Table of Contents

	Foreword	ix
	About This Book	xiii
	About The Authors	xxi
	Guide To The Reader	xxv
1	**Concurrent and Networked Objects**	1
1.1	Motivation	2
1.2	Challenges of Concurrent and Networked Software	6
1.3	A Case Study: Designing a Concurrent Web Server	24
1.4	Wrapping Up	41
2	**Service Access and Configuration Patterns**	43
	Wrapper Facade	47
	Component Configurator	75
	Interceptor	109
	Extension Interface	141
3	**Event Handling Patterns**	175
	Reactor	179
	Proactor	215
	Asynchronous Completion Token	261
	Acceptor-Connector	285
4	**Synchronization Patterns**	323
	Scoped Locking	325
	Strategized Locking	333

	Thread-Safe Interface	345
	Double-Checked Locking Optimization	353
5	**Concurrency Patterns**	365
	Active Object	369
	Monitor Object	399
	Half-Sync/Half-Async	423
	Leader/Followers	447
	Thread-Specific Storage	475
6	**Weaving the Patterns Together**	505
6.1	From Individual Patterns to Pattern Languages	506
6.2	A Pattern Language for Middleware and Applications	510
6.3	Beyond Concurrency and Networking	522
6.4	Pattern Languages versus Pattern Systems	524
7	**The Past, Present, and Future of Patterns**	527
7.1	What Has Happened in the Past Four Years	528
7.2	Where Patterns are Now	532
7.3	Where Patterns are Going	533
7.4	A Parting Thought on Predicting the Future	542
8	**Concluding Remarks**	543
	Glossary	545
	Notations	563
	References	569
	Index of Patterns	595
	Index	599
	Index of Names	631