Networking & Information Technology Research and Development Program

SDP Software Design and Productivity Coordinating Group

Computational Science & Engineering Software Sustainability & Productivity (CSESSP) Challenges

NITRD

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SDP Welcomes You to the Workshop!

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Where's the Software? -- Everywhere!

- ***Revolutionizing Science and Engineering Through Cyberinfrastructure*** **("Atkins Report"), 2003**
  - 3-legged stool: computing, networking, storage capacity
  - Where's the 4th leg? Software!
- **Anecdote: Biochemistry Lab with 10 PhD students**
  - X-ray crystallography, protein identification – increasingly computational
  - All biochemistry majors but
    - A science "experiment" used ~25 software applications
    - GRAs spend most of their time programming and computing
  - The majority of their research time (and budget) consisted of:
    - Creating, tailoring, interfacing, porting, debugging scientific applications
    - Not so much: testing, integrating, maintaining, workflow
    - The code lifetime was essentially one PhD thesis (or so)
  - Bottom Line: Productivity and sustainability are key