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A Specification Language and Service-Oriented Architecture to Support Distributed Data Management

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ABSTRACT

In some research analysis organizations, effort is duplicated when disseminating raw information to multiple research groups. Though the various groups work on different problems, many times, the initial raw information, that they used, is the same. A solution to this problem is creating a centralized process for storing and disseminating common information using database technologies. In this paper, the requirements that must be met to create this *distributed database management* architecture are described. To support these requirements, a specification language, Specialized Format Markup Language (SFML), and supporting service-oriented architecture, Specialized Format Generation (SFG), are introduced. These implementations and technologies support the translation of data from relational database formats to user-specified legacy formats. In addition, this implementation supports the presentation of the resulting data across a web-based, distributed medium. SFML and SFG incorporate current technologies such as the eXtensible Markup Language (XML), Java Servlets, the eXtensible Stylesheet Language (XSL), and other relational database approaches.

Keywords

Object-oriented software engineering, web technologies, database access technologies, XML, XSLT