Everything you always wanted to know about Fidonet, but were either afraid to ask, or didn't know whom to ask.

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(Originally from the Copernicus 1.01 manual)
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What is Fidonet? Fidonet is a world-wide, personal computer-based, public amateur network. Fidonet itself has over 8,000 systems and Alternet (another Fidonet-based network) has over 400 computers.

What is Netmail? Netmail is the Fidonet term for PRIVATE mail. It appears in the private message section on a BBS. Netmail is usually addressed to one specific person, and is usually only able to be read by that person. Although netmail is termed Private, it is good to be aware that oftentimes sysops can see private mail messages as part of their routine maintenance procedures.

What is Echomail? Echomail is a way of sharing PUBLIC messages between multiple computers using Fidonet. A group of machines participating in sharing news of a similar topic in Echomail is referred to as a "conference." An Echomail conference is often shortened to the term "echo." When a news article is posted on one machine (a BBS participating in Fidonet) it is automatically sent out to all the other machines participating in that news conference. The messages posted in Echomail conferences are public, and can be expected to be read by any number of people. Private conversations in Echomail conferences are frowned upon. Even if a message is addressed to a specific individual, the topics covered are expected to be of some interest to others reading that echo.

What is Groupmail? Groupmail is a system that performs the exact same function as Echomail, but using a slightly different technical approach to the problem. From a Copernicus Point's perspective, Echomail and Groupmail are

identical. The only important thing to remember is that Copernicus CAN receive public messages using either system.

What are Node Numbers and Node Lists?

In order to facilitate the routing of Netmail, Echomail, and files, each computer is designated with a number, called a Node Number. These numbers are compiled into lists, called Node Lists, which are updated every week. Your Boss will be on the Node List, and since your point address will contain his node number as an integral part of it, people will be able to send you Netmail through him and his Node List. As a point, you will not need a Node List, nor will you be on the Node List.

What is a "Boss"?   The "Boss" is a BBS which is also a Fidonet node, and which also supports points. The Boss can be any system that supports a Fidonet compatible mailer. It can be a Tabby system, a Front Door system, a Binkley system, a D'Bridge system, etc. The Boss system is a full-fledged Fidonet node, maintains a Node List, can receive and make calls, and can pass Echos on to more than one other system. A Boss may support either Echomail or Groupmail, or both. The sysop of the Boss is the person responsible for assigning point numbers and setting the rules in their private network of points.

What is a Point?   A point is a slave system off of a full Fidonet node. A point is addressed with a Fidonet node number, then a point (.), and their Point Number. A point does NOT appear on the Node List. Point software capabilities vary from program to program. Some points can receive calls as well as call out to their Boss, but virtually all points only call out. Most of the time points only pass Echomail on to their Boss system, and no one else. Some points can handle Echomail, some can handle Groupmail, and some can handle both. Most points allow only one person to post and answer messages on the point, but some allow multiple users working from the same computer.

Although it's usually to the advantage of a sysop of a Fidonet node to allow points to operate off of his system, you must remember that being a point is not a right, but a *PRIVILEGE*. A Fidonet sysop is under no obligation to support points off of his system. Make sure that you treat the Boss sysop with respect and courtesy at all times, or you may find yourself losing this privilege.

What is Copernicus?   Copernicus is point software that operates on the Macintosh computer. Copernicus is a set of programs that allows a person to communicate with a BBS which uses the Fidonet protocol. This communication takes place automatically, and allows for the exchange of public messages, private messages, and files. The program usually makes its calls in the middle of the night. After a calling session, Copernicus processes all the incoming

materials, leaving the system ready for the Copernicus owner whenever he (or she) wants to read it in the morning.

A Copernicus Point can only call out. It CANNOT receive calls. It CANNOT pass Echos on to more than one system. A Copernicus Point can exchange Echomail and Netmail to ONE system - its Boss. Copernicus can handle either Groupmail or Echomail.

Copernicus allows only one user to post/reply/read/send messages on its system. During installation that user is specified, and any and all messages generated from that point will have that person's name in the "From" field of the message. Copernicus can be set up on a Boss system, and the procedures involved in the set-up and running of that are described in Section VI, Advanced Procedures with Copernicus.

What is a Point Number?   A Point Number is an identifier given to you by the sysop of the Boss system. Each point running off of a Boss has it's own unique Point Number.

What is a Point Address?   Just as your house has a unique address that other people can use to communicate by mail with you, all systems and points in Fidonet have unique addresses assigned to them. A Point Address is the address by which your Copernicus system will be known to other users on Fidonet systems. This address consists of the Fidonet node number of your Boss system, followed by a decimal point and then your Point Number. For example, if you are Point Number 5 off of the Boss system 107/412, then 107/412.5 is your Point Address.

What is a Private Network Number?   There's another important number that's used for communication between the Boss and Point systems. This is the Private Network Number. Point systems running off of a Boss are run as private networks. All Point systems associated with a Boss have the same Private Network Number. Your Boss sysop will tell you what this number is. When you set up Copernicus you will enter this Private Network Number during the installation process.

What is a Private Network Address?   Your Boss system will actually communicate with your point by using a Private Network Address. This Private Network Address consists of the Private Network Number, a slash (/), and then your Point Number.

What are "Area Names"?   Area Names are what the software uses to differentiate between each Echomail Conference you are carrying. These names uniquely identify Echomail Conferences. They must <u>always</u> be in ALL UPPERCASE LETTERS. An example is the Macintosh Hypercard echo which has an Area Name of MACHYPE.

Terms, Definitions and Procedures - Continued

The following section covers a little more in-depth look at networking, Fidonet, netmail, and Echomail. Familiarization of these terms is actually optional, but we would rather provide you with more than you need, than not enough. These are terms that may be encountered on a regular basis in netmail and Echomail messages on the network, as well as in communications with your boss.

If you are very familiar with these terms and definitions, you may <u>skim</u> through this section. **ALL** of the information here is applicable to Fidonet in general, to Nodes specifically, and oftentimes generally to points. However, there are many differences between a ***POINT*** and a regular node. Thus, I have tried to display ***POINT*** wherever there is specific information relating to your point set-up. Often this will be a flag that something is different from a normal node set-up. These are things you should watch for.

What is a Network?   A network is a collection of computers that can communicate with each other. This communication can take a variety of forms, including mail exchange, file exchange, and news exchange.

What is Fido?   Fido is a Bulletin Board System (BBS) designed and written by Tom Jennings to run on IBM PC's and compatibles. He also developed, as part of Fido, the communications protocol providing for the network (originally run only between Fido BBS's) called Fidonet.

What is a communications protocol?   A communications protocol is a method by which computers initiate a session and in effect talk to each other. It is a way for computers to recognize each other, and a set of standards for the transfer of information between them.

What is Fidonet? Fidonet is a network which allows personal computers to communicate with each other over ordinary dial-up telephone lines. Fidonet is designed to allow the transfer of mail and attached files between BBS's or individuals.

Developed in mid 1984 by Tom Jennings, Fidonet quickly grew from 2 systems in June of 84, to 50 in September of 84, to over 2,000 in late 1987, and over 4,000

in early 1989, and over 6,000 systems as of the date this document was written.

The generic term Fidonet can be used to refer to this amateur network used to connect over 8,000 computers which communicate over a network, or it can be used to describe the communications protocol used by the computers to accomplish this communication.

Since 1984, several other programs have been developed which use the Fidonet protocol to allow a PC to join and participate in the Fidonet network. For IBM's and compatibles there are SEAdog, Opus, Dutchie, D'Bridge, and Front Door, as well as other programs. And of course, for the Macintosh, there are Copernicus and Tabby.

What are Nodes, Node Numbers, and Node Lists? As may be suggested by the fast growth of Fidonet, the early sysops ran into problems in communications, and through necessity devised a very workable method for handling routing and setting up nodes.

By definition, a node is an addressable entity on a network. Thus, on Fidonet each computer is a node. Since it needs to be addressable, it has a specific node number, or node address. Node numbers are assigned for each system in Fidonet by people already in the network hierarchy.

POINTS use a special addressing system, and as such they are not on the node list. Their Boss system *will* appear in the node list.

Nodelists are lists of these nodes, with their associated names and phone numbers, as well as other pertinent information. They are maintained and updated weekly. These weekly changes to the nodelist are made up into a nodediff file, which is distributed to systems throughout the network. (Due to the size of the nodelist, distribution of the entire nodelist itself would be costly and extremely time consuming. Instead, the smaller nodediff file is distributed.) The nodediff's are run with a Nodelist Compiler program to update the nodelist each computer (node) maintains. The node list <u>must</u> be updated on a weekly basis (or obtained each week from some other node which has an updated list).

What are the qualifications to become a Node? In order to be a node, a computer must be able to send and receive mail and receive attached files (called file attachments in the Fidonet world) using the Fidonet protocol. Also, a system must be up and running during the National Mail Hour (defined later).

A few words on file attachments: files are sent as "attachments" to mail. Everything on Fidonet is handled as MAIL. Thus files are sent "attached" to a mail message. Normally, when you get a file you will get a mail message telling you that a file has been sent. The subject field of the message will contain the name of the file.

File requesting is a mechanism that allows one Fidonet node to request one or more files from another Fidonet node. The transfer of the file(s) normally takes place during that same call that the file request was made. Also, both systems must be able to support the same file request protocol. The two main file request protocols are Bark and WaZoo. Being able to accept and/or send out file requests is NOT a requirement to be a working node. Your Copernicus *POINT* supports the WaZoo file request protocol. Points only exchange files with the Boss. Points cannot send files to other points, or to other nodes.

Requesting to be a Node. When a system can send and receive mail and attached files, and can be "up" and running during the National Mail Hour, a system will request a node number from its Host (also defined later) by sending him a Fidonet mail message. This acts as verification (along with his return message) that a system is indeed "up" and running. He will assign a node number, and will try to get the system on the next nodelist as an "up" node. One important note--it may take a week or more before appearing on the next nodelist as "up" and running due to the many hands everything must pass through. As a *POINT*, it is good to remember that your Boss is a node, and he must be up and running to be in the node list. If he encounters technical problems, goes away on vacation, etc., there may come a time when he is marked "down" and must wait to be back on the node list. Have patience, once things are back to normal, you will be able to be back in the swing of things soon.

What are Hubs & Hosts, and what is Routing on Fidonet? Once a computer has a node number, and is established as a node by appearing as "up" on a nodelist, at certain times of the day the Fidonet programs will exchange mail and files. Hubs and hosts have a lot to do with where that mail is sent, and how, and when. This set up or structure of how and where and when is called Routing.

Routing is <u>not</u> easy to explain or to understand, so bear with us if we give a little more explanation to this than may seem necessary - we just want to be clear. First, a little history.

During the early days of Fidonet, the sysops ran into so many problems due to the large number of systems on the network, that devising a routing structure and time schedules to handle all this mail became a necessity.

St. Louis, Missouri, became a central point for maintaining and distributing nodelists and nodediffs. They also began to develop a hierarchy of sorts, involving the establishment of Regions and Hosts. The system has expanded to include at this time: International Coordinators (at the Zone level), Regional Coordinators (at the Region level), Network Coordinators (called hosts - there are usually several within each Region), Hub Coordinators (called just plain hubs - under hosts whenever the geographic area of a host is packed densely with nodes), and sysops (nodes). Points are off of nodes.

ZONES
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REGIONS
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HOSTS
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HUBS
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NODES
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POINTS
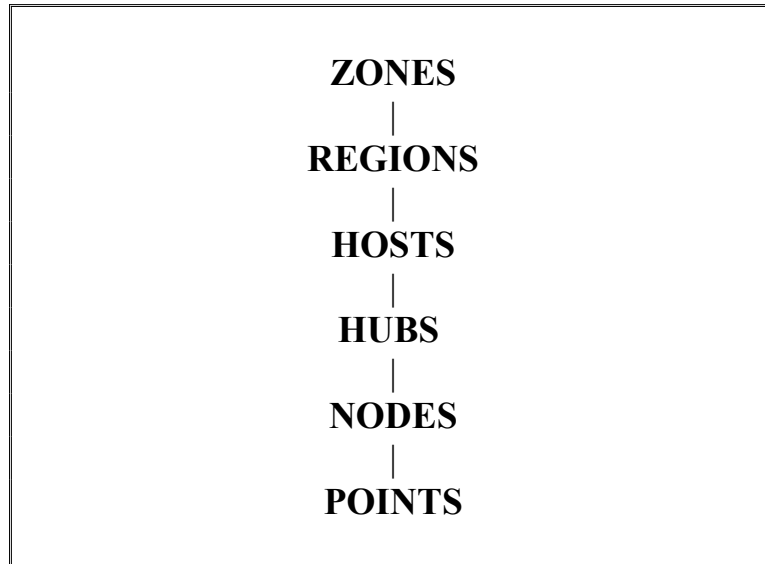
The Regions cover a generally large geographic area, covering any where from 2 to 7 states in the United States. Hosts, on the other hand, cover a much smaller area geographically, pretty much depending on the number of nodes in the Region. The collection of nodes served by a Host is called a "net."

Hubs and Hosts are used to route mail efficiently and cost effectively.

Which leads us to how mail is actually <u>routed</u> through this system. There are several ways to get mail through and around the network, but the most basic is called "default routing." This says that if you are sending mail to a node in another net, you send it to that node's Host system, instead of directly sending it to that node. This is done to allow more efficient delivery of mail to nodes. Default routing is used by everyone from Nodes on up the hierarchy. *POINTS* DO NOT USE DEFAULT ROUTING. POINTS ONLY TALK TO THEIR BOSS.

What is National Mail Hour? Throughout the world, there is a one-hour period of the day called the National Fidonet Mail Hour. In the United States this

is from 4:00 am. to 5:00 am. **Eastern Standard Time.** This is generally the time frame in which mail is exchanged across the nation. At that time all **BBSes** on Fidonet <u>must</u> be up and running. (***POINTS*** DO NOT HAVE TO DO THIS. INSTEAD, POINTS NEED TO FOLLOW ANY RULES SET DOWN BY THEIR BOSS.) Due to the complexity of some of the Host/Hub systems, and at times due to the heavy volume experienced by these particular Regions, some areas require additional time periods for mail delivery and pick up. As a ***POINT***, you must determine from your "Boss" any scheduling requirements he needs you to observe to accomplish routing of mail. These time periods, by the way, are called mail events or windows.

National Mail Hour is the time when the systems (Nodes - not ***POINTS***) on the network MUST BE UP AND RUNNING. This is generally the time when the computers are left open for exchange of Fidonet MAIL. Even if the local Host/Hub has other times for exchanging mail with him, nodes must be up and running, and ready to accept calls with delivery of Fidonet Mail at this time. They cannot be running their BBS. They cannot be exchanging Echomail. They must only be ready to exchange Fidonet Mail at this time. NO exceptions. Failure to comply with this is grounds for removal from both the Fidonet and Alternet networks.

Obviously, since, as a ***POINT***, communication with the Boss will involve both the exchange of netmail and Echomail at the same time, the prearranged time for calling the Boss will almost ALWAYS be different from the National Mail Hour.

How are Mail Messages addressed on Fidonet? The standard addressing format of mail messages in Fidonet is:

Name, then a comma, then a space, and finally the node number.

For example, a letter addressed to Michael Connick would read:

Michael Connick, 107/412

This is the way that mail MUST be addressed for it to be sent out and routed properly on Fidonet.

If you want to address a letter to Michael Connick on his ***POINT*** (A Point in the Castle), you would add a period and his point number (which happens to be 1) at the end, and the message would then be addressed as:

Michael Connick, 107/412.1

What is Alternet, and what other networks are there? In late 1987/early 1988, a new development occurred within the Fidonet community. Some of the people who had been involved in Fidonet decided to try to form their own network, and have formed Alternet as a result. The **METHODS** described in sending network mail and attached files are the same in Alternet as in Fidonet. What is different is the general concept of the Alternet network, its goals and membership requirements, and some rules and regulations about behavior of persons on the net. For more information about the rules and regulations regarding Alternet, you need to find the latest copy of the document called <u>Chivalry</u>. Membership in both Fidonet and Alternet is possible, and some nodes are maintaining this dual membership. Some systems decide on just one network.

Whatever BBS you are a *POINT* off of... that is, whatever your "Boss" is, that is the network you will "belong" to.

There is also Good Egg Net at this time, and other nets may come into existence from time to time.

One important thing to note here is that these are **ALL** amateur networks. The people who act as Coordinators, Hubs, Hosts, etc., (what ever they may be called within their own network) are all amateurs! They are not paid to provide the services they render, nor are they paid for the time they put into the network. Any commercial use of these networks is forbidden.

What is Echomail? This section talks about Echomail conferences. There are also many conferences on Alternet, but for the time being we will concentrate our discussion on Echomail conferences as pertains to Fidonet.

Echomail is a way of sharing **NEWS** (public messages) between multiple computers using Fidonet. A few years ago, Jeff Rush wrote the first programs (Scan Mail and Toss Mail) to provide this capability over Fidonet. Since that time, several others have refined the procedure.

A group of machines participating in sharing news of a similar topic in Echomail is referred to as a <u>conference</u>. When a news or public message article is posted on one machine it is automatically sent out to all the other machines participating in that news conference.

Echomail conferences are run a little differently than Fidonet. Echomail conferences have no central control. To join a conference, a system must find and ask another system participating in that conference to allow access to it.

Typically, costs are low to transfer Echomail conference material. Echomail transfer is usually done during the time when long distance rates are lowest. Also, costs are shared. The cost of distributing Echomail conference messages is shared by having the person who wants a new echo pay for the call. Then, if other people want to get the echo from him, they will pay for the call. As a *POINT*, you will always be expected to poll for your Echomail, since you will always be only calling your Boss.

You can get a list of most of the known public Echomail conferences. Someone in Fidonet gathers and maintains a list of these conferences, and you may request a list from him through Fidonet mail.   A special Fidonet node number has been set up for this person (who at this time is Mike Fuchs), and that node number is: 1/201

Echomail conferencing is completely independent and separate from normal Fidonet mail.   Echomail conferences are NEVER routed. In this case, "routing" means sending messages through intermediate systems on their way to the final destination. Systems (Nodes and above) exchanging Echomail are required to call each other <u>DIRECTLY</u>. It is considered a serious breach of network etiquette to route Echomail messages through an intermediate system - either accidentally or on purpose. If this is done, even accidentally, there will be complaints about it. As a *POINT*, you will only call your Boss to exchange Echomail. He will pass it on from there.

Echomail messages are <u>public messages,</u> not netmail messages. On Echomail conferences the messages posted are not private, and in fact private messages are highly discouraged. The confusing part of Echomail conferences, however, is that they are <u>public messages</u> but they are <u>SENT</u> as <u>net mail</u> messages. How this is accomplished is by adding on special information to the messages, so that the programs understand that they are to be placed into public message categories at their destination points.

<u>**What is an Echo Moderator?**</u> Each Echomail conference decides on its own topics, rules, and procedures.   A Moderator is a person who has accepted the job of watching over the Echo, occasionally posting the rules for the echo, helping people if they have questions (either questions posted in the Echo, or questions about the Echo sent to the Moderator via Netmail), as well as dealing with problem posters or problems of linking (breaks in the Echomail links, etc.).   Some Echos are stricter than others, so the amount of "moderating" may vary from Echo to Echo.

What are all the lines at the end of messages for? There are two kinds of lines usually seen on messages at this time. The Tear Line is a line of text preceded by three hyphens: ---Copernicus V1.00   The Tear Line identifies the software running on the computer that the message was composed on. There are many kinds of software on Fidonet, so you will see many different Tear Lines. The Tear line appears at the end of the body of the text message, usually after a few spaces in between.

The Origin line appears after the Tear line, and identifies a variety of things. Usually it contains the name and node number of the system that originated the message, sometimes also including a phone number and perhaps a catchy phrase. Most people name their BBS's something (Michael's and my BBS is called Castle Tabby), and there is no reason you can't name your Point system something, too. Michael uses "A Point in the Castle" for his point and mine is called "Kyosho's Quilting Cottage".

What are other funny lines that may appear in messages? Sometimes messages have other funny lines that appear. Sometimes lines show up in the beginning of a message, that have lots of letters and numbers in them. These are lines that actually accompany all messages, but that usually don't show up because the software strips them off. Messages also have something called "SEEN-BY:" lines at the end. These note which systems have viewed the messages. They also always accompany every message, and the software is supposed to remove them. Occasionally you will see them on a message where for some reason the software got a little confused and didn't take them off.

What are "Area Names"? Every Echomail Conference has an "Area Name" associated with it. This name is what the software uses to differentiate between each Echomail Conference you are carrying. This name uniquely identifies the Echomail Conference. Oftentimes a condensed version of several words that describe the conference, the Area Name is different in that it must <u>always</u> be in ALL UPPERCASE LETTERS. For example, the Mac Hypercard Echo has an Area Name of MACHYPE and the Macintosh Developers Area Name is MACDEV.

What are File Requests? (OR FREQs) For *POINTS* File Requests provide a way to automatically download files from your Boss. After you enter a File Request, the next time Copernicus calls the Boss it will have the Boss send this file to you during the session. The sysop of the Boss will let you know which files may be requested from him. This is usually done using a special Echomail conference in which the sysop shows new files that are available on the Boss.

The most important thing for a Copernicus *POINT* owner to remember about File Requests is to comply with any rules for its use set down by the Boss. The

Boss may specify a maximum number of files that can be requested daily, a maximum daily total size of files requested, or time periods in which File Requests are not allowed. Breaking these rules may result in your forfeiting your privileges of operating as a Point off of his system.

This concludes the section on terminology. If you feel overwhelmed, frustrated, and ... even ... confused! ... you are not alone. Give yourself some time to digest what you have read, go on to use your system for a while, then come back and read it all one more time. Good luck!

For more information on Copernicus contact:

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