

Tutorial 2

Software Patterns for Fault Tolerance

Robert S. Hanmer
Alcatel-Lucent

This is an overview tutorial that introduces software patterns and how they can be used to communicate the principles of reliability. Software patterns have been discussed in the software design and development community for more than a decade. Practitioners find them useful to learn new ways to design their software and also references to remember things that they already know. Patterns describe solutions that have withstood the test of time in production systems.

Three main topics will be covered in this tutorial. The first is a basic introduction to patterns, the worldwide pattern community and pattern resources. Patterns work together to generate solutions to problems that are non-obvious through pattern languages; pattern languages and other collections of patterns are the second topic to be covered. The third is the use of pattern languages to document software and system architectures. Illustrative patterns and pattern languages will come from software fault tolerance.

At the end of this tutorial the participants will be able to describe patterns, know where to find pattern resources, understand the basics of pattern languages and how patterns work together, and also be introduced to a variety of patterns for software fault tolerance.

About the speaker

Robert S. Hanmer is a consulting member of technical staff in the Technical Component Management area in Alcatel-Lucent's Procurement and Sourcing area. He is based in Naperville, Illinois. Current responsibilities include developing software sourcing strategies for a number of technology cells including availability enhancing middleware. Previous positions within Lucent Technologies and Bell Laboratories have included development, architecture and evaluation of highly reliable systems focusing especially on the areas of reliability and performance. He is active in the software patterns community, including serving as program chair at several pattern conferences and teaching pattern writing classes. He has authored or co-authored two book chapters of fault tolerance patterns and a book on patterns for software fault tolerance. He is a member of the IEEE Computer Society, the Hillside Group, and is a Senior Member of the ACM. He received his B.S. and M.S. degrees in Computer Science from Northwestern University in Evanston, Illinois, USA.

Contact info: Robert S. Hanmer, Consulting Member of Technical Staff, Alcatel-Lucent, 2000 Lucent Lane 2H-207, PO Box 3033, Naperville, IL 60566-7033 USA, hanmer@alcatel-lucent.com, Voice: +1 630 979 4786