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MADALGO seminar by Srinivasa Rao, Seoul National University College of Engineering

B-tree indexes for flash memory

Abstract:

Abstract: Flash memory devices are becoming ubiquitous and indispensable storage devices, partly even replacing the traditional hard-disks. To store data efficiently on these devices, it is necessary to adapt the existing file systems and indexing structures to work well on the flash memory, and a significant amount of research in this field has been devoted to designing such structures. But it is hard to compare these structures owing to the lack of any theoretical models for flash memory and since the existing external memory models fail to capture the full potential of flash-based storage devices.

Starting with a brief introduction to the I/O model and B-trees, this talk presents some of the proposed index structures that have been shown to perform well on flash memory. It also presents the recently proposed flash memory model(s), and shows the comparison of the existing structures in this model.