

Working Implementation Agreements for Open Systems Interconnection Protocols: Part 19 - Remote Database Access

Output from the June 1991 NIST Workshop for
Implementors of OSI

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Foreword

This part of the Working Implementation Agreements was prepared by the Remote Database Access Special Interest Group (RDASIG) of the National Institute of Standards and Technology (NIST) Workshop for Implementors of Open Systems Interconnection (OSI). See Procedures Manual for Workshop Charter.

Text in this part has been approved by the Plenary of the Workshop. This part replaces the previously existing chapter on this subject.

Future changes and additions to this version of these Implementor Agreements will be published as a new part. Deleted and replaced text will be shown as ~~strikeout~~. New and replacement text will be shown as shaded.

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0 Introduction

Remote Database Access (RDA) specifies the communications service and protocol for accessing the capabilities of a database server from a client application. Figure 1 depicts RDA's placement within the application layer and its relationship to supporting OSI protocols:

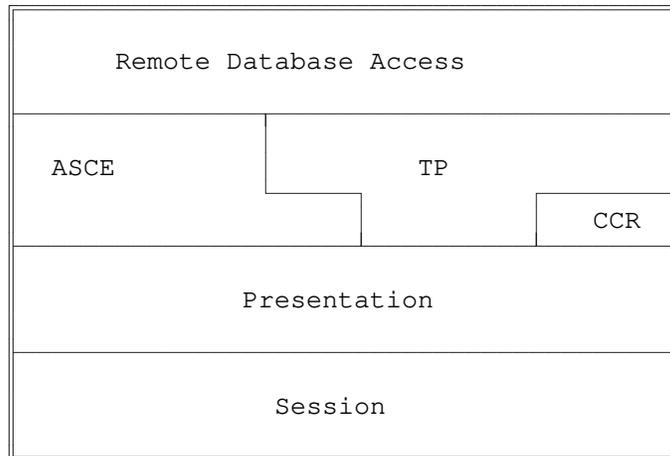


Figure 1 - Placement of RDA within the application layer

This is an implementation agreement for RDA developed by the Implementors Workshop sponsored by the U.S. National Institute of Standards and Technology. This document addresses both the RDA generic model, service, and protocol, as well as the SQL Specialization, ISO 9579 parts 1 and 2, respectively. It is the intent of the workshop to expand this agreement to include other parts of 9579 as they are developed.

1 Scope

This implementation agreement addresses remote database interaction between a database server and a client application. The database server is an open system that provides database storage facilities and supplies database processing services to clients at other open systems.

The RDA communications service provides the protocol for RDA client interaction with an RDA server. The RDA client initiates an RDA dialogue and requests RDA operations to be performed by the RDA server on behalf of a client applications. The RDA server, located within the database server, provides database services to RDA clients.

More specifically, this document describes implementation agreements in the following areas:

- a) the RDA generic model, service, and protocol,
- b) the RDA SQL Specialization,

- c) SQL language restrictions.

2 Normative References

The following documents contain provisions which, through reference in this text, constitute provisions of this International Standardized Profile. At the time of publication, the additions indicated were valid. All documents are subject to revision, and parties to agreements based on this International Standardized Profile are warned against automatically applying any more recent additions of the documents listed below, since the nature of references made by ISPs to such documents is that they may be specific to a particular addition. Members of IEC and ISO maintain registers of currently valid International Standards and ISPs, and CCITT maintains published additions of its current recommendations.

- [1] ISO 9579-1 *Information Processing Systems - Open Systems Interconnection - Remote Database Access -Part 1: Generic Model, Service, and Protocol*
- [2] ISO 9579-2 *Information Processing Systems - Open Systems Interconnection - Remote Database Access -Part 2: SQL Specialization*
- [3] ISO/IEC/TR10000-1:1990(E) *Information Technology - Framework and Taxonomy of International Standardized Profiles - Part 1: Framework*

NOTE - Work on ISO 9579 is ongoing.

3 Definitions

4 Abbreviations

5 RDA Dialogue State Model Agreements

6 Generic RDA Agreements

6.1 Functional Units

6.2 Optional Negotiable Facilities

6.2.1 Open/Close Within Transaction

6.2.2 Other Facilities

6.3 Services

6.3.1 R-BeginDialogue

6.3.1.1 Optional Parameters

6.3.1.2 Parameter Restrictions

6.3.2 R-EndDialogue

6.3.3 R-Open

6.3.4 R-Close

6.3.5 R-Execute

6.3.6 R-Define

6.3.7 R-Invoke

6.3.8 R-Drop

6.3.9 R-BeginTransaction

6.3.10 R-Commit

6.3.11 R-Rollback

6.3.12 R-Status

6.3.13 Cancel

7 SQL Specialization Agreements

7.1 Functional Units

7.2 Optional Facilities

7.3 Services

7.4 SQL Language Agreements

7.4.1 Language/Protocol Mapping

7.4.2 Implementor Defined Items

7.4.3 SQL Functional Restrictions

7.4.4 SQL State and Error Messages

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7.5 Conformance Requirements

7.6 Recommended Practices

