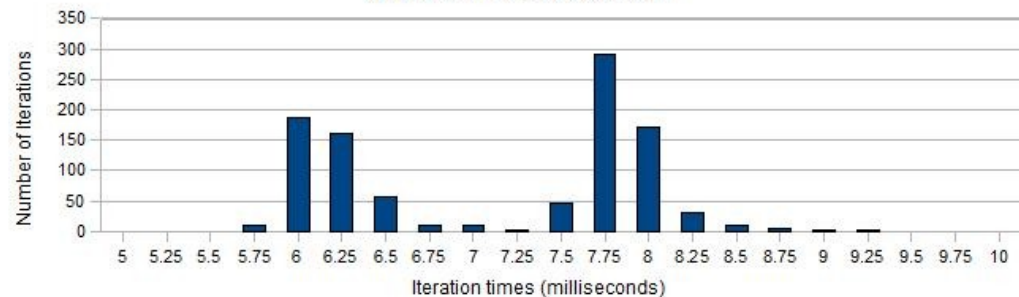


# Sharing an SMP

- Having many cores available makes everyone think that they can use them to solve other problems (“no one would use all of them all of the time”).
- However, compute-bound scientific calculations are often *written* as if all compute resources are owned by the application.
- Such *static* scheduling leads to performance loss
- Pure dynamic scheduling adds overhead, but is better
- Careful mixed strategies are even better
- Recent results give 10-16% performance improvements on large, scalable systems
- Thanks to Vivek Kale

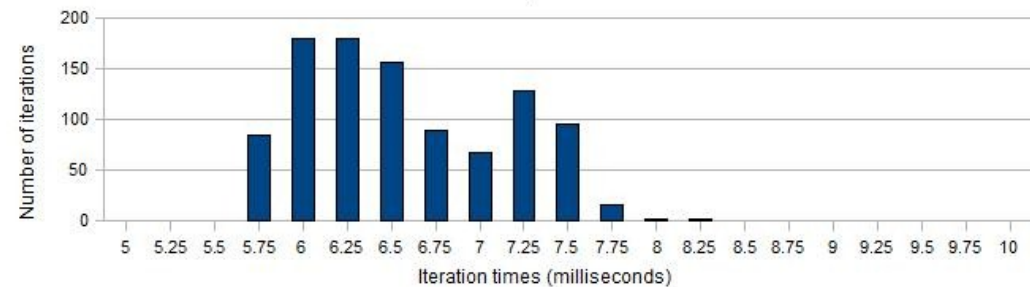
Distribution of Iteration Times for fully Static scheduling

1000 iterations, 64 x 512 x 64



Distribution of Iteration times for 50% dynamic, with 64 tasklets

1000 iterations, 64 x 512 x 64



Distribution of iteration times for 50% dynamic scheduling (skewed tasklet workload)

1000 iterations, 64 x 512 x 64

