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## High Availability IT Services

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*"If you think high availability is expensive, try downtime."* With these words, Dr. Terry Critchley paints an exhaustive picture in his book "High Availability IT Services," explaining how we can protect our critical applications effectively and economically from the plethora of faults that can take them down.



Terry's style is refreshingly informal and conversational. Even his most difficult topics are described in easily understood terms with frequent vignettes relating his personal experiences that have spanned over four decades in the IT industry. Moreover, Terry adds significant depth to each topic with frequent references to more detailed works, complete with URLs for easy access to these resources.

Terry's book covers the entire gamut of high-availability topics, from hardware resilience to software reliability to Service Level Agreements (SLAs) and even to the worst offender, the human fat finger. The book focuses not on hardware or software reliability, but rather on *service* reliability. A service is a business support function that depends upon people, products, and processes. The book analyzes each of these service components in great detail.

The book begins with a discussion of availability concepts and terms and looks at the cost of downtime. It stresses that change is the enemy of availability. The structure of a proper SLA is examined, and the basic requirements to achieve high availability are set forth. These requirements lead to discussions of high-availability architectures, including redundant server configurations, clusters, grid computing, and RAID disk arrays.

A simple look at the mathematics behind availability theory provides insight into how serial and parallel architectures affect reliability. This mathematical introduction is expanded in great detail in an Appendix that can be referenced by the theorist who needs to calculate the potential availability of a proposed system.

The elimination of planned downtime is addressed along with the many causes of unplanned downtime. The role that networks play in service availability is discussed, and an extensive review of software reliability is accompanied by many references. The role of managing the high-availability project and its ensuing operation is covered in some detail. Offerings by many vendors of high-availability solutions are described.

The book continues with discussions of the availability considerations for OLTP (online transaction-processing) systems, virtualized systems, and clouds. A high-availability architecture is of little use if it cannot recover from an outage, so the book concludes with the disaster-recovery strategies that make high-availability work.

Harris Kern of the Enterprise Computing Institute reviewed the book with the following observations:

“I’ve been an IT Executive for the past 40+ years. My focus has always been on People, Processes and Technology and in that order. When discussing High Availability, most IT professionals gravitate towards the technology for solutions as their primary focus, which is understandable; after all Technology makes the headlines. However, if the people and processes are not involved in the equation, high availability will be nothing but a pipe dream, which will never be attained.

“High Availability IT Services covers the entire spectrum of people, services, processes and tools required to build a ‘world-class’ computing environment. It is the most thorough book I’ve ever had the pleasure of reading.”

The extensive 20-page Table of Contents of the 500-page book makes it easy to find the coverage for any specific topic. At the expense of some redundancy, any chapter can be read independently of other chapters since each topic description is complete within itself. This makes the book an extremely valuable reference. Pull it off the shelf, browse the Table of Contents, locate the material you need, and become an instant expert.

As such, “High Availability IT Services” is an extremely valuable resource for IT professionals who need to become familiar with high-availability technology, for their management, for graduate programs in high-availability systems, and even for current high-availability practitioners like myself.

Dr. Critchley is a retired IT consultant living near Manchester in the United Kingdom. He began his studies at Manchester University, where he obtained an honors degree in physics. He went on to earn his PhD in nuclear physics. He joined IBM and spent 24 years in a variety of specializations before joining a major U.K. bank. In 1993, he coauthored the book “Open Systems: The Reality” for the British Computer Society. Having completed his current tome, “High Availability IT Services,” he is now working on his next book, probably to be entitled “Service Performance and Management.”

Published by CRC Press, “High Availability IT Services is available from Amazon and Barnes and Noble. Simply search on the book’s title.