

## Database Administrator

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Since this is a technology-oriented column, each month I attempt to describe or explain some aspect of computer software and peripheral devices and processes (RFID and EDI). Usually I relate these things to how they affect the business operations in a soft goods organization. Managing by Exception, Outsourcing, Business Continuity and the road to a successful Implementation have all been covered.

This month I am going to delve into something a bit more technical, but since it directly affects the cost of running your IT group I believe it's worth the effort. Specifically, I am going to describe the role of a technician called a Database Administrator (DBA) and explain why one is not required any longer.

Even though computers can be phenomenal calculators of data—taking massive amounts of input and creating digestible displays of useful information (either graphically or in report form)—the fact is that this brute functionality is used only in rare cases. While computer animation (both cartoons and engineering graphics), weather analysis (and chess) require the huge amount of horsepower that today's largest computer systems can muster, the truth is that for most business applications the computer is effectively a high powered file cabinet. That is a wide variety of data (inventories, sales, finances, etc.) is entered, stored and retrieved in various forms but in actuality little "computation" happens beyond addition and subtraction.

Which is not to say computers are not critical to keeping the business running—imagine trying to maintain all of your records on cards or ledgers today. There isn't enough office space to house the personnel and file drawers that would be necessary for any medium or large business, much less money to pay for them.

My point is, simply that in business applications, computers are really fancy data storage devices. And, as you might guess, when computer folk talk about a repository of data they refer to it as a database.

Databases have been around almost since the beginning of computers, but they have evolved over time. Early databases were called "ISAM" (Indexed Sequential Access Method); they basically work by storing specific sets of data (e.g. customer file, style file) in individual files. The ERP (or any) program that makes use of the data files must keep track of what is stored where and how the data in one file relates to the data in another.

While ISAM databases have been around for a long time, they do pose problems when used in networked environments—it is for this reason that most systems running ISAM use terminal emulation programs on local PCs to access the "mainframe." There are some other technical issues, but suffice to say that relational databases have become the standard for maintaining business type records.

The relational database concept was invented in 1970, and its main theme is that data is stored in tables, which can be "related" to each

other by virtue of one data point. That is, imagine a spreadsheet of customers, where columns are "fields" like name, address and customer code and each row represents another customer. Now imagine a second spreadsheet for "orders," where each row is another order and the columns are customer code, ship date, PO number, etc. By using a customer code on the order table, we can connect that order to that customer, all without having to reproduce other customer information like name and address. Simply put, any time the computer program views a given sales order it can easily find the appropriate customer data as well.

Relational databases have certainly improved and become more sophisticated over the years, but most such databases systems require the expertise of a DBA to maintain the sizes of tables as data is added in order to maximize performance and maintain data integrity. And such expertise does not come cheap.

Unlike other enterprise class relational database systems, Microsoft's SQL Server has various utilities that take the place of a DBA. Its latest release, SQL Server 2005, can automatically optimize important configuration parameters without human involvement upon reviewing changes in data usage. This, along with the ability to perform minor repairs and re-indexing automatically, allow for a business to run smoothly without the cost of keeping a DBA on staff.

In other words, SQL Server 2005 can effectively "tune" itself, again, without having a skilled IT technician on staff. At the same time, it can be scaled to enormous sizes by "clustering" multiple hardware servers together. And later this year it will have the ability to mirror the database to a second server for instant failover—that is, if the database server machinery goes down for any reason an identical twin can be put into service immediately, all the while being invisible to the users.

I mention all this because I have observed that it is rare mid-size apparel or footwear company that maintains a staff of IT specialists including a DBA. In fact, we have quite a few BlueCherry customers who have no in-house IT department at all; these organizations designate a "super-user" to be in charge of swapping backup tapes and call in outside help if there is a technical problem with a PC or their network in general.

Computers in business serve to maximize efficiency and minimize personal requirements to perform the work required. Rather than an army of clerks filing and retrieving paper records, a system like BlueCherry can track and report on every aspect of the company's operations. It is in this vein of maximizing personnel that SQL Server 2005 lays- affording the power of a full relational database without necessitating the addition of specialists to tame the beast.

And so, DBA – N/A

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