Chapter I

Building Trust in the Information Infrastructure

Introduction

The rapid advances in computer technology, the plummeting prices of information processing and indexing devices, and the development of sprawling global networks have all made the generation, collection, processing, indexing, and storage of and access to information easy and have made the information infrastructure an enjoyable environment. The information infrastructure consists of computer or computer-related hardware, software to run on the hardware, and humanware to run both. The human component in the information infrastructure is essential because humans create the life and dynamism in the infrastructure that has made it what it is. However, humans also create all the problems facing the infrastructure as we will see throughout the book. Note that the infrastructure we have just defined is actually cyberspace. So throughout the book, we will use cyberspace and
information infrastructure interchangeably. Cyberspace technology has brought more excitement to humanity than ever before. Communication has become almost instantaneous. The speed of data access is chasing the speed of light. Humanity could not have gotten a better technology. However, with the excitement and “bewilderness,” there has come a realization, after rough experiences, that the new technology has a serious downside. Based on individual experiences, the fear of the new technology on which we have come to depend is on the rise. But because there are more benefits of the new technology to humanity, trust of the technology must be cultivated among the users of the technology. Webster’s Dictionary (1989) defines trust, as a noun as confidence or faith in a person or a thing and as a verb as having confidence or faith in someone or something. For us, we want users of the information infrastructure to have confidence in it.

Numerous studies have indicated that the bad experiences encountered by users of cyberspace technology form a small fraction of all the wonderful experiences offered to users by cyberspace. There are many wonderful and beneficial services that are overshadowed by sometimes sensational reporting of new, but undeniably widespread, bad incidents in cyberspace. These few, sometimes overblown, incidents have created fear and an image of an insecure and out-of-control cyberspace. This, in turn, has resulted in many users and would-be users starting to not trust cyberspace. In fact, the opposite of this is truer. There is a lot to gain from cyberspace, both as an individual and as a community. We need to pass the message along that cyberspace is safe, offers lots of benefits, and should be trusted. We have built the protocols and we have identified the best practices to safeguard the information infrastructure for every genuine user. We believe that with rising user trust of cyberspace, the security of cyberspace will be enhanced. However, the road to getting this message across is not easy.

Problems with Building Trust

Probably, many of you who have been around in the last 10 years have experienced two scary and turbulent periods in computing. The first period probably started around 1990 and lasted through 2000. This period saw an unprecedented growth in computer networks around the globe. It was characterized by frightening, often very devastating, and widespread virus attacks on