Operating Systems Design: Critique

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- **Regularities Considered Harmful: Forcing Randomness to Memory Accesses to Reduce Row Buffer Conflicts for Multi-Core, Multi-Bank System**

  This paper proposes a new block allocation method for efficiently allocating memory. We present a new algorithm called M3 that allocates pages in banks and assigns them back to multicore to ensure optimal parallelism.

  The merit of this paper seems to be meaningful not only in a specific case but in speeding up the overall algorithm itself. The paper has shown that the increase in performance is evident, and the original O (log n) can be O (1).

  If there's another paper out there, I'd like to see if it still works for Numa, large clusters, and GPU-centric servers.

- **Traffic management: A Holistic Approach to memory Placement on NUMA Systems**

  NUMA node is a technology mainly used in modern hardware and has different characteristics from the existing system. In this paper, we identified that congestion on memory controllers and interconnects are the main factors affecting the performance of the system and proposed Carrefour, a new algorithm to solve them.

  The advantage of this paper is that we found a new criterion that affects the performance of NUMA nodes, and the algorithms created according to the criterion were not only good in performance, but also not very expensive.

  If the next paper comes out, it would be nice to have an explanation of whether the newer NUMA system is as effective as it is described in this paper.