How Newsgroups Work

by Jeff Tyson

Although most of the hype and attention that the Internet gets today is about e-commerce and business, there are two main reasons that most of us use it: communication and information. We rely on the Internet to send e-mail and instant messages, and search through the World Wide Web to find information for work or play.

Microsoft's Outlook Express contains a newsgroup client.

One source of both information and communication is **newsgroups**. A newsgroup is a continuous public discussion about a particular topic. You can join a newsgroup at any time to become part of a huge conversation between hundreds or even thousands of people.

Newsgroups originated in North Carolina back in 1979. That's when a couple of Duke University students hooked a few computers together to start an exchange of information with other UNIX users. Just down the road at the University of North Carolina in Chapel Hill, another student was writing software that could be used to distribute the information. Eventually, the work of these three students became the first bastion of newsgroups, termed Usenet.

In this edition of **HowStuffWorks**, you will learn the difference between newsgroups and other types of electronic communications. You will also learn how newsgroups work, where to find them and how to subscribe.

Talk Amongst Yourselves

Along with e-mail, newsgroups are one of the oldest communication methods on the Internet. But there are many ways to communicate on the Web. You probably use more than one method, depending on your needs. Let's take a look at the different methods and when you might use them:

- **E-mail** - By far the most popular means of communicating over the Internet, e-mail allows you to send a message directly to another person or group of people. Messages can range from short to long and may include quotes or attached files. You can learn more about e-mail in the article How E-mail Works.

  E-mail is most effective when:

  - You don't need an immediate answer.

- You are communicating with a single person or specific group of people.
- You know with whom you wish to communicate.
- You need to attach a file or provide extensive information.

- **Chat** - Chat is a conversation between two or more people that takes place in a **chat room**. The chat room software allows a group of people to type in messages that are seen by everyone in the "room." Chat rooms can be found all over the Internet, including on the [America Online service](#) and the Web site [TalkCity.com](#).

  Chat is most effective when:

    - You need an immediate answer.
    - You want to communicate with more than one person.
    - You can communicate in brief messages the information you need to know or wish to provide.
    - You want to meet new people.

- **Instant messages** - Instant messaging is something of a cross between chat and e-mail. It allows you to maintain a list of people that you wish to interact with. You can send messages to any of the people in your list, as long as that person is online. Sending a message opens up a small window where you and your friend can type in messages that each of you can see.

  Instant messages are most effective when:

    - You need an immediate answer.
    - You only need to communicate with a single person or small group.
    - You know with whom you wish to communicate.
    - You need to communicate in real time.

- **Newsgroup** - As stated earlier, a newsgroup is a continuous public discussion about a particular topic. Newsgroups are **decentralized**, which means that the messages are not maintained on a single server, but are replicated to hundreds of servers around the world.

  Newsgroups are most effective when:

    - You don't need an immediate answer.
    - You want to communicate with more than one person.
    - You want to communicate with a group of people interested in the same topic.
    - You need or want to provide extensive information about that topic.

- **Forum/Discussion Board** - Forums and discussion boards are very similar to newsgroups, with one major difference: Most forums and discussions boards are kept on a single server maintained by the owner or originator of the forum or discussion board.

  Forums or discussion boards are most effective when:

    - You don't need an immediate answer.
    - You want to participate in a community that is discussing a particular topic.
    - You want to communicate with a group of people interested in the same topic.
    - You need or want to provide extensive information about that topic.

- **Listserv** - Most of us probably belong to one listserv or another. Every time you register for a newsletter, such as the [free HowStuffWorks newsletter](#), you are placed on a listserv. Basically, this is a type of broadcast e-mail. Information on a listserv is sent to everyone who is listed in the e-mail group on the server. The biggest difference between a listserv and a newsgroup is that listservs are not interactive.

  Listservs are most effective when:

    - You don't need an immediate answer.

- You want or need regularly updated information about a particular topic.
- You want to receive information from a group of people interested in the same topic.

- **Conferencing** - Conferencing is like a chat room on steroids. The conference software, such as Microsoft Netmeeting, allows you to have a real-time chat with one or more other users. It also allows you to do such things as share an electronic whiteboard or a software application. Most conferencing-software packages provide several means of communication, including text only, audio and even video.

  Conferencing is most effective when:

  - You need an immediate answer.
  - You want to communicate with more than one person.
  - You can communicate in brief messages the information you need to know or wish to provide.
  - You want to attach files or use the whiteboard function in addition to sending and receiving traditional text messages.

- **Video** - Some users take advantage of a fast connection, such as a [cable modem](#) or [DSL](#), in conjunction with a [Webcam](#) to communicate by way of video. This method of communication is not common yet, but will probably increase in popularity as the number of users with high-speed connections increases.

  Video is most effective when:

  - You need an immediate answer.
  - You want to visually demonstrate or display information.
  - You and the people you are connecting to have fast connections.

- **IP Telephony** - Another emerging communications technology is IP telephony, which uses the Internet in much the same way that a regular [telephone](#) uses a phone line. Most IP telephony software requires that each person who wishes to talk have a computer, Internet connection and special software. But some companies, such as [Net2Phone](#), provide software that allows you to call someone directly over the Internet and connect to that person's normal phone.

  IP telephony is most effective when:

  - You need an immediate answer.
  - You have the appropriate equipment ([speakers](#), [sound card](#) and [microphone](#)).
  - The information you are providing or requesting is easier to convey through talking than through text messaging.
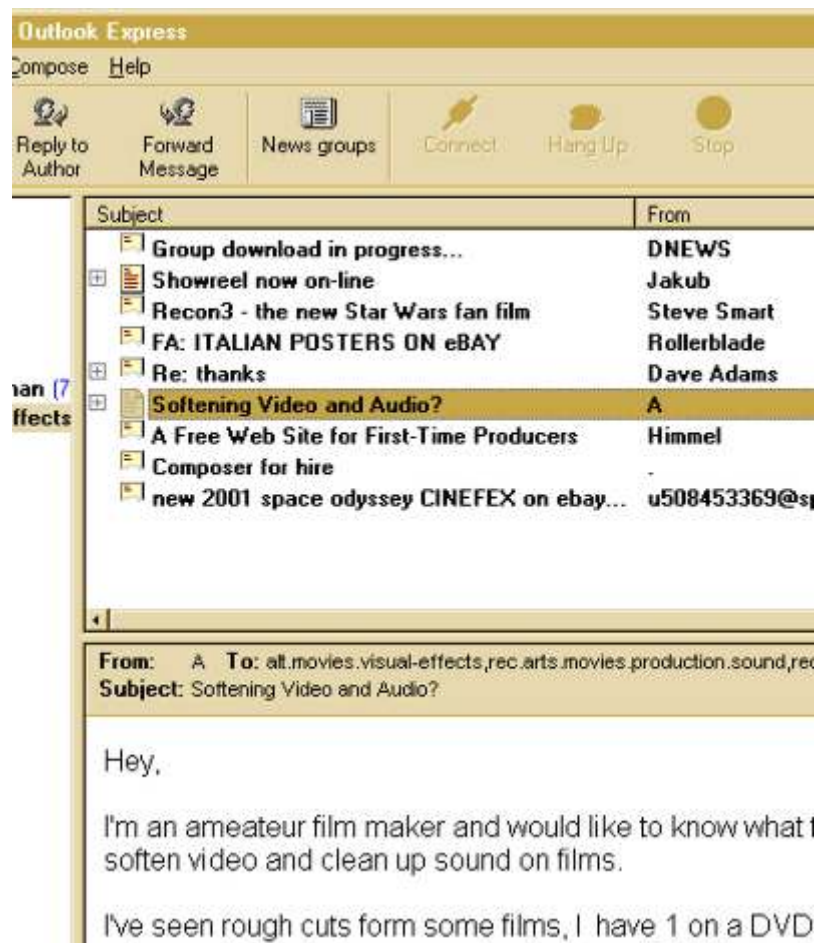
Most of the methods described above require some type of client software on your computer. In most cases, the client software is either free or integrated with another software application. For example, Netscape Navigator and Microsoft's Internet Explorer and Outlook Express each includes a newsgroup reader client that you can use to subscribe to newsgroups. We'll talk more about subscribing to newsgroups later.

In The News

Newsgroups use a lot of special terms to describe the newsgroup process:

- **Usenet** - The primary exchange and listing of newsgroups
- **Feed** or **Newsfeed** - The group of messages that make up a single newsgroup, sent from one server to another server or to a subscriber
- **Posting** - Entering a message into a newsgroup

- **Posts** or **Articles** - The messages that are entered into a newsgroup

Similar to most e-mail programs, you normally can click on the title of a newsgroup post in order to read the message.

- **Thread** or **Threaded discussion** - A post and the series of messages replying to it
- **Hierarchies** - Category information provided in the name of the newsgroup

  Newsgroups are categorized according to interest. The name of the newsgroup provides the category information, going from general to specific (left to right). For example, comp.lang.java.programmer is a newsgroup for Java programmers, in the Java section of the language category, which is part of the overall computer category.
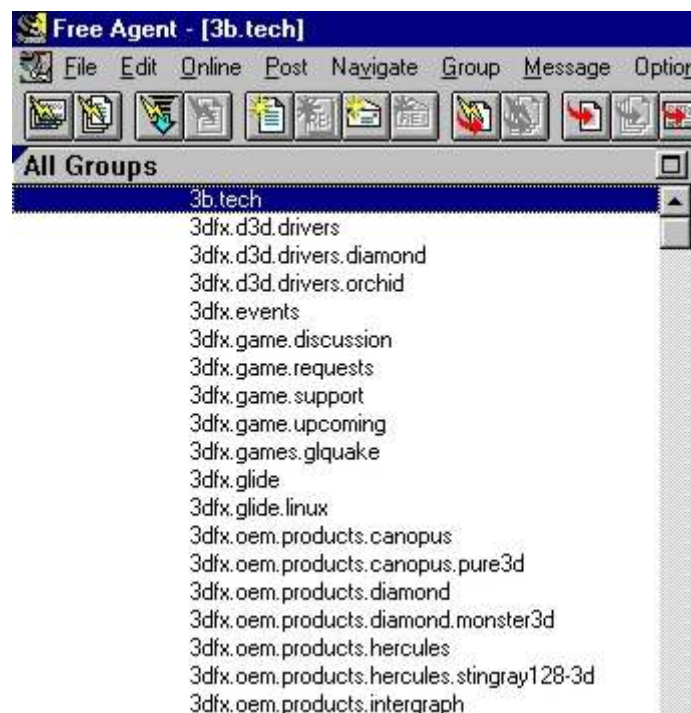
- **Big Eight** - Usenet's original eight newsgroup categories

  Now, there are thousands of newsgroups in hundreds of categories, but Usenet originally divided newsgroups into one of eight major categories:

  - comp (computers)
  - humanities (arts and culture)
  - misc (miscellaneous)
  - news (news and current events)
  - rec (recreational)
  - sci (science)
  - soc (social)
  - talk (general discussion)

Ironically, **alt (alternate)**, which is now the biggest general newsgroup category, was not part of the original eight.

- **Moderated** - A newsgroup that has a person or persons who read all messages before they are posted to the general group and reserve the right to reject a message that they deem inappropriate for the newsgroup
- **Unmoderated** - A newsgroup in which any message posted is immediately incorporated into the newsgroup (more common)
- **Flame** - A criticism of someone else's post
- **News server** - A server that maintains an archive of the messages posted to a newsgroup or series of newsgroups
- **Network News Transfer Protocol** (NNTP) - The protocol typically used to transmit newsgroup messages over the Internet
- **UNIX-to-UNIX Copy Protocol** (UUCP) - A protocol occasionally used for direct connections between some UNIX servers
- **Newsreader** - The client software used to read the posts in a newsgroup, often combined with other software
- **Online** - Type of newsreader that maintains a live connection to the news server while it is open
- **Offline** - Type of newsreader that connects to the news server just long enough to download the new messages in any newsgroups you subscribe to and then disconnects, reconnecting when you're ready to send new messages

Forte' Incorporated's FreeAgent newsreader is a good example of an offline newsgroup client.

The Newsgroup Process

A newsgroup begins on a single news server, but is eventually replicated to hundreds or thousands of other servers. News servers provide the infrastructure that makes newsgroups work. Each news server has special software that maintains a file for each newsgroup serviced by that server.

Here's what happens when you access a newsgroup:

1. Your newsreader, using NNTP, connects to the news server designated in your configuration. Typically, the news server's connection information is provided to you by your **Internet Service Provider** (ISP). If your ISP does not have a news server, you can refer to a list of publicly accessible news servers.
2. Once the connection is established, your newsreader downloads all of the new messages posted in the newsgroups that you are subscribed to.
3. You read through the messages and decide to reply to a couple. You also decide to start a new thread with a post of your own.

**Replying to a post in a newsgroup is as easy as replying to an
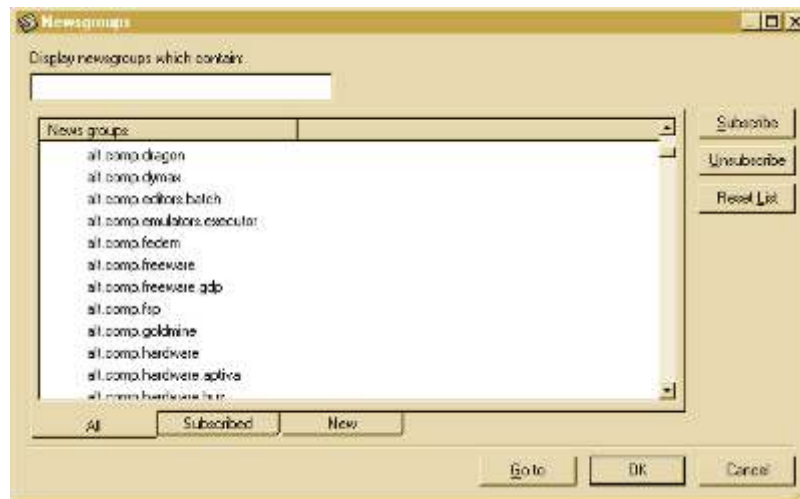e-mail.**

4. Your newsreader sends your messages to the news server. (If it's an offline newsreader, it must first reconnect to the news server via NNTP).
5. The news server saves your messages in the file for that newsgroup. Newsgroup files are large text files, meaning that each new message is simply appended to the end of the text file. As the file reaches a certain size, or after a certain length of time, the messages at the beginning of the file are removed and placed in a **newsgroup-archive** text file.
6. The news server connects to one or more other news servers using NNTP (or UUCP) and sends the updated information. Each news server compares its own file for the newsgroup with the files it receives for that same newsgroup. It adds any differences that it finds -- this is important, because if the news server simply saved the received file over the one it already had, it would lose any messages posted to it during the update. By comparing the files, it can extract the new messages and add them to the file it has, without losing any new postings. The news server then sends the combined file to the other news servers.
7. The newsgroup changes are replicated to each news server until all of them have the updated information. This process is ongoing, and most large newsgroups change so quickly that the updating is virtually continuous.
8. Other subscribers read your messages, plus all the others posted since the last time they looked at the newsgroup, and reply.
9. You see their replies and new messages, and the process repeats.

Making Headlines

Now that you know about newsgroups, you're probably wondering where to find them and how to subscribe. Usenet carries a great list of newsgroups, plus lots of information on newsgroups in general.

Subscribing to a newsgroup is pretty easy:

1. First, you need to know what the name or IP address of your ISP's news server is. If your ISP does not have a news server, you can refer to a list of publicly accessible news servers.
2. Your newsreader client software has a place to configure the news server information. For example, Outlook Express uses a wizard that walks you through the process of adding a news server.
3. Once the news server is set up for the first time, the newsreader will show you the entire list of newsgroups carried by that news server. Most news servers do not carry every single newsgroup available, but the news-server operator will often add a particular newsgroup if there is demand for it.

You can narrow down this huge list of newsgroups in Outlook Express by using the "Search" field at the top of the window.

4. You select each newsgroup that you are interested in and click "Subscribe". Most newsreaders also provide search functions that allow you to quickly sort through the list of newsgroups to find ones that suit your particular interests.
5. After you have subscribed to all of the newsgroups that you are interested in, the newsreader will display each one in a list. If the newsreader is of the online variety, you will probably see all the messages in a newsgroup as soon as you click on its name. If the newsreader is an offline version, you will most likely have to download the messages when you are ready to view the newsgroup.

You may be interested in creating your own newsgroup. The process takes some time, but is fairly simple. Here are the steps:

1. The first thing you need to do is post a **Request for Discussion** (RFD) to **news.announce.newgroup**. You may also want to post the RFD to any existing newsgroups that have related or similar topics to the one you want to begin. The RFD should describe the purpose of the newsgroup and include the proposed name, which would also list the categories that you think it should be in. For the purpose of this discussion, let's pretend that you wish to create a newsgroup about the ethics of creating spider-goats. You might name the newsgroup: **alt.animals.ethics.spider-goat**.
2. Other people read your RFD and make comments, criticisms and suggestions. Typically, this discussion lasts for about a month. If no general consensus is reached by then, the

RFD discussion is usually taken offline from the newsgroup and continued via e-mail.

3. After the discussion is completed, you can request a **Call for Votes** (CFV). You do this by once again posting a message to news.announce.newgroup and any related newsgroups. The CFV is left in place for a period of 20 to 30 days, and newsgroup subscribers are urged to vote on it. Once the voting period is over, the votes are counted by the moderator of each newsgroup that the CFV was posted in, and the results are posted in news.announce.newgroup. There is a mandatory five-day period after the close of the vote, during which counting and corrections take place. There are three criteria that must be met to start your newsgroup:

   - At least two-thirds of the votes must be in favor of the newsgroup.
   - The votes for the newsgroup must outnumber the votes against it by 100 or more.
   - There can be no serious and demonstrable objection to the creation of the newsgroup.

4. If your newsgroup is accepted, it is announced in news.announce.newgroup. Your newsgroup is created and ready for posting!

Newsgroups will never replace e-mail or chat rooms for quick communication, but they are definitely a valuable online resource when you are looking for very specific information or help with a problem. And, with the amazing variety of topics, there is certainly something for everyone.