

# DATABASE BY DESIGN, INC.

## Breaking Data Speed Limits

What happens if your data management system isn't fast enough?

### Poorly designed systems are costly !

- Do you need to schedule the printing of your reports to off-peak times of the day?
- Do you start a process, then get a cup of coffee while your computer is crunching the data?
- Do you click a button or enter data and then have to wait for the program to advance to the next step?
- Do you have to purge data from your systems in order to speed them up?
- Are you paying costly salary, FICA, FUTA, and insurance on employees who sit and wait for data results?

If you answered "yes" to any of these questions, then the productivity of your staff members is being restricted by a slow data management system.

### Employees are valuable, so give them efficient tools to do the job quickly and correctly.

Data management software, such as databases and packaged software solutions, play a vital role in the effectiveness of your staff members as they perform their functions. It is critical that these programs operate at peak efficiency so that staff members are constantly adding value to the tasks that they perform. Anything that impacts their efficiency and productivity will have a corresponding impact on the profitability and cost effectiveness of the organization.

### How can I improve our productivity?

There are several contributors to the speed of any data management system.

**Hardware:** Hardware configuration of the server and workstations should be optimized for the systems that you are using. Generally, the computer processing chips should be of a recent release. The processing memory (RAM) on your computer should exceed the recommended amount noted on your software program. RAM is very cheap, and the benefits of having plenty of it pay off day after day.

**Software:** The configuration of the data management system is more complex. The following is a list of issues that should be analyzed when trying to improve performance of any system:

- **Structure** - How is the data organized? If data is organized poorly, the system will be inflexible and inefficient, and will produce inconsistent results. You may not be able to get to the information that you need on a consistent basis. You will also experience long delays and waste storage space on your computer. A properly organized system maximizes the speed and flexibility of the program and the user. You will get the information that you need quickly and consistently each time.
- **Programming Code** - If the data is organized poorly, then the programming code may contain several sections that attempt to compensate for it. This makes the programming code inefficient because it has to make a lot of unnecessary calculations. It will take longer to retrieve the information that you need. If the data is organized properly, but the programming code is not optimized, it can also lead to poor performance.

- **Compiled Code** - When computer programs are created, they are written in a form that is meant for people to understand. Computers use different languages, so if nothing is done to the code, the computer has to interpret the commands each time it runs, causing delays. Compiling the programming code converts it to the language that the computer uses, which can have a huge impact on the speed and efficiency of the program. Many organizations have programs that were developed in-house which are not compiled.
- **Indexes** - Indexing data allows the system to search for information very quickly, finding one piece of information out of one million in a fraction of a second. Without the index, the computer has to look through all of the data, which slows the program considerably. However, indexing all of the data in a program causes other problems which can slow the computer. Therefore, programmers have to create a balance when choosing which data to index.
- **Scalability** - Many programs work well when there is a small amount of data involved. Scalability is the ability of the program to perform equally well when the amount of data increases hundred-fold or thousand-fold. Many programs avoid this issue by purging data on a frequent basis. This keeps the system running smoothly, but it prevents the use of historical data. The lack of historical information prevents valuable comparisons, tracking, and analysis, and it may necessitate the re-entry of data at a later date.

### Possible Solutions

**Off-the-Shelf Software:** If you are having problems with software that you purchased 'off-the-shelf', it may be impossible to make any adjustments to the software that will have any measurable impact on the performance of the system. Your options include:

- Upgrade to the latest version of the program (make sure it addresses the performance issues that you are experiencing)
- Investigate purchasing a competing program (get a demonstration version to test it to make sure that it addresses all of your needs)
- Have a custom built solution that integrates with other functions within your organization (make sure to get all issues addressed before any programming is started)

**In-House Software:** If your data management system was created 'in-house', you can work through each of the productivity issues to create an efficient system. If your organization doesn't have full-time programmers on staff, then retain a skillful consulting programmer to analyze your existing system. The programmer may be able to make adjustments to your current system to increase its performance. Another option is to have the programmer keep parts of the existing program that work well, and add system capabilities that would enhance the growth of your organization. Regardless of who makes the adjustments, make sure that your needs are clearly defined so that any time and money that is spent on the enhancements pays for itself on a continual basis.

At Database by Design, Inc., we can help you optimize your computer systems. Contact us so we can help you obtain a faster program and help you get your employees working instead of waiting!

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**Next Month's Topic:** Intelligent Mail Merging - Going beyond mass letter creation.