

# 45 nm Technology Benefits

- Compared to today's 65 nm technology, Intel's 45 nm technology will provide the following product benefits:
  - ~2x improvement in transistor density, for either smaller chip size or increased transistor count
  - ~30% reduction in transistor switching power
  - >20% improvement in transistor switching speed or
  - >5x reduction in source-drain leakage power
  - >10x reduction in gate oxide leakage power
- These performance and leakage improvements would not be possible without high-k + metal gate
- This process technology will provide the foundation to deliver improved performance/watt that will enhance the user experience