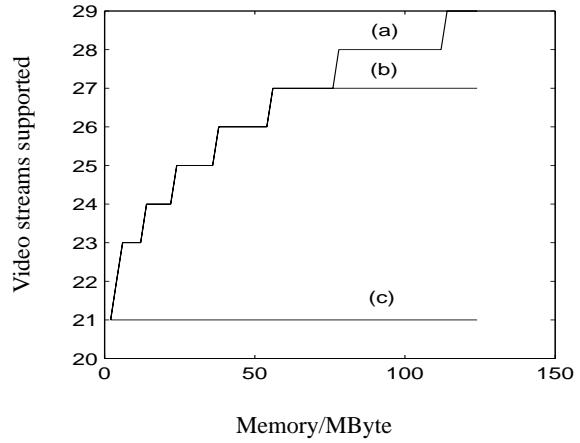
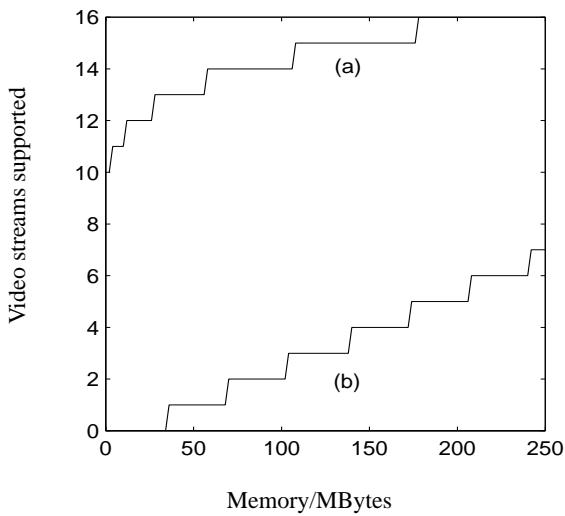


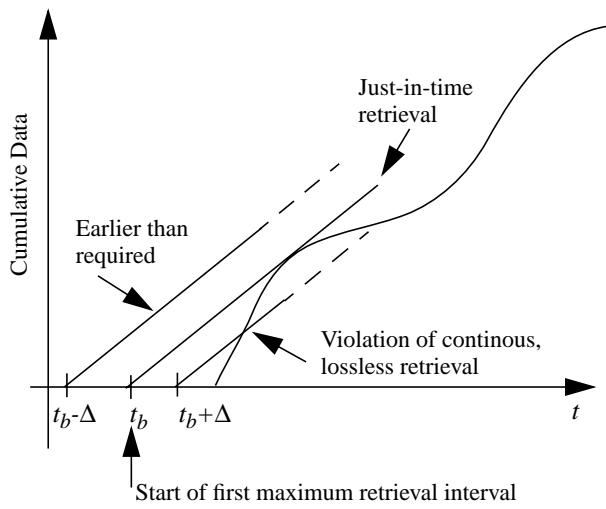
**Fig. 18.** Performance comparison of MR and CT retrieval  
(disk system 1)  
(a) MR retrieval PDT QoS 10.0  
(b) MR retrieval PDT QoS 2.0  
(c) CT retrieval (PDT QoS 0.0)



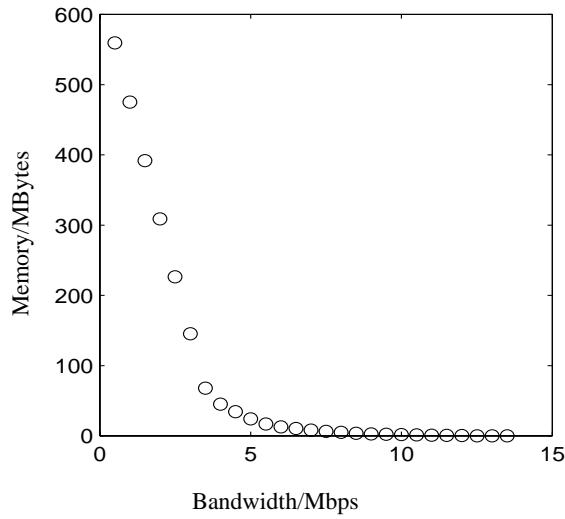
**Fig. 19.** Performance comparison of MR and CT retrieval  
(disk system 2)  
(a) MR retrieval PDT QoS 10.0  
(b) MR retrieval PDT QoS 2.0  
(c) CT retrieval (PDT QoS 0.0)



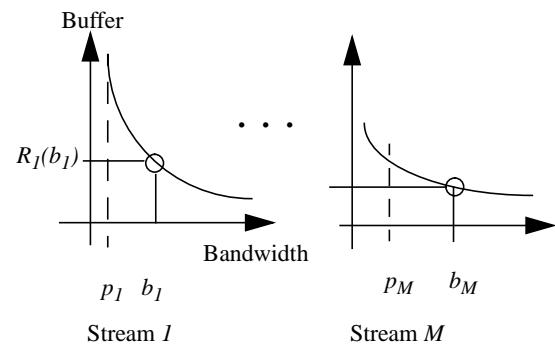
**Fig. 20.** Performance comparison of MR and CD retrieval (disk system 1)  
(a) MR retrieval (PDT QoS 135.0 sec)  
(b) CD retrieval (PDT QoS 135.0 sec)



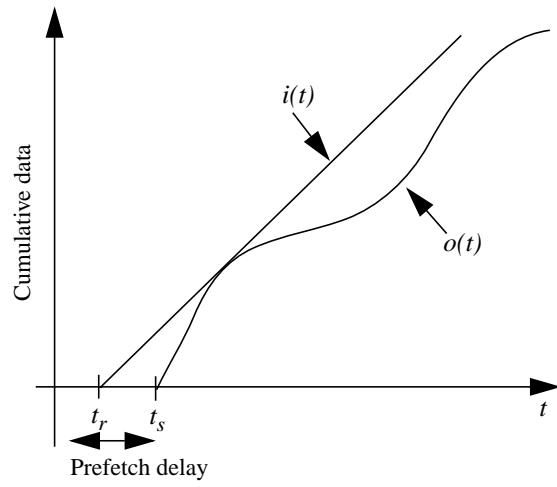
**Fig. 15.** MR retrieval optimality



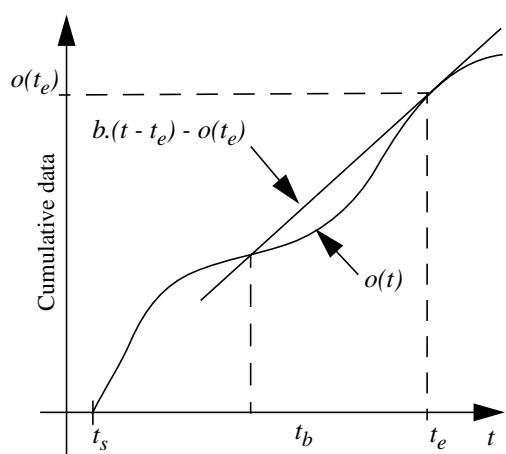
**Fig. 16.** Resource relation of MPEG-2 VBR video



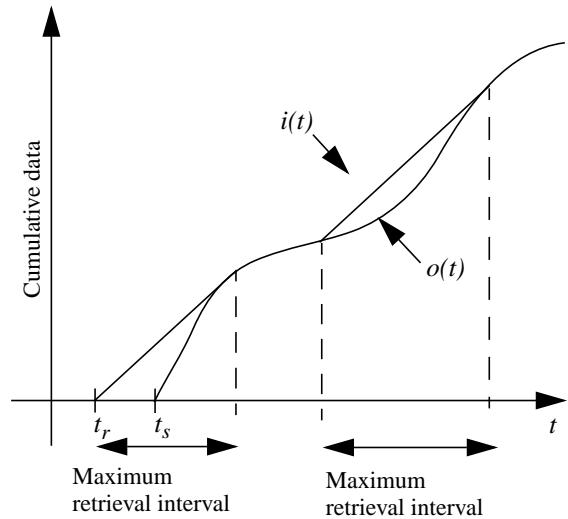
**Fig. 17.** Resource reservation problem



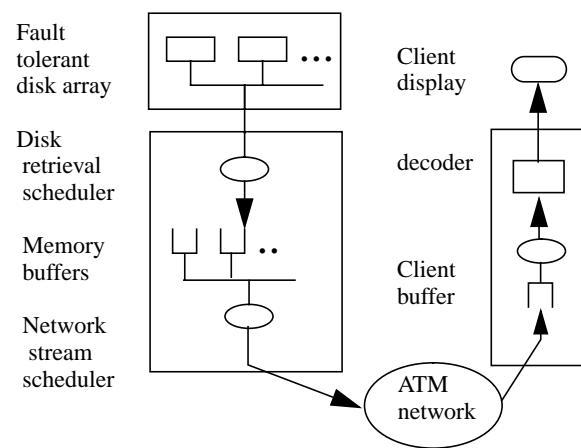
**Fig. 12** Cumulative data analysis for CD retrieval



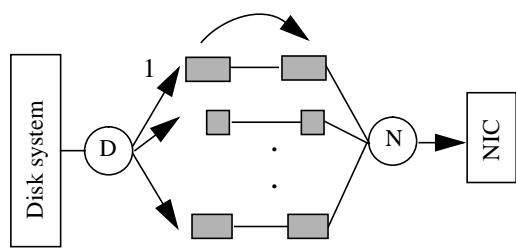
**Fig. 13.** Determination of MR retrieval



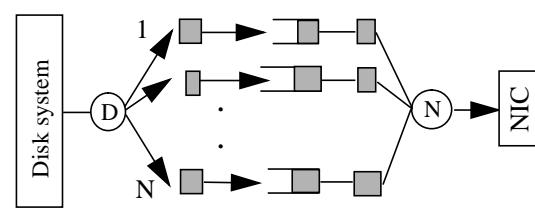
**Fig. 14.** Cumulative data analysis for MR retrieval



**Fig. 9.** Video server/ VoD architecture



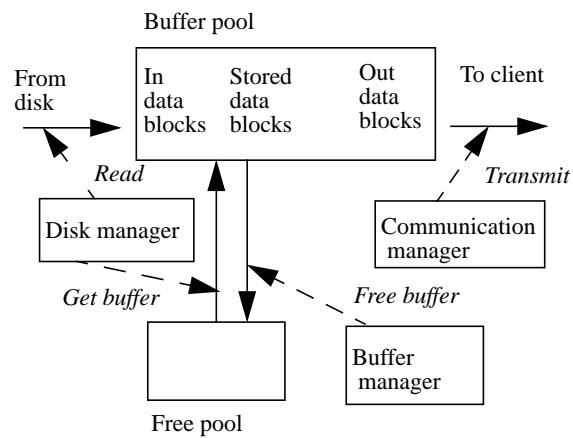
Disk read buffers  
D: Disk retrieval scheduler  
N: Network stream scheduler  
Network write buffers



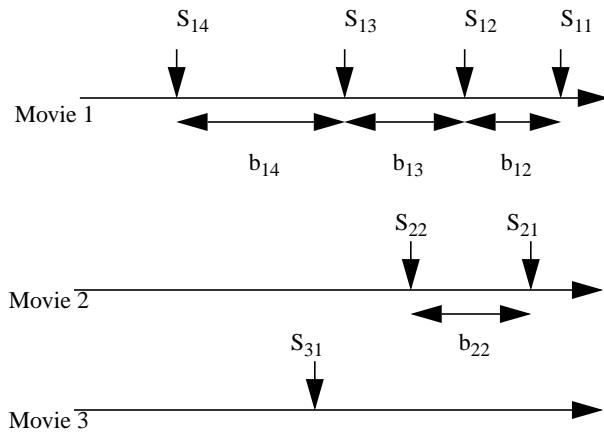
Disk read buffers  
N: Network stream scheduler  
Pre-fetch buffers  
Network write buffers

**Fig. 10.** CT retrieval

**Fig. 11.** CD retrieval

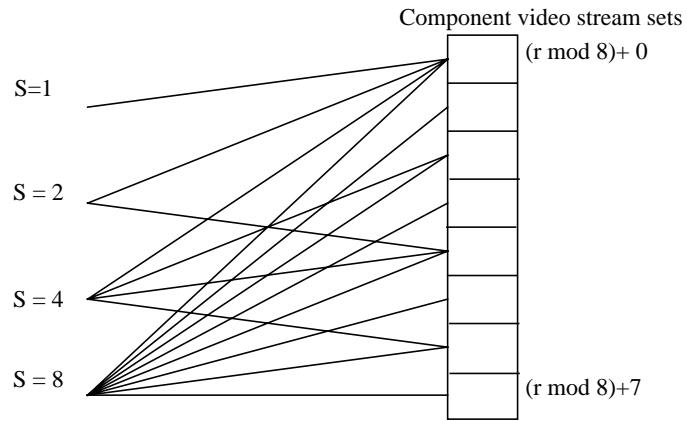


**Fig. 7.** Interval caching system model

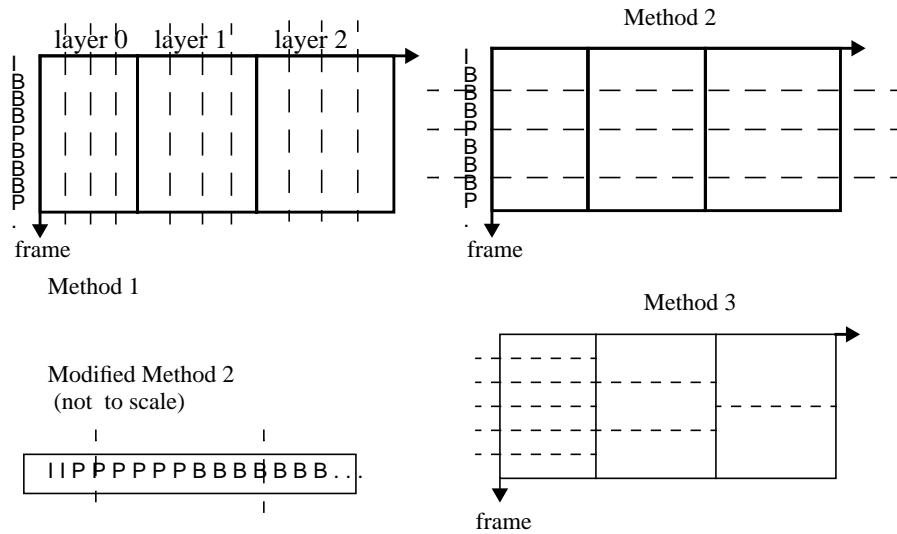


Ordered buffer requirement list:  $b_{12} \ b_{22} \ b_{13} \ b_{14}$   
 Buffered streams:  $S_{11}, S_{21}, S_{12}$

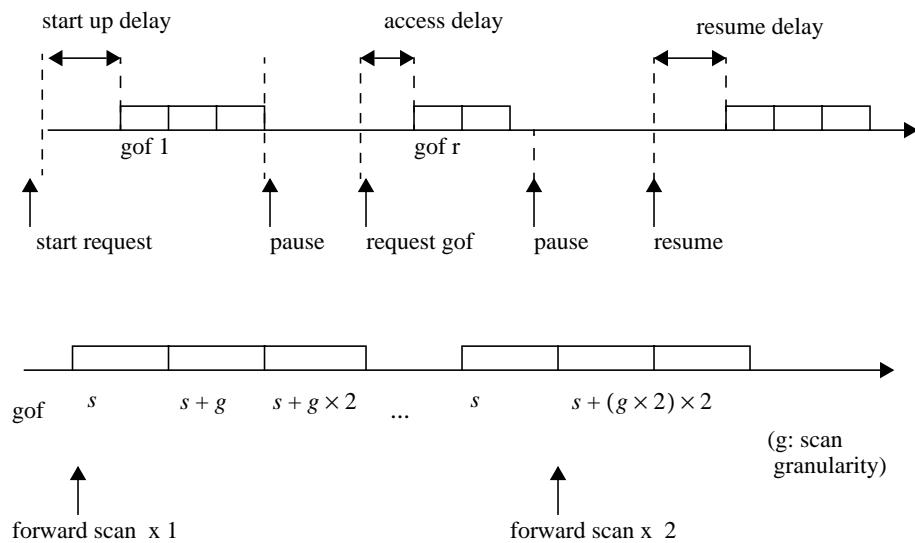
**Fig. 8.** Interval caching policy



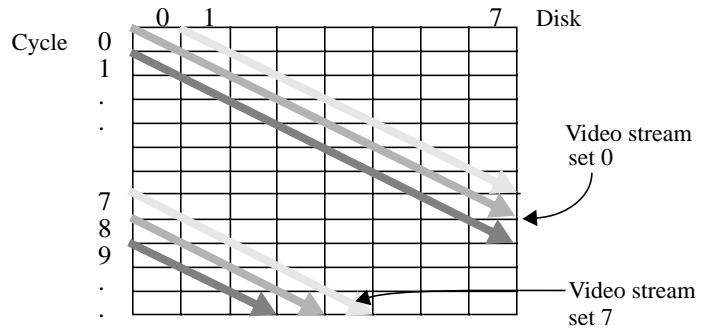
**Fig. 5.** Component video streams sets for the retrieval of video stream at cycle  $r$ .



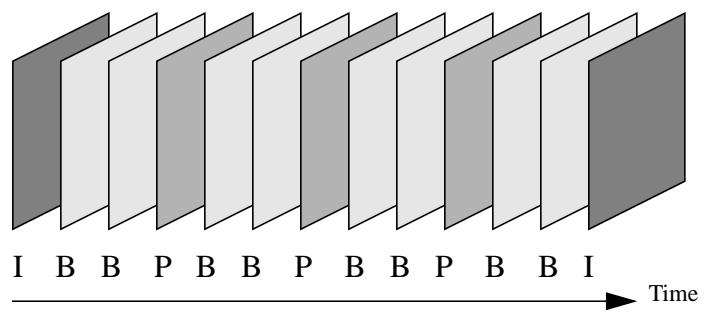
**Fig. 6.** Multiple segmentation based on scalable MPEG2 video.



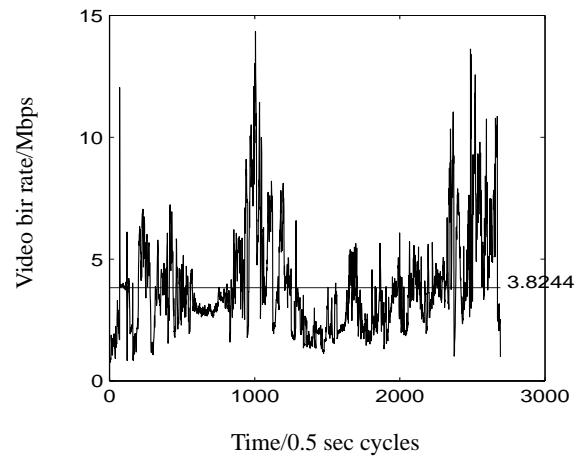
**Fig. 3.** Interactivity functions of video server.



**Fig. 4.** Video stream sets for periodical placement strategy.



**Fig. 1** Typical MPEG group of pictures.



**Fig. 2.** MPEG-2 VBR video trace data.