

Birds of a Feather Operating Systems and Runtime for Exascale

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DOE OS/R Program (Dr. Sonia Sach)

- “The scale and complexity of exascale platforms requires a radically new structure for operating systems and runtime software”
 - Power management, support for dynamic programming environments, programmability and tuning support, resilience, heterogeneity, memory management global optimization.
- Three projects (ending next year)
 - **Argo (Pete Beckman, ANL)**
 - **Hobbes (Barney Maccabe, ORNL)**
 - X-ARCC (Steven Hofmeyr, LBNL)



OS/R for Exascale

- Academia is working on similar issues, and HPC research does not stop at the border
 - **Riken AICS (Balazs Gerofi)**
 - **Technical University Dresden (Hermann Härtig)**
- Industry is moving ahead in order to solve these problems in the shorter term
 - **Intel (Rob Wisniewski, Chief Software Architect Extreme Scale Computing)**
 - **Cray (Larry Kaplan, Chief Software Architect)**

