

Dwight D. McKay

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Expertise – Information Technology Management, High Performance Computing, Visualization

Seeking a new challenge.

Experienced manager of highly skilled IT professionals in the area of HPC and visualization. Contributes through recruitment and development of effective technical staff. Promotes creation of advanced technologies and techniques. Guided team through IT group reorganization and rapid growth in staff, customers and systems. Led implementation of new visualization facility including design of physical facility, selection of equipment and hiring of support staff.

Skills include recruiting, developing and retaining technical talent, nurturing innovative technologies and techniques, project management, technical writing.

Experience

Purdue University, West Lafayette Indiana, 1985-Present ***Director of Systems Engineering, IT Systems and Operations, 2005-Present***

Currently lead a team of 15, including two managers and HPC technical architect, responsible for design, deployment and operation of central visualization facility and high performance computing clusters.

- Currently operating 4 high performance computing clusters with over 200 TFlops of computation and 1.5 PBytes of storage. Two clusters are in the Top 500 in the world in measured performance. A fifth cluster, with anticipated performance in the top 100 world wide, will be delivered in November 2011.
- Successful delivery of high performance computing has led to increased research funding. In 2010, research grant awards involving HPC accounted for 39% of total awards at Purdue or \$165M, up from 25% and \$80.7M in 2009.
- Provides systems support for central visualization facility, national and international research projects including XSEDE, Open Science Grid, and CMS tier 2.
- Grew staff to 15 FTE, developed and promoted senior staff to management positions, recruited and hired promising student workers. Developed career paths for staff members, including working towards advanced degrees, and aiding them in moving into positions in other groups where they could excel.
- Nurtured development of pioneering single day cluster installation tools and techniques, live CPU clock scaling to manage power and cooling, automated thermal monitoring and management for tightly coupled cooling environments.
- Led process improvement effort around ITIL. Modified approach to fit rapidly moving nature of HPC projects and research customers.

Technical Architect, Envision Center for Data Perceptualization, 2002-2005

Led systems and Audio-Visual team from design through deployment and onto initial years of operations for new visualization facility employing state-of-the-art virtual reality, display wall and telecommunications technologies.

- Facility includes flexible CAVE environment in black-box theatre setting, stereo display wall,

video motion capture system, advanced video conferencing system; facility-wide audio-visual system with flexible routing, multiple haptic feedback devices. Two small data center spaces in the facility were designed with continual renewal of supporting hardware in mind.

- Hired initial systems staff to support facility, systems and research efforts.
- Fostered the development of a remote, collaborative visualization toolkit, AGJuggler. Took part in presentation with live remote site demo at 2005 IEEE Supercomputing Conference.
- Supported development and demonstration of streaming 4K video as part of the Bandwidth Challenge at 2006 IEEE Supercomputing conference.
- Collaborated with visual artists, dance faculty for various efforts including visualization of sculptures and architectural designs. Coordinated Purdue technical staff for motion captured dance and visuals as part of “Art on the Grid”, a remote telematics performance encompassing several sites across North America.

Network and Systems Manager, Markey Center for Structural Biology, 1991-2002

Technical lead providing support for multi-disciplinary biological research group comprising 10 faculty and their laboratories. Supervised systems administrator and student assistants.

- Supported desktop 3D stereo visualization systems. Transitioned from SGI workstations to Linux workstations.
- Developed custom software for instrument control.
- Acted as liaison between faculty, computer vendors and central Purdue IT group.

Senior Software Support Specialist, Engineering Computer Network, 1985-1991 ***Software Support Specialist, Purdue University Computing Center, 1984-1985***

Education

MBA, Krannert School of Management, Purdue University
AB, Psychology, Princeton University

Publications

C. Freeland, D. McKay, *The Complete Systems Administrator*, Thomson / Delmar Learning 2002
C. Freeland, D. McKay, K. Parkinson, *Solaris for Managers and Administrators, 3rd Edition*, Thomson / Delmar Learning 2000

Affiliations

Association for Computing Machinery
USENIX
IEEE