Benefits of Upgrading Random Access Memory (RAM)

"What exactly *is* RAM?"

RAM (Random Access Memory) is where computers store data that is needed in short order to run applications. RAM is similar to a person's memory. Computers, like people, need memory in order to carry out tasks.

Random Access Memory is essentially the cognitive memory of a computer.

"How does computer memory work?"

Let's look at an example. You may know how to bake a cake by heart. If you do, you can quickly carry out the steps necessary to convert raw ingredients into a finished cake. However, for those of us who have no clue how to bake, we need to refer to a cookbook for directions. It takes us time to find a cookbook, look at the table of contents, find the page that the cake recipe is on, and read each step. Naturally, if you have already baked a cake and remember every step, you will finish much faster.

This is essentially how computer memory works. It reads the necessary data from the hard drive and stores it into the computer's memory. When needed, it can access that information almost immediately. This greatly improves the computer's ability to run applications as quickly as possible.

A hard drive can be thought of as a book that stores your files along with data necessary to run applications.

"How can I tell if I should upgrade my RAM?"

Symptoms of low memory often include overall slowness, especially when running multiple applications. Another symptom is your hard drive running constantly. This could be because your computer does not have enough memory available and has to constantly read and write to the hard drive. If these issues sound familiar, you can check to see how much memory you have by clicking on the apple icon in the upper left corner, and selecting 'About This Mac'. If you are running 512MB or less, it may be time for an upgrade. Anything 1GB or over is usually sufficient. If you have sufficient RAM and still experience slowness, it is most likely because of other issues.

"I've heard that adding RAM is a good way to extend my computer's life. How?"

Adding memory is generally inexpensive. This makes it an effective, yet economical means of enhancing your computer's performance. Keeping your computer running fast will likely make you less inclined to run out and spend hundreds (or even thousands) of dollars on a new system.

Another benefit to adding memory is that it saves wear and tear on your hard drive. This is because your hard drive does not have to be accessed as frequently. Hard drives have moving parts. All hard drives _will_ eventually fail. It's not a matter of if, but when (so make sure you backup your data often). Reducing your hard drive's use can significantly improve it's life. You may not need to buy a new computer. You may just need to upgrade your RAM!