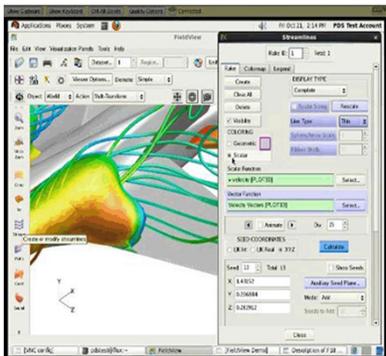


HPCMP Portal

The HPCMP is increasingly interested in ways to promote access and use of HPC assets. Enhancing effective access and use of HPC resources includes: 1) improving agile access to HPC computational and data storage resources by current users; 2) increasing transparent and user-friendly access to these resources by client-based “communities of practice” that have not been historical HPC users; and 3) establishing new ways that HPC can increase project cycle effectiveness and efficiencies in these user communities. At the direction of the HPCMP, the Center has taken a leadership role in expanding HPC support to DoD science and engineering organizations through the use of a web-enabled portal.

HPC resources have been demonstrated to be of great value in supporting science, engineering, and business enterprises. HPCMP activities, such as the Computational Research and Engineering Acquisition Tools and Environments (CREATE) initiative, have focused on overcoming these constraints and “mainstreaming” HPC capabilities to support clients such as the DoD acquisition programs. Increasing access and ease-of-use of HPC applications has the potential to dramatically expand the customer base, both for CREATE applications as well as third-party applications such as MATLAB.



Dedicated Support Partitions

The HPCMP is currently offering Dedicated Support Partitions (DSPs). The DSPs provide resources to projects in need of dedicated processing for a significant period of time to accomplish work that could not otherwise be done in a shared resource environment. A significant portion of this work is being done on the IBM iDataPlex named *Riptide* with a rating of 251.6 TeraFLOPS peak. The HPCMP will entertain requests for other resources on a case-by-case basis.

Opportunities to Use HPCMP Resources

Any researcher or developer who is actively supporting the DoD in the areas of R&D and/or T&E may have access to HPCMP resources. This includes government employees, government contractors, and researchers from the academic community. For help with this process, contact require@hpc.mil.

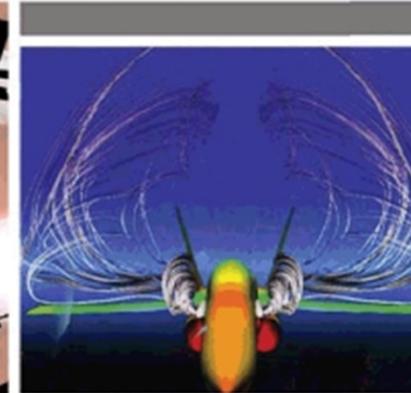
Contact Us

For additional information about MHPCC DSRC or the HPCMP, visit our website at <http://www.MHPCC.hpc.mil/>.

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DoD High Performance Computing
Modernization Program



Who We Are

The Maui High Performance Computing Center Department of Defense Supercomputing Resource Center (MHPCC DSRC), established in 1993, is a US Air Force Research Laboratory (AFRL) Center and part of the US Air Force Research Laboratory's Directed Energy Directorate at Kirtland Air Force Base, New Mexico. The Center is one of five DSRCs in the DoD's High Performance Computing Modernization Program (HPCMP).

The Center is a national resource at the forefront of high performance computing (HPC), and has established itself as a leader in the DoD research and development community. Chartered to support a diverse base of DoD and other government users, the Center is facilitating the collaborations needed to solve tomorrow's complex computational problems today.



What We Do

Modeling and Simulation

- Computational fluid dynamics (CFD) modeling supporting aircraft and ship design, and biological and chemical
- Force-on-Force battlefield simulations including semi-autonomous, adaptive combat models, and model ensembles
- Modeling of environmental phenomena, i.e., weather and weather prediction

Large-scale Data Management

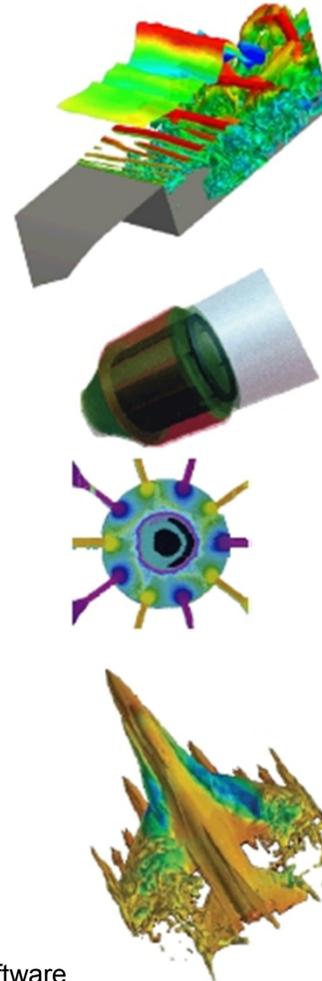
- Large data model investigation including database design optimization, data mining, enterprise data warehousing, data fusion, operational data management, and archiving

Image Processing and Information Analysis

- Enhancing the clarity of electro-optical, infrared, synthetic aperture radar, and multispectral sensor images
- Processing and analysis of multi-source data
- Development of data fusion and object identification methodologies

DoD HPCMP Portal

- Provides a secure unified access point with single sign on
- Supports an integrated framework with access to decentralized components
- Allows HPC jobs to be run on available HPC resources
- Provides web centralized interface for users that require no installation of software



Why MHPCC DSRC

The Center offers a state-of-the-art computing environment with large-scale parallel computing platforms, terabytes of disk and on-line tape storage, and a high-speed communications infrastructure that connects directly to the Defense Research and Engineering Network (DREN) and other proprietary networks.

The Center is committed to the Nation's technological preeminence by advancing critical enabling technologies and expertise in HPC through application focus areas.

What the MHPCC DSRC Offers

- Advanced imaging methodologies for
- Space Situational Awareness and space object identification
- Advanced database design and optimization
- Data farming
- High-fidelity radar analysis modeling and simulation
- Novel computer constructs that improve parallel software development
- Home of the DoD HPCMP Portal
 - ❖ Improving agile access to HPC computational and data storage
 - ❖ Increasing transparent and user friendly access to these resources
 - ❖ Establishing new ways that HPC can enhance cycle effectiveness and efficiencies

HPCMP Software Institute

The Center is host to the AFRL/DoD HPCMP's High Performance Computing Software Applications Institute (HSAI-SSA) program. The Institute's work is focused on advanced astrodynamics, space object image enhancements processing non-resolvable space characterization, data integration, and HPC.