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Book Reviews

Grid Technology Concepts from A to Z

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The Grid: Core Technologies
By Maozhen Li and Mark Baker
452 pages
US$90.00
John Wiley & Sons, 2005
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Grid computing is the next big thing in software technology. In *The Grid: Core Technologies*, Maozhen Li and Mark Baker provide a concise and fairly detailed description of the technologies that enable Grid computing. They survey many sources regarding the middleware and provide good development suggestions for programming Grid applications. Like many other authors writing about the Grid, they also focus on the Globus Toolkit, an open source project spearheaded by the Argonne National Labs at the University of Chicago.

The book is divided into four distinct sections: system infrastructure, basic services, job management and user interaction, and case studies.

System infrastructure

The system infrastructure section covers many basic distributed computing topics including Java RMI (remote method invocation), SOAP, CORBA, DCOM (Distributed Component Object Model), and WSDL (Web Services Description Language). As I mentioned earlier, Li and Baker discuss the Globus Toolkit in detail. However, other authors have written better introductions to the toolkit—for example, Ahmar Abbas in *Grid Computing: A Practical Guide to Technology and Applications* (Charles River Media, 2003). The case study on how the Internet uses Grid computing technology is thought provoking and conveys the importance of Grid computing from the beginning of the book.

Li and Baker also introduce the concept of autonomic computing as it relates to Grid computing. Autonomic computing holds many promises for Grid computing. Using autonomic computing can greatly simplify the management of a large, dynamic system such as the Grid.

Basic services

The authors address security first and foremost. This once-overlooked feature is now attracting much attention. Li and Baker cover the topic well—better than most authors.

They also discuss Grid monitoring systems such as CODE (Control and Observation in Distributed Environments), GridICE, Ganglia, and GridMon in good detail. This is another topic that other Grid computing books I've read haven't covered very well.

Job management and user interaction

Li and Baker review several job-scheduling technologies, such as Condor (the University of Wisconsin–Madison's research project) and Sun Computer's Grid Engine. They also discuss workflow and Grid-oriented

languages in this section.

In the final technical section of the book, Li and Baker define and compare Grid portals. They provide a fairly good comparison of the Jetspeed, WebSphere, and GridSphere portals.

Case studies

Li and Baker provide several case studies, but they aren't the book's the strong point. If you're looking for case studies, you might want to read *The Grid 2: Blueprint for a New Computing Infrastructure* (Ian Foster and Carl Kesselman, eds., Morgan Kaufmann, 2003).

Target audience and further resources

The book's audience could range from researchers and graduate students to IT professionals who aim to implement Grid computing to facilitate their research.

The book has an accompanying Web site. The site isn't very informative, but the authors promise to add more references, sample code, and case studies.

The Grid: Core Technologies is the product of a great deal of work by Li and Baker. They've reviewed many different concepts and presented only the relevant information. It could serve as a good textbook and would certainly be a good addition to the reference libraries of technologists, academics, and students.

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