

Part 1. Introduction

| | |
|--|-----------|
| Chapter 1. Client/Server Architecture | 3 |
| Centralized Multiuser Architecture | 4 |
| Distributed Single-User Architecture | 6 |
| Client/Server Architecture as a Design Approach | 9 |
| Chapter 2. Benefits, Promises, and Obstacles | 13 |
| Benefits | 13 |
| Obstacles | 17 |

Part 2. Technological Foundations

| | |
|---|-----------|
| Chapter 3. The Foundations | 25 |
| Selecting Appropriate Technologies | 27 |
| The Foundation Technologies | 33 |
| Chapter 4. Client Technologies | 35 |
| Applications and Tools | 36 |
| Operating System | 40 |
| Hardware Platform | 44 |
| Database Access | 46 |
| Interprocess Communication Protocols | 52 |
| Chapter 5. Network Technologies | 55 |
| Local Area Network | 56 |

viii Contents

| | |
|--|------------|
| The OSI Model | 60 |
| Reality | 64 |
| Chapter 6. Server Technologies | 73 |
| Server Operating System | 75 |
| Server Hardware | 77 |
| Database Access | 78 |
| Distributed Data Access | 79 |
| Database Engine | 80 |
| Chapter 7. Configurations | 83 |
| Sybase SQLServer Unix-to-Unix Configuration | 84 |
| MS-Windows to OS/2 SQLServer | 85 |
| Novell Network with Named Pipes | 86 |
| Novell Network without Named Pipes | 87 |
| MS-Windows to Oracle v7.0 Unix | 88 |
| Using Dynamic Data Exchange | 90 |
| Using Gateways to Establish Connectivity | 93 |
| Using ODBC and APPC | 94 |
| Summary | 95 |
| Chapter 8. The Database Engine | 97 |
| The Rational Model | 98 |
| Object-Oriented Models | 113 |
| Summary | 114 |
| | |
| Part 3. Building Client/Server Applications | |
| Chapter 9. Planning | 117 |
| Planning Considerations | 117 |
| The Planning Framework | 121 |
| Planning for Change | 123 |
| Chapter 10. The Organizational Challenge | 127 |
| The Corporate Data Center | 128 |
| Redefining the MIS Organization | 132 |
| Skills Assessment and Training | 134 |
| Establishing Standards | 135 |
| Redefining Systems Development | 137 |
| Getting Started | 144 |
| Chapter 11. Methodology | 149 |
| Solution Definition | 154 |

| | |
|---|------------|
| Solution Development | 157 |
| Solution Implementation | 159 |
| Continuous Improvement | 161 |
| Summary | 162 |
| Chapter 12. Reengineering Tools and Techniques | 165 |
| Data-Flow Analysis | 165 |
| Workflow Analysis | 167 |
| Cause-and-Effect Diagrams | 169 |
| Brainstorming | 170 |
| Rapid Prototyping | 171 |
| Chapter 13. Data Analysis | 173 |
| Information Modeling | 174 |
| The Conceptual Model | 177 |
| The Logical Model | 182 |
| The Physical Model | 184 |
| Summary | 187 |
| Chapter 14. Architecture Design | 189 |
| Structure Chart | 189 |
| Rapid Prototyping | 192 |
| Object-Oriented Analysis and Design | 192 |
| Benchmarking | 195 |
| Chapter 15. Client/Server-Specific Design Issues | 199 |
| Functional Distribution | 199 |
| Data Distribution | 204 |
| Chapter 16. Futures | 211 |
| Business Needs | 211 |
| Standards | 212 |
| Object-Oriented Programming | 213 |
| Fully Distributed Processing | 213 |
| Information Presentation | 213 |
| Conclusion | 214 |
| Bibliography | 215 |
| Index | 217 |