

## **Book Review: Storage Network Performance Analysis**

**Allen Blackburn**

Title: Storage Network Performance Analysis

Author: Huseyin Simitci

Published: 2003

If you were to search for books which are dedicated to the performance of storage systems and networks, you would be able to count them on one finger. You guessed it – *Storage Network Performance Analysis* is alone in this specialized field.

The author covers all areas of storage and performance modeling very well. The first part of the book covers the main performance analysis techniques, including analytic and simulation modeling, plus experimental analysis. He then dedicates chapters to the modeling of devices, networks and workloads, and includes examples of each. In addition, he covers the topics of performance tuning of all layers of the I/O path, including application, host, storage network and storage subsystem.

I discovered that much of the modeling covered in this book is actually performed via third-party tools, some of which are no longer available. I imagine that it would be difficult to accomplish what the book is demonstrating without the help of such a tool.

The only real problem I had with this book was that the material is somewhat dated. The book was published almost 9 years ago, and it would be very nice to have an updated edition.

Perhaps the most valuable part of the book is the last, in which three separate real-world case studies are presented. In each, the author goes through the appropriate modeling technique step by step, showing the calculations and results in each case. The three case studies used were all very relevant, and included 1) a NAS performance simulation, 2) remote replication modeling, and 3) a data center performance analysis, in which a four-tier landscape is studied.

Dr. Simitci is very thorough and technical in his presentation and layout of the book. I also thought that the content was very academic in nature; it could pass for a textbook, if there were such a class to be offered. Most prevalent is the author's focus on queuing theory in performance analysis and modeling. For those who are not familiar with queuing theory, the author does a fair job of explaining the basics. But to completely understand all of the modeling techniques used throughout the book, and especially use them in the real world, you will probably need to already have a deeper understanding of queuing theory than can be gained in this relatively short book.

### **Allen Blackburn**

*Allen works as a full-time storage engineer in the insurance industry. He also owns his own performance and capacity consulting business, Black Box Performance & Capacity. He has 18 years' experience in the IT industry.*