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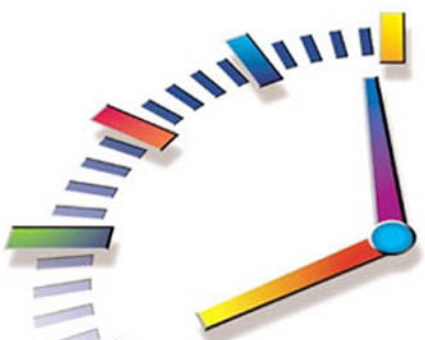

SAMS Teach Yourself

Linux® Security Basics

in 24 Hours

Aron Hsiao

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Dedication

To Ching-Chuan Hsiao, Chu-Ying Hsiao, Wilson Gutzman, and LaBerle Gutzman.

—Aron Hsiao

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Aron Hsaio

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Introduction

In the computing world, *security* is a strange topic. This is because the computing world as we know it has largely become a collection of technologies for the enabling of networks, and our conception of what a network should be is fundamentally opposed to our conception of what good security should be. A network is designed specifically to allow needed data to be retrieved and to allow connections to be made between otherwise unrelated computers and systems. The role of security, on the other hand, is largely to forbid data from being retrieved or to forbid one computer from making a connection with another. Clearly, then, the process of securing a system or a network is one in which context and balance are important. Security must function well enough within your own computing context to provide you and your users with an acceptable balance between allowing and forbidding.

Because of the context-specific nature of this opposition, which is inherent in phrases like *computer security* and *network security*, and because security is a nearly infinitely deep topic for those who care to study it in depth, no one book can ever be the final word on security—no one book can ever be used by every user or system administrator to secure every system.

But Why Is Security Important at All?

When it comes to large Internet servers full of users' credit card numbers or large government servers full of nuclear secrets, it is easy to see why information ought to be protected—why some system-to-system connections and some attempts at data retrieval ought to be forbidden. These types of risks, on the one hand financial and involving hundreds of thousands of individuals and on the other hand national or even global in scale, are easy to see. But what about the typical dial-up modem user, who connects to the Internet to browse the Web or to help the kids with their homework? And what about the small business user who runs a small Web site but hardly feels important or large enough to be a target for international terrorists or organized crime?

Unfortunately, the Internet, like the real world, is not always a friendly place. There are any number of small-time ne'er-do-wells who like to get their hands on just the 10 or 15 credit card numbers your server contains. Even more frighteningly, there are thousands of "script kiddies" roaming the Internet without any motive at all—they enjoy breaking into computer systems and erasing data simply for fun. Often, they're not even knowledgeable hackers, but instead download their exploits (tools used for breaking into other peoples' computers) from security-oriented Web sites.