OpenACC Course

Office Hour 2: Introduction to OpenACC

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Course Syllabus

Oct 1: Introduction to OpenACC

Oct 6: Office Hours

Oct 15: Profiling and Parallelizing with the OpenACC Toolkit

Oct 20: Office Hours

Oct 29: Expressing Data Locality and Optimizations with OpenACC

Nov 3: Office Hours

Nov 12: Advanced OpenACC Techniques

Nov 24: Office Hours

Recordings:
https://developer.nvidia.com/openacc-course

Answered Questions and Recordings

https://developer.nvidia.com/openacc-course

Questions from the last class

Q1: How many threads does each GPU core have?

Q2: There are 32 threads per warp. Can we launch 32 threads concurrently?

Q3: What about more tightly coupled calculations? For example, will a molecular force field, run faster on a CPU or GPU?

Q4: Can one run Visual Profiler on nonlocal machines?

Q5: Can you use multiple GPUs with OpenACC WITHOUT using the API and just with directives? (At least for a "double" card such as a K80?)

Q6: Slide 26: 2 loops are involved in the same pragma acc kernels directive. In the last homework, the solution used one pragma for each loop. What is the advantage of separating the loops?

Questions from the last class

Q7: In general, why arrays cannot be defined in device code?

Q8: Could you please weave "private" and "reduction" into a transparency in the next lecture?

Q9: Does reduction+ support C++ overloaded operators?

Q10: Does OpenACC support parallel primitives like scan?

Q11: For the case of a loop on a vector of structs, which requirements must be fulfilled by an struct, to make possible to accelerate the loop using OpenACC?

Q12: Does OpenACC support dynamic structures?

Where to find help

- OpenACC Course Recordings and Q&A - https://developer.nvidia.com/openacc-course
- OpenACC on StackOverflow - http://stackoverflow.com/questions/tagged/openacc
- OpenACC Toolkit - http://developer.nvidia.com/openacc

Additional Resources:

- Parallel Forall Blog - http://devblogs.nvidia.com/parallelforall/
- GPU Technology Conference - http://www.gputechconf.com/
- OpenACC Website - http://openacc.org/

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