Title: METHODS AND APPARATUS FOR WEIGHTED MULTICASTING OF DATA STREAMS

Abstract: A multicast table which associates data streams with recipients has more values than zero and one. By making this change in multicast tables, several interesting applications can be implemented. Applications include digital TV transmission, combined transmission of different bandwidth signals, video conferencing applications and mirror web server updating applications.

Fig. 7
1. In a telecommunications network having a source of multiple data streams and a recipient of said data streams, the improvement comprising:

   a multicast engine coupled to the source of the data streams and to the recipient of the data streams; and

   a multicast table associated with said multicast engine, wherein, said multicast table indicates whether or not each data stream is forwarded to the recipient and if it is forwarded indicates at least two different manners of forwarding the data stream, such that the recipient receives at least one data stream in one manner while receiving another data stream in a different manner.

2. The improvement according to claim 1, wherein:

   the at least two different manners of forwarding the data stream includes forwarding with different priority, such that the recipient receives one data stream at a higher priority while receiving another data stream at a lower priority.

3. The improvement according to claim 1, wherein:

   each data stream is an MPEG video stream and the at least two different manners of forwarding each video stream includes forwarding all frames and forwarding I frames only.

4. The improvement according to claim 3, wherein:

   the at least two different manners of forwarding includes forwarding I frames only but marking I frames with a discard bit
5. A method of multicasting a plurality of data streams, comprising:
   transmitting the data streams to a multicast engine;
   associating a multicast table with the multicast engine;
   coupling the multicast engine to at least one destination;
   transmitting at least two data streams from the multicast engine to said at least one
destination according to one or more entries made in the multicast table, wherein:
   said one or more entries is one of at least three different values, the values indicating
   forward in a first manner, and forward in a second manner.

6. The method according to claim 5, wherein:
   the entire data stream is transmitted to a destination when the corresponding entry
   indicates forward in a first manner, and
   less than the entire data stream is transmitted to a destination when the corresponding
   entry indicates forward in a second manner.

7. The method according to claim 6, wherein:
   the entire data stream is an MPEG stream and less than the entire data stream is I frames
   only.

8. The method according to claim 6, wherein:
   the entire data stream is a full resolution MPEG stream, and
   less than the entire data stream has lower resolution that the entire data stream.
9. In a telecommunications network having a source of video streams and a recipient of said video streams, the improvement comprising:
   a multicast engine coupled to the source of the video streams and to the recipient of the video streams; and
   a multicast table associated with said multicast engine, wherein said multicast table indicates whether all of a video stream is forwarded or only some of a video stream is forwarded.

1.0. The improvement according to claim 9, wherein:
   some of a video stream is MPEG I frames.