

## Collaborative Management Environment (CME)

### Managing heterogeneous information

DOE funds a vast amount of scientific research in a very broad range of areas. It is not surprising that each of its national laboratories follows independent research management processes tailored to the expertise of that laboratory. Information resulting from these management processes, however, is in different formats and at different levels of granularity that, in turn, makes the overall management of DOE-funded research a difficult challenge.

Two key challenges presented themselves in the development of this system. First, due to the distributed, heterogeneous, and sensitive nature of the proposal data, it is preferred that control of the data remains with the originating laboratories. Second, due to the lack of motivation for the laboratories to invest in the construction and maintenance of traditional enterprise information systems, it is necessary to investigate a low-cost, distributed information management system.

We developed the Collaborative Management Environment (CME) to meet this challenge. We pioneered work using the eXtensible Markup Language (XML) as a cost-efficient alternative for acquiring, storing, querying, and publishing heterogeneous and distributed enterprise information. We show long before XML was in common use, that it can provide a distributed data management system alternative with significant presentation and query capabilities.

#### Original Document



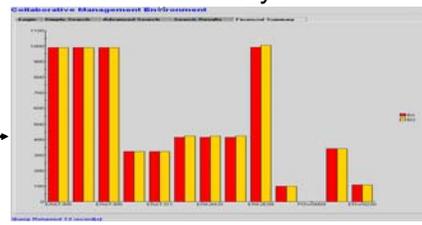
#### XML tagged Document



#### Field level query



#### Financial Summary



DOE was so impressed with our efforts that Dr. Ernest Moniz, Under Secretary of Energy, approves the Portfolio Management Environment (PME) on our CME project. The estimated 5-year implementation cost of the PME system is \$17 million total investment, and the expected annual savings is approximately \$39 million.

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