ASHTON·TATE

Microsoft

GLOSSARY OF TERMINOLOGY

Back-end. In this reference, a term applied to processing, data storage and data retrieval which occurs at the database server level.

Character-based interface. The traditional, keyboard-driven user interface common to DOS-based applications software.

Client or Requestor. A workstation that utilizes the services of any type of server on a network.

Column. An individual data item within a row or record. The logical equivalent of a field.

Concurrency. When more than one user accesses a particular set of records or files at the same time.

Connectivity. A general term that refers to the ability of different classes of computers to communicate with one another.

Consistent. A term which describes a database in which correct and non-conflicting information is supplied to users.

Database. A collection of information or data files that is organized and presented to serve a specific purpose.

Database management system (DBMS). Commonly called an "electronic file cabinet," a DBMS is a repository for the collection of computerized data files. A DBMS enables users to perform a variety of operations on those files, including retrieving, appending, editing and updating files and generating reports based on them.

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Database server. Software that provides high-performance database services to users of intelligent PC workstations on local area networks. Database servers (such as SQL Server from Ashton-Tate and Microsoft) split the DBMS function into a front-end component, where data is manipulated by users or applications, and a database-intelligent back-end component, where data is stored, retrieved and managed, integrity is managed, and security is controlled.

Data integrity. Accuracy and reliability of data. Data integrity is important in both single-user and multi-user environments. In multi-user environments, where data is shared, both the potential for and the cost of data corruption is high. In large scale DBMS environments, data integrity becomes one of the primary concerns and focuses of database management systems. With more sophisticated database management systems, transaction logging, as well as other features such as stored procedures and triggers, provide the mechanisms by which data integrity is maintained. In the DOS environment, data integrity is maintained only by manually saving files.

Data sharing. Users' ability to share transparently individual pieces of data in a database across different applications.

dBASE (R). The brand name of the series -- dBASE II (R), dBASE III (TM), dBASE III PLUS (TM) -- of software products from Ashton-Tate Corporation that has been the market leader in microcomputer database management systems since 1981. dBASE is also the name of the applications development language contained in the product line.

DB2 (R). IBM's relational database system that runs on System 370-compatible mainframes. DB2 works in conjunction with IMS and CICS communication environments, as well as under TSO.

Decision support. Computer software that allows end-users to access and exploit computing capabilities for decision analysis and other decision-making. Such usage typically does not require programming skills.

Distributed processing. Data processing in which some or all of the processing, storage and control functions, in addition to input/output functions, are situated in different places and connected by transmission facilities. The transparent access of both applications and data by programs and end-users is an important goal of distributed processing systems.

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Dynamic recovery. A routine or set of programs that detects and/or attempts to correct software failures and losses of data integrity within a DBMS.

Field. An individual data item within a row or record. The logical equivalent of a column.

File. A collection of rows (or records) that have associated columns (or fields). The logical equivalent of a table.

File server. A network node, usually consisting of fixed-disk storage and a CPU, that stores programs and data shared by users on local area networks. File servers offer operating system-level file and/or print capabilities, while database servers provide database intelligence such as transaction processing, indexing, logging, security, etc.

Foreign key. A column (or combination of some columns) whose values are required to match a primary key in some table.

Graphics-based interface. An interface that enables users to operate a computer by selecting menu options by pointing at a graphic icon with a mouse and clicking the mouse button.

IBM (R) LAN Server. OS/2-based network operating system from International Business Machines Corporation (IBM), which will support file and print services as well as other common LAN features.

IBM (R) OS/2 Extended Edition. IBM's proprietary extension to OS/2. Included with the Extended Edition are the communications and database features to enable OS/2 EE workstations to work in conjunction with IBM minicomputers and mainframes.

Local area network (LAN). A system that enables personal computers to have access to common data and peripherals. LANs typically consist of PCs with adapter cards, file servers, a network operating system, printers and gateways to departmental or corporate computers. Database servers are a new technology that also will become a key LAN component.

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Locking. The process of restricting access to resources in a multi-user environment.

LU6.2 or APPC. Logical Unit 6.2, also known as Advanced Program-to-Program Communications, a type of Logical Unit that supports sessions between two applications in a distributed data processing environment using the SNA general or user-defined data stream.

Microsoft (R) LAN Manager. Microsoft Corporation's network operating system for the OS/2 environment.

MIPS. Millions of Instructions Per Second, a measurement of processing speed. MIPS refers to the average number of machine language instructions performed by a central processing unit in one second. A typical Intel 80386-based PC is a one-MIP machine whereas an IBM System 370 mainframe typically delivers between five and 40 MIPS. MIPS measures raw CPU performance but not overall system performance.

MS (R)-DOS. The Microsoft Disk Operating System, the standard operating system for computers equipped with the Intel 8086 and 8088 (or equivalent) microprocessors.

MS-NET. Officially known as Microsoft Network, MS-NET is Microsoft's DOS-based networking systems software product that Microsoft announced in 1984 and has been shipping since 1985.

Multi-tasking. The concurrent execution of two or more distinct tasks by a computer.

Multi-user. The ability of a computer to support many users operating at the same time, while providing to each user the full range of capabilities of the computer system.

On-line transaction processing (OLTP). The high-end of transaction-oriented DBMS applications, commonly used in financial transfers, airline reservations and ATM operations. OLTP is a proven technology in the mainframe arena and is fast moving to the minicomputer and workgroup computing platforms.

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Operating system. The master control program that governs the operation of a computer.

OS/2. The second-generation operating system co-developed by Microsoft and IBM to exploit the power and speed of personal computers based on the Intel 80286 and 80386 microprocessors. Key features of OS/2 include support of multi-tasking and programs larger than 640K bytes, sophisticated memory management capabilities, a graphical user interface and process-to-process communications facilities.

PC-NET. Officially known as the IBM PC LAN Program, PC-NET is IBM's DOS-based networking systems software product, developed by Microsoft and IBM, that IBM announced in 1984 and has been shipping since 1985.

Primary key. A column whose values uniquely identify the row.

QBE. Query-by-Example, a program product developed by IBM to work in conjunction with IBM's mainframe relational DBMS, DB2.

Query. A specific request for data or instructions.

Record. A group of related fields of information treated as a unit. The logical equivalent of a row.

Record and field locking. The ability of a database to automatically lock users out of a specific record or field to maintain security or prevent concurrent access problems.

Referential integrity. The rules governing data consistency, i.e., the relationships among the primary keys and foreign keys of different tables.

Report generator. A software component that supports the production of formatted output from a database.

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Relational database. A database that consists of tables, rows and columns. Most minicomputers and mainframes today have relational database systems available for business use. Typical examples are DB2 from IBM and RDB from Digital Equipment Corp. Relational databases differ from non-relational databases in that there are no system dependencies stored within the data; for example, hierarchical databases are not relational because they contain pointers to other data.

Rollback. The ability to remove uncompleted transactions after a system failure.

Rollforward. The ability to recover from major disasters such as media failure and head crashes by reading the transaction log and re-executing all readable and complete transactions.

Row. A group of related fields of information treated as a unit. The logical equivalent of a record.

Sequential file. A file whose records are arranged in the order in which they are placed in the file.

SQL. Commonly pronounced "sequel," an acronym for Structured Query Language, a database query and programming sub-language originally developed for IBM mainframe computers. There is now an ANSI-standard SQL definition for all computer systems.

Static recovery. Routines and/or programs that correct errors in data managed by a DBMS caused by hardware or software failures. Static recovery normally occurs on system re-start of a DBMS.

Stored procedure. A multi-statement compiled SQL query with control-of-flow language that can take parameters and allow user-declared variables, conditional execution and other powerful programming features.

Table. A collection of rows (or records) that have associated columns (or fields). It is the logical equivalent of a database file.

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Transaction, transaction processing. A group of database operations combined together into a logical unit of work that is either completely executed or completely aborted. Transaction processing is the method by which data integrity and high performance are achieved in most business computing environments.

Trigger. A special kind of stored procedure that executes upon a delete, update or insert to instruct the server to take action or actions. Triggers are often used to enforce referential integrity.