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What Is Guerrilla Capacity Planning?

> *The enemy advances, we retreat; the enemy camps, we harass; the enemy tires, we attack; the enemy retreats, we pursue.*
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> —Mao Tse-tung

1.1 Introduction

Performance experts, like any other group, have a tendency to regurgitate certain performance clichés to each other, and to anyone else who will listen. Here are two such clichés:

1. Acme Corporation just lost a $40 million sale because their new application cannot meet service level targets under heavy load. How much money do they need to lose before they do capacity planning?
2. Company XYZ spent a million dollars buying performance management tools but they won't spend $10,000 on training to learn the capacity planning functionality. They just produce endless strip-chart plots without regard for what that data might imply about their future.

Several years ago I stopped mindlessly reiterating statements like these and took a hard look at what was happening around me. It was then that I realized not only were people not gravitating toward capacity planning, they actually seemed to be avoiding it at any cost! From this standpoint, we performance experts appeared more like clergy preaching from the pulpit after the congregation had well and truly vacated the church.

In trying to come to grips with this new awareness, I discovered some unusual reasons why capacity planning was being avoided. Later, I began to ponder what might be done about it (Gunther 1997). My thinking has evolved over the years (Gunther 2002b), and my current position is presented in this chapter. Since I see performance management differently from most, you may find my conclusions rather surprising and, it is hoped, inspiring.

1.2 Why Management Resists Capacity Planning

Capacity planning has long been accepted as a necessary evil in the context of mainframe upgrades and network device procurement. The motivation is sim-

ple: The hardware components are expensive and budgets are always limited. Why then has capacity planning become less accepted today? Once again the reason is simple: Hardware is far less expensive than it used to be (even for mainframes!). So there is no need to plan, because you can just throw more hardware at any bottlenecks when they arise or, better yet, simply over engineer the system in the first place. If you are trying to do capacity planning in the trenches, I am sure this kind of management resistance is very familiar to you.

Underlying this general resistance from management is a set of unspoken assumptions, which, if you fail to recognize them, will pretty much doom you to periodic bouts of despair. Some of the assumptions are:

1. The new performance limits are in software, not hardware.
2. There is a big difference between perceiving risk and managing it.
3. Product production is more important than product performance.
4. Schedules are the only measure of success.
5. There are plenty of commercial tools that can do capacity planning.
6. Most software is plug-and-play, so it does not need to be measured.
7. We do not need instrumentation in our software. It just causes bugs!

Well, you know how it goes. On the other hand, when you do recognize these assumptions and consider them more carefully, you will quickly realize that management is not simply behaving like a brain-dead curmudgeon, although it often appears that way. Some of these assumption present very real constraints, and they are not likely to change. You can go on trying to fight them and lose, or you can factor them into your capacity planning and succeed in spite of them. This book is about the latter approach, and it forms the basis of the Guerrilla capacity planning methodology. Let us look at some of these assumptions in more detail.

1.2.1 Risk Management vs. Risk Perception

Consider an executive manager who has to fly to another city for an important executive meeting. While he is getting ready to go to the airport, he hears a news report about a plane crash where many people were killed. Now, he starts to feel nervous because he is about to board an aircraft and he cannot help thinking that he might suffer the same fate. Moreover, his knuckles start to turn white as he continues to turn over the aircraft disaster while he is driving on the freeway to the airport. What's wrong with this picture?

You probably already know that common statistics indicates that there is a greater risk of being killed on the freeway than on any airline (by a factor of more than 30 times, it turns out). Our intrepid traveler has also heard these same statistics. He is not dumb, he is an executive, after all. So, why does he not simply remind himself that the statistics are in his favor on the aircraft and look forward to his flight? Try it yourself. It does not work. We all get a