



At a Glance

Part I Plan and Create the Network

1	Plan Your Mac Network	3
2	Set Up the Network Hardware	15
3	Set Up Your Mac OS X Server	43
4	Secure Your Server	73
5	Set Up Open Directory	97
6	Set Up Client Systems	125
7	Create and Control Users and Groups	161
8	Add the iPhone or iPod touch to Your Network	199

Part II Provide Services and Applications

9	Configure the Web Service and Control Internet Access	223
10	Set Up E-mail	245
11	Set Up File Services	267
12	Install and Manage Applications	305
13	Run Windows Applications on Macs	325
14	Manage Printers	357
15	Allow Remote Access to Your Network	383

Part III Secure and Maintain Your Network

16	Secure Your Macs and Your Network	405
17	Keep Your Client Macs Up to Date	435
18	Back Up and Restore Data	445
19	Automate Routine Tasks with AppleScript	459
20	Create Peer-to-Peer Mac Networks for Small Offices	473
	Index	489



Contents

Acknowledgments	xvii
Introduction	xix

Part I

Plan and Create the Network

1 Plan Your Mac Network	3
Establishing the Numbers of Clients and Servers	4
Choosing How to Connect Your Network	4
Understanding the Advantages of Wired Networks	5
Understanding the Advantages of Wireless Networks	5
Understanding the Pros and Cons of Combination Networks	7
Choosing the Right Network Type for Your Needs	8
Choosing Network Hardware	9
Choosing Network Switches and Cables for a Wired Network	9
Choosing a Wireless Access Point	10
Choosing a Server	12
Getting a Copy of Mac OS X Server	13

Choosing Which Version of TCP/IP to Use	13
Getting the Information for Setting Up Your Internet Connection	14
2 Set Up the Network Hardware	15
Installing a Wired Network	16
Installing a Wireless Network	17
Choosing Where to Locate the AirPort Extreme	18
Connecting the AirPort Extreme’s Hardware	21
Getting the Latest Version of AirPort Utility	21
Configuring the AirPort Extreme	21
Closing Your AirPort Extreme Network	40
3 Set Up Your Mac OS X Server	43
Installing Mac OS X Server from Scratch	44
Choosing Which Disk to Install Mac OS X Server On	44
Customizing the Installation	45
Performing the Initial Configuration	48
Choosing the Keyboard Layout	49
Entering the Serial Number	49
Choosing Whether to Transfer an Existing Server	50
Choosing the Time Zone	51
Setting Up the Administrator Account	52
Choosing Network Settings for Your Server	56
Assigning Network Names to Your Server	60
Setting Up Users and Groups	61
Choosing Which Services to Run on Your Server	63
Setting Up Client Backup	64
Choosing Mail Options	65
Reviewing the Options You’ve Chosen	66
Upgrading Mac OS X Client to Mac OS X Server	70
4 Secure Your Server	73
Updating Your Server with the Latest Fixes	74
Running Software Update Manually	74
Configuring Software Update to Check Automatically for Updates	76
Updating a Server via Server Updates	77
Understanding Other Ways of Getting Updates	79
Securing Your Server’s Hardware	80
Locating Your Server Safely	80
Protecting Your Server Against Power Outages	80

Securing Your Server's Software	81
Enabling the Mac OS X Firewall and Choosing Which Services to Expose	81
Changing the Password on the Root Account	84
Setting Up Other Administrator Accounts	86
Keeping the Administrator Accounts Secure	87
Getting and Installing an SSL Certificate	88
5 Set Up Open Directory	97
Understanding Directory Services and Their Advantages	98
Understanding Local and Shared Directory Domains	99
Understanding How Open Directory Works with Windows Computers	100
Understanding Authentication and Authorization	102
Understanding the Tools for Working with Open Directory Services	103
Planning Your Network's Directory	103
Creating a Single-Server Network	104
Creating a Multi-Server Network	104
Creating a Standalone Server for a Very Small Network	105
Setting Up Open Directory on Your Servers	106
Turning On the Open Directory Service	107
Setting Up an Open Directory Master Server	107
Setting Up an Open Directory Replica Server	111
Set Up Primary and Backup Domain Controllers for Windows Boxes	114
Setting Up a Standalone Directory	119
Managing Your Servers Remotely	120
Installing the Server Administration Software on a Client Mac	120
Running the Server Administration Software Applications on a Client Mac	121
Connecting to a Remote Server Using Server Admin	122
6 Set Up Client Systems	125
Understanding the Options for Setting Up Client Systems	126
Setting Up a Client Mac Manually	126
Creating Images with System Image Utility	128
Starting to Create a Disk Image	128
Creating a Vanilla Disk Image	130
Creating a Customized Disk Image	131
Creating Your Own Package Files	140

Creating an Image from a Mac You've Set Up	153
Turning On and Setting Up the NetBoot Service	155
Setting a Mac Client to Install from a NetInstall Image	159
7 Create and Control Users and Groups	161
Understanding the Tools for Working with Accounts	162
Understanding the Essentials of Accounts	162
Understanding the Three Ways of	
Creating User Accounts	163
Understanding the Different Administrator Accounts	164
Understanding the Three Categories of User Accounts	
and Where Mac OS X Server Stores Them	165
Understanding Groups and What	
You Can Do with Them	166
Creating a User in Server Preferences	166
Changing the User's Contact Information	169
Changing the Services Available to the User	170
Assigning the User to Groups	170
Choosing E-mail Message Settings	172
Importing User Accounts from Another Server	173
Deleting a User Account	175
Working with Groups in Server Preferences	176
Creating a New Group and Adding Members	176
Removing Members from a Group	180
Deleting a Group	180
Creating and Editing Accounts with Workgroup Manager	180
Opening Workgroup Manager	180
Editing a User	184
Creating and Editing Groups in Workgroup Manager	192
Choosing Basic Settings for a Group	193
Choosing Members for a Group	194
Setting Up a Group Folder for a Group	195
Creating Computer Accounts in Workgroup Manager	196
Creating Computer Groups in Workgroup Manager	197
8 Add the iPhone or iPod touch to Your Network	199
Automating the Configuration of an iPhone or iPod touch	200
Getting and Installing the iPhone Configuration Utility	200
Creating a Configuration Profile	201
Applying a Configuration Profile	216
Setting Up an iPhone or iPod touch Manually	219
Activating Your iPhones	220

PART II**Provide Services and Applications**

9 Configure the Web Service and	
Control Internet Access	223
Setting Up the Web Server on the Web Service	224
Turning On the Web Service	224
Configuring the Web Service	225
Starting the Web Service	229
Setting Up a Website	229
Putting Your Files in the Web Folder	229
Setting Up the Website in Server Admin	230
Setting Up Proxying for Internet Access	238
Configure the Forward Proxy Settings for	
the Web Service	239
Telling Users and Computers Which	
Proxy Servers to Use	241
Checking That Proxying Is Working	243
Disabling Internet Sharing	243
10 Set Up E-mail	245
Understanding How E-mail Works	246
Looking at E-mail from the User's Point of View	246
Understanding How an E-mail Message	
Travels Between Servers	246
Understanding How POP and IMAP Work	247
Knowing How Your Mail Server Makes	
Its Presence Felt On the Internet	248
Turning On and Configuring the Mail Service	249
Turning On the Mail Service	249
Performing Essential Configuration with	
the Server Configuration Assistant	250
Configuring Your Mail Server Further	
Using Server Admin	256
Connecting Users to E-mail	262
Enabling a User to Use E-mail	262
Choosing How a User Accesses E-mail	262
Connecting Users to Your Mail Server	264

11 Set Up File Services	267
Sorting Out Your File Service Protocols	268
Understanding the Protocols That Mac OS X Server Can Use	268
Seeing Which Protocols Your Server Is Using	268
Turning a Protocol's Service On or Off	269
Choosing AFP Settings	273
Setting Up SMB	277
Setting Up FTP	280
Turning On and Setting Up NFS	285
Creating Share Points to Share Folders and Volumes	286
Seeing Which Share Points You Already Have	286
Adding Further Share Points	289
Changing the Options Used for a Share Point	289
Changing the Protocols Used for a Share Point	292
Setting Permissions for a Share Point	296
Setting Up Home Folders for Users	298
Creating Mobile Accounts and External Accounts	299
Assigning a Home Folder to a User Account	302
12 Install and Manage Applications	305
Controlling the Applications a User Can Run	306
Getting Ready to Restrict the Applications and Widgets	306
Restricting the Applications the User Can Run	307
Choosing Which Widgets the User Can Run	311
Choosing Whether the User Can Run Front Row	312
Controlling Which Legacy Applications the User Can Run	313
Installing Applications on Your Client Macs	314
Deploying Applications Through Screen Sharing	315
Deploying Applications Through Apple Remote Desktop	318
13 Run Windows Applications on Macs	325
Understanding the Options for Running Windows Applications on Macs	326
Running Windows Applications Using a Virtual Machine	327
Choosing a Virtual-Machine Application	327
Installing the Virtual-Machine Application	328
Creating a Virtual Machine	329
Running Windows Applications Using Boot Camp	336
Understanding the Process of Setting Up Boot Camp	337
Using Boot Camp Assistant to Create a New Partition	337

Installing the Mac Hardware Drivers	340
Installing Antivirus Software	342
Updating Windows with the Latest Service Pack and Patches	342
Installing the Applications You Need	342
Returning to Normality	342
Running Windows Applications Using	
Remote Desktop Connection	344
Setting Up Remote Desktop on the Windows PC	344
Installing Remote Desktop Connection on the Mac	346
Connecting via Remote Desktop Connection	347
14 Manage Printers	357
Adding a Printer to Your Mac Network	358
Deciding Whether to Manage Your Printers with the Print Service	358
Deciding How to Connect the Printer to Your Network ...	361
Connecting a Printer Directly to a Mac	361
Connecting the Printer to Your Server	363
Connecting Your Printer to an Ethernet Switch	363
Connecting a Printer to a Print Server or Router	364
Setting Up the Print Service	365
Turning On the Print Service	366
Understanding How Print Queues Work	366
Creating the Print Queues and Choosing Settings	367
Balancing the Print Load Across Multiple Printers	369
Choosing Which Printers a User Can Print On	371
Setting a Print Quota for a User	374
Setting Up Printing on Your Clients	377
Managing Your Print Queues	380
15 Allow Remote Access to Your Network	383
Understanding Virtual Private Networking	384
Understanding What VPNs Are Good For	384
Understanding the Different Technologies for VPNs	384
Setting Up a Virtual Private Network	385
Turning On the VPN Service	385
Configuring the VPN Service	386
Starting the VPN	390
Choosing Which Users Can Connect to the VPN	390
Connecting Your Client Macs to the VPN	391
Setting a Client Mac to Connect to the VPN	391
Choosing Advanced VPN Settings	394
Connecting a Mac to a VPN	399

Connecting an iPhone or iPod touch to a VPN	400
Setting Up a VPN Automatically on an iPhone or iPod touch	400
Choosing VPN Settings Manually on an iPhone or iPod touch	400
Connecting the iPhone or iPod touch to the VPN	402

PART III

Secure and Maintain Your Network

16 Secure Your Macs and Your Network	405
Your Executive Overview of the Threats	406
Securing Your Network's Macs	407
Setting an Open Firmware Password	407
Locking Down System Preferences on a Mac	409
Installing Antivirus Software	419
Securing Web Browsers	419
Restricting User Accounts	422
Keeping Your Company's iPhones and iPod Touches Safe	427
Securing Your Network	429
Securing a Wireless Network	429
Securing a Wired Network	432
Securing Your Internet Connection with a Firewall	432
17 Keep Your Client Macs Up to Date	435
Choosing Where to Get Software Updates	436
Setting Your Server to Provide Software Updates	436
Setting a Client Mac to Download Updates	
from Your Update Server	440
Setting a Managed Client Mac to Download Updates from Your Update Server	440
Controlling Where an Unmanaged Client Mac Gets Its Updates	441
Configuring Software Update to Check for Updates	443
Installing the Updates	444
18 Back Up and Restore Data	445
Understanding How Time Machine Backups Work	446
Understanding How Incremental Backups Work	446
Understanding How You Set Up Time Machine	447

Setting Up Time Machine in Server Preferences	447
Setting Time Machine to Back Up a Client's Data	451
Automatically Setting Time Machine to	
Back Up a Client's Data	451
Manually Setting Time Machine to	
Back Up a Client's Data	451
Preventing Users from Changing	
Time Machine Settings	451
Running a Backup Manually	453
Setting the Server to Back Up with Time Machine	453
Recovering Data Using Time Machine	456
Recovering the Server Using Installer	458
19 Automate Routine Tasks with AppleScript	459
Getting Up and Running with the AppleScript Editor	460
Creating and Running a Script	462
Finding Out What Version of Mac OS X Is Running	463
Displaying a Dialog Box and Returning the Result	464
Using a Condition to Direct a Script	466
Getting User Input with a Dialog Box	467
Finding Information in a Dictionary File	467
Telling an Application What to Do	468
Repeating Actions	469
Examples of Using AppleScript for Administration	470
Mounting and Unmounting Network Volumes	470
Finding Out the Version of an Application	471
Setting Up an SMTP Server in Mail	472
Setting Up Microsoft Office File Paths on a Client Mac	472
20 Create Peer-to-Peer Mac Networks for Small Offices ...	473
Planning Your Peer-to-Peer Network	474
Sharing Printers	476
Setting a Mac to Share a Printer	476
Connecting a Mac to a Shared Printer	479
Sharing a Folder	481
Setting a Mac to Share a Folder	481
Connecting a Mac to a Shared Folder	485
Sharing an Internet Connection	486
Setting a Mac to Share Its Internet Connection	487
Connecting a Mac to the Shared Internet Connection	488
Index	489