

Lowering Barriers to Collaboration

Why isn't sharing data with remote collaborators as easy as saving it to a local disk? For users of the Collaboratory for Multi-scale Chemical Science (CMCS), it is. CMCS also makes it possible to see which files were used as inputs to produce derived data sets, to automatically translate files to other formats, to search for data based on metadata (e.g. author, experiment name, or chemical species involved), to pull up interactive views of data in a web browser, and to annotate data with additional comments and links to other data.

CMCS' advanced, better-than-file-system capabilities build on services provided by the Scientific Annotation Middleware (SAM) software. SAM provides an extremely flexible repository for scientific data and associated metadata with layered capabilities for managing metadata, semantic relationships between data sets, and notebook-style annotation and research documentation. SAM enables queries and display of metadata and data produced by independent applications. SAM also allows CMCS to automate the tedium of documenting data and interpreting data in custom formats. The net result: CMCS has been able to provide users with a rich suite of collaboration capabilities and chemistry-specific tools, with single sign-on access across the portal and for data access within users' desktop applications, and to rapidly integrate new tools and support new data types as users' needs evolve and grow.

For the growing CMCS user base, the ability to concentrate on science and ignore the logistics of collaboration, while avoiding the up-front costs of data standardization, is more than a convenience, it's an enabler of new types of coordinated research efforts.

Projects: Scientific Annotation Middleware, Collaboratory for Multiscale Chemical Science
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