

## Chapter 2 - Zen and the Art of Performance Monitoring

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Computer performance bottlenecks are usually typified by the overconsumption of some hardware resource. Generally this results in the underconsumption of other hardware resources. If a particular piece of equipment is the bottleneck in a computer, it is usually true that by purchasing more of that resource you can eliminate the bottleneck. But buying more of a different resource will not help, and although we all like to help the economy whenever possible, it is best not to spend the boss's money needlessly.

To determine the precise location of the bottleneck in your computer, you must become as one with the computer. There can be no distinction between you as an individual and the computer as a machine. To achieve this state requires years of meditation, prayer, and insanity.

Luckily we have an alternative approach, which requires only a little insanity: Windows NT Performance Monitor. Performance Monitor is an excellent tool for optimizing computer performance. With a little background information on how computers work internally and how Performance Monitor measures performance, you can make sure you are getting as much as possible from your computer.

You might think that a great deal of complex mathematical theory is required to work on computer performance, but luckily that is not the case. If you can do simple arithmetic, you can understand bottlenecks and capacity planning. We'll present some of the basics in the next few chapters. Anyway, even if you never use this stuff, you'll have some new terminology to use to impress your boss.

In this chapter, we'll start with some of the basics of computer architecture, and then go over the features of Performance Monitor and how you can use them to solve various problems. Performance Monitor has online Help to explain how to invoke its features using various keystrokes and mouse clicks, so we usually won't repeat those details here. Instead we'll focus on why the various features exist, their intended use, and their limitations. As any woodworker with fewer than ten fingers will tell you, it's worth spending some time getting to know your tools.