Flexible Access Concepts for Distributed Information Systems

(in German: Flexible Zugriffskonzepte für verteilte Informationssysteme)

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After the rapidly growing penetration of personal computers in offices and households during the last decade, both mobile telephony and the Internet represent current key technologies. At the same time, the desire for extended and flexible data access in the context of enterprise-wide information systems is increasing.

Facing this background, the application system called PERFORMIS (Performance Management Information System) delineates a prototype of an enterprise-wide management information system for the development of large software. It realizes a flexible data access concept using heterogeneous and distributed enterprise data sources. User-defined performance indicators can be instantly accessed or used to compose reports, which describe the current status of development projects.

In a first step, the heterogeneous data of the worldwide distributed mainframe data sources are summarized in a local database, which can be accessed through Intranet technology. Here, the challenge lies in the transformation of heterogeneous data into the homogeneous context of the PERFORMIS database.

As next step, management tools and defined contents are introduced, which enable an access to the local PERFORMIS server. A special focus is placed on the flexible composition of reports and graphics, incorporating condensed data of the underlying Management Information System.

In addition, mobile data access concepts allow the user to efficiently use familiar information services which are independent of the transmission technology. For this purpose, tools for creating and maintaining user profiles are needed in order to reflect the users’ preferences when transmitting information over the limited bandwidth of the air interface.

Finally, a performance evaluation based on simulations demonstrates the efficiency of the developed system.

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