

# Introduction to Chapel: the Cascade High-Productivity Language

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SC08: Tutorial S07 – 11/16/08



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## What is Chapel?

- A new parallel language being developed by Cray Inc.
- Part of Cray's entry in DARPA's HPCS program
- **Main Goal:** Improve programmer productivity
  - Improve the **programmability** of parallel computers
  - Match or improve upon the **performance** of current prog. models
  - Provide better **portability** than current programming models
  - Improve **robustness** of parallel codes
- Target architectures:
  - multicore desktop machines
  - clusters of commodity processors
  - Cray architectures
  - platforms from other vendors
- A work in progress



Tutorial S07: Introduction to Chapel (2)



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## Who are we?

- Brad Chamberlain



- Steve Deitz



- Samuel Figueroa



- David Iten



Tutorial S07: Introduction to Chapel (3)

DARPA

HPCS

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## Our Goals For Today

- Introduce you to the Chapel language in depth
- Give you experience...
  - ...using the Chapel compiler
  - ...writing Chapel code
- Get your feedback on the language and compiler
- Point you toward resources to use after today



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DARPA

HPCS

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## Who are You?

- Name
- Affiliation
- Favorite language(s)
- Familiarity with C/C++/Java
- Interest in Chapel
- What you hope to get out of this tutorial



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## Outline

- 8:30 – [Chapel Background](#)
- 8:45 – [Base Language](#)
- 9:15 – [Task Parallelism](#)
- 10:00 – *Break*
- 10:30 – [Data Parallelism](#)
- 11:15 – [Locality and Affinity](#)
- 12:00 – *Lunch*
- 1:30 – [Status and Future Directions](#)
- 2:00 – [Hands-on Session](#)
- 3:00 – *Break*
- 3:30 – [Hands-on Session](#) (continued)
- 4:30 – [Wrap-up](#)
- 5:00 – *Done*



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