



# Windows® 2000 Active Directory™

**New  
Riders**

Eugene Brown  
Doug Hauger  
William C. Wade III

# Contents

**Introduction** xvi

## **I Introduction and Overview 1**

### **1 How Active Directory Will Affect Your Organization 3**

The Customer—How Active Directory Affects the Users 4

Administration 6

Roles 7

Organizing and Evolving the Active Directory Team 12

Central Versus Distributed Administration 17

Small Organizations 17

Security 18

Infrastructure 18

Summary 18

### **2 Introducing Active Directory 19**

Active Directory Components 21

Summary 30

### **3 Active Directory as a Meta-Directory 31**

Defining a Meta-Directory 32

Integration with NetWare Directory Services 42

Integration with X.500 44

Summary 45

### **4 Defining and Meeting Your Directory Requirements 47**

Defining Requirements 48

Mapping Requirements to Functionality 56

Summary 65

### **5 Scoping the Project 67**

Analysis of Current Applications 68

Administrative Structure 75

Environmental Considerations 78

Staff 82

Summary 82

## **II. Planning 83**

### **6 Planning for Coexistence 85**

Methodology and Process 86

Publisher and Subscriber Directories 89

Planning for Coexistence with NetWare 91

Planning for Coexistence with Windows NT 4.0 93

Planning for Coexistence with UNIX 96

Summary 96

### **7 Designing the Windows 2000 Domain Structure 99**

Determining the Scope of Active Directory 99

Assessing Your Environment 106

Assessing the Administrative Structure 109

Assessing the Application Structure 111

Assessing the Organizational Structure 112

Weighing the Requirements 113

Defining Active Directory Namespace Candidates 114

Summary 129

### **8 Designing the DNS Namespace 131**

Windows 2000 DNS: With Active Directory  
and Without Active Directory 132

Dynamic Host Configuration Protocol (DHCP) and DNS 133

DNS Standards that Support Active Directory 135

Microsoft DNS 135

Wadeware's DNS Implementation 136

Wadeware Uses Existing DNS 137

Summary 142

### **9 Group Policies 143**

Windows NT 4.0 System Policy Capabilities 143

Group Policies 145

How to Administer Group Policies 148

Improving Performance on GPOs 155

How to Use Group Policy 155

Migrating Group Policy from Windows NT 4.0 160

Summary 160

**10 The Physical Topology: Sites and Replication 161**

- Physical versus Logical Structure 162
- Replication 164
- Tools for Monitoring Replication 172
- Sites Explained 174
- Site Functionality Beyond Replication 181
- Network Bandwidth 182
- Site Design 182
- Building Sites 186
- Summary 186

**11 Active Directory and Scalability 187**

- Growing a Domain 187
- Growing a Tree 192
- Growing a Forest 193
- Growing with Your Organization 194
- Growing with Your Applications 194
- Summary 195

**III Implementation 197****12 Managing the Desktop 199**

- Subsets of Enterprise Management 200
- Windows 2000 Management Services 202
- IntelliMirror 203
- Microsoft Installer 206
- System Management Server 211
- Windows 2000 Remote Installation Services 212
- Summary 214

**13 Developing an Administration Strategy 215**

- Typical Windows NT 4.0 Administration Models 216
- Windows 2000 Administrative Groups 216
- Windows 2000 Administrative Strategies 217
- Administrative Models for Windows 2000 Using Active Directory 224
- OU-Specific Administration 224
- Summary 228

- 14 Windows 2000 Networking Services 229**
  - Windows 2000 Network Services 230
  - WINS 236
  - QoS 238
  - Summary 243
  
- 15 Developing a Network Security Strategy 245**
  - Types of Security 246
  - Choosing the Right Security 256
  - Summary 258
  
- 16 Developing a Remote Access Solution 259**
  - Remote Access Strategy 260
  - Remote Access Technologies 263
  - Access Methods and Standards 263
  - Secure RASs 264
  - Thin-Client Computing 266
  - Remote Access Considerations 267
  - Remote Access Policies 269
  - Summary 269
  
- 17 Developing an Implementation Plan 271**
  - Implementation Plan in the Overall Project 272
  - Implementing Active Directory Design 273
  - Defining an Implementation Approach 274
  - Defining a Set of Implementation Tasks 277
  - Additional Implementation Plan Components 281
  - Managing the Implementation Project 283
  - Summary 283
  
- 18 Windows 2000 and Exchange Server 285**
  - Exchange 5.5 285
  - Exchange 2000 295
  - Summary 306

<b>19 Scripting with Active Directory</b>	<b>307</b>
Benefits of Using Scripts	307
Creating a Simple Script	308
Testing the Script	310
Using LDIFDE Utility	310
Creating the Scripts	313
CSVDE Utility	315
Third-Party Tools	315
Summary	315
<b>20 Designing Active Directory Hierarchies</b>	<b>317</b>
Definition of a Hierarchy	317
When to Use OUs	322
When to Use Multiple Domains in a Single Tree	325
When to Use Multiple Trees	328
When to Use Multiple Forests	330
Summary	331
<b>21 Creating a Lab</b>	<b>333</b>
Building a Lab Team	334
Developing a Lab Strategy and Methodology	335
Creating a Test Lab Environment	337
Testing Hardware	340
Testing Software	340
Documenting Test Results	341
Presenting Lab Results	341
Summary	342
<b>22 Upgrading from Windows NT 4.0</b>	<b>343</b>
Reasons to Upgrade	343
Project Phases	345
Goals of the Migration	346
Preparing for the Migration and Active Directory	346
Approaches for Upgrading to Active Directory	350
Active Directory Upgrade Scenarios	353
When to Go to Native Mode	354
Summary	355
<b>Index</b>	<b>357</b>