

# Contents

About the Authors .....	<i>.xi</i>
About the Technical Reviewer .....	<i>.xi</i>
Acknowledgments .....	<i>.xii</i>
Introduction .....	<i>.xiii</i>

## **Chapter 1 Introducing Performance Tuning and Optimization .....1**

Introducing ASP.NET Application Architecture .....	<i>.2</i>
Defining Application Performance with Metrics .....	<i>.4</i>
Measuring Application Performance .....	<i>.8</i>
Profiling ASP.NET Application Performance .....	<i>.13</i>
Monitoring Performance .....	<i>.15</i>
Monitoring and Analyzing Performance Using Performance Monitor .....	<i>.16</i>
Performance Testing Using Microsoft Application Center Test .....	<i>.17</i>
Summary .....	<i>.19</i>

## **Chapter 2 Introducing ASP.NET Applications .....21**

Overview of ASP.NET Applications .....	<i>.21</i>
Benefits of ASP.NET .....	<i>.23</i>
Understanding the ASP.NET Architecture .....	<i>.24</i>
Understanding the ASP.NET Configuration System .....	<i>.48</i>
Summary .....	<i>.61</i>

## **Chapter 3 Writing Optimized Data Access Code .....63**

Overview of ADO.NET .....	<i>.64</i>
Benefits of ADO.NET .....	<i>.67</i>
Understanding the .NET Managed Data Provider .....	<i>.68</i>
Understanding the DataSet Class .....	<i>.87</i>

Making Data Access Design Decisions .....	110
Using Data Access Best Practices .....	116
Summary .....	121

## **Chapter 4 Optimizing Application and Session State Management .....123**

Overview of Session Management .....	124
Overview of Application Management .....	147
Understanding the Global.asax File .....	156
Choosing the Right ASP.NET State Management Option .....	162
Summary .....	164

## **Chapter 5 Caching ASP.NET Applications .....167**

Overview of Caching .....	168
Output Caching .....	169
Application Data Caching Using the Cache API .....	186
Caching Web Services .....	196
Caching in Web Farms .....	201
Caching with ISA Server .....	203
Summary .....	205

## **Chapter 6 Writing Optimized Web Services .....207**

A Web Services Technology Primer .....	208
Building Web Services Using ASP.NET .....	209
Building and Consuming Web Services .....	216
Setting Web Services Security .....	240
.NET Remoting vs. ASP.NET Web Services .....	244
Optimizing Web Service Design .....	248
Summary .....	251

<b>Chapter 7 Stress Testing and Monitoring ASP.NET Applications</b>	<b>253</b>
Understanding Performance Testing Concepts	253
Using the Application Center Test Tool	263
Summary	296
 <b>Chapter 8 Debugging and Tracing ASP.NET Applications</b>	 <b>297</b>
Understanding Application Builds	299
Using Debugging Tools in Visual Studio .NET	311
Debugging Client-Side Script Using Visual Studio .NET and Internet Explorer 6	325
Using Tracing Tools in ASP.NET	330
Exploring Strategies for Exception Management	341
Summary	352
 <b>Index</b>	 <b>353</b>