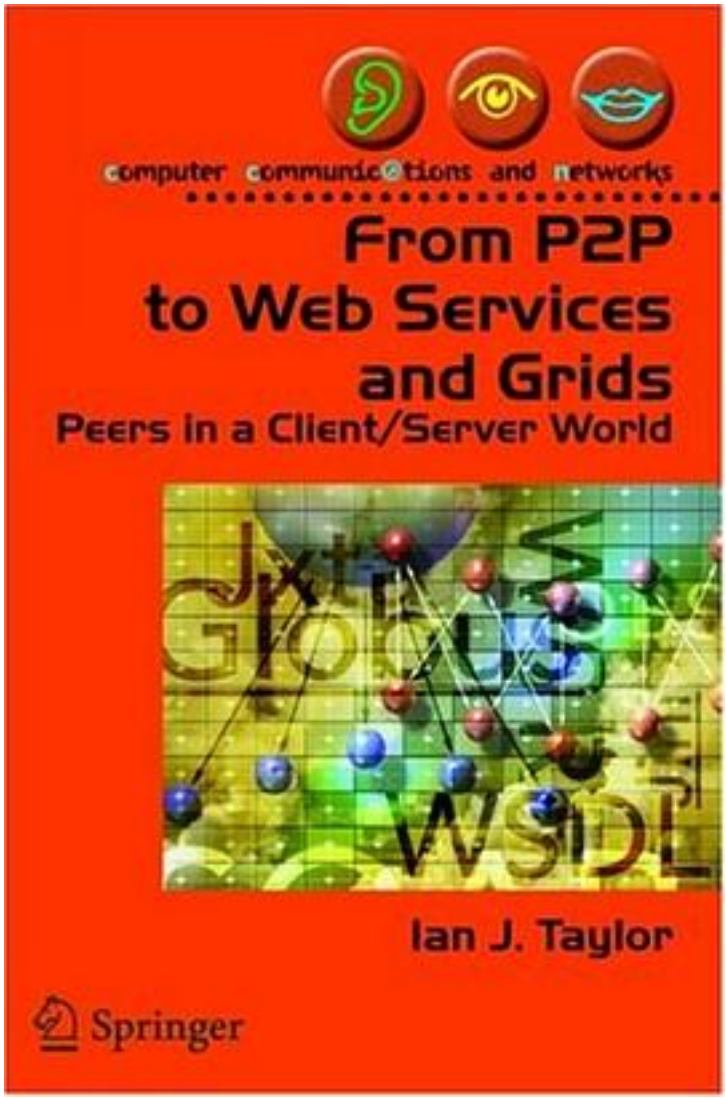
From P2P to Web Services and Grids



From P2P to Web Services and Grids_下载链接1_

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Book Reviews

The Tech Hotlist: Grid Computing and P2P

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From P2P to Web Services and Grids: Peers in a Client Server World

By Ian J. Taylor

275 pages

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P2P (peer-to-peer) and grid computing are hot new technologies that have been touted by the media and are popular in academic and industrial circles. From P2P to Web Services and Grids: Peers in a Client Server World provides a comprehensive, updated review of the new and improved distributed computing technology formed by the union of computing and communications.

As Ian J. Taylor points out, he wrote the book primarily for university students. It’s written like a textbook, and very well, too. You need a computing foundation and some familiarity with grid computing to grasp all the concepts. The book does, however, give a good overview of the technology before delving too deeply into the details. Each chapter builds the technical know-how needed for the next one.

Taylor is a professor at the University of Cardiff. The book is based largely on his online notes on P2P and distributed systems, which have been valuable to many students, including me. In addition, the book explains in detail recent technologies such as JXTA, Jini, Globus, and Freenet. Taylor also gives security, a rising </P> concern with grid computing, the attention it deserves. He provides additional references for each chapter if you need more detail.

The book has four parts: Distributed Environments; Middleware, Applications, and

Supporting Technologies; Middleware Deployment; and From Web Services to Future Grids. The distributed-environments section works as an orientation and an introduction to many grid-computing-related concepts. It talks about P2P (peer-topeer),
Web services, and grid-computing technologies. It covers the concept of distributed computing and P2P, their history, the technology, and academic and industrial applications. The grid-computing chapter is well written, with good information on the Globus Toolkit and the grid architecture. This section sets the tone of the book by introducing and explaining the basic principles of distributed computing—the backbone of P2P and grid computing.
The second section explores several well-known P2P and distributed computing technologies such as Jini and JXTA. Taylor uses code snippets to simplify many complex concepts used in these technologies. He also introduces signatures, encryption, and other related technologies. The analogical and simplified explanations of key concepts such as virtual organization, network topology, and addressing are well done. Additionally, this section details Gnutella and Freenet, two of the most popular P2P file-sharing mechanisms. Although neither Taylor nor I support illegal file sharing, I do appreciate the system’ s architecture and design. His explanation does justice to file-sharing software concepts and technology. This section also looks in depth at concerns such as scalability and security. Not many authors have written in detail about security for grid computing.
The third section includes chapters on several demo applications and code examples for using different technologies in grid computing. You can download and run the sample code from the companion Web site. The section details and demonstrates the power of Jini, JXTA, and related Web services. </P>
The final section covers various grid technologies. Services based on the Grid Computing Architecture and OGSA (Open Grid Services Architecture) reintroduce the notion of "state to a Web service.” P2P and grid computing are becoming

extremely popular and require much effort in terms of standardization. The section also brings up issues such as the drawbacks of OGSI (Open Grid Services Infrastructure).

The book is an easy read and makes many complex concepts easy to understand. Its small size encouraged me to bring it along during business trips. The book explains and correlates many P2P and grid-related concepts. Being in the grid-computing business, I own many books on the subject, and From P2P to Web Services and Grids: Peers in a Client Server World is a valuable addition to my collection.

The book is a must for all grid-computing professionals and a good read for enthusiasts and those who are curious about the technologies.

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master’ s student at the University of Illinois at Urbana-Champaign. Contact him at milan@gridalogy.com.

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l DS Online's Peer-to-Peer Community

l DS Online's Grid Computing Community

l "A Loosely Coupled Vision for Computational Grids"

l "A Scalable P2P Platform for the Knowledge Grid" </P>

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