



Whitemarsh
Information Systems Corporation

Great News,
The Relational Data Model is Dead !

Whitemarsh Information Systems Corporation
2008 Althea Lane
Bowie, Maryland 20716
Tele: 301-249-1142
Email: mmgorman@wiscorp.com
Web: www.wiscorp.com

Table of Contents

- 1. Introduction 1
- 2. What Is a Data Model 1
 - 2.1 Record Structures 2
 - 2.2 Relationships 2
 - 2.2.1 DBMS Defined and Controlled Relationships 3
 - 2.2.2 Shared Data Value Relationships 4
 - 2.2.2 Comparative Performance 5
 - 2.3 Operations 6
 - 2.4 Data Model Summary 6
- 3. The Four Data Models 7
- 4. The SQL Language 11
- 5. Data Models and the SQL Language 12
- 6. SQL:1999 Language 13
 - 6.1 Foundation Components 13
 - 6.2 Call Level Interface 14
 - 6.3 SQL/Multi Media (MM) Components 15
 - 6.4 SQL Persistent Stored Module Language Components 15
 - 6.5 SQL Transaction and Connection Management 15
- 7. SQL:1999's Impact on the Relational Data Model 16
- 8. SQL:1999's Impact on Database Applications 17



1. Introduction

Great news, the relational data model is dead! Well, not completely. It's that the relational data model, as we all know it through its linguistic expression, the SQL language, has been "dramatically extended" by the ANSI H2 Technical Committee on Database. The most interesting part of this "dramatic extension" into what is now called SQL:1999, is that it has taken the SQL data model clearly into the past, and then beyond. That is, to embrace the data model of a production class of database management systems (DBMSs) that predate the first "discovery" of the relational data model. To understand why these "dramatic extensions" take the SQL data model clearly into the past, this paper presents:

- ! An overview of data models,
- ! The four data models and the identification of the DBMSs that adhere to these data models,
- ! The SQL language,
- ! Data models and the SQL language,
- ! The SQL:1999 language,
- ! SQL:1999's impacts on the relational data model, and
- ! SQL:1999's impacts of SQL:1999 on database applications.

