

Center for Cardiovascular Bioinformatics & Modeling

“MineLink: A Novel Distributed Computing Architecture for Seamless Data and Application Integration”

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Abstract:

With the advent of distributed databases, large-scale repositories, computational analysis and scientific visualization tools, the IT requirements for today's scientists are considerably more complex. Such distributed resources have opened up new possibilities for collaborative research for scientists through sharing of experimental data and data analysis tools to look for previously unseen correlations or relationships. Translating the above possibilities into reality, however, requires considerable effort on the part of both computational scientists and biomedical researchers to break down the barriers that exist between researchers and the access and analysis of their scientific data. Among the important technology gaps are those that lie in the areas of seamless data and application integration (information integration) and design of ease-of-use systems.

MineLink is a system developed at IBM Almaden Research that addresses these gaps through a novel programmable framework for the automatic integration of services, be they data miners, visualization components, or databases starting from task-specific workflow requests from end-users.

In this talk, I will describe the MineLink architecture and the underlying algorithms for seamless data and application integration through automatic service composition. Specifically, I will describe the approach used by MineLink to physically compose a given set of services by semantically matching schemas derived from the API specification of source and destination services through data mining of their relationships. The algorithms in MineLink and its architecture are now influencing key software products in enterprise data and application integration by IBM

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**Simulcast to Talbot Library,
709 Traylor Bldg.**

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