

## Steal This Book!

**Yes, you read that right.** Steal this book. For free.

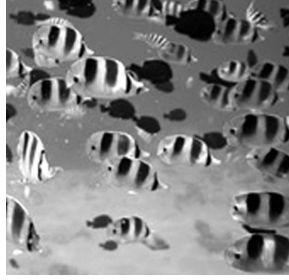
Nothing. Zero. Zilch. Nada. Zip.

Undoubtedly you're asking yourself, "Why would he give away a book he probably spent six grueling months writing? Is he crazy?"

The answer...is yes. Sort of. I know that every day you're faced with hundreds of computer titles, and a lot of them don't deliver the value or the information you need. So here's the deal: I'll give you this book (or this chapter, if you've only downloaded part of the book) for free provided you do me a couple favors:

1. **Send this book to your friends:** No, not your manager. Your "with it" computer friends who are looking for the next Big Thing. JXTA is it. Trust me. They want to know about it.
2. **Send a link to the book's web site:** Maybe the book is too big to send. After all, not everyone can have a fibre optic Internet connection installed in their bedroom. The site, at [www.brendonwilson.com/projects/jxta](http://www.brendonwilson.com/projects/jxta), provides chapter-sized PDFs for easy downloading by the bandwidth-challenged.
3. **Visit the book's web site:** Being a professional developer, you probably have Carpal Tunnel Syndrome and shudder at the idea of typing in example source code. Save yourself the trouble. Go to [www.brendonwilson.com/projects/jxta](http://www.brendonwilson.com/projects/jxta) and download the source code. And while you're there, why not download some of the chapters you're missing?
4. **Buy the book:** You knew there had to be a catch. Sure, the book's PDFs are free, but I'm hoping that enough of you like the book so much that you have to buy a copy. Either that, or none of you can stand to read the book from a screen (or, worse yet, print it all out <shudder>) and resort to paper to save what's left of your eyesight. The book is available at your local bookstore or from [Amazon.com](http://Amazon.com) (at a **handsome discount**, I might add).

I now return to your regularly scheduled program: enjoy the book!



# B

## Online Resources

**N**O BOOK CAN HOPE TO COVER every aspect of P2P, either now or in the future. However, a number of online resources can help any budding P2P developer become a guru in his own right. This section lists some of the most relevant online resources devoted to the P2P movement.

### **P2P Companies and Organizations**

These companies, organizations, and applications are at the bleeding edge of the P2P revolution; in some cases, they have helped it achieve the foothold that it has in the world of modern computing.

#### **Napster**

[www.napster.com](http://www.napster.com)

The bad boy of the P2P networking world, Napster is credited with starting the P2P revolution with its hybrid P2P MP3 file-sharing software. Napster uses a hybrid P2P network consisting of a centralized server that handles indexing of a user's song files and allowing peers to locate song files to download. Individual peers handle the file-transfer process independent

of the centralized server. Unfortunately, the centralized portion of Napster's service ultimately made it vulnerable to legal attacks by the recording industry. Napster's copyright infringement-enabling software got it into hot water with the Recording Industry Association of America. However, it struggled on and is now set to relaunch with a new subscription service to provide access to licensed music using the same distribution technology.

## Gnutella

[www.gnutelliums.com](http://www.gnutelliums.com)

Napster's successor, Gnutella, adopted a pure P2P file-sharing model, allowing it to avoid the legal difficulties encountered by Napster. With no central server providing services, the Gnutella software provided no target for the recording industry to attack. Unlike Napster, Gnutella allows sharing of any type of file, not just MP3s. Although there is no longer a Gnutella program, dozens of clones have picked up where the original Gnutella application finished, improving the capabilities and performance of the file-sharing technology.

## MojoNation

[www.mojonation.net](http://www.mojonation.net)

One of the many niche content-distribution technologies built on P2P, MojoNation attempts to address the problems of P2P using an artificial currency, called *Mojo*. Users of the system earn Mojo by providing content, and they spend Mojo to gain access to content. This currency helps enforce resource sharing by participants in the P2P network and prevents the network from suffering the Tragedy of the Commons described in Chapter 1, "Introduction." MojoNation also breaks files into fragments, scattering them across the network via multiple download sites in parallel, to enable faster downloads from peers using dial-up.

## Freenet

[freenet.sourceforge.net](http://freenet.sourceforge.net)

Another of the niche content-distribution P2P networks, Freenet provides anonymous and decentralized content distribution. Freenet uses strong cryptography to protect resources distributed across the network, making it almost impossible for an attacker to destroy information on the network by preventing peers from determining what information is stored in their local cache. The Freenet solution also mirrors high-demand content to multiple locations to provide efficient service and bandwidth usage across the network.

## Groove Networks

[www.groove.net](http://www.groove.net)

The brainchild of Ray Ozzie, the creator of Lotus Notes, Groove Networks is building a platform for providing services in *shared spaces* that allow users to form peer groups and interact directly. One of Groove's unique features is its capability to handle offline interaction: Changes made to a user's shared space are reflected in other members of the peer group. Groove aggregates common P2P applications to provide a complete solution for business interaction that includes instant messaging, file sharing, and group activities, such as document editing or whiteboarding. Currently the Groove client is supported only on Microsoft Windows platforms.

## Jabber

[www.jabber.com](http://www.jabber.com)

Jabber produces an instant-messaging client and server capable of interacting with all the major IM services, including AOL Instant Messenger, MSN Messenger, Yahoo! Messenger, and ICQ. The Jabber client uses an XML-based protocol to interact with major IM services via the Jabber server. The company is attempting to provide a common platform for instant-messaging solutions, working closely with the Internet Engineering Task Force's IM standardization effort.

## IAM Consulting's JXTA Development Toolkit

[www.iamx.com/jxtaDevTools/index.htm](http://www.iamx.com/jxtaDevTools/index.htm)

IAM Consulting is a consulting firm providing JXTA and Java expertise that has been working on a set of tools to simplify JXTA development. Its current toolkit includes a Peer Group Monitoring tool to allow a developer to view the activity of a peer group's Discovery service, as well as a message monitor to enable a developer to debug pipes. Members of IAM consulting are also responsible for starting the JXTA Special Interest Group (SIG) in New York. For more information on the JXTA SIG, see [www.jxtasig.org](http://www.jxtasig.org).

## P2P Magazines

These online magazines provide access to articles on a variety of P2P-related topics, including tutorials on developing P2P solutions, discussion of the future direction of P2P, and information on emerging P2P technologies.

## **OpenP2P**

[www.openP2P.com](http://www.openP2P.com)

OpenP2P's online articles discuss P2P and its implications from a technological, legal, and social point of view. With insightful writing, OpenP2P is usually on top of the latest P2P developments and offers a good starting point for learning about new P2P technologies.

## **IBM's DeveloperWorks, Java Section**

[www.ibm.com/developerworks/java](http://www.ibm.com/developerworks/java)

The Java section of IBM's DeveloperWorks site provides developers free access to a huge library of Java code and Java tutorials, which is an invaluable Java resource even if you're not working on P2P software. If you search the site, you'll find recent articles on Java and P2P, and Project JXTA.

## **Peer-To-Peer Central**

[www.peertopeercentral.com](http://www.peertopeercentral.com)

Peer-To-Peer Central provides free articles on the development of P2P technology, reviews of new P2P development platforms, and industry perspectives on the importance of P2P. The site also enables users to purchase analysis papers and case studies on the P2P industry.

## **Project JXTA Resources**

Project JXTA houses a variety of web sites devoted to specific aspects of the JXTA Community's development efforts. All these sites are accessible from the main Project JXTA web site, [www.jxta.org](http://www.jxta.org), so only the most relevant sites are listed in this section.

## **JXTA Protocol Specifications**

[spec.jxta.org](http://spec.jxta.org)

The JXTA Protocols Specification project is responsible for maintaining the JXTA protocol documentation and ensuring that JXTA implementations are compliant with the specification. This site houses the most up-to-date version of the JXTA Protocols Specification in DocBook and HTML formats.

## Project JXTA Downloads

[download.jxta.org](http://download.jxta.org)

The download site provides access to the latest JXTA binaries, including the latest stable JAR files for the JXTA Demo applications, daily builds, and a set of easy installers for the Demo applications.

## JXTA Community Projects

[www.jxta.org/servlets/DomainProjects](http://www.jxta.org/servlets/DomainProjects)

All the JXTA Community projects currently under way are accessible from this site, including projects creating applications, services, and core layer technology, as well as tutorials on the JXTA platform.

## Internet Standards and Standards Bodies

Many of the technologies used by JXTA or related to JXTA are managed by a standards body. This section lists the standards and standards bodies most relevant to the JXTA platform.

### The World Wide Web Consortium (W3C)

[www.w3.org](http://www.w3.org)

The World Wide Web Consortium (W3C) is responsible for maintaining many of the popular standards used by Internet applications, including the XML, SOAP, HTTP, and HTML standards.

### The Peer-to-Peer Working Group

[www.p2pwg.com](http://www.p2pwg.com)

The P2P Working Group is a consortium of P2P-related companies working to establish best-known practices for P2P solutions to provide an infrastructure for P2P computing. Although the web site doesn't house much content now, given the impressive list of member companies—including Intel, Groove Networks, United Devices, and many others—this working group likely will publish a wide variety of content devoted to P2P in the near future.

### The XML 1.0 Standard

[www.w3.org/XML/](http://www.w3.org/XML/)

The XML 1.0 Standard site provides access to the text of the standard itself, details on the state of various XML working groups, and links to XML-related technologies currently being developed by the W3C.

### **The Network News Transport Protocol (NNTP)**

[www.ietf.org/rfc/rfc0977.txt?number=977](http://www.ietf.org/rfc/rfc0977.txt?number=977)

The Internet Engineering Task Force is responsible for maintaining the specification of the NNTP, which is the major underlying protocol used by Usenet. Usenet was used as an example of one of the earliest rudimentary P2P applications in Chapter 1.

### **Block Extensible Exchange Protocol (BEEP)**

[www.ietf.org/rfc/rfc3080.txt](http://www.ietf.org/rfc/rfc3080.txt)

The Block Extensible Exchange Protocol provides a way for peers to simultaneously and independently exchange messages, usually formatted as MIME or text content, using the BEEP-defined framing mechanism.