



High Performance Innovation at Any Scale
“Missing Middle” Initiative

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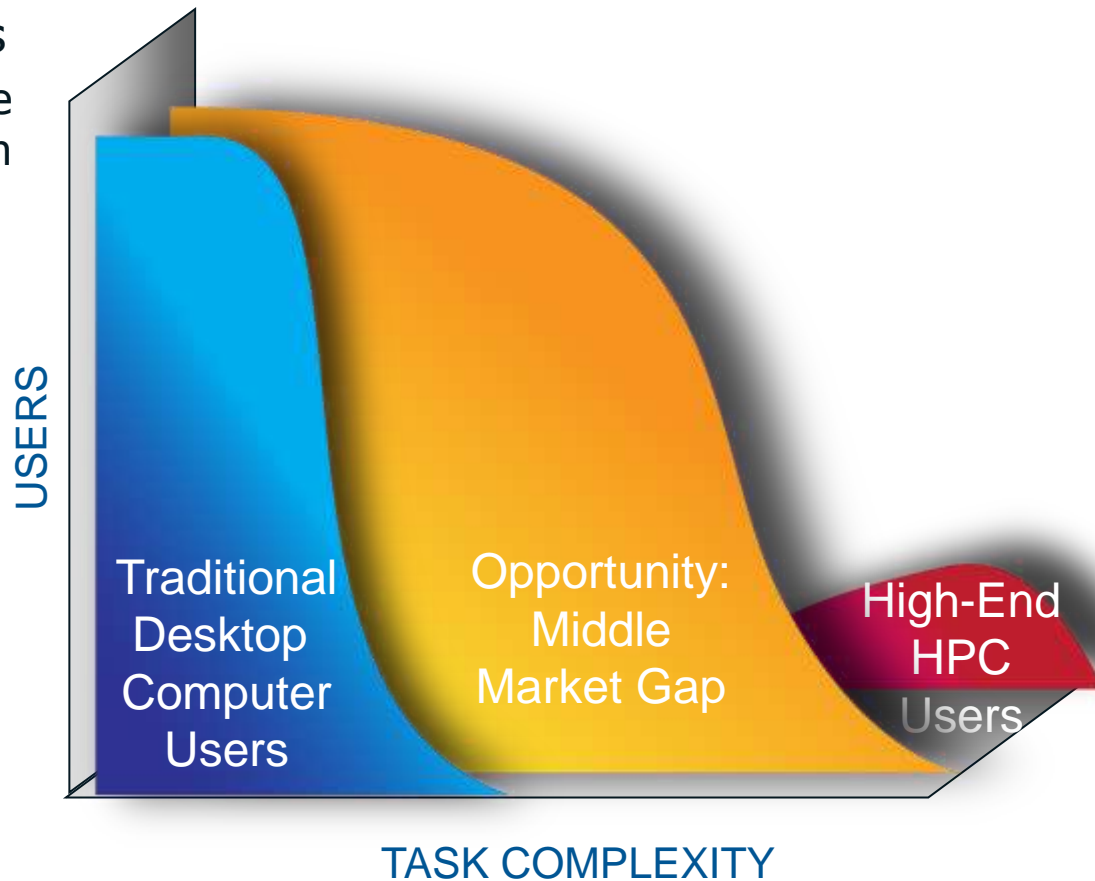
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HPC Adoption Gap

- “Missing Middle” is an underserved part of the overall HPC market segment
- Within industry, there is a significant disconnect in technology adoption between large and small companies
 - Large Oil & Gas companies
 - Heavy users of HPC, scalable digital modeling & simulation for decades
 - Competitive disadvantage for smaller companies
 - Over 3000 small- to mid-sized independent Oil & Gas companies in Texas!
 - What could these smaller companies do if they had more HPC experience, knowledge, support?



Energy HPC Adoption Gap

- Are you interested in partnering to help address the HPC Adoption gap?

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- CALL TO ACTION: December 15, 2011



Call to Action

- **Goals:**

- Break down the leading three barriers to HPC adoption by SMBs
 - Applications, Talent, Cost
- Ignite a sustained virtuous cycle

- **Methodology:**

- Create scalable technology transfer “Modeling/Simulation supply chain”
- Utilize existing infrastructure combined with public/private partnership-based Predictive Innovation Centers
- Industry, labs, academia

- **Success:**

- Eco-system perspective: double HPC market segment
- USG perspective: job creation/retention through enhanced and sustainable global competitiveness

Possible Research Projects

Hydraulic fracturing, or 'fracing'

- Improved modeling & simulation of different types of proppants; determining impact of proppants on the area around the drill site
- Groundwater infiltration; earthquakes in AL, WV

Accuracy of software simulations

- Compare current drilling/3D reservoir models to real-world results.

Testing ISV software on larger systems

- Software licensing issues

Summary – This is where you can help!

- Where do you see adoption gaps for Energy? Trends?
 - How do we quantify the gaps?
- Any analysis already done? Who can help?
- Who are fellow travelers?
 - Hardware vendors, service providers, ISVs, Domain experts
- How do we reach the users?
 - Special programs? Alliance?
 - Deployment models?
- What are potential pilots?
- If you are interested in partnering to help address this gap, please contact:
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