Increasing Throughput through Parallelism
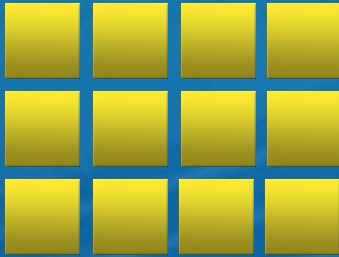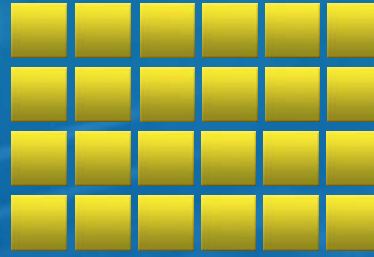
Amdahl's Law: Parallel Speedup = $1/(Serial\% + (1-Serial\%)/N*)$

12 Cores

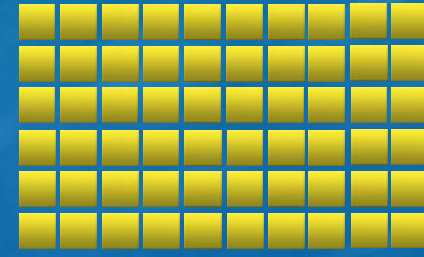## 48 Cores

144 Cores
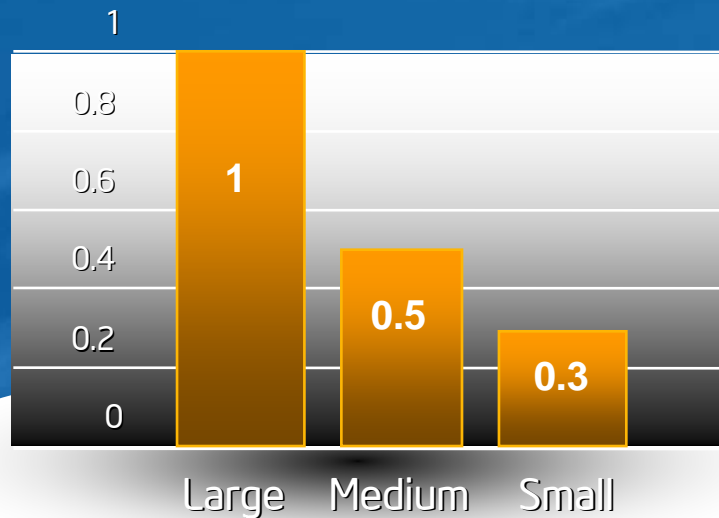
Single Core Performance
Relative Performance

Large	Medium	Small
1	0.5	0.3

(Y-axis: 0, 0.2, 0.4, 0.6, 0.8, 1)

System Performance

Assuming 100% parallel software

(Y-axis: 0, 10, 20, 30, 40)

Large	Medium	Small

Intel Developer FORUM

* N = number of cores

(intel)