H.264 Timestamps

From RFC 3984
(Yes I know this is not the latest RFC)

H.264 Timestamps

 Because H.264 allows the decoding order to be different from the display order, values of RTP timestamps may not be monotonically non-decreasing as a function of RTP sequence numbers.

Decoding Order Number (DON)

- In the interleaved packetization mode, the transmission order of NAL units is allowed to differ from the decoding order of the NAL units.
- Decoding order number (DON) is a field in the payload structure or a derived variable that indicates the NAL unit decoding order.

Example of Multi-Picture SliceInterleaving

An example of multi-picture slice interleaving follows. A subset of a coded video sequence is depicted below in output order. R denotes a reference picture, N denotes a non-reference picture, and the number indicates a relative output time.

... R1 N2 R3 N4 R5 ...

The decoding order of these pictures from left to right is as follows:

... R1 R3 N2 R5 N4 ...

The NAL units of pictures R1, R3, N2, R5, and N4 are marked with a DON equal to 1, 2, 3, 4, and 5, respectively.