An Extension to the MARS model

(draft-kandlur-ipatm-mars-directvc-00.txt)

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Outline

- Motivation
- Proposed extension
- Possible optimizations

Data distribution with MARS

- Source based distribution with point-to multipoint VC
- MCS based distribution with point-to-point VC from source to MCS, and a shared point-to-multipoint VC from MCS to the receivers
- Choice of distribution mechanism is on the basis of the multicast group address
  $\rightarrow$ not related to the requirements of the application

Example: RTP

- Source of video stream using RTP sends data packets to the multicast group (continuous sender, high volume)
- Receivers periodically send RTP feedback reports to the same multicast group (sporadic sender, low volume)

- Current choices:

  a. use MCS for all senders, OR,
  b. use point-to-multipoint VC for all senders

→ The data distribution requirements do not fit well into the current distribution mechanism of MARS

Proposed Extension

- For a given multicast group, some senders may use the MCS while others use direct point-to-multipoint VCs
  $\rightarrow$ sender must have the ability to request and obtain the host map from MARS (Direct sender)

- The choice can be made by each sender based on its application requirements

- Extensions defined to the MARS protocol using TLVs

TLVs defined

get_map used in MARS_REQUEST, MARS_MULTI to request and obtain the host map

direct_sender used in MARS_LEAVE to indicate that the client no longer wishes to maintain the direct VC

control_vc_id used to identify the control VC on which the message was sent

MARS Extensions

- Maintain a new list, Direct Sender list, which contains addresses of end points which are direct senders to a multicast group
- Respond to MARS_REQUEST, MARS_LEAVE after consulting attached TLVs
- Attach Direct senders to ServerControlVC if required