

Osborne McGraw-Hill

MICRO TO MAINFRAME LINKS

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Micro to Mainframe Links

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Introduction

Micro-mainframe links are a hot topic of conversation throughout the information processing and communications industries. These links allow personal computers to be connected into host computers, which is critical for meeting end-user computing needs. With so many personal computers being sold into the business environment, it is important that you understand how links can benefit you and what your options are.

▼ WHO THIS BOOK IS FOR

This book is for anyone who is trying to get perspective on the whole issue of linking personal computers into hosts. It is for people who want to be a little more well-versed on what is happening out there. At least four types of individuals can benefit from reading it:

- Managers concerned with data center expansion and strategic planning for increased personal computer usage in the organization.
- Managers responsible for developing a plan for linking personal computers into hosts.

- Managers thinking of ways to provide departmental processing with host access.
- Technical individuals and managers responsible for selecting and implementing micro-mainframe links.

You don't need to be a technical wizard to read this book, but it won't bore you if you're a technical person who needs to evaluate and test link products. Anyone involved with the different aspects of link integration problems can quickly find selected chapters that are of special interest or address the needs of a particular job. This book offers you insight into the kinds of problems and issues you must address in integrating personal computers. After you read it, you will understand the opportunities that micro-mainframe linking can give your business.

If you are thinking strategically, then personal computers and workstations must be a part of this thinking. This book gives you an idea of things that your people have to deal with.

If you are responsible for developing a micro-mainframe link plan, you will find this book useful in identifying the steps in building such a plan. It provides a guideline that you can follow in asking the right questions and establishing a sound methodology. If you have to do any planning and thinking, this book will help you construct the framework that lets you build a solid plan.

If you have a department not easily serviced by the computer center or are in an area that is easily isolated, you'll find this book useful in dealing with how you select products for just such situations. It gives you food for thought about how you can proceed and how you can organize yourself to take the process step by step.

Finally, if you have to implement and test selected links and do the piloting, this book helps you quickly identify how to establish a test plan and what to look for in products.

Use this book as a reference. You don't need to read each and every chapter; you can refer to those chapters that are of the most interest to you.

Understanding Your Needs

If you're a manager responsible for information processing, you must deal with user demands every day. You're continually called upon to expand your activities and horizons. Not only do you have to concern yourself with the evolving business needs of your company, but you are also expected to know about the new link products on the market. Your company wants you to understand what the end users need and work it into an overall plan that the corporation can use to deal with personal computers.

These expectations can be overwhelming. What do you do when upper management says that they want a personal computer link integration plan in two weeks and that it must be consistent with the rest of the information processing acquisition and growth plans? Suddenly you are looking for products that can link these personal computers into the host, and you hope that you select the right ones. You often select a few well-known brands and hope that they do the job. You rush to your technical gurus and tell them that you need to have a link plan, complete with product recommendations and evaluations. You need to know why they are recommending specific links, and you need to know as soon as possible.

You've seen hundreds of advertisements in the trade journals for the latest and greatest links with the newest whiz-bang features. Surely your technical person knows which are the best to choose. But your technical person is just that, a technical individual who does not necessarily know what the business needs are or even what your critical factors are.

Maybe this person is as confused as you about where to start. Have you thought of or even considered this? Two weeks later, you are still looking for that plan. You're frustrated that you don't seem to have gotten any further than you were two weeks ago. Your management is anxious, and they want to know what the problem is. They know that it is confusing out there, but that's what they thought they were paying you for.

There are many "maybes" out there, and a lot of "things should evolve if I give it enough time." All of a sudden you don't

know where you are, the pressure is building to connect personal computers into hosts, and you are still flailing around wondering what to do.

Questions This Book Answers

How do you know what links are the right ones for your company? How do you know who the reputable vendors are? What about maintenance and warranty? These are some of the questions that you must answer—especially if you anticipate any kind of growth for personal computer installations. Numerous options are available to you, and it is tempting to make plans and selections on an ad hoc basis. But selecting links is a major commitment: you are talking about products that become part of your communications networks, products that you may very well want to expand upon in the future.

Questions, answers, probabilities, and uncertainties are all part of the business world. You try to minimize as many as possible. So why expose yourself to risks in developing networks for linking personal computers into hosts? These hosts can be DEC or Data General minicomputers. They can be Hewlett-Packard systems and they can be IBM or Burroughs mainframes.

▼ WHAT THIS BOOK IS ABOUT

Each chapter is devoted to a segment of personal computer integration. Each walks through a set of descriptive issues and activities you can follow to establish and implement a personal-computer-to-host integration plan.

- Chapter 1 gives you a brief review of what micro-mainframe links are and how they are used. It talks about why links are important.

- Chapter 2 offers a historical perspective of computing and discusses how we evolved to a stage of needing micro-mainframe links. It provides a framework for establishing how we use computing.
- Chapter 3 describes the different types of micro-mainframe links. It takes the confusion out of knowing where links fit and builds a foundation for understanding the options available for addressing personal computer integration.
- Chapter 4 profiles how information flow and end-user computing needs are changing. It describes data-gathering processes and what end users expect to do in retrieving and using information.
- Chapter 5 describes a methodology for assessing your company's integration needs and requirements. It identifies business and technical issues and discusses how to decide what role workstations will play in your organization. Security and data integrity are discussed for protecting indiscriminate user access with links.
- Chapter 6 offers approaches for establishing personal-computer-to-host integration plans. It gives examples of how different types of companies have used each approach.
- Chapter 7 describes how to build a link implementation plan. It analyzes total costs of installing, maintaining, operating, and training users on micro-mainframe links. It offers points on how to schedule and monitor progress.
- Chapter 8 concentrates on how to go through the link selection process. It focuses on establishing criteria that form the basis for comparing and eliminating links. Sample selection criteria are provided as a start.
- Chapter 9 deals with issues of developing and implementing link pilots and prototypes. You gain an appreciation of the steps required to focus link testing properly to meet your defined needs.

- Chapter 10 addresses how to review the results of your prototyping and testing relative to the needs that you defined. It advises on what to look for and how to assess the results.

What This Book Is Not

This book is not a review of different micro-mainframe link products. It is not a quick-and-dirty treatise telling you what products to choose and which ones are best. Your information processing and end-user requirements are unique to you, and it is virtually impossible for anyone to identify a few links that can be useful to all of you. Finally, this book is not a rehash of communications theory that can be found in any number of books already on the market.

This book definitely is a text for reference on each aspect of the personal-computer-to-host integration problem. You can start using it right now by turning to the chapter that is most pertinent to your particular needs.

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Links and Management

- ▼ MANAGING LINK INTEGRATION
- ▼ MANAGEMENT INFLUENCES
- ▼ THE TRANSITION TO MANAGING LINK INTEGRATION
- ▼ EXAMPLES OF MANAGEMENT APPROACHES

In today's information processing environment, you are constantly confronted with issues of how to interconnect personal computers, CAD/CAM graphics workstations, word processing systems, or any type of intelligent terminal to a "host" mainframe computer for accessing information. In some cases you must connect a few computers; at other times perhaps several hundred. Micro-mainframe links are products that allow you to do this. The term *micro-mainframe link* is a generic term that can apply to any product whose purpose is to allow this connection.

These link products can be hardware or software, or a combination of the two. Each product option offers different levels of complexity, features, performance, security capability, and expandability. Micro-to-mainframe links interface the desktop device (personal computer) into the host through a user interface that provides some form of simulation or emulation of a particular dumb terminal. These links can be emulators, local area networks (LANs), intermediate processors called *file servers*, or pure

software systems. All of these are described in much more detail in Chapter 3.

This book, as we stated in the introduction, deals with the process by which you understand your requirements, select links, establish an implementation plan, and test and evaluate the results of your selection and configuration.

▼ **MANAGING LINK INTEGRATION**

For now, consider the activity of management and organization to support the proliferation of personal computers that must somehow be integrated into the entire information processing environment. There are applications, user productivity, future end-user computing needs, and resource allocation that need to be considered to meet the demanding and growing needs of a business. These are all significant issues. In addition, as technology continues to change the way we think and perform, you must be able to adjust to the demands of your changing role.

You will have to consider the fact that your organizational structure might have to change to cope with the activities that are arising from user demands. Different companies all have varying requirements, and each company will handle this adjustment in different ways. It is important to consider for a moment that organizational changes might actually be necessary to achieve an efficient operation that deals with personal computer integration.

▼ **MANAGEMENT INFLUENCES**

Stop and think for a moment. Ask yourself what is changing that makes what you do different—not necessarily more difficult, but simply different.

One change is that in today's information processing environment you no longer can decide what is good for the end user simply because *you* are in control of the system. In the past, the end users didn't always understand what they needed, so *you* pro-

vided them with what you perceived they needed. Occasionally you asked for their advice, but more often than not, you gave them what *you* thought was best.

Another change is that you can't keep up with technology changes and products in the industry as fast as you used to. In the past, you only needed to keep track of the latest large main-frame computers and a few large host software manufacturers. This is no longer true, as you will see if you look at the number of vendor catalogs that exist. Entire directories are now available to keep track of where vendors are located and what products they manufacture. It's impossible to know all of these things all of the time.

One big change is that there are more end users than ever before, and they are more knowledgeable. Someone can always show you a product in the link arena that you haven't heard of, much less seen. You can't possibly keep up with so many people unless you are doing it full time as your only responsibility.

You can't keep up with your reading, either. Trade periodicals available to the public have increased dramatically since 1980. Reading all of the material can occupy eight hours a day. When you begin to run out of time, you scan each page for articles that catch your attention. You sometimes read articles unrelated to you, but that you have an interest in — like who is merging with whom. You then clip articles directly related to you, expecting to read them later. You never do. Finally, you simply look at the table of contents. If there are articles that you should read, you do. If not, you either file the publication or throw it away. You probably missed information that wasn't in the table of contents. But your end users caught it, because they haven't gotten to the stage that you did several weeks before.

So what is different is that you are being driven by your end users, who are sometimes better informed than you are about the possibilities. What's worse is that they want to do whatever they want to do *now*, because they know how to do it and don't understand your need to worry about the other aspects of running a data center. Don't get overwhelmed by all of these differences. Learn to cope with them in different ways that make your job easier.