

Information Placement Policies in Tertiary Storage Systems

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Abstract

The development and evolution of new applications with high storage needs resulted in strengthening the role and importance of Tertiary Storage Systems. Information arrangement on tertiary media is a crucial factor affecting the overall system's performance. In the present paper an overview of Tertiary Storage Systems is presented and different data placement policies (adopted in secondary storage as well) are studied. The so called *organ-pipe* and the *camel* data placement schemes are applied on mid-range Tertiary tape drive models where the area is divided into a specific number of fixed sized partitions. The expected seek time and the overall expected service time are derived for these tertiary storage models. Experiments are carried out for different models representing the most widely available tertiary storage media. The organ-pipe shows better performance metrics than the camel arrangement policy whereas both policies are improved by the increase in the number of tape area partitions. Experimental results of the applied placement policies are compared and discussed and future research areas are suggested.

Index terms: storage management, tertiary storage, data placement, service time, seek time, performance evaluation.