Promoting huge page usage

Wednesday, 14 November 2018 11:00 (30 minutes)

Huge pages are essential to addressing performance bottlenecks since the base page sizes are not changing while the amount of memory is ever increasing. Huge pages can address TLB misses but also memory overhead in the Linux kernel that arises through page faults and other compute intensive processing of small pages. Huge pages are required with contemporary high speed NVME ssds to reach full throughput because the I/O overhead can be reduced and large contiguous memory I/O can then be scheduled by the devices. However, using huge pages often requires the modification of applications if transparent huge pages cannot be used. Transparent huge pages also require application specific setup to work effectively.

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Session Classification:  Performance and Scalability MC