



**Multicore SW Issues**  
**PPoPP**  
**Mar. 31, 2006**

David Kuck

Intel

# Multicore SW Developer Purposes

## Functionality

- App enhancement – Game scene components

## Multi-tasking

- Services – Virus checker and Interactive user

## Performance

- Substitute for clock speed gains – Single app

# Multicore SW Apps Issues

## Current → Future MC Desktop Apps

- Some trickle-down from servers
- Many shipping apps threaded poorly
  - Is that a logical bug or performance issue?
- A major need is new apps
  - Areas, features, user types/usage models
  - ISV awakening to loss of clock crutch

## Cannot rely on larger data perpetually

- Data size performance + functionality + services

# Multicore SW Needs

Algorithms  $\leftrightarrow$  Functional Libs

+Languages  $\leftrightarrow$  Runtime Libs

+Tools  $\leftrightarrow$  Multicore Architecture

- Compiler, Correctness, Performance

= Applications of Future

- Not necessarily derived from current apps

- Intel active in all of the above areas