BUSINESS DATA COMMUNICATIONS

WILLIAM STALLINGS

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Chapter 1

Introduction

1-1 Information and Communications[1]

Perhaps in the 1960s, when Marshall McLuhan coined the term *globa village*, he foresaw that in the 1980s General Motors would operate network that links over 500,000 computing devices and telephones an connects 18,000 locations worldwide. Or that American Airlines' SABR reservations network, linking more than 60,000 video terminals all ove the planet to six massive mainframe computers, sometime posts large annual revenues than the airline itself.

By any name, a confluence of computers, communication technol gies, and demographics is transforming the way any enterprise conduc itself and carries out its organizational mandate. And it's happening fast. business that ignores it will fall hopelessly to the rear in the global race f the competitive edge.

At the heart of the transformation is information. No longer byproduct — no longer, in many cases, even a cost center — the generatio and movement of information has been made profitable by those who hav taken up the technological challenge posed by the myriad machines th have automated so much of our lives.

We are, unquestionably, dependent on computers and the commun cations devices and services that connect them. The number of compute and terminals at work in the world today stands in the neighborhood of 1 million. It constitutes a critical mass: The overwhelming need of organiz tions and their workers now is for connectivity, for integration, for ease information access.

"We call it group computing," explains Daniel Crane, vice president marketing for Toshiba America's personal computing division. "It im proves the productivity and efficiency of the group and the corporatio People need to share data and information and the company that provid this capability will beat the competitor who does not."

"In order to be successful in the 1990s," says Fred Wang, president Wang Laboratories, Inc., "enterprises must be able to access all usef

[1] Some of the material in this section is adapted from "Global Communications a Computer Strategies for the '90s," prepared by CIO Publishing, Inc., Framingham, MA, a appearing in the September 19, 1988 issue of *Forbes*.