Abstract

Increasing disparity between processor speeds and memory access times is a major problem in today's systems. In this paper we have studied the design of a proposed system i.e. An Application specific Data Trace Cache and have tried to do some modification to the Data Remapping portion of it. We have tried to further improve the benefits of this system by
implementing this system with the help of an already existing concept of Cache Conscious Data Structures. Reference locality of data can be improved by changing a program’s data organization and layout. This is the concept behind both cache conscious data structures as well as Data Trace Cache. So we have tried to merge both these strategies to get some more performance benefits.

Reference

- Chen Ding, Ken Kennedy 1999. Improving Cache Performance in Dynamic Applications through Data and Computation Reorganization at Run Time. SIGPLAN ‘99 (PLDI) Atlanta, GA,
- K. S. McKinley, S. Carr, and C.-W. Tseng. Improving data locality with loop transformations. ACM Transactions on Programming Languages and Systems
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**Index Terms**

Computer Science  
System Design

**Key words**

Trace Cache  
Cache Conscious data structure

reference locality