Appendix E  Table of Figures

Figure 1: Document Template for pattern descriptions....................................................31

Figure 2: A Pattern Mining Process.................................................................................49

Figure 3: Feature modeling for visualization of pattern relationships. ..............................53

Figure 4: Cyclomatic Complexity applied to the Proxy Pattern...........................................54

Figure 5: Broker architecture pattern.............................................................................73

Figure 6: Method invocation in a Broker system. ...........................................................74

Figure 7: Server registration with Broker.........................................................................74

Figure 8: Proxy pattern....................................................................................................75

Figure 9: Interaction among participants in Proxy pattern. ..............................................75

Figure 10: Abstract factory. .............................................................................................76

Figure 11: CORBA Architecture Overview. .....................................................................84

Figure 12: COM/DCOM based component model...........................................................95

Figure 13: DCOM remote reference resolution. ...............................................................97

Figure 14: Proxy component as an intermediate layer between client and servant.............109

Figure 15: Extension Interface design pattern...............................................................110
Figure 16: a) The broker component maps logical server references to physical server locations; b) multiple servants may reside within the same server. .............................................. 112

Figure 17: Example of an UDDI server scheme. ................................................................ 116

Figure 18: The Bridge pattern decouples clients and service implementations using interfaces as abstraction layers (italics indicate an abstract class). .............................. 126

Figure 19: Applying core J2EE patterns in SOA based contexts........................................ 138

Figure 20: CRC cards of Broker Revisited participants. .................................................... 146

Figure 21: Static structure of Broker Revisited. ............................................................... 147

Figure 22: Interaction in Broker Revisited. ..................................................................... 148

Figure 23: Overload situations due to permanently activated threads............................. 162

Figure 24: Client participant of Activator pattern. ............................................................ 165

Figure 25: Service identifiers........................................................................................... 166

Figure 26: Service proxy within Activator pattern. ......................................................... 166

Figure 27: Service Execution Contexts manage service lifecycles.................................... 167

Figure 28: An activatable service. .................................................................................... 168

Figure 29: The Activator component. .............................................................................. 169

Figure 30: The activation table maintains activation information...................................... 169

Figure 31: Static structure of the Activator pattern. .......................................................... 171
Figure 32: Service registration. .................................................................172
Figure 33: Service activation and deactivation. ................................................174
Figure 34: Better load behavior due to activation. ..........................................186
Figure 35: Layered CORBA Request Processing. ..............................................194
Figure 36: Structure of Context Object Pattern. .................................................198
Figure 37: Layer 1 in Context Object Pattern. ....................................................198
Figure 38: Additional layers in Context Object Pattern. ....................................199
Figure 39: Context Object Factory. .................................................................199
Figure 40: Context Object. .............................................................................200
Figure 41: Creating a context object.................................................................201
Figure 42: Propagation of context information..................................................201
Figure 43: Reusing context objects. .................................................................202
Figure 44: Layered CORBA demultiplexing using Context Object. ....................205
Figure 45: A System of Patterns for Distributed Systems...............................234