



# CONTENTS

<b>PREFACE</b>	<b>11</b>
<b>1 CHARACTERIZATION OF DISTRIBUTED SYSTEMS</b>	<b>17</b>
1.1 Introduction	18
1.2 Examples of distributed systems	19
1.3 Trends in distributed systems	24
1.4 Focus on resource sharing	30
1.5 Challenges	32
1.6 Case study: The World Wide Web	42
1.7 Summary	49
<b>2 SYSTEM MODELS</b>	<b>53</b>
2.1 Introduction	54
2.2 Physical models	55
2.3 Architectural models	56
2.4 Fundamental models	77
2.5 Summary	92
<b>3 NETWORKING AND INTERNETWORKING</b>	<b>97</b>
3.1 Introduction	98
3.2 Types of network	102
3.3 Network principles	105
3.4 Internet protocols	122
3.5 Case studies: Ethernet, WiFi and Bluetooth	144
3.6 Summary	157