

## **Recommendations on Long-Term Information Management**

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In February of 2009, the Department of Energy Environmental Management (DOE EM) convened an Information Management Forum (IM Forum) to provide suggestions for the development and implementation of efficient information management systems for long-term environmental monitoring data across the DOE complex. The IM Forum identified the major challenges presented by current environmental information management practices at DOE, and proposed investment sectors to address these challenges. The FRTR talk will present the conclusions of the IM Forum and the opportunities presented by new developments in web-based information management.

Environmental data has historically been maintained in physical format, which is costly to store, access, manipulate and communicate and is restricted by the requirement to categorize the information. The transition to digital data management presents new challenges for long-term information management. DOE faces unique issues in environmental information management due to the time-scale over which information must be maintained and the size and diversity of data sources. Additionally, the DOE complex is composed of multiple semi-autonomous laboratories with diverse data management practices.

The IM Forum recommended three strategies to address the challenges identified. First, the DOE should build on existing digital information infrastructures created both within the DOE and in other governmental agencies (i.e. NIH, NASA, NOAA, etc.). DOE should develop data and software standards for implementation across the complex and contractor standards for data delivery. Finally, the IM Forum recommended the development of a distributed data search engine with comprehensive coverage of both DOE complex and web-based environmental information resources. While storage of digital data is relatively easy, preservation of digital data is difficult. The proposed cyber-infrastructure would contribute to preservation of digital information through data linking, redundancy, and degeneracy while leveraging a large number of users to provide social stability to information resources.