Create a campus unit to provide High Performance computing (HPC) services more widely to faculty and students. (HPC systems analyze vast amounts of data to prove new theories).

CURRENT CHALLENGE:

Faculty and students should have better access and support for High Performance Computing resources at Fresno State.

PROPOSED SOLUTION:

Create a campus unit to provide High Performance Computing (HPC) services more widely to faculty and students of Fresno State. Offer classes for understanding and using HPC technologies. Promote HPC widely and encourage faculty and students to exploit this service.

BENEFITS TO FRESNO STATE:

High Performance Computing plays a vital role in academia to solve a broad range of complex problems using massive computing resources, well beyond the limitations of a desktop computer or small lab. Physicists, mathematicians and computer scientists are using HPC systems to analyze vast amounts of data to prove new theories. Other scholars are analyzing huge data sets of historical newspapers, books, election data, archaeological fragments, audio and video contents using HPC to sort through, mine and better understand and visualize their results.

Many experiments run on these systems generate findings leading to published research papers. Grants specific to HPC can be obtained to further the research projects of departments across campus. Students could have unique opportunities to participate and gain experience with advanced research technology using HPC resources and better prepare them for the future. The college could even offer new courses related to HPC and maybe even create a few jobs.

ADDITIONAL INFORMATION:

The President of the United States recently created the National Strategic Computing Initiative (NSCI) through Executive Order, saying, "In order to maximize the benefits of HPC for economic competitiveness and scientific discovery, the United States Government must create a coordinated Federal strategy in HPC research, development, and deployment.".