

# Utilization, Predictability, Workloads, and User Runtime Estimator in Scheduling the IBM SP2 with Backfilling Notes

- FCFS  $\rightarrow$  fragmentation

- backfilling - using user defined estimate of runtime allow those expected to terminate in time leapfrog a longer job

- Conservative Backfilling

- backfilling done provided it does not delay any previous job in the queue
- no danger of starvation

\* anchor point - first point where enough processors are available

~~Backfilling jobs do not delay previous jobs~~  
~~No starvation~~

- EASY Backfilling

- jobs can leapfrog but may not delay first in the queue

- I. Queued jobs  $\rightarrow$  Unbounded Delay
- II. No Starvation

\* Shadow time - time at which number of nodes for first queued is sufficient

\* Workloads dictate results

- user estimate quality

- peak at 100%, but mostly killed
- high peaks at low percentages

- Zero ~~length~~ jobs