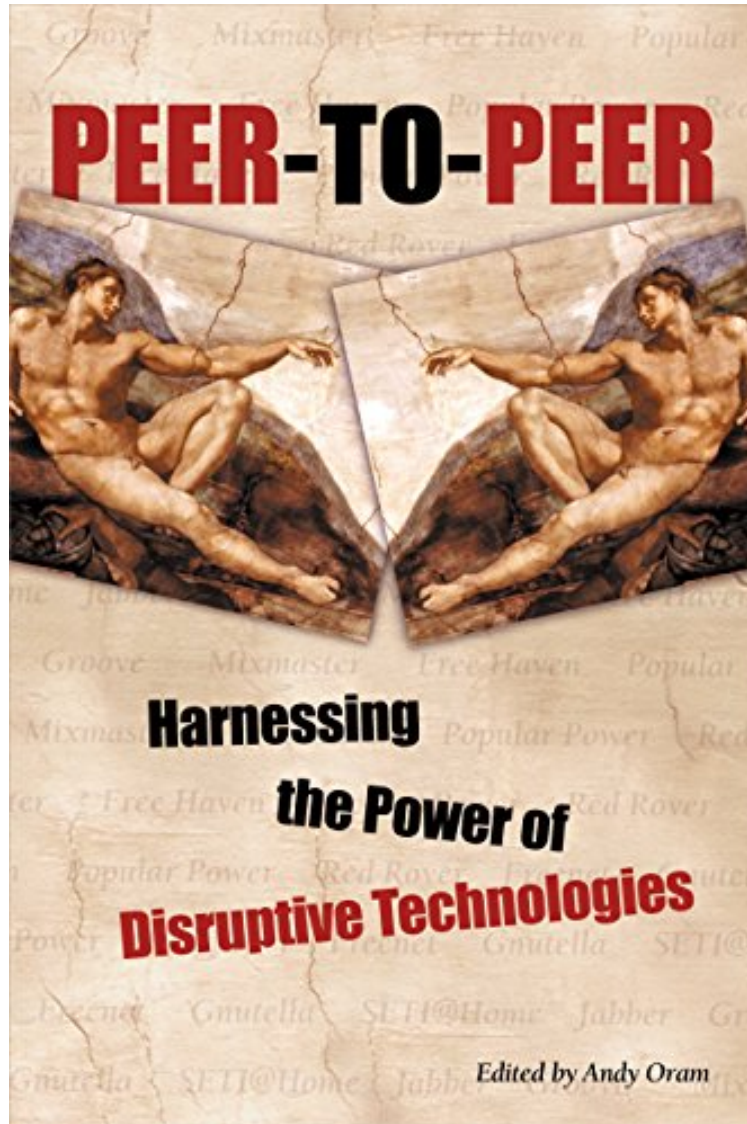


# Peer-to-Peer: Harnessing the Power of Disruptive Technologies

Von Andy Oram

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**Von Andy Oram : Peer-to-Peer: Harnessing the Power of Disruptive Technologies** before purchasing it in order to gauge whether or not it would be worth my time, and all praised Peer-to-Peer: Harnessing the Power of Disruptive Technologies:

Kundenrezensionen Hilfreichste Kundenrezensionen 3 von 3 Kunden fanden die folgende Rezension hilfreich. Peer-to-Peer : Eine unbrennbare Revolution Von Ein Kunde Zwar ist das Internet urspruenglich ausgehend von Peer 2 Peer Technologie entstanden, mit dem Auftreten der Client / Server Architekturen ist aber die Idee dahinter etwas verloren gegangen. Im Buch wird erst von alten P2P Systemen wie DNS und anderen ausgegangen, und wird schlussendlich

aufgezeigt, was zur Zeit fuer Entwicklungen bestehen. Am Ende des Buches wird auf bestimmte Problematiken und Eigenheiten der P2P Idee eingegangen. Alles in Allem ein extrem interessantes Buch, welches einem die Augen durchaus oeffnet und fuer die Ideologie hinter P2P Systemen begeistern kann. Fuer mich ein Meisterwerk, was die Zusammenkunft der verschiedenen Autoren hier zustande gebracht haben.

**Kurzbeschreibung**The term "peer-to-peer" has come to be applied to networks that expect end users to contribute their own files, computing time, or other resources to some shared project. Even more interesting than the systems' technical underpinnings are their socially disruptive potential: in various ways they return content, choice, and control to ordinary users. While this book is mostly about the technical promise of peer-to-peer, we also talk about its exciting social promise. Communities have been forming on the Internet for a long time, but they have been limited by the flat interactive qualities of email and Network newsgroups. People can exchange recommendations and ideas over these media, but have great difficulty commenting on each other's postings, structuring information, performing searches, or creating summaries. If tools provided ways to organize information intelligently, and if each person could serve up his or her own data and retrieve others' data, the possibilities for collaboration would take off. Peer-to-peer technologies along with metadata could enhance almost any group of people who share an interest--technical, cultural, political, medical, you name it. This book presents the goals that drive the developers of the best-known peer-to-peer systems, the problems they've faced, and the technical solutions they've found. Learn here the essentials of peer-to-peer from leaders of the field: Nelson Minar and Marc Hedlund of target="new"Popular Power, on a history of peer-to-peerClay Shirky of acceleratorgroup, on where peer-to-peer is likely to be headedTim O'Reilly of O'Reilly Associates, on redefining the public's perceptionsDan Bricklin, cocreator of Visicalc, on harvesting information from end-usersDavid Anderson of SETI@home, on how SETI@Home created the world's largest computerJeremie Miller of Jabber, on the Internet as a collection of conversationsGene Kan of Gnutella and GoneSilent.com, on lessons from Gnutella for peer-to-peer technologiesAdam Langley of Freenet, on Freenet's present and upcoming architectureAlan Brown of Red Rover, on a deliberately low-tech content distribution systemMarc Waldman, Lorrie Cranor, and Avi Rubin of ATT Labs, on the Publius project and trust in distributed systemsRoger Dingledine, Michael J. Freedman, andDavid Molnar of Free Haven, on resource allocation and accountability in distributed systemsRael Dornfest of O'Reilly Network and Dan Brickley of ILRT/RDF Web, on metadataTheodore Hong of Freenet, on performanceRichard Lethin of Reputation Technologies, on how reputation can be built onlineJon Udell ofBYTE and Nimisha Asthagiri andWalter Tuvell of Groove Networks, on securityBrandon Wiley of Freenet, on gateways between peer-to-peer systemsYou'll find information on the latest and greatest systems as well as upcoming efforts in this book..dePeer-to-Peer is a book about an emerging idea. That idea is that the traditional model of participating in the Internet, in which a small computer operated by an everyday user (a "client") asks for and receives information from a big computer administered by a corporation or other large entity (a "server"), is beginning to give some ground to a new (new to the fringes of the Internet, anyway) model called peer-to-peer networking. In peer-to-peer networking, all participants in a network are approximately equal. Furthermore, the participants are usually ordinary computers run by everyday people. The ICQ chat service and the Napster music-sharing community are examples of what this book is about. The chief advantage of peer-to-peer networks is that large numbers of people share the burden of providing computing resources (processor time and disk space), administration effort, creativity, and--in more than a few cases--legal liability. Furthermore, it's relatively easy to be anonymous in such an environment, and it's harder for opponents of your peer-to-peer service to bring it down. The primary disadvantage of peer-to-peer systems, as anyone will attest who's had an MP3 download prematurely terminated when a dialup user went offline will attest, is the tendency of computers at the edge of the network to fade in and out of availability. Accountability for the actions of network participants is a potential problem, too. This is a book about the idea of equipping ordinary Internet users' computers with mechanisms that enable them to connect, more or less automatically and without human attention, to other everyday Internet users' machines. By forming networks of computers at the so-called "edge" of the Internet, it's possible to offer valuable services without the burden of building and administering large, centralized computer systems of the sort that host traditional Web sites. Napster is the most successful example to date, though nerds will note that it's not a completely peer-to-peer system because users register their file libraries with a central server when they log on to the service. Don't approach this book expecting to learn how to build the next Napster system. It's not a how-to book. It's not even much of a why-to book. Rather, it's a book that aims to get its readers thinking about what happens when information systems shift away from the client-server model and toward the peer-to-peer model (that's one of the book's points, by the way, that this is not a one-or-the-other architectural decision). Mostly, Peer-to-Peer makes its point by letting experts in peer-to-peer take turns in the spotlight. Any other approach would be kind of ironic, wouldn't it? In any case, David Anderson explains how SETI@home puts space buffs' idle computing cycles to use in analyzing radio noise from outer space. Gene Kan explains how Gnutella (a truly serverless environment) works. The architects of Publius explain how distributed computing is especially resistant to censorship and denial-of-

service attacks. Other contributors discuss peer-to-peer chat software, anonymous remailing services, and other applications of peer-to-peer design. There's no one from Napster represented as an author in this collection of essays, but Clay Shirky presents an essay called "Listening to Napster." In that essay, Shirky gives an opinion on why Napster has succeeded: It focused on providing something consumers wanted, and bypassed Internet conventions (like the Domain Naming System) because they weren't the best way to provide the service. This is not an earth-shattering revelation, but it's true, and it's something developers of any new service (Internet-based or otherwise) need to keep in mind. Some of the technical proposals presented here will get readers thinking. An example: Require that senders of e-mail solve a moderately complex math problem before recipients' mailboxes will accept their mail. The problem would be no big deal for a mailer to solve if he or she were sending messages one at a time, but the processor load would really add up for spammers who blast tens of thousands of unwanted emails onto the Internet in a single session. Another idea: mechanizing the concept of reputation so people know whose thoughts and whose creative works (like software) are worth using or believing. More business-oriented readers might want to read more about the more subtle ways of incorporating peer-to-peer components into business models. Lots of traditional Web services--.com is an example--are supplementing their client-server activities with others that have peer-to-peer characteristics. .com, for example, lets operators of small Web sites promote goods and rely on the centralized resources for billing and fulfillment. There's no distributed software (other than a few links), but the company takes advantage of creativity and marketing efforts outside of its official core. Coverage of that sort of "soft" distributed computing might be a good supplement for the second edition of this book. Peer-to-Peer is a thought-provoking book that will help its readers understand an exciting, still-emerging application architecture for the Internet. --David Wall Topics covered: Peer-to-peer applications that run at the edges of the Internet, usually on home computers run by ordinary people. Much of this book comprises case studies on SETI@home, Gnutella, Freenet, Jabber, and other peer-to-peer services. Later chapters address technical issues, such as accountability, security, efficient use of limited bandwidth, and data cataloging. Pressestimmen'Provides an interesting insight in to the world of P2P;, the projects currently tearing up the ;net and the future of the technology. Initial repetition aside, this is a well thought out and useful book which is definitely worth reading.- Linux Format, October 2001 'All in all a typical well-presented O'Reilly package - nice paper, good hardback binding and excellent content.' - Lindsay Marshall, news@UK, June 2001 'Essential reading for budding computer scientists and leaders of oppressive regimes' Computer Shopper, June 2001 'I have used this much space on this particular book because it is currently the best text I have seen that gives a wide introduction to P2P technologies and trends, and there is absolutely no question that infosec practitioners will have to understand this subject.' Information Security Bulletin, May 2001 (2 page review)