Role of HPC in Aerospace Engineering

- Motivated as follow-on to paper presented in Miami AIAA CFD conference June 2007

AIAA 2007-4084

Petaflops Opportunities for the NASA Fundamental Aeronautics Program

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Broader Discussion

- Not NASA centric but as applies to all of aerospace community
- Some hard issues are confronting effective use of HPC in engineering
  - Massive parallelism
  - Software complexity
  - Fidelity, Robustness
- Capability risks being commoditized in the absence of strategic thinking today

Broader Discussion

- Other communities are addressing these challenges more effectively
  - Science
  - DOE, NCAR, NSF Office of Cyber Infrastructure
- Session includes international viewpoints from aerospace community as well as viewpoints from different communities
- Panel Discussion to follow

TALKS

- NASA, DOD, DOE, NSF
- DLR, JAXA
- No written papers
- Talks to be posted at www.uwyo.edu
- Email: mavripl@uwyo.edu

Panel Questions

- Does this matter for aerospace ?
  - 0(100) cpus good enough ?
  - Is science more important for HPC than Eng ?
- Why is aerospace not involved in National HPC initiatives ?
- Disconnect between NASA/DOD and NSF
- Strategy:
  - HPC Advisory group for Aero