The new world of democratic telecommunications: FidoNet as an example of the new horizontal information networks

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The New World of democratic telecommunications: FIDONET as an example of the new horizontal information networks

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Abstract

The growing desire for contact and communications, for information and knowledge, would seem to ensure the continued development of national and international information systems. While most new systems have followed the basic vertical structures of the older media, some would seem to have addressed global concerns over access and bias, creating what may be more horizontal, more democratic, communication systems.

This paper examines the structure and development of one current cooperative international information network, FidoNet. This comparatively low cost, "low-tech" computer network, based on the cooperative part-time linking of individual computer bulletin board systems around the world, appears to fit the model for a more horizontal, more "democratic" communication system, and is offered as an example of what is possible in the new world information order.

The New World of democratic telecommunications:

FIDONET as an example of the new horizontal information networks

There is very little doubt that a new world is emerging; one that is increasingly linked by telecommunications, and one that is becoming increasingly dependent on those links. Aumente (1987, p. 11) suggested that "the global village that Marshall McLuhan once saw bound together by the communality of instantly shared television news was rapidly becoming an interactive village of computer and telecommunications technology." From the rise of remote processing computer systems in the 1960s to the current development of videotex and computer messaging systems, significant concerns have been raised about the social impact of computer and telecommunications systems (cf. Mosco, 1982; Mosco & Wasko, 1988; Mulgan, 1991; Qvortrup, 1984; Sackman, 1971; Sackman & Nie, 1970; Traber, 1986; Wessel, 1976; Westin, 1971). Of particular concern has been the issue of access to these information networks and the information they contain, of the extent to which use of communication systems are controlled.

At the same time, UNESCO and the MacBride Commission were considering issues of access and control with regard to the more well established international mass media and their private information networks (cf. Giffard, 1989). In their call for a New World Information Order, they expressed concern over the level of control over news flows, and the perceived inequities brought about by differential access to the system. One consequence was the call for the development of more democratic forms of international communications, for the creation of information systems utilizing more of a horizontal flow of information, with wider, less controlled, access (cf. Gerbner & Seifert, 1984; McPhail, 1981; Singh & Gross, 1981).

Such a call for more democratic communications could easily apply to the developing computer-telecommunications networks as well. Most of the early systems were very centralized, with restricted access and very specialized applications. Critics have raised the issue of access and equity in international information flows (cf. Ganley & Ganley, 1982; O'Brien, 1983; Schiller, 1986), suggesting that as long as the networks remain in corporate or governmental hands, control and access restrictions remain possible, if not likely. The solution would seem to lie in what Masuda (1981) called "citizen-managed information utilities", where citizens (individuals) would be responsible for self-governing management, usage fees, and the provision and sharing of information. With the continuing development of computer and telecommunications technologies, and the concommitant drop in prices, in recent years such "citizen-managed" information systems have become possible. The possible advantages, and implications, of such alternative computer-telecommunications systems for democratic communications need to be more fully explored (Bates, 1990).

This paper will examine the rise of one such system, a private, cooperative network of individual, PC-based, computer bulletin boards called FidoNet. It will trace the development of the network, and discuss how its structure and organization have emphasized cooperative, horizontal communication, and the maximization of access. The implications of FidoNet, and similar alternative information systems, for democratic communications will then be discussed.

The Development of the FidoNet System

FidoNet (also spelled Fidonet) is the name given to a worldwide, low-cost computer bulletin board and electronic mail system. FidoNet is a nonprofessional computer network, operated and administered by non-paid volunteers ("FidoNet Policy," 1986). The network distributes messages, files, and data across the world, 365 days a year, and can be run on virtually any modem equipped dual-floppy or hard-disk personal computer (Hapgood, 1988a; Hildum & Needleman, 1988). The FidoNet system was developed to avoid complicated or costly computer languages, protocols, and programs, and was designed as a user-friendly means of short and long-distance communication (Caruso, 1984). As Hildum and Needleman (1988, p. 41) stated, "It's a simple, basic system, but what it does, it does well".

FidoNet's early development has been likened to the historical evolution of both ham radio (Jennings, 1985a) and CB radio (Johnston, 1988). FidoNet was developed in 1983 by Tom Jennings of Phoenix Software Associates in San Francisco, California (Caruso, 1984; Quarterman, 1990). Jennings' goal in the beginning was to make use of a collection of his computer equipment that sat unused. Jennings never imagined that, in a few years, his software would disseminate across the world and he would be considered the founding architect of a worldwide computerized network (Markoff & Shapiro, 1984). The term "Fido" was not an acronym, but a term coined by one of Jennings' co-workers who jokingly referred to his tangled collection of components as a mongrel (Getts & Sulkes, 1985).

FidoNet began in 1984 with one PC bulletin board system (BBS) in San Francisco and another in Baltimore. Jennings' early goal was simply to see if it could be done, but the usefulness of FidoNet messaging, its convenience and cost advantage over expensive voice telephone calls and commercial e-mail systems soon became apparent (Jennings, 1985a). When Jennings finished the original Fido software and established the initial computer bulletin boards, he made the it possible for the public to download the system software without charge, and began advertising FidoNet on other systems throughout the United States. Jennings gave potential users the opportunity to acquire the system at no cost and start their own FidoNet BBSs linked to the growing network (Caruso, 1984). Users who accessed local BBSs linked to the network could also join the system, and take advantage not only of the information available on the local BBS, but could also communicate with other users linked to other BBSs on the FidoNet network.

By February of 1985, FidoNet had grown to 160 different bulletin board systems (Jennings, 1985a). Although the first FidoNet link began as a means of information exchange between a handful of friends, by 1986 the network had burgeoned to more than 1000 different systems on four continents ("FidoNet Policy," 1986). As Hapgood (1988b) noted:

> *Specifically, what Jennings did, from 1984 to 1986, was to build a decentralized computer network. And he did it without the extensive hardware (microwave repeaters, fiberoptic cables, dedicated minicomputers) required for so many other nets. All a user needs to be part of Jennings' communications link is a computer, a modem, and a phone. (p. 106)*

What began as a leisure-time activity for Jennings soon burgeoned beyond expectation. From 1984 to 1987, FidoNet grew from two bulletin board systems (BBSs) to 1,800 public bulletin board systems and 200 private networks (Nichol, 1987). By 1989, the number had grown to 5,000 systems on six continents ("FidoNet Policy," 1989, section 1.1). As of March, 1991, a reported 5,800 FidoNet systems were able to transfer information around the world between bulletin boards

(T. Henderson, personal communication, March 6, 1991) with an estimated 800,000 FidoNet users (N. Dodge, personal communication, March 12, 1991). Table 1 lists those areas served by FidoNet systems at several points in time.

(Table 1 about here)

The Technology of FidoNet

The FidoNet system was designed to make use of relatively low-level technology. Establishing a FidoNet node requires only a basic personal computer system (equipped either with two floppy disk drives, or a hard disk drive), a modem, and an ordinary telephone line. The software to make the system work is provided free to non-commercial users. With today's prices, a FidoNet bulletin board system could be established and connected to the system for well under $1000. Further, since the system is not based on the most recent technologies, there will be no inherent need to upgrade the hardware at a later date and potential users can utilize equipment which may have been discarded in an upgrade. The low system technical requirements both reduces costs and maximizes the number of potential nodes.

Similarly, the system requirements for users to access local FidoNet BBSs, and to utilize the FidoNet network, are minimal. Users need only access to a phone line, a modem, and a display device (terminal or micro-computer).   With the decreasing prices of computers and other terminal devices, the minimum cost to users for hardware is in the $100-500 range. The decision to utilize normal telephone lines also keeps costs to both the system and the user low. Without the need for high-capacity dedicated lines, or for expensive high technology, most local FidoNet BBSs are able to offer free local access to the system.

FidoNet was designed to keep the costs low, and thus access high. While it might not have been a primary concern of the developers, the technological structure is one which promotes access, and thus acts to democratize the system.

Organizing the Network

As Jennings (1985a) stated, "The original FidoNet was very simple and friendly; you told me at Fido #1 that you had a FidoNet node ready, I put you in the list, with your phone number, and people called up and downloaded the list; done!" (p. 2). As the number of BBSs grew to 30 by August of 1984, coordination became troublesome: problems with clogged networks, modems not answering, clock problems, wrong numbers, etc., often required days to resolve. Developing an efficient routing system became a necessity (Jennings, 1985a).

Soon, the coordination of node lists and new node requests were delegated to a group of interested FidoNet operators in St. Louis, Missouri. While centralizing this activity, the transfer of operations from the initial developer to other interested parties emphasized the cooperative, non-controlling aspects of the FidoNet system. Stricter node requirements employed by the St. Louis group had soon achieved an error rate near zero (Jennings, 1985a), encouraging further expansion of the system. With the great rise in the number of nodes, FidoNet became far more advanced than smaller networks such as USENET, and began to rival the structural complexities of commercial networks.

Eventually, as the software was improved, incorporating more of a planned network structure and advances in electronic mail forwarding, a coordinated FidoNet structure developed. With FidoNet's rapid worldwide expansion, it soon became evident that the network would quickly

collapse if some kind of control and structure were not introduced. Decentralized management was set up to provide the control and multiple networks were employed to establish the structure.

FidoNet's structure is divided into several layers of nodes, networks, regions, and zones ("FidoNet Policy," 1986). Each layer of FidoNet is contained by the next highest level in its geographic territory. No two zones, regions, or networks overlap in their coverage of a geographic area, with network boundaries being defined by the local telephone companies ("FidoNet Policy," 1989, section 1.3.2).

A node, the smallest unit of the structure, is an individual BBS within FidoNet (M. Thompson, personal communication, Nov. 21, 1990). A network is a group of nodes in a specified geographic territory, usually within a single calling area so no long-distance calls are made between the systems that make up that network.. Networks (or nets) combine the electronic mail traffic to and from nodes, to reduce costs and augment the amount of material processed ("FidoNet Policy," 1986a). Evidence seems to suggest that networks are optimized with between 100 and 150 nodes. In areas of the world where the number of nodes requires more than one network in a calling area, a geographic guideline designates which node belongs to the appropriate network ("FidoNet Policy," 1989, section 1.3.2).   In isolated areas, nodes may remain independent.

A region is a specific geographic area of nodes that may or may not be consolidated into networks, a network of networks so to speak. Most often, a region will include numerous nodes in networks and a small number of independent nodes. A zone is a vast geographic area encompassing several regions and one or more countries and/or continents ("FidoNet Policy," 1986). FidoNet is divided into six zones. Zone 1 is North America, Zone 2 is Europe, Zone 3 is Oceania, Zone 4 is Latin America, Zone 5 is Africa, and Zone 6 is Asia. The communication between zones is handled through computers that do nothing but pass electronic mail between the zones (M. Thompson, personal communication, Nov. 21, 1990).

The internal hierarchical structure of FidoNet essentially follows the network systems structure; there is an International Coordinator, the six Zone Coordinators, various Regional Coordinators, Network Coordinators, individual System Operators (sysops), and then the various users of the local BBSs. The role of the International Coordinator is similar to a president in that he or she addresses key FidoNet issues and works closely with the an advising council of Zone Coordinators. The International Coordinator is in charge of collecting a master node list from all of the regional node lists, which is then disseminated worldwide via FidoNet. The International Coordinator oversees FidoNet elections by announcing referenda, collecting and counting ballots, and reporting results on pertinent FidoNet issues ("FidoNet Policy," 1989, section 1.2.7).

The Zone Coordinator is appointed by the International Coordinator and collects nodelists from all regions within a zone ("FidoNet Policy," 1989, section 1.2.5). The main task of the Zone Coordinator is maintenance of the zone nodelist, but he or she is also required to disseminate the ntwork's electronic newsletter,FidoNews , and Network Policy material to the Regional Coordinator ("FidoNet Policy," 1989, section 6.1). In some cases, the Zone Coordinators work together to counsel the International Coordinator. The Zone Coordinator Council and the International Coordinator consider issues, such as inter-zonal disagreements, nodelist production, and issues inappropriate for lower levels of FidoNet ("FidoNet Policy," 1989, section 1.2.6).

The Regional Coordinators assist their Zone Coordinators and obtain lists of the independent nodes in a region as well as gathering nodelists from the Network Coordinators ("FidoNet Policy," 1989, section 1.2.4). The Network Coordinator is designated by the Regional Coordinator and is in

charge of maintaining node lists for his or her network and forwarding all mail received from outside networks.   While various coordinators are officially appointed from above, they are generally selected from those who volunteer to undertake the necessary duties.

The System Operator (sysop) works to mesh his or her bulletin board with the rest of the FidoNet system ("FidoNet Policy," 1989, section 1.2.3), and acts as the interface between individual users and the system. The user is the responsibility of the sysop and according to FidoNet's Policy Document (1989), "If a user is annoying, the sysop is annoying. Any traffic entering FidoNet via a given node, if not from the sysop, is considered to be from a user and is the responsibility of the sysop" ("FidoNet Policy," 1989, section 1.2.1.1). As long as a sysop observes mail events, does not foster the circulation of pirated copyrighted material (i.e., software), and does not disrupt other FidoNet nodes, he or she is granted individual freedom as to how the BBSs are run ("FidoNet Policy," 1986).

The hierarchy of FidoNet acts to disperse the administration and command of the network to the lowest level, while permitting a coordinated mail system. FidoNet's loose organization and imprecise policy is structured in a manner to allow as much freedom in the medium as possible. Although there are few non-technical requirements, FidoNet policy attempts to discourage "excessively annoying" behavior, as suggested by FidoNet's Policy Statement (1989): "The FidoNet judicial philosophy can be summed up in two rules: (a) Thou shalt not excessively annoy others. (b) Thou shalt not be too easily annoyed" (section 9.1).

When necessary, decisions in regard to new policies and FidoNet's hierarchy are based on majority vote by those ranking at and above the level of Network Coordinator. Each member is allowed one vote and ballots are collected, verified, and counted over FidoNet and supervised by the Zone Coordinators ("FidoNet Policy," 1989, section 8.4). In order for a change in hierarchy or a change in policy, a majority vote is required ("FidoNet Policy," 1989, section 8.6).

The continuing interest of FidoNet in remaining a loose, cooperative system is demonstrated in the fact that, in August of 1990, the International FidoNet Association (INFA) held a meeting and its members voted to dissolve the corporation. This removed many of the formal procedures and guidelines that the system had grown up with. FidoNet still exists, but it exists as a amateur organization of amateur sysops with no legal existence (T. Henderson, personal communication, March 6, 1991). It has reaffirmed its self-identity as a cooperative, "citizen-managed", system. According to the FidoNet's last International Coordinator, Thom Henderson (personal communication, March 6, 1991):

With an organization like Fidonet, the whole point is communications, to make it possible and easy for people to communicate with each other. Sometimes this isn't necessarily good. A few end up doing the work for the many and its absolutely impossible to please everyone. The IFNA was hit by a number of problems because the people setting it up had never done anything like that before and in the process made some mistakes. Those problems by themselves would probably have not been fatal in the long run. I'm reasonably sure that the key problem was that sysops tend to be a very anarchical society. They don't really work together all that well and that's partly engendered by what their doing. . .

For the longest time whenever the IFNA tried to do anything, there were always a number of people yelling and screaming about it. In the context of FidoNet and with the network conferencing, that jerk is standing yelling in your ear everyday. So, how long are you going to volunteer to do anything? That was a very negative influence on the whole thing. It was almost

continual burnout amongst anybody who was volunteering to do anything. As soon as we found anybody who was willing to take responsibility for anything, within a month he was sick of it, he didn't want to do it anymore and was tired of people yelling at him. I guess that's sort of the downside to the technology.

Although the termination of the INFA left FidoNet as an informal organization, the various organizational positions, including International Coordinator, Zone Coordinators, Regional Coordinators, and Network Coordinators, remained to provide structure for the organization (T. Henderson, personal communication, March 6, 1991).

The rather minimalist organizational structure of FidoNet reflects closely the design of the network itself; organization seems driven by the needs of the system and its users rather than by other forces. In this case, form has followed function; and the function is to provide an accessible, usable, network, to facilitate communication. This, again, reflects what Masuda termed the "citizen-managed" information system, where outside control is minized. The structure of the organization suggests that there is very little "power" to be accumulated within the system and thus there is very little capacity for control. Further, the organizational structure appears to be flexible enough to bypass any potential trouble spots.

Thus, the organizational structure of FidoNet also seems to promote its development as a cooperative, democratic, communication system. There would seem to be very few boundaries, outside of shear size and complexity, to restrict the continued development of the network.

Individual FidoNet Systems

The early purpose of FidoNet, according to Tom Jennings (Jennings, 1985a), was very simple:

It's a hobby, a non-commercial network of computer hobbyists ('hackers', in the older, original meaning) who want to play with, and find uses for, packet switch networking. It is not a commercial venture in any way; FidoNet is totally supported by its users and sysops, and in many ways is similar to ham radio, in that other than a few 'stiff' rules, each sysop runs their system in any way they please, for any reason they want. (p. 3)

The heart of the system has always been the individual nodes, the local computer bulletin board systems (BBSs) and their operators (sysops). The idea of the network, and the original software, provided nodes the ability to transfer electronic mail between different FidoNet system BBSs. The software was placed in public domain and could be downloaded, from Jennings, at no cost (Quarterman, 1990, p. 254), encouraging the use and the expansion of the system. Eventually, other BBS software packages such as QBBS, Opus, and TBBS included or adopted FidoNet network features. The system has always encouraged expansion through the incorporation of individual BBS systems into the network.

In most cases, FidoNet systems are operated and owned by the individual system operators. Although no system operators are paid for the services they provide, some system operators make minimal charges to cover costs of conferencing services and electronic mail (Quarterman, 1990, p. 254). Most bulletin board systems include a dedicated microcomputer with a large hard disk (to hold large amounts of software and messages) and one or more modems. Some bulletin boards provide multiple phone lines that allow more than one user to use the BBS simultaneously, whereas others employ a single phone line (Hildum & Needleman, 1988).

Most FidoNet systems are full-fledged local BBSs, with the added connection to FidoNet. That is, they provide users all of the regular features of a local BBS (e.g. software, games, chat

lines), along with the electronic mail features of the FidoNet system. Users can connect to local systems using any modem-equipped computer or terminal. Local systems often specialize in certain topics, or certain services. Many are provided by local organizations as a sort of an "electronic meeting place."

While recent court cases have made many BBS system operators reticent about totally open access, most systems maintain open (free) access policies to identified and registered users. In most places, access to some FidoNet BBS is not a major problem, although the user may need to call outside their local calling area, and thus may encounter some additional telephone charges.

FidoNet Electronic Mail

What makes FidoNet unique and special is its electronic mail capacity. FidoNet BBSs use E-mail and Netmail to send electronic mail between users. E-mail is private or public mail to users on the same BBS and Netmail is private mail sent to users on another BBS (M. Thompson, personal communication, Nov. 21, 1990). Because FidoNet is an amateur network, privacy of electronic messages is not guaranteed. All sysops have the right to review all messages, as they are currently held accountable for all content on their systems. This right is enforced to ensure that FidoNet uses are kept legal and noncommercial ("FidoNet Policy," 1989, section 2.1.4). However, the use or disclosure of any Private Netmail or E-mail is considered against FidoNet policy and grounds for excommunication ("FidoNet Policy," 1989, section 2.1.6.1). To send mail to another BBS, a user must know the proper FidoNet address or Net/Node number of the individual's BBS. When the user enters a message, the BBS packs the message in a specified format and the finds the number of the BBS on the most recent nodelist. In the early hours of the morning, the system attempts to deliver the message to the remote BBS, which unpacks the message and forwards it to the designated individual (M. Thompson, personal communication, Nov.ÿ21,1990). If a user wants to send messages, files, or programs outside their region, whether across the country or around the world, the user must usually establish a cash Netmail account with his or her sysops. Each FidoNet sysops maintains Netmail accounts for each user and every time a user sends a message, his or her account is debited for the cost of sent message (Markoff & Shapiro, 1984, p. 359).

Although the prices for certain private electronic mail software packages can be expensive, Ray (1985) stated, "Once FidoNet is installed, expenses are minimal. Except for late-night long-distance charges - the cheapest available - FidoNet doesn't cost a penny. Messages can be sent across the country for a mere fraction of the costs charged by other carriers and in a much more timely fashion than the U.S. Postal Service provides" (p. 89). Unlike some other electronic mail systems, FidoNet transfers information between standard PC users via local and long-distance telephones lines, avoiding the costs associated with other systems used to send computer messages and files over long distances - such as satellite links, dedicated lines and commercial packet-switching services (Edwards, 1986). A user that wants to send a Netmail message across the United States could expect to pay roughly 19 cents (F. Benton, personal communication, April 25, 1991).

In addition to private messages, FidoNet BBSs also incorporate "Echomail Conferences", which are international topic-related conferences relayed from BBS to BBS. Echomail is similar to E-mail and Netmail, but each Echomail message is considered public information and available to all FidoNet users (Hildum & Needleman, 1988, p. 43). By definition, Echomail is considered a broadcast medium and not confined to the privacy policies associated with Netmail (FidoNet Policy, 1989, section 2.1.6.1). According to Connick (personal communication, March 21, 1991):

When Tom Jennings began, he had no idea of public messages or conferencing. He started FidoNet as a way to send mail between FidoNet BBSs. In 1986, Jeff Rush came up with the idea of Echomail, i.e., public conferencing. Echomail is the idea that really made FidoNet take off. The ability to send Netmail messages to each other was nice, but the worldwide public conferencing capabilities of Echomail really attracted people and made FidoNet what it is now.

In addition to individually addressed electronic mail, the weekly newsletter, FidoNews, is electronically distributed worldwide to FidoNet nodes, where it is posted for general access. The newsletter provides a means for sysops and users to share information on a wide range of topics, express opinions, discuss new software implications (MS-DOS, Macintosh, Amiga, Atari ST, and Archimedes), organize FidoNet conventions, and note important changes in FidoNet's format. All FidoNet users are encouraged to submit articles, editorials, and feedback ("FidoNet Policy," 1989, section 1.3.1). According to Tom Jennings (1985b), "The newsletter, FidoNews, was, and still is, an integral part of the process of FidoNet. FidoNews is the only thing that unites all FidoNet sysops consistently" (p. 1)

Other Uses of FidoNet

The low cost of FidoNet made it possible for educational, religious, and charitable groups to take advantage of a computer network. In 1988, a collection of physicians in Central America used FidoNet to send and receive medical information; the USDA Forest Service used FidoNet to connect its most remote locations (Manning, 1987); and a mainline Protestant denomination used FidoNet for exchanges between different religious denominations (Hapgood, 1988b). In addition, other groups, such as parents, firefighters, doctors, and attorneys have established echomail conferences for communicating with one another through the FidoNet system. Establishing a conference is fairly easy, and can serve to connect geographically isolated special-interest groups. The wide range of conference topics also promotes use of, and interest in, the system by individuals.

The Future of FidoNet

The future of the worldwide FidoNet network is, like most things today, in a state of flux. Johnathon Lewis (personal communication, March 12, 1991) of the National Park Service stated, "It been very fractious the last few years. FidoNet has gone downhill the past few years. I think there is a dichotomy between the people who use it and the people who want to develop it. That's the biggest problem it has, nobody can agree on the standards of the network, because somebody always has a better idea on how to do something." FidoNet, it would seem, is evolving; it is entering a transition phase from the old group of hackers, interested in the equipment and the software, to a new group of users whose interest is in the communications, in the information which is passed rather than the system through which that information travels. It is a problem faced by any cooperative group with changing interests or goals, and further illustrates the democratic nature of the system.

The growth of FidoNet has definitely slowed down, according to Thom Henderson (personal communication, March 6, 1991):

> There was a period several years ago that it was doubling in size every four months. These days, over the last year, it has grown from 5,200 systems to 5,800 systems. It's not on a great growth curve anymore. There's a whole separate issue of whether that's good

or bad. Its long-range survivability, I would say there will probably be something going on of sysops calling themselves FidoNet for many years to come. There are a lot of cohesive factors going on and a lot of disruptive factors. On the social side, there is sufficient motivation for sysops to align themselves with FidoNet and I'm sure that will go on for awhile. On the other hand, there are some disruptive forces, because no formal organization exists.

The system continues to grow and expand, as users recognize the value of interconnection (cf. Markus, 1987). However, as the system expands, it approaches the inherent limits of the current system, in terms of both time and technology.

The widespread adoption, and use, of FidoNet and the FidoNet technology would seem to suggest that such networks will continue. What may be happening at this stage is a process which many cooperativeorganizations find themselves: at a point where their size handicaps their ability to operate efficiently. One clear result can be the crash of the system. A second result can be the development of multiple systems, probably multiple interconnected systems. Already, some smaller groups have instituted their own FidoNet systems. As Henderson stated above, while the current FidoNet system might not continue its meteoric rise, the concept of FidoNet is one that will continue to thrive.

FidoNet as Democratic Telecommunications

FidoNet is an international, cooperative, information network which links more than 5500 individual bulletin boards around the U.S. and the world. While the network does not reach all areas, the network is growing, and continues to expand into new countries, and to reach new users. These attributes, though, are not enough to make the system a "democratic" medium in the sense implied by UNESCO and the MacBride Commission.

What the Commission sought was an open international communication system; one in which control was minimized and access was maximized, one where messages and information flowed horizontally. The FidoNet system would seem to have been explicitly designed for such a purpose. The system uses basic, commonly available, technologies in order to minimize costs and maximize access. The software to operate a FidoNet BBS, and to connect with the system was provided free to interested users. Basing the system on local BBSs acted to maximize access though the provision of local access; further, the fact that the local BBS offered both their typical information services and FidoNet services provided local users with a wider range of incentives for use.

Further, the way in which FidoNet is organized suggests the ideal of the cooperative, horizontal, democratic communication system. While the formal communication structure is hierarchical, the organizational structure limits the ability of the organization to control access or content. While the private mail aspect of FidoNet closely resembles older mail or telephone systems, the netmail and echomail functions, as well as the newsletter, are much more of a horizontal form of communications. The operations of FidoNet are also highly cooperative, and decision-making, when needed, is normally handled in a democratic fashion. The system is managed by interested individual users and volunteers in a fairly autonomous manner. FidoNet has even abolished its formal organizational structure in favor of a more flexible pattern of cooperative action.

The growing desire for contact and communications, for information and knowledge, would seem to ensure the continued development of national and international information systems. The

only question seems to be what forms of systems will emerge, and what will be the implications of those forms (cf. Bates, 1989). A wide range of information systems and services are currently being developed and being provided to potential users. Virtually all of them, however, are large scale commercial or governmental systems, costly and with restricted access. Evidence in recent years has indicated that such networks are not above controlling access and content. Even such cooperative systems as INTERNET, BITNET and CERN restrict access via requiring users to be affiliated with host institutions.   The fact that such systems are predominantly Western raises concerns over whether these new systems and networks will develop along the lines of earlier communication systems, and dictate information flows well into the next century.

In a word, the concern is whether the new information systems, the new computer/telecommunications systems, will be democratic. Will they provide Masuda's (1981) and Sackman's (1971) dream of the information utility, where individuals can access any information desired, easily, cheaply, and quickly?

The reliance of most existing systems on centralized computing facilities and dedicated telecommunications would suggest not (Bates, 1990). Their alternative definition as business and government managed types of information utilities (Masuda, 1981) carries with it implications for control and restraints on some forms of access. Democratic telecommunications, the dream of "horizontal" networks and open access, would seem to demand another type of structure, another type of system.

It would seem to imply a decentralized system, with a reliance on readily available technology; a system with a loose organization largely dedicated to facilitating information flows. It would seem to suggest a system that was not only easy to use, but which encouraged use through the provision of a wide range of information and services.

It would seem to suggest a system like FidoNet.

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Table 1:   Fidonet Locations

State/Country	BBSs 12-84	Networks* 7-89	11-90
U.S.			
Alabama	0	4	4
Alaska	0	0	1
Arkansas	0	2	3
Arizona	1	4	3
California	22	13	16
Colorado	3	2	3
Connecticut	8	3	3
Delaware	0	1	1
District of Columbia	1	1	1
Florida	3	17	22
Georgia	2	2	7
Hawaii	2	1	1
Iowa	1	2	2
Idaho	0	1	1
Illinois	3	4	5
Indiana	0	5	6
Kansas	0	0	2
Kentucky	0	1	1
Louisiana	0	5	6
Maryland	7	1	1
Massachusetts	11	4	4
Michigan	4	3	6
Minnesota	2	1	2
Mississippi	0	2	2
Missouri	7	6	5
Nebraska	0	1	1
Nevada	0	0	1
New Hampshire	1	1	1
New Jersey	3	4	4
New Mexico	0	2	2
New York	4	3	3
North Carolina	0	3	3
North Dakota	0	1	
Ohio	5	6	6
Oklahoma	1	3	3
Oregon	5	3	3
Pennsylvania	8	5	4
Rhode Island	0	1	1
South Carolina	0	3	4
South Dakota	0	0	2

Tennessee	0	3	5
Texas	13	16	18
Utah	0	1	1
Vermont	0	1	1
Virginia	3	4	6
Washington	5	5	8
West Virginia	0	1	1
Wisconsin	2	4	4
Wyoming	0	2	2

Canada:

Alberta	0	0	2
Atlantic Canada (NB, NS, NF, PI)	0	0	1
British Columbia	0	3	3
Manitoba	0	1	2
Ontario	3	6	10
Quebec	0	3	2
Saskatchewan	0	1	1

Africa:

Botswana	0	0	1
South Africa	0	2	4
Zimbabwe	0	0	1

Europe:

Austria	0	3	3
Belgium	0	3	5
Bulgaria	0	0	1
Czechoslovakia	0	0	3
Denmark	0	4	3
Estonia	0	0	1
Finland	0	2	2
France	0	4	6
Germany	0	8	11
Greece	0	0	1
Holland	0	9	9
Italy	0	5	5
Norway	0	1	1
Poland	0	0	1
Portugal	0	0	1
Spain	0	4	7
Sweden	0	2	7
Switzerland	0	2	2
United Kingdom	1	9	10

Table 1. (cont.)

State/Country	BBSs 12-84	Networks* 7-89	11-90
Latin America:			
Argentina	0	2	2
Brazil	0	0	5
Puerto Rico	0	1	1
Venezuela	0	1	1
Middle East:			
Israel	0	3	2
Pacific:			
Australia	0	14	18
Hong Kong & Macao	0	1	2
Indonesia	1	1	1
Japan	0	0	1
Malaysia	0	0	1
New Zealand	0	3	3
Singapore	0	1	1
Taiwan	0	4	5
Thailand	0	1	1

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Notes:
* Networks may connect with up to 150-200 individual BBSs

To register, a user is normally simply asked for a full name, address, and phone number. Some systems may require more information, or limit access further.

LBR Single Paragraph Border   @@@@@@@   #TLBR Single Shadow Paragraph Border ×