The Expert's Opinion

Ken Saferite is the manager of technical services and database administration at the Wichita-based Coleman Company, working with CA-DATACOM/DB for the past six years. During 21 years at Coleman, Mr. Saferite has worked as an applications programmer, systems programmer, systems analyst, database administrator and a manager of technical services. In the early 1970s, he pioneered on-line transaction processing at Coleman using CICS and Cincom’s TOTAL DBMS.

Interview by Mohammad Dadashzadeh

**JDA:** What is the role and what are the major responsibilities of the database administrator at Coleman?

**Saferite:** The database administrator at Coleman is primarily responsible for physical database design. Our number one objective is to design databases that meet the requirements of the application while giving the best possible performance in terms of response time and resources consumed. The DBA consults with, and advises, the application developers during the logical design phases. At Coleman, database query tools have proliferated to the user community who have little or no programming experience. The DBA must constantly monitor DBMS performance to detect poorly written queries and assist in improving the quality of database access statements.

**JDA:** What do you consider to be the most important contributions of the DBA to an organization?

**Saferite:** Information is a very important asset of an organization and it is the DBA’s responsibility to protect the data. By protection, I don’t mean just the physical protection. Data integrity must always be a top priority of the DBA. With today’s relational database technology, performance is always a concern and the DBA must spend a large amount of time on performance tuning issues. The DBA also provides a central point of control for all DBMS activity ensuring conformance to standards and minimal redundancy.

**JDA:** What is the computing environment at Coleman? Is computing decentralized? Is development decentralized?

**Saferite:** Most of the computing at Coleman is centralized. Nearly all development is performed by the corporate MIS group. Remote locations are connected to the mainframe and CICS. Specialized PC systems at the departmental level operate, for the most part, independently of the central system. In some cases, data is transferred from mainframe databases to PC systems.

**JDA:** What are some of the major computer-based information systems at Coleman? What are the volumes of transactions? Are they implemented using a DBMS?

**Saferite:** Coleman employs most of the applications typical in a manufacturing company: requirements planning, scheduling, purchasing, accounts payable, accounts receivable, order processing, general ledger, and human resources. Except for some of the manufacturing related applications, all the systems are considered on-line transaction processing types. Of course, some batch processing interfaces exist in every application. The human resources and accounts receivable systems are VSAM-based and the others use Computer Associates’ CA-DATACOM/DB database management system. Transaction volume averages 130,000 per day.

**JDA:** What is the reporting structure of the DBA and the MIS function as a whole at Coleman?

**Saferite:** Currently, the DBA reports to the Manager of Technical Support who reports to the Director of MIS. The MIS group reports to the Chief Financial Officer.

**JDA:** Does Coleman consider any of its computer-based information systems strategic? If so, which and why?

**Saferite:** I think all systems previously mentioned are strategic as they are all critical to the organizations’ operation.

**JDA:** Does Coleman have an integrated database? Are there any plans to move in that direction?

**Saferite:** Any more, it seems that all systems are part of an
integrated database. Just ask the DBA who wants to take a database down for maintenance. It’s almost impossible to work on one component as every element of the system somehow interacts with the other elements which accounts for a lot of weekend work! Except for the purchased VSAM-based applications, for which there are no CA-DATACOM/DB versions, all of Coleman’s major applications use the CA-DATACOM/DB DBMS. It’s very common in our shop to see a single program accessing data from four or five different physical databases. Yes, I would say that we have an integrated database.

The success of Coleman’s integrated database was largely due to products that interface with CA-DATACOM/DB. We are using CA-VSAM Transparency and CA-TOTAL Transparency which allow us to convert VSAM and TOTAL files to CA-DATACOM/DB databases and continue to run VSAM and TOTAL applications against the integrated databases.

**JDA:** Is Coleman planning for migration to a relational DBMS such as DB2?

**Saferite:** We acquired CA-DATACOM/DB in 1985 after months of evaluating several related DBMS products. The task force charged with finding a replacement for TOTAL selected CA-DATACOM/DB mainly because of its performance capabilities and its integrated tool set. Efficient on-line transactions based systems and relational database technology were not seen as compatible environments in those days. We felt that CA-DATACOM/DB gave us the best shot at providing the performance we had to have. An active data dictionary, an end-user query tool, a 4GL language (IDEAL) and the transparency products were all there and worked interactively with CA-DATACOM/DB. There was nothing else on the market with this much functionality and integration.

We plan on SQL being the basic database access language in existing and future applications. It provides a means for organizations to be relatively free of dependency on a single DBMS vendor.

**JDA:** Do you consider the concept of an organization-wide integrated database a mirage?

**Saferite:** Definitely not. Coleman has strived to integrate database systems since the Database Administration group was established six years ago. Inefficient data communications technology to our remote mid-range and PC systems which are capable of maintaining their own databases has made this a difficult goal to attain. However, I think the concept of cooperative processing with the mainframe used as the central data repository for workstations on any platform has come of age. Organization-wide integrated databases can now be effectively managed.

**JDA:** What tools do you like to see become available for your database environment?

**Saferite:** The latest release of CA-DATACOM/DB, which we haven’t installed yet, has an SQL option. SQLs evolution as an industry standard is going to provide a large pool of programmers that speak the same data access language. CA-DATACOM/DB is not widely used in our area, therefore, experienced native command programmers are difficult to find.

**JDA:** What features of your DBMS do you most appreciate?

**Saferite:** The fact that a database can be defined quickly in the dictionary and is immediately accessible from DataQuery, IDEAL, DataReporter and COBOL programs.

**JDA:** What features of your DBMS do you consider most annoying?

**Saferite:** Access paths for set-at-a-time processing are not easily predictable. In some cases, superfluous selection criteria must be included in queries to cause the more efficient path to be chosen.

**JDA:** What do you consider to be the most important roles of a Data Dictionary System in your environment?

**Saferite:** Data Dictionary is an integral part of our DBMS. It provides a single point of control for data specifications. Textual descriptions allow for easy documentation of the database.

**JDA:** How do you deal with specification and enforcement of integrity constraints?

**Saferite:** Referential integrity is possible in our current environment only through programming discipline. However, the new release we have in-house will provide automatic enforcement of referential integrity.

**JDA:** What do you see as future trends and issues in
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