① Let us assume number of cores = 4.

Average number of requests = (Maximum transacti[on] processing rate × Average transaction latency) / Numb[er] of core[s]

Average transaction latency	Maximum transaction processing rate	Average number of requests
1 ms	5 000/sec	1.25
2 ms	5000/sec	2.5
1 ms	10 000/sec	2.5
2 ms	10,000/sec	5

② If moved to an 8-core system then double the maximum transaction rate by doubling the number of cores.

③ Rarely obtain this kind of speedup because thi[s] does not happen is due to memory contention on the shared memory system and the speed up should increase by increase the number of cores when increasing the number of cores used