

Application Transparent Memory Tiering in the Linux Kernel

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Abstract

The Memory Tiering project is an effort to enhance Linux kernel comprehension of differentiated memory types. Instead of near or far memory, the kernel can comprehend slow versus fast.

I will show how Linux comprehends these memory types and how the existing Linux memory reclaim can be used to free up fast memory tiers.

I'll then show how future work will enable Linux to detect and promote hot memory back into faster tiers. I'll conclude by discussing the infrastructure which Linux will need to implement memory tier orchestration.

Bio

Dave Hansen is an x86 Linux Kernel Memory Management maintainer and long-time Linux kernel contributor. His kernel work includes contributions to core memory management, memory hotplug, the VFS, and the x86 architecture support. Dave is a 2001 graduate of Purdue University with a B.S. in Computer Science.