Application Implementation on the Cell B.E Processor: Techniques Employed

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IBM Cell BE Processor

- **Cell BE processor boasts nine processors on a single die**
  - 1 Power® processor
  - 8 vector processors
- **Computational Performance**
  - 205 GFLOPS @ 3.2 GHz
  - 410 GOPS @ 3.2 GHZ
- **A high-speed data ring connects everything**
  - 205 GB/s maximum sustained bandwidth
- **High performance chip interfaces**
  - 25.6 GB/s XDR main memory bandwidth

**Excellent Single Precision Floating Point Performance**
Experience, Performance, Tools & Techniques

• Share Impressions and Experience From the Past ~2 Years
  • Development Tools and SDKs
  • Parallelization Techniques
  • Approaches for Loop Unrolling
  • Use of C++ templates
  • SPE Assembly Programming
  • SPE Memory Management
  • Performance Metrics and Tools

What Worked, What Didn’t and What Level of Performance was Achieved