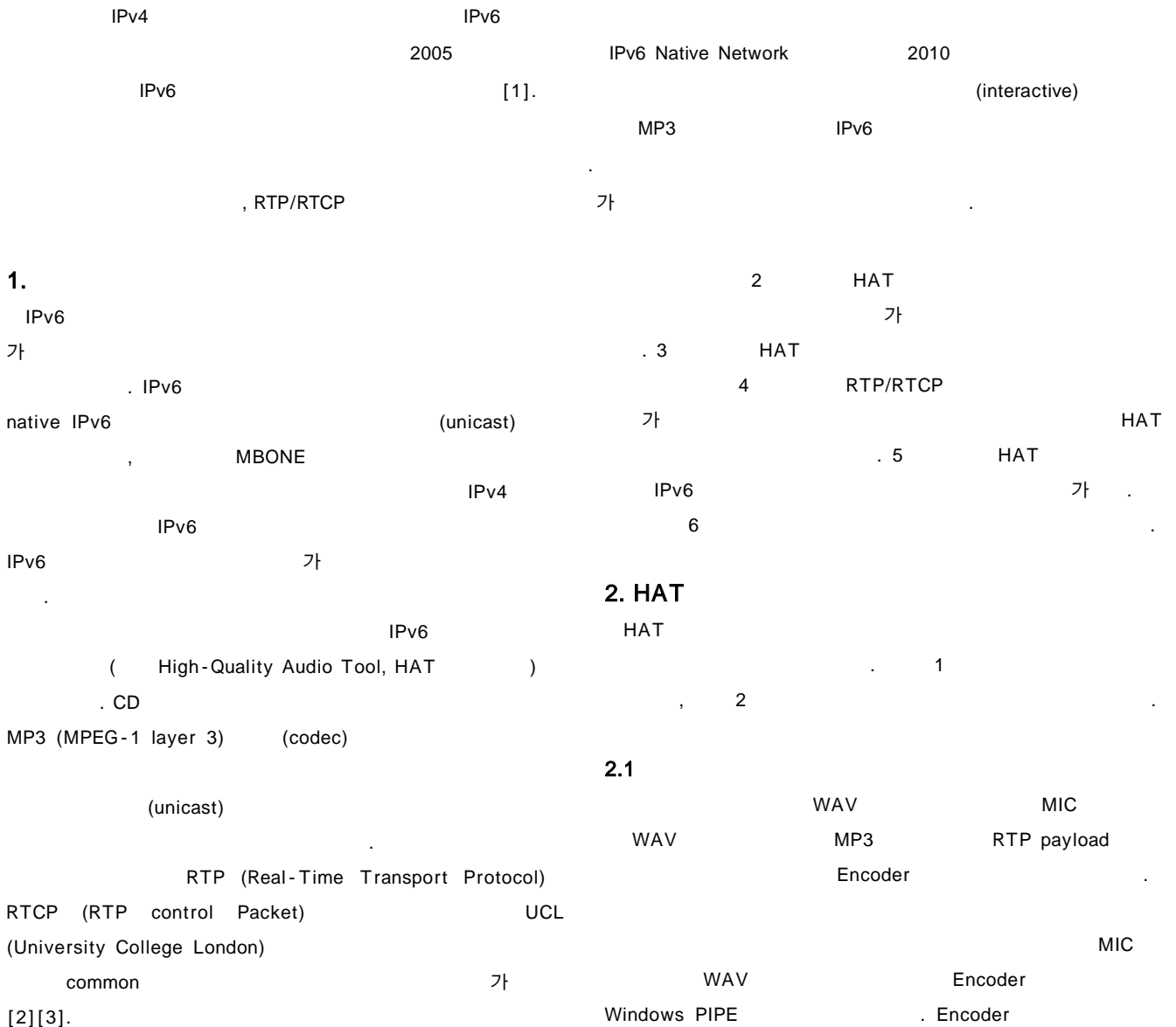
IPv6

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Design and Implementation of an IPv6 Multicast based Audio Conferencing Tool using MP3 Codec*

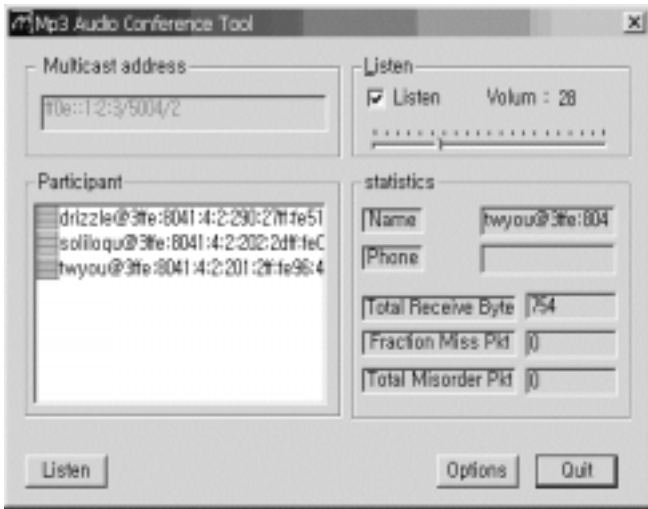
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WAV MP3 MP3
 RTP UDP

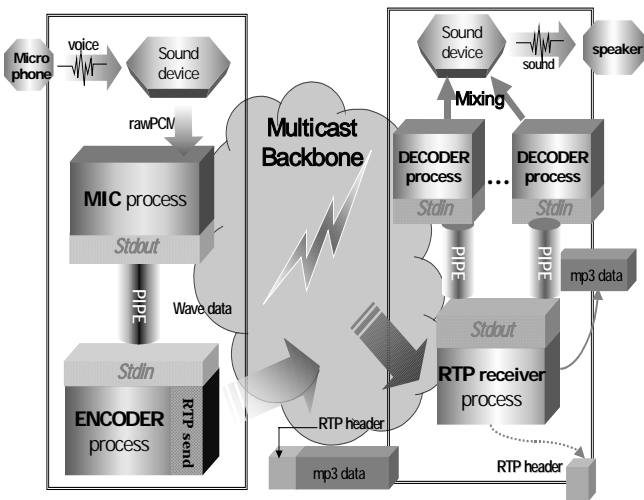
Decoder MP3
 Decoder MP3

가 가
 Decoder 가
 가
 가
 Receiver 가 가
 가
 RFC #1889 [2]
 가
 가
 (Source Report)



1 HAT

2.3 (UI)
 HAT



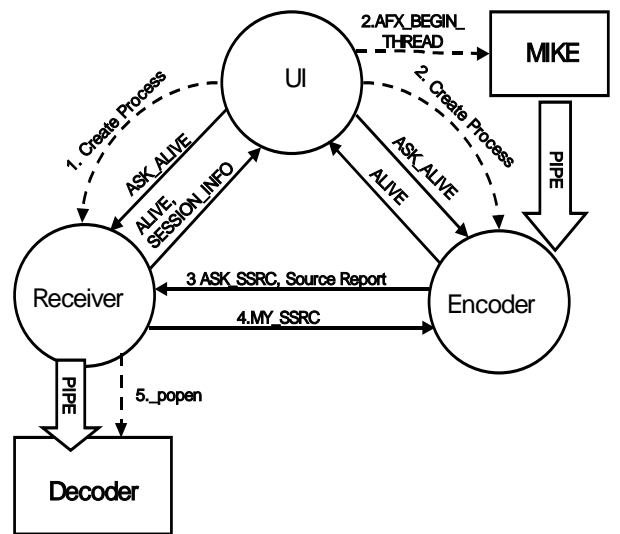
2 HAT

Encoder, Decoder 가 가 가 ()
 3

3. HAT
 3 HAT

2.2

Receiver
 MP3 Decoder
 Receiver RTP, RTCP
 가 RTCP 가
 MP3 RTP
 , RTP RTP



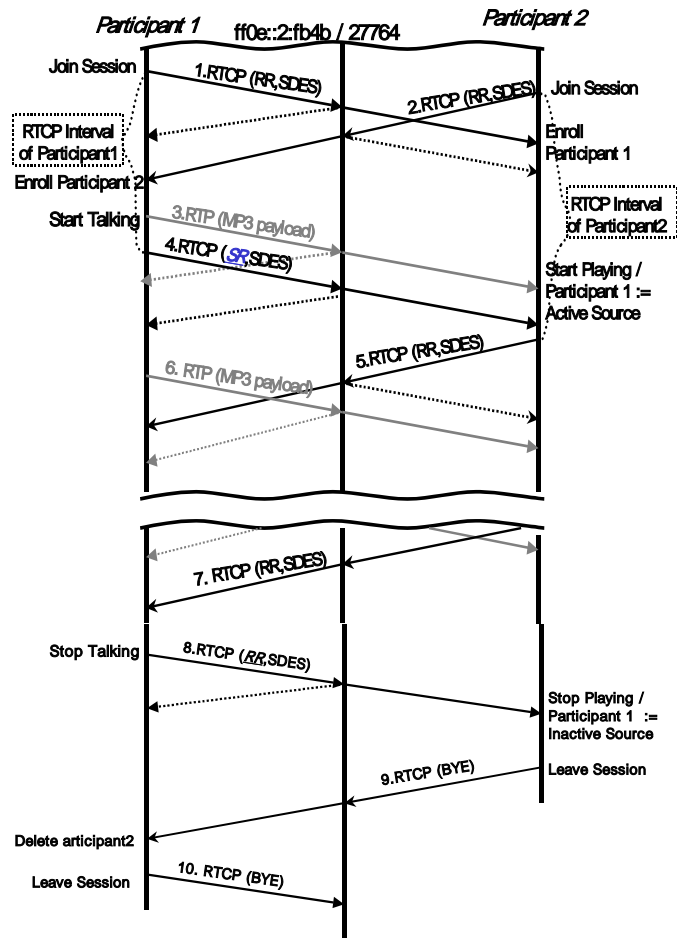
3
 UI 가 Receiver 가
 (1) Receiver 가
 UI

ASK_ALIVE Receiver 가 가 1
 Receiver ALIVE 가 1 가
 UI 가 2 (2), 가 1 가
 UI Encoder 가 1 UI
 Receiver Encoder 가 Talk MP3
 ASK_ALIVE UI 가 (Start Talking), RTP 가
 가 CPU 2 (3), 가 1
 (Active Source) Decode
 Receiver 가 가 MP3 가 1
 Decoder 가 1
 (5). RTCP SDES, RR, SR RTCP
 가 가 (4). RTCP
 UI 가 (RTCP Interval) RFC #1889[2] 6.2
 UI Talk Encoder MIC SR
 (2). Encoder Receiver 가 가
 ASK_SSRC (3)
 Receiver 가 RTP SSRC(Synchronization Source)
 Receiver 가 MY_SSRC 가 가
 (4) Encoder 가 가
 SSRC MP3 RTP
 (Reception Report) RTCP
 Receiver Encoder 가 SSRC
 2

4. RTP, RTCP

RTP, RTCP HAT
 가 가 가 가
 MBONE / 가 가
 SAP(Session Announcement Protocol) [4], SDP(Session Description Protocol) [5],
 가 가 가 가
 3 가 가 가
 ff0e::2:fb4b 가 27764 RTP/RTCP
 3 가 2 가
 가 가 가 가 (Participant1, Participant2) 가 가
 가 1 가 가
 RTP data
 RTCP control
 가 1 가 RTCP RR (Receiver Report) + SDES (Source Description) type
 (1). 가 2

가 가 1 가
 가 2 (2), 가 1 가
 2 가 1 UI
 Talk MP3
 (Start Talking), RTP 가
 2 (3), 가 1
 (Active Source) Decode
 MP3 가 1
 (sender) RTCP
 SR(Source Report)
 (4). RTCP
 (RTCP Interval) RFC #1889[2] 6.2
 SR 가 가
 가 가
 가 가
 RTP
 (Reception Report) RTCP



3 가 가 1
 (Stop Talking) SR (Sender Report)
 RR(Receiver Report) (8)
 가 2 가 1 가
 HAT
 가 2 Decoder
 (RTCP Interval) * x (x=2~4) 가
 Decoder 가
 가 2 가 RTCP Bye
 가 가 가 2
 Bye
 가 Decoder

5. HAT

5.1 HAT

5 ETRI Native Ipv6
 HAT
 Native Ipv6
 Peering Ipv6 Native
 Ipv6
 5 PC Router5 Host 가
 가
 ff0e::2:fb4b/27764
 Host1 RTP
 가

5. IPv6

가 RTCP
 Host1 Source Report Host

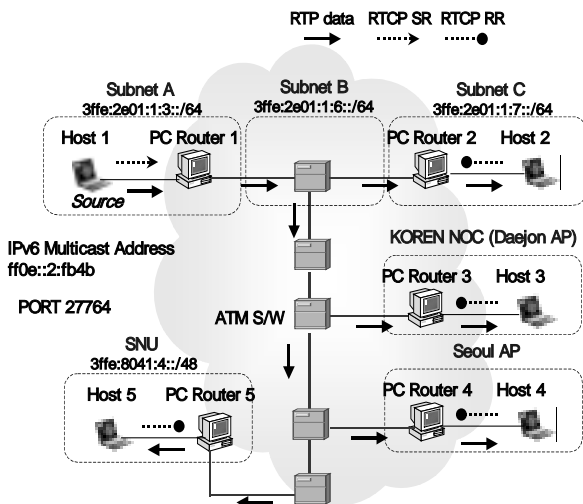
Receiver Report

5.2 가

5 SNU Host5
 ETRI A Host1 가
 RTCP RR 1%
 MP3
 MP3
 MP3
 881 ms
 MIC Encoder WAV
 Receiver Decoder MP3
 Winodws PIPE
 Decoder 가
 MP3 가
 500 ms

6.

가 가
 250 ms [6]. HAT
 가
 Decoder
 HAT



- [1] , , " IPv6 , "
- IPv6 2000-002, <http://www.ipv6.or.kr>.
- [2] RFC 1889, " RTP: A Transport Protocol for Real-Time Applications."
- [3] " UCL Common Multimedia Library," <http://www-mice.cs.ucl.ac.uk/multimedia/software/common/>
- [4] RFC 2327, " SDP: Session Description Protocol,"
- [5] RFC 2974, " Session Announcement Protocol,"
- [6] Paul T. Brady, " Effects of transmission delay on conversational behavior on echo-free telephone circuits," Bell System Technical Journal, 50:115- 134, Jan. 1971.