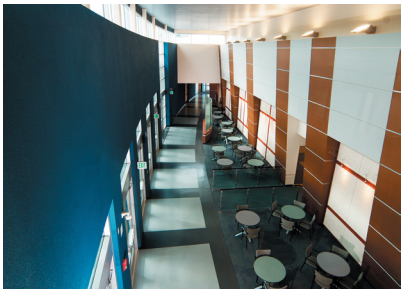
Sandia National Laboratories

Fact Sheet

Distributed Information Systems Laboratory



The new Distributed Information Systems Laboratory (DISL) at Sandia/California develops technologies for enabling collaborative, high-performance computational work across the nuclear weapons complex. Technologies developed in DISL will support the National Nuclear Security Administration's Advanced Simulation and Computing (ASC) strategy to provide high-end simulation capabilities for the nuclear weapons complex.

DISL brings together technologies essential for creating the future distributed information infrastructure of the nuclear weapon complex. Research and development in DISL is focused on high performance computing, visualization, distributed systems, collaborative technologies, and information security.

Research and development staff in computer science create and test advanced distance and distributed computing and visualization solutions. Weapon engineering teams prototype use of these technology advances in DISL as they work in areas such as systems engineering, design definition, and modeling and simulation. Based on experience in DISL, developers will refine these technologies for broader deployment throughout the weapons complex.

With its capacity to support both classified and unclassified work, DISL is easily accessible to visitors and on-site personnel. The 71,500 gross-square-foot facility includes an infrastructure to enable local and distance interaction with people and data. Equipment available to 130 employees and over 30 visiting researchers will include advanced visualization systems, enhanced videoconference equipment, network and communications systems, and collaborative environments.

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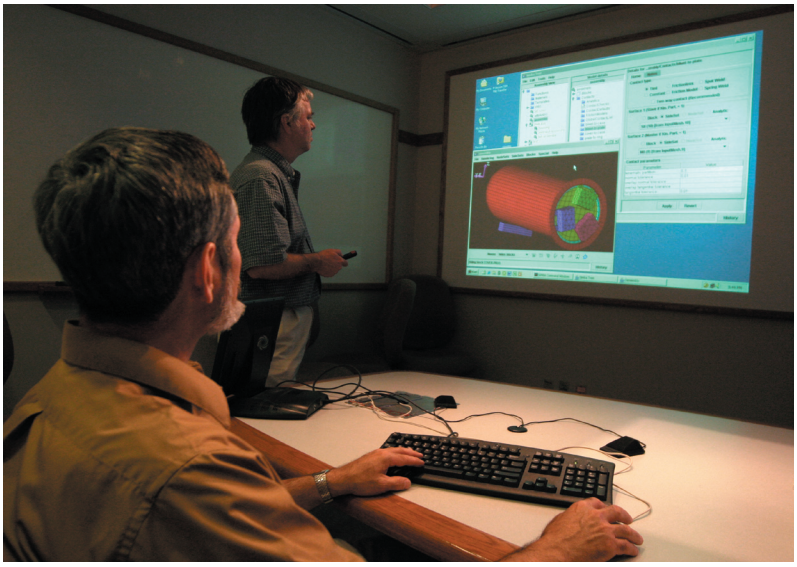
Sandia and its research partners are exploring advanced architectures for high performance cluster computing. The photo shows the prototype 128 node Catalyst visualization cluster that uses an InfiniBand interconnect architecture.

DISL provides a 2300 square-foot lab for scalable computing research and a 700 square-foot lab for visualization research.

The photo shows SIMBA (SImulation Manager and Builder for Analysts), a Design through Analysis software tool, being used in a project room equipped with advanced visualization and remote collaboration technologies.

DISL has collaborative facilities ranging in size from small project rooms to large conference rooms, and an advanced visualization design center.



Learn more at
http://www.ca.sandia.gov/disl/index.php

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