

Open-source Database Management Systems (Dave McGuirk)

Members that are either using a modest CDMS (CLICOM or other) and Members with no operational CDMS in place could both benefit from a full-featured, easy-to-use CDMS that requires minimum resources to purchase, operate and maintain. I suggest that use of an open-source DBMS be considered. An SQL-based open-source DBMS offers a number of advantages:

- a. The CDMS could be developed using standard SQL and thus not be locked to one vendor (Remember that dBase and Paradox were once the market leaders. No company will be the dominant vendor forever.)
- b. The CDMS could be operated on a variety of hardware and Operating Systems and could easily migrate to more advanced and powerful systems as necessary
- c. The DBMS software code is available and thus could always be supported and enhanced
- d. The DBMS is available for free or a minimal price (a significant advantage for many Members!).

There are currently 3 major open source code databases available: PostgreSQL, InterBase and MySQL. All operate on a large number of different hardware and Operating Systems, including at least Solaris, Linux and Windows 95, 98 and NT

PostgreSQL is a RDBMS with a university research project history. It is probably the most sophisticated open-source database available but is not SQL-92 entry-level-compliant (although it is close and is developing very quickly). It currently supports almost all SQL constructs, including subselects, transactions, and user-defined types and functions. It is the fastest open-source database when supporting a high number of concurrent users and transaction logging.

InterBase is the first fully SQL-92 entry-level-compliant open-source database to be made available. It has a 16 year development history (from Borland). It supports transactions, events, user-defined functions, triggers and stored procedures built on rich procedural language. Underneath, is an advanced multi-generational versioning system, where readers never block writers and vice versa, since they're working on the different versions of the same data. (Although this ability is touted by Oracle as one of its key advantages over other databases, it is supported by InterBase and PostgreSQL.)

MySQL was originally developed as an SQL server that could handle very large databases much faster than any other database. It has been successfully used operationally with databases containing 10,000 tables, of which more than 500 tables have more than 7 million rows - about 100 gigabytes of data. It supports C, C++, Eiffel, Java, and Perl, APIs (among others). It supports many data types and many languages and character sets. However, it was not designed for financial transactions, inventory management or other business-critical tasks. MySQL, along with Visual FoxPro and Corel Corp.'s Paradox, gives up an important characteristic of high-end SQL databases - transactions and transaction logging - to gain simplicity and speed. MySQL is not SQL-92 compliant and its multiuser support is comparatively poor (it can only issue table-level locks). However, in a single-user update environment MySQL is 4 times faster than InterBase and 10 times faster than MySQL.