An Advanced Collaborative Environment to Enhance Magnetic Fusion Research

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Abstract

The SciDAC funded National Fusion Collaboratory Project has successfully started to deploy a production computational Grid for the United States fusion community. The MDSplus client/server data system used in fusion research has been outfitted with authentication and authorization capabilities by interfacing with the Globus and Akenti toolkits. A remote computation service using the TRANSP code at PPPL has been created and demonstrated to the user community for feedback on the general design. Visualization work has involved the creation of advanced 3D visualizations using SCIRun that retrieves data from MDSplus. Remote collaborative visualization has been demonstrated between tiled display walls. A prototype Mini–Access Grid node has been created to investigate the feasibility of reduced functionality and lower unit cost resulting in a larger number of deployed nodes