Fernzugriff auf Datenbanken

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Remote Database Access

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Abstract

The increasing popularity of computer networks allows for providing database services not only for a local but also for a remote set of potential users. In such an environment, the, in general, heterogeneous nature of computer hard- and software involved requires ‘Open Systems’ communication facilities for transferring, e.g., request/ response messages between peer communication partners over the network. A corresponding set of general communication services has been standardized by the ‘International Standards Organization’ (ISO) in the framework of ‘Open Systems Interconnection’ (OSI). This paper reports on problems related to and solutions provided by the international standardization work on ‘Remote Database Access’ (RDA) which aims at communication support for accessing remote databases in an open systems computer network environment.

1. Introduction

Advanced computer network infrastructures are becoming increasingly important for supporting distributed and cooperative work patterns. In such an environment, multiple computer nodes with different characteristics and capabilities can be interconnected in order to communicate with and support each other.

Distributed cooperative work involves, in general, execution of a variety of sub-tasks at distinct locations. For any such sub-task in order to be specified independently of the underlying computer network characteristics, support by an appropriate abstract communication interface is required. Using such an interface, cheap and locally interconnected personal workstations can access - via wide-area and other local area networks - dedicated and powerful server nodes in order to jointly realize integrated distributed applications. In many cases, a ‘client/ server’ approach [14] provides for an appropriate conceptual