

BP Center for Visualization

University of Colorado

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Research Professor
Center Director



BP Center for Visualization

- Established through a major donation from BP of ARCO's visualization technology and cash.
- Donated in October 2000
- Opened in October 2001



Academic Supercomputing in the Trenches

- If I could change one thing about Users:
 - TANSTAAFL
(There Ain't No Such Thing As A Free Lunch)
- Key item learned about business practices with Users and Administration:
 - Get it in writing and signed
 - Get it notarized if possible



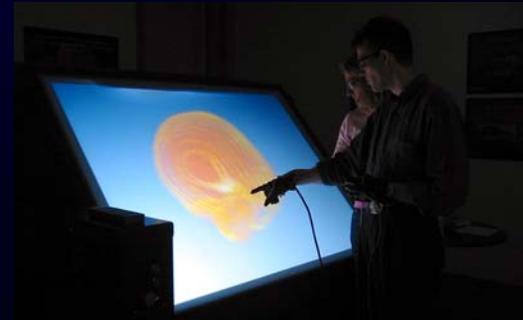
Mission

- Immersive visualization R&D applied to a wide range of disciplines
- Immersive visualization in education and outreach
- Application of visualization technology as a technical service
- Commercialization of IP



Visualization Facilities

- Fakespace MD-Flex and Versabench
- Power wall with EM tracking
- Passive/Active stereo walls and desktop displays



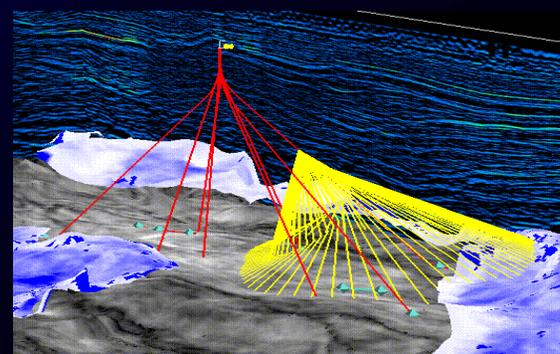
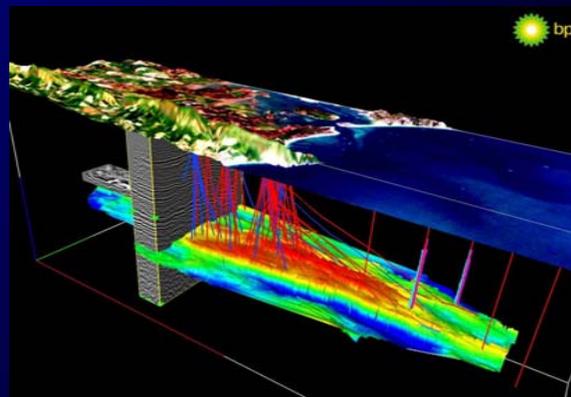
Computing Resources

- SGI Onyx 4
- SGI Onyx 3800 SGI
- SGI Onyx 2 Reality Monster
- 3 - SGI Onyx 2 / IR2 Desksides
- 12 - SGI Octanes, Indigo 2s, O2s
- 4 Dell desktops/Nvidia graphics



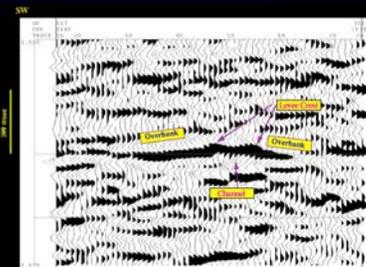
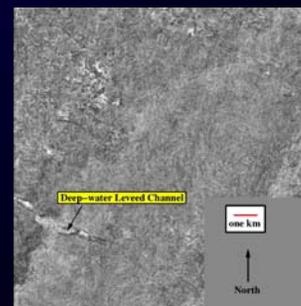
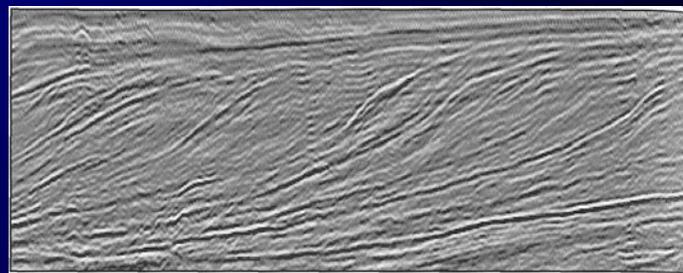
Drilling Visualization Research Consortium (DVRC)

- Industry:
 - Energy (4)
- Collaborating Groups:
 - Center for Visualization
 - Tech 21
- Focus:
 - Visualization applied to drilling & development problems
- R&D:
 - Sidetrack planning and optimization
 - Proactive/Reactive well planning



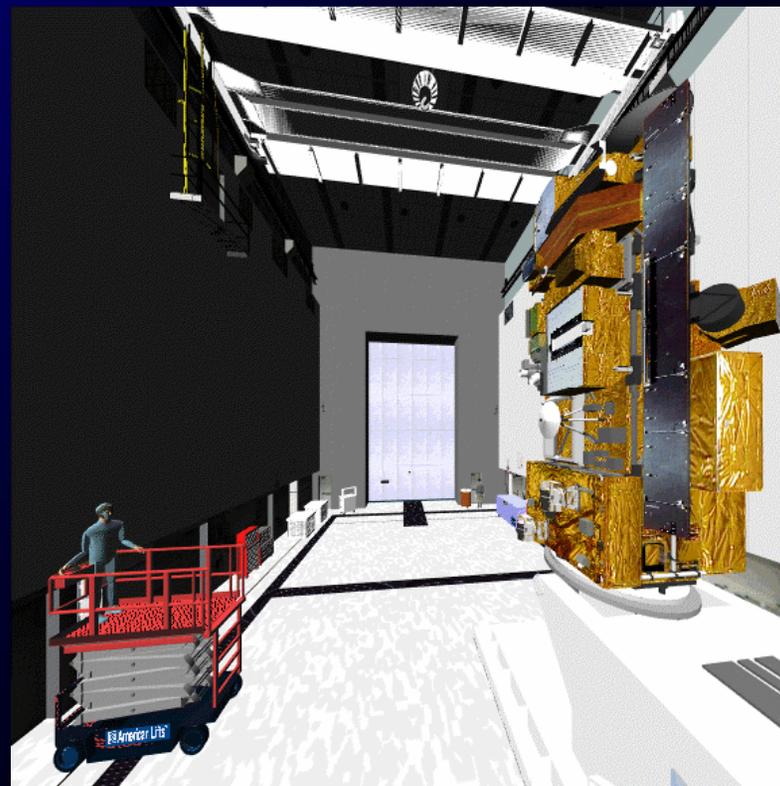
Geoscience Interpretation Visualization Consortium (GIVC) - 2003

- Industry:
 - Energy (5)
- Focus:
 - Visualization applied to geosciences in exploration and development
- R&D:
 - Computer aided interpretation of depositional systems
 - Imaging of depositional systems
 - Extraction/analysis of depo. systems
 - Visualization
 - Effective 3-D User Interface



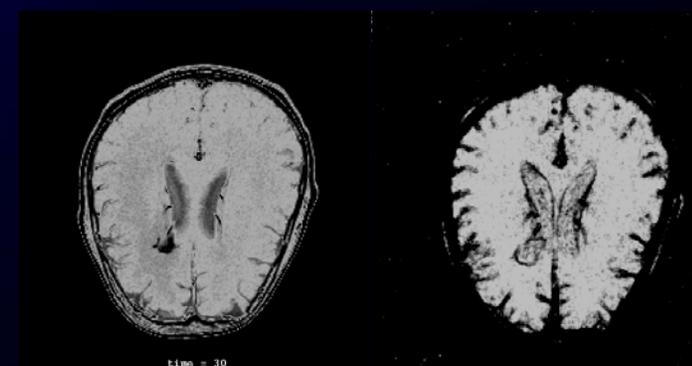
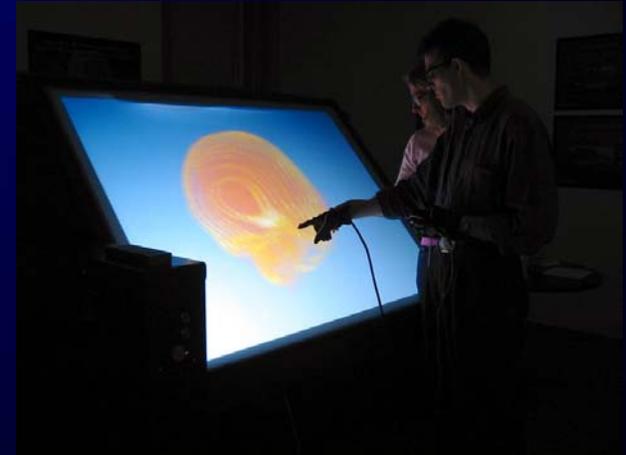
Immersive Design, Testing and Planning

- Industry:
 - Aerospace - Lockheed Martin
- Collaborating Groups:
 - Center for Visualization, Delmia, and Lockheed Martin
- Focus:
 - Evaluation of immersive visualization for systems design and evaluation



3-D Visualization in Radiation Therapy Treatment Planning

- Industry:
 - Medical - MSTMRI
- Collaborating Groups:
 - MSTMRI, Center for Visualization
- Focus:
 - Immersive Visualization in Radiation Therapy treatment planning
 - Visualization, segmentation, 3-D planning, interpretation



Partnership for High Performance Visualization

- A high performance visualization center serving the research, education and business needs in the Rocky Mountain Front Range and the surrounding EPSCoR states.
- University, federal, state and corporate partnership
- Perform R&D and establish infrastructure to provide remote visualization and telecollaboration for research, education and industry.

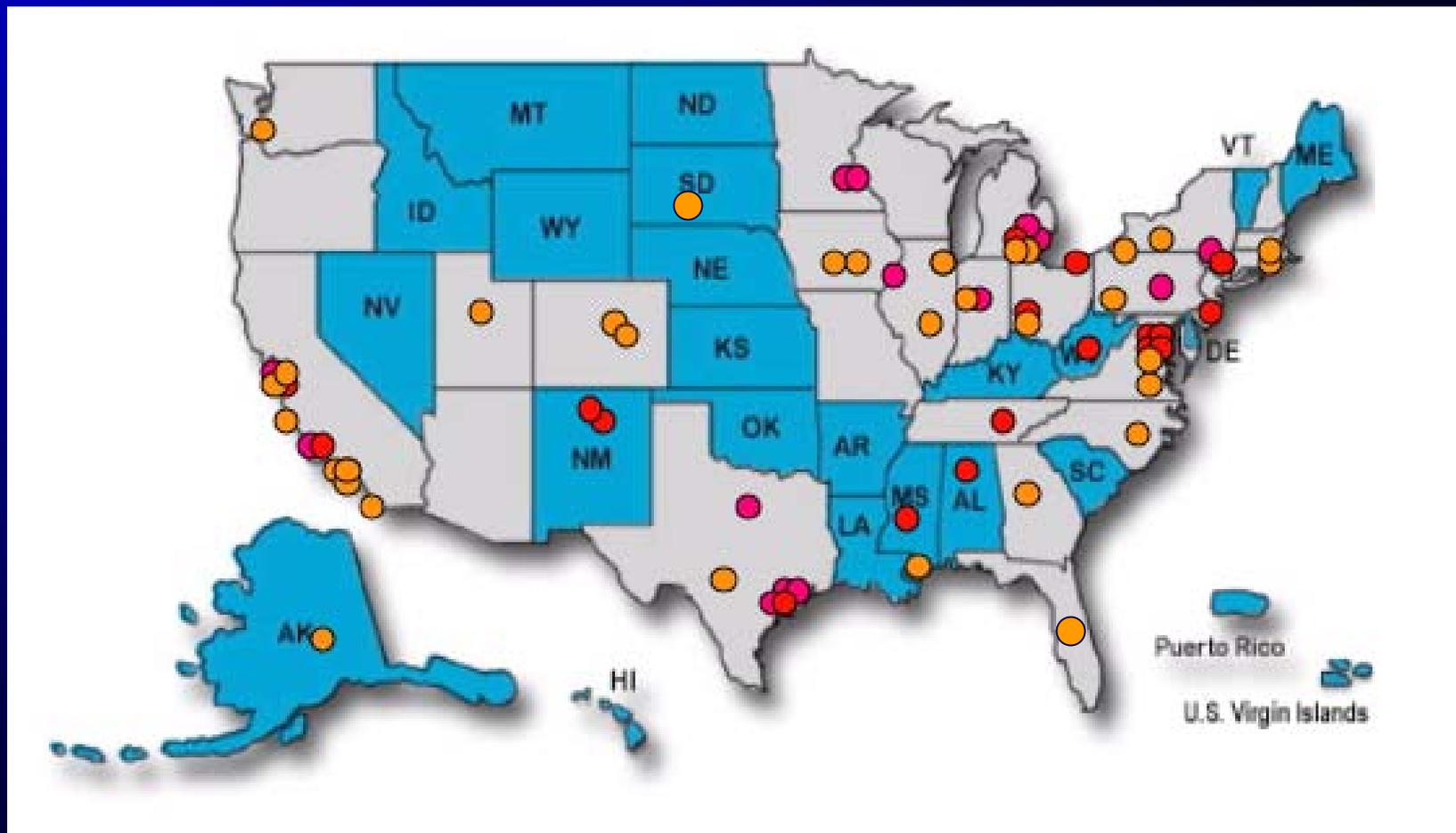


P-HPV Concept

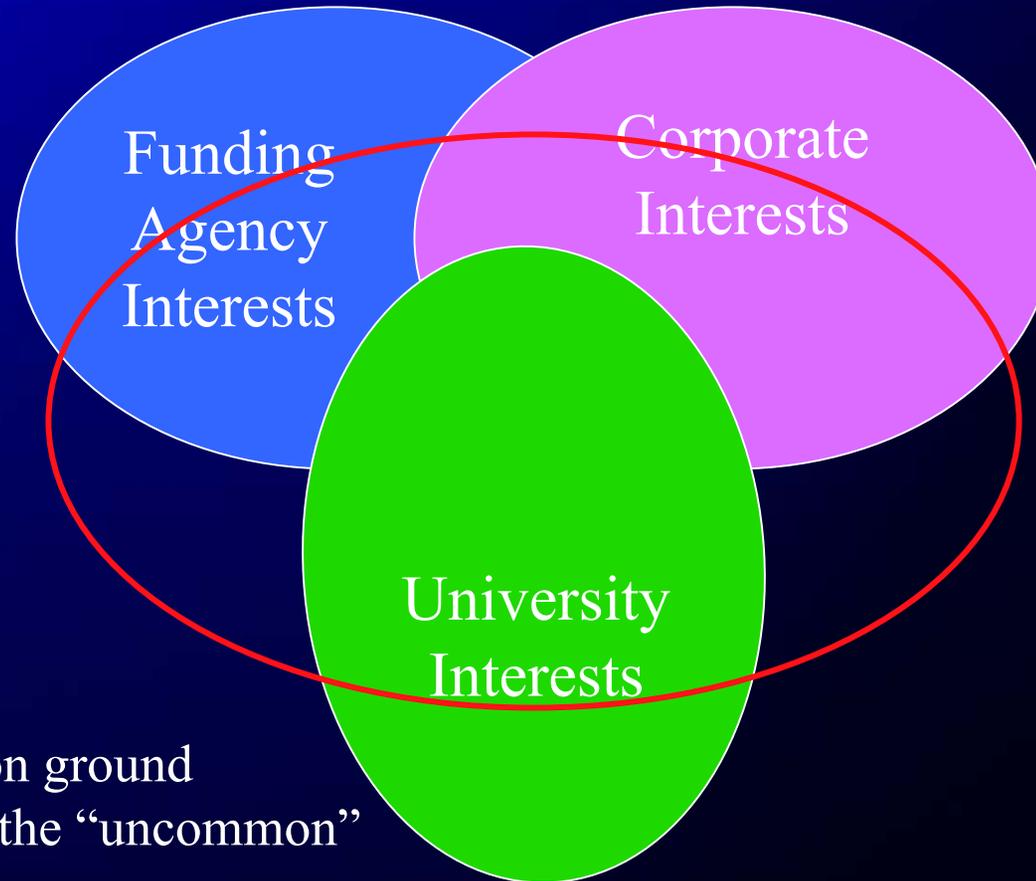
- Vision:
 - Local visualization where possible
 - Served HPV where and when needed
 - On-demand access to the required visualization performance
 - Fault-tolerant system
- Visual telecollaboration between:
 - Physically remote sites
 - Heterogeneous visualization systems



Where HPV is Available



The Funding/Support Puzzle



- Find:
 - The common ground
 - Enough of the “uncommon” ground.

