HPC Resiliency Summit:

Workshop on Resiliency for Petascale HPC

General Chairs:
        Stephen L. Scott
        Chokchai (Box) Leangsuksun

Program Chairs:
        Christian Engelmann
        Mihaela Paun

Los Alamos Computer Science Symposium
October 15, 2008
Santa Fe, New Mexico

History

- High Availability and Performance Computing Workshop (HAPCW)
  - 2003 – 2006 held with LACSI
  - 2007 no LACSI, no HAPCW
  - 2008 April
    - Held in conjunction with High-Performance Computer Science Week
  - http://xcr.cenit.latech.edu/hapcw**YEAR**

History

- Workshop on Resiliency in High-Performance Computing
  - 2008 May
    - Held in conjunction with CCGRID 2008
  - http://xcr.cenit.latech.edu/resilience2008

Purpose

- Why are we here & what do we want to get out of the workshop?
  - Create awareness of both problems and solutions
  - Opportunity to interact with others interested in resilience issues
    - Community expansion
  - Inspire community to…
    - Collaborate on solutions
    - Attract attention to the issues
    - Attract funding opportunities

Upcoming Events

- SC08 Resiliency BoF
  - The Growing Need for Resilience in HPC Software
  - Wed Nov 19 at 12:15PM - 1:15PM
  - Facilitators:
    - Gregory Thorson
    - John Daly
    - Stephen Scott

Thanks

Schedule

- **8:15AM - 8:30AM**
  - Stephen Scott, Workshop Co-Chair
  - Welcome
- **8:30AM - 9:00AM**
  - John T. Daly, Los Alamos National Laboratory
  - Resilience: Sacrificing Previous Convictions About Physical Laws
- **9:00AM - 9:30AM**
  - Garth Gibson, Carnegie Mellon University / Panasas, Inc.
  - Failure in Supercomputers and Supercomputer Storage
- **9:30AM - 10:00AM**
  - Paul Hargrove, Lawrence Berkeley National Laboratory
  - System-level Checkpoint/Restart with BLCR
- **10:00AM - 10:30AM**
  - Coffee Break

Schedule

- **10:30AM - 11:00AM**
  - Stephen L. Scott, Oak Ridge National Laboratory
  - Process-Level Fault Tolerance for Job Healing in HPC Environments
- **11:00AM - 11:30AM**
  - Rinku Gupta, Argonne National Laboratory
  - A coordinated infrastructure for Fault Tolerant Systems (CIFTS)
- **11:30AM - 12:00 Noon**
  - Greg Koenig, Oak Ridge National Laboratory
  - Towards Support for Fault Tolerance in the MPI Standard
- **12:00 – 1:30PM**
  - Lunch Break

Schedule

- **1:30PM - 2:00PM**
  - Adam J. Oliner, Stanford University
  - Studying Systems as Artifacts
- **2:00PM - 2:30PM**
  - Jim Brandt, Sandia National Laboratory
  - Combining System Characterization and Novel Execution Models to Achieve Scalable Robust Computing
- **2:30PM - 3:00PM**
  - Jon Stearley, Sandia National Laboratory
  - Root Cause Analysis
- **3:00PM - 3:30PM**
  - Coffee Break

Schedule

- 3:30PM - 4:00PM
  - Greg Bronevetsky, Lawrence Livermore National Laboratory
  - Accurate Prediction of Soft Error Vulnerability of Scientific Applications
- 4:00PM - 4:30PM
  - Christian Engelmann, Oak Ridge National Laboratory
  - Modular Redundancy in HPC Systems: Why, Where, When and How?
- 4:30PM - 5:00PM
  - James Elliott, Louisiana Tech University
  - Making Resilience a Reality Through a Resilience Consortium
- 5:00PM - 5:30PM
  - Discussion & Closing