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## Current and Future Data Intensive Computing at DOE BES User Facilities

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### *Abstract*

The US Department of Energy (DOE) Office of Basic Energy Sciences (BES) operates 9 synchrotron and neutron sources utilizing 12 different scientific techniques for collecting data. The BES user facilities serve over 10,000 scientists per year each of whom typically perform experiments collecting and processing data. Traditionally these users have been responsible for managing their data, however today's state of the art high resolution instruments can produce tens of Terabytes of data per experiment which can be beyond most user's capabilities to effectively manage and process. Facilities today have various methods of supporting users data needs ranging from copying data to USB drives while on site, to ftp or portal (thin client) access via the web. Recent discussions among user facility data management personnel are examining how to provide a user facility network connecting these user facilities and their users by providing co-location of data and computing, and providing users more autonomous thick client access to these resources.

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