

DOD Supercomputing Resource Center (DSRC)



S&T Campaign: Computational Sciences
Advanced Computing Architectures

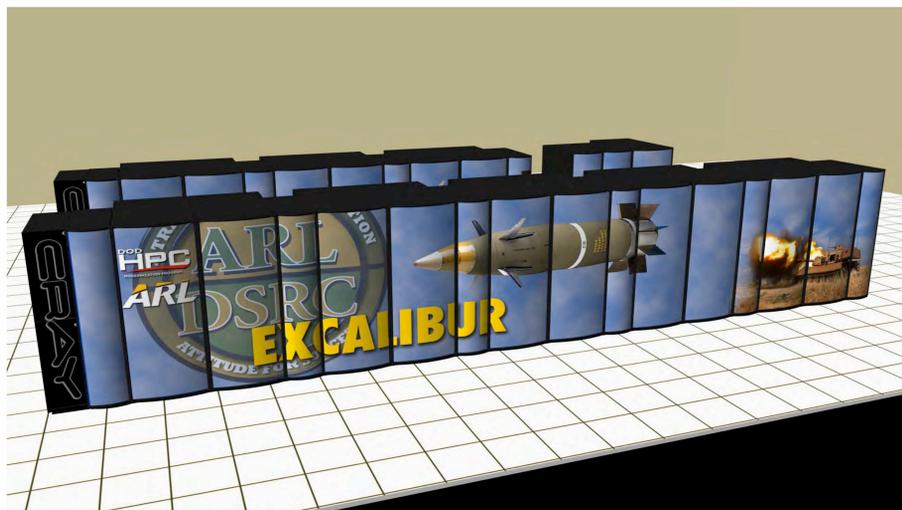
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Research Objective:

- As part of the DoD High Performance Computing Modernization Program (HPCMP), provide a scalable computing architecture to the DoD RDT&E community
- Provide accessible mass storage of data and expert staff to assist users with the complexities of the High Performance Computing (HPC) systems

ARL Facilities and Capabilities Available to Support Collaborative Research

- ARL Supercomputing Research Center
- Leverages ARL Research thrusts in advanced computing systems, scalable software, and HPC networking



ARL's newest HPC system, Excalibur, has over 101,000 processors
And a theoretical peak speed of 3.7 PetaFLOPS



Hybrid – 1024 Intel cores, 16 GPUs
and 48 Phi coprocessors

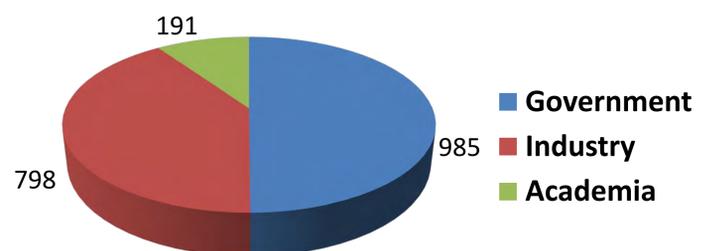
Software



A full list can be found here:
www.arl.hpc.mil/software/index.html

Challenges:

- Develop and deliver advanced computing and advanced networking tools and technologies to the DoD RDT&E community. Extend utility of HPC tools and framework into DOD RDT&E programs.



FY14 User by Type – 1974 Total Users

Complementary Expertise/ Facilities/ Capabilities Sought in Collaboration

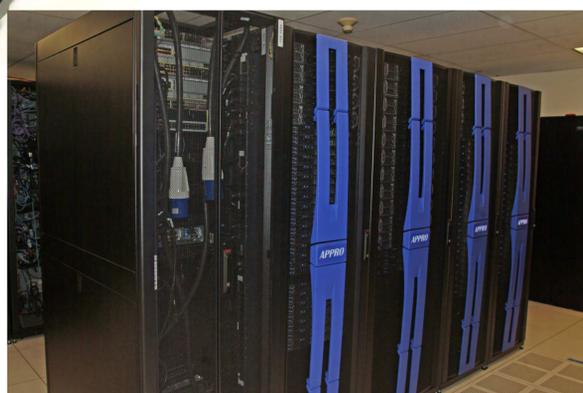
- Expertise in a computational sciences to include Advanced HPC architectures, Heterogeneous HPC platforms, Scalable Software and HPC-caliber network technologies

Developments/Upgrades

- Increase in the Center's computational capability to over 138,800 processor cores and 4.48 PetaFLOPS



Pershing has 20,160 cores



Utility Server for pre and post processing of data