- subpart 201.20.303, Standards, and subpart 201.39.1002, Federal Standards, April 1992.
- —FIPS PUB 127–2, Fedeal Information Processing Standards Publication— Database Language SQL, adoption of ANSI SQL (ANSI X3.135–1992) and ISO SQL (ISO/IEC 9075:1992) for Federal use, U.S. Department of Commerce, National Institute of Standards and Technology, June 2, 1993.
- —ANSI/ISO/IEC 9579, International Standard for Remote Database Access (RDA), Part 1: Generic RDA and Part 2:SQL Specialization, ISO/IEC 9579– 1:1993 and ISO/IEC 9579–2:1993, published December, 1993.
- —ANSI/ISO/IEC DIS 9075–3, (Draft) International Standard for Database Language SQL, Part 3: Call Level Interface (SQL/CLI), JTC1 Draft International Standard (DIS), document SC21 N9117, 13 October 1994.
- —ANSI/ISO/IEC CD 9075-4, (Draft) International Standard for Database Language SQL, Part 4; Persistent Stored Modules (SQL/PSM), JTC1, Committee Draft (CD), CD Ballot document SC21 N8897, August 1994.
- 7. Related Documents. SQL Environment specifications depend upon existing standards and stable specifications (see Cross Index above) and upon emerging SQL and SQL Multimedia standards. The following items identify formal ISO/IEC international standards projects for which preliminary specifications and base documents exist, but where the development effort has not yet reached a complete and stable stage (i.e., the Committee Draft (CD) stage). AS these specifications mature and move through the standards process, they can be referenced more reliably in procurement requirements.

(Working Draft) Database Language SQL (SQL3)

Part 1: Framework

Part 2: Foundation—including Abstract Data Types and Object SQL

Part 3: Call Level Interface extensions to ISO/IEC CD 9075–3 identified above

Part 4: Persistent Stored Modules extensions to ISO/IEC CD 9075-4 identified above

Part 5: Language Bindings extensions to the binding clauses of ISO/IEC 9075:1992

Part 6: Encompassing Transactions to support X/Open XA-interface (Working Draft) SQL Multimedia (SQL/

MM)

Part 1: Framework

Part 2: Full Text Part 3: Spatial

Part 4: General Purpose Facilities Other Parts: Reserved for other SQL/ MM sub-projects with no current base document (e.g., images, photographs, motion pictures, sound, music, video, etc.)

For information on the current status of the above Working Drafts, contact NIST personnel working on SQL Standardization at 301–975–3251. For document references to the above and for additional related documents, see the References section of the SQL/ERI Server Profiles specification (attached).

- 8. Objective. The primary objective of this FIPS PUB for SQL Environments is to specify SQL profiles that can be used by Federal departments and agencies to support integration of legacy databases and other non-SQL data repositories into an SQL environment. The intent is to provide a high level of control over a diverse collection of legacy or specialized data resources. An SQL environment allows an organization to obtain many of the advantages of SQL without requiring a large, complex, and error-prone conversion effort; instead, the organization can evolve, in a controlled manner to a new integrated environment.
- 9. Applicability. This standard is applicable in any situation where it is desirable to integrate a client-side productivity tool or a server-side data repository into an SQL environment. It is a non-mandatory standard that may be invoked on a case-by-case basis subject to the integration objectives of the procuring department of agency. It is particularly suitable for specifying limited SQL interfaces to legacy databases or to specialized data repositories not under the control of a full-function SQL database management system. It can be used along with other procurement information to specify SQL interface requirements for a wide range of data management procurements.

One special area of application envisioned for this standard is Electronic Commerce, a National Challenge Application area of the National Information Infrastructure. The primary objective of Electronic Commerce is to integrate communications, data management, and security services in a distributed processing environment, thereby allowing business applications within different organizations to interoperate and exchange information without human intervention. At the data management level, electronic commerce requires a logically integrated database of diverse data stored in geographically

separated data banks under the management and control of heterogeneous database management systems. An over-riding requirement is that these diverse data managers be able to communicate with one another and provide shared access to data and data operations and methods under appropriate security, integrity, and access control mechanisms. FIPS SQL provides a powerful database language for data definition, data manipulation, and integrity management to satisfy many of these requirements. It is unrealistic to expect that every data manager involved in electronic commerce will conform to even the Entry SQL level of the FIPS SQL standard; however, it is not unrealistic to require that they support a limited SQL interface, even a read-only interface, provided by one of the SQL/ ERI Server profiles specified herein. New procurements to add components to the National Information Infrastructure, or to upgrade existing components, can define the necessary SQL schemas and point to appropriate SQL/ERI Server profiles as procurement requirements.

This standard may also be applicable, on a case-by-case basis, in many of the following areas:

Legacy databases
Full-Text document databases
Geographic Information Systems
Bibliographic information retrieval
Object database interfaces
Federal data distribution
Operating system file interface
Open system directory interface
Electronic mail repositories
CASE tool repositories
XBase repositories
C++ sequence class repositories
Object Request Broker interface

repository Real-time database interface Internet file repositories

Further detail on each of these potential application areas can be found in Section 8, "Applicability", of the FIPS specification for SQL Environments.

- 10. Specifications. See the Specifications for SQL Environments—SQL External Repository Interface (SQL/ERI)—Server Profiles (attached).
- 11. Implementation. Implementation of this standard involves four areas of consideration: the effective date, acquisition of conforming implementations, interpretation, and validation.
- 11.1 Effective date. This publication is effective beginning February 1, 1995. Since it is a non-mandatory specification, based on the established