IBM's Token-Ring Networking Handbook

George C. Sackett

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Series Advisor

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To my wife Peg and daughter Chelsea, no greater love have I found than the love you give me and I give you in return.

Preface

In today's fast paced "give it to me now" society, information has become almost as valuable as gold. Nations that once lead in industrialization may now lead the world into the age of information. Knowledge acquired through information can lead to power if used wisely, but this knowledge cannot be found without communication. Communication throughout man's history has provided the means for sharing information. The resources used have been pictures, speech and the written word. It is communication of information that has brought modern man to his current perch, ready to strike at the next opportunity.

Sharing information on shared resources efficiently and economically is the objective of a *local area network* (LAN). This premise does not preclude the previous paragraph. Looking at local area networks is, in a way, based on man's needs to stay atop that perch by making it easier to share information. This sharing of information can be small in some matters and grand in others. In the business world, sharing of information can mean tighter control on assets while providing better service to customers. In the scientific world, sharing of information can excite the imagination of the great thinkers of our time much faster than before, leading to theories and discoveries never thought possible.

It is the intent of this book to provide accurate and timely information on local area networking using IBM's Token-Ring Network. The book is organized in a manner so anyone with some computer networking experience can design, install and implement a token-ring network. It is not the intent of this book to be the defacto standard on token ring. The book was conceived entirely with the idea of being a handbook for understanding, assisting, and implementing token-ring networking.

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me to the world of publishing as a means of expanding my knowledge in my areas of interest, and for his professional support. My thanks also to Gary Accardi and Walt Barlow for providing me with information that was pertinent, comprehensive data in the completion of this book. Books of this nature require not only editorial reviews but also technical reviews. Thanks go to Alex Berson for his encouraging review and suggestions, and to Dave Levine. Without Dave's technical input, sections of this book would not have been complete. Thank you Dave for your diligence. Finally, I would like to thank my wife Peg and our daughter Chelsea. With their support, encouragement, and unfounded understanding, I have been able to rise to the occasion time and time again.

I hope the information provided here helps you in your endeavors on implementing a local area network with IBM's Token-Ring Network. Good luck and remember to keep sharing information.

George C. Sackett

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ABOUT THE AUTHOR

George Sackett is president and chief consultant with ASAP Technologies, Inc., in Rutherford, New Jersey. He is a columnist for *Enterprise Systems Journal* and writes feature stories for *Network World*. He is also coauthor of *Introduction to SNA Networking* and *Advanced SNA Networking*, both published by McGraw-Hill.

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Introduction to Local Area Networking

The computer as we know it today did not become a staple for doing business until the mid-1970's. The thrust behind the importance of the computer at that time was the ability to network computers. This networking of computers allowed people remote to the computer to access the information available to that computer. This networking marked the beginning of the information age.

Today the power of the mainframe computer resides on the desk of the end user. This capability has given rise to distributed processing. Local area networks can be used in distributed processing environments to improve the flow of information and the availability of this information through interconnecting mainframes, minicomputers, workstations and personal computers. As we move further into the 1990's, we will see the complete migration of mainframe applications to workstations. The mainframe will be the centralized data base server for the corporate network. The computing power that utilizes the information will reside on the workstation. This technology is leading many corporations to take advantage of the reduced price and increased performance in the workplace.

This chapter will introduce some of the basic concepts of networking and local area networking.