

Power Architecture™  
DEVELOPER CONFERENCE '07



## Multi-Core Enablement Panel

Fawzi Behmann, Director of Strategic Marketing, Freescale  
Chair of the Technical Committee, Power.org

Eric Heikkila – VDC – Panel Moderator

9/25/2007

Power.ORG ™

# Multi-Core Enablement Panel



The Panel members include:

Tomas Evensen, CTO, Wind River Systems

Jim Ready, Founder & CTO, Monta Vista

David Kleidermacher, CTO, Green Hills Software

Michel Genard, VP Marketing, Virtutech

Eric Heikkila, Director, Embedded Hardware &  
Systems, VDC -- Moderator

# Multi-Core Enablement Panel



## Abstract

**The subject of Multicore is gaining momentum and customers' demands are increasing. This in turn places a major emphasis on software development environment. A distinguished panel of experts will discuss and debate important topics such as virtualization, debugging , partitioning, and software simulation.**

Power Architecture™  
DEVELOPER CONFERENCE '07



## Panel on Multi-Core Enablement

Eric Heikkila – VDC – Panel Moderator

9/25/2007

Power.ORG ™

# Multi-Core Overview



# Multi-Core Overview

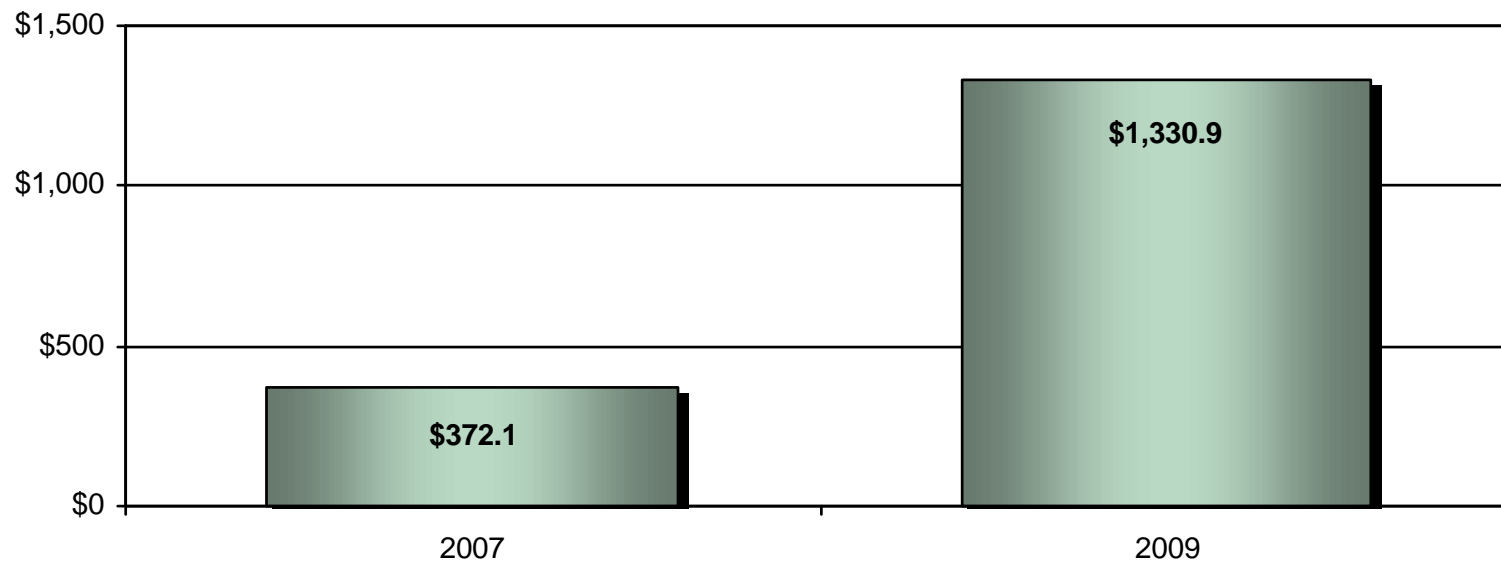


- » Laws of physics catching up with single core processors
  - Can no longer simply increase clock speed to increase performance
  
- » Processor suppliers have turned to multi-core for future performance gains

# Multi-Core Overview



Total Market, Multi-Core CPUs Used in Embedded Applications  
2007 & 2009  
(US\$ in Millions)



# Definitions



# Definitions



- » Multi-Core - multiple processing cores on a single die or piece of silicon
- » Multiprocessor - multiple processing cores working together, but located on physically different pieces of silicon
- » Multi-Core Enablement – software that is improved or enabled to run on multi-core processors
- » Multi-Core Optimized – software optimization is full enablement for multi-core or 100% enabled for multi-core; the holy grail

# Multi-Core Enablement



# Multi-Core Enablement

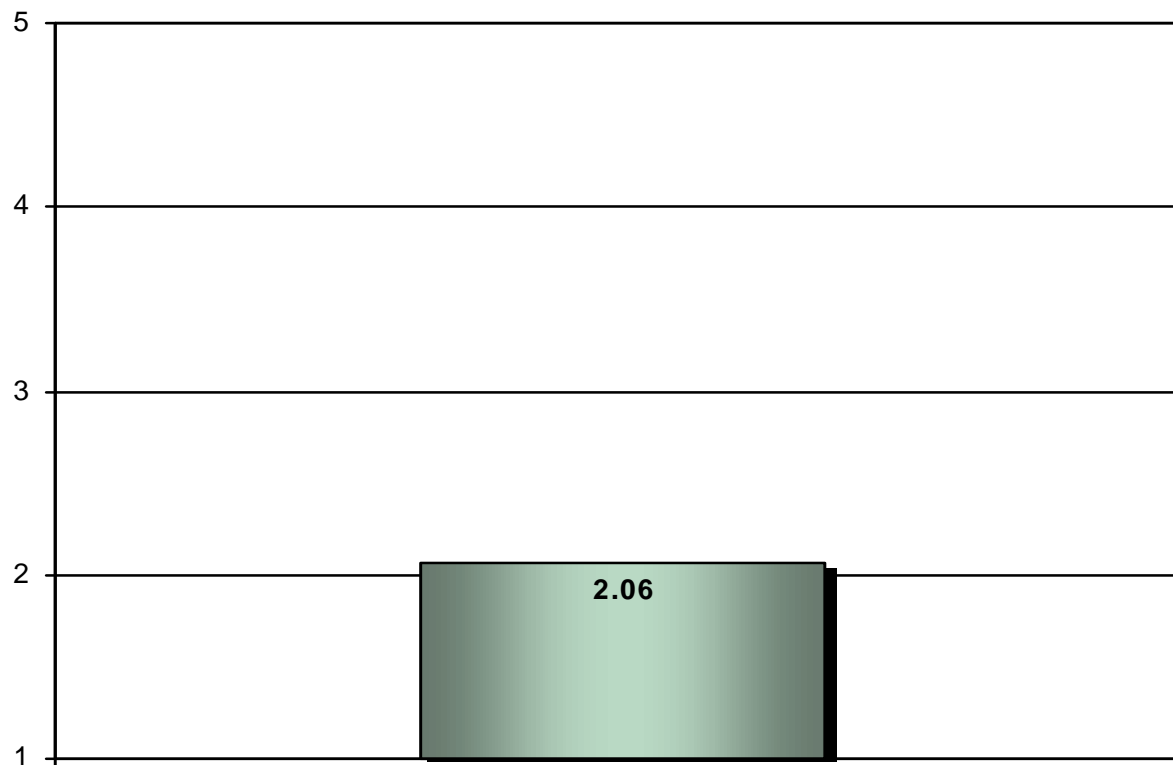


- » Embedded multi-core processors are driven by rapidly advancing silicon adapted from the commercial server and PC computing markets
  - They have raced ahead of the embedded software market and its current ability to support new multi-core architectures
  
- » This has created a gap between multi-core processors and software enabled for them

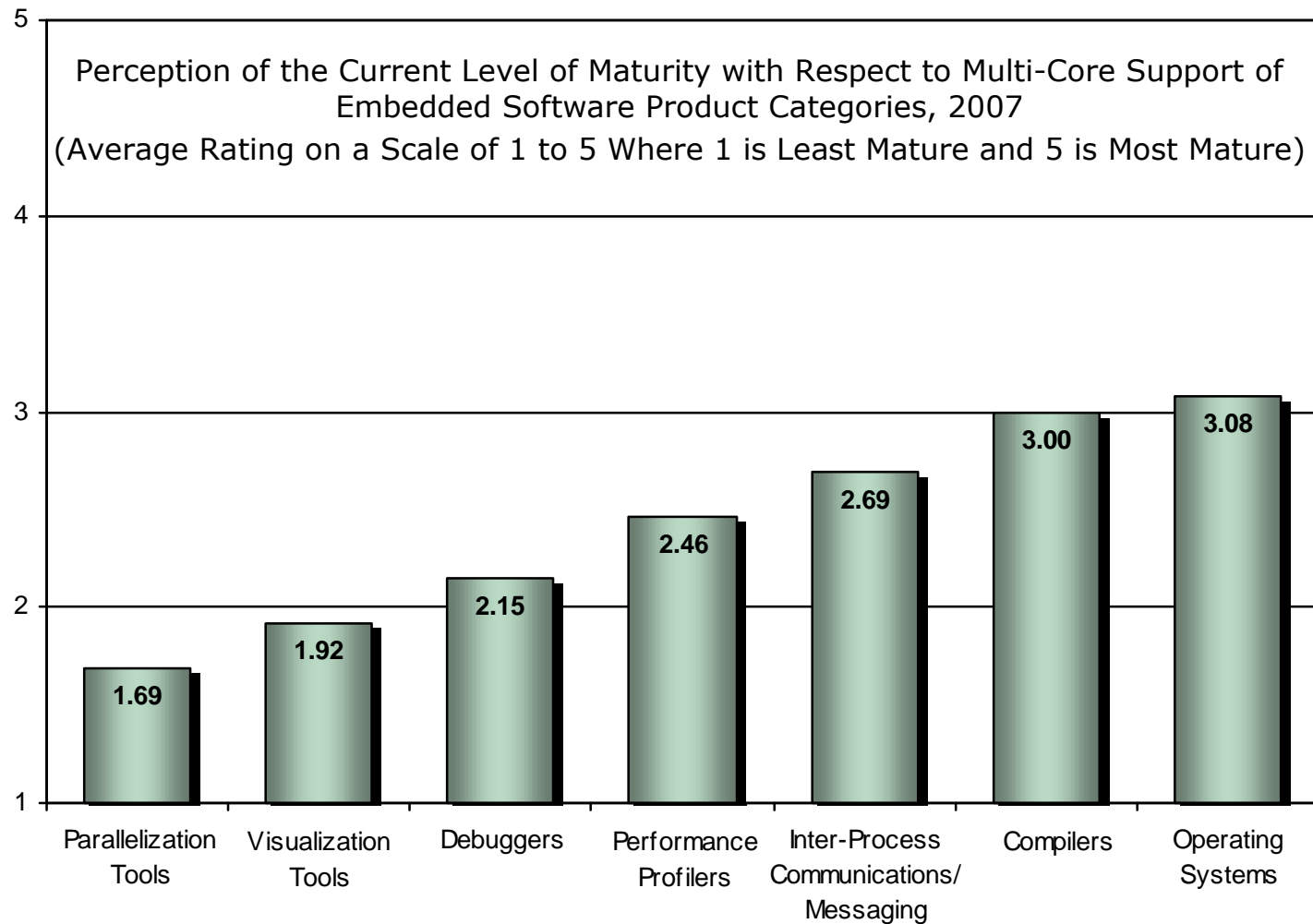
# Multi-Core Enablement



Perception of the Current Preparedness of the Commercial Embedded Software Industry as a Whole to Deal with Multi-Core Processing, 2007  
(Average Rating on a Scale of 1 to 5 Where 1 is Least Prepared and 5 is Most Prepared)



# Multi-Core Enablement



**Power Architecture™**  
DEVELOPER CONFERENCE

'07

Power.ORG ™