Linux VM Demand Paging Performance

Application: DaSSF network simulator

→ distributed simulator

→ following results: single PC benchmarks

→ BGP routing on 4512-node network topology

Kernel: Linux 2.4.25

→ bootable memory configuration

Hardware: Intel Xeon 2.4 GHz

→ 4 GB memory

→ 8 GB swap space

→ 8 KB L1 cache, 512 KB L2 cache
Impact of physical memory and VM on application performance

$\rightarrow$ two BGP runs: vary simulation time

$\rightarrow$ BGP A (long) and BGP B (short)
Thrashing behavior

→ as a function of (maximum) memory usage

Application completion time:
Application CPU time:
Time dynamics: page fault rate and disk I/O rate
Time dynamics: idle process CPU time

why is idle process CPU time so large?