About This Book

This book, *Inside Macintosh: AOCE Service Access Modules*, describes the mechanisms by which you can add catalog and messaging services to those that are available through PowerTalk system software and PowerShare collaboration servers. The technology underlying the PowerTalk and PowerShare software is called the ***Apple Open Collaboration Environment*** (AOCE). In this book, the term *AOCE software* refers to the Macintosh Operating System managers, Finder extensions, and other system software that the PowerTalk system software and PowerShare servers use to implement their many features. You use this AOCE software to implement your service access module. The term *PowerTalk system software* refers specifically to the implementation of the AOCE technology for the Macintosh Computer, and the term *PowerShare collaboration servers* refers to AOCE-based servers provided by Apple Computer, Inc., that provide mail, messaging, catalog, security, and time services.

You need to read this book if you want to extend the capabilities of the PowerTalk system software to take advantage of services offered by external catalogs (also known as *directories* or *databases*) and external messaging systems. This book describes the architecture of catalog service access modules (CSAMs) and messaging service access modules (MSAMs) and explains how each type of service access module (SAM) interacts with AOCE software. This book also describes the special AOCE templates that SAMs require to obtain configuration and address information from the user. It provides a technical reference to the system software routines that you use to provide catalog and messaging services.

This book assumes that you are an experienced C and Macintosh programmer and are familiar with the capabilities of AOCE software. Before reading this book, you should read at least these chapters in *Inside Macintosh: AOCE Application Interfaces*:

- "Introduction to the Apple Open Collaboration Environment" describes some of the uses of PowerTalk and PowerShare system software and introduces all of the AOCE managers. It discusses some concepts fundamental to an understanding of the AOCE software and defines many new terms.
- "AOCE Utilities" describes AOCE data structures and utility routines.
- "AOCE Templates" describes AOCE template resources. You need to understand standard AOCE templates before you can write the setup template that most SAMs require and the address template that all MSAMs require.
- "Catalog Manager" describes functions you implement in your CSAM to service user requests for information about the catalogs that you support and to manipulate the data in those catalogs.

In addition, portions of the chapters “Interprogram Messaging Manager” and “Authentication Manager” in *Inside Macintosh: AOCE Application Interfaces* provide information useful in developing a SAM. This book contains cross-references to those chapters where appropriate.

In this book, the chapter “Introduction to Service Access Modules” provides a brief overview of the different types of SAMs and their setup and address templates.

The chapter “Catalog Service Access Modules” describes the architecture and the components of a CSAM. This chapter does not stand alone. To implement a CSAM, you need a sound understanding of Catalog Manager functions and AOCE data types, described in the chapters “Catalog Manager“ and “AOCE Utilities” in *Inside Macintosh: AOCE Application Interfaces*.

The chapter “Messaging Service Access Modules” describes how you can interface an external mail or messaging system with the PowerTalk system software by writing an MSAM. It explains the structure of personal and server MSAMs and the differences between them, and describes how you can accomplish the most common tasks of an MSAM.

The chapter “Service Access Module Setup” describes the setup template, required for CSAMs and personal MSAMs, and the address template, required for all MSAMs. It also describes the records in the PowerTalk Setup catalog that the templates manipulate.

For your convenience, this book and *Inside Macintosh: AOCE Application Interfaces* include the same glossary of AOCE terminology. Thus, some glosssary entries refer to topics that are not introduced in this book.

Format of a Chapter

The chapters in this book typically contain an overview of the features provided by the subject of the chapter, sections that describe how to use the most common routines along with code samples, a reference section, and a summary section.

The content of the reference section differs somewhat from chapter to chapter. For example, whereas the reference section of the chapter “Messaging Service Access Modules” describes the data structures and functions used by the MSAM API, the reference section of the chapter “Service Access Module Setup” describes the records in the PowerTalk Setup catalog and the resources that constitute the setup template. In each case, the reference section provides a complete reference to the portion of AOCE system software described by that chapter.

Function descriptions follow a standard format, which gives the function declaration and a description of every parameter of the function. Some function descriptions also give additional descriptive information, such as special considerations and cross-references to other sections, chapters, and books.

The summary section typically provides the API's C interface, as well as the Pascal interface, for the constants, data structures, functions, and result codes associated with the API. It also includes some assembly-language interface information.

Some chapters include additional main sections that provide more detailed discussions of certain topics. For example, the chapter "Messaging Service Access Modules" contains the section "AOCE Addresses," which describes the format of addresses used by PowerTalk software.

Conventions Used in This Book

Inside Macintosh uses various conventions to present information. Words that require special treatment appear in specific fonts or font styles. Certain information, such as parameter blocks, use special formats so that you can scan them quickly.

Special Fonts

All code listings, reserved words, and the names of actual data structures, constants, fields, parameters, and functions are shown in Courier (`this is Courier`).

Words that appear in ***boldface*** are key terms or concepts defined in the glossary.

Types of Notes

Three types of notes are used in this book:

Note

A note like this contains general information that is supplemental to the main text. (An example appears on page 3-5.) ◆

Special topic note

A note like this contains information about a specific topic that is supplemental to the main text. (An example appears on page 2-6.) ◆

IMPORTANT

A note like this contains information that is essential for an understanding of the main text and that might cause you problems if ignored. (An example appears on page 2-67.) ▲

▲ **WARNING**
Warnings like this indicate potentially severe problems that you should be aware of as you design your application. Failure to heed these warnings could result in system crashes or loss of data. (An example appears on page 2-197.) ▲

Parameter Block Information

Inside Macintosh presents information about the fields of a parameter block in this format:

Parameter block

↔	`inAndOut`	`Boolean`	Input/output parameter.
←	`output1`	`OSErr`	Output parameter.
→	`input1`	`long`	Input parameter.

The arrow in the far left column indicates whether the field is an input parameter, output parameter, or both. You must supply values for all input parameters and input/output parameters. The function returns values in output parameters and input/output parameters.

The second column shows the field name as defined in the MPW C interface files; the third column indicates the C data type of that field. The fourth column provides a brief description of the use of the field. For a complete description of each field, see the discussion that follows the parameter block or the description of the parameter block in the reference section of the chapter.

Development Environment

The system software routines described in this book are available using C or Pascal interfaces. You can call most of these routines in assembly language, but no assembly-language interface files are provided. How you access these routines depends on the development environment you are using. This book shows system software functions in their C interface using the Macintosh Programmer's Workshop (MPW).

All code listings in this book are shown in C, or, for resources, in Rez input format. They show methods of using various routines and illustrate techniques for accomplishing particular tasks. Not all code listings have been compiled or tested. These code listings are for illustrative purposes only; Apple Computer, Inc., does not intend for you to use these code samples in your application.

For More Information

APDA is Apple's worldwide source of information about more than 300 development tools, technical resources, and training products. APDA is a valuable resource for anyone interested in developing applications on Apple platforms. Customers receive the quarterly *APDA Tools Catalog* featuring all current versions of Apple development tools and the most popular third-party development tools. Ordering is easy. There are no membership fees, and application forms are not required for most products. APDA offers convenient payment and shipping options, including site licensing.

To order products or to request a complimentary copy of the *APDA Tools Catalog*, contact

APDA
Apple Computer, Inc.
P.O. Box 319
Buffalo, NY 14207-0319

Telephone	800-282-2732 (United States) 800-637-0029 (Canada) 716-871-6555 (International)
Fax	716-871-6511
AppleLink	APDA
America Online	APDAorder
CompuServe	76666,2405
Internet	APDA@applelink.apple.com

If you provide commercial products and services, call 408-974-4897 for information on the developer support programs available from Apple.

For information on registering application signatures, file types, Apple events, and other technical information, contact

Macintosh Developer Technical Support
Apple Computer, Inc.
20525 Mariani Avenue, M/S 303-2T
Cupertino, CA 95014-6299